



# O-Route<sup>®</sup>

Halogen free & Mud resistant Offshore cable

NEK-606 | IEC 60092-350, 353, 354, 376



# ENTERPRISE WITH DREAM, HOPE, AND FUTURE

TMC Co., Ltd has been pursuing innovation in technology and products for the specialty industrial cable market.

For 23 years TMC has had a single-minded focus on delivering superior customer services with marine and offshore plant cable solutions.

The operational excellence of TMC is underpinned by its products with the best quality and outstanding service to meet specific requirements that makes us the world's most experienced marine and offshore cable manufacturer.

## Company History

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- 1991** Establishment of Seojin Industry Co.,Ltd.
- 1998** ISO 9001 Certification by LRQA
- 2004** ISO 14001 Certification by LRQA
- 2005** Changed the name of company to TMC Co.,Ltd.
- 2006** Won the 30 million USD Export Tower Award granted by the Ministry of Knowledge Economy
- 2006** Earned recognition by Hyundai Mipo Dockyard Co., Ltd. as one of the excellent suppliers.
- 2007** Won the 70 million USD Export Tower Award granted by the Ministry of Knowledge Economy
- 2007** Received the High quality supplier Certification from DSME
- 2007** Achieved Korean world-class product award 2007
- 2008** Won the 100 million USD Export Tower Award granted by the Ministry of Knowledge Economy
- 2008** OHSAS 18001 Certification by LRQA
- 2009** Awarded the Q-Mark as a Silver grade for Offshore Cable supplier by Samsung Heavy Industries
- 2010** Awarded the Best Supplier for Offshore & Marine Cable by Ocean Rig
- 2010** Earned recognition by DSME as one of the excellent supplier
- 2011** Awarded the Best Supplier for Offshore & Marine Cable by Stena Sphere
- 2011** KEPIC Certification by KEA (Manufacture of Class 1E cable)
- 2012** Won the 200 million USD Export Tower Award granted by the Ministry of Knowledge Economy
- 2013** Designated as 'Korean Hidden Champion' by Korea Eximbank
- 2013** TL9000 certification by SGS (design & manufacture of optical fiber cable)
- 2014** Earned recognition by DSME Excellent supplier

## Certificates

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- Type Approval Certification for shipboard cables : ABS, BV, DNV, GL, KR, LR, NK and RINA
- Type Approval Certification for NEK 606(2004) offshore cables : ABS, DNV and LR
- Type Approval Certification by ABS for offshore cables and listed on ETL
- Type Approval Certification for Passenger ships cables : ABS, DNV/LR, BV and CCS
- Obtained Patent of Paint Resistant Shipboard Cables (Patent NO. 10-0627241)
- Type Approval Certification for IEEE1580 Type P cables : ABS, DNV, CSA and listed on ETL
- Type Approval Certification for LNG Carrier cables : ABS, DNV, LR and BV
- Gost-R Certification for NEK 606(2004) offshore cables by GOSSTANDART
- Type Approval Certification for Marine Optical Fiber Cables : ABS and DNV
- Type Approval Certification for MIL 24643 Warship Cables : KR
- Type Approval Certification for VG 95218 Submarine Cables : KR







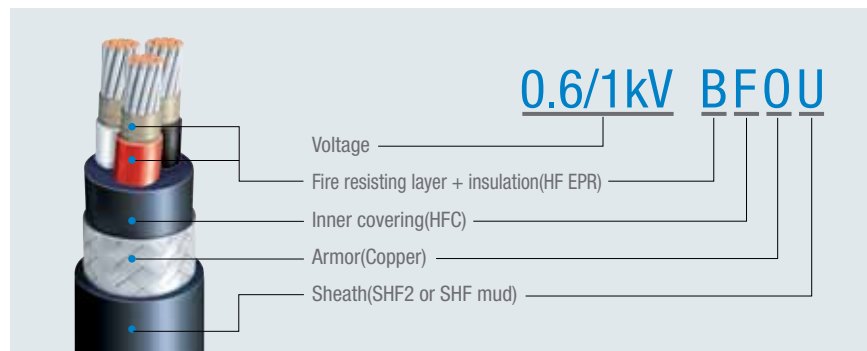
## Code Designation

Materials	Insulation	Bedding / inner covering inner sheath	Armor / screen	Outer sheath
Fire resistance tape+insulation (Halogen-free)	B			
Halogen-free ethylene propylene rubber - EPR	R			
Cross-linked polyethylene XLPE	T			
Thermoplastic compound (Halogen-free)	I			
Halogen-free thermoset compound or EVA	U			
Bedding/Inner covering or taping (Halogen-free)		F		
Screen (poss. with PE or PP)		Y		
No armour			X	
Copper wire braid (Tinned or bare)			O	
Bronze wire braid			B	
Galvanized steel wire braid			C	
Thermoplastic compound (Halogen-free) SHF1		I		I
Halogen-free thermoset compound, SHF2				U
Halogen-free mud resistant thermoset compound, SHF Mud				U

### Added abbreviation

(i)	Individual screen
(c)	Collective screen
(i&c)	Individual & Collective screen

### Example



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### NEK 606 Cable type code

Designation	Cable type code	
	H/F	H/F & M/R
3.6/6kV RFOU	P2	P2/P9
6/10kV RFOU	P3	P3/P10
8.7/15kV RFOU	P4	P4/P11
0.6/1kV RFOU	P1	P1/P8
0.6/1kV BFOU	P5	P5/P12
0.6/1kV RU	P18	-
0.6/1kV BU	P17	-
0.6/1kV UX	P15	-
250V RFOU(i)	S1	S1/S5
250V RFOU(c)	S2	S2/S6
250V BFOU(i)	S3	S3/S7
250V BFOU(c)	S4	S4/S8
250V RU(i)	S11	-
250V RU(c)	S12	-
250V BU(i)	S13	-
250V BU(c)	S14	-

#### Note.

- H/F : Halogen free cable

- H/F & M/R : Halogen free & Mud resistant cable





## HV Power Cable

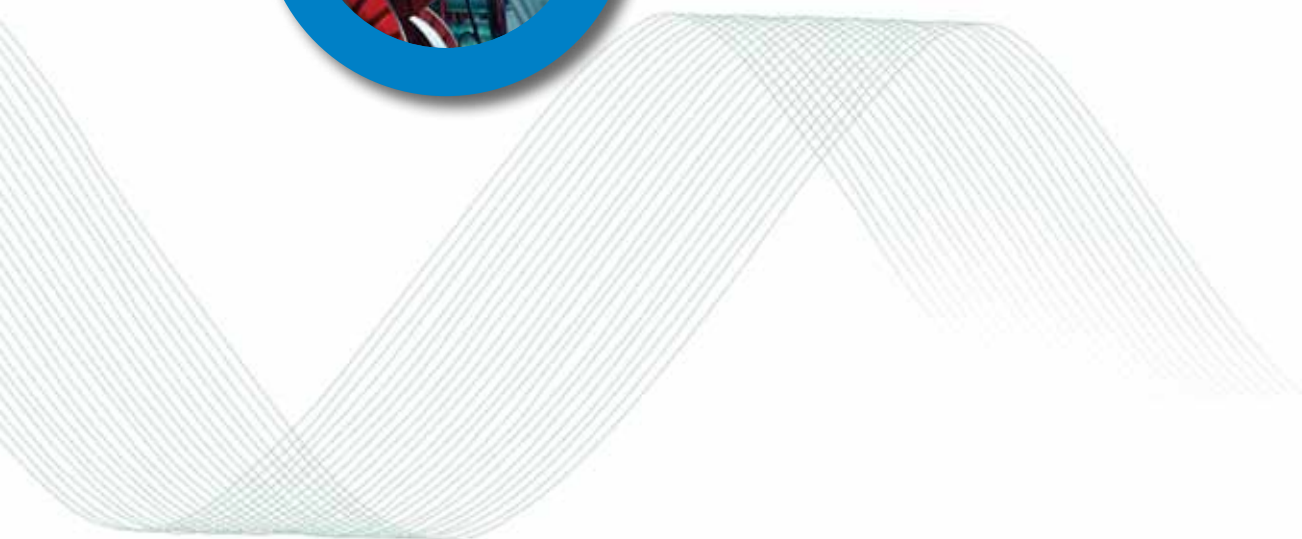


3.6/6KV RFOU, RFBU, RFCU

6/10KV RFOU, RFBU, RFCU

8.7/15KV RFOU, RFBU, RFCU

06 ~ 09



# HV Power Cable



## Cable Designation (P2, P3, P4, P2/P9, P3/P10, P4/P11)

3.6/6KV RFOU, RFBU, RFCU

6/10KV RFOU, RFBU, RFCU

8.7/15KV RFOU, RFBU, RFCU

## Application Standard

- Design guide	: NEK-606 & IEC 60092-354
- Flame retardant	: IEC 60332-1 & IEC 60332-3 Category A
- Halogen content	: IEC 60754-1, 0.5% ↓
- Cold bend / impact	: CSA 22.2 No.03 (-40℃/-35℃)
- Mud resistant	: NEK-606 (Mud type only)
- Smoke light transmittance	: IEC 61034, 60% ↑
- Sunlight (UV) resistant	: UL 1581

## Construction

Sectional view	Classification	Code	Construction detail
	Conductor		- Stranded tinned annealed copper wires as per IEC 60228, Class 2
	Conductor screen		- Semi-conducting layer (tape / compound)
	Insulation	<b>R</b>	- EPR as per IEC 60092-360
	Insulation screen		- Non-metallic part : Semi-conducting layer (tape / compound) - Metallic part : Copper wire braid - A suitable separator tape(s) may be applied over the metallic part
	Cabling		- Three metallic braided conductors shall be cabled - Flame retardant & non-hygroscopic fillers may be used - Suitable tape(s) may be applied on the cabled core - A Filler may be applied to obtain a circular Cable
	Inner covering	<b>F</b>	- Flame retardant halogen free thermoset compound
	Armor	<b>O</b> <b>(B,C)</b>	- Braid of tinned copper wire (O) / bronze wire (B) /galvanized steel wire (C) - A suitable separator tape(s) may be applied under/over the armor
	Sheath	<b>U</b>	- SHF2 or SHF Mud as per IEC 60092-360 - Outer sheath color : Red
	Core identification		- 3C : Off-white, Black, Red

**Note.** Flexible cable (Class5 Conductor) can be supplied

## 3.6/6kV RFOU, 3.6/6kV RFBU

No. of Cores	Conductor			Thickness of Insulation	Dia of copper wire for braid	Thickness of inner covering	Nominal dia. inner covering	Dia. of wire for armour	Thickness of sheath	Overall diameter		Conductor Resistance (at 20°C) (Max.)	Test Voltage	Cable Weight
	Nominal Area	Min. No. of wires	Max. overall dia.							Nominal	Tolerance			
No.	mm <sup>2</sup>	EA	mm	mm	mm	mm	mm	mm	mm	mm	±mm	Ω/km	V/5min.	kg/km
1	10	7	4.2	2.5	0.3	1.0	15.7	0.3	1.5	21.0	1.1	1.840	12.5	740
	16	7	5.3	2.5	0.3	1.0	16.7	0.3	1.6	22.2	1.2	1.160	12.5	850
	25	7	6.6	2.5	0.3	1.0	18.0	0.3	1.6	23.5	1.2	0.734	12.5	1,000
	35	7	7.9	2.5	0.3	1.0	19.2	0.3	1.7	24.9	1.3	0.529	12.5	1,160
	50	19	9.1	2.5	0.3	1.0	20.5	0.3	1.7	26.2	1.3	0.391	12.5	1,340
	70	19	11.0	2.5	0.3	1.0	22.3	0.3	1.8	28.2	1.4	0.270	12.5	1,630
	95	19	12.9	2.5	0.3	1.0	24.2	0.3	1.9	30.3	1.5	0.195	12.5	1,980
	120	37	14.5	2.5	0.3	1.0	25.8	0.3	1.9	31.9	1.6	0.154	12.5	2,290
	150	37	16.2	2.5	0.3	1.2	27.8	0.3	2.0	34.1	1.7	0.126	12.5	2,680
	185	37	18.0	2.5	0.3	1.2	29.6	0.3	2.1	36.1	1.7	0.100	12.5	3,130
	240	61	20.6	2.6	0.3	1.2	32.5	0.4	2.2	39.7	1.9	0.0762	12.5	3,940
	300	61	23.1	2.8	0.4	1.2	35.7	0.4	2.3	43.1	2.0	0.0607	12.5	4,800
	400	61	26.1	3.0	0.4	1.4	39.9	0.4	2.5	47.7	2.2	0.0475	12.5	6,050
	500	61	29.2	3.2	0.4	1.4	43.0	0.4	2.6	51.0	2.3	0.0369	12.5	7,090
	630	91	33.2	3.2	0.4	1.4	47.2	0.4	2.8	55.6	2.5	0.0286	12.5	8,810

## 3.6/6kV RFOU, 3.6/6kV RFBU, 3.6/6kV RFCU

3	10	7	4.2	2.5	0.3	1.2	31.9	0.4	2.2	39.1	1.9	1.840	12.5	2,360
	16	7	5.3	2.5	0.3	1.2	34.1	0.4	2.3	41.5	2.0	1.160	12.5	2,740
	25	7	6.6	2.5	0.3	1.2	36.9	0.4	2.4	44.5	2.1	0.734	12.5	3,280
	35	7	7.9	2.5	0.3	1.4	39.9	0.4	2.5	47.7	2.2	0.529	12.5	3,860
	50	19	9.1	2.5	0.3	1.4	42.7	0.4	2.6	50.7	2.3	0.391	12.5	4,500
	70	19	11.0	2.5	0.3	1.4	46.5	0.4	2.8	54.9	2.5	0.270	12.5	5,520
	95	19	12.9	2.5	0.3	1.6	51.0	0.4	2.9	59.6	2.7	0.195	12.5	6,770
	120	37	14.5	2.5	0.3	1.6	54.5	0.4	3.1	63.5	2.8	0.154	12.5	7,910
	150	37	16.2	2.5	0.3	1.6	57.9	0.4	3.2	67.1	3.0	0.126	12.5	9,080
	185	37	18.0	2.5	0.3	1.6	61.8	0.4	3.4	71.4	3.2	0.100	12.5	10,630
240	61	20.6	2.6	0.3	1.8	68.5	0.4	3.6	78.5	3.4	0.0762	12.5	13,190	
3C	25	7	6.6	2.5	0.3	1.2	36.9	0.4	2.4	44.5	2.1	0.734	12.5	3,460
Earth	16	7	5.3	1.0										
3C	35	7	7.9	2.5	0.3	1.4	40.5	0.4	2.5	48.3	2.2	0.529	12.5	4,180
Earth	25	7	6.6	1.2										
3C	50	19	9.1	2.5	0.3	1.4	43.0	0.4	2.6	51.0	2.3	0.391	12.5	4,800
Earth	25	7	6.6	1.2										
3C	70	19	11.0	2.5	0.3	1.4	47.0	0.4	2.8	55.4	2.5	0.270	12.5	5,930
Earth	35	7	7.9	1.2										
3C	95	19	12.9	2.5	0.3	1.6	51.8	0.4	3.0	60.6	2.7	0.195	12.5	7,350
Earth	50	19	9.1	1.4										
3C	120	37	14.5	2.5	0.3	1.6	55.8	0.4	3.1	64.8	2.9	0.154	12.5	8,710
Earth	70	19	11.0	1.4										
3C	150	37	16.2	2.5	0.3	1.6	59.8	0.4	3.3	69.2	3.1	0.126	12.5	10,220
Earth	95	19	12.9	1.6										
3C	185	37	18.0	2.5	0.3	1.8	63.8	0.4	3.5	73.6	3.2	0.100	12.5	11,830
Earth	95	19	12.9	1.6										
3C	240	61	20.6	2.6	0.3	1.8	70.1	0.4	3.7	80.3	3.5	0.0762	12.5	14,540
Earth	120	37	14.5	1.6										

# HV Power Cable

## 6/10kV RFOU, 6/10kV RFBU

No. of Cores	Conductor			Thickness of Insulation	Dia of copper wire for braid	Thickness of inner covering	Nominal dia. inner covering	Dia. of wire for armour	Thickness of sheath	Overall diameter		Conductor Resistance (at 20°C) (Max.)	Test Voltage	Cable Weight
	Nominal Area	Min. No. of wires	Max. overall dia.							Nominal	Tolerance			
No.	mm <sup>2</sup>	EA	mm	mm	mm	mm	mm	mm	mm	mm	±mm	Ω/km	V/5min.	kg/km
1	16	7	5.3	3.4	0.3	1.0	18.5	0.3	1.6	24.0	1.3	1.160	21.0	960
	25	7	6.6	3.4	0.3	1.0	19.8	0.3	1.7	25.5	1.3	0.734	21.0	1,130
	35	7	7.9	3.4	0.3	1.0	21.0	0.3	1.7	26.7	1.4	0.529	21.0	1,280
	50	19	9.1	3.4	0.3	1.0	22.3	0.3	1.8	28.2	1.4	0.391	21.0	1,480
	70	19	11.0	3.4	0.3	1.0	24.1	0.3	1.8	30.0	1.5	0.270	21.0	1,770
	95	19	12.9	3.4	0.3	1.0	26.0	0.3	1.9	32.1	1.6	0.195	21.0	2,130
	120	37	14.5	3.4	0.3	1.2	28.0	0.3	2.0	34.3	1.7	0.154	21.0	2,500
	150	37	16.2	3.4	0.3	1.2	29.6	0.3	2.1	36.1	1.7	0.126	21.0	2,860
	185	37	18.0	3.4	0.3	1.2	31.4	0.4	2.2	38.6	1.8	0.100	21.0	3,410
	240	61	20.6	3.4	0.4	1.2	34.5	0.4	2.3	41.9	2.0	0.0762	21.0	4,220
	300	61	23.1	3.4	0.4	1.2	36.9	0.4	2.4	44.5	2.1	0.0607	21.0	4,960
	400	61	26.1	3.4	0.4	1.4	40.7	0.4	2.5	48.5	2.2	0.0475	21.0	6,140
	500	61	29.2	3.4	0.4	1.4	43.4	0.4	2.6	51.4	2.4	0.0369	21.0	7,140
	630	91	33.2	3.4	0.4	1.4	47.6	0.4	2.8	56.0	2.5	0.0286	21.0	8,870

## 6/10KV RFOU, 6/10KV RFBU, 6/10KV RFCU

3	16	7	5.3	3.4	0.3	1.4	38.4	0.4	2.4	46.0	2.1	1.160	21.0	3,230
	25	7	6.6	3.4	0.3	1.4	41.2	0.4	2.6	49.2	2.3	0.734	21.0	3,820
	35	7	7.9	3.4	0.3	1.4	43.7	0.4	2.7	51.9	2.4	0.529	21.0	4,370
	50	19	9.1	3.4	0.3	1.4	46.5	0.4	2.8	54.9	2.5	0.391	21.0	5,040
	70	19	11.0	3.4	0.3	1.6	50.8	0.4	2.9	59.4	2.7	0.270	21.0	6,140
	95	19	12.9	3.4	0.3	1.6	54.9	0.4	3.1	63.9	2.9	0.195	21.0	7,400
	120	37	14.5	3.4	0.3	1.6	58.4	0.4	3.2	67.6	3.0	0.154	21.0	8,540
	150	37	16.2	3.4	0.3	1.6	61.8	0.4	3.4	71.4	3.2	0.126	21.0	9,780
	185	37	18.0	3.4	0.3	1.8	66.1	0.4	3.5	75.9	3.3	0.100	21.0	11,410
	240	61	20.6	3.4	0.4	1.8	72.8	0.4	3.8	83.2	3.6	0.0762	21.0	14,240
3C	25	7	6.6	3.4	0.3	1.4	41.2	0.4	2.6	49.2	2.3	0.734	21.0	4,020
Earth	16	7	5.3	1.0										
3C	35	7	7.9	3.4	0.3	1.4	44.0	0.4	2.7	52.2	2.4	0.529	21.0	4,680
Earth	25	7	6.6	1.2										
3C	50	19	9.1	3.4	0.3	1.4	46.5	0.4	2.8	54.9	2.5	0.391	21.0	5,320
Earth	25	7	6.6	1.2										
3C	70	19	11.0	3.4	0.3	1.6	50.9	0.4	2.9	59.5	2.7	0.270	21.0	6,520
Earth	35	7	7.9	1.2										
3C	95	19	12.9	3.4	0.3	1.6	55.4	0.4	3.1	64.4	2.9	0.195	21.0	7,940
Earth	50	19	9.1	1.4										
3C	120	37	14.5	3.4	0.3	1.6	59.2	0.4	3.3	68.6	3.0	0.154	21.0	9,340
Earth	70	19	11.0	1.4										
3C	150	37	16.2	3.4	0.3	1.8	63.8	0.4	3.5	73.6	3.2	0.126	21.0	10,990
Earth	95	19	12.9	1.6										
3C	185	37	18.0	3.4	0.3	1.8	67.3	0.4	3.6	77.3	3.4	0.100	21.0	12,520
Earth	95	19	12.9	1.6										
3C	240	61	20.6	3.4	0.4	1.8	74.0	0.4	3.9	84.6	3.7	0.0762	21.0	15,560
Earth	120	37	14.5	1.6										

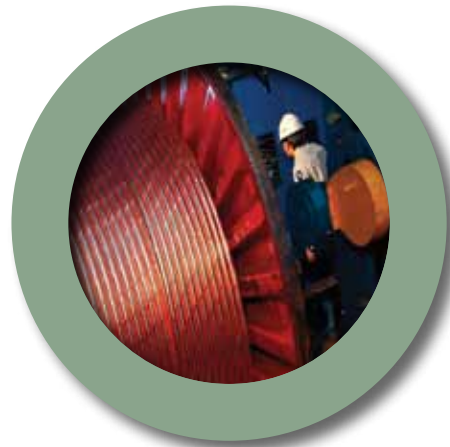


## 8.7/15kV RFOU, 8.7/15kV RFBU

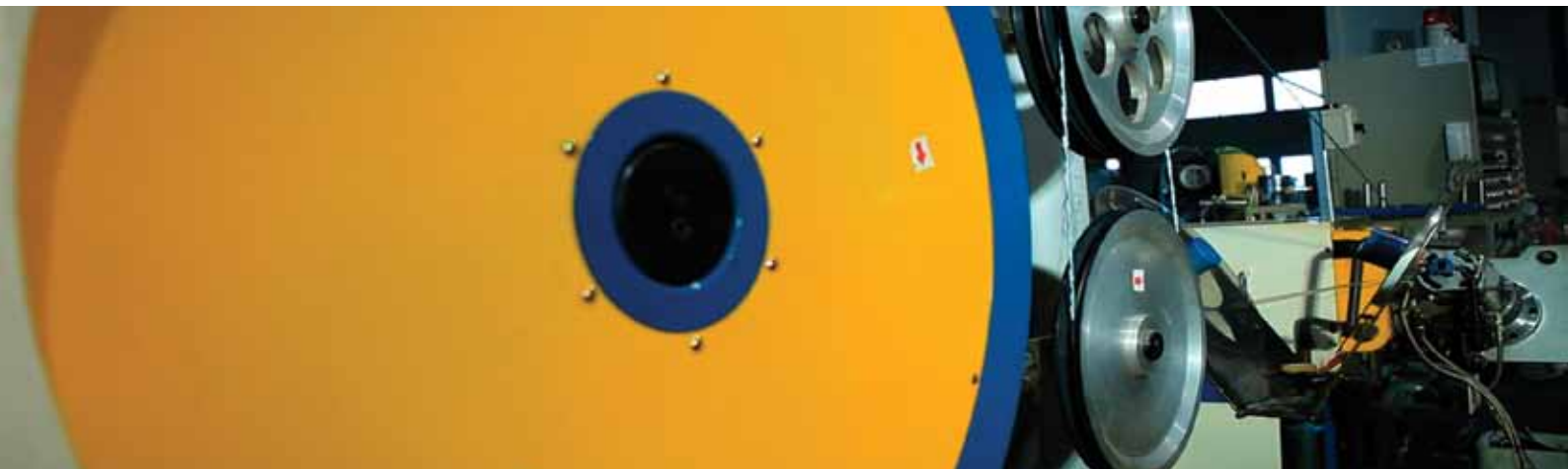
No. of Cores	Conductor			Thickness of Insulation	Dia of copper wire for braid	Thickness of inner covering	Nominal dia. inner covering	Dia. of wire for armour	Thickness of sheath	Overall diameter		Conductor Resistance (at 20°C) (Max.)	Test Voltage	Cable Weight
	Nominal Area	Min. No. of wires	Max. overall dia.							Nominal	Tolerance			
No.	mm²	EA	mm	mm	mm	mm	mm	mm	mm	mm	±mm	Ω/km	V/5min.	kg/km
1	25	7	6.6	4.5	0.3	1.0	22.0	0.3	1.8	27.9	1.4	0.734	30.5	1,300
	35	7	7.9	4.5	0.3	1.0	23.2	0.3	1.8	29.1	1.5	0.529	30.5	1,460
	50	19	9.1	4.5	0.3	1.0	24.5	0.3	1.9	30.6	1.5	0.391	30.5	1,660
	70	19	11.0	4.5	0.3	1.0	26.3	0.3	1.9	32.4	1.6	0.270	30.5	1,960
	95	19	12.9	4.5	0.3	1.2	28.6	0.3	2.0	34.9	1.7	0.195	30.5	2,370
	120	37	14.5	4.5	0.3	1.2	30.2	0.4	2.1	37.2	1.8	0.154	30.5	2,810
	150	37	16.2	4.5	0.3	1.2	31.8	0.4	2.2	39.0	1.9	0.126	30.5	3,180
	185	37	18.0	4.5	0.3	1.2	33.6	0.4	2.2	40.8	1.9	0.100	30.5	3,630
	240	61	20.6	4.5	0.4	1.2	36.7	0.4	2.4	44.3	2.1	0.0762	30.5	4,490
	300	61	23.1	4.5	0.4	1.4	39.5	0.4	2.5	47.3	2.2	0.0607	30.5	5,290
	400	61	26.1	4.5	0.4	1.4	42.9	0.4	2.6	50.9	2.3	0.0475	30.5	6,450
	500	61	29.2	4.5	0.4	1.4	45.6	0.4	2.7	53.8	2.5	0.0369	30.5	7,460
	630	91	33.2	4.5	0.4	1.6	50.2	0.4	2.9	58.8	2.7	0.0286	30.5	9,270

## 8.7/15KV RFOU, 8.7/15KV RFBU, 8.7/15KV RFCU

3	25	7	6.6	4.5	0.3	1.4	45.9	0.4	2.7	54.1	2.5	0.734	30.5	4,430
	35	7	7.9	4.5	0.3	1.6	48.9	0.4	2.9	57.5	2.6	0.529	30.5	5,110
	50	19	9.1	4.5	0.3	1.6	51.7	0.4	3.0	60.5	2.7	0.391	30.5	5,810
	70	19	11.0	4.5	0.3	1.6	55.6	0.4	3.1	64.6	2.9	0.270	30.5	6,900
	95	19	12.9	4.5	0.3	1.6	59.7	0.4	3.3	69.1	3.1	0.195	30.5	8,210
	120	37	14.5	4.5	0.3	1.6	63.1	0.4	3.4	72.7	3.2	0.154	30.5	9,380
	150	37	16.2	4.5	0.3	1.8	67.0	0.4	3.6	77.0	3.4	0.126	30.5	10,750
	185	37	18.0	4.5	0.3	1.8	70.8	0.4	3.7	81.0	3.5	0.100	30.5	12,330
	240	61	20.6	4.5	0.4	1.8	77.5	0.4	4.0	88.3	3.8	0.0762	30.5	15,260
3C	25	7	6.6	4.5	0.3	1.4	45.9	0.4	2.7	54.1	2.5	0.734	30.5	4,670
Earth	16	7	5.3	1.0										
3C	35	7	7.9	4.5	0.3	1.6	48.9	0.4	2.9	57.5	2.6	0.529	30.5	5,420
Earth	25	7	6.6	1.2										
3C	50	19	9.1	4.5	0.3	1.6	51.7	0.4	3.0	60.5	2.7	0.391	30.5	6,140
Earth	25	7	6.6	1.2										
3C	70	19	11.0	4.5	0.3	1.6	55.6	0.4	3.1	64.6	2.9	0.270	30.5	7,320
Earth	35	7	7.9	1.2										
3C	95	19	12.9	4.5	0.3	1.6	59.7	0.4	3.3	69.1	3.1	0.195	30.5	8,730
Earth	50	19	9.1	1.4										
3C	120	37	14.5	4.5	0.3	1.8	63.9	0.4	3.5	73.7	3.2	0.154	30.5	10,250
Earth	70	19	11.0	1.4										
3C	150	37	16.2	4.5	0.3	1.8	68.0	0.4	3.6	78.0	3.4	0.126	30.5	11,830
Earth	95	19	12.9	1.6										
3C	185	37	18.0	4.5	0.3	1.8	71.5	0.4	3.8	81.9	3.6	0.100	30.5	13,430
Earth	95	19	12.9	1.6										
3C	240	61	20.6	4.5	0.4	1.8	78.3	0.4	4.0	89.1	3.9	0.0762	30.5	16,540
Earth	120	37	14.5	1.6										



# LV Power & Lighting Cable



0.6/1kV RU	11 ~ 15
0.6/1kV RFOU, RFCU, RFBU	16 ~ 20
0.6/1kV BU	21 ~ 25
0.6/1kV BFOU, BFCU, BFBU	26 ~ 30



# LV Power & Lighting Cable

O-Route®  
NEK-606, IEC 60092-350, 353, 354, 376



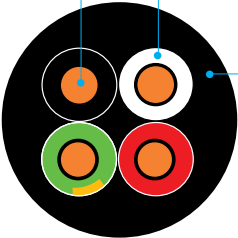
## Cable Designation (P18)

0.6/1kV RU

## Application Standard

- Design guide : NEK-606 & IEC 60092-353
- Flame retardant : IEC 60332-1 & IEC 60332-3 Category A
- Halogen content : IEC 60754-1, 0.5% ↓
- Cold bend / impact : CSA 22.2 No.03 (-40°C/-35°C)
- Mud resistant : NEK-606 (Mud type only)
- Smoke light transmittance : IEC 61034, 60% ↑
- Sunlight (UV) resistant : UL 1581

## Construction

Sectional view	Classification	Code	Construction detail
	Conductor		- Stranded tinned annealed copper wires as per IEC 60228, Class 2
	Insulation	<b>R</b>	- EPR as per IEC 60092-360
	Cabling		- Insulated cores shall be cabled - Flame retardant & non-hygroscopic fillers may be used - Suitable tape(s) may be applied on the cabled core - A Filler may be applied to obtain a circular Cable
	Sheath	<b>U</b>	- SHF2 or SHF Mud as per IEC 60092-360 - Outer sheath color : Black

No. of cores	Without Earth core	With Earth core
1C	Off-white or Black	-
2C	Off-white, Black	-
3C / 2C + E	Off-white, Black, Red	Off-white, Black, G/Y
4C / 3C + E	Off-white, Black, Red, Blue	Off-white, Black, Red, G/Y
5C / 4C + E	Black No. on white insulation	Off-white, Black, Red, Blue, G/Y
6C and over	Black No. on white insulation	Black No. on white insulation, G/Y

**Note.** 1. Flexible cable (Class5 Conductor) can be supplied  
2. Earth core(G/Y) : Yellow/Green(Green base color with yellow stripe)



# LV Power & Lighting Cable

## 0.6/1kV RU

No. of Cores	Conductor			Thickness of Insulation	Thickness of sheath	Overall diameter		Conductor Resistance (at 20°C) (Max.)	Insulation Resistance (at 20°C) (Min.)	Test Voltage	Cable Weight
	Nominal Area	Min. No. of wires	Max. overall dia.			Nominal	Tolerance				
No.	mm <sup>2</sup>	EA	mm	mm	mm	mm	±mm	Ω/km	MΩ-km	V/5min.	kg/km
1	1.5	7	1.7	1.0	1.0	5.8	0.5	12.2	1,320	3,500	60
	2.5	7	2.2	1.0	1.0	6.2	0.5	7.56	1,110	3,500	70
	4	7	2.7	1.0	1.0	6.7	0.6	4.70	940	3,500	90
	6	7	3.3	1.0	1.0	7.3	0.6	3.110	800	3,500	110
	10	7	4.2	1.0	1.0	8.2	0.6	1.840	650	3,500	160
	16	7	5.3	1.0	1.1	9.4	0.7	1.160	540	3,500	230
	25	7	6.6	1.2	1.1	11.1	0.7	0.734	520	3,500	340
	35	7	7.9	1.2	1.2	12.4	0.8	0.529	450	3,500	450
	50	19	9.1	1.4	1.3	14.4	0.9	0.391	440	3,500	600
	70	19	11.0	1.4	1.3	16.1	0.9	0.270	380	3,500	810
	95	19	12.9	1.6	1.4	18.6	1.0	0.195	370	3,500	1,100
	120	37	14.5	1.6	1.5	20.3	1.1	0.154	330	3,500	1,360
	150	37	16.2	1.8	1.6	22.4	1.2	0.126	330	3,500	1,650
	185	37	18.0	2.0	1.7	25.1	1.3	0.100	330	3,500	2,070
	240	61	20.6	2.2	1.8	28.3	1.4	0.0762	320	3,500	2,690
	300	61	23.1	2.4	1.9	31.5	1.6	0.0607	310	3,500	3,340
	400	61	26.1	2.6	2.1	36.0	1.7	0.0475	290	3,500	4,520
	500	61	29.2	2.8	2.2	39.3	1.9	0.0369	280	3,500	5,450
	630	91	33.2	2.8	2.3	43.7	2.0	0.0286	250	3,500	6,990
2	1.5	7	1.7	1.0	1.1	9.6	0.7	12.2	1,320	3,500	140
	2.5	7	2.2	1.0	1.1	10.4	0.7	7.56	1,110	3,500	170
	4	7	2.7	1.0	1.2	11.6	0.8	4.70	940	3,500	230
	6	7	3.3	1.0	1.2	12.8	0.8	3.110	800	3,500	290
	10	7	4.2	1.0	1.3	14.8	0.9	1.840	650	3,500	390
	16	7	5.3	1.0	1.4	17.0	1.0	1.160	540	3,500	550
	25	7	6.6	1.2	1.5	20.6	1.1	0.734	520	3,500	840
	35	7	7.9	1.2	1.6	23.0	1.2	0.529	450	3,500	1,090
	50	19	9.1	1.4	1.7	26.8	1.4	0.391	440	3,500	1,450
	70	19	11.0	1.4	1.9	30.8	1.5	0.270	380	3,500	2,000
	95	19	12.9	1.6	2.0	35.6	1.7	0.195	370	3,500	2,690
	120	37	14.5	1.6	2.2	39.0	1.9	0.154	330	3,500	3,300
	150	37	16.2	1.8	2.3	43.0	2.0	0.126	330	3,500	4,000
	185	37	18.0	2.0	2.5	48.4	2.2	0.100	330	3,500	5,030
	240	61	20.6	2.2	2.8	55.0	2.5	0.0762	320	3,500	6,550
	300	61	23.1	2.4	3.0	61.0	2.7	0.0607	310	3,500	8,090
2C+E	1.5	7	1.7	1.0	1.1	10.2	0.7	12.2	1,320	3,500	160
2C+E	2.5	7	2.2	1.0	1.1	11.0	0.7	7.56	1,110	3,500	210
2C+E	4	7	2.7	1.0	1.2	12.3	0.8	4.70	940	3,500	270
2C+E	6	7	3.3	1.0	1.2	13.6	0.8	3.110	800	3,500	360
2C+E	10	7	4.2	1.0	1.3	15.7	0.9	1.840	650	3,500	510
2C+E	16	7	5.3	1.0	1.4	18.1	1.0	1.160	540	3,500	730
2C	25	7	6.6	1.2	1.5	21.3	1.2	0.734	520	3,500	1,000
Earth	16	7	5.3	1.0				1.160			
2C	35	7	7.9	1.2	1.6	24.1	1.3	0.529	450	3,500	1,360
Earth	25	7	6.6	1.2				0.734			
2C	50	19	9.1	1.4	1.8	27.7	1.4	0.391	440	3,500	1,730
Earth	25	7	6.6	1.2				0.734			
2C	70	19	11.0	1.4	1.9	31.6	1.6	0.270	380	3,500	2,350
Earth	35	7	7.9	1.2				0.529			
2C	95	19	12.9	1.6	2.1	36.7	1.8	0.195	370	3,500	3,190
Earth	50	19	9.1	1.4				0.391			
2C	120	37	14.5	1.6	2.2	40.2	1.9	0.154	330	3,500	3,970
Earth	70	19	11.0	1.4				0.270			
2C	150	37	16.2	1.8	2.4	44.9	2.1	0.126	330	3,500	4,970
Earth	95	19	12.9	1.6				0.195			
2C	185	37	18.0	2.0	2.6	49.7	2.3	0.100	330	3,500	5,980
Earth	95	19	12.9	1.6				0.195			
2C	240	61	20.6	2.2	2.8	56.0	2.5	0.0762	320	3,500	7,660
Earth	120	37	14.5	1.6				0.154			

## 0.6/1kV RU

No. of Cores	Conductor			Thickness of Insulation	Thickness of sheath	Overall diameter		Conductor Resistance (at 20°C) (Max.)	Insulation Resistance (at 20°C) (Min.)	Test Voltage	Cable Weight
	Nominal Area	Min. No. of wires	Max. overall dia.			Nominal	Tolerance				
No.	mm <sup>2</sup>	EA	mm	mm	mm	mm	±mm	Ω/km	MΩ-km	V/5min.	kg/km
3	1.5	7	1.7	1.0	1.1	10.2	0.7	12.2	1,320	3,500	160
	2.5	7	2.2	1.0	1.1	11.0	0.7	7.56	1,110	3,500	210
	4	7	2.7	1.0	1.2	12.3	0.8	4.70	940	3,500	270
	6	7	3.3	1.0	1.2	13.6	0.8	3.110	800	3,500	360
	10	7	4.2	1.0	1.3	15.7	0.9	1.840	650	3,500	510
	16	7	5.3	1.0	1.4	18.1	1.0	1.160	540	3,500	730
	25	7	6.6	1.2	1.5	21.9	1.2	0.734	520	3,500	1,110
	35	7	7.9	1.2	1.6	24.5	1.3	0.529	450	3,500	1,450
	50	19	9.1	1.4	1.8	29.0	1.5	0.391	440	3,500	1,990
	70	19	11.0	1.4	1.9	32.9	1.6	0.270	380	3,500	2,700
	95	19	12.9	1.6	2.1	38.2	1.8	0.195	370	3,500	3,670
	120	37	14.5	1.6	2.3	41.9	2.0	0.154	330	3,500	4,520
	150	37	16.2	1.8	2.4	46.1	2.1	0.126	330	3,500	5,480
	185	37	18.0	2.0	2.7	52.1	2.4	0.100	330	3,500	6,930
	240	61	20.6	2.2	2.9	59.0	2.7	0.0762	320	3,500	8,970
	300	61	23.1	2.4	3.2	65.6	2.9	0.0607	310	3,500	11,140
3C+E	1.5	7	1.7	1.0	1.1	11.1	0.7	12.2	1,320	3,500	200
3C+E	2.5	7	2.2	1.0	1.2	12.3	0.8	7.56	1,110	3,500	260
3C+E	4	7	2.7	1.0	1.2	13.5	0.8	4.70	940	3,500	340
3C+E	6	7	3.3	1.0	1.3	15.1	0.9	3.110	800	3,500	450
3C+E	10	7	4.2	1.0	1.4	17.5	1.0	1.840	650	3,500	650
3C+E	16	7	5.3	1.0	1.5	20.1	1.1	1.160	540	3,500	930
3C	25	7	6.6	1.2	1.6	23.8	1.3	0.734	520	3,500	1,330
Earth	16	7	5.3	1.0				1.160			
3C	35	7	7.9	1.2	1.7	26.9	1.4	0.529	450	3,500	1,780
Earth	25	7	6.6	1.2				0.734			
3C	50	19	9.1	1.4	1.9	31.2	1.5	0.391	440	3,500	2,330
Earth	25	7	6.6	1.2				0.734			
3C	70	19	11.0	1.4	2.0	35.3	1.7	0.270	380	3,500	3,140
Earth	35	7	7.9	1.2				0.529			
3C	95	19	12.9	1.6	2.3	41.3	2.0	0.195	370	3,500	4,300
Earth	50	19	9.1	1.4				0.391			
3C	120	37	14.5	1.6	2.4	45.2	2.1	0.154	330	3,500	5,330
Earth	70	19	11.0	1.4				0.270			
3C	150	37	16.2	1.8	2.6	50.3	2.3	0.126	330	3,500	6,620
Earth	95	19	12.9	1.6				0.195			
3C	185	37	18.0	2.0	2.8	55.9	2.5	0.100	330	3,500	8,060
Earth	95	19	12.9	1.6				0.195			
3C	240	61	20.6	2.2	3.1	63.2	2.8	0.0762	320	3,500	10,400
Earth	120	37	14.5	1.6				0.154			
4	1.5	7	1.7	1.0	1.1	11.1	0.7	12.2	1,320	3,500	200
	2.5	7	2.2	1.0	1.2	12.3	0.8	7.56	1,110	3,500	260
	4	7	2.7	1.0	1.2	13.5	0.8	4.70	940	3,500	340
	6	7	3.3	1.0	1.3	15.1	0.9	3.110	800	3,500	450
	10	7	4.2	1.0	1.4	17.5	1.0	1.840	650	3,500	650
	16	7	5.3	1.0	1.5	20.1	1.1	1.160	540	3,500	930
	25	7	6.6	1.2	1.6	24.4	1.3	0.734	520	3,500	1,430
	35	7	7.9	1.2	1.7	27.3	1.4	0.529	450	3,500	1,880
	50	19	9.1	1.4	1.9	32.2	1.6	0.391	440	3,500	2,570
	70	19	11.0	1.4	2.1	36.7	1.8	0.270	380	3,500	3,510
	95	19	12.9	1.6	2.3	42.7	2.0	0.195	370	3,500	4,790
	120	37	14.5	1.6	2.5	46.7	2.2	0.154	330	3,500	5,880
	150	37	16.2	1.8	2.6	51.5	2.4	0.126	330	3,500	7,140
	185	37	18.0	2.0	2.9	58.1	2.6	0.100	330	3,500	9,010
	240	61	20.6	2.2	3.2	65.9	2.9	0.0762	320	3,500	11,720
	300	61	23.1	2.4	3.4	73.1	3.2	0.0607	310	3,500	14,500

HV Power Cable

LV Power &amp; Lighting Cable

Instrumentation &amp; Communication Cable

Earthing &amp; Bonding wire

VFD Cable

Technical Information

# LV Power & Lighting Cable

## 0.6/1kV RU

No. of Cores	Conductor			Thickness of Insulation	Thickness of sheath	Overall diameter		Conductor Resistance (at 20°C) (Max.)	Insulation Resistance (at 20°C) (Min.)	Test Voltage	Cable Weight
	Nominal Area	Min. No. of wires	Max. overall dia.			Nominal	Tolerance				
No.	mm <sup>2</sup>	EA	mm	mm	mm	mm	±mm	Ω/km	MΩ-km	V/5min.	kg/km
4C+E	1.5	7	1.7	1.0	1.2	12.3	0.8	12.2	1,320	3,500	240
4C+E	2.5	7	2.2	1.0	1.2	13.4	0.8	7.56	1,110	3,500	310
4C+E	4	7	2.7	1.0	1.3	15.0	0.9	4.70	940	3,500	420
4C+E	6	7	3.3	1.0	1.4	16.8	1.0	3.110	800	3,500	560
4C+E	10	7	4.2	1.0	1.4	19.2	1.1	1.840	650	3,500	790
4C+E	16	7	5.3	1.0	1.6	22.3	1.2	1.160	540	3,500	1,150
4C	25	7	6.6	1.2	1.7	26.6	1.4	0.734	520	3,500	1,670
Earth	16	7	5.3	1.0				1.160			
4C	35	7	7.9	1.2	1.8	30.1	1.5	0.529	450	3,500	2,250
Earth	25	7	6.6	1.2				0.734			
4C	50	19	9.1	1.4	2.0	34.8	1.7	0.391	440	3,500	2,940
Earth	25	7	6.6	1.2				0.734			
4C	70	19	11.0	1.4	2.2	39.6	1.9	0.270	380	3,500	4,000
Earth	35	7	7.9	1.2				0.529			
4C	95	19	12.9	1.6	2.4	46.0	2.1	0.195	370	3,500	5,430
Earth	50	19	9.1	1.4				0.391			
4C	120	37	14.5	1.6	2.6	50.5	2.3	0.154	330	3,500	6,750
Earth	70	19	11.0	1.4				0.270			
4C	150	37	16.2	1.8	2.8	56.2	2.5	0.126	330	3,500	8,350
Earth	95	19	12.9	1.6				0.195			
4C	185	37	18.0	2.0	3.0	62.5	2.8	0.100	330	3,500	10,230
Earth	95	19	12.9	1.6				0.195			
4C	240	61	20.6	2.2	3.3	70.7	3.1	0.0762	320	3,500	13,220
Earth	120	37	14.5	1.6				0.154			
5	1.5	7	1.7	1.0	1.2	12.3	0.8	12.2	1,320	3,500	240
5	2.5	7	2.2	1.0	1.2	13.4	0.8	7.56	1,110	3,500	310
5	4	7	2.7	1.0	1.3	15.0	0.9	4.70	940	3,500	420
5	6	7	3.3	1.0	1.4	16.8	1.0	3.110	800	3,500	560
5	10	7	4.2	1.0	1.4	19.2	1.1	1.840	650	3,500	790
5	16	7	5.3	1.0	1.6	22.3	1.2	1.160	540	3,500	1,150
5	25	7	6.6	1.2	1.7	27.1	1.4	0.734	520	3,500	1,780
5	35	7	7.9	1.2	1.9	30.7	1.5	0.529	450	3,500	2,370
5	50	19	9.1	1.4	2.1	35.9	1.7	0.391	440	3,500	3,200
5	70	19	11.0	1.4	2.2	40.7	1.9	0.270	380	3,500	4,350
5	95	19	12.9	1.6	2.5	47.5	2.2	0.195	370	3,500	5,950
5	120	37	14.5	1.6	2.6	51.8	2.4	0.154	330	3,500	7,270
5	150	37	16.2	1.8	2.9	57.5	2.6	0.126	330	3,500	8,910
5	185	37	18.0	2.0	3.1	64.7	2.9	0.100	330	3,500	11,200
5	240	61	20.6	2.2	3.4	73.4	3.2	0.0762	320	3,500	14,560



## 0.6/1kV RU

No. of Cores	Conductor			Thickness of Insulation	Thickness of sheath	Overall diameter		Conductor Resistance (at 20°C) (Max.)	Insulation Resistance (at 20°C) (Min.)	Test Voltage	Cable Weight
	Nominal Area	Min. No. of wires	Max. overall dia.			Nominal	Tolerance				
No.	mm <sup>2</sup>	EA	mm	mm	mm	mm	±mm	Ω/km	MΩ-km	V/5min.	kg/km
2	1.0	7	1.4	1.0	1.1	9.0	0.7	18.2	1,490	3,500	110
5	1.0	7	1.4	1.0	1.2	11.5	0.8	18.2	1,490	3,500	190
7	1.0	7	1.4	1.0	1.2	12.5	0.8	18.2	1,490	3,500	240
8	1.0	7	1.4	1.0	1.2	13.5	0.8	18.2	1,490	3,500	270
9	1.0	7	1.4	1.0	1.3	14.7	0.9	18.2	1,490	3,500	310
10	1.0	7	1.4	1.0	1.3	16.0	0.9	18.2	1,490	3,500	340
12	1.0	7	1.4	1.0	1.3	16.5	1.0	18.2	1,490	3,500	390
14	1.0	7	1.4	1.0	1.4	17.6	1.0	18.2	1,490	3,500	450
16	1.0	7	1.4	1.0	1.4	18.5	1.0	18.2	1,490	3,500	500
19	1.0	7	1.4	1.0	1.5	19.7	1.1	18.2	1,490	3,500	580
24	1.0	7	1.4	1.0	1.6	23.2	1.2	18.2	1,490	3,500	740
27	1.0	7	1.4	1.0	1.6	23.7	1.2	18.2	1,490	3,500	800
30	1.0	7	1.4	1.0	1.6	24.6	1.3	18.2	1,490	3,500	870
37	1.0	7	1.4	1.0	1.7	26.7	1.4	18.2	1,490	3,500	1,060
44	1.0	7	1.4	1.0	1.9	30.6	1.5	18.2	1,490	3,500	1,300
2	1.5	7	1.7	1.0	1.1	9.6	0.7	12.2	1,320	3,500	140
5	1.5	7	1.7	1.0	1.2	12.3	0.8	12.2	1,320	3,500	240
7	1.5	7	1.7	1.0	1.2	13.4	0.8	12.2	1,320	3,500	290
8	1.5	7	1.7	1.0	1.3	14.7	0.9	12.2	1,320	3,500	340
9	1.5	7	1.7	1.0	1.3	15.8	0.9	12.2	1,320	3,500	380
10	1.5	7	1.7	1.0	1.4	17.4	1.0	12.2	1,320	3,500	430
12	1.5	7	1.7	1.0	1.4	18.0	1.0	12.2	1,320	3,500	480
14	1.5	7	1.7	1.0	1.4	18.9	1.1	12.2	1,320	3,500	550
16	1.5	7	1.7	1.0	1.5	20.1	1.1	12.2	1,320	3,500	620
19	1.5	7	1.7	1.0	1.5	21.2	1.1	12.2	1,320	3,500	710
24	1.5	7	1.7	1.0	1.7	25.2	1.3	12.2	1,320	3,500	920
27	1.5	7	1.7	1.0	1.7	25.8	1.3	12.2	1,320	3,500	1,000
30	1.5	7	1.7	1.0	1.7	26.7	1.4	12.2	1,320	3,500	1,090
37	1.5	7	1.7	1.0	1.8	29.2	1.5	12.2	1,320	3,500	1,340
44	1.5	7	1.7	1.0	2.0	33.2	1.6	12.2	1,320	3,500	1,620
2	2.5	7	2.2	1.0	1.1	10.4	0.7	7.56	1,110	3,500	170
5	2.5	7	2.2	1.0	1.2	13.4	0.8	7.56	1,110	3,500	310
7	2.5	7	2.2	1.0	1.3	14.8	0.9	7.56	1,110	3,500	390
8	2.5	7	2.2	1.0	1.3	16.0	0.9	7.56	1,110	3,500	430
9	2.5	7	2.2	1.0	1.4	17.5	1.0	7.56	1,110	3,500	490
10	2.5	7	2.2	1.0	1.4	19.0	1.1	7.56	1,110	3,500	550
12	2.5	7	2.2	1.0	1.5	19.8	1.1	7.56	1,110	3,500	640
14	2.5	7	2.2	1.0	1.5	20.9	1.1	7.56	1,110	3,500	720
16	2.5	7	2.2	1.0	1.6	22.2	1.2	7.56	1,110	3,500	820
19	2.5	7	2.2	1.0	1.6	23.4	1.2	7.56	1,110	3,500	950
24	2.5	7	2.2	1.0	1.8	27.8	1.4	7.56	1,110	3,500	1,210
27	2.5	7	2.2	1.0	1.8	28.4	1.4	7.56	1,110	3,500	1,330
30	2.5	7	2.2	1.0	1.8	29.7	1.5	7.56	1,110	3,500	1,480
37	2.5	7	2.2	1.0	1.9	32.2	1.6	7.56	1,110	3,500	1,780
44	2.5	7	2.2	1.0	2.1	36.6	1.8	7.56	1,110	3,500	2,150
2	4	7	2.7	1.0	1.2	11.6	0.8	4.70	940	3,500	230
5	4	7	2.7	1.0	1.3	15.0	0.9	4.70	940	3,500	420
7	4	7	2.7	1.0	1.3	16.3	1.0	4.70	940	3,500	510
8	4	7	2.7	1.0	1.4	17.9	1.0	4.70	940	3,500	590
9	4	7	2.7	1.0	1.5	19.5	1.1	4.70	940	3,500	660
10	4	7	2.7	1.0	1.5	21.2	1.1	4.70	940	3,500	730
12	4	7	2.7	1.0	1.5	21.9	1.2	4.70	940	3,500	850
14	4	7	2.7	1.0	1.6	23.3	1.2	4.70	940	3,500	980
16	4	7	2.7	1.0	1.6	24.6	1.3	4.70	940	3,500	1,100
19	4	7	2.7	1.0	1.7	26.1	1.3	4.70	940	3,500	1,290
24	4	7	2.7	1.0	1.9	31.2	1.5	4.70	940	3,500	1,660
27	4	7	2.7	1.0	1.9	31.9	1.6	4.70	940	3,500	1,830
30	4	7	2.7	1.0	2.0	33.3	1.6	4.70	940	3,500	2,030
37	4	7	2.7	1.0	2.1	36.1	1.7	4.70	940	3,500	2,450
44	4	7	2.7	1.0	2.2	40.8	1.9	4.70	940	3,500	2,920

HV Power Cable

LV Power &amp; Lighting Cable

Instrumentation &amp; Communication Cable

Earthing &amp; Bonding wire

VFD Cable

Technical Information

# LV Power & Lighting Cable



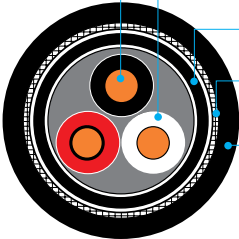
## Cable Designation (P1, P1/P8)

0.6/1kV RFOU, RFCU, RFBU

## Application Standard

- Design guide	: NEK-606 & IEC 60092-353
- Flame retardant	: IEC 60332-1 & IEC 60332-3 Category A
- Halogen content	: IEC 60754-1, 0.5% ↓
- Cold bend / impact	: CSA 22.2 No.03 (-40°C/-35°C)
- Mud resistant	: NEK-606 (Mud type only)
- Smoke light transmittance	: IEC 61034, 60% ↑
- Sunlight (UV) resistant	: UL 1581

## Construction

Sectional view	Classification	Code	Construction detail
	Conductor		- Stranded tinned annealed copper wires as per IEC 60228, Class 2
	Insulation	<b>R</b>	- EPR as per IEC 60092-360
	Cabling		- Insulated cores shall be cabled - Flame retardant & non-hygroscopic fillers may be used - Suitable tape(s) may be applied on the cabled core - A Filler may be applied to obtain a circular Cable
	Inner covering	<b>F</b>	- Flame retardant halogen free thermoset compound
	Armor	<b>O</b> <b>(B,C)</b>	- Braid of tinned copper wire (O) / bronze wire (B) /galvanized steel wire (C) - A suitable separator tape(s) may be applied under/over the armor
	Sheath	<b>U</b>	- SHF2 or SHF Mud as per IEC 60092-360 - Outer sheath color : Black

No. of cores	Without Earth core	With Earth core
1C	Off-white or Black	-
2C	Off-white, Black	-
3C / 2C + E	Off-white, Black, Red	Off-white, Black, G/Y
4C / 3C + E	Off-white, Black, Red, Blue	Off-white, Black, Red, G/Y
5C / 4C + E	Black No. on white insulation	Off-white, Black, Red, Blue, G/Y
6C and over	Black No. on white insulation	Black No. on white insulation, G/Y

Core identification	
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**Note.** 1. Flexible cable (Class5 Conductor) can be supplied  
2. Earth core(G/Y) : Yellow/Green(Green base color with yellow stripe)

## 0.6/1kV RFOU, 0.6/1kV RFBU

No. of Cores	Conductor			Thickness of Insulation	Thickness of inner covering	Nominal dia. inner covering	Dia. of wire for armour	Thickness of sheath	Overall diameter		Conductor Resistance (at 20°C) (Max.)	Insulation Resistance (at 20°C) (Min.)	Test Voltage	Cable Weight
	Nominal Area	Min. No. of wires	Max. overall dia.						Nominal	Tolerance				
No.	mm <sup>2</sup>	EA	mm	mm	mm	mm	mm	mm	mm	±mm	Ω/km	MΩ-km	V/5min.	kg/km
1	1.5	7	1.7	1.0	1.0	5.6	0.3	1.1	9.3	0.7	12.2	1,320	3,500	150
	2.5	7	2.2	1.0	1.0	6.0	0.3	1.1	9.7	0.7	7.56	1,110	3,500	170
	4	7	2.7	1.0	1.0	6.5	0.3	1.1	10.2	0.7	4.70	940	3,500	200
	6	7	3.3	1.0	1.0	7.1	0.3	1.1	10.8	0.7	3.110	800	3,500	230
	10	7	4.2	1.0	1.0	8.0	0.3	1.2	11.9	0.8	1.840	650	3,500	290
	16	7	5.3	1.0	1.0	9.0	0.3	1.2	12.9	0.8	1.160	540	3,500	370
	25	7	6.6	1.2	1.0	10.7	0.3	1.3	14.8	0.9	0.734	520	3,500	520
	35	7	7.9	1.2	1.0	11.8	0.3	1.3	15.9	0.9	0.529	450	3,500	630
	50	19	9.1	1.4	1.0	13.6	0.3	1.4	17.9	1.0	0.391	440	3,500	810
	70	19	11.0	1.4	1.0	15.3	0.3	1.5	19.8	1.1	0.270	380	3,500	1,060
	95	19	12.9	1.6	1.0	17.6	0.3	1.6	22.3	1.2	0.195	370	3,500	1,380
	120	37	14.5	1.6	1.0	19.1	0.3	1.6	23.8	1.3	0.154	330	3,500	1,650
	150	37	16.2	1.8	1.0	21.0	0.3	1.7	25.9	1.3	0.126	330	3,500	1,970
	185	37	18.0	2.0	1.0	23.5	0.3	1.8	28.6	1.4	0.100	330	3,500	2,430
	240	61	20.6	2.2	1.0	26.5	0.3	1.9	31.8	1.6	0.0762	320	3,500	3,090
	300	61	23.1	2.4	1.2	30.1	0.4	2.1	36.2	1.7	0.0607	310	3,500	3,940
	400	61	26.1	2.6	1.2	34.2	0.4	2.2	40.5	1.9	0.0475	290	3,500	5,180
	500	61	29.2	2.8	1.2	37.3	0.4	2.4	44.0	2.1	0.0369	280	3,500	6,190
	630	91	33.2	2.8	1.4	41.9	0.4	2.5	48.8	2.3	0.0286	250	3,500	7,860

## 0.6/1kV RFOU, 0.6/1kV RFCU, 0.6/1kV RFBU

2	1.5	7	1.7	1.0	1.0	9.2	0.3	1.2	13.1	0.8	12.2	1,320	3,500	290
	2.5	7	2.2	1.0	1.0	10.0	0.3	1.3	14.1	0.9	7.56	1,110	3,500	340
	4	7	2.7	1.0	1.0	11.0	0.3	1.3	15.1	0.9	4.70	940	3,500	400
	6	7	3.3	1.0	1.0	12.2	0.3	1.3	16.3	1.0	3.110	800	3,500	480
	10	7	4.2	1.0	1.0	14.0	0.3	1.4	18.3	1.0	1.840	650	3,500	610
	16	7	5.3	1.0	1.0	16.0	0.3	1.5	20.5	1.1	1.160	540	3,500	790
	25	7	6.6	1.2	1.0	19.4	0.3	1.6	24.1	1.3	0.734	520	3,500	1,120
	35	7	7.9	1.2	1.0	21.6	0.3	1.7	26.5	1.4	0.529	450	3,500	1,390
	50	19	9.1	1.4	1.0	25.2	0.3	1.9	30.5	1.5	0.391	440	3,500	1,820
	70	19	11.0	1.4	1.2	29.4	0.3	2.0	34.9	1.7	0.270	380	3,500	2,450
	95	19	12.9	1.6	1.2	34.0	0.4	2.2	40.3	1.9	0.195	370	3,500	3,320
	120	37	14.5	1.6	1.2	37.0	0.4	2.3	43.5	2.0	0.154	330	3,500	3,950
	150	37	16.2	1.8	1.4	41.2	0.4	2.5	48.1	2.2	0.126	330	3,500	4,800
	185	37	18.0	2.0	1.4	46.2	0.4	2.7	53.5	2.4	0.100	330	3,500	5,910
	240	61	20.6	2.2	1.6	52.8	0.4	3.0	60.7	2.7	0.0762	320	3,500	7,630
	300	61	23.1	2.4	1.6	58.4	0.4	3.2	66.7	3.0	0.0607	310	3,500	9,260
	2C+E	1.5	7	1.7	1.0	9.8	0.3	1.2	13.7	0.8	12.2	1,320	3,500	320
	2C+E	2.5	7	2.2	1.0	10.6	0.3	1.3	14.7	0.9	7.56	1,110	3,500	380
	2C+E	4	7	2.7	1.0	11.7	0.3	1.3	15.8	0.9	4.70	940	3,500	460
2C	6	7	3.3	1.0	1.0	13.0	0.3	1.4	17.3	1.0	3.110	800	3,500	570
	10	7	4.2	1.0	1.0	14.9	0.3	1.4	19.2	1.1	1.840	650	3,500	730
	16	7	5.3	1.0	1.0	17.1	0.3	1.5	21.6	1.2	1.160	540	3,500	980
	25	7	6.6	1.2	1.0	20.1	0.3	1.7	25.0	1.3	0.734	520	3,500	1,300
	Earth	16	7	5.3	1.0						1.160			
	35	7	7.9	1.2	1.0	22.7	0.3	1.8	27.8	1.4	0.529	450	3,500	1,690
	Earth	25	7	6.6	1.2						0.734			
	50	19	9.1	1.4	1.0	25.9	0.3	1.9	31.2	1.5	0.391	440	3,500	2,090
	Earth	25	7	6.6	1.2						0.734			
	70	19	11.0	1.4	1.2	30.2	0.4	2.1	36.3	1.8	0.270	380	3,500	2,920
	Earth	35	7	7.9	1.2						0.529			
	95	19	12.9	1.6	1.2	34.9	0.4	2.3	41.4	2.0	0.195	370	3,500	3,830
	Earth	50	19	9.1	1.4						0.391			
	120	37	14.5	1.6	1.4	38.6	0.4	2.4	45.3	2.1	0.154	330	3,500	4,730
	Earth	70	19	11.0	1.4						0.270			
	150	37	16.2	1.8	1.4	42.9	0.4	2.6	50.0	2.3	0.126	330	3,500	5,790
	Earth	95	19	12.9	1.6						0.195			
	185	37	18.0	2.0	1.4	47.3	0.4	2.8	54.8	2.5	0.100	330	3,500	6,870
Earth	95	19	12.9	1.6							0.195			
	240	61	20.6	2.2	1.6	53.8	0.4	3.0	61.7	2.8	0.0762	320	3,500	8,760
Earth	120	37	14.5	1.6							0.154			

HV Power Cable

LV Power &amp; Lighting Cable

Instrumentation &amp; Communication Cable

Earthing &amp; Bonding wire

VFD Cable

Technical Information



# LV Power & Lighting Cable

## 0.6/1kV RFOU, 0.6/1kV RFCU, 0.6/1kV RFBU

No. of Cores	Conductor			Thickness of Insulation	Thickness of inner covering	Nominal dia. inner covering	Dia. of wire for armour	Thickness of sheath	Overall diameter		Conductor Resistance (at 20°C) (Max.)	Insulation Resistance (at 20°C) (Min.)	Test Voltage	Cable Weight
	Nominal Area	Min. No. of wires	Max. overall dia.						Nominal	Tolerance				
No.	mm <sup>2</sup>	EA	mm	mm	mm	mm	mm	mm	mm	±mm	Ω/km	MΩ-km	V/5min.	kg/km
3	1.5	7	1.7	1.0	1.0	9.8	0.3	1.2	13.7	0.8	12.2	1,320	3,500	320
	2.5	7	2.2	1.0	1.0	10.6	0.3	1.3	14.7	0.9	7.56	1,110	3,500	380
	4	7	2.7	1.0	1.0	11.7	0.3	1.3	15.8	0.9	4.70	940	3,500	460
	6	7	3.3	1.0	1.0	13.0	0.3	1.4	17.3	1.0	3.110	800	3,500	570
	10	7	4.2	1.0	1.0	14.9	0.3	1.4	19.2	1.1	1.840	650	3,500	730
	16	7	5.3	1.0	1.0	17.1	0.3	1.5	21.6	1.2	1.160	540	3,500	980
	25	7	6.6	1.2	1.0	20.7	0.3	1.7	25.6	1.3	0.734	520	3,500	1,420
	35	7	7.9	1.2	1.0	23.1	0.3	1.8	28.2	1.4	0.529	450	3,500	1,790
	50	19	9.1	1.4	1.0	27.0	0.3	1.9	32.3	1.6	0.391	440	3,500	2,340
	70	19	11.0	1.4	1.2	31.5	0.4	2.1	37.6	1.8	0.270	380	3,500	3,290
	95	19	12.9	1.6	1.2	36.4	0.4	2.3	42.9	2.0	0.195	370	3,500	4,340
	120	37	14.5	1.6	1.4	40.1	0.4	2.5	47.0	2.2	0.154	330	3,500	5,290
	150	37	16.2	1.8	1.4	44.1	0.4	2.6	51.2	2.3	0.126	330	3,500	6,320
	185	37	18.0	2.0	1.6	50.1	0.4	2.9	57.8	2.6	0.100	330	3,500	7,960
	240	61	20.6	2.2	1.6	56.6	0.4	3.1	64.7	2.9	0.0762	320	3,500	10,120
	300	61	23.1	2.4	1.6	62.6	0.4	3.4	71.3	3.2	0.0607	310	3,500	12,380
3C+E	1.5	7	1.7	1.0	1.0	10.7	0.3	1.3	14.8	0.9	12.2	1,320	3,500	380
3C+E	2.5	7	2.2	1.0	1.0	11.7	0.3	1.3	15.8	0.9	7.56	1,110	3,500	450
3C+E	4	7	2.7	1.0	1.0	12.9	0.3	1.4	17.2	1.0	4.70	940	3,500	550
3C+E	6	7	3.3	1.0	1.0	14.3	0.3	1.4	18.6	1.0	3.110	800	3,500	680
3C+E	10	7	4.2	1.0	1.0	16.5	0.3	1.5	21.0	1.1	1.840	650	3,500	900
3C+E	16	7	5.3	1.0	1.0	18.9	0.3	1.6	23.6	1.2	1.160	540	3,500	1,210
3C	25	7	6.6	1.2	1.0	22.4	0.3	1.7	27.3	1.4	0.734	520	3,500	1,640
Earth	16	7	5.3	1.0							1.160			
3C	35	7	7.9	1.2	1.0	25.3	0.3	1.9	30.6	1.5	0.529	450	3,500	2,150
Earth	25	7	6.6	1.2							0.734			
3C	50	19	9.1	1.4	1.2	29.8	0.3	2.0	35.3	1.7	0.391	440	3,500	2,790
Earth	25	7	6.6	1.2							0.734			
3C	70	19	11.0	1.4	1.2	33.7	0.4	2.2	40.0	1.9	0.270	380	3,500	3,770
Earth	35	7	7.9	1.2							0.529			
3C	95	19	12.9	1.6	1.4	39.5	0.4	2.4	46.2	2.1	0.195	370	3,500	5,040
Earth	50	19	9.1	1.4							0.391			
3C	120	37	14.5	1.6	1.4	43.2	0.4	2.6	50.3	2.3	0.154	330	3,500	6,160
Earth	70	19	11.0	1.4							0.270			
3C	150	37	16.2	1.8	1.4	47.9	0.4	2.8	55.4	2.5	0.126	330	3,500	7,520
Earth	95	19	12.9	1.6							0.195			
3C	185	37	18.0	2.0	1.6	53.7	0.4	3.0	61.6	2.8	0.100	330	3,500	9,150
Earth	95	19	12.9	1.6							0.195			
3C	240	61	20.6	2.2	1.6	60.4	0.4	3.3	68.9	3.1	0.0762	320	3,500	11,610
Earth	120	37	14.5	1.6							0.154			
4	1.5	7	1.7	1.0	1.0	10.7	0.3	1.3	14.8	0.9	12.2	1,320	3,500	380
	2.5	7	2.2	1.0	1.0	11.7	0.3	1.3	15.8	0.9	7.56	1,110	3,500	450
	4	7	2.7	1.0	1.0	12.9	0.3	1.4	17.2	1.0	4.70	940	3,500	550
	6	7	3.3	1.0	1.0	14.3	0.3	1.4	18.6	1.0	3.110	800	3,500	680
	10	7	4.2	1.0	1.0	16.5	0.3	1.5	21.0	1.1	1.840	650	3,500	900
	16	7	5.3	1.0	1.0	18.9	0.3	1.6	23.6	1.2	1.160	540	3,500	1,210
	25	7	6.6	1.2	1.0	23.0	0.3	1.8	28.1	1.4	0.734	520	3,500	1,770
	35	7	7.9	1.2	1.0	25.7	0.3	1.9	31.0	1.5	0.529	450	3,500	2,250
	50	19	9.1	1.4	1.2	30.8	0.4	2.1	36.9	1.8	0.391	440	3,500	3,150
	70	19	11.0	1.4	1.2	34.9	0.4	2.3	41.4	2.0	0.270	380	3,500	4,160
	95	19	12.9	1.6	1.4	40.9	0.4	2.5	47.8	2.2	0.195	370	3,500	5,580
	120	37	14.5	1.6	1.4	44.5	0.4	2.6	51.6	2.4	0.154	330	3,500	6,700
	150	37	16.2	1.8	1.6	49.7	0.4	2.9	57.4	2.6	0.126	330	3,500	8,200
	185	37	18.0	2.0	1.6	55.7	0.4	3.1	63.8	2.9	0.100	330	3,500	10,140
	240	61	20.6	2.2	1.6	62.9	0.4	3.4	71.6	3.2	0.0762	320	3,500	12,960
	300	61	23.1	2.4	1.8	70.1	0.4	3.7	79.4	3.5	0.0607	310	3,500	16,000

## 0.6/1kV RFOU, 0.6/1kV RFCU, 0.6/1kV RFBU

No. of Cores	Conductor			Thickness of Insulation	Thickness of inner covering	Nominal dia. inner covering	Dia. of wire for armour	Thickness of sheath	Overall diameter		Conductor Resistance (at 20°C) (Max.)	Insulation Resistance (at 20°C) (Min.)	Test Voltage	Cable Weight
	Nominal Area	Min. No. of wires	Max. overall dia.						Nominal	Tolerance				
No.	mm <sup>2</sup>	EA	mm	mm	mm	mm	mm	mm	mm	±mm	Ω/km	MΩ·km	V/5min.	kg/km
4C+E	1.5	7	1.7	1.0	1.0	11.7	0.3	1.3	15.8	0.9	12.2	1,320	3,500	430
4C+E	2.5	7	2.2	1.0	1.0	12.8	0.3	1.4	17.1	1.0	7.56	1,110	3,500	520
4C+E	4	7	2.7	1.0	1.0	14.2	0.3	1.4	18.5	1.0	4.70	940	3,500	640
4C+E	6	7	3.3	1.0	1.0	15.8	0.3	1.5	20.3	1.1	3.110	800	3,500	810
4C+E	10	7	4.2	1.0	1.0	18.2	0.3	1.6	22.9	1.2	1.840	650	3,500	1,070
4C+E	16	7	5.3	1.0	1.0	20.9	0.3	1.7	25.8	1.3	1.160	540	3,500	1,450
4C	25	7	6.6	1.2	1.0	25.0	0.3	1.9	30.3	1.5	0.734	520	3,500	2,030
Earth	16	7	5.3	1.0							1.160			
4C	35	7	7.9	1.2	1.2	28.9	0.3	2.0	34.4	1.7	0.529	450	3,500	2,720
Earth	25	7	6.6	1.2							0.734			
4C	50	19	9.1	1.4	1.2	33.2	0.4	2.2	39.5	1.9	0.391	440	3,500	3,550
Earth	25	7	6.6	1.2							0.734			
4C	70	19	11.0	1.4	1.2	37.6	0.4	2.4	44.3	2.1	0.270	380	3,500	4,680
Earth	35	7	7.9	1.2							0.529			
4C	95	19	12.9	1.6	1.4	44.0	0.4	2.6	51.1	2.3	0.195	370	3,500	6,270
Earth	50	19	9.1	1.4							0.391			
4C	120	37	14.5	1.6	1.4	48.1	0.4	2.8	55.6	2.5	0.154	330	3,500	7,660
Earth	70	19	11.0	1.4							0.270			
4C	150	37	16.2	1.8	1.6	54.0	0.4	3.0	61.9	2.8	0.126	330	3,500	9,460
Earth	95	19	12.9	1.6							0.195			
4C	185	37	18.0	2.0	1.6	59.9	0.4	3.3	68.4	3.0	0.100	330	3,500	11,460
Earth	95	19	12.9	1.6							0.195			
4C	240	61	20.6	2.2	1.8	67.9	0.4	3.6	77.0	3.4	0.0762	320	3,500	14,670
Earth	120	37	14.5	1.6							0.154			
5	1.5	7	1.7	1.0	1.0	11.7	0.3	1.3	15.8	0.9	12.2	1,320	3,500	430
	2.5	7	2.2	1.0	1.0	12.8	0.3	1.4	17.1	1.0	7.56	1,110	3,500	520
	4	7	2.7	1.0	1.0	14.2	0.3	1.4	18.5	1.0	4.70	940	3,500	640
	6	7	3.3	1.0	1.0	15.8	0.3	1.5	20.3	1.1	3.110	800	3,500	810
	10	7	4.2	1.0	1.0	18.2	0.3	1.6	22.9	1.2	1.840	650	3,500	1,070
	16	7	5.3	1.0	1.0	20.9	0.3	1.7	25.8	1.3	1.160	540	3,500	1,450
	25	7	6.6	1.2	1.0	25.5	0.3	1.9	30.8	1.5	0.734	520	3,500	2,140
	35	7	7.9	1.2	1.2	29.3	0.3	2.0	34.8	1.7	0.529	450	3,500	2,820
	50	19	9.1	1.4	1.2	34.1	0.4	2.2	40.4	1.9	0.391	440	3,500	3,810
	70	19	11.0	1.4	1.4	39.1	0.4	2.4	45.8	2.1	0.270	380	3,500	5,110
	95	19	12.9	1.6	1.4	45.3	0.4	2.7	52.6	2.4	0.195	370	3,500	6,810
	120	37	14.5	1.6	1.6	50.0	0.4	2.9	57.7	2.6	0.154	330	3,500	8,340
	150	37	16.2	1.8	1.6	55.1	0.4	3.1	63.2	2.8	0.126	330	3,500	10,030
	185	37	18.0	2.0	1.6	61.9	0.4	3.3	70.4	3.1	0.100	330	3,500	12,440
	240	61	20.6	2.2	1.8	70.4	0.4	3.7	79.7	3.5	0.0762	320	3,500	16,060

HV Power Cable

LV Power &amp; Lighting Cable

Instrumentation &amp; Communication Cable

Earthing &amp; Bonding wire

VFD Cable

Technical Information

## LV Power & Lighting Cable

### 0.6/1kV RFOU, 0.6/1kV RFCU, 0.6/1kV RFBU

No. of Cores	Conductor			Thickness of Insulation	Thickness of inner covering	Nominal dia. inner covering	Dia. of wire for armour	Thickness of sheath	Overall diameter		Conductor Resistance (at 20°C) (Max.)	Insulation Resistance (at 20°C) (Min.)	Test Voltage	Cable Weight
	Nominal Area	Min. No. of wires	Max. overall dia.						Nominal	Tolerance				
No.	mm <sup>2</sup>	EA	mm	mm	mm	mm	mm	mm	mm	±mm	Ω/km	MΩ-km	V/5min.	kg/km
2	1.0	7	1.4	1.0	1.0	8.6	0.3	1.2	12.5	0.8	18.2	1,490	3,500	250
5	1.0	7	1.4	1.0	1.0	10.9	0.3	1.3	15.0	0.9	18.2	1,490	3,500	360
7	1.0	7	1.4	1.0	1.0	11.9	0.3	1.3	16.0	0.9	18.2	1,490	3,500	430
8	1.0	7	1.4	1.0	1.0	12.9	0.3	1.4	17.2	1.0	18.2	1,490	3,500	480
9	1.0	7	1.4	1.0	1.0	13.9	0.3	1.4	18.2	1.0	18.2	1,490	3,500	520
10	1.0	7	1.4	1.0	1.0	15.2	0.3	1.5	19.7	1.1	18.2	1,490	3,500	580
12	1.0	7	1.4	1.0	1.0	15.7	0.3	1.5	20.2	1.1	18.2	1,490	3,500	630
14	1.0	7	1.4	1.0	1.0	16.6	0.3	1.5	21.1	1.1	18.2	1,490	3,500	690
16	1.0	7	1.4	1.0	1.0	17.5	0.3	1.6	22.2	1.2	18.2	1,490	3,500	770
19	1.0	7	1.4	1.0	1.0	18.5	0.3	1.6	23.2	1.2	18.2	1,490	3,500	850
24	1.0	7	1.4	1.0	1.0	21.8	0.3	1.7	26.7	1.4	18.2	1,490	3,500	1,040
27	1.0	7	1.4	1.0	1.0	22.3	0.3	1.7	27.2	1.4	18.2	1,490	3,500	1,120
30	1.0	7	1.4	1.0	1.0	23.2	0.3	1.8	28.3	1.4	18.2	1,490	3,500	1,220
37	1.0	7	1.4	1.0	1.0	25.1	0.3	1.9	30.4	1.5	18.2	1,490	3,500	1,420
44	1.0	7	1.4	1.0	1.2	29.2	0.3	2.0	34.7	1.7	18.2	1,490	3,500	1,750
2	1.5	7	1.7	1.0	1.0	9.2	0.3	1.2	13.1	0.8	12.2	1,320	3,500	290
5	1.5	7	1.7	1.0	1.0	11.7	0.3	1.3	15.8	0.9	12.2	1,320	3,500	430
7	1.5	7	1.7	1.0	1.0	12.8	0.3	1.4	17.1	1.0	12.2	1,320	3,500	500
8	1.5	7	1.7	1.0	1.0	13.9	0.3	1.4	18.2	1.0	12.2	1,320	3,500	550
9	1.5	7	1.7	1.0	1.0	15.0	0.3	1.5	19.5	1.1	12.2	1,320	3,500	610
10	1.5	7	1.7	1.0	1.0	16.4	0.3	1.5	20.9	1.1	12.2	1,320	3,500	670
12	1.5	7	1.7	1.0	1.0	17.0	0.3	1.5	21.5	1.2	12.2	1,320	3,500	730
14	1.5	7	1.7	1.0	1.0	17.9	0.3	1.6	22.6	1.2	12.2	1,320	3,500	820
16	1.5	7	1.7	1.0	1.0	18.9	0.3	1.6	23.6	1.2	12.2	1,320	3,500	900
19	1.5	7	1.7	1.0	1.0	20.0	0.3	1.7	24.9	1.3	12.2	1,320	3,500	1,010
24	1.5	7	1.7	1.0	1.0	23.6	0.3	1.8	28.7	1.4	12.2	1,320	3,500	1,250
27	1.5	7	1.7	1.0	1.0	24.2	0.3	1.8	29.3	1.5	12.2	1,320	3,500	1,340
30	1.5	7	1.7	1.0	1.0	25.1	0.3	1.9	30.4	1.5	12.2	1,320	3,500	1,460
37	1.5	7	1.7	1.0	1.2	28.0	0.3	2.0	33.5	1.6	12.2	1,320	3,500	1,800
44	1.5	7	1.7	1.0	1.2	31.6	0.4	2.1	37.7	1.8	12.2	1,320	3,500	2,190
2	2.5	7	2.2	1.0	1.0	10.0	0.3	1.3	14.1	0.9	7.56	1,110	3,500	340
5	2.5	7	2.2	1.0	1.0	12.8	0.3	1.4	17.1	1.0	7.56	1,110	3,500	520
7	2.5	7	2.2	1.0	1.0	14.0	0.3	1.4	18.3	1.0	7.56	1,110	3,500	600
8	2.5	7	2.2	1.0	1.0	15.2	0.3	1.5	19.7	1.1	7.56	1,110	3,500	670
9	2.5	7	2.2	1.0	1.0	16.5	0.3	1.5	21.0	1.1	7.56	1,110	3,500	740
10	2.5	7	2.2	1.0	1.0	18.0	0.3	1.6	22.7	1.2	7.56	1,110	3,500	820
12	2.5	7	2.2	1.0	1.0	18.6	0.3	1.6	23.3	1.2	7.56	1,110	3,500	910
14	2.5	7	2.2	1.0	1.0	19.7	0.3	1.6	24.4	1.3	7.56	1,110	3,500	1,010
16	2.5	7	2.2	1.0	1.0	20.8	0.3	1.7	25.7	1.3	7.56	1,110	3,500	1,120
19	2.5	7	2.2	1.0	1.0	22.0	0.3	1.7	26.9	1.4	7.56	1,110	3,500	1,260
24	2.5	7	2.2	1.0	1.0	26.0	0.3	1.9	31.3	1.6	7.56	1,110	3,500	1,570
27	2.5	7	2.2	1.0	1.0	26.6	0.3	1.9	31.9	1.6	7.56	1,110	3,500	1,700
30	2.5	7	2.2	1.0	1.2	28.5	0.3	2.0	34.0	1.7	7.56	1,110	3,500	1,940
37	2.5	7	2.2	1.0	1.2	30.8	0.4	2.1	36.9	1.8	7.56	1,110	3,500	2,370
44	2.5	7	2.2	1.0	1.2	34.8	0.4	2.3	41.3	2.0	7.56	1,110	3,500	2,790
2	4	7	2.7	1.0	1.0	11.0	0.3	1.3	15.1	0.9	4.70	940	3,500	400
5	4	7	2.7	1.0	1.0	14.2	0.3	1.4	18.5	1.0	4.70	940	3,500	640
7	4	7	2.7	1.0	1.0	15.5	0.3	1.5	20.0	1.1	4.70	940	3,500	750
8	4	7	2.7	1.0	1.0	16.9	0.3	1.5	21.4	1.2	4.70	940	3,500	830
9	4	7	2.7	1.0	1.0	18.3	0.3	1.6	23.0	1.2	4.70	940	3,500	930
10	4	7	2.7	1.0	1.0	20.0	0.3	1.7	24.9	1.3	4.70	940	3,500	1,040
12	4	7	2.7	1.0	1.0	20.7	0.3	1.7	25.6	1.3	4.70	940	3,500	1,160
14	4	7	2.7	1.0	1.0	21.9	0.3	1.7	26.8	1.4	4.70	940	3,500	1,290
16	4	7	2.7	1.0	1.0	23.2	0.3	1.8	28.3	1.4	4.70	940	3,500	1,440
19	4	7	2.7	1.0	1.0	24.5	0.3	1.8	29.6	1.5	4.70	940	3,500	1,630
24	4	7	2.7	1.0	1.2	29.8	0.3	2.0	35.3	1.7	4.70	940	3,500	2,130
27	4	7	2.7	1.0	1.2	30.5	0.4	2.1	36.6	1.8	4.70	940	3,500	2,410
30	4	7	2.7	1.0	1.2	31.7	0.4	2.1	37.8	1.8	4.70	940	3,500	2,600
37	4	7	2.7	1.0	1.2	34.3	0.4	2.2	40.6	1.9	4.70	940	3,500	3,070
44	4	7	2.7	1.0	1.4	39.2	0.4	2.4	45.9	2.1	4.70	940	3,500	3,680



## Cable Designation (P17)

0.6/1kV BU

### Application Standard

- Design guide	: NEK-606 & IEC 60092-353
- Flame retardant	: IEC 60332-1 & IEC 60332-3 Category A
- Fire resistance	: IEC 60331-21(90min) IEC 60331-1,-2(120min)
- Halogen content	: IEC 60754-1, 0.5% ↓
- Cold bend / impact	: CSA 22.2 No.03 (-40°C/-35°C)
- Mud resistant	: NEK-606 (Mud type only)
- Smoke light transmittance	: IEC 61034, 60% ↑
- Sunlight (UV) resistant	: UL 1581

HV Power Cable

LV Power & Lighting Cable

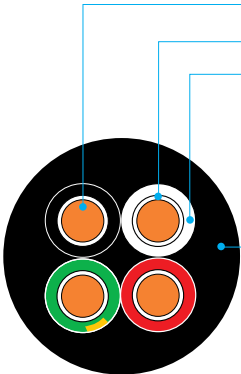
Instrumentation &  
Communication Cable

Earthing & Bonding wire

VFD Cable

Technical Information

## Construction

Sectional view	Classification	Code	Construction detail																					
	Conductor	<b>B</b>	- Stranded tinned annealed copper wires as per IEC 60228, Class 2																					
	Fire resisting layer		- Mica/glass tape																					
	Insulation		- EPR as per IEC 60092-360																					
	Cabling		- Insulated cores shall be cabled - Flame retardant & non-hygroscopic fillers may be used - Suitable tape(s) may be applied on the cabled core - A Filler may be applied to obtain a circular Cable																					
	Sheath	<b>U</b>	- SHF2 or SHF Mud as per IEC 60092-360 - Outer sheath color : Black																					
Core identification			<table><tr><th>No. of cores</th><th>Without Earth core</th><th>With Earth core</th></tr><tr><td>1C</td><td>Off-white or Black</td><td>-</td></tr><tr><td>2C</td><td>Off-white, Black</td><td>-</td></tr><tr><td>3C / 2C + E</td><td>Off-white, Black, Red</td><td>Off-white, Black, G/Y</td></tr><tr><td>4C / 3C + E</td><td>Off-white, Black, Red, Blue</td><td>Off-white, Black, Red, G/Y</td></tr><tr><td>5C / 4C + E</td><td>Black No. on white insulation</td><td>Off-white, Black, Red, Blue, G/Y</td></tr><tr><td>6C and over</td><td>Black No. on white insulation</td><td>Black No. on white insulation, G/Y</td></tr></table>	No. of cores	Without Earth core	With Earth core	1C	Off-white or Black	-	2C	Off-white, Black	-	3C / 2C + E	Off-white, Black, Red	Off-white, Black, G/Y	4C / 3C + E	Off-white, Black, Red, Blue	Off-white, Black, Red, G/Y	5C / 4C + E	Black No. on white insulation	Off-white, Black, Red, Blue, G/Y	6C and over	Black No. on white insulation	Black No. on white insulation, G/Y
No. of cores	Without Earth core	With Earth core																						
1C	Off-white or Black	-																						
2C	Off-white, Black	-																						
3C / 2C + E	Off-white, Black, Red	Off-white, Black, G/Y																						
4C / 3C + E	Off-white, Black, Red, Blue	Off-white, Black, Red, G/Y																						
5C / 4C + E	Black No. on white insulation	Off-white, Black, Red, Blue, G/Y																						
6C and over	Black No. on white insulation	Black No. on white insulation, G/Y																						

**Note.** 1. Flexible cable (Class5 Conductor) can be supplied  
2. Earth core(G/Y) : Yellow/Green(Green base color with yellow stripe)



# LV Power & Lighting Cable

## 0.6/1kV BU

No. of Cores	Conductor			Thickness of Insulation	Thickness of sheath	Overall diameter		Conductor Resistance (at 20°C) (Max.)	Insulation Resistance (at 20°C) (Min.)	Test Voltage	Cable Weight
	Nominal Area	Min. No. of wires	Max. overall dia.			Nominal	Tolerance				
No.	mm <sup>2</sup>	EA	mm	mm	mm	mm	±mm	Ω/km	MΩ·km	V/5min.	kg/km
1	1.5	7	1.7	1.0	1.0	6.3	0.6	12.2	1,320	3,500	60
	2.5	7	2.2	1.0	1.0	6.7	0.6	7.56	1,110	3,500	80
	4	7	2.7	1.0	1.0	7.2	0.6	4.70	940	3,500	100
	6	7	3.3	1.0	1.0	7.8	0.6	3.110	800	3,500	120
	10	7	4.2	1.0	1.1	8.9	0.7	1.840	650	3,500	170
	16	7	5.3	1.0	1.1	9.9	0.7	1.160	540	3,500	240
	25	7	6.6	1.2	1.2	11.8	0.8	0.734	520	3,500	350
	35	7	7.9	1.2	1.2	12.9	0.8	0.529	450	3,500	460
	50	19	9.1	1.4	1.3	14.9	0.9	0.391	440	3,500	610
	70	19	11.0	1.4	1.4	16.8	1.0	0.270	380	3,500	830
	95	19	12.9	1.6	1.4	19.1	1.1	0.195	370	3,500	1,110
	120	37	14.5	1.6	1.5	20.9	1.1	0.154	330	3,500	1,370
	150	37	16.2	1.8	1.6	22.9	1.2	0.126	330	3,500	1,660
	185	37	18.0	2.0	1.7	25.4	1.3	0.100	330	3,500	2,080
	240	61	20.6	2.2	1.8	28.6	1.4	0.0762	320	3,500	2,690
	300	61	23.1	2.4	1.9	31.8	1.6	0.0607	310	3,500	3,350
	400	61	26.1	2.6	2.1	36.4	1.8	0.0475	290	3,500	4,530
	500	61	29.2	2.8	2.2	39.7	1.9	0.0369	280	3,500	5,460
	630	91	33.2	2.8	2.4	44.3	2.1	0.0286	250	3,500	7,030
2	1.5	7	1.7	1.0	1.1	10.6	0.7	12.2	1,320	3,500	170
	2.5	7	2.2	1.0	1.2	11.6	0.8	7.56	1,110	3,500	210
	4	7	2.7	1.0	1.2	12.6	0.8	4.70	940	3,500	260
	6	7	3.3	1.0	1.2	13.8	0.9	3.110	800	3,500	330
	10	7	4.2	1.0	1.3	15.8	0.9	1.840	650	3,500	430
	16	7	5.3	1.0	1.4	18.0	1.0	1.160	540	3,500	590
	25	7	6.6	1.2	1.5	21.6	1.2	0.734	520	3,500	870
	35	7	7.9	1.2	1.6	24.0	1.3	0.529	450	3,500	1,120
	50	19	9.1	1.4	1.8	28.0	1.4	0.391	440	3,500	1,510
	70	19	11.0	1.4	1.9	31.8	1.6	0.270	380	3,500	2,050
	95	19	12.9	1.6	2.1	36.8	1.8	0.195	370	3,500	2,770
	120	37	14.5	1.6	2.2	40.2	1.9	0.154	330	3,500	3,370
	150	37	16.2	1.8	2.4	44.2	2.1	0.126	330	3,500	4,090
	185	37	18.0	2.0	2.5	49.0	2.3	0.100	330	3,500	5,070
	240	61	20.6	2.2	2.8	55.6	2.5	0.0762	320	3,500	6,580
	300	61	23.1	2.4	3.0	61.6	2.8	0.0607	310	3,500	8,130
2C+E	1.5	7	1.7	1.0	1.2	11.4	0.8	12.2	1,320	3,500	200
2C+E	2.5	7	2.2	1.0	1.2	12.3	0.8	7.56	1,110	3,500	250
2C+E	4	7	2.7	1.0	1.2	13.4	0.8	4.70	940	3,500	310
2C+E	6	7	3.3	1.0	1.3	14.9	0.9	3.110	800	3,500	410
2C+E	10	7	4.2	1.0	1.4	17.0	1.0	1.840	650	3,500	560
2C+E	16	7	5.3	1.0	1.4	19.2	1.1	1.160	540	3,500	770
2C	25	7	6.6	1.2	1.6	22.6	1.2	0.734	520	3,500	1,060
Earth	16	7	5.3	1.0				1.160			
2C	35	7	7.9	1.2	1.7	25.4	1.3	0.529	450	3,500	1,420
Earth	25	7	6.6	1.2				0.734			
2C	50	19	9.1	1.4	1.8	29.0	1.5	0.391	440	3,500	1,800
Earth	25	7	6.6	1.2				0.734			
2C	70	19	11.0	1.4	1.9	32.6	1.6	0.270	380	3,500	2,400
Earth	35	7	7.9	1.2				0.529			
2C	95	19	12.9	1.6	2.1	37.8	1.8	0.195	370	3,500	3,250
Earth	50	19	9.1	1.4				0.391			
2C	120	37	14.5	1.6	2.3	41.7	2.0	0.154	330	3,500	4,080
Earth	70	19	11.0	1.4				0.270			
2C	150	37	16.2	1.8	2.4	46.0	2.1	0.126	330	3,500	5,040
Earth	95	19	12.9	1.6				0.195			
2C	185	37	18.0	2.0	2.6	50.4	2.3	0.100	330	3,500	6,020
Earth	95	19	12.9	1.6				0.195			
2C	240	61	20.6	2.2	2.8	56.8	2.6	0.0762	320	3,500	7,720
Earth	120	37	14.5	1.6				0.154			

## 0.6/1kV BU

No. of Cores	Conductor			Thickness of Insulation	Thickness of sheath	Overall diameter		Conductor Resistance (at 20°C) (Max.)	Insulation Resistance (at 20°C) (Min.)	Test Voltage	Cable Weight
	Nominal Area	Min. No. of wires	Max. overall dia.			Nominal	Tolerance				
No.	mm <sup>2</sup>	EA	mm	mm	mm	mm	±mm	Ω/km	MΩ·km	V/5min.	kg/km
3	1.5	7	1.7	1.0	1.2	11.4	0.8	12.2	1,320	3,500	200
	2.5	7	2.2	1.0	1.2	12.3	0.8	7.56	1,110	3,500	250
	4	7	2.7	1.0	1.2	13.4	0.8	4.70	940	3,500	310
	6	7	3.3	1.0	1.3	14.9	0.9	3.110	800	3,500	410
	10	7	4.2	1.0	1.4	17.0	1.0	1.840	650	3,500	560
	16	7	5.3	1.0	1.4	19.2	1.1	1.160	540	3,500	770
	25	7	6.6	1.2	1.6	23.2	1.2	0.734	520	3,500	1,160
	35	7	7.9	1.2	1.7	25.8	1.3	0.529	450	3,500	1,510
	50	19	9.1	1.4	1.8	30.1	1.5	0.391	440	3,500	2,040
	70	19	11.0	1.4	2.0	34.1	1.7	0.270	380	3,500	2,770
	95	19	12.9	1.6	2.2	39.5	1.9	0.195	370	3,500	3,760
	120	37	14.5	1.6	2.3	43.1	2.0	0.154	330	3,500	4,600
	150	37	16.2	1.8	2.5	47.4	2.2	0.126	330	3,500	5,580
	185	37	18.0	2.0	2.7	52.8	2.4	0.100	330	3,500	6,970
3C+E	240	61	20.6	2.2	2.9	59.6	2.7	0.0762	320	3,500	9,010
	300	61	23.1	2.4	3.2	66.3	3.0	0.0607	310	3,500	11,190
	1.5	7	1.7	1.0	1.2	12.5	0.8	12.2	1,320	3,500	240
	2.5	7	2.2	1.0	1.2	13.5	0.8	7.56	1,110	3,500	300
	4	7	2.7	1.0	1.3	14.9	0.9	4.70	940	3,500	390
	6	7	3.3	1.0	1.3	16.3	1.0	3.110	800	3,500	500
	10	7	4.2	1.0	1.4	18.7	1.0	1.840	650	3,500	710
	16	7	5.3	1.0	1.5	21.3	1.2	1.160	540	3,500	990
	25	7	6.6	1.2	1.7	25.3	1.3	0.734	520	3,500	1,400
	Earth	16	7	5.3	1.0			1.160			
	3C	35	7	7.9	1.2	1.8	28.3	0.529	450	3,500	1,850
	Earth	25	7	6.6	1.2			0.734			
	3C	50	19	9.1	1.4	1.9	32.4	0.391	440	3,500	2,390
	Earth	25	7	6.6	1.2			0.734			
3C	70	19	11.0	1.4	2.1	36.7	1.8	0.270	380	3,500	3,230
	Earth	35	7	7.9	1.2			0.529			
	3C	95	19	12.9	1.6	2.3	42.5	0.195	370	3,500	4,370
	Earth	50	19	9.1	1.4			0.391			
	3C	120	37	14.5	1.6	2.5	46.8	0.154	330	3,500	5,460
	Earth	70	19	11.0	1.4			0.270			
	3C	150	37	16.2	1.8	2.6	51.5	0.126	330	3,500	6,710
	Earth	95	19	12.9	1.6			0.195			
	3C	185	37	18.0	2.0	2.8	56.7	0.100	330	3,500	8,110
	Earth	95	19	12.9	1.6			0.195			
	3C	240	61	20.6	2.2	3.1	64.0	0.0762	320	3,500	10,460
	Earth	120	37	14.5	1.6			0.154			
4	1.5	7	1.7	1.0	1.2	12.5	0.8	12.2	1,320	3,500	240
	2.5	7	2.2	1.0	1.2	13.5	0.8	7.56	1,110	3,500	300
	4	7	2.7	1.0	1.3	14.9	0.9	4.70	940	3,500	390
	6	7	3.3	1.0	1.3	16.3	1.0	3.110	800	3,500	500
	10	7	4.2	1.0	1.4	18.7	1.0	1.840	650	3,500	710
	16	7	5.3	1.0	1.5	21.3	1.2	1.160	540	3,500	990
	25	7	6.6	1.2	1.7	25.8	1.3	0.734	520	3,500	1,500
	35	7	7.9	1.2	1.8	28.7	1.4	0.529	450	3,500	1,950
	50	19	9.1	1.4	2.0	33.6	1.6	0.391	440	3,500	2,650
	70	19	11.0	1.4	2.1	37.9	1.8	0.270	380	3,500	3,580
	95	19	12.9	1.6	2.4	44.1	2.1	0.195	370	3,500	4,890
	120	37	14.5	1.6	2.5	48.1	2.2	0.154	330	3,500	5,980
	150	37	16.2	1.8	2.7	52.9	2.4	0.126	330	3,500	7,260
	185	37	18.0	2.0	2.9	58.8	2.7	0.100	330	3,500	9,060
4	240	61	20.6	2.2	3.2	66.7	3.0	0.0762	320	3,500	11,770
	300	61	23.1	2.4	3.5	74.0	3.3	0.0607	310	3,500	14,600

HV Power Cable

LV Power &amp; Lighting Cable

Instrumentation &amp; Communication Cable

Earthing &amp; Bonding wire

VFD Cable

Technical Information

# LV Power & Lighting Cable

## 0.6/1kV BU

No. of Cores	Conductor			Thickness of Insulation	Thickness of sheath	Overall diameter		Conductor Resistance (at 20°C) (Max.)	Insulation Resistance (at 20°C) (Min.)	Test Voltage	Cable Weight
	Nominal Area	Min. No. of wires	Max. overall dia.			Nominal	Tolerance				
No.	mm <sup>2</sup>	EA	mm	mm	mm	mm	±mm	Ω/km	MΩ·km	V/5min.	kg/km
4C+E	1.5	7	1.7	1.0	1.2	13.7	0.8	12.2	1,320	3,500	290
4C+E	2.5	7	2.2	1.0	1.3	15.0	0.9	7.56	1,110	3,500	370
4C+E	4	7	2.7	1.0	1.3	16.3	1.0	4.70	940	3,500	470
4C+E	6	7	3.3	1.0	1.4	18.1	1.0	3.110	800	3,500	620
4C+E	10	7	4.2	1.0	1.5	20.8	1.1	1.840	650	3,500	870
4C+E	16	7	5.3	1.0	1.6	23.7	1.2	1.160	540	3,500	1,230
4C	25	7	6.6	1.2	1.8	28.1	1.4	0.734	520	3,500	1,750
Earth	16	7	5.3	1.0				1.160			
4C	35	7	7.9	1.2	1.9	31.7	1.6	0.529	450	3,500	2,340
Earth	25	7	6.6	1.2				0.734			
4C	50	19	9.1	1.4	2.1	36.3	1.8	0.391	440	3,500	3,030
Earth	25	7	6.6	1.2				0.734			
4C	70	19	11.0	1.4	2.2	40.9	1.9	0.270	380	3,500	4,070
Earth	35	7	7.9	1.2				0.529			
4C	95	19	12.9	1.6	2.5	47.6	2.2	0.195	370	3,500	5,560
Earth	50	19	9.1	1.4				0.391			
4C	120	37	14.5	1.6	2.7	52.3	2.4	0.154	330	3,500	6,910
Earth	70	19	11.0	1.4				0.270			
4C	150	37	16.2	1.8	2.9	57.8	2.6	0.126	330	3,500	8,500
Earth	95	19	12.9	1.6				0.195			
4C	185	37	18.0	2.0	3.1	63.6	2.8	0.100	330	3,500	10,330
Earth	95	19	12.9	1.6				0.195			
4C	240	61	20.6	2.2	3.4	71.8	3.2	0.0762	320	3,500	13,340
Earth	120	37	14.5	1.6				0.154			
5	1.5	7	1.7	1.0	1.2	13.7	0.8	12.2	1,320	3,500	290
	2.5	7	2.2	1.0	1.3	15.0	0.9	7.56	1,110	3,500	370
	4	7	2.7	1.0	1.3	16.3	1.0	4.70	940	3,500	470
	6	7	3.3	1.0	1.4	18.1	1.0	3.110	800	3,500	620
	10	7	4.2	1.0	1.5	20.8	1.1	1.840	650	3,500	870
	16	7	5.3	1.0	1.6	23.7	1.2	1.160	540	3,500	1,230
	25	7	6.6	1.2	1.8	28.6	1.4	0.734	520	3,500	1,850
	35	7	7.9	1.2	1.9	32.0	1.6	0.529	450	3,500	2,430
	50	19	9.1	1.4	2.1	37.3	1.8	0.391	440	3,500	3,280
	70	19	11.0	1.4	2.3	42.3	2.0	0.270	380	3,500	4,460
	95	19	12.9	1.6	2.5	48.9	2.3	0.195	370	3,500	6,050
	120	37	14.5	1.6	2.7	53.6	2.4	0.154	330	3,500	7,440
	150	37	16.2	1.8	2.9	58.9	2.7	0.126	330	3,500	9,020
	185	37	18.0	2.0	3.2	65.7	2.9	0.100	330	3,500	11,300
	240	61	20.6	2.2	3.5	74.4	3.3	0.0762	320	3,500	14,670

## 0.6/1kV BU

No. of Cores	Conductor			Thickness of Insulation	Thickness of sheath	Overall diameter		Conductor Resistance (at 20°C) (Max.)	Insulation Resistance (at 20°C) (Min.)	Test Voltage	Cable Weight
	Nominal Area	Min. No. of wires	Max. overall dia.			Nominal	Tolerance				
No.	mm <sup>2</sup>	EA	mm	mm	mm	mm	±mm	Ω/km	MΩ-km	V/5min.	kg/km
2	1.0	7	1.4	1.0	1.1	10.0	0.7	18.2	1,490	3,500	120
5	1.0	7	1.4	1.0	1.2	12.9	0.8	18.2	1,490	3,500	230
7	1.0	7	1.4	1.0	1.3	14.2	0.9	18.2	1,490	3,500	300
8	1.0	7	1.4	1.0	1.3	15.4	0.9	18.2	1,490	3,500	330
9	1.0	7	1.4	1.0	1.3	16.5	1.0	18.2	1,490	3,500	370
10	1.0	7	1.4	1.0	1.4	18.2	1.0	18.2	1,490	3,500	420
12	1.0	7	1.4	1.0	1.4	18.8	1.1	18.2	1,490	3,500	480
14	1.0	7	1.4	1.0	1.5	20.0	1.1	18.2	1,490	3,500	550
16	1.0	7	1.4	1.0	1.5	21.1	1.1	18.2	1,490	3,500	610
19	1.0	7	1.4	1.0	1.6	22.4	1.2	18.2	1,490	3,500	710
24	1.0	7	1.4	1.0	1.7	26.4	1.4	18.2	1,490	3,500	900
27	1.0	7	1.4	1.0	1.7	27.0	1.4	18.2	1,490	3,500	980
30	1.0	7	1.4	1.0	1.8	28.2	1.4	18.2	1,490	3,500	1,090
37	1.0	7	1.4	1.0	1.9	30.8	1.5	18.2	1,490	3,500	1,330
44	1.0	7	1.4	1.0	2.0	34.8	1.7	18.2	1,490	3,500	1,580
2	1.5	7	1.7	1.0	1.1	10.6	0.7	12.2	1,320	3,500	170
5	1.5	7	1.7	1.0	1.2	13.7	0.8	12.2	1,320	3,500	290
7	1.5	7	1.7	1.0	1.3	15.1	0.9	12.2	1,320	3,500	350
8	1.5	7	1.7	1.0	1.3	16.4	1.0	12.2	1,320	3,500	390
9	1.5	7	1.7	1.0	1.4	17.8	1.0	12.2	1,320	3,500	450
10	1.5	7	1.7	1.0	1.5	19.6	1.1	12.2	1,320	3,500	510
12	1.5	7	1.7	1.0	1.5	20.2	1.1	12.2	1,320	3,500	580
14	1.5	7	1.7	1.0	1.5	21.3	1.2	12.2	1,320	3,500	650
16	1.5	7	1.7	1.0	1.6	22.7	1.2	12.2	1,320	3,500	740
19	1.5	7	1.7	1.0	1.6	23.9	1.3	12.2	1,320	3,500	850
24	1.5	7	1.7	1.0	1.8	28.4	1.4	12.2	1,320	3,500	1,090
27	1.5	7	1.7	1.0	1.8	29.2	1.5	12.2	1,320	3,500	1,210
30	1.5	7	1.7	1.0	1.9	30.5	1.5	12.2	1,320	3,500	1,340
37	1.5	7	1.7	1.0	1.9	32.9	1.6	12.2	1,320	3,500	1,600
44	1.5	7	1.7	1.0	2.1	37.4	1.8	12.2	1,320	3,500	1,920
2	2.5	7	2.2	1.0	1.2	11.6	0.8	7.56	1,110	3,500	210
5	2.5	7	2.2	1.0	1.3	15.0	0.9	7.56	1,110	3,500	370
7	2.5	7	2.2	1.0	1.3	16.3	1.0	7.56	1,110	3,500	440
8	2.5	7	2.2	1.0	1.4	17.9	1.0	7.56	1,110	3,500	510
9	2.5	7	2.2	1.0	1.5	19.5	1.1	7.56	1,110	3,500	580
10	2.5	7	2.2	1.0	1.5	21.2	1.1	7.56	1,110	3,500	640
12	2.5	7	2.2	1.0	1.5	21.9	1.2	7.56	1,110	3,500	730
14	2.5	7	2.2	1.0	1.6	23.3	1.2	7.56	1,110	3,500	840
16	2.5	7	2.2	1.0	1.6	24.6	1.3	7.56	1,110	3,500	940
19	2.5	7	2.2	1.0	1.7	26.1	1.3	7.56	1,110	3,500	1,100
24	2.5	7	2.2	1.0	1.9	31.2	1.5	7.56	1,110	3,500	1,430
27	2.5	7	2.2	1.0	1.9	31.9	1.6	7.56	1,110	3,500	1,570
30	2.5	7	2.2	1.0	2.0	33.3	1.6	7.56	1,110	3,500	1,730
37	2.5	7	2.2	1.0	2.1	36.1	1.7	7.56	1,110	3,500	2,090
44	2.5	7	2.2	1.0	2.2	40.8	1.9	7.56	1,110	3,500	2,480
2	4	7	2.7	1.0	1.2	12.6	0.8	4.70	940	3,500	260
5	4	7	2.7	1.0	1.3	16.3	1.0	4.70	940	3,500	470
7	4	7	2.7	1.0	1.4	18.0	1.0	4.70	940	3,500	580
8	4	7	2.7	1.0	1.5	19.7	1.1	4.70	940	3,500	670
9	4	7	2.7	1.0	1.5	21.3	1.2	4.70	940	3,500	740
10	4	7	2.7	1.0	1.6	23.4	1.2	4.70	940	3,500	840
12	4	7	2.7	1.0	1.6	24.2	1.3	4.70	940	3,500	960
14	4	7	2.7	1.0	1.7	25.7	1.3	4.70	940	3,500	1,110
16	4	7	2.7	1.0	1.7	27.1	1.4	4.70	940	3,500	1,250
19	4	7	2.7	1.0	1.8	29.0	1.5	4.70	940	3,500	1,480
24	4	7	2.7	1.0	2.0	34.4	1.7	4.70	940	3,500	1,880
27	4	7	2.7	1.0	2.0	35.2	1.7	4.70	940	3,500	2,070
30	4	7	2.7	1.0	2.1	36.7	1.8	4.70	940	3,500	2,290
37	4	7	2.7	1.0	2.2	39.8	1.9	4.70	940	3,500	2,770
44	4	7	2.7	1.0	2.4	45.2	2.1	4.70	940	3,500	3,320

HV Power Cable

LV Power &amp; Lighting Cable

Instrumentation &amp; Communication Cable

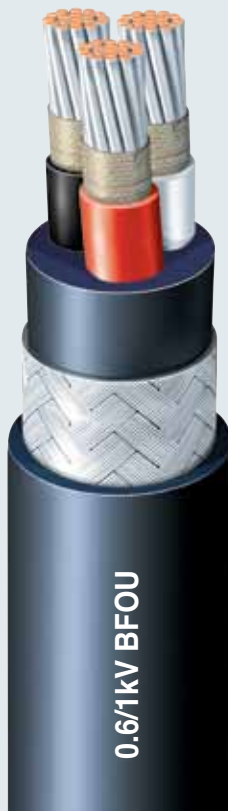
Earthing &amp; Bonding wire

VFD Cable

Technical Information



# LV Power & Lighting Cable



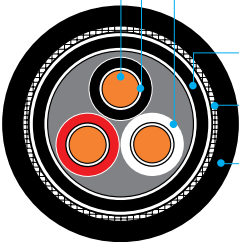
## Cable Designation (P5, P5/P12)

0.6/1kV BFOU, BFCU, BFBU

## Application Standard

- Design guide	: NEK-606 & IEC 60092-353
- Flame retardant	: IEC 60332-1 & IEC 60332-3 Category A
- Fire resistance	: IEC 60331-21(90min) IEC 60331-1,-2(120min)
- Halogen content	: IEC 60754-1, 0.5% ↓
- Cold bend / impact	: CSA 22.2 No.03 (-40°C/-35°C)
- Mud resistant	: NEK-606 (Mud type only)
- Smoke light transmittance	: IEC 61034, 60% ↑
- Sunlight (UV) resistant	: UL 1581

## Construction

Sectional view	Classification	Code	Construction detail																					
	Conductor		- Stranded tinned annealed copper wires as per IEC 60228, Class 2																					
	Fire resisting layer	<b>B</b>	- Mica/glass tape																					
	Insulation		- EPR as per IEC 60092-360																					
	Cabling		- Insulated cores shall be cabled - Flame retardant & non-hygroscopic fillers may be used - Suitable tape(s) may be applied on the cabled core - A Filler may be applied to obtain a circular Cable																					
	Inner covering	<b>F</b>	- Flame retardant halogen free thermoset compound																					
	Armor	<b>O</b> <b>(B,C)</b>	- Braid of tinned copper wire (O) / bronze wire (B) /galvanized steel wire (C) - A suitable separator tape(s) may be applied under/over the armor																					
	Sheath	<b>U</b>	- SHF2 or SHF Mud as per IEC 60092-360 - Outer sheath color : Black																					
Core identification			<table><tr><th>No. of cores</th><th>Without Earth core</th><th>With Earth core</th></tr><tr><td>1C</td><td>Off-white or Black</td><td>-</td></tr><tr><td>2C</td><td>Off-white, Black</td><td>-</td></tr><tr><td>3C / 2C + E</td><td>Off-white, Black, Red</td><td>Off-white, Black, G/Y</td></tr><tr><td>4C / 3C + E</td><td>Off-white, Black, Red, Blue</td><td>Off-white, Black, Red, G/Y</td></tr><tr><td>5C / 4C + E</td><td>Black No. on white insulation</td><td>Off-white, Black, Red, Blue, G/Y</td></tr><tr><td>6C and over</td><td>Black No. on white insulation</td><td>Black No. on white insulation, G/Y</td></tr></table>	No. of cores	Without Earth core	With Earth core	1C	Off-white or Black	-	2C	Off-white, Black	-	3C / 2C + E	Off-white, Black, Red	Off-white, Black, G/Y	4C / 3C + E	Off-white, Black, Red, Blue	Off-white, Black, Red, G/Y	5C / 4C + E	Black No. on white insulation	Off-white, Black, Red, Blue, G/Y	6C and over	Black No. on white insulation	Black No. on white insulation, G/Y
	No. of cores	Without Earth core	With Earth core																					
	1C	Off-white or Black	-																					
	2C	Off-white, Black	-																					
	3C / 2C + E	Off-white, Black, Red	Off-white, Black, G/Y																					
	4C / 3C + E	Off-white, Black, Red, Blue	Off-white, Black, Red, G/Y																					
	5C / 4C + E	Black No. on white insulation	Off-white, Black, Red, Blue, G/Y																					
6C and over	Black No. on white insulation	Black No. on white insulation, G/Y																						

**Note.** 1. Flexible cable (Class5 Conductor) can be supplied  
2. Earth core(G/Y) : Yellow/Green(Green base color with yellow stripe)

## 0.6/1kV BFOU, 0.6/1kV BFBU

No. of Cores	Conductor			Thickness of Insulation	Thickness of inner covering	Nominal dia. inner covering	Dia. of wire for armour	Thickness of sheath	Overall diameter		Conductor Resistance (at 20°C) (Max.)	Insulation Resistance (at 20°C) (Min.)	Test Voltage	Cable Weight
	Nominal Area	Min. No. of wires	Max. overall dia.						Nominal	Tolerance				
No.	mm <sup>2</sup>	EA	mm	mm	mm	mm	mm	mm	mm	±mm	Ω/km	MΩ-km	V/5min.	kg/km
1	1.5	7	1.7	1.0	1.0	6.1	0.3	1.1	9.8	0.6	12.2	1,320	3,500	170
	2.5	7	2.2	1.0	1.0	6.5	0.3	1.1	10.2	0.6	7.56	1,110	3,500	190
	4	7	2.7	1.0	1.0	7.0	0.3	1.1	10.7	0.6	4.70	940	3,500	210
	6	7	3.3	1.0	1.0	7.6	0.3	1.2	11.5	0.6	3.110	800	3,500	250
	10	7	4.2	1.0	1.0	8.5	0.3	1.2	12.4	0.7	1.840	650	3,500	310
	16	7	5.3	1.0	1.0	9.5	0.3	1.2	13.4	0.7	1.160	540	3,500	390
	25	7	6.6	1.2	1.0	11.2	0.3	1.3	15.3	0.8	0.734	520	3,500	530
	35	7	7.9	1.2	1.0	12.3	0.3	1.3	16.4	0.8	0.529	450	3,500	650
	50	19	9.1	1.4	1.0	14.1	0.3	1.4	18.4	0.9	0.391	440	3,500	830
	70	19	11.0	1.4	1.0	15.8	0.3	1.5	20.3	0.9	0.270	380	3,500	1,080
	95	19	12.9	1.6	1.0	18.1	0.3	1.6	22.8	1.0	0.195	370	3,500	1,410
	120	37	14.5	1.6	1.0	19.7	0.3	1.6	24.4	1.0	0.154	330	3,500	1,680
	150	37	16.2	1.8	1.0	21.5	0.3	1.7	26.4	1.1	0.126	330	3,500	2,000
	185	37	18.0	2.0	1.0	23.8	0.3	1.8	28.9	1.2	0.100	330	3,500	2,440
	240	61	20.6	2.2	1.0	26.8	0.3	1.9	32.1	1.3	0.0762	320	3,500	3,100
	300	61	23.1	2.4	1.2	30.4	0.4	2.1	36.5	1.4	0.0607	310	3,500	3,960
	400	61	26.1	2.6	1.2	34.6	0.4	2.3	41.1	1.9	0.0475	290	3,500	5,220
	500	61	29.2	2.8	1.2	37.7	0.4	2.4	44.4	2.1	0.0369	280	3,500	6,220
	630	91	33.2	2.8	1.4	42.3	0.4	2.6	49.4	2.3	0.0286	250	3,500	7,910

## 0.6/1kV BFOU, 0.6/1kV BFCU, 0.6/1kV BFBU

2	1.5	7	1.7	1.0	1.0	10.2	0.3	1.3	14.3	0.9	12.2	1,320	3,500	330
	2.5	7	2.2	1.0	1.0	11.0	0.3	1.3	15.1	0.9	7.56	1,110	3,500	380
	4	7	2.7	1.0	1.0	12.0	0.3	1.3	16.1	0.9	4.70	940	3,500	450
	6	7	3.3	1.0	1.0	13.2	0.3	1.4	17.5	1.0	3.110	800	3,500	540
	10	7	4.2	1.0	1.0	15.0	0.3	1.5	19.5	1.1	1.840	650	3,500	660
	16	7	5.3	1.0	1.0	17.0	0.3	1.5	21.5	1.2	1.160	540	3,500	840
	25	7	6.6	1.2	1.0	20.4	0.3	1.7	25.3	1.3	0.734	520	3,500	1,170
	35	7	7.9	1.2	1.0	22.6	0.3	1.8	27.7	1.4	0.529	450	3,500	1,450
	50	19	9.1	1.4	1.0	26.2	0.3	1.9	31.5	1.6	0.391	440	3,500	1,870
	70	19	11.0	1.4	1.2	30.4	0.4	2.1	36.5	1.8	0.270	380	3,500	2,620
	95	19	12.9	1.6	1.2	35.0	0.4	2.3	41.5	2.0	0.195	370	3,500	3,410
	120	37	14.5	1.6	1.4	38.6	0.4	2.4	45.3	2.1	0.154	330	3,500	4,130
	150	37	16.2	1.8	1.4	42.2	0.4	2.6	49.3	2.3	0.126	330	3,500	4,900
	185	37	18.0	2.0	1.4	46.8	0.4	2.7	54.1	2.5	0.100	330	3,500	5,950
	240	61	20.6	2.2	1.6	53.4	0.4	3.0	61.3	2.8	0.0762	320	3,500	7,670
300	61	23.1	2.4	1.6	59.0	0.4	3.2	67.3	3.0	0.0607	310	3,500	9,310	
2C+E	1.5	7	1.7	1.0	10.8	0.3	1.3	14.9	0.9	12.2	1,320	3,500	370	
2C+E	2.5	7	2.2	1.0	11.7	0.3	1.3	15.8	0.9	7.56	1,110	3,500	430	
2C+E	4	7	2.7	1.0	12.8	0.3	1.4	17.1	1.0	4.70	940	3,500	520	
2C+E	6	7	3.3	1.0	14.1	0.3	1.4	18.4	1.0	3.110	800	3,500	630	
2C+E	10	7	4.2	1.0	16.0	0.3	1.5	20.5	1.1	1.840	650	3,500	800	
2C+E	16	7	5.3	1.0	18.2	0.3	1.6	22.9	1.2	1.160	540	3,500	1,050	
2C	25	7	6.6	1.2	1.0	21.2	0.3	1.7	26.1	1.3	0.734	520	3,500	1,360
Earth	16	7	5.3	1.0						1.160				
2C	35	7	7.9	1.2	1.0	23.8	0.3	1.8	28.9	1.5	0.529	450	3,500	1,750
Earth	25	7	6.6	1.2						0.734				
2C	50	19	9.1	1.4	1.0	27.0	0.3	1.9	32.3	1.6	0.391	440	3,500	2,150
Earth	25	7	6.6	1.2						0.734				
2C	70	19	11.0	1.4	1.2	31.2	0.4	2.1	37.3	1.8	0.270	380	3,500	2,990
Earth	35	7	7.9	1.2						0.529				
2C	95	19	12.9	1.6	1.2	36.0	0.4	2.3	42.5	2.0	0.195	370	3,500	3,910
Earth	50	19	9.1	1.4						0.391				
2C	120	37	14.5	1.6	1.4	39.9	0.4	2.5	46.8	2.2	0.154	330	3,500	4,850
Earth	70	19	11.0	1.4						0.270				
2C	150	37	16.2	1.8	1.4	44.0	0.4	2.6	51.1	2.3	0.126	330	3,500	5,880
Earth	95	19	12.9	1.6						0.195				
2C	185	37	18.0	2.0	1.4	48.0	0.4	2.8	55.5	2.5	0.100	330	3,500	6,920
Earth	95	19	12.9	1.6						0.195				
2C	240	61	20.6	2.2	1.6	54.6	0.4	3.1	62.7	2.8	0.0762	320	3,500	8,860
Earth	120	37	14.5	1.6						0.154				

HV Power Cable

LV Power &amp; Lighting Cable

Instrumentation &amp; Communication Cable

Earthing &amp; Bonding wire

VFD Cable

Technical Information

# LV Power & Lighting Cable

## 0.6/1kV BFOU, 0.6/1kV BFCU, 0.6/1kV BFBU

No. of Cores	Conductor			Thickness of Insulation	Thickness of inner covering	Nominal dia. inner covering	Dia. of wire for armour	Thickness of sheath	Overall diameter		Conductor Resistance (at 20°C) (Max.)	Insulation Resistance (at 20°C) (Min.)	Test Voltage	Cable Weight
	Nominal Area	Min. No. of wires	Max. overall dia.						Nominal	Tolerance				
No.	mm²	EA	mm	mm	mm	mm	mm	mm	mm	±mm	Ω/km	MΩ-km	V/5min.	kg/km
3	1.5	7	1.7	1.0	1.0	10.8	0.3	1.3	14.9	0.9	12.2	1,320	3,500	370
	2.5	7	2.2	1.0	1.0	11.7	0.3	1.3	15.8	0.9	7.56	1,110	3,500	430
	4	7	2.7	1.0	1.0	12.8	0.3	1.4	17.1	1.0	4.70	940	3,500	520
	6	7	3.3	1.0	1.0	14.1	0.3	1.4	18.4	1.0	3.110	800	3,500	630
	10	7	4.2	1.0	1.0	16.0	0.3	1.5	20.5	1.1	1.840	650	3,500	800
	16	7	5.3	1.0	1.0	18.2	0.3	1.6	22.9	1.2	1.160	540	3,500	1,050
	25	7	6.6	1.2	1.0	21.8	0.3	1.7	26.7	1.4	0.734	520	3,500	1,470
	35	7	7.9	1.2	1.0	24.2	0.3	1.8	29.3	1.5	0.529	450	3,500	1,850
	50	19	9.1	1.4	1.2	28.9	0.3	2.0	34.4	1.7	0.391	440	3,500	2,510
	70	19	11.0	1.4	1.2	32.5	0.4	2.2	38.8	1.9	0.270	380	3,500	3,380
	95	19	12.9	1.6	1.2	37.5	0.4	2.4	44.2	2.1	0.195	370	3,500	4,440
	120	37	14.5	1.6	1.4	41.3	0.4	2.5	48.2	2.2	0.154	330	3,500	5,390
	150	37	16.2	1.8	1.4	45.2	0.4	2.7	52.5	2.4	0.126	330	3,500	6,440
	185	37	18.0	2.0	1.6	50.8	0.4	2.9	58.5	2.6	0.100	330	3,500	8,010
240	61	20.6	2.2	1.6	57.2	0.4	3.2	65.5	2.9	0.0762	320	3,500	10,200	
300	61	23.1	2.4	1.6	63.3	0.4	3.4	72.0	3.2	0.0607	310	3,500	12,440	
3C+E	1.5	7	1.7	1.0	1.0	11.9	0.3	1.3	16.0	0.9	12.2	1,320	3,500	430
3C+E	2.5	7	2.2	1.0	1.0	12.9	0.3	1.4	17.2	1.0	7.56	1,110	3,500	510
3C+E	4	7	2.7	1.0	1.0	14.1	0.3	1.4	18.4	1.0	4.70	940	3,500	610
3C+E	6	7	3.3	1.0	1.0	15.5	0.3	1.5	20.0	1.1	3.110	800	3,500	750
3C+E	10	7	4.2	1.0	1.0	17.7	0.3	1.6	22.4	1.2	1.840	650	3,500	980
3C+E	16	7	5.3	1.0	1.0	20.1	0.3	1.7	25.0	1.3	1.160	540	3,500	1,290
3C	25	7	6.6	1.2	1.0	23.7	0.3	1.8	28.8	1.5	0.734	520	3,500	1,730
Earth	16	7	5.3	1.0							1.160			
3C	35	7	7.9	1.2	1.0	26.5	0.3	1.9	31.8	1.6	0.529	450	3,500	2,220
Earth	25	7	6.6	1.2							0.734			
3C	50	19	9.1	1.4	1.2	31.0	0.4	2.1	37.1	1.8	0.391	440	3,500	2,970
Earth	25	7	6.6	1.2							0.734			
3C	70	19	11.0	1.4	1.2	34.9	0.4	2.3	41.4	2.0	0.270	380	3,500	3,870
Earth	35	7	7.9	1.2							0.529			
3C	95	19	12.9	1.6	1.4	40.7	0.4	2.5	47.6	2.2	0.195	370	3,500	5,160
Earth	50	19	9.1	1.4							0.391			
3C	120	37	14.5	1.6	1.4	44.6	0.4	2.7	51.9	2.4	0.154	330	3,500	6,310
Earth	70	19	11.0	1.4							0.270			
3C	150	37	16.2	1.8	1.6	49.7	0.4	2.9	57.4	2.6	0.126	330	3,500	7,770
Earth	95	19	12.9	1.6							0.195			
3C	185	37	18.0	2.0	1.6	54.5	0.4	3.0	62.4	2.8	0.100	330	3,500	9,220
Earth	95	19	12.9	1.6							0.195			
3C	240	61	20.6	2.2	1.6	61.2	0.4	3.3	69.7	3.1	0.0762	320	3,500	11,680
Earth	120	37	14.5	1.6							0.154			
4	1.5	7	1.7	1.0	1.0	11.9	0.3	1.3	16.0	0.9	12.2	1,320	3,500	430
	2.5	7	2.2	1.0	1.0	12.9	0.3	1.4	17.2	1.0	7.56	1,110	3,500	510
	4	7	2.7	1.0	1.0	14.1	0.3	1.4	18.4	1.0	4.70	940	3,500	610
	6	7	3.3	1.0	1.0	15.5	0.3	1.5	20.0	1.1	3.110	800	3,500	750
	10	7	4.2	1.0	1.0	17.7	0.3	1.6	22.4	1.2	1.840	650	3,500	980
	16	7	5.3	1.0	1.0	20.1	0.3	1.7	25.0	1.3	1.160	540	3,500	1,290
	25	7	6.6	1.2	1.0	24.2	0.3	1.8	29.3	1.5	0.734	520	3,500	1,830
	35	7	7.9	1.2	1.0	26.9	0.3	1.9	32.2	1.6	0.529	450	3,500	2,320
	50	19	9.1	1.4	1.2	32.0	0.4	2.1	38.1	1.8	0.391	440	3,500	3,230
	70	19	11.0	1.4	1.2	36.1	0.4	2.3	42.6	2.0	0.270	380	3,500	4,240
	95	19	12.9	1.6	1.4	42.1	0.4	2.6	49.2	2.3	0.195	370	3,500	5,700
	120	37	14.5	1.6	1.4	45.9	0.4	2.7	53.2	2.4	0.154	330	3,500	6,850
	150	37	16.2	1.8	1.6	50.9	0.4	2.9	58.6	2.6	0.126	330	3,500	8,310
	185	37	18.0	2.0	1.6	56.4	0.4	3.1	64.5	2.9	0.100	330	3,500	10,200
240	61	20.6	2.2	1.6	63.7	0.4	3.4	72.4	3.2	0.0762	320	3,500	13,030	
300	61	23.1	2.4	1.8	70.8	0.4	3.7	80.1	3.5	0.0607	310	3,500	16,060	

## 0.6/1kV BFOU, 0.6/1kV BFCU, 0.6/1kV BFBU

No. of Cores	Conductor			Thickness of Insulation	Thickness of inner covering	Nominal dia. inner covering	Dia. of wire for armour	Thickness of sheath	Overall diameter		Conductor Resistance (at 20°C) (Max.)	Insulation Resistance (at 20°C) (Min.)	Test Voltage	Cable Weight
	Nominal Area	Min. No. of wires	Max. overall dia.						Nominal	Tolerance				
No.	mm <sup>2</sup>	EA	mm	mm	mm	mm	mm	mm	mm	±mm	Ω/km	MΩ-km	V/5min.	kg/km
4C+E	1.5	7	1.7	1.0	1.0	13.1	0.3	1.4	17.4	1.0	12.2	1,320	3,500	500
4C+E	2.5	7	2.2	1.0	1.0	14.2	0.3	1.4	18.5	1.0	7.56	1,110	3,500	590
4C+E	4	7	2.7	1.0	1.0	15.5	0.3	1.5	20.0	1.1	4.70	940	3,500	720
4C+E	6	7	3.3	1.0	1.0	17.1	0.3	1.5	21.6	1.2	3.110	800	3,500	880
4C+E	10	7	4.2	1.0	1.0	19.6	0.3	1.6	24.3	1.3	1.840	650	3,500	1,160
4C+E	16	7	5.3	1.0	1.0	22.3	0.3	1.7	27.2	1.4	1.160	540	3,500	1,540
4C	25	7	6.6	1.2	1.0	26.3	0.3	1.9	31.6	1.6	0.734	520	3,500	2,110
Earth	16	7	5.3	1.0							1.160			
4C	35	7	7.9	1.2	1.2	30.3	0.4	2.1	36.4	1.8	0.529	450	3,500	2,910
Earth	25	7	6.6	1.2							0.734			
4C	50	19	9.1	1.4	1.2	34.5	0.4	2.2	40.8	1.9	0.391	440	3,500	3,640
Earth	25	7	6.6	1.2							0.734			
4C	70	19	11.0	1.4	1.4	39.3	0.4	2.4	46.0	2.1	0.270	380	3,500	4,840
Earth	35	7	7.9	1.2							0.529			
4C	95	19	12.9	1.6	1.4	45.4	0.4	2.7	52.7	2.4	0.195	370	3,500	6,420
Earth	50	19	9.1	1.4							0.391			
4C	120	37	14.5	1.6	1.6	50.3	0.4	2.9	58.0	2.6	0.154	330	3,500	7,950
Earth	70	19	11.0	1.4							0.270			
4C	150	37	16.2	1.8	1.6	55.4	0.4	3.1	63.5	2.8	0.126	330	3,500	9,630
Earth	95	19	12.9	1.6							0.195			
4C	185	37	18.0	2.0	1.6	60.8	0.4	3.3	69.3	3.1	0.100	330	3,500	11,540
Earth	95	19	12.9	1.6							0.195			
4C	240	61	20.6	2.2	1.8	68.8	0.4	3.6	77.9	3.4	0.0762	320	3,500	14,760
Earth	120	37	14.5	1.6							0.154			
5	1.5	7	1.7	1.0	1.0	13.1	0.3	1.4	17.4	1.0	12.2	1,320	3,500	500
	2.5	7	2.2	1.0	1.0	14.2	0.3	1.4	18.5	1.0	7.56	1,110	3,500	590
	4	7	2.7	1.0	1.0	15.5	0.3	1.5	20.0	1.1	4.70	940	3,500	720
	6	7	3.3	1.0	1.0	17.1	0.3	1.5	21.6	1.2	3.110	800	3,500	880
	10	7	4.2	1.0	1.0	19.6	0.3	1.6	24.3	1.3	1.840	650	3,500	1,160
	16	7	5.3	1.0	1.0	22.3	0.3	1.7	27.2	1.4	1.160	540	3,500	1,540
	25	7	6.6	1.2	1.0	26.8	0.3	1.9	32.1	1.6	0.734	520	3,500	2,220
	35	7	7.9	1.2	1.2	30.6	0.4	2.1	36.7	1.8	0.529	450	3,500	3,010
	50	19	9.1	1.4	1.2	35.5	0.4	2.3	42.0	2.0	0.391	440	3,500	3,930
	70	19	11.0	1.4	1.4	40.5	0.4	2.5	47.4	2.2	0.270	380	3,500	5,240
	95	19	12.9	1.6	1.4	46.7	0.4	2.7	54.0	2.5	0.195	370	3,500	6,930
	120	37	14.5	1.6	1.6	51.6	0.4	2.9	59.3	2.7	0.154	330	3,500	8,500
	150	37	16.2	1.8	1.6	56.5	0.4	3.1	64.6	2.9	0.126	330	3,500	10,170
	185	37	18.0	2.0	1.6	62.7	0.4	3.4	71.4	3.2	0.100	330	3,500	12,540
	240	61	20.6	2.2	1.8	71.2	0.4	3.7	80.5	3.5	0.0762	320	3,500	16,130

HV Power Cable

LV Power &amp; Lighting Cable

Instrumentation &amp; Communication Cable

Earthing &amp; Bonding wire

VFD Cable

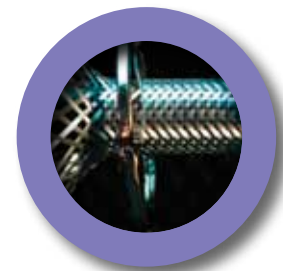
Technical Information



## LV Power & Lighting Cable

### 0.6/1kV BFOU, 0.6/1kV BFCU, 0.6/1kV BFBU

No. of Cores	Conductor			Thickness of Insulation	Thickness of inner covering	Nominal dia. inner covering	Dia. of wire for armour	Thickness of sheath	Overall diameter		Conductor Resistance (at 20°C) (Max.)	Insulation Resistance (at 20°C) (Min.)	Test Voltage	Cable Weight
	Nominal Area	Min. No. of wires	Max. overall dia.						Nominal	Tolerance				
No.	mm <sup>2</sup>	EA	mm	mm	mm	mm	mm	mm	mm	±mm	Ω/km	MΩ·km	V/5min.	kg/km
2	1.0	7	1.4	1.0	1.0	9.6	0.3	1.2	13.5	0.8	18.2	1,490	3,500	280
5	1.0	7	1.4	1.0	1.0	12.3	0.3	1.3	16.4	1.0	18.2	1,490	3,500	420
7	1.0	7	1.4	1.0	1.0	13.4	0.3	1.4	17.7	1.0	18.2	1,490	3,500	500
8	1.0	7	1.4	1.0	1.0	14.6	0.3	1.4	18.9	1.1	18.2	1,490	3,500	550
9	1.0	7	1.4	1.0	1.0	15.7	0.3	1.5	20.2	1.1	18.2	1,490	3,500	610
10	1.0	7	1.4	1.0	1.0	17.2	0.3	1.5	21.7	1.2	18.2	1,490	3,500	670
12	1.0	7	1.4	1.0	1.0	17.8	0.3	1.6	22.5	1.2	18.2	1,490	3,500	750
14	1.0	7	1.4	1.0	1.0	18.8	0.3	1.6	23.5	1.2	18.2	1,490	3,500	820
16	1.0	7	1.4	1.0	1.0	19.9	0.3	1.6	24.6	1.3	18.2	1,490	3,500	900
19	1.0	7	1.4	1.0	1.0	21.0	0.3	1.7	25.9	1.3	18.2	1,490	3,500	1,010
24	1.0	7	1.4	1.0	1.0	24.8	0.3	1.8	29.9	1.5	18.2	1,490	3,500	1,240
27	1.0	7	1.4	1.0	1.0	25.4	0.3	1.9	30.7	1.5	18.2	1,490	3,500	1,350
30	1.0	7	1.4	1.0	1.0	26.4	0.3	1.9	31.7	1.6	18.2	1,490	3,500	1,450
37	1.0	7	1.4	1.0	1.2	29.4	0.3	2.0	34.9	1.7	18.2	1,490	3,500	1,790
44	1.0	7	1.4	1.0	1.2	33.2	0.4	2.2	39.5	1.9	18.2	1,490	3,500	2,200
2	1.5	7	1.7	1.0	1.0	10.2	0.3	1.3	14.3	0.9	12.2	1,320	3,500	330
5	1.5	7	1.7	1.0	1.0	13.1	0.3	1.4	17.4	1.0	12.2	1,320	3,500	500
7	1.5	7	1.7	1.0	1.0	14.3	0.3	1.4	18.6	1.0	12.2	1,320	3,500	570
8	1.5	7	1.7	1.0	1.0	15.6	0.3	1.5	20.1	1.1	12.2	1,320	3,500	640
9	1.5	7	1.7	1.0	1.0	16.8	0.3	1.5	21.3	1.2	12.2	1,320	3,500	700
10	1.5	7	1.7	1.0	1.0	18.4	0.3	1.6	23.1	1.2	12.2	1,320	3,500	780
12	1.5	7	1.7	1.0	1.0	19.0	0.3	1.6	23.7	1.2	12.2	1,320	3,500	850
14	1.5	7	1.7	1.0	1.0	20.1	0.3	1.7	25.0	1.3	12.2	1,320	3,500	950
16	1.5	7	1.7	1.0	1.0	21.3	0.3	1.7	26.2	1.3	12.2	1,320	3,500	1,050
19	1.5	7	1.7	1.0	1.0	22.5	0.3	1.8	27.6	1.4	12.2	1,320	3,500	1,180
24	1.5	7	1.7	1.0	1.0	26.6	0.3	1.9	31.9	1.6	12.2	1,320	3,500	1,460
27	1.5	7	1.7	1.0	1.2	28.0	0.3	2.0	33.5	1.6	12.2	1,320	3,500	1,670
30	1.5	7	1.7	1.0	1.2	29.1	0.3	2.0	34.6	1.7	12.2	1,320	3,500	1,800
37	1.5	7	1.7	1.0	1.2	31.5	0.4	2.1	37.6	1.8	12.2	1,320	3,500	2,190
44	1.5	7	1.7	1.0	1.2	35.6	0.4	2.3	42.1	2.0	12.2	1,320	3,500	2,580
2	2.5	7	2.2	1.0	1.0	11.0	0.3	1.3	15.1	0.9	7.56	1,110	3,500	380
5	2.5	7	2.2	1.0	1.0	14.2	0.3	1.4	18.5	1.0	7.56	1,110	3,500	590
7	2.5	7	2.2	1.0	1.0	15.5	0.3	1.5	20.0	1.1	7.56	1,110	3,500	680
8	2.5	7	2.2	1.0	1.0	15.5	0.3	1.5	20.0	1.1	7.56	1,110	3,500	680
9	2.5	7	2.2	1.0	1.0	18.3	0.3	1.6	23.0	1.2	7.56	1,110	3,500	840
10	2.5	7	2.2	1.0	1.0	20.0	0.3	1.7	24.9	1.3	7.56	1,110	3,500	940
12	2.5	7	2.2	1.0	1.0	20.7	0.3	1.7	25.6	1.3	7.56	1,110	3,500	1,040
14	2.5	7	2.2	1.0	1.0	21.9	0.3	1.7	26.8	1.4	7.56	1,110	3,500	1,150
16	2.5	7	2.2	1.0	1.0	23.2	0.3	1.8	28.3	1.4	7.56	1,110	3,500	1,280
19	2.5	7	2.2	1.0	1.0	24.5	0.3	1.8	29.6	1.5	7.56	1,110	3,500	1,440
24	2.5	7	2.2	1.0	1.2	29.8	0.3	2.0	35.3	1.7	7.56	1,110	3,500	1,890
27	2.5	7	2.2	1.0	1.2	30.5	0.4	2.1	36.6	1.8	7.56	1,110	3,500	2,140
30	2.5	7	2.2	1.0	1.2	31.7	0.4	2.1	37.8	1.8	7.56	1,110	3,500	2,310
37	2.5	7	2.2	1.0	1.2	34.3	0.4	2.2	40.6	1.9	7.56	1,110	3,500	2,710
44	2.5	7	2.2	1.0	1.4	39.2	0.4	2.4	45.9	2.1	7.56	1,110	3,500	3,250
2	4	7	2.7	1.0	1.0	12.0	0.3	1.3	16.1	0.9	4.70	940	3,500	450
5	4	7	2.7	1.0	1.0	15.5	0.3	1.5	20.0	1.1	4.70	940	3,500	720
7	4	7	2.7	1.0	1.0	17.0	0.3	1.5	21.5	1.2	4.70	940	3,500	830
8	4	7	2.7	1.0	1.0	18.5	0.3	1.6	23.2	1.2	4.70	940	3,500	930
9	4	7	2.7	1.0	1.0	20.1	0.3	1.7	25.0	1.3	4.70	940	3,500	1,040
10	4	7	2.7	1.0	1.0	22.0	0.3	1.7	26.9	1.4	4.70	940	3,500	1,150
12	4	7	2.7	1.0	1.0	22.8	0.3	1.8	27.9	1.4	4.70	940	3,500	1,300
14	4	7	2.7	1.0	1.0	24.1	0.3	1.8	29.2	1.5	4.70	940	3,500	1,450
16	4	7	2.7	1.0	1.0	25.5	0.3	1.9	30.8	1.5	4.70	940	3,500	1,620
19	4	7	2.7	1.0	1.0	27.0	0.3	1.9	32.3	1.6	4.70	940	3,500	1,830
24	4	7	2.7	1.0	1.2	32.8	0.4	2.2	39.1	1.9	4.70	940	3,500	2,500
27	4	7	2.7	1.0	1.2	33.6	0.4	2.2	39.9	1.9	4.70	940	3,500	2,700
30	4	7	2.7	1.0	1.2	34.9	0.4	2.3	41.4	2.0	4.70	940	3,500	2,940
37	4	7	2.7	1.0	1.2	37.8	0.4	2.4	44.5	2.1	4.70	940	3,500	3,460
44	4	7	2.7	1.0	1.4	43.2	0.4	2.6	50.3	2.3	4.70	940	3,500	4,160



## Instrumentation & Communication Cable



250V RU(c)	32 ~ 34
250V RU(i)	35 ~ 37
250V RU(i&c)	38 ~ 40
250V RFOU(c), RFCU(c), RFBU(c)	41 ~ 43
250C RFOU(i), RFCU(i), RFBU(i)	44 ~ 46
250V RFOU(i&c), RFCU(i&c), RFBU(i&c)	47 ~ 49
250V BU(c)	50 ~ 52
250V BU(i)	53 ~ 55
250V BU(i&c)	56 ~ 58
250V BFOU(c), BFCU(c), BFBU(c)	59 ~ 61
250C BFOU(i), BFCU(i), BFBU(i)	62 ~ 64
250V BFOU(i&c), BFCU(i&c), BFBU(i&c)	65 ~ 66

# Instrumentation & Communication Cable



## Cable Designation (S12)

250V RU(c)

### Application Standard

- Design guide : NEK-606 & IEC 60092-376
- Flame retardant : IEC 60332-1 & IEC 60332-3 Category A
- Halogen content : IEC 60754-1, 0.5% ↓
- Cold bend / impact : CSA 22.2 No.03 (-40°C/-35°C)
- Mud resistant : NEK-606 (Mud type only)
- Smoke light transmittance : IEC 61034, 60% ↑
- Sunlight (UV) resistant : UL 1581

## Construction

Sectional view	Classification	Code	Construction detail
	Conductor		- Stranded tinned annealed copper wires as per IEC 60228, Class 2
	Insulation	<b>R</b>	- EPR as per IEC 60092-360
	Twisting		- Two/Three Insulated cores shall be twisted together to form a pair/Triad
	Cabling		- Twisted pairs / triads shall be cabled - Flame retardant & non-hygroscopic fillers may be used - Suitable tape(s) may be applied on the cabled core - A Filler may be applied to obtain a circular Cable
	Collective screen	<b>(c)</b>	- CU/PS or AL/PS tape + Tinned copper drain wire
	Sheath	<b>U</b>	- SHF2 or SHF Mud as per IEC 60092-360 - Outer sheath color : Grey (Non-IS Type) or Blue (IS Type)
	Core identification		- Each Pair / Triad : Core color ① Pair : Black, Light blue    ② Triad : Black, Light blue, Brown - Multi Pairs / Triads : Number printing on the insulation or numbered tape

**Note.** Flexible cable (Class5 Conductor) can be supplied

## 250V RU(c)

No. of Pairs	Conductor			Thickness of Insulation	Thickness of sheath	Overall diameter		Conductor Resistance (at 20°C) (Max.)	Insulation Resistance (at 20°C) (Min.)	Test Voltage	Cable Weight Approx.
	Nominal Area	Max. No. of wires	Max. overall dia.			Nominal	Tolerance				
No.	mm <sup>2</sup>	EA	mm	mm	mm	mm	±mm	Ω/km	MΩ-km	V/5min.	kg/km
1P	0.75	7	1.2	0.6	1.0	7.0	0.5	26.3	1,170	1,500	80
2P	0.75	7	1.2	0.6	1.1	10.4	0.6	26.3	1,170	1,500	140
3P	0.75	7	1.2	0.6	1.1	11.1	0.6	26.3	1,170	1,500	170
4P	0.75	7	1.2	0.6	1.2	12.0	0.7	26.3	1,170	1,500	210
5P	0.75	7	1.2	0.6	1.2	13.4	0.7	26.3	1,170	1,500	240
6P	0.75	7	1.2	0.6	1.3	14.5	0.7	26.3	1,170	1,500	280
7P	0.75	7	1.2	0.6	1.3	14.5	0.7	26.3	1,170	1,500	310
8P	0.75	7	1.2	0.6	1.3	15.4	0.8	26.3	1,170	1,500	340
10P	0.75	7	1.2	0.6	1.4	17.5	0.8	26.3	1,170	1,500	420
12P	0.75	7	1.2	0.6	1.4	18.2	0.8	26.3	1,170	1,500	470
14P	0.75	7	1.2	0.6	1.4	18.8	0.9	26.3	1,170	1,500	530
16P	0.75	7	1.2	0.6	1.5	20.4	0.9	26.3	1,170	1,500	600
19P	0.75	7	1.2	0.6	1.5	21.3	0.9	26.3	1,170	1,500	680
24P	0.75	7	1.2	0.6	1.6	24.3	1.0	26.3	1,170	1,500	850
32P	0.75	7	1.2	0.6	1.8	27.9	1.1	26.3	1,170	1,500	1,110
1P	1.0	7	1.4	0.6	1.0	7.4	0.5	19.3	1,050	1,500	90
2P	1.0	7	1.4	0.6	1.1	11.1	0.6	19.3	1,050	1,500	160
3P	1.0	7	1.4	0.6	1.2	12.1	0.7	19.3	1,050	1,500	200
4P	1.0	7	1.4	0.6	1.2	12.8	0.7	19.3	1,050	1,500	240
5P	1.0	7	1.4	0.6	1.3	14.5	0.7	19.3	1,050	1,500	290
6P	1.0	7	1.4	0.6	1.3	15.5	0.8	19.3	1,050	1,500	330
7P	1.0	7	1.4	0.6	1.3	15.5	0.8	19.3	1,050	1,500	360
8P	1.0	7	1.4	0.6	1.3	16.5	0.8	19.3	1,050	1,500	400
10P	1.0	7	1.4	0.6	1.4	18.7	0.9	19.3	1,050	1,500	490
12P	1.0	7	1.4	0.6	1.5	19.7	0.9	19.3	1,050	1,500	570
14P	1.0	7	1.4	0.6	1.5	20.4	0.9	19.3	1,050	1,500	640
16P	1.0	7	1.4	0.6	1.5	21.9	1.0	19.3	1,050	1,500	720
19P	1.0	7	1.4	0.6	1.6	23.1	1.0	19.3	1,050	1,500	830
24P	1.0	7	1.4	0.6	1.7	26.3	1.1	19.3	1,050	1,500	1,030
32P	1.0	7	1.4	0.6	1.8	30.2	1.2	19.3	1,050	1,500	1,350
1P	1.5	7	1.7	0.7	1.0	8.4	0.6	12.9	1,020	1,500	110
2P	1.5	7	1.7	0.7	1.2	13.0	0.7	12.9	1,020	1,500	210
3P	1.5	7	1.7	0.7	1.3	14.1	0.7	12.9	1,020	1,500	270
4P	1.5	7	1.7	0.7	1.3	15.0	0.8	12.9	1,020	1,500	320
5P	1.5	7	1.7	0.7	1.4	17.0	0.8	12.9	1,020	1,500	390
6P	1.5	7	1.7	0.7	1.4	18.2	0.8	12.9	1,020	1,500	450
7P	1.5	7	1.7	0.7	1.4	18.2	0.8	12.9	1,020	1,500	490
8P	1.5	7	1.7	0.7	1.5	19.6	0.9	12.9	1,020	1,500	560
10P	1.5	7	1.7	0.7	1.6	22.2	1.0	12.9	1,020	1,500	680
12P	1.5	7	1.7	0.7	1.6	23.1	1.0	12.9	1,020	1,500	780
14P	1.5	7	1.7	0.7	1.6	24.0	1.0	12.9	1,020	1,500	870
16P	1.5	7	1.7	0.7	1.7	26.0	1.1	12.9	1,020	1,500	1,000
19P	1.5	7	1.7	0.7	1.7	27.2	1.1	12.9	1,020	1,500	1,140
24P	1.5	7	1.7	0.7	1.9	31.4	1.2	12.9	1,020	1,500	1,460
32P	1.5	7	1.7	0.7	2.1	36.0	1.4	12.9	1,020	1,500	1,900
1P	2.5	7	2.2	0.7	1.1	9.4	0.6	8.02	850	1,500	150
2P	2.5	7	2.2	0.7	1.3	14.6	0.7	8.02	850	1,500	270
3P	2.5	7	2.2	0.7	1.3	15.6	0.8	8.02	850	1,500	340
4P	2.5	7	2.2	0.7	1.4	16.8	0.8	8.02	850	1,500	430
5P	2.5	7	2.2	0.7	1.4	18.8	0.9	8.02	850	1,500	510
6P	2.5	7	2.2	0.7	1.5	20.4	0.9	8.02	850	1,500	600
7P	2.5	7	2.2	0.7	1.5	20.4	0.9	8.02	850	1,500	660
8P	2.5	7	2.2	0.7	1.5	21.8	1.0	8.02	850	1,500	740
10P	2.5	7	2.2	0.7	1.7	24.9	1.0	8.02	850	1,500	930
12P	2.5	7	2.2	0.7	1.7	25.9	1.1	8.02	850	1,500	1,060
14P	2.5	7	2.2	0.7	1.7	26.9	1.1	8.02	850	1,500	1,200
16P	2.5	7	2.2	0.7	1.8	29.4	1.2	8.02	850	1,500	1,390
19P	2.5	7	2.2	0.7	1.9	30.9	1.2	8.02	850	1,500	1,610
24P	2.5	7	2.2	0.7	2.0	35.2	1.4	8.02	850	1,500	2,000
32P	2.5	7	2.2	0.7	2.2	40.4	1.5	8.02	850	1,500	2,620

HV Power Cable

LV Power &amp; Lighting Cable

Instrumentation &amp; Communication Cable

Earthing &amp; Bonding wire

VFD Cable

Technical Information



# Instrumentation & Communication Cable

## 250V RU(c)

No. of Triads	Conductor			Thickness of Insulation	Thickness of sheath	Overall diameter		Conductor Resistance (at 20°C) (Max.)	Insulation Resistance (at 20°C) (Min.)	Test Voltage	Cable Weight Approx.
	Nominal Area	Max. No. of wires	Max. overall dia.			Nominal	Tolerance				
No.	mm <sup>2</sup>	EA	mm	mm	mm	mm	±mm	Ω/km	MΩ-km	V/5min.	kg/km
1T	0.75	7	1.2	0.6	1.0	7.4	0.5	26.3	1,170	1,500	100
2T	0.75	7	1.2	0.6	1.2	11.6	0.6	26.3	1,170	1,500	180
3T	0.75	7	1.2	0.6	1.2	12.3	0.7	26.3	1,170	1,500	220
4T	0.75	7	1.2	0.6	1.2	13.5	0.7	26.3	1,170	1,500	270
5T	0.75	7	1.2	0.6	1.3	15.1	0.8	26.3	1,170	1,500	330
6T	0.75	7	1.2	0.6	1.4	17.1	0.8	26.3	1,170	1,500	390
7T	0.75	7	1.2	0.6	1.4	17.1	0.8	26.3	1,170	1,500	430
8T	0.75	7	1.2	0.6	1.4	18.3	0.8	26.3	1,170	1,500	470
10T	0.75	7	1.2	0.6	1.5	20.8	0.9	26.3	1,170	1,500	580
12T	0.75	7	1.2	0.6	1.6	22.2	1.0	26.3	1,170	1,500	680
14T	0.75	7	1.2	0.6	1.6	23.1	1.0	26.3	1,170	1,500	760
16T	0.75	7	1.2	0.6	1.6	24.5	1.0	26.3	1,170	1,500	850
19T	0.75	7	1.2	0.6	1.7	26.6	1.1	26.3	1,170	1,500	1,000
24T	0.75	7	1.2	0.6	1.8	29.7	1.2	26.3	1,170	1,500	1,250
32T	0.75	7	1.2	0.6	2.0	34.3	1.3	26.3	1,170	1,500	1,630
1T	1.0	7	1.4	0.6	1.0	7.8	0.5	19.3	1,050	1,500	110
2T	1.0	7	1.4	0.6	1.2	12.3	0.7	19.3	1,050	1,500	210
3T	1.0	7	1.4	0.6	1.2	13.1	0.7	19.3	1,050	1,500	260
4T	1.0	7	1.4	0.6	1.3	14.5	0.7	19.3	1,050	1,500	320
5T	1.0	7	1.4	0.6	1.3	16.0	0.8	19.3	1,050	1,500	380
6T	1.0	7	1.4	0.6	1.4	18.2	0.8	19.3	1,050	1,500	460
7T	1.0	7	1.4	0.6	1.4	18.2	0.8	19.3	1,050	1,500	500
8T	1.0	7	1.4	0.6	1.5	19.7	0.9	19.3	1,050	1,500	570
10T	1.0	7	1.4	0.6	1.6	22.4	1.0	19.3	1,050	1,500	710
12T	1.0	7	1.4	0.6	1.6	23.6	1.0	19.3	1,050	1,500	810
14T	1.0	7	1.4	0.6	1.6	24.6	1.0	19.3	1,050	1,500	910
16T	1.0	7	1.4	0.6	1.7	26.4	1.1	19.3	1,050	1,500	1,030
19T	1.0	7	1.4	0.6	1.8	28.6	1.2	19.3	1,050	1,500	1,210
24T	1.0	7	1.4	0.6	1.9	32.0	1.3	19.3	1,050	1,500	1,510
32T	1.0	7	1.4	0.6	2.1	36.9	1.4	19.3	1,050	1,500	1,980
1T	1.5	7	1.7	0.7	1.1	9.1	0.6	12.9	1,020	1,500	140
2T	1.5	7	1.7	0.7	1.3	14.5	0.7	12.9	1,020	1,500	270
3T	1.5	7	1.7	0.7	1.3	15.4	0.8	12.9	1,020	1,500	340
4T	1.5	7	1.7	0.7	1.4	17.1	0.8	12.9	1,020	1,500	430
5T	1.5	7	1.7	0.7	1.4	18.9	0.9	12.9	1,020	1,500	520
6T	1.5	7	1.7	0.7	1.5	21.5	0.9	12.9	1,020	1,500	620
7T	1.5	7	1.7	0.7	1.5	21.5	0.9	12.9	1,020	1,500	680
8T	1.5	7	1.7	0.7	1.6	23.2	1.0	12.9	1,020	1,500	780
10T	1.5	7	1.7	0.7	1.7	26.4	1.1	12.9	1,020	1,500	960
12T	1.5	7	1.7	0.7	1.8	28.1	1.1	12.9	1,020	1,500	1,120
14T	1.5	7	1.7	0.7	1.8	29.5	1.2	12.9	1,020	1,500	1,290
16T	1.5	7	1.7	0.7	1.9	31.5	1.2	12.9	1,020	1,500	1,460
19T	1.5	7	1.7	0.7	2.0	34.2	1.3	12.9	1,020	1,500	1,710
24T	1.5	7	1.7	0.7	2.1	38.0	1.4	12.9	1,020	1,500	2,100
32T	1.5	7	1.7	0.7	2.4	44.0	1.6	12.9	1,020	1,500	2,780
1T	2.5	7	2.2	0.7	1.1	10.0	0.6	8.02	850	1,500	180
2T	2.5	7	2.2	0.7	1.3	16.0	0.8	8.02	850	1,500	350
3T	2.5	7	2.2	0.7	1.4	17.3	0.8	8.02	850	1,500	460
4T	2.5	7	2.2	0.7	1.4	19.0	0.9	8.02	850	1,500	570
5T	2.5	7	2.2	0.7	1.5	21.3	0.9	8.02	850	1,500	700
6T	2.5	7	2.2	0.7	1.6	24.2	1.0	8.02	850	1,500	840
7T	2.5	7	2.2	0.7	1.6	24.2	1.0	8.02	850	1,500	930
8T	2.5	7	2.2	0.7	1.7	26.1	1.1	8.02	850	1,500	1,070
10T	2.5	7	2.2	0.7	1.8	30.0	1.2	8.02	850	1,500	1,340
12T	2.5	7	2.2	0.7	1.9	31.9	1.3	8.02	850	1,500	1,560
14T	2.5	7	2.2	0.7	2.0	33.4	1.3	8.02	850	1,500	1,790
16T	2.5	7	2.2	0.7	2.0	35.5	1.4	8.02	850	1,500	2,010
19T	2.5	7	2.2	0.7	2.2	38.7	1.5	8.02	850	1,500	2,380
24T	2.5	7	2.2	0.7	2.3	43.0	1.6	8.02	850	1,500	2,930
32T	2.5	7	2.2	0.7	2.6	49.8	1.8	8.02	850	1,500	3,880



### Cable Designation (S11)

250V RU(i)

### Application Standard

- Design guide : NEK-606 & IEC 60092-376
- Flame retardant : IEC 60332-1 & IEC 60332-3 Category A
- Halogen content : IEC 60754-1, 0.5% ↓
- Cold bend / impact : CSA 22.2 No.03 (-40°C/-35°C)
- Mud resistant : NEK-606 (Mud type only)
- Smoke light transmittance : IEC 61034, 60% ↑
- Sunlight (UV) resistant : UL 1581

### Construction

Sectional view	Classification	Code	Construction detail
	Conductor		- Stranded tinned annealed copper wires as per IEC 60228, Class 2
	Insulation	<b>R</b>	- EPR as per IEC 60092-360
	Twisting		- Two/Three Insulated cores shall be twisted together to form a pair/Triad
	Individual screen	<b>(i)</b>	- CU/PS or AL/PS tape + Tinned copper drain wire
	Cabling		- Twisted pairs / triads shall be cabled - Flame retardant & non-hygroscopic fillers may be used - Suitable tape(s) may be applied on the cabled core - A Filler may be applied to obtain a circular Cable
	Sheath	<b>U</b>	- SHF2 or SHF Mud as per IEC 60092-360 - Outer sheath color : Grey (Non-IS Type) or Blue (IS Type)
	Core identification		- Each Pair / Triad : Core color ① Pair : Black, Light blue    ② Triad : Black, Light blue, Brown - Multi Pairs / Triads : Number printing on the insulation or numbered tape

**Note.** Flexible cable (Class5 Conductor) can be supplied

# Instrumentation & Communication Cable

## 250V RU(i)

No. of Pairs	Conductor			Thickness of Insulation	Thickness of sheath	Overall diameter		Conductor Resistance (at 20°C) (Max.)	Insulation Resistance (at 20°C) (Min.)	Test Voltage	Cable Weight Approx.
	Nominal Area	Max. No. of wires	Max. overall dia.			Nominal	Tolerance				
No.	mm <sup>2</sup>	EA	mm	mm	mm	mm	±mm	Ω/km	MΩ-km	V/5min.	kg/km
1P	0.75	7	1.2	0.6	1.0	7.0	0.5	26.3	1,170	1,500	70
2P	0.75	7	1.2	0.6	1.2	11.4	0.6	26.3	1,170	1,500	170
3P	0.75	7	1.2	0.6	1.2	12.0	0.7	26.3	1,170	1,500	210
4P	0.75	7	1.2	0.6	1.2	13.1	0.7	26.3	1,170	1,500	260
5P	0.75	7	1.2	0.6	1.3	14.8	0.7	26.3	1,170	1,500	310
6P	0.75	7	1.2	0.6	1.3	15.3	0.8	26.3	1,170	1,500	350
7P	0.75	7	1.2	0.6	1.3	15.3	0.8	26.3	1,170	1,500	380
8P	0.75	7	1.2	0.6	1.4	16.9	0.8	26.3	1,170	1,500	440
10P	0.75	7	1.2	0.6	1.4	19.1	0.9	26.3	1,170	1,500	530
12P	0.75	7	1.2	0.6	1.5	20.1	0.9	26.3	1,170	1,500	620
14P	0.75	7	1.2	0.6	1.5	21.0	0.9	26.3	1,170	1,500	700
16P	0.75	7	1.2	0.6	1.6	22.7	1.0	26.3	1,170	1,500	800
19P	0.75	7	1.2	0.6	1.6	23.2	1.0	26.3	1,170	1,500	900
24P	0.75	7	1.2	0.6	1.7	27.1	1.1	26.3	1,170	1,500	1,130
32P	0.75	7	1.2	0.6	1.8	29.7	1.2	26.3	1,170	1,500	1,470
1P	1.0	7	1.4	0.6	1.0	7.4	0.5	19.3	1,050	1,500	80
2P	1.0	7	1.4	0.6	1.2	12.1	0.7	19.3	1,050	1,500	200
3P	1.0	7	1.4	0.6	1.2	12.8	0.7	19.3	1,050	1,500	250
4P	1.0	7	1.4	0.6	1.3	14.1	0.7	19.3	1,050	1,500	310
5P	1.0	7	1.4	0.6	1.3	15.7	0.8	19.3	1,050	1,500	370
6P	1.0	7	1.4	0.6	1.3	16.3	0.8	19.3	1,050	1,500	420
7P	1.0	7	1.4	0.6	1.3	16.3	0.8	19.3	1,050	1,500	460
8P	1.0	7	1.4	0.6	1.4	18.0	0.8	19.3	1,050	1,500	530
10P	1.0	7	1.4	0.6	1.5	20.6	0.9	19.3	1,050	1,500	650
12P	1.0	7	1.4	0.6	1.5	21.4	0.9	19.3	1,050	1,500	740
14P	1.0	7	1.4	0.6	1.6	22.7	1.0	19.3	1,050	1,500	860
16P	1.0	7	1.4	0.6	1.6	24.3	1.0	19.3	1,050	1,500	960
19P	1.0	7	1.4	0.6	1.7	25.0	1.1	19.3	1,050	1,500	1,110
24P	1.0	7	1.4	0.6	1.8	29.4	1.2	19.3	1,050	1,500	1,410
32P	1.0	7	1.4	0.6	1.9	32.0	1.3	19.3	1,050	1,500	1,800
1P	1.5	7	1.7	0.7	1.0	8.4	0.6	12.9	1,020	1,500	100
2P	1.5	7	1.7	0.7	1.2	13.8	0.7	12.9	1,020	1,500	240
3P	1.5	7	1.7	0.7	1.3	14.8	0.7	12.9	1,020	1,500	320
4P	1.5	7	1.7	0.7	1.3	16.2	0.8	12.9	1,020	1,500	390
5P	1.5	7	1.7	0.7	1.4	18.3	0.8	12.9	1,020	1,500	470
6P	1.5	7	1.7	0.7	1.4	19.0	0.9	12.9	1,020	1,500	540
7P	1.5	7	1.7	0.7	1.4	19.0	0.9	12.9	1,020	1,500	590
8P	1.5	7	1.7	0.7	1.5	21.0	0.9	12.9	1,020	1,500	680
10P	1.5	7	1.7	0.7	1.6	24.1	1.0	12.9	1,020	1,500	840
12P	1.5	7	1.7	0.7	1.7	25.2	1.1	12.9	1,020	1,500	980
14P	1.5	7	1.7	0.7	1.7	26.5	1.1	12.9	1,020	1,500	1,110
16P	1.5	7	1.7	0.7	1.8	28.6	1.2	12.9	1,020	1,500	1,270
19P	1.5	7	1.7	0.7	1.8	29.4	1.2	12.9	1,020	1,500	1,460
24P	1.5	7	1.7	0.7	2.0	34.5	1.3	12.9	1,020	1,500	1,850
32P	1.5	7	1.7	0.7	2.1	37.6	1.4	12.9	1,020	1,500	2,360
1P	2.5	7	2.2	0.7	1.1	9.4	0.6	8.02	850	1,500	140
2P	2.5	7	2.2	0.7	1.3	15.4	0.8	8.02	850	1,500	320
3P	2.5	7	2.2	0.7	1.3	16.3	0.8	8.02	850	1,500	400
4P	2.5	7	2.2	0.7	1.4	18.1	0.8	8.02	850	1,500	510
5P	2.5	7	2.2	0.7	1.5	20.4	0.9	8.02	850	1,500	620
6P	2.5	7	2.2	0.7	1.5	21.2	0.9	8.02	850	1,500	710
7P	2.5	7	2.2	0.7	1.5	21.2	0.9	8.02	850	1,500	790
8P	2.5	7	2.2	0.7	1.6	23.5	1.0	8.02	850	1,500	910
10P	2.5	7	2.2	0.7	1.7	26.9	1.1	8.02	850	1,500	1,120
12P	2.5	7	2.2	0.7	1.8	28.1	1.1	8.02	850	1,500	1,310
14P	2.5	7	2.2	0.7	1.8	29.8	1.2	8.02	850	1,500	1,510
16P	2.5	7	2.2	0.7	1.9	32.1	1.3	8.02	850	1,500	1,710
19P	2.5	7	2.2	0.7	1.9	32.8	1.3	8.02	850	1,500	1,960
24P	2.5	7	2.2	0.7	2.2	38.7	1.5	8.02	850	1,500	2,510
32P	2.5	7	2.2	0.7	2.3	42.1	1.6	8.02	850	1,500	3,210

## 250V RU(i)

No. of Triads	Conductor			Thickness of Insulation	Thickness of sheath	Overall diameter		Conductor Resistance (at 20°C) (Max.)	Insulation Resistance (at 20°C) (Min.)	Test Voltage	Cable Weight Approx.
	Nominal Area	Max. No. of wires	Max. overall dia.			Nominal	Tolerance				
No.	mm <sup>2</sup>	EA	mm	mm	mm	mm	±mm	Ω/km	MΩ-km	V/5min.	kg/km
1T	0.75	7	1.2	0.6	1.0	7.4	0.5	26.3	1,170	1,500	90
2T	0.75	7	1.2	0.6	1.2	12.1	0.7	26.3	1,170	1,500	200
3T	0.75	7	1.2	0.6	1.2	12.9	0.7	26.3	1,170	1,500	260
4T	0.75	7	1.2	0.6	1.3	14.3	0.7	26.3	1,170	1,500	320
5T	0.75	7	1.2	0.6	1.3	15.8	0.8	26.3	1,170	1,500	380
6T	0.75	7	1.2	0.6	1.4	18.0	0.8	26.3	1,170	1,500	460
7T	0.75	7	1.2	0.6	1.4	18.0	0.8	26.3	1,170	1,500	510
8T	0.75	7	1.2	0.6	1.4	19.2	0.9	26.3	1,170	1,500	570
10T	0.75	7	1.2	0.6	1.5	21.8	1.0	26.3	1,170	1,500	700
12T	0.75	7	1.2	0.6	1.6	23.3	1.0	26.3	1,170	1,500	820
14T	0.75	7	1.2	0.6	1.6	24.3	1.0	26.3	1,170	1,500	920
16T	0.75	7	1.2	0.6	1.7	25.9	1.1	26.3	1,170	1,500	1,050
19T	0.75	7	1.2	0.6	1.8	28.1	1.1	26.3	1,170	1,500	1,230
24T	0.75	7	1.2	0.6	1.9	31.5	1.2	26.3	1,170	1,500	1,540
32T	0.75	7	1.2	0.6	2.1	36.3	1.4	26.3	1,170	1,500	2,010
1T	1.0	7	1.4	0.6	1.0	7.8	0.5	19.3	1,050	1,500	100
2T	1.0	7	1.4	0.6	1.2	12.9	0.7	19.3	1,050	1,500	240
3T	1.0	7	1.4	0.6	1.2	13.6	0.7	19.3	1,050	1,500	300
4T	1.0	7	1.4	0.6	1.3	15.2	0.8	19.3	1,050	1,500	380
5T	1.0	7	1.4	0.6	1.4	17.0	0.8	19.3	1,050	1,500	470
6T	1.0	7	1.4	0.6	1.4	19.1	0.9	19.3	1,050	1,500	550
7T	1.0	7	1.4	0.6	1.4	19.1	0.9	19.3	1,050	1,500	600
8T	1.0	7	1.4	0.6	1.5	20.6	0.9	19.3	1,050	1,500	690
10T	1.0	7	1.4	0.6	1.6	23.4	1.0	19.3	1,050	1,500	850
12T	1.0	7	1.4	0.6	1.7	25.0	1.1	19.3	1,050	1,500	990
14T	1.0	7	1.4	0.6	1.7	26.0	1.1	19.3	1,050	1,500	1,120
16T	1.0	7	1.4	0.6	1.8	27.8	1.1	19.3	1,050	1,500	1,270
19T	1.0	7	1.4	0.6	1.8	30.1	1.2	19.3	1,050	1,500	1,490
24T	1.0	7	1.4	0.6	2.0	33.7	1.3	19.3	1,050	1,500	1,870
32T	1.0	7	1.4	0.6	2.2	38.9	1.5	19.3	1,050	1,500	2,450
1T	1.5	7	1.7	0.7	1.1	9.1	0.6	12.9	1,020	1,500	130
2T	1.5	7	1.7	0.7	1.3	15.0	0.8	12.9	1,020	1,500	310
3T	1.5	7	1.7	0.7	1.3	15.9	0.8	12.9	1,020	1,500	390
4T	1.5	7	1.7	0.7	1.4	17.7	0.8	12.9	1,020	1,500	500
5T	1.5	7	1.7	0.7	1.5	19.8	0.9	12.9	1,020	1,500	610
6T	1.5	7	1.7	0.7	1.6	22.5	1.0	12.9	1,020	1,500	730
7T	1.5	7	1.7	0.7	1.6	22.5	1.0	12.9	1,020	1,500	810
8T	1.5	7	1.7	0.7	1.6	24.1	1.0	12.9	1,020	1,500	900
10T	1.5	7	1.7	0.7	1.8	27.7	1.1	12.9	1,020	1,500	1,140
12T	1.5	7	1.7	0.7	1.8	29.4	1.2	12.9	1,020	1,500	1,330
14T	1.5	7	1.7	0.7	1.9	30.9	1.2	12.9	1,020	1,500	1,520
16T	1.5	7	1.7	0.7	1.9	32.8	1.3	12.9	1,020	1,500	1,700
19T	1.5	7	1.7	0.7	2.0	35.6	1.4	12.9	1,020	1,500	2,000
24T	1.5	7	1.7	0.7	2.2	39.7	1.5	12.9	1,020	1,500	2,490
32T	1.5	7	1.7	0.7	2.4	45.8	1.7	12.9	1,020	1,500	3,270
1T	2.5	7	2.2	0.7	1.1	10.0	0.6	8.02	850	1,500	180
2T	2.5	7	2.2	0.7	1.4	16.8	0.8	8.02	850	1,500	400
3T	2.5	7	2.2	0.7	1.4	17.8	0.8	8.02	850	1,500	520
4T	2.5	7	2.2	0.7	1.5	19.8	0.9	8.02	850	1,500	660
5T	2.5	7	2.2	0.7	1.6	22.2	1.0	8.02	850	1,500	810
6T	2.5	7	2.2	0.7	1.7	25.2	1.1	8.02	850	1,500	980
7T	2.5	7	2.2	0.7	1.7	25.2	1.1	8.02	850	1,500	1,080
8T	2.5	7	2.2	0.7	1.7	27.0	1.1	8.02	850	1,500	1,220
10T	2.5	7	2.2	0.7	1.9	31.2	1.2	8.02	850	1,500	1,550
12T	2.5	7	2.2	0.7	2.0	33.2	1.3	8.02	850	1,500	1,810
14T	2.5	7	2.2	0.7	2.0	34.6	1.3	8.02	850	1,500	2,050
16T	2.5	7	2.2	0.7	2.1	37.0	1.4	8.02	850	1,500	2,330
19T	2.5	7	2.2	0.7	2.2	40.1	1.5	8.02	850	1,500	2,730
24T	2.5	7	2.2	0.7	2.4	44.7	1.6	8.02	850	1,500	3,410
32T	2.5	7	2.2	0.7	2.6	51.5	1.8	8.02	850	1,500	4,470

HV Power Cable

LV Power &amp; Lighting Cable

Instrumentation &amp; Communication Cable

Earthing &amp; Bonding wire

VFD Cable

Technical Information

# Instrumentation & Communication Cable



## Cable Designation

250V RU(i&c)

## Application Standard

- Design guide	: NEK-606 & IEC 60092-376
- Flame retardant	: IEC 60332-1 & IEC 60332-3 Category A
- Halogen content	: IEC 60754-1, 0.5% ↓
- Cold bend / impact	: CSA 22.2 No.03 (-40°C/-35°C)
- Mud resistant	: NEK-606 (Mud type only)
- Smoke light transmittance	: IEC 61034, 60% ↑
- Sunlight (UV) resistant	: UL 1581

## Construction

Sectional view	Classification	Code	Construction detail
	Conductor		- Stranded tinned annealed copper wires as per IEC 60228, Class 2
	Insulation	<b>R</b>	- EPR as per IEC 60092-360
	Twisting		- Two/Three Insulated cores shall be twisted together to form a pair/Triad
	Individual screen	<b>(i)</b>	- CU/PS or AL/PS tape + Tinned copper drain wire
	Cabling		- Twisted pairs / triads shall be cabled - Flame retardant & non-hygroscopic fillers may be used - Suitable tape(s) may be applied on the cabled core - A Filler may be applied to obtain a circular Cable
	Collective screen	<b>(c)</b>	- CU/PS or AL/PS tape + Tinned copper drain wire
	Sheath	<b>U</b>	- SHF2 or SHF Mud as per IEC 60092-360 - Outer sheath color : Grey (Non-IS Type) or Blue (IS Type)
Core identification			- Each Pair / Triad : Core color ① Pair : Black, Light blue    ② Triad : Black, Light blue, Brown - Multi Pairs / Triads : Number printing on the insulation or numbered tape

**Note.** Flexible cable (Class5 Conductor) can be supplied



## 250V RU(i&amp;c)

No. of Pairs	Conductor			Thickness of Insulation	Thickness of sheath	Overall diameter		Conductor Resistance (at 20°C) (Max.)	Insulation Resistance (at 20°C) (Min.)	Test Voltage	Cable Weight Approx.
	Nominal Area	Max. No. of wires	Max. overall dia.			Nominal	Tolerance				
No.	mm <sup>2</sup>	EA	mm	mm	mm	mm	±mm	Ω/km	MΩ-km	V/5min.	kg/km
2P	0.75	7	1.2	0.6	1.2	11.4	0.6	26.3	1,170	1,500	170
3P	0.75	7	1.2	0.6	1.2	12.0	0.7	26.3	1,170	1,500	210
4P	0.75	7	1.2	0.6	1.2	13.1	0.7	26.3	1,170	1,500	260
5P	0.75	7	1.2	0.6	1.3	14.8	0.7	26.3	1,170	1,500	310
6P	0.75	7	1.2	0.6	1.3	15.3	0.8	26.3	1,170	1,500	350
7P	0.75	7	1.2	0.6	1.3	15.3	0.8	26.3	1,170	1,500	380
8P	0.75	7	1.2	0.6	1.4	16.9	0.8	26.3	1,170	1,500	440
10P	0.75	7	1.2	0.6	1.4	19.1	0.9	26.3	1,170	1,500	530
12P	0.75	7	1.2	0.6	1.5	20.1	0.9	26.3	1,170	1,500	620
14P	0.75	7	1.2	0.6	1.5	21.0	0.9	26.3	1,170	1,500	700
16P	0.75	7	1.2	0.6	1.6	22.7	1.0	26.3	1,170	1,500	800
19P	0.75	7	1.2	0.6	1.6	23.2	1.0	26.3	1,170	1,500	900
24P	0.75	7	1.2	0.6	1.7	27.1	1.1	26.3	1,170	1,500	1,130
32P	0.75	7	1.2	0.6	1.8	29.7	1.2	26.3	1,170	1,500	1,470
2P	1.0	7	1.4	0.6	1.2	12.1	0.7	19.3	1,050	1,500	200
3P	1.0	7	1.4	0.6	1.2	12.8	0.7	19.3	1,050	1,500	250
4P	1.0	7	1.4	0.6	1.3	14.1	0.7	19.3	1,050	1,500	310
5P	1.0	7	1.4	0.6	1.3	15.7	0.8	19.3	1,050	1,500	370
6P	1.0	7	1.4	0.6	1.3	16.3	0.8	19.3	1,050	1,500	420
7P	1.0	7	1.4	0.6	1.3	16.3	0.8	19.3	1,050	1,500	460
8P	1.0	7	1.4	0.6	1.4	18.0	0.8	19.3	1,050	1,500	530
10P	1.0	7	1.4	0.6	1.5	20.6	0.9	19.3	1,050	1,500	650
12P	1.0	7	1.4	0.6	1.5	21.4	0.9	19.3	1,050	1,500	740
14P	1.0	7	1.4	0.6	1.6	22.7	1.0	19.3	1,050	1,500	860
16P	1.0	7	1.4	0.6	1.6	24.3	1.0	19.3	1,050	1,500	960
19P	1.0	7	1.4	0.6	1.7	25.0	1.1	19.3	1,050	1,500	1,110
24P	1.0	7	1.4	0.6	1.8	29.4	1.2	19.3	1,050	1,500	1,410
32P	1.0	7	1.4	0.6	1.9	32.0	1.3	19.3	1,050	1,500	1,800
2P	1.5	7	1.7	0.7	1.2	13.8	0.7	12.9	1,020	1,500	240
3P	1.5	7	1.7	0.7	1.3	14.8	0.7	12.9	1,020	1,500	320
4P	1.5	7	1.7	0.7	1.3	16.2	0.8	12.9	1,020	1,500	390
5P	1.5	7	1.7	0.7	1.4	18.3	0.8	12.9	1,020	1,500	470
6P	1.5	7	1.7	0.7	1.4	19.0	0.9	12.9	1,020	1,500	540
7P	1.5	7	1.7	0.7	1.4	19.0	0.9	12.9	1,020	1,500	590
8P	1.5	7	1.7	0.7	1.5	21.0	0.9	12.9	1,020	1,500	680
10P	1.5	7	1.7	0.7	1.6	24.1	1.0	12.9	1,020	1,500	840
12P	1.5	7	1.7	0.7	1.7	25.2	1.1	12.9	1,020	1,500	980
14P	1.5	7	1.7	0.7	1.7	26.5	1.1	12.9	1,020	1,500	1,110
16P	1.5	7	1.7	0.7	1.8	28.6	1.2	12.9	1,020	1,500	1,270
19P	1.5	7	1.7	0.7	1.8	29.4	1.2	12.9	1,020	1,500	1,460
24P	1.5	7	1.7	0.7	2.0	34.5	1.3	12.9	1,020	1,500	1,850
32P	1.5	7	1.7	0.7	2.1	37.6	1.4	12.9	1,020	1,500	2,360
2P	2.5	7	2.2	0.7	1.3	15.4	0.8	8.02	850	1,500	320
3P	2.5	7	2.2	0.7	1.3	16.3	0.8	8.02	850	1,500	400
4P	2.5	7	2.2	0.7	1.4	18.1	0.8	8.02	850	1,500	510
5P	2.5	7	2.2	0.7	1.5	20.4	0.9	8.02	850	1,500	620
6P	2.5	7	2.2	0.7	1.5	21.2	0.9	8.02	850	1,500	710
7P	2.5	7	2.2	0.7	1.5	21.2	0.9	8.02	850	1,500	790
8P	2.5	7	2.2	0.7	1.6	23.5	1.0	8.02	850	1,500	910
10P	2.5	7	2.2	0.7	1.7	26.9	1.1	8.02	850	1,500	1,120
12P	2.5	7	2.2	0.7	1.8	28.1	1.1	8.02	850	1,500	1,310
14P	2.5	7	2.2	0.7	1.8	29.8	1.2	8.02	850	1,500	1,510
16P	2.5	7	2.2	0.7	1.9	32.1	1.3	8.02	850	1,500	1,710
19P	2.5	7	2.2	0.7	1.9	32.8	1.3	8.02	850	1,500	1,960
24P	2.5	7	2.2	0.7	2.2	38.7	1.5	8.02	850	1,500	2,510
32P	2.5	7	2.2	0.7	2.3	42.1	1.6	8.02	850	1,500	3,210

HV Power Cable

LV Power &amp; Lighting Cable

Instrumentation &amp; Communication Cable

Earthing &amp; Bonding wire

VFD Cable

Technical Information

# Instrumentation & Communication Cable

## 250V RU(i&c)

No. of Triads	Conductor			Thickness of Insulation	Thickness of sheath	Overall diameter		Conductor Resistance (at 20°C) (Max.)	Insulation Resistance (at 20°C) (Min.)	Test Voltage	Cable Weight Approx.
	Nominal Area	Max. No. of wires	Max. overall dia.			Nominal	Tolerance				
No.	mm <sup>2</sup>	EA	mm	mm	mm	mm	±mm	Ω/km	MΩ-km	V/5min.	kg/km
2T	0.75	7	1.2	0.6	1.2	12.1	0.7	26.3	1,170	1,500	200
3T	0.75	7	1.2	0.6	1.2	12.9	0.7	26.3	1,170	1,500	260
4T	0.75	7	1.2	0.6	1.3	14.3	0.7	26.3	1,170	1,500	320
5T	0.75	7	1.2	0.6	1.3	15.8	0.8	26.3	1,170	1,500	380
6T	0.75	7	1.2	0.6	1.4	18.0	0.8	26.3	1,170	1,500	460
7T	0.75	7	1.2	0.6	1.4	18.0	0.8	26.3	1,170	1,500	510
8T	0.75	7	1.2	0.6	1.4	19.2	0.9	26.3	1,170	1,500	570
10T	0.75	7	1.2	0.6	1.5	21.8	1.0	26.3	1,170	1,500	700
12T	0.75	7	1.2	0.6	1.6	23.3	1.0	26.3	1,170	1,500	820
14T	0.75	7	1.2	0.6	1.6	24.3	1.0	26.3	1,170	1,500	920
16T	0.75	7	1.2	0.6	1.7	25.9	1.1	26.3	1,170	1,500	1,050
19T	0.75	7	1.2	0.6	1.8	28.1	1.1	26.3	1,170	1,500	1,230
24T	0.75	7	1.2	0.6	1.9	31.5	1.2	26.3	1,170	1,500	1,540
32T	0.75	7	1.2	0.6	2.1	36.3	1.4	26.3	1,170	1,500	2,010
2T	1.0	7	1.4	0.6	1.2	12.9	0.7	19.3	1,050	1,500	240
3T	1.0	7	1.4	0.6	1.2	13.6	0.7	19.3	1,050	1,500	300
4T	1.0	7	1.4	0.6	1.3	15.2	0.8	19.3	1,050	1,500	380
5T	1.0	7	1.4	0.6	1.4	17.0	0.8	19.3	1,050	1,500	470
6T	1.0	7	1.4	0.6	1.4	19.1	0.9	19.3	1,050	1,500	550
7T	1.0	7	1.4	0.6	1.4	19.1	0.9	19.3	1,050	1,500	600
8T	1.0	7	1.4	0.6	1.5	20.6	0.9	19.3	1,050	1,500	690
10T	1.0	7	1.4	0.6	1.6	23.4	1.0	19.3	1,050	1,500	850
12T	1.0	7	1.4	0.6	1.7	25.0	1.1	19.3	1,050	1,500	990
14T	1.0	7	1.4	0.6	1.7	26.0	1.1	19.3	1,050	1,500	1,120
16T	1.0	7	1.4	0.6	1.8	27.8	1.1	19.3	1,050	1,500	1,270
19T	1.0	7	1.4	0.6	1.8	30.1	1.2	19.3	1,050	1,500	1,490
24T	1.0	7	1.4	0.6	2.0	33.7	1.3	19.3	1,050	1,500	1,870
32T	1.0	7	1.4	0.6	2.2	38.9	1.5	19.3	1,050	1,500	2,450
2T	1.5	7	1.7	0.7	1.3	15.0	0.8	12.9	1,020	1,500	310
3T	1.5	7	1.7	0.7	1.3	15.9	0.8	12.9	1,020	1,500	390
4T	1.5	7	1.7	0.7	1.4	17.7	0.8	12.9	1,020	1,500	500
5T	1.5	7	1.7	0.7	1.5	19.8	0.9	12.9	1,020	1,500	610
6T	1.5	7	1.7	0.7	1.6	22.5	1.0	12.9	1,020	1,500	730
7T	1.5	7	1.7	0.7	1.6	22.5	1.0	12.9	1,020	1,500	810
8T	1.5	7	1.7	0.7	1.6	24.1	1.0	12.9	1,020	1,500	900
10T	1.5	7	1.7	0.7	1.8	27.7	1.1	12.9	1,020	1,500	1,140
12T	1.5	7	1.7	0.7	1.8	29.4	1.2	12.9	1,020	1,500	1,330
14T	1.5	7	1.7	0.7	1.9	30.9	1.2	12.9	1,020	1,500	1,520
16T	1.5	7	1.7	0.7	1.9	32.8	1.3	12.9	1,020	1,500	1,700
19T	1.5	7	1.7	0.7	2.0	35.6	1.4	12.9	1,020	1,500	2,000
24T	1.5	7	1.7	0.7	2.2	39.7	1.5	12.9	1,020	1,500	2,490
32T	1.5	7	1.7	0.7	2.4	45.8	1.7	12.9	1,020	1,500	3,270
2T	2.5	7	2.2	0.7	1.4	16.8	0.8	8.02	850	1,500	400
3T	2.5	7	2.2	0.7	1.4	17.8	0.8	8.02	850	1,500	520
4T	2.5	7	2.2	0.7	1.5	19.8	0.9	8.02	850	1,500	660
5T	2.5	7	2.2	0.7	1.6	22.2	1.0	8.02	850	1,500	810
6T	2.5	7	2.2	0.7	1.7	25.2	1.1	8.02	850	1,500	980
7T	2.5	7	2.2	0.7	1.7	25.2	1.1	8.02	850	1,500	1,080
8T	2.5	7	2.2	0.7	1.7	27.0	1.1	8.02	850	1,500	1,220
10T	2.5	7	2.2	0.7	1.9	31.2	1.2	8.02	850	1,500	1,550
12T	2.5	7	2.2	0.7	2.0	33.2	1.3	8.02	850	1,500	1,810
14T	2.5	7	2.2	0.7	2.0	34.6	1.3	8.02	850	1,500	2,050
16T	2.5	7	2.2	0.7	2.1	37.0	1.4	8.02	850	1,500	2,330
19T	2.5	7	2.2	0.7	2.2	40.1	1.5	8.02	850	1,500	2,730
24T	2.5	7	2.2	0.7	2.4	44.7	1.6	8.02	850	1,500	3,410
32T	2.5	7	2.2	0.7	2.6	51.5	1.8	8.02	850	1,500	4,470



## Cable Designation (S2, S2/S6)

250V RFOU(C), RFCU(C), RFBUC)

## Application Standard

- Design guide : NEK-606 & IEC 60092-376
- Flame retardant : IEC 60332-1 & IEC 60332-3 Category A
- Halogen content : IEC 60754-1, 0.5% ↓
- Cold bend / impact : CSA 22.2 No.03 (-40°C/-35°C)
- Mud resistant : NEK-606 (Mud type only)
- Smoke light transmittance : IEC 61034, 60% ↑
- Sunlight (UV) resistant : UL 1581

HV Power Cable

LV Power & Lighting Cable

Instrumentation & Communication Cable

Earthing & Bonding wire

VFD Cable

Technical Information

## Construction

Sectional view	Classification	Code	Construction detail
	Conductor		- Stranded tinned annealed copper wires as per IEC 60228, Class 2
	Insulation	<b>R</b>	- EPR as per IEC 60092-360
	Twisting		- Two/Three Insulated cores shall be twisted together to form a pair/Triad
	Cabling		- Twisted pairs / triads shall be cabled - Flame retardant & non-hygroscopic fillers may be used - Suitable tape(s) may be applied on the cabled core - A Filler may be applied to obtain a circular Cable
	Collective screen	<b>(c)</b>	- CU/PS or AL/PS tape + Tinned copper drain wire
	Inner covering	<b>F</b>	- Flame retardant halogen free thermoset compound
	Armor	<b>O</b> <b>(B,C)</b>	- Braid of tinned copper wire (O) / bronze wire (B) /galvanized steel wire (C) - A suitable separator tape(s) may be applied under/over the armor
	Sheath	<b>U</b>	- SHF2 or SHF Mud as per IEC 60092-360 - Outer sheath color : Grey (Non-IS Type) or Blue (IS Type)
	Core identification		- Each Pair / Triad : Core color ① Pair : Black, Light blue    ② Triad : Black, Light blue, Brown - Multi Pairs / Triads : Number printing on the insulation or numbered tape

**Note.** Flexible cable (Class5 Conductor) can be supplied

# Instrumentation & Communication Cable

## 250V RFOU(c), 250V RFCU(c), 250V RFBU(c)

No. of Pairs	Conductor			Thickness of Insulation	Thickness of inner covering	Nominal dia. inner covering	Dia. of wire for armour	Thickness of sheath	Overall diameter		Conductor Resistance (at 20°C) (Max.)	Insulation Resistance (at 20°C) (Min.)	Test Voltage	Cable Weight Approx.
	Nominal Area	Max. No. of wires	Max. overall dia.						Nominal	Tolerance				
No.	mm <sup>2</sup>	EA	mm	mm	mm	mm	mm	mm	mm	±mm	Ω/km	MΩ-km	V/5min.	kg/km
1P	0.75	7	1.2	0.6	1.0	6.8	0.3	1.1	10.5	0.6	26.3	1,170	1,500	200
2P	0.75	7	1.2	0.6	1.0	10.0	0.3	1.3	14.1	0.7	26.3	1,170	1,500	300
3P	0.75	7	1.2	0.6	1.0	10.7	0.3	1.3	14.8	0.7	26.3	1,170	1,500	340
4P	0.75	7	1.2	0.6	1.0	11.4	0.3	1.3	15.5	0.8	26.3	1,170	1,500	380
5P	0.75	7	1.2	0.6	1.0	12.8	0.3	1.4	17.1	0.8	26.3	1,170	1,500	450
6P	0.75	7	1.2	0.6	1.0	13.7	0.3	1.4	18.0	0.8	26.3	1,170	1,500	490
7P	0.75	7	1.2	0.6	1.0	13.7	0.3	1.4	18.0	0.8	26.3	1,170	1,500	520
8P	0.75	7	1.2	0.6	1.0	14.6	0.3	1.4	18.9	0.9	26.3	1,170	1,500	560
10P	0.75	7	1.2	0.6	1.0	16.5	0.3	1.5	21.0	0.9	26.3	1,170	1,500	660
12P	0.75	7	1.2	0.6	1.0	17.2	0.3	1.5	21.7	1.0	26.3	1,170	1,500	730
14P	0.75	7	1.2	0.6	1.0	17.8	0.3	1.6	22.5	1.0	26.3	1,170	1,500	800
16P	0.75	7	1.2	0.6	1.0	19.2	0.3	1.6	23.9	1.0	26.3	1,170	1,500	880
19P	0.75	7	1.2	0.6	1.0	20.1	0.3	1.7	25.0	1.1	26.3	1,170	1,500	980
24P	0.75	7	1.2	0.6	1.0	22.9	0.3	1.8	28.0	1.1	26.3	1,170	1,500	1,190
32P	0.75	7	1.2	0.6	1.0	26.1	0.3	1.9	31.4	1.2	26.3	1,170	1,500	1,470
1P	1.0	7	1.4	0.6	1.0	7.2	0.3	1.1	10.9	0.6	19.3	1,050	1,500	210
2P	1.0	7	1.4	0.6	1.0	10.7	0.3	1.3	14.8	0.7	19.3	1,050	1,500	340
3P	1.0	7	1.4	0.6	1.0	11.5	0.3	1.3	15.6	0.8	19.3	1,050	1,500	380
4P	1.0	7	1.4	0.6	1.0	12.2	0.3	1.3	16.3	0.8	19.3	1,050	1,500	430
5P	1.0	7	1.4	0.6	1.0	13.7	0.3	1.4	18.0	0.8	19.3	1,050	1,500	500
6P	1.0	7	1.4	0.6	1.0	14.7	0.3	1.4	19.0	0.9	19.3	1,050	1,500	550
7P	1.0	7	1.4	0.6	1.0	14.7	0.3	1.4	19.0	0.9	19.3	1,050	1,500	580
8P	1.0	7	1.4	0.6	1.0	15.7	0.3	1.5	20.2	0.9	19.3	1,050	1,500	650
10P	1.0	7	1.4	0.6	1.0	17.7	0.3	1.6	22.4	1.0	19.3	1,050	1,500	760
12P	1.0	7	1.4	0.6	1.0	18.5	0.3	1.6	23.2	1.0	19.3	1,050	1,500	840
14P	1.0	7	1.4	0.6	1.0	19.2	0.3	1.6	23.9	1.0	19.3	1,050	1,500	920
16P	1.0	7	1.4	0.6	1.0	20.7	0.3	1.7	25.6	1.1	19.3	1,050	1,500	1,030
19P	1.0	7	1.4	0.6	1.0	21.7	0.3	1.7	26.6	1.1	19.3	1,050	1,500	1,140
24P	1.0	7	1.4	0.6	1.0	24.7	0.3	1.8	29.8	1.2	19.3	1,050	1,500	1,370
32P	1.0	7	1.4	0.6	1.2	29.0	0.3	2.0	34.5	1.3	19.3	1,050	1,500	1,820
1P	1.5	7	1.7	0.7	1.0	8.2	0.3	1.2	12.1	0.7	12.9	1,020	1,500	250
2P	1.5	7	1.7	0.7	1.0	12.4	0.3	1.3	16.5	0.8	12.9	1,020	1,500	400
3P	1.5	7	1.7	0.7	1.0	13.3	0.3	1.4	17.6	0.8	12.9	1,020	1,500	470
4Pi	1.5	7	1.7	0.7	1.0	14.2	0.3	1.4	18.5	0.9	12.9	1,020	1,500	530
5P	1.5	7	1.7	0.7	1.0	16.0	0.3	1.5	20.5	0.9	12.9	1,020	1,500	630
6P	1.5	7	1.7	0.7	1.0	17.2	0.3	1.5	21.7	1.0	12.9	1,020	1,500	700
7P	1.5	7	1.7	0.7	1.0	17.2	0.3	1.5	21.7	1.0	12.9	1,020	1,500	740
8P	1.5	7	1.7	0.7	1.0	18.4	0.3	1.6	23.1	1.0	12.9	1,020	1,500	820
10P	1.5	7	1.7	0.7	1.0	20.8	0.3	1.7	25.7	1.1	12.9	1,020	1,500	980
12P	1.5	7	1.7	0.7	1.0	21.7	0.3	1.7	26.6	1.1	12.9	1,020	1,500	1,090
14P	1.5	7	1.7	0.7	1.0	22.6	0.3	1.8	27.7	1.1	12.9	1,020	1,500	1,210
16P	1.5	7	1.7	0.7	1.0	24.4	0.3	1.8	29.5	1.2	12.9	1,020	1,500	1,340
19P	1.5	7	1.7	0.7	1.0	25.6	0.3	1.9	30.9	1.2	12.9	1,020	1,500	1,510
24P	1.5	7	1.7	0.7	1.2	30.0	0.3	2.1	35.7	1.4	12.9	1,020	1,500	1,940
32P	1.5	7	1.7	0.7	1.2	34.2	0.4	2.2	40.5	1.5	12.9	1,020	1,500	2,510
1P	2.5	7	2.2	0.7	1.0	9.0	0.3	1.2	12.9	0.7	8.02	850	1,500	290
2P	2.5	7	2.2	0.7	1.0	13.8	0.3	1.4	18.1	0.8	8.02	850	1,500	480
3P	2.5	7	2.2	0.7	1.0	14.8	0.3	1.4	19.1	0.9	8.02	850	1,500	570
4P	2.5	7	2.2	0.7	1.0	15.8	0.3	1.5	20.3	0.9	8.02	850	1,500	660
5P	2.5	7	2.2	0.7	1.0	17.8	0.3	1.6	22.5	1.0	8.02	850	1,500	780
6P	2.5	7	2.2	0.7	1.0	19.2	0.3	1.6	23.9	1.0	8.02	850	1,500	880
7P	2.5	7	2.2	0.7	1.0	19.2	0.3	1.6	23.9	1.0	8.02	850	1,500	940
8P	2.5	7	2.2	0.7	1.0	20.6	0.3	1.7	25.5	1.1	8.02	850	1,500	1,050
10P	2.5	7	2.2	0.7	1.0	23.3	0.3	1.8	28.4	1.2	8.02	850	1,500	1,250
12P	2.5	7	2.2	0.7	1.0	24.3	0.3	1.8	29.4	1.2	8.02	850	1,500	1,400
14P	2.5	7	2.2	0.7	1.0	25.3	0.3	1.9	30.6	1.2	8.02	850	1,500	1,560
16P	2.5	7	2.2	0.7	1.2	28.2	0.3	2.0	33.7	1.3	8.02	850	1,500	1,850
19P	2.5	7	2.2	0.7	1.2	29.5	0.3	2.0	35.0	1.4	8.02	850	1,500	2,070
24P	2.5	7	2.2	0.7	1.2	33.6	0.4	2.2	39.9	1.5	8.02	850	1,500	2,630
32P	2.5	7	2.2	0.7	1.4	38.8	0.4	2.4	45.5	1.7	8.02	850	1,500	3,380

## 250V RFOU(c), 250V RFCU(c), 250V RFBU(c)

No. of Triads	Conductor			Thickness of Insulation	Thickness of inner covering	Nominal dia. inner covering	Dia. of wire for armour	Thickness of sheath	Overall diameter		Conductor Resistance (at 20°C) (Max.)	Insulation Resistance (at 20°C) (Min.)	Test Voltage	Cable Weight Approx.
	Nominal Area	Max. No. of wires	Max. overall dia.						Nominal	Tolerance				
No.	mm <sup>2</sup>	EA	mm	mm	mm	mm	mm	mm	mm	±mm	Ω/km	MΩ-km	V/5min.	kg/km
1T	0.75	7	1.2	0.6	1.0	7.2	0.3	1.1	10.9	0.6	26.3	1,170	1,500	220
2T	0.75	7	1.2	0.6	1.0	11.0	0.3	1.3	15.1	0.8	26.3	1,170	1,500	350
3T	0.75	7	1.2	0.6	1.0	11.7	0.3	1.3	15.8	0.8	26.3	1,170	1,500	400
4T	0.75	7	1.2	0.6	1.0	12.9	0.3	1.4	17.2	0.8	26.3	1,170	1,500	470
5T	0.75	7	1.2	0.6	1.0	14.3	0.3	1.4	18.6	0.9	26.3	1,170	1,500	540
6T	0.75	7	1.2	0.6	1.0	16.1	0.3	1.5	20.6	0.9	26.3	1,170	1,500	630
7T	0.75	7	1.2	0.6	1.0	16.1	0.3	1.5	20.6	0.9	26.3	1,170	1,500	670
8T	0.75	7	1.2	0.6	1.0	17.3	0.3	1.5	21.8	1.0	26.3	1,170	1,500	730
10T	0.75	7	1.2	0.6	1.0	19.6	0.3	1.6	24.3	1.0	26.3	1,170	1,500	870
12T	0.75	7	1.2	0.6	1.0	20.8	0.3	1.7	25.7	1.1	26.3	1,170	1,500	980
14T	0.75	7	1.2	0.6	1.0	21.7	0.3	1.7	26.6	1.1	26.3	1,170	1,500	1,070
16T	0.75	7	1.2	0.6	1.0	23.1	0.3	1.8	28.2	1.1	26.3	1,170	1,500	1,190
19T	0.75	7	1.2	0.6	1.0	25.0	0.3	1.9	30.3	1.2	26.3	1,170	1,500	1,360
24T	0.75	7	1.2	0.6	1.2	28.5	0.3	2.0	34.0	1.3	26.3	1,170	1,500	1,710
32T	0.75	7	1.2	0.6	1.2	32.7	0.4	2.2	39.0	1.5	26.3	1,170	1,500	2,240
1T	1.0	7	1.4	0.6	1.0	7.6	0.3	1.2	11.5	0.6	19.3	1,050	1,500	240
2T	1.0	7	1.4	0.6	1.0	11.7	0.3	1.3	15.8	0.8	19.3	1,050	1,500	390
3T	1.0	7	1.4	0.6	1.0	12.5	0.3	1.4	16.8	0.8	19.3	1,050	1,500	460
4T	1.0	7	1.4	0.6	1.0	13.7	0.3	1.4	18.0	0.8	19.3	1,050	1,500	530
5T	1.0	7	1.4	0.6	1.0	15.2	0.3	1.5	19.7	0.9	19.3	1,050	1,500	620
6T	1.0	7	1.4	0.6	1.0	17.2	0.3	1.5	21.7	1.0	19.3	1,050	1,500	710
7T	1.0	7	1.4	0.6	1.0	17.2	0.3	1.5	21.7	1.0	19.3	1,050	1,500	760
8T	1.0	7	1.4	0.6	1.0	18.5	0.3	1.6	23.2	1.0	19.3	1,050	1,500	840
10T	1.0	7	1.4	0.6	1.0	21.0	0.3	1.7	25.9	1.1	19.3	1,050	1,500	1,000
12T	1.0	7	1.4	0.6	1.0	22.2	0.3	1.7	27.1	1.1	19.3	1,050	1,500	1,120
14T	1.0	7	1.4	0.6	1.0	23.2	0.3	1.8	28.3	1.1	19.3	1,050	1,500	1,250
16T	1.0	7	1.4	0.6	1.0	24.8	0.3	1.8	29.9	1.2	19.3	1,050	1,500	1,380
19T	1.0	7	1.4	0.6	1.0	26.8	0.3	1.9	32.1	1.3	19.3	1,050	1,500	1,580
24T	1.0	7	1.4	0.6	1.2	30.6	0.4	2.1	36.7	1.4	19.3	1,050	1,500	2,090
32T	1.0	7	1.4	0.6	1.2	35.1	0.4	2.3	41.6	1.5	19.3	1,050	1,500	2,620
1T	1.5	7	1.7	0.7	1.0	8.7	0.3	1.2	12.6	0.7	12.9	1,020	1,500	290
2T	1.5	7	1.7	0.7	1.0	13.7	0.3	1.4	18.0	0.8	12.9	1,020	1,500	480
3T	1.5	7	1.7	0.7	1.0	14.6	0.3	1.4	18.9	0.9	12.9	1,020	1,500	570
4T	1.5	7	1.7	0.7	1.0	16.1	0.3	1.5	20.6	0.9	12.9	1,020	1,500	670
5T	1.5	7	1.7	0.7	1.0	17.9	0.3	1.6	22.6	1.0	12.9	1,020	1,500	790
6T	1.5	7	1.7	0.7	1.0	20.3	0.3	1.7	25.2	1.1	12.9	1,020	1,500	930
7T	1.5	7	1.7	0.7	1.0	20.3	0.3	1.7	25.2	1.1	12.9	1,020	1,500	990
8T	1.5	7	1.7	0.7	1.0	21.8	0.3	1.7	26.7	1.1	12.9	1,020	1,500	1,090
10T	1.5	7	1.7	0.7	1.0	24.8	0.3	1.8	29.9	1.2	12.9	1,020	1,500	1,310
12T	1.5	7	1.7	0.7	1.0	26.3	0.3	1.9	31.6	1.2	12.9	1,020	1,500	1,490
14T	1.5	7	1.7	0.7	1.2	28.3	0.3	2.0	33.8	1.3	12.9	1,020	1,500	1,750
16T	1.5	7	1.7	0.7	1.2	30.1	0.4	2.1	36.2	1.4	12.9	1,020	1,500	2,030
19T	1.5	7	1.7	0.7	1.2	32.6	0.4	2.2	38.9	1.5	12.9	1,020	1,500	2,320
24T	1.5	7	1.7	0.7	1.2	36.2	0.4	2.3	42.7	1.6	12.9	1,020	1,500	2,770
32T	1.5	7	1.7	0.7	1.4	42.0	0.4	2.5	48.9	1.8	12.9	1,020	1,500	3,560
1T	2.5	7	2.2	0.7	1.0	9.6	0.3	1.2	13.5	0.7	8.02	850	1,500	340
2T	2.5	7	2.2	0.7	1.0	15.2	0.3	1.5	19.7	0.9	8.02	850	1,500	590
3T	2.5	7	2.2	0.7	1.0	16.3	0.3	1.5	20.8	0.9	8.02	850	1,500	710
4T	2.5	7	2.2	0.7	1.0	18.0	0.3	1.6	22.7	1.0	8.02	850	1,500	850
5T	2.5	7	2.2	0.7	1.0	20.1	0.3	1.7	25.0	1.1	8.02	850	1,500	1,010
6T	2.5	7	2.2	0.7	1.0	22.8	0.3	1.8	27.9	1.1	8.02	850	1,500	1,180
7T	2.5	7	2.2	0.7	1.0	22.8	0.3	1.8	27.9	1.1	8.02	850	1,500	1,270
8T	2.5	7	2.2	0.7	1.0	24.5	0.3	1.8	29.6	1.2	8.02	850	1,500	1,410
10T	2.5	7	2.2	0.7	1.2	28.8	0.3	2.0	34.3	1.3	8.02	850	1,500	1,800
12T	2.5	7	2.2	0.7	1.2	30.5	0.4	2.1	36.6	1.4	8.02	850	1,500	2,140
14T	2.5	7	2.2	0.7	1.2	31.8	0.4	2.1	37.9	1.4	8.02	850	1,500	2,370
16T	2.5	7	2.2	0.7	1.2	33.9	0.4	2.2	40.2	1.5	8.02	850	1,500	2,640
19T	2.5	7	2.2	0.7	1.2	36.7	0.4	2.3	43.2	1.6	8.02	850	1,500	3,020
24T	2.5	7	2.2	0.7	1.4	41.2	0.4	2.5	48.1	1.7	8.02	850	1,500	3,730
32T	2.5	7	2.2	0.7	1.4	47.4	0.4	2.8	54.9	1.9	8.02	850	1,500	4,770

HV Power Cable

LV Power &amp; Lighting Cable

Instrumentation &amp; Communication Cable

Earthing &amp; Bonding wire

VFD Cable

Technical Information



# Instrumentation & Communication Cable



## Cable Designation (S1, S1/S5)

250V RFOU(i), RFCU(i), RFBU(i)

## Application Standard

- Design guide	: NEK-606 & IEC 60092-376
- Flame retardant	: IEC 60332-1 & IEC 60332-3 Category A
- Halogen content	: IEC 60754-1, 0.5% ↓
- Cold bend / impact	: CSA 22.2 No.03 (-40°C/-35°C)
- Mud resistant	: NEK-606 (Mud type only)
- Smoke light transmittance	: IEC 61034, 60% ↑
- Sunlight (UV) resistant	: UL 1581

## Construction

Sectional view	Classification	Code	Construction detail
	Conductor		- Stranded tinned annealed copper wires as per IEC 60228, Class 2
	Insulation	<b>R</b>	- EPR as per IEC 60092-360
	Twisting		- Two/Three Insulated cores shall be twisted together to form a pair/Triad
	Individual screen	<b>(i)</b>	- CU/PS or AL/PS tape + Tinned copper drain wire
	Cabling		- Twisted pairs / triads shall be cabled - Flame retardant & non-hygroscopic fillers may be used - Suitable tape(s) may be applied on the cabled core - A Filler may be applied to obtain a circular Cable
	Inner covering	<b>F</b>	- Flame retardant halogen free thermoset compound
	Armor	<b>O</b> <b>(B,C)</b>	- Braid of tinned copper wire (O) / bronze wire (B) /galvanized steel wire (C) - A suitable separator tape(s) may be applied under/over the armor
	Sheath	<b>U</b>	- SHF2 or SHF Mud as per IEC 60092-360 - Outer sheath color : Grey (Non-IS Type) or Blue (IS Type)
	Core identification		- Each Pair / Triad : Core color ① Pair : Black, Light blue    ② Triad : Black, Light blue, Brown - Multi Pairs / Triads : Number printing on the insulation or numbered tape

**Note.** Flexible cable (Class5 Conductor) can be supplied

## 250V RFOU(i), 250V RFCU(i), 250V RFBU(i)

No. of Pairs	Conductor			Thickness of Insulation	Thickness of inner covering	Nominal dia. inner covering	Dia. of wire for armour	Thickness of sheath	Overall diameter		Conductor Resistance (at 20°C) (Max.)	Insulation Resistance (at 20°C) (Min.)	Test Voltage	Cable Weight Approx.
	Nominal Area	Max. No. of wires	Max. overall dia.						Nominal	Tolerance				
No.	mm <sup>2</sup>	EA	mm	mm	mm	mm	mm	mm	mm	±mm	Ω/km	MΩ-km	V/5min.	kg/km
1P	0.75	7	1.2	0.6	1.0	6.8	0.3	1.1	10.5	0.6	26.3	1,170	1,500	200
2P	0.75	7	1.2	0.6	1.0	10.8	0.3	1.3	14.9	0.7	26.3	1,170	1,500	340
3P	0.75	7	1.2	0.6	1.0	11.4	0.3	1.3	15.5	0.8	26.3	1,170	1,500	390
4P	0.75	7	1.2	0.6	1.0	12.5	0.3	1.4	16.8	0.8	26.3	1,170	1,500	460
5P	0.75	7	1.2	0.6	1.0	14.0	0.3	1.4	18.3	0.8	26.3	1,170	1,500	530
6P	0.75	7	1.2	0.6	1.0	14.5	0.3	1.4	18.8	0.9	26.3	1,170	1,500	570
7P	0.75	7	1.2	0.6	1.0	14.5	0.3	1.4	18.8	0.9	26.3	1,170	1,500	600
8P	0.75	7	1.2	0.6	1.0	15.9	0.3	1.5	20.4	0.9	26.3	1,170	1,500	680
10P	0.75	7	1.2	0.6	1.0	18.1	0.3	1.6	22.8	1.0	26.3	1,170	1,500	810
12P	0.75	7	1.2	0.6	1.0	18.9	0.3	1.6	23.6	1.0	26.3	1,170	1,500	900
14P	0.75	7	1.2	0.6	1.0	19.8	0.3	1.6	24.5	1.0	26.3	1,170	1,500	990
16P	0.75	7	1.2	0.6	1.0	21.3	0.3	1.7	26.2	1.1	26.3	1,170	1,500	1,100
19P	0.75	7	1.2	0.6	1.0	21.8	0.3	1.7	26.7	1.1	26.3	1,170	1,500	1,210
24P	0.75	7	1.2	0.6	1.0	25.5	0.3	1.9	30.8	1.2	26.3	1,170	1,500	1,500
32P	0.75	7	1.2	0.6	1.2	28.5	0.3	2.0	34.0	1.3	26.3	1,170	1,500	1,930
1P	1.0	7	1.4	0.6	1.0	7.2	0.3	1.1	10.9	0.6	19.3	1,050	1,500	210
2P	1.0	7	1.4	0.6	1.0	11.5	0.3	1.3	15.6	0.8	19.3	1,050	1,500	380
3P	1.0	7	1.4	0.6	1.0	12.2	0.3	1.3	16.3	0.8	19.3	1,050	1,500	440
4P	1.0	7	1.4	0.6	1.0	13.3	0.3	1.4	17.6	0.8	19.3	1,050	1,500	510
5P	1.0	7	1.4	0.6	1.0	14.9	0.3	1.4	19.2	0.9	19.3	1,050	1,500	590
6P	1.0	7	1.4	0.6	1.0	15.5	0.3	1.5	20.0	0.9	19.3	1,050	1,500	660
7P	1.0	7	1.4	0.6	1.0	15.5	0.3	1.5	20.0	0.9	19.3	1,050	1,500	700
8P	1.0	7	1.4	0.6	1.0	17.0	0.3	1.5	21.5	0.9	19.3	1,050	1,500	780
10P	1.0	7	1.4	0.6	1.0	19.4	0.3	1.6	24.1	1.0	19.3	1,050	1,500	930
12P	1.0	7	1.4	0.6	1.0	20.2	0.3	1.7	25.1	1.1	19.3	1,050	1,500	1,050
14P	1.0	7	1.4	0.6	1.0	21.3	0.3	1.7	26.2	1.1	19.3	1,050	1,500	1,160
16P	1.0	7	1.4	0.6	1.0	22.9	0.3	1.8	28.0	1.1	19.3	1,050	1,500	1,300
19P	1.0	7	1.4	0.6	1.0	23.4	0.3	1.8	28.5	1.2	19.3	1,050	1,500	1,430
24P	1.0	7	1.4	0.6	1.2	28.2	0.3	2.0	33.7	1.3	19.3	1,050	1,500	1,870
32P	1.0	7	1.4	0.6	1.2	30.6	0.4	2.1	36.7	1.4	19.3	1,050	1,500	2,370
1P	1.5	7	1.7	0.7	1.0	8.2	0.3	1.2	12.1	0.7	12.9	1,020	1,500	260
2P	1.5	7	1.7	0.7	1.0	13.2	0.3	1.4	17.5	0.8	12.9	1,020	1,500	450
3P	1.5	7	1.7	0.7	1.0	14.0	0.3	1.4	18.3	0.8	12.9	1,020	1,500	530
4P	1.5	7	1.7	0.7	1.0	15.4	0.3	1.5	19.9	0.9	12.9	1,020	1,500	630
5P	1.5	7	1.7	0.7	1.0	17.3	0.3	1.5	21.8	1.0	12.9	1,020	1,500	730
6P	1.5	7	1.7	0.7	1.0	18.0	0.3	1.6	22.7	1.0	12.9	1,020	1,500	810
7P	1.5	7	1.7	0.7	1.0	18.0	0.3	1.6	22.7	1.0	12.9	1,020	1,500	870
8P	1.5	7	1.7	0.7	1.0	19.8	0.3	1.6	24.5	1.0	12.9	1,020	1,500	970
10P	1.5	7	1.7	0.7	1.0	22.7	0.3	1.8	27.8	1.1	12.9	1,020	1,500	1,180
12P	1.5	7	1.7	0.7	1.0	23.6	0.3	1.8	28.7	1.2	12.9	1,020	1,500	1,310
14P	1.5	7	1.7	0.7	1.0	24.9	0.3	1.8	30.0	1.2	12.9	1,020	1,500	1,460
16P	1.5	7	1.7	0.7	1.0	26.8	0.3	1.9	32.1	1.3	12.9	1,020	1,500	1,630
19P	1.5	7	1.7	0.7	1.2	28.2	0.3	2.0	33.7	1.3	12.9	1,020	1,500	1,920
24P	1.5	7	1.7	0.7	1.2	32.9	0.4	2.2	39.2	1.5	12.9	1,020	1,500	2,460
32P	1.5	7	1.7	0.7	1.2	35.8	0.4	2.3	42.3	1.6	12.9	1,020	1,500	3,020
1P	2.5	7	2.2	0.7	1.0	9.0	0.3	1.2	12.9	0.7	8.02	850	1,500	300
2P	2.5	7	2.2	0.7	1.0	14.6	0.3	1.4	18.9	0.9	8.02	850	1,500	540
3P	2.5	7	2.2	0.7	1.0	15.5	0.3	1.5	20.0	0.9	8.02	850	1,500	640
4P	2.5	7	2.2	0.7	1.0	17.1	0.3	1.5	21.6	0.9	8.02	850	1,500	760
5P	2.5	7	2.2	0.7	1.0	19.2	0.3	1.6	23.9	1.0	8.02	850	1,500	900
6P	2.5	7	2.2	0.7	1.0	20.0	0.3	1.7	24.9	1.0	8.02	850	1,500	1,010
7P	2.5	7	2.2	0.7	1.0	20.0	0.3	1.7	24.9	1.0	8.02	850	1,500	1,090
8P	2.5	7	2.2	0.7	1.0	22.1	0.3	1.7	27.0	1.1	8.02	850	1,500	1,220
10P	2.5	7	2.2	0.7	1.0	25.3	0.3	1.9	30.6	1.2	8.02	850	1,500	1,490
12P	2.5	7	2.2	0.7	1.0	26.3	0.3	1.9	31.6	1.2	8.02	850	1,500	1,670
14P	2.5	7	2.2	0.7	1.2	28.6	0.3	2.0	34.1	1.3	8.02	850	1,500	1,970
16P	2.5	7	2.2	0.7	1.2	30.7	0.4	2.1	36.8	1.4	8.02	850	1,500	2,290
19P	2.5	7	2.2	0.7	1.2	31.4	0.4	2.1	37.5	1.4	8.02	850	1,500	2,550
24P	2.5	7	2.2	0.7	1.2	36.7	0.4	2.3	43.2	1.6	8.02	850	1,500	3,150
32P	2.5	7	2.2	0.7	1.4	40.3	0.4	2.5	47.2	1.7	8.02	850	1,500	3,990

HV Power Cable

LV Power &amp; Lighting Cable

Instrumentation &amp; Communication Cable

Earthing &amp; Bonding wire

VFD Cable

Technical Information

# Instrumentation & Communication Cable

## 250V RFOU(i), 250V RFCU(i), 250V RFBU(i)

No. of Triads	Conductor			Thickness of Insulation	Thickness of inner covering	Nominal dia. inner covering	Dia. of wire for armour	Thickness of sheath	Overall diameter		Conductor Resistance (at 20°C) (Max.)	Insulation Resistance (at 20°C) (Min.)	Test Voltage	Cable Weight Approx.
	Nominal Area	Max. No. of wires	Max. overall dia.						Nominal	Tolerance				
No.	mm <sup>2</sup>	EA	mm	mm	mm	mm	mm	mm	mm	±mm	Ω/km	MΩ-km	V/5min.	kg/km
1T	0.75	7	1.2	0.6	1.0	7.2	0.3	1.1	10.9	0.6	26.3	1,170	1,500	220
2T	0.75	7	1.2	0.6	1.0	11.5	0.3	1.3	15.6	0.8	26.3	1,170	1,500	380
3T	0.75	7	1.2	0.6	1.0	12.3	0.3	1.3	16.4	0.8	26.3	1,170	1,500	450
4T	0.75	7	1.2	0.6	1.0	13.5	0.3	1.4	17.8	0.8	26.3	1,170	1,500	530
5T	0.75	7	1.2	0.6	1.0	15.0	0.3	1.5	19.5	0.9	26.3	1,170	1,500	620
6T	0.75	7	1.2	0.6	1.0	17.0	0.3	1.5	21.5	0.9	26.3	1,170	1,500	710
7T	0.75	7	1.2	0.6	1.0	17.0	0.3	1.5	21.5	0.9	26.3	1,170	1,500	760
8T	0.75	7	1.2	0.6	1.0	18.2	0.3	1.6	22.9	1.0	26.3	1,170	1,500	840
10T	0.75	7	1.2	0.6	1.0	20.6	0.3	1.7	25.5	1.1	26.3	1,170	1,500	1,010
12T	0.75	7	1.2	0.6	1.0	21.9	0.3	1.7	26.8	1.1	26.3	1,170	1,500	1,130
14T	0.75	7	1.2	0.6	1.0	22.9	0.3	1.8	28.0	1.1	26.3	1,170	1,500	1,260
16T	0.75	7	1.2	0.6	1.0	24.3	0.3	1.8	29.4	1.2	26.3	1,170	1,500	1,390
19T	0.75	7	1.2	0.6	1.0	26.3	0.3	1.9	31.6	1.2	26.3	1,170	1,500	1,590
24T	0.75	7	1.2	0.6	1.2	30.1	0.4	2.1	36.2	1.4	26.3	1,170	1,500	2,100
32T	0.75	7	1.2	0.6	1.2	34.5	0.4	2.2	40.8	1.5	26.3	1,170	1,500	2,630
1T	1.0	7	1.4	0.6	1.0	7.6	0.3	1.2	11.5	0.6	19.3	1,050	1,500	240
2T	1.0	7	1.4	0.6	1.0	12.3	0.3	1.3	16.4	0.8	19.3	1,050	1,500	430
3T	1.0	7	1.4	0.6	1.0	13.0	0.3	1.4	17.3	0.8	19.3	1,050	1,500	510
4T	1.0	7	1.4	0.6	1.0	14.4	0.3	1.4	18.7	0.9	19.3	1,050	1,500	600
5T	1.0	7	1.4	0.6	1.0	16.0	0.3	1.5	20.5	0.9	19.3	1,050	1,500	700
6T	1.0	7	1.4	0.6	1.0	18.1	0.3	1.6	22.8	1.0	19.3	1,050	1,500	820
7T	1.0	7	1.4	0.6	1.0	18.1	0.3	1.6	22.8	1.0	19.3	1,050	1,500	880
8T	1.0	7	1.4	0.6	1.0	19.4	0.3	1.6	24.1	1.0	19.3	1,050	1,500	970
10T	1.0	7	1.4	0.6	1.0	22.0	0.3	1.7	26.9	1.1	19.3	1,050	1,500	1,160
12T	1.0	7	1.4	0.6	1.0	23.4	0.3	1.8	28.5	1.2	19.3	1,050	1,500	1,320
14T	1.0	7	1.4	0.6	1.0	24.4	0.3	1.8	29.5	1.2	19.3	1,050	1,500	1,460
16T	1.0	7	1.4	0.6	1.0	26.0	0.3	1.9	31.3	1.2	19.3	1,050	1,500	1,630
19T	1.0	7	1.4	0.6	1.2	28.9	0.3	2.0	34.4	1.3	19.3	1,050	1,500	1,960
24T	1.0	7	1.4	0.6	1.2	32.1	0.4	2.2	38.4	1.5	19.3	1,050	1,500	2,470
32T	1.0	7	1.4	0.6	1.2	36.9	0.4	2.3	43.4	1.6	19.3	1,050	1,500	3,100
1T	1.5	7	1.7	0.7	1.0	8.7	0.3	1.2	12.6	0.7	12.9	1,020	1,500	290
2T	1.5	7	1.7	0.7	1.0	14.2	0.3	1.4	18.5	0.9	12.9	1,020	1,500	520
3T	1.5	7	1.7	0.7	1.0	15.1	0.3	1.5	19.6	0.9	12.9	1,020	1,500	630
4T	1.5	7	1.7	0.7	1.0	16.7	0.3	1.5	21.2	0.9	12.9	1,020	1,500	740
5T	1.5	7	1.7	0.7	1.0	18.6	0.3	1.6	23.3	1.0	12.9	1,020	1,500	880
6T	1.5	7	1.7	0.7	1.0	21.1	0.3	1.7	26.0	1.1	12.9	1,020	1,500	1,030
7T	1.5	7	1.7	0.7	1.0	21.1	0.3	1.7	26.0	1.1	12.9	1,020	1,500	1,110
8T	1.5	7	1.7	0.7	1.0	22.7	0.3	1.8	27.8	1.1	12.9	1,020	1,500	1,240
10T	1.5	7	1.7	0.7	1.0	25.9	0.3	1.9	31.2	1.2	12.9	1,020	1,500	1,490
12T	1.5	7	1.7	0.7	1.2	28.2	0.3	2.0	33.7	1.3	12.9	1,020	1,500	1,790
14T	1.5	7	1.7	0.7	1.2	29.5	0.3	2.0	35.0	1.4	12.9	1,020	1,500	1,980
16T	1.5	7	1.7	0.7	1.2	31.4	0.4	2.1	37.5	1.4	12.9	1,020	1,500	2,300
19T	1.5	7	1.7	0.7	1.2	34.0	0.4	2.2	40.3	1.5	12.9	1,020	1,500	2,630
24T	1.5	7	1.7	0.7	1.2	37.7	0.4	2.4	44.4	1.6	12.9	1,020	1,500	3,180
32T	1.5	7	1.7	0.7	1.4	43.8	0.4	2.6	50.9	1.8	12.9	1,020	1,500	4,110
1T	2.5	7	2.2	0.7	1.0	9.6	0.3	1.2	13.5	0.7	8.02	850	1,500	340
2T	2.5	7	2.2	0.7	1.0	15.8	0.3	1.5	20.3	0.9	8.02	850	1,500	640
3T	2.5	7	2.2	0.7	1.0	16.8	0.3	1.5	21.3	0.9	8.02	850	1,500	770
4T	2.5	7	2.2	0.7	1.0	18.6	0.3	1.6	23.3	1.0	8.02	850	1,500	930
5T	2.5	7	2.2	0.7	1.0	20.8	0.3	1.7	25.7	1.1	8.02	850	1,500	1,110
6T	2.5	7	2.2	0.7	1.0	23.6	0.3	1.8	28.7	1.2	8.02	850	1,500	1,300
7T	2.5	7	2.2	0.7	1.0	23.6	0.3	1.8	28.7	1.2	8.02	850	1,500	1,410
8T	2.5	7	2.2	0.7	1.0	25.4	0.3	1.9	30.7	1.2	8.02	850	1,500	1,580
10T	2.5	7	2.2	0.7	1.2	29.8	0.3	2.0	35.3	1.4	8.02	850	1,500	2,010
12T	2.5	7	2.2	0.7	1.2	31.6	0.4	2.1	37.7	1.4	8.02	850	1,500	2,380
14T	2.5	7	2.2	0.7	1.2	33.0	0.4	2.2	39.3	1.5	8.02	850	1,500	2,670
16T	2.5	7	2.2	0.7	1.2	35.2	0.4	2.3	41.7	1.6	8.02	850	1,500	2,980
19T	2.5	7	2.2	0.7	1.4	38.5	0.4	2.4	45.2	1.7	8.02	850	1,500	3,490
24T	2.5	7	2.2	0.7	1.4	42.7	0.4	2.6	49.8	1.8	8.02	850	1,500	4,230
32T	2.5	7	2.2	0.7	1.6	49.7	0.4	2.9	57.4	2.0	8.02	850	1,500	5,530



## Cable Designation

250V RFOU(i&c), RFCU(i&c), RFBU(i&c)

## Application Standard

- Design guide : NEK-606 & IEC 60092-376
- Flame retardant : IEC 60332-1 & IEC 60332-3 Category A
- Halogen content : IEC 60754-1, 0.5% ↓
- Cold bend / impact : CSA 22.2 No.03 (-40°C/-35°C)
- Mud resistant : NEK-606 (Mud type only)
- Smoke light transmittance : IEC 61034, 60% ↑
- Sunlight (UV) resistant : UL 1581

HV Power Cable

LV Power & Lighting Cable

Instrumentation & Communication Cable

Earthing & Bonding wire

VFD Cable

Technical Information

## Construction

Sectional view	Classification	Code	Construction detail
	Conductor		- Stranded tinned annealed copper wires as per IEC 60228, Class 2
	Insulation	<b>R</b>	- EPR as per IEC 60092-360
	Twisting		- Two/Three Insulated cores shall be twisted together to form a pair/Triad
	Individual screen	<b>(i)</b>	- CU/PS or AL/PS tape + Tinned copper drain wire
	Cabling		- Twisted pairs / triads shall be cabled - Flame retardant & non-hygroscopic fillers may be used - Suitable tape(s) may be applied on the cabled core - A Filler may be applied to obtain a circular Cable
	Collective screen	<b>(c)</b>	- CU/PS or AL/PS tape + Tinned copper drain wire
	Inner covering	<b>F</b>	- Flame retardant halogen free thermoset compound
	Armor	<b>O</b> <b>(B,C)</b>	- Braid of tinned copper wire (O) / bronze wire (B) /galvanized steel wire (C) - A suitable separator tape(s) may be applied under/over the armor
	Sheath	<b>U</b>	- SHF2 or SHF Mud as per IEC 60092-360 - Outer sheath color : Grey (Non-IS Type) or Blue (IS Type)
	Core identification		- Each Pair / Triad : Core color ① Pair : Black, Light blue    ② Triad : Black, Light blue, Brown - Multi Pairs / Triads : Number printing on the insulation or numbered tape

**Note.** Flexible cable (Class5 Conductor) can be supplied

# Instrumentation & Communication Cable

## 250V RFOU(i&c), 250V RFCU(i&c), 250V RFBU(i&c)

No. of Pairs	Conductor			Thickness of Insulation	Thickness of inner covering	Nominal dia. inner covering	Dia. of wire for armour	Thickness of sheath	Overall diameter		Conductor Resistance (at 20°C) (Max.)	Insulation Resistance (at 20°C) (Min.)	Test Voltage	Cable Weight Approx.
	Nominal Area	Max. No. of wires	Max. overall dia.						Nominal	Tolerance				
No.	mm <sup>2</sup>	EA	mm	mm	mm	mm	mm	mm	mm	±mm	Ω/km	MΩ-km	V/5min.	kg/km
2P	0.75	7	1.2	0.6	1.0	10.8	0.3	1.3	14.9	0.7	26.3	1,170	1,500	340
3P	0.75	7	1.2	0.6	1.0	11.4	0.3	1.3	15.5	0.8	26.3	1,170	1,500	390
4P	0.75	7	1.2	0.6	1.0	12.5	0.3	1.4	16.8	0.8	26.3	1,170	1,500	460
5P	0.75	7	1.2	0.6	1.0	14.0	0.3	1.4	18.3	0.8	26.3	1,170	1,500	530
6P	0.75	7	1.2	0.6	1.0	14.5	0.3	1.4	18.8	0.9	26.3	1,170	1,500	570
7P	0.75	7	1.2	0.6	1.0	14.5	0.3	1.4	18.8	0.9	26.3	1,170	1,500	600
8P	0.75	7	1.2	0.6	1.0	15.9	0.3	1.5	20.4	0.9	26.3	1,170	1,500	680
10P	0.75	7	1.2	0.6	1.0	18.1	0.3	1.6	22.8	1.0	26.3	1,170	1,500	810
12P	0.75	7	1.2	0.6	1.0	18.9	0.3	1.6	23.6	1.0	26.3	1,170	1,500	900
14P	0.75	7	1.2	0.6	1.0	19.8	0.3	1.6	24.5	1.0	26.3	1,170	1,500	990
16P	0.75	7	1.2	0.6	1.0	21.3	0.3	1.7	26.2	1.1	26.3	1,170	1,500	1,100
19P	0.75	7	1.2	0.6	1.0	21.8	0.3	1.7	26.7	1.1	26.3	1,170	1,500	1,210
24P	0.75	7	1.2	0.6	1.0	25.5	0.3	1.9	30.8	1.2	26.3	1,170	1,500	1,500
32P	0.75	7	1.2	0.6	1.2	28.5	0.3	2.0	34.0	1.3	26.3	1,170	1,500	1,930
2P	1.0	7	1.4	0.6	1.0	11.5	0.3	1.3	15.6	0.8	19.3	1,050	1,500	380
3P	1.0	7	1.4	0.6	1.0	12.2	0.3	1.3	16.3	0.8	19.3	1,050	1,500	440
4P	1.0	7	1.4	0.6	1.0	13.3	0.3	1.4	17.6	0.8	19.3	1,050	1,500	510
5P	1.0	7	1.4	0.6	1.0	14.9	0.3	1.4	19.2	0.9	19.3	1,050	1,500	590
6P	1.0	7	1.4	0.6	1.0	15.5	0.3	1.5	20.0	0.9	19.3	1,050	1,500	660
7P	1.0	7	1.4	0.6	1.0	15.5	0.3	1.5	20.0	0.9	19.3	1,050	1,500	700
8P	1.0	7	1.4	0.6	1.0	17.0	0.3	1.5	21.5	0.9	19.3	1,050	1,500	780
10P	1.0	7	1.4	0.6	1.0	19.4	0.3	1.6	24.1	1.0	19.3	1,050	1,500	930
12P	1.0	7	1.4	0.6	1.0	20.2	0.3	1.7	25.1	1.1	19.3	1,050	1,500	1,050
14P	1.0	7	1.4	0.6	1.0	21.3	0.3	1.7	26.2	1.1	19.3	1,050	1,500	1,160
16P	1.0	7	1.4	0.6	1.0	22.9	0.3	1.8	28.0	1.1	19.3	1,050	1,500	1,300
19P	1.0	7	1.4	0.6	1.0	23.4	0.3	1.8	28.5	1.2	19.3	1,050	1,500	1,430
24P	1.0	7	1.4	0.6	1.2	28.2	0.3	2.0	33.7	1.3	19.3	1,050	1,500	1,870
32P	1.0	7	1.4	0.6	1.2	30.6	0.4	2.1	36.7	1.4	19.3	1,050	1,500	2,370
2P	1.5	7	1.7	0.7	1.0	13.2	0.3	1.4	17.5	0.8	12.9	1,020	1,500	450
3P	1.5	7	1.7	0.7	1.0	14.0	0.3	1.4	18.3	0.8	12.9	1,020	1,500	530
4P	1.5	7	1.7	0.7	1.0	15.4	0.3	1.5	19.9	0.9	12.9	1,020	1,500	630
5P	1.5	7	1.7	0.7	1.0	17.3	0.3	1.5	21.8	1.0	12.9	1,020	1,500	730
6P	1.5	7	1.7	0.7	1.0	18.0	0.3	1.6	22.7	1.0	12.9	1,020	1,500	810
7P	1.5	7	1.7	0.7	1.0	18.0	0.3	1.6	22.7	1.0	12.9	1,020	1,500	870
8P	1.5	7	1.7	0.7	1.0	19.8	0.3	1.6	24.5	1.0	12.9	1,020	1,500	970
10P	1.5	7	1.7	0.7	1.0	22.7	0.3	1.8	27.8	1.1	12.9	1,020	1,500	1,180
12P	1.5	7	1.7	0.7	1.0	23.6	0.3	1.8	28.7	1.2	12.9	1,020	1,500	1,310
14P	1.5	7	1.7	0.7	1.0	24.9	0.3	1.8	30.0	1.2	12.9	1,020	1,500	1,460
16P	1.5	7	1.7	0.7	1.0	26.8	0.3	1.9	32.1	1.3	12.9	1,020	1,500	1,630
19P	1.5	7	1.7	0.7	1.2	28.2	0.3	2.0	33.7	1.3	12.9	1,020	1,500	1,920
24P	1.5	7	1.7	0.7	1.2	32.9	0.4	2.2	39.2	1.5	12.9	1,020	1,500	2,460
32P	1.5	7	1.7	0.7	1.2	35.8	0.4	2.3	42.3	1.6	12.9	1,020	1,500	3,020
2P	2.5	7	2.2	0.7	1.0	14.6	0.3	1.4	18.9	0.9	8.02	850	1,500	540
3P	2.5	7	2.2	0.7	1.0	15.5	0.3	1.5	20.0	0.9	8.02	850	1,500	640
4P	2.5	7	2.2	0.7	1.0	17.1	0.3	1.5	21.6	0.9	8.02	850	1,500	760
5P	2.5	7	2.2	0.7	1.0	19.2	0.3	1.6	23.9	1.0	8.02	850	1,500	900
6P	2.5	7	2.2	0.7	1.0	20.0	0.3	1.7	24.9	1.0	8.02	850	1,500	1,010
7P	2.5	7	2.2	0.7	1.0	20.0	0.3	1.7	24.9	1.0	8.02	850	1,500	1,090
8P	2.5	7	2.2	0.7	1.0	22.1	0.3	1.7	27.0	1.1	8.02	850	1,500	1,220
10P	2.5	7	2.2	0.7	1.0	25.3	0.3	1.9	30.6	1.2	8.02	850	1,500	1,490
12P	2.5	7	2.2	0.7	1.0	26.3	0.3	1.9	31.6	1.2	8.02	850	1,500	1,670
14P	2.5	7	2.2	0.7	1.2	28.6	0.3	2.0	34.1	1.3	8.02	850	1,500	1,970
16P	2.5	7	2.2	0.7	1.2	30.7	0.4	2.1	36.8	1.4	8.02	850	1,500	2,290
19P	2.5	7	2.2	0.7	1.2	31.4	0.4	2.1	37.5	1.4	8.02	850	1,500	2,550
24P	2.5	7	2.2	0.7	1.2	36.7	0.4	2.3	43.2	1.6	8.02	850	1,500	3,150
32P	2.5	7	2.2	0.7	1.4	40.3	0.4	2.5	47.2	1.7	8.02	850	1,500	3,990



## 250V RFOU(i&amp;c), 250V RFCU(i&amp;c), 250V RFBU(i&amp;c)

No. of Triads	Conductor			Thickness of Insulation	Thickness of inner covering	Nominal dia. inner covering	Dia. of wire for armour	Thickness of sheath	Overall diameter		Conductor Resistance (at 20°C) (Max.)	Insulation Resistance (at 20°C) (Min.)	Test Voltage	Cable Weight Approx.
	Nominal Area	Max. No. of wires	Max. overall dia.						Nominal	Tolerance				
No.	mm <sup>2</sup>	EA	mm	mm	mm	mm	mm	mm	mm	±mm	Ω/km	MΩ-km	V/5min.	kg/km
2T	0.75	7	1.2	0.6	1.0	11.5	0.3	1.3	15.6	0.8	26.3	1,170	1,500	380
3T	0.75	7	1.2	0.6	1.0	12.3	0.3	1.3	16.4	0.8	26.3	1,170	1,500	450
4T	0.75	7	1.2	0.6	1.0	13.5	0.3	1.4	17.8	0.8	26.3	1,170	1,500	530
5T	0.75	7	1.2	0.6	1.0	15.0	0.3	1.5	19.5	0.9	26.3	1,170	1,500	620
6T	0.75	7	1.2	0.6	1.0	17.0	0.3	1.5	21.5	0.9	26.3	1,170	1,500	710
7T	0.75	7	1.2	0.6	1.0	17.0	0.3	1.5	21.5	0.9	26.3	1,170	1,500	760
8T	0.75	7	1.2	0.6	1.0	18.2	0.3	1.6	22.9	1.0	26.3	1,170	1,500	840
10T	0.75	7	1.2	0.6	1.0	20.6	0.3	1.7	25.5	1.1	26.3	1,170	1,500	1,010
12T	0.75	7	1.2	0.6	1.0	21.9	0.3	1.7	26.8	1.1	26.3	1,170	1,500	1,130
14T	0.75	7	1.2	0.6	1.0	22.9	0.3	1.8	28.0	1.1	26.3	1,170	1,500	1,260
16T	0.75	7	1.2	0.6	1.0	24.3	0.3	1.8	29.4	1.2	26.3	1,170	1,500	1,390
19T	0.75	7	1.2	0.6	1.0	26.3	0.3	1.9	31.6	1.2	26.3	1,170	1,500	1,590
24T	0.75	7	1.2	0.6	1.2	30.1	0.4	2.1	36.2	1.4	26.3	1,170	1,500	2,100
32T	0.75	7	1.2	0.6	1.2	34.5	0.4	2.2	40.8	1.5	26.3	1,170	1,500	2,630
2T	1.0	7	1.4	0.6	1.0	12.3	0.3	1.3	16.4	0.8	19.3	1,050	1,500	430
3T	1.0	7	1.4	0.6	1.0	13.0	0.3	1.4	17.3	0.8	19.3	1,050	1,500	510
4T	1.0	7	1.4	0.6	1.0	14.4	0.3	1.4	18.7	0.9	19.3	1,050	1,500	600
5T	1.0	7	1.4	0.6	1.0	16.0	0.3	1.5	20.5	0.9	19.3	1,050	1,500	700
6T	1.0	7	1.4	0.6	1.0	18.1	0.3	1.6	22.8	1.0	19.3	1,050	1,500	820
7T	1.0	7	1.4	0.6	1.0	18.1	0.3	1.6	22.8	1.0	19.3	1,050	1,500	880
8T	1.0	7	1.4	0.6	1.0	19.4	0.3	1.6	24.1	1.0	19.3	1,050	1,500	970
10T	1.0	7	1.4	0.6	1.0	22.0	0.3	1.7	26.9	1.1	19.3	1,050	1,500	1,160
12T	1.0	7	1.4	0.6	1.0	23.4	0.3	1.8	28.5	1.2	19.3	1,050	1,500	1,320
14T	1.0	7	1.4	0.6	1.0	24.4	0.3	1.8	29.5	1.2	19.3	1,050	1,500	1,460
16T	1.0	7	1.4	0.6	1.0	26.0	0.3	1.9	31.3	1.2	19.3	1,050	1,500	1,630
19T	1.0	7	1.4	0.6	1.2	28.9	0.3	2.0	34.4	1.3	19.3	1,050	1,500	1,960
24T	1.0	7	1.4	0.6	1.2	32.1	0.4	2.2	38.4	1.5	19.3	1,050	1,500	2,470
32T	1.0	7	1.4	0.6	1.2	36.9	0.4	2.3	43.4	1.6	19.3	1,050	1,500	3,100
2T	1.5	7	1.7	0.7	1.0	14.2	0.3	1.4	18.5	0.9	12.9	1,020	1,500	520
3T	1.5	7	1.7	0.7	1.0	15.1	0.3	1.5	19.6	0.9	12.9	1,020	1,500	630
4T	1.5	7	1.7	0.7	1.0	16.7	0.3	1.5	21.2	0.9	12.9	1,020	1,500	740
5T	1.5	7	1.7	0.7	1.0	18.6	0.3	1.6	23.3	1.0	12.9	1,020	1,500	880
6T	1.5	7	1.7	0.7	1.0	21.1	0.3	1.7	26.0	1.1	12.9	1,020	1,500	1,030
7T	1.5	7	1.7	0.7	1.0	21.1	0.3	1.7	26.0	1.1	12.9	1,020	1,500	1,110
8T	1.5	7	1.7	0.7	1.0	22.7	0.3	1.8	27.8	1.1	12.9	1,020	1,500	1,240
10T	1.5	7	1.7	0.7	1.0	25.9	0.3	1.9	31.2	1.2	12.9	1,020	1,500	1,490
12T	1.5	7	1.7	0.7	1.2	28.2	0.3	2.0	33.7	1.3	12.9	1,020	1,500	1,790
14T	1.5	7	1.7	0.7	1.2	29.5	0.3	2.0	35.0	1.4	12.9	1,020	1,500	1,980
16T	1.5	7	1.7	0.7	1.2	31.4	0.4	2.1	37.5	1.4	12.9	1,020	1,500	2,300
19T	1.5	7	1.7	0.7	1.2	34.0	0.4	2.2	40.3	1.5	12.9	1,020	1,500	2,630
24T	1.5	7	1.7	0.7	1.2	37.7	0.4	2.4	44.4	1.6	12.9	1,020	1,500	3,180
32T	1.5	7	1.7	0.7	1.4	43.8	0.4	2.6	50.9	1.8	12.9	1,020	1,500	4,110
2T	2.5	7	2.2	0.7	1.0	15.8	0.3	1.5	20.3	0.9	8.02	850	1,500	640
3T	2.5	7	2.2	0.7	1.0	16.8	0.3	1.5	21.3	0.9	8.02	850	1,500	770
4T	2.5	7	2.2	0.7	1.0	18.6	0.3	1.6	23.3	1.0	8.02	850	1,500	930
5T	2.5	7	2.2	0.7	1.0	20.8	0.3	1.7	25.7	1.1	8.02	850	1,500	1,110
6T	2.5	7	2.2	0.7	1.0	23.6	0.3	1.8	28.7	1.2	8.02	850	1,500	1,300
7T	2.5	7	2.2	0.7	1.0	23.6	0.3	1.8	28.7	1.2	8.02	850	1,500	1,410
8T	2.5	7	2.2	0.7	1.0	25.4	0.3	1.9	30.7	1.2	8.02	850	1,500	1,580
10T	2.5	7	2.2	0.7	1.2	29.8	0.3	2.0	35.3	1.4	8.02	850	1,500	2,010
12T	2.5	7	2.2	0.7	1.2	31.6	0.4	2.1	37.7	1.4	8.02	850	1,500	2,380
14T	2.5	7	2.2	0.7	1.2	33.0	0.4	2.2	39.3	1.5	8.02	850	1,500	2,670
16T	2.5	7	2.2	0.7	1.2	35.2	0.4	2.3	41.7	1.6	8.02	850	1,500	2,980
19T	2.5	7	2.2	0.7	1.4	38.5	0.4	2.4	45.2	1.7	8.02	850	1,500	3,490
24T	2.5	7	2.2	0.7	1.4	42.7	0.4	2.6	49.8	1.8	8.02	850	1,500	4,230
32T	2.5	7	2.2	0.7	1.6	49.7	0.4	2.9	57.4	2.0	8.02	850	1,500	5,530

HV Power Cable

LV Power &amp; Lighting Cable

Instrumentation &amp; Communication Cable

Earthing &amp; Bonding wire

VFD Cable

Technical Information

# Instrumentation & Communication Cable



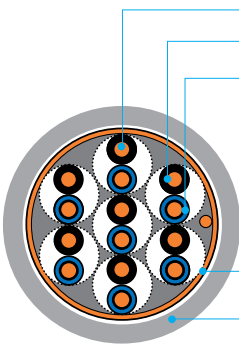
## Cable Designation (S14)

250V BU(c)

### Application Standard

- Design guide : NEK-606 & IEC 60092-376
- Flame retardant : IEC 60332-1 & IEC 60332-3 Category A
- Fire resistance : IEC 60331-21(90min) IEC 60331-1,-2(120min)
- Halogen content : IEC 60754-1, 0.5% ↓
- Cold bend / impact : CSA 22.2 No.03 (-40℃/-35℃)
- Mud resistant : NEK-606 (Mud type only)
- Smoke light transmittance : IEC 61034, 60% ↑
- Sunlight (UV) resistant : UL 1581

## Construction

Sectional view	Classification	Code	Construction detail
	Conductor		- Stranded tinned annealed copper wires as per IEC 60228, Class 2
	Fire resisting layer	<b>B</b>	- Mica/glass tape
	Insulation		- EPR as per IEC 60092-360
	Twisting		- Two/Three Insulated cores shall be twisted together to form a pair/Triad
	Cabling		- Twisted pairs / triads shall be cabled - Flame retardant & non-hygroscopic fillers may be used - Suitable tape(s) may be applied on the cabled core - A Filler may be applied to obtain a circular Cable
	Collective screen	<b>(c)</b>	- CU/PS or AL/PS tape + Tinned copper drain wire
	Sheath	<b>U</b>	- SHF2 or SHF Mud as per IEC 60092-360 - Outer sheath color : Grey (Non-IS Type) or Blue (IS Type)
	Core identification		- Each Pair / Triad : Core color ① Pair : Black, Light blue    ② Triad : Black, Light blue, Brown - Multi Pairs / Triads : Number printing on the insulation or numbered tape

**Note.** Flexible cable (Class5 Conductor) can be supplied

## 250V BU(c)

No. of Pairs	Conductor			Thickness of Insulation	Thickness of sheath	Overall diameter		Conductor Resistance (at 20°C) (Max.)	Insulation Resistance (at 20°C) (Min.)	Test Voltage	Cable Weight Approx.
	Nominal Area	Max. No. of wires	Max. overall dia.			Nominal	Tolerance				
No.	mm <sup>2</sup>	EA	mm	mm	mm	mm	±mm	Ω/km	MΩ-km	V/5min.	kg/km
1P	0.75	7	1.2	0.6	1.0	8.2	0.5	26.3	1,170	1,500	90
2P	0.75	7	1.2	0.6	1.2	12.7	0.7	26.3	1,170	1,500	170
3P	0.75	7	1.2	0.6	1.2	13.5	0.7	26.3	1,170	1,500	200
4P	0.75	7	1.2	0.6	1.3	14.6	0.7	26.3	1,170	1,500	240
5P	0.75	7	1.2	0.6	1.3	16.3	0.8	26.3	1,170	1,500	290
6P	0.75	7	1.2	0.6	1.4	17.7	0.8	26.3	1,170	1,500	330
7P	0.75	7	1.2	0.6	1.4	17.7	0.8	26.3	1,170	1,500	360
8P	0.75	7	1.2	0.6	1.4	18.9	0.9	26.3	1,170	1,500	410
10P	0.75	7	1.2	0.6	1.5	21.4	0.9	26.3	1,170	1,500	500
12P	0.75	7	1.2	0.6	1.6	22.5	1.0	26.3	1,170	1,500	570
14P	0.75	7	1.2	0.6	1.6	23.3	1.0	26.3	1,170	1,500	630
16P	0.75	7	1.2	0.6	1.7	25.3	1.1	26.3	1,170	1,500	720
19P	0.75	7	1.2	0.6	1.7	26.4	1.1	26.3	1,170	1,500	820
24P	0.75	7	1.2	0.6	1.9	30.3	1.2	26.3	1,170	1,500	1,020
32P	0.75	7	1.2	0.6	2.0	34.6	1.3	26.3	1,170	1,500	1,360
1P	1.0	7	1.4	0.6	1.1	8.8	0.6	19.3	1,050	1,500	100
2P	1.0	7	1.4	0.6	1.2	13.3	0.7	19.3	1,050	1,500	190
3P	1.0	7	1.4	0.6	1.3	14.5	0.7	19.3	1,050	1,500	230
4P	1.0	7	1.4	0.6	1.3	15.4	0.8	19.3	1,050	1,500	280
5P	1.0	7	1.4	0.6	1.4	17.5	0.8	19.3	1,050	1,500	340
6P	1.0	7	1.4	0.6	1.4	18.7	0.9	19.3	1,050	1,500	390
7P	1.0	7	1.4	0.6	1.4	18.7	0.9	19.3	1,050	1,500	430
8P	1.0	7	1.4	0.6	1.5	20.1	0.9	19.3	1,050	1,500	470
10P	1.0	7	1.4	0.6	1.6	22.8	1.0	19.3	1,050	1,500	580
12P	1.0	7	1.4	0.6	1.6	23.8	1.0	19.3	1,050	1,500	660
14P	1.0	7	1.4	0.6	1.7	24.9	1.0	19.3	1,050	1,500	760
16P	1.0	7	1.4	0.6	1.7	26.7	1.1	19.3	1,050	1,500	850
19P	1.0	7	1.4	0.6	1.8	28.2	1.1	19.3	1,050	1,500	980
24P	1.0	7	1.4	0.6	1.9	32.1	1.3	19.3	1,050	1,500	1,240
32P	1.0	7	1.4	0.6	2.1	36.8	1.4	19.3	1,050	1,500	1,620
1P	1.5	7	1.7	0.7	1.1	9.7	0.6	12.9	1,020	1,500	130
2P	1.5	7	1.7	0.7	1.3	15.1	0.8	12.9	1,020	1,500	240
3P	1.5	7	1.7	0.7	1.3	16.1	0.8	12.9	1,020	1,500	300
4P	1.5	7	1.7	0.7	1.4	17.4	0.8	12.9	1,020	1,500	360
5P	1.5	7	1.7	0.7	1.5	19.7	0.9	12.9	1,020	1,500	440
6P	1.5	7	1.7	0.7	1.5	21.2	0.9	12.9	1,020	1,500	520
7P	1.5	7	1.7	0.7	1.5	21.2	0.9	12.9	1,020	1,500	560
8P	1.5	7	1.7	0.7	1.6	22.8	1.0	12.9	1,020	1,500	630
10P	1.5	7	1.7	0.7	1.7	25.8	1.1	12.9	1,020	1,500	770
12P	1.5	7	1.7	0.7	1.7	26.9	1.1	12.9	1,020	1,500	900
14P	1.5	7	1.7	0.7	1.8	28.1	1.1	12.9	1,020	1,500	1,010
16P	1.5	7	1.7	0.7	1.9	30.5	1.2	12.9	1,020	1,500	1,150
19P	1.5	7	1.7	0.7	1.9	31.9	1.3	12.9	1,020	1,500	1,330
24P	1.5	7	1.7	0.7	2.1	36.6	1.4	12.9	1,020	1,500	1,680
32P	1.5	7	1.7	0.7	2.3	41.9	1.6	12.9	1,020	1,500	2,190
1P	2.5	7	2.2	0.7	1.1	10.6	0.6	8.02	850	1,500	160
2P	2.5	7	2.2	0.7	1.4	16.8	0.8	8.02	850	1,500	300
3P	2.5	7	2.2	0.7	1.4	18.0	0.8	8.02	850	1,500	390
4P	2.5	7	2.2	0.7	1.4	19.2	0.9	8.02	850	1,500	470
5P	2.5	7	2.2	0.7	1.5	21.8	1.0	8.02	850	1,500	580
6P	2.5	7	2.2	0.7	1.6	23.6	1.0	8.02	850	1,500	660
7P	2.5	7	2.2	0.7	1.6	23.6	1.0	8.02	850	1,500	730
8P	2.5	7	2.2	0.7	1.7	25.4	1.1	8.02	850	1,500	830
10P	2.5	7	2.2	0.7	1.8	28.8	1.2	8.02	850	1,500	1,030
12P	2.5	7	2.2	0.7	1.8	30.0	1.2	8.02	850	1,500	1,200
14P	2.5	7	2.2	0.7	1.9	31.4	1.2	8.02	850	1,500	1,370
16P	2.5	7	2.2	0.7	2.0	34.0	1.3	8.02	850	1,500	1,560
19P	2.5	7	2.2	0.7	2.1	35.8	1.4	8.02	850	1,500	1,810
24P	2.5	7	2.2	0.7	2.2	40.8	1.5	8.02	850	1,500	2,250
32P	2.5	7	2.2	0.7	2.5	47.0	1.7	8.02	850	1,500	2,940

HV Power Cable

LV Power &amp; Lighting Cable

Instrumentation &amp; Communication Cable

Earthing &amp; Bonding wire

VFD Cable

Technical Information

# Instrumentation & Communication Cable

## 250V BU(c)

No. of Triads	Conductor			Thickness of Insulation	Thickness of sheath	Overall diameter		Conductor Resistance (at 20°C) (Max.)	Insulation Resistance (at 20°C) (Min.)	Test Voltage	Cable Weight Approx.
	Nominal Area	Max. No. of wires	Max. overall dia.			Nominal	Tolerance				
No.	mm <sup>2</sup>	EA	mm	mm	mm	mm	±mm	Ω/km	MΩ-km	V/5min.	kg/km
1T	0.75	7	1.2	0.6	1.1	8.8	0.6	26.3	1,170	1,500	110
2T	0.75	7	1.2	0.6	1.2	13.7	0.7	26.3	1,170	1,500	200
3T	0.75	7	1.2	0.6	1.3	14.8	0.7	26.3	1,170	1,500	250
4T	0.75	7	1.2	0.6	1.3	16.2	0.8	26.3	1,170	1,500	320
5T	0.75	7	1.2	0.6	1.4	18.2	0.8	26.3	1,170	1,500	380
6T	0.75	7	1.2	0.6	1.5	20.7	0.9	26.3	1,170	1,500	460
7T	0.75	7	1.2	0.6	1.5	20.7	0.9	26.3	1,170	1,500	500
8T	0.75	7	1.2	0.6	1.6	22.3	1.0	26.3	1,170	1,500	570
10T	0.75	7	1.2	0.6	1.7	25.4	1.1	26.3	1,170	1,500	700
12T	0.75	7	1.2	0.6	1.7	26.8	1.1	26.3	1,170	1,500	800
14T	0.75	7	1.2	0.6	1.8	28.2	1.1	26.3	1,170	1,500	920
16T	0.75	7	1.2	0.6	1.8	29.9	1.2	26.3	1,170	1,500	1,020
19T	0.75	7	1.2	0.6	1.9	32.4	1.3	26.3	1,170	1,500	1,220
24T	0.75	7	1.2	0.6	2.1	36.2	1.4	26.3	1,170	1,500	1,520
32T	0.75	7	1.2	0.6	2.3	41.8	1.6	26.3	1,170	1,500	1,960
1T	1.0	7	1.4	0.6	1.1	9.3	0.6	19.3	1,050	1,500	130
2T	1.0	7	1.4	0.6	1.3	14.8	0.7	19.3	1,050	1,500	230
3T	1.0	7	1.4	0.6	1.3	15.7	0.8	19.3	1,050	1,500	300
4T	1.0	7	1.4	0.6	1.4	17.5	0.8	19.3	1,050	1,500	370
5T	1.0	7	1.4	0.6	1.5	19.6	0.9	19.3	1,050	1,500	450
6T	1.0	7	1.4	0.6	1.6	22.3	1.0	19.3	1,050	1,500	540
7T	1.0	7	1.4	0.6	1.6	22.3	1.0	19.3	1,050	1,500	600
8T	1.0	7	1.4	0.6	1.6	23.8	1.0	19.3	1,050	1,500	660
10T	1.0	7	1.4	0.6	1.7	27.1	1.1	19.3	1,050	1,500	830
12T	1.0	7	1.4	0.6	1.8	28.9	1.2	19.3	1,050	1,500	960
14T	1.0	7	1.4	0.6	1.9	30.3	1.2	19.3	1,050	1,500	1,090
16T	1.0	7	1.4	0.6	1.9	32.2	1.3	19.3	1,050	1,500	1,240
19T	1.0	7	1.4	0.6	2.0	34.9	1.3	19.3	1,050	1,500	1,450
24T	1.0	7	1.4	0.6	2.2	39.0	1.5	19.3	1,050	1,500	1,810
32T	1.0	7	1.4	0.6	2.4	45.0	1.7	19.3	1,050	1,500	2,360
1T	1.5	7	1.7	0.7	1.1	10.3	0.6	12.9	1,020	1,500	160
2T	1.5	7	1.7	0.7	1.4	16.8	0.8	12.9	1,020	1,500	330
3T	1.5	7	1.7	0.7	1.4	17.8	0.8	12.9	1,020	1,500	410
4T	1.5	7	1.7	0.7	1.5	19.8	0.9	12.9	1,020	1,500	520
5T	1.5	7	1.7	0.7	1.6	22.2	1.0	12.9	1,020	1,500	630
6T	1.5	7	1.7	0.7	1.7	25.2	1.1	12.9	1,020	1,500	750
7T	1.5	7	1.7	0.7	1.7	25.2	1.1	12.9	1,020	1,500	820
8T	1.5	7	1.7	0.7	1.7	27.0	1.1	12.9	1,020	1,500	920
10T	1.5	7	1.7	0.7	1.9	31.0	1.2	12.9	1,020	1,500	1,170
12T	1.5	7	1.7	0.7	2.0	33.0	1.3	12.9	1,020	1,500	1,330
14T	1.5	7	1.7	0.7	2.0	34.4	1.3	12.9	1,020	1,500	1,520
16T	1.5	7	1.7	0.7	2.1	36.8	1.4	12.9	1,020	1,500	1,730
19T	1.5	7	1.7	0.7	2.2	39.9	1.5	12.9	1,020	1,500	2,020
24T	1.5	7	1.7	0.7	2.4	44.5	1.6	12.9	1,020	1,500	2,480
32T	1.5	7	1.7	0.7	2.6	51.3	1.8	12.9	1,020	1,500	3,260
1T	2.5	7	2.2	0.7	1.2	11.4	0.6	8.02	850	1,500	200
2T	2.5	7	2.2	0.7	1.4	18.4	0.9	8.02	850	1,500	390
3T	2.5	7	2.2	0.7	1.5	19.8	0.9	8.02	850	1,500	510
4T	2.5	7	2.2	0.7	1.5	21.8	1.0	8.02	850	1,500	650
5T	2.5	7	2.2	0.7	1.6	24.4	1.0	8.02	850	1,500	790
6T	2.5	7	2.2	0.7	1.8	27.9	1.1	8.02	850	1,500	950
7T	2.5	7	2.2	0.7	1.8	27.9	1.1	8.02	850	1,500	1,050
8T	2.5	7	2.2	0.7	1.8	29.9	1.2	8.02	850	1,500	1,200
10T	2.5	7	2.2	0.7	2.0	34.3	1.3	8.02	850	1,500	1,500
12T	2.5	7	2.2	0.7	2.1	36.5	1.4	8.02	850	1,500	1,750
14T	2.5	7	2.2	0.7	2.1	38.1	1.4	8.02	850	1,500	2,010
16T	2.5	7	2.2	0.7	2.2	40.7	1.5	8.02	850	1,500	2,250
19T	2.5	7	2.2	0.7	2.4	44.3	1.6	8.02	850	1,500	2,660
24T	2.5	7	2.2	0.7	2.6	49.5	1.8	8.02	850	1,500	3,290
32T	2.5	7	2.2	0.7	2.9	57.3	2.0	8.02	850	1,500	4,340



## Cable Designation (S13)

250V BU(i)

### Application Standard

- Design guide	: NEK-606 & IEC 60092-376
- Flame retardant	: IEC 60332-1 & IEC 60332-3 Category A
- Fire resistance	: IEC 60331-21(90min) IEC 60331-1,-2(120min)
- Halogen content	: IEC 60754-1, 0.5% ↓
- Cold bend / impact	: CSA 22.2 No.03 (-40°C/-35°C)
- Mud resistant	: NEK-606 (Mud type only)
- Smoke light transmittance	: IEC 61034, 60% ↑
- Sunlight (UV) resistant	: UL 1581

## Construction

Sectional view	Classification	Code	Construction detail
	Conductor		- Stranded tinned annealed copper wires as per IEC 60228, Class 2
	Fire resisting layer	<b>B</b>	- Mica/glass tape
	Insulation		- EPR as per IEC 60092-360
	Twisting		- Two/Three Insulated cores shall be twisted together to form a pair/Triad
	Individual screen	<b>(i)</b>	- CU/PS or AL/PS tape + Tinned copper drain wire
Cabling			- Twisted pairs / triads shall be cabled - Flame retardant & non-hygroscopic fillers may be used - Suitable tape(s) may be applied on the cabled core - A Filler may be applied to obtain a circular Cable
Sheath	<b>U</b>		- SHF2 or SHF Mud as per IEC 60092-360 - Outer sheath color : Grey (Non-IS Type) or Blue (IS Type)
Core identification			- Each Pair / Triad : Core color ① Pair : Black, Light blue    ② Triad : Black, Light blue, Brown - Multi Pairs / Triads : Number printing on the insulation or numbered tape

**Note.** Flexible cable (Class5 Conductor) can be supplied



# Instrumentation & Communication Cable

## 250V BU(i)

No. of Pairs	Conductor			Thickness of Insulation	Thickness of sheath	Overall diameter		Conductor Resistance (at 20°C) (Max.)	Insulation Resistance (at 20°C) (Min.)	Test Voltage	Cable Weight Approx.
	Nominal Area	Max. No. of wires	Max. overall dia.			Nominal	Tolerance				
No.	mm <sup>2</sup>	EA	mm	mm	mm	mm	±mm	Ω/km	MΩ-km	V/5min.	kg/km
1P	0.75	7	1.2	0.6	1.0	8.2	0.5	26.3	1,170	1,500	90
2P	0.75	7	1.2	0.6	1.2	13.5	0.7	26.3	1,170	1,500	190
3P	0.75	7	1.2	0.6	1.3	14.5	0.7	26.3	1,170	1,500	240
4P	0.75	7	1.2	0.6	1.3	15.8	0.8	26.3	1,170	1,500	300
5P	0.75	7	1.2	0.6	1.4	17.8	0.8	26.3	1,170	1,500	360
6P	0.75	7	1.2	0.6	1.4	18.5	0.9	26.3	1,170	1,500	410
7P	0.75	7	1.2	0.6	1.4	18.5	0.9	26.3	1,170	1,500	450
8P	0.75	7	1.2	0.6	1.5	20.5	0.9	26.3	1,170	1,500	510
10P	0.75	7	1.2	0.6	1.6	23.4	1.0	26.3	1,170	1,500	630
12P	0.75	7	1.2	0.6	1.6	24.3	1.0	26.3	1,170	1,500	730
14P	0.75	7	1.2	0.6	1.7	25.8	1.1	26.3	1,170	1,500	820
16P	0.75	7	1.2	0.6	1.8	27.8	1.1	26.3	1,170	1,500	940
19P	0.75	7	1.2	0.6	1.8	28.4	1.2	26.3	1,170	1,500	1,060
24P	0.75	7	1.2	0.6	2.0	33.4	1.3	26.3	1,170	1,500	1,370
32P	0.75	7	1.2	0.6	2.1	36.3	1.4	26.3	1,170	1,500	1,740
1P	1.0	7	1.4	0.6	1.1	8.8	0.6	19.3	1,050	1,500	100
2P	1.0	7	1.4	0.6	1.3	14.4	0.7	19.3	1,050	1,500	220
3P	1.0	7	1.4	0.6	1.3	15.2	0.8	19.3	1,050	1,500	290
4P	1.0	7	1.4	0.6	1.4	16.9	0.8	19.3	1,050	1,500	350
5P	1.0	7	1.4	0.6	1.4	18.8	0.9	19.3	1,050	1,500	430
6P	1.0	7	1.4	0.6	1.5	19.7	0.9	19.3	1,050	1,500	480
7P	1.0	7	1.4	0.6	1.5	19.7	0.9	19.3	1,050	1,500	530
8P	1.0	7	1.4	0.6	1.5	21.6	0.9	19.3	1,050	1,500	610
10P	1.0	7	1.4	0.6	1.7	24.9	1.0	19.3	1,050	1,500	750
12P	1.0	7	1.4	0.6	1.7	25.9	1.1	19.3	1,050	1,500	860
14P	1.0	7	1.4	0.6	1.7	27.2	1.1	19.3	1,050	1,500	980
16P	1.0	7	1.4	0.6	1.8	29.4	1.2	19.3	1,050	1,500	1,100
19P	1.0	7	1.4	0.6	1.8	30.0	1.2	19.3	1,050	1,500	1,270
24P	1.0	7	1.4	0.6	2.0	35.3	1.4	19.3	1,050	1,500	1,620
32P	1.0	7	1.4	0.6	2.2	38.6	1.5	19.3	1,050	1,500	2,060
1P	1.5	7	1.7	0.7	1.1	9.7	0.6	12.9	1,020	1,500	130
2P	1.5	7	1.7	0.7	1.3	16.0	0.8	12.9	1,020	1,500	280
3P	1.5	7	1.7	0.7	1.4	17.1	0.8	12.9	1,020	1,500	350
4P	1.5	7	1.7	0.7	1.4	18.7	0.9	12.9	1,020	1,500	440
5P	1.5	7	1.7	0.7	1.5	21.2	0.9	12.9	1,020	1,500	540
6P	1.5	7	1.7	0.7	1.5	21.9	1.0	12.9	1,020	1,500	610
7P	1.5	7	1.7	0.7	1.5	21.9	1.0	12.9	1,020	1,500	670
8P	1.5	7	1.7	0.7	1.6	24.3	1.0	12.9	1,020	1,500	770
10P	1.5	7	1.7	0.7	1.8	28.1	1.1	12.9	1,020	1,500	960
12P	1.5	7	1.7	0.7	1.8	29.2	1.2	12.9	1,020	1,500	1,100
14P	1.5	7	1.7	0.7	1.9	30.8	1.2	12.9	1,020	1,500	1,280
16P	1.5	7	1.7	0.7	2.0	33.3	1.3	12.9	1,020	1,500	1,450
19P	1.5	7	1.7	0.7	2.0	34.0	1.3	12.9	1,020	1,500	1,650
24P	1.5	7	1.7	0.7	2.2	40.0	1.5	12.9	1,020	1,500	2,090
32P	1.5	7	1.7	0.7	2.3	43.5	1.6	12.9	1,020	1,500	2,670
1P	2.5	7	2.2	0.7	1.1	10.6	0.6	8.02	850	1,500	160
2P	2.5	7	2.2	0.7	1.4	17.7	0.8	8.02	850	1,500	340
3P	2.5	7	2.2	0.7	1.4	18.8	0.9	8.02	850	1,500	450
4P	2.5	7	2.2	0.7	1.5	20.8	0.9	8.02	850	1,500	570
5P	2.5	7	2.2	0.7	1.6	23.5	1.0	8.02	850	1,500	680
6P	2.5	7	2.2	0.7	1.6	24.4	1.0	8.02	850	1,500	790
7P	2.5	7	2.2	0.7	1.6	24.4	1.0	8.02	850	1,500	880
8P	2.5	7	2.2	0.7	1.7	27.0	1.1	8.02	850	1,500	1,010
10P	2.5	7	2.2	0.7	1.9	31.2	1.2	8.02	850	1,500	1,270
12P	2.5	7	2.2	0.7	1.9	32.4	1.3	8.02	850	1,500	1,480
14P	2.5	7	2.2	0.7	2.0	34.3	1.3	8.02	850	1,500	1,670
16P	2.5	7	2.2	0.7	2.1	37.0	1.4	8.02	850	1,500	1,900
19P	2.5	7	2.2	0.7	2.1	37.8	1.4	8.02	850	1,500	2,170
24P	2.5	7	2.2	0.7	2.4	44.6	1.6	8.02	850	1,500	2,780
32P	2.5	7	2.2	0.7	2.5	48.6	1.8	8.02	850	1,500	3,560

## 250V BU(i)

No. of Triads	Conductor			Thickness of Insulation	Thickness of sheath	Overall diameter		Conductor Resistance (at 20°C) (Max.)	Insulation Resistance (at 20°C) (Min.)	Test Voltage	Cable Weight Approx.
	Nominal Area	Max. No. of wires	Max. overall dia.			Nominal	Tolerance				
No.	mm <sup>2</sup>	EA	mm	mm	mm	mm	±mm	Ω/km	MΩ·km	V/5min.	kg/km
1T	0.75	7	1.2	0.6	1.1	8.8	0.6	26.3	1,170	1,500	110
2T	0.75	7	1.2	0.6	1.3	14.5	0.7	26.3	1,170	1,500	310
3T	0.75	7	1.2	0.6	1.3	15.5	0.8	26.3	1,170	1,500	380
4T	0.75	7	1.2	0.6	1.4	17.2	0.8	26.3	1,170	1,500	460
5T	0.75	7	1.2	0.6	1.4	19.0	0.9	26.3	1,170	1,500	550
6T	0.75	7	1.2	0.6	1.5	21.6	0.9	26.3	1,170	1,500	650
7T	0.75	7	1.2	0.6	1.5	21.6	0.9	26.3	1,170	1,500	700
8T	0.75	7	1.2	0.6	1.6	23.4	1.0	26.3	1,170	1,500	780
10T	0.75	7	1.2	0.6	1.7	26.6	1.1	26.3	1,170	1,500	950
12T	0.75	7	1.2	0.6	1.8	28.3	1.1	26.3	1,170	1,500	1,100
14T	0.75	7	1.2	0.6	1.8	29.5	1.2	26.3	1,170	1,500	1,220
16T	0.75	7	1.2	0.6	1.9	31.6	1.2	26.3	1,170	1,500	1,380
19T	0.75	7	1.2	0.6	2.0	34.2	1.3	26.3	1,170	1,500	1,610
24T	0.75	7	1.2	0.6	2.1	38.0	1.4	26.3	1,170	1,500	2,050
32T	0.75	7	1.2	0.6	2.4	44.1	1.6	26.3	1,170	1,500	2,630
1T	1.0	7	1.4	0.6	1.1	9.3	0.6	19.3	1,050	1,500	130
2T	1.0	7	1.4	0.6	1.3	15.3	0.8	19.3	1,050	1,500	280
3T	1.0	7	1.4	0.6	1.3	16.3	0.8	19.3	1,050	1,500	350
4T	1.0	7	1.4	0.6	1.4	18.1	0.8	19.3	1,050	1,500	440
5T	1.0	7	1.4	0.6	1.5	20.3	0.9	19.3	1,050	1,500	530
6T	1.0	7	1.4	0.6	1.6	23.1	1.0	19.3	1,050	1,500	640
7T	1.0	7	1.4	0.6	1.6	23.1	1.0	19.3	1,050	1,500	700
8T	1.0	7	1.4	0.6	1.7	24.9	1.0	19.3	1,050	1,500	800
10T	1.0	7	1.4	0.6	1.8	28.4	1.2	19.3	1,050	1,500	990
12T	1.0	7	1.4	0.6	1.8	30.0	1.2	19.3	1,050	1,500	1,160
14T	1.0	7	1.4	0.6	1.9	31.5	1.2	19.3	1,050	1,500	1,320
16T	1.0	7	1.4	0.6	2.0	33.6	1.3	19.3	1,050	1,500	1,500
19T	1.0	7	1.4	0.6	2.1	36.5	1.4	19.3	1,050	1,500	1,760
24T	1.0	7	1.4	0.6	2.2	40.5	1.5	19.3	1,050	1,500	2,160
32T	1.0	7	1.4	0.6	2.5	47.0	1.7	19.3	1,050	1,500	2,830
1T	1.5	7	1.7	0.7	1.1	10.3	0.6	12.9	1,020	1,500	160
2T	1.5	7	1.7	0.7	1.4	17.2	0.8	12.9	1,020	1,500	340
3T	1.5	7	1.7	0.7	1.4	18.3	0.8	12.9	1,020	1,500	450
4T	1.5	7	1.7	0.7	1.5	20.4	0.9	12.9	1,020	1,500	560
5T	1.5	7	1.7	0.7	1.6	22.8	1.0	12.9	1,020	1,500	680
6T	1.5	7	1.7	0.7	1.7	25.9	1.1	12.9	1,020	1,500	820
7T	1.5	7	1.7	0.7	1.7	25.9	1.1	12.9	1,020	1,500	910
8T	1.5	7	1.7	0.7	1.8	28.0	1.1	12.9	1,020	1,500	1,030
10T	1.5	7	1.7	0.7	1.9	31.9	1.3	12.9	1,020	1,500	1,310
12T	1.5	7	1.7	0.7	2.0	33.9	1.3	12.9	1,020	1,500	1,510
14T	1.5	7	1.7	0.7	2.0	35.4	1.4	12.9	1,020	1,500	1,730
16T	1.5	7	1.7	0.7	2.1	37.8	1.4	12.9	1,020	1,500	1,960
19T	1.5	7	1.7	0.7	2.3	41.2	1.5	12.9	1,020	1,500	2,300
24T	1.5	7	1.7	0.7	2.4	45.8	1.7	12.9	1,020	1,500	2,830
32T	1.5	7	1.7	0.7	2.7	53.0	1.9	12.9	1,020	1,500	3,740
1T	2.5	7	2.2	0.7	1.2	11.4	0.6	8.02	850	1,500	200
2T	2.5	7	2.2	0.7	1.4	18.9	0.9	8.02	850	1,500	440
3T	2.5	7	2.2	0.7	1.5	20.3	0.9	8.02	850	1,500	570
4T	2.5	7	2.2	0.7	1.6	22.6	1.0	8.02	850	1,500	730
5T	2.5	7	2.2	0.7	1.7	25.3	1.1	8.02	850	1,500	890
6T	2.5	7	2.2	0.7	1.8	28.8	1.2	8.02	850	1,500	1,070
7T	2.5	7	2.2	0.7	1.8	28.8	1.2	8.02	850	1,500	1,190
8T	2.5	7	2.2	0.7	1.9	31.0	1.2	8.02	850	1,500	1,370
10T	2.5	7	2.2	0.7	2.0	35.4	1.4	8.02	850	1,500	1,720
12T	2.5	7	2.2	0.7	2.1	37.6	1.4	8.02	850	1,500	1,990
14T	2.5	7	2.2	0.7	2.2	39.5	1.5	8.02	850	1,500	2,280
16T	2.5	7	2.2	0.7	2.3	42.2	1.6	8.02	850	1,500	2,590
19T	2.5	7	2.2	0.7	2.4	45.7	1.7	8.02	850	1,500	3,030
24T	2.5	7	2.2	0.7	2.6	51.0	1.8	8.02	850	1,500	3,780
32T	2.5	7	2.2	0.7	2.9	59.1	2.1	8.02	850	1,500	4,990

HV Power Cable

LV Power &amp; Lighting Cable

Instrumentation &amp; Communication Cable

Earthing &amp; Bonding wire

VFD Cable

Technical Information

# Instrumentation & Communication Cable



## Cable Designation

250V BU(i&c)

## Application Standard

- Design guide	: NEK-606 & IEC 60092-376
- Flame retardant	: IEC 60332-1 & IEC 60332-3 Category A
- Fire resistance	: IEC 60331-21(90min) IEC 60331-1,-2(120min)
- Halogen content	: IEC 60754-1, 0.5% ↓
- Cold bend / impact	: CSA 22.2 No.03 (-40°C/-35°C)
- Mud resistant	: NEK-606 (Mud type only)
- Smoke light transmittance	: IEC 61034, 60% ↑
- Sunlight (UV) resistant	: UL 1581

## Construction

Sectional view	Classification	Code	Construction detail
	Conductor		- Stranded tinned annealed copper wires as per IEC 60228, Class 2
	Fire resisting layer	<b>B</b>	- Mica/glass tape
	Insulation		- EPR as per IEC 60092-360
	Twisting		- Two/Three Insulated cores shall be twisted together to form a pair/Triad
	Individual screen	<b>(i)</b>	- CU/PS or AL/PS tape + Tinned copper drain wire
	Cabling		- Twisted pairs / triads shall be cabled - Flame retardant & non-hygroscopic fillers may be used - Suitable tape(s) may be applied on the cabled core - A Filler may be applied to obtain a circular Cable
	Collective screen	<b>(c)</b>	- CU/PS or AL/PS tape + Tinned copper drain wire
	Sheath	<b>U</b>	- SHF2 or SHF Mud as per IEC 60092-360 - Outer sheath color : Grey (Non-IS Type) or Blue (IS Type)
	Core identification		- Each Pair / Triad : Core color ① Pair : Black, Light blue    ② Triad : Black, Light blue, Brown - Multi Pairs / Triads : Number printing on the insulation or numbered tape

**Note.** Flexible cable (Class5 Conductor) can be supplied

## 250V BU(i&amp;c)

No. of Pairs	Conductor			Thickness of Insulation	Thickness of sheath	Overall diameter		Conductor Resistance (at 20°C) (Max.)	Insulation Resistance (at 20°C) (Min.)	Test Voltage	Cable Weight Approx.
	Nominal Area	Max. No. of wires	Max. overall dia.			Nominal	Tolerance				
No.	mm <sup>2</sup>	EA	mm	mm	mm	mm	±mm	Ω/km	MΩ-km	V/5min.	kg/km
1P	0.75	7	1.2	0.6	1.0	8.2	0.5	26.3	1,170	1,500	90
2P	0.75	7	1.2	0.6	1.2	13.5	0.7	26.3	1,170	1,500	190
3P	0.75	7	1.2	0.6	1.3	14.5	0.7	26.3	1,170	1,500	240
4P	0.75	7	1.2	0.6	1.3	15.8	0.8	26.3	1,170	1,500	300
5P	0.75	7	1.2	0.6	1.4	17.8	0.8	26.3	1,170	1,500	360
6P	0.75	7	1.2	0.6	1.4	18.5	0.9	26.3	1,170	1,500	410
7P	0.75	7	1.2	0.6	1.4	18.5	0.9	26.3	1,170	1,500	450
8P	0.75	7	1.2	0.6	1.5	20.5	0.9	26.3	1,170	1,500	510
10P	0.75	7	1.2	0.6	1.6	23.4	1.0	26.3	1,170	1,500	630
12P	0.75	7	1.2	0.6	1.6	24.3	1.0	26.3	1,170	1,500	730
13P	0.75	7	1.2	0.6	1.7	25.8	1.1	26.3	1,170	1,500	820
14P	0.75	7	1.2	0.6	1.8	27.8	1.1	26.3	1,170	1,500	940
19P	0.75	7	1.2	0.6	1.8	28.4	1.2	26.3	1,170	1,500	1,060
24P	0.75	7	1.2	0.6	2.0	33.4	1.3	26.3	1,170	1,500	1,370
32P	0.75	7	1.2	0.6	2.1	36.3	1.4	26.3	1,170	1,500	1,740
1P	1.0	7	1.4	0.6	1.1	8.8	0.6	19.3	1,050	1,500	100
2P	1.0	7	1.4	0.6	1.3	14.4	0.7	19.3	1,050	1,500	220
3P	1.0	7	1.4	0.6	1.3	15.2	0.8	19.3	1,050	1,500	290
4P	1.0	7	1.4	0.6	1.4	16.9	0.8	19.3	1,050	1,500	350
5P	1.0	7	1.4	0.6	1.4	18.8	0.9	19.3	1,050	1,500	430
6P	1.0	7	1.4	0.6	1.5	19.7	0.9	19.3	1,050	1,500	480
7P	1.0	7	1.4	0.6	1.5	19.7	0.9	19.3	1,050	1,500	530
8P	1.0	7	1.4	0.6	1.5	21.6	0.9	19.3	1,050	1,500	610
10P	1.0	7	1.4	0.6	1.7	24.9	1.0	19.3	1,050	1,500	750
12P	1.0	7	1.4	0.6	1.7	25.9	1.1	19.3	1,050	1,500	860
14P	1.0	7	1.4	0.6	1.7	27.2	1.1	19.3	1,050	1,500	980
16P	1.0	7	1.4	0.6	1.8	29.4	1.2	19.3	1,050	1,500	1,100
19P	1.0	7	1.4	0.6	1.8	30.0	1.2	19.3	1,050	1,500	1,270
24P	1.0	7	1.4	0.6	2.0	35.3	1.4	19.3	1,050	1,500	1,620
32P	1.0	7	1.4	0.6	2.2	38.6	1.5	19.3	1,050	1,500	2,060
1P	1.5	7	1.7	0.7	1.1	9.7	0.6	12.9	1,020	1,500	130
2P	1.5	7	1.7	0.7	1.3	16.0	0.8	12.9	1,020	1,500	280
3P	1.5	7	1.7	0.7	1.4	17.1	0.8	12.9	1,020	1,500	350
4P	1.5	7	1.7	0.7	1.4	18.7	0.9	12.9	1,020	1,500	440
5P	1.5	7	1.7	0.7	1.5	21.2	0.9	12.9	1,020	1,500	540
6P	1.5	7	1.7	0.7	1.5	21.9	1.0	12.9	1,020	1,500	610
7P	1.5	7	1.7	0.7	1.5	21.9	1.0	12.9	1,020	1,500	670
8P	1.5	7	1.7	0.7	1.6	24.3	1.0	12.9	1,020	1,500	770
10P	1.5	7	1.7	0.7	1.8	28.1	1.1	12.9	1,020	1,500	960
12P	1.5	7	1.7	0.7	1.8	29.2	1.2	12.9	1,020	1,500	1,100
14P	1.5	7	1.7	0.7	1.9	30.8	1.2	12.9	1,020	1,500	1,280
16P	1.5	7	1.7	0.7	2.0	33.3	1.3	12.9	1,020	1,500	1,450
19P	1.5	7	1.7	0.7	2.0	34.0	1.3	12.9	1,020	1,500	1,650
24P	1.5	7	1.7	0.7	2.2	40.0	1.5	12.9	1,020	1,500	2,090
32P	1.5	7	1.7	0.7	2.3	43.5	1.6	12.9	1,020	1,500	2,670
1P	2.5	7	2.2	0.7	1.1	10.6	0.6	8.02	850	1,500	160
2P	2.5	7	2.2	0.7	1.4	17.7	0.8	8.02	850	1,500	340
3P	2.5	7	2.2	0.7	1.4	18.8	0.9	8.02	850	1,500	450
4P	2.5	7	2.2	0.7	1.5	20.8	0.9	8.02	850	1,500	570
5P	2.5	7	2.2	0.7	1.6	23.5	1.0	8.02	850	1,500	680
6P	2.5	7	2.2	0.7	1.6	24.4	1.0	8.02	850	1,500	790
7P	2.5	7	2.2	0.7	1.6	24.4	1.0	8.02	850	1,500	880
8P	2.5	7	2.2	0.7	1.7	27.0	1.1	8.02	850	1,500	1,010
10P	2.5	7	2.2	0.7	1.9	31.2	1.2	8.02	850	1,500	1,270
12P	2.5	7	2.2	0.7	1.9	32.4	1.3	8.02	850	1,500	1,480
14P	2.5	7	2.2	0.7	2.0	34.3	1.3	8.02	850	1,500	1,670
16P	2.5	7	2.2	0.7	2.1	37.0	1.4	8.02	850	1,500	1,900
19P	2.5	7	2.2	0.7	2.1	37.8	1.4	8.02	850	1,500	2,170
24P	2.5	7	2.2	0.7	2.4	44.6	1.6	8.02	850	1,500	2,780
32P	2.5	7	2.2	0.7	2.5	48.6	1.8	8.02	850	1,500	3,560

HV Power Cable

LV Power &amp; Lighting Cable

Instrumentation &amp; Communication Cable

Earthing &amp; Bonding wire

VFD Cable

Technical Information

# Instrumentation & Communication Cable

## 250V BU(i&c)

No. of Pairs	Conductor			Thickness of Insulation	Thickness of sheath	Overall diameter		Conductor Resistance (at 20°C) (Max.)	Insulation Resistance (at 20°C) (Min.)	Test Voltage	Cable Weight Approx.
	Nominal Area	Max. No. of wires	Max. overall dia.			Nominal	Tolerance				
No.	mm <sup>2</sup>	EA	mm	mm	mm	mm	±mm	Ω/km	MΩ-km	V/5min.	kg/km
1T	0.75	7	1.2	0.6	1.1	8.8	0.6	26.3	1,170	1,500	110
2T	0.75	7	1.2	0.6	1.3	14.5	0.7	26.3	1,170	1,500	310
3T	0.75	7	1.2	0.6	1.3	15.5	0.8	26.3	1,170	1,500	380
4T	0.75	7	1.2	0.6	1.4	17.2	0.8	26.3	1,170	1,500	460
5T	0.75	7	1.2	0.6	1.4	19.0	0.9	26.3	1,170	1,500	550
6T	0.75	7	1.2	0.6	1.5	21.6	0.9	26.3	1,170	1,500	650
7T	0.75	7	1.2	0.6	1.5	21.6	0.9	26.3	1,170	1,500	700
8T	0.75	7	1.2	0.6	1.6	23.4	1.0	26.3	1,170	1,500	780
10T	0.75	7	1.2	0.6	1.7	26.6	1.1	26.3	1,170	1,500	950
12T	0.75	7	1.2	0.6	1.8	28.3	1.1	26.3	1,170	1,500	1,100
13T	0.75	7	1.2	0.6	1.8	29.5	1.2	26.3	1,170	1,500	1,220
14T	0.75	7	1.2	0.6	1.9	31.6	1.2	26.3	1,170	1,500	1,380
19T	0.75	7	1.2	0.6	2.0	34.2	1.3	26.3	1,170	1,500	1,610
24T	0.75	7	1.2	0.6	2.1	38.0	1.4	26.3	1,170	1,500	2,050
32T	0.75	7	1.2	0.6	2.4	44.1	1.6	26.3	1,170	1,500	2,630
1T	1.0	7	1.4	0.6	1.1	9.3	0.6	19.3	1,050	1,500	130
2T	1.0	7	1.4	0.6	1.3	15.3	0.8	19.3	1,050	1,500	280
3T	1.0	7	1.4	0.6	1.3	16.3	0.8	19.3	1,050	1,500	350
4T	1.0	7	1.4	0.6	1.4	18.1	0.8	19.3	1,050	1,500	440
5T	1.0	7	1.4	0.6	1.5	20.3	0.9	19.3	1,050	1,500	530
6T	1.0	7	1.4	0.6	1.6	23.1	1.0	19.3	1,050	1,500	640
7T	1.0	7	1.4	0.6	1.6	23.1	1.0	19.3	1,050	1,500	700
8T	1.0	7	1.4	0.6	1.7	24.9	1.0	19.3	1,050	1,500	800
10T	1.0	7	1.4	0.6	1.8	28.4	1.2	19.3	1,050	1,500	990
12T	1.0	7	1.4	0.6	1.8	30.0	1.2	19.3	1,050	1,500	1,160
14T	1.0	7	1.4	0.6	1.9	31.5	1.2	19.3	1,050	1,500	1,320
16T	1.0	7	1.4	0.6	2.0	33.6	1.3	19.3	1,050	1,500	1,500
19T	1.0	7	1.4	0.6	2.1	36.5	1.4	19.3	1,050	1,500	1,760
24T	1.0	7	1.4	0.6	2.2	40.5	1.5	19.3	1,050	1,500	2,160
32T	1.0	7	1.4	0.6	2.5	47.0	1.7	19.3	1,050	1,500	2,830
1T	1.5	7	1.7	0.7	1.1	10.3	0.6	12.9	1,020	1,500	160
2T	1.5	7	1.7	0.7	1.4	17.2	0.8	12.9	1,020	1,500	340
3T	1.5	7	1.7	0.7	1.4	18.3	0.8	12.9	1,020	1,500	450
4T	1.5	7	1.7	0.7	1.5	20.4	0.9	12.9	1,020	1,500	560
5T	1.5	7	1.7	0.7	1.6	22.8	1.0	12.9	1,020	1,500	680
6T	1.5	7	1.7	0.7	1.7	25.9	1.1	12.9	1,020	1,500	820
7T	1.5	7	1.7	0.7	1.7	25.9	1.1	12.9	1,020	1,500	910
8T	1.5	7	1.7	0.7	1.8	28.0	1.1	12.9	1,020	1,500	1,030
10T	1.5	7	1.7	0.7	1.9	31.9	1.3	12.9	1,020	1,500	1,310
12T	1.5	7	1.7	0.7	2.0	33.9	1.3	12.9	1,020	1,500	1,510
14T	1.5	7	1.7	0.7	2.0	35.4	1.4	12.9	1,020	1,500	1,730
16T	1.5	7	1.7	0.7	2.1	37.8	1.4	12.9	1,020	1,500	1,960
19T	1.5	7	1.7	0.7	2.3	41.2	1.5	12.9	1,020	1,500	2,300
24T	1.5	7	1.7	0.7	2.4	45.8	1.7	12.9	1,020	1,500	2,830
32T	1.5	7	1.7	0.7	2.7	53.0	1.9	12.9	1,020	1,500	3,740
1T	2.5	7	2.2	0.7	1.2	11.4	0.6	8.02	850	1,500	200
2T	2.5	7	2.2	0.7	1.4	18.9	0.9	8.02	850	1,500	440
3T	2.5	7	2.2	0.7	1.5	20.3	0.9	8.02	850	1,500	570
4T	2.5	7	2.2	0.7	1.6	22.6	1.0	8.02	850	1,500	730
5T	2.5	7	2.2	0.7	1.7	25.3	1.1	8.02	850	1,500	890
6T	2.5	7	2.2	0.7	1.8	28.8	1.2	8.02	850	1,500	1,070
7T	2.5	7	2.2	0.7	1.8	28.8	1.2	8.02	850	1,500	1,190
8T	2.5	7	2.2	0.7	1.9	31.0	1.2	8.02	850	1,500	1,370
10T	2.5	7	2.2	0.7	2.0	35.4	1.4	8.02	850	1,500	1,720
12T	2.5	7	2.2	0.7	2.1	37.6	1.4	8.02	850	1,500	1,990
14T	2.5	7	2.2	0.7	2.2	39.5	1.5	8.02	850	1,500	2,280
16T	2.5	7	2.2	0.7	2.3	42.2	1.6	8.02	850	1,500	2,590
19T	2.5	7	2.2	0.7	2.4	45.7	1.7	8.02	850	1,500	3,030
24T	2.5	7	2.2	0.7	2.6	51.0	1.8	8.02	850	1,500	3,780
32T	2.5	7	2.2	0.7	2.9	59.1	2.1	8.02	850	1,500	4,990



## Cable Designation (S4, S4/S8)

250V BFOU(c), BFCU(c), BFBU(c)

## Application Standard

- Design guide : NEK-606 & IEC 60092-376
- Flame retardant : IEC 60332-1 & IEC 60332-3 Category A
- Fire resistance : IEC 60331-21(90min) IEC 60331-1,-2(120min)
- Halogen content : IEC 60754-1, 0.5% ↓
- Cold bend / impact : CSA 22.2 No.03 (-40°C/-35°C)
- Mud resistant : NEK-606 (Mud type only)
- Smoke light transmittance : IEC 61034, 60% ↑
- Sunlight (UV) resistant : UL 1581

HV Power Cable

LV Power & Lighting Cable

Instrumentation & Communication Cable

Earthing & Bonding wire

VFD Cable

Technical Information

## Construction

Sectional view	Classification	Code	Construction detail
	Conductor		- Stranded tinned annealed copper wires as per IEC 60228, Class 2
	Fire resisting layer	<b>B</b>	- Mica/glass tape
	Insulation		- EPR as per IEC 60092-360
	Twisting		- Two/Three Insulated cores shall be twisted together to form a pair/Triad
	Cabling		- Twisted pairs / triads shall be cabled - Flame retardant & non-hygroscopic fillers may be used - Suitable tape(s) may be applied on the cabled core - A Filler may be applied to obtain a circular Cable
	Collective screen	<b>(c)</b>	- CU/PS or AL/PS tape + Tinned copper drain wire
	Inner covering	<b>F</b>	- Flame retardant halogen free thermoset compound
	Armor	<b>O</b> <b>(B,C)</b>	- Braid of tinned copper wire (O) / bronze wire (B) /galvanized steel wire (C) - A suitable separator tape(s) may be applied under/over the armor
	Sheath	<b>U</b>	- SHF2 or SHF Mud as per IEC 60092-360 - Outer sheath color : Grey (Non-IS Type) or Blue (IS Type)
	Core identification		- Each Pair / Triad : Core color ① Pair : Black, Light blue    ② Triad : Black, Light blue, Brown - Multi Pairs / Triads : Number printing on the insulation or numbered tape

**Note.** Flexible cable (Class5 Conductor) can be supplied



# Instrumentation & Communication Cable

## 250V BFOU(c), 250V BFCU(c), 250V BFBU(c)

No. of Pairs	Conductor			Thickness of Insulation	Thickness of inner covering	Nominal dia. inner covering	Dia. of wire for armour	Thickness of sheath	Overall diameter		Conductor Resistance (at 20°C) (Max.)	Insulation Resistance (at 20°C) (Min.)	Test Voltage	Cable Weight Approx.
	Nominal Area	Max. No. of wires	Max. overall dia.						Nominal	Tolerance				
No.	mm <sup>2</sup>	EA	mm	mm	mm	mm	mm	mm	mm	±mm	Ω/km	MΩ-km	V/5min.	kg/km
1P	0.75	7	1.2	0.6	1.0	8.0	0.3	1.2	11.9	0.7	26.3	1,170	1,500	210
2P	0.75	7	1.2	0.6	1.0	12.1	0.3	1.3	16.2	0.8	26.3	1,170	1,500	340
3P	0.75	7	1.2	0.6	1.0	12.9	0.3	1.4	17.2	0.8	26.3	1,170	1,500	390
4P	0.75	7	1.2	0.6	1.0	13.8	0.3	1.4	18.1	0.8	26.3	1,170	1,500	440
5P	0.75	7	1.2	0.6	1.0	15.5	0.3	1.5	20.0	0.9	26.3	1,170	1,500	510
6P	0.75	7	1.2	0.6	1.0	16.7	0.3	1.5	21.2	0.9	26.3	1,170	1,500	570
7P	0.75	7	1.2	0.6	1.0	16.7	0.3	1.5	21.2	0.9	26.3	1,170	1,500	600
8P	0.75	7	1.2	0.6	1.0	17.9	0.3	1.6	22.6	1.0	26.3	1,170	1,500	650
10P	0.75	7	1.2	0.6	1.0	20.2	0.3	1.7	25.1	1.1	26.3	1,170	1,500	770
12P	0.75	7	1.2	0.6	1.0	21.1	0.3	1.7	26.0	1.1	26.3	1,170	1,500	850
14P	0.75	7	1.2	0.6	1.0	21.9	0.3	1.7	26.8	1.1	26.3	1,170	1,500	920
16P	0.75	7	1.2	0.6	1.0	23.7	0.3	1.8	28.8	1.2	26.3	1,170	1,500	1,030
19P	0.75	7	1.2	0.6	1.0	24.8	0.3	1.8	29.9	1.2	26.3	1,170	1,500	1,150
24P	0.75	7	1.2	0.6	1.2	28.7	0.3	2.0	34.2	1.3	26.3	1,170	1,500	1,390
32P	0.75	7	1.2	0.6	1.2	32.8	0.4	2.2	39.1	1.5	26.3	1,170	1,500	1,840
1P	1.0	7	1.4	0.6	1.0	8.4	0.3	1.2	12.3	0.7	19.3	1,050	1,500	240
2P	1.0	7	1.4	0.6	1.0	12.7	0.3	1.4	17.0	0.8	19.3	1,050	1,500	370
3P	1.0	7	1.4	0.6	1.0	13.7	0.3	1.4	18.0	0.8	19.3	1,050	1,500	430
4P	1.0	7	1.4	0.6	1.0	14.6	0.3	1.4	18.9	0.9	19.3	1,050	1,500	490
5P	1.0	7	1.4	0.6	1.0	16.5	0.3	1.5	21.0	0.9	19.3	1,050	1,500	570
6P	1.0	7	1.4	0.6	1.0	17.7	0.3	1.6	22.4	1.0	19.3	1,050	1,500	630
7P	1.0	7	1.4	0.6	1.0	17.7	0.3	1.6	22.4	1.0	19.3	1,050	1,500	670
8P	1.0	7	1.4	0.6	1.0	18.9	0.3	1.6	23.6	1.0	19.3	1,050	1,500	730
10P	1.0	7	1.4	0.6	1.0	21.4	0.3	1.7	26.3	1.1	19.3	1,050	1,500	870
12P	1.0	7	1.4	0.6	1.0	22.4	0.3	1.7	27.3	1.1	19.3	1,050	1,500	970
14P	1.0	7	1.4	0.6	1.0	23.3	0.3	1.8	28.4	1.2	19.3	1,050	1,500	1,060
16P	1.0	7	1.4	0.6	1.0	25.1	0.3	1.9	30.4	1.2	19.3	1,050	1,500	1,180
19P	1.0	7	1.4	0.6	1.0	26.4	0.3	1.9	31.7	1.3	19.3	1,050	1,500	1,310
24P	1.0	7	1.4	0.6	1.2	30.5	0.4	2.1	36.6	1.4	19.3	1,050	1,500	1,700
32P	1.0	7	1.4	0.6	1.2	34.8	0.4	2.3	41.3	1.5	19.3	1,050	1,500	2,220
1P	1.5	7	1.7	0.7	1.0	9.3	0.3	1.2	13.2	0.7	12.9	1,020	1,500	270
2P	1.5	7	1.7	0.7	1.0	14.3	0.3	1.4	18.6	0.9	12.9	1,020	1,500	450
3P	1.5	7	1.7	0.7	1.0	15.3	0.3	1.5	19.8	0.9	12.9	1,020	1,500	520
4P	1.5	7	1.7	0.7	1.0	16.4	0.3	1.5	20.9	0.9	12.9	1,020	1,500	600
5P	1.5	7	1.7	0.7	1.0	18.5	0.3	1.6	23.2	1.0	12.9	1,020	1,500	700
6P	1.5	7	1.7	0.7	1.0	20.0	0.3	1.7	24.9	1.0	12.9	1,020	1,500	790
7P	1.5	7	1.7	0.7	1.0	20.0	0.3	1.7	24.9	1.0	12.9	1,020	1,500	840
8P	1.5	7	1.7	0.7	1.0	21.4	0.3	1.7	26.3	1.1	12.9	1,020	1,500	930
10P	1.5	7	1.7	0.7	1.0	24.2	0.3	1.8	29.3	1.2	12.9	1,020	1,500	1,110
12P	1.5	7	1.7	0.7	1.0	25.3	0.3	1.9	30.6	1.2	12.9	1,020	1,500	1,230
14P	1.5	7	1.7	0.7	1.0	26.3	0.3	1.9	31.6	1.2	12.9	1,020	1,500	1,350
16P	1.5	7	1.7	0.7	1.2	28.9	0.3	2.0	34.4	1.3	12.9	1,020	1,500	1,510
19P	1.5	7	1.7	0.7	1.2	30.3	0.4	2.1	36.4	1.4	12.9	1,020	1,500	1,800
24P	1.5	7	1.7	0.7	1.2	34.6	0.4	2.3	41.1	1.5	12.9	1,020	1,500	2,290
32P	1.5	7	1.7	0.7	1.4	39.9	0.4	2.5	46.8	1.7	12.9	1,020	1,500	2,870
1P	2.5	7	2.2	0.7	1.0	10.2	0.3	1.3	14.3	0.7	8.02	850	1,500	320
2P	2.5	7	2.2	0.7	1.0	15.8	0.3	1.5	20.3	0.9	8.02	850	1,500	520
3P	2.5	7	2.2	0.7	1.0	17.0	0.3	1.5	21.5	0.9	8.02	850	1,500	630
4P	2.5	7	2.2	0.7	1.0	18.2	0.3	1.6	22.9	1.0	8.02	850	1,500	720
5P	2.5	7	2.2	0.7	1.0	20.6	0.3	1.7	25.5	1.1	8.02	850	1,500	860
6P	2.5	7	2.2	0.7	1.0	22.2	0.3	1.7	27.1	1.1	8.02	850	1,500	970
7P	2.5	7	2.2	0.7	1.0	22.2	0.3	1.7	27.1	1.1	8.02	850	1,500	1,040
8P	2.5	7	2.2	0.7	1.0	23.8	0.3	1.8	28.9	1.2	8.02	850	1,500	1,150
10P	2.5	7	2.2	0.7	1.0	27.0	0.3	1.9	32.3	1.3	8.02	850	1,500	1,390
12P	2.5	7	2.2	0.7	1.2	28.6	0.3	2.0	34.1	1.3	8.02	850	1,500	1,560
14P	2.5	7	2.2	0.7	1.2	29.8	0.3	2.0	35.3	1.4	8.02	850	1,500	1,830
16P	2.5	7	2.2	0.7	1.2	32.2	0.4	2.2	38.5	1.5	8.02	850	1,500	2,130
19P	2.5	7	2.2	0.7	1.2	33.8	0.4	2.2	40.1	1.5	8.02	850	1,500	2,390
24P	2.5	7	2.2	0.7	1.4	39.0	0.4	2.4	45.7	1.7	8.02	850	1,500	2,920
32P	2.5	7	2.2	0.7	1.4	44.6	0.4	2.7	51.9	1.9	8.02	850	1,500	3,750

## 250V BFOU(c), 250V BFCU(c), 250V BFBU(c)

No. of Triads	Conductor			Thickness of Insulation	Thickness of inner covering	Nominal dia. inner covering	Dia. of wire for armour	Thickness of sheath	Overall diameter		Conductor Resistance (at 20°C) (Max.)	Insulation Resistance (at 20°C) (Min.)	Test Voltage	Cable Weight Approx.
	Nominal Area	Max. No. of wires	Max. overall dia.						Nominal	Tolerance				
No.	mm <sup>2</sup>	EA	mm	mm	mm	mm	mm	mm	mm	±mm	Ω/km	MΩ-km	V/5min.	kg/km
1T	0.75	7	1.2	0.6	1.0	8.4	0.3	1.2	12.3	0.7	26.3	1,170	1,500	240
2T	0.75	7	1.2	0.6	1.0	13.1	0.3	1.4	17.4	0.8	26.3	1,170	1,500	390
3T	0.75	7	1.2	0.6	1.0	14.0	0.3	1.4	18.3	0.8	26.3	1,170	1,500	460
4T	0.75	7	1.2	0.6	1.0	15.4	0.3	1.5	19.9	0.9	26.3	1,170	1,500	540
5T	0.75	7	1.2	0.6	1.0	17.2	0.3	1.5	21.7	1.0	26.3	1,170	1,500	620
6T	0.75	7	1.2	0.6	1.0	19.5	0.3	1.6	24.2	1.0	26.3	1,170	1,500	730
7T	0.75	7	1.2	0.6	1.0	19.5	0.3	1.6	24.2	1.0	26.3	1,170	1,500	770
8T	0.75	7	1.2	0.6	1.0	20.9	0.3	1.7	25.8	1.1	26.3	1,170	1,500	850
10T	0.75	7	1.2	0.6	1.0	23.8	0.3	1.8	28.9	1.2	26.3	1,170	1,500	1,010
12T	0.75	7	1.2	0.6	1.0	25.2	0.3	1.9	30.5	1.2	26.3	1,170	1,500	1,140
14T	0.75	7	1.2	0.6	1.0	26.4	0.3	1.9	31.7	1.3	26.3	1,170	1,500	1,250
16T	0.75	7	1.2	0.6	1.2	28.5	0.3	2.0	34.0	1.3	26.3	1,170	1,500	1,390
19T	0.75	7	1.2	0.6	1.2	30.8	0.4	2.1	36.9	1.4	26.3	1,170	1,500	1,680
24T	0.75	7	1.2	0.6	1.2	34.2	0.4	2.2	40.5	1.5	26.3	1,170	1,500	2,090
32T	0.75	7	1.2	0.6	1.4	39.8	0.4	2.5	46.7	1.7	26.3	1,170	1,500	2,620
1T	1.0	7	1.4	0.6	1.0	8.9	0.3	1.2	12.8	0.7	19.3	1,050	1,500	270
2T	1.0	7	1.4	0.6	1.0	14.0	0.3	1.4	18.3	0.8	19.3	1,050	1,500	440
3T	1.0	7	1.4	0.6	1.0	14.9	0.3	1.4	19.2	0.9	19.3	1,050	1,500	510
4T	1.0	7	1.4	0.6	1.0	16.5	0.3	1.5	21.0	0.9	19.3	1,050	1,500	610
5T	1.0	7	1.4	0.6	1.0	18.4	0.3	1.6	23.1	1.0	19.3	1,050	1,500	700
6T	1.0	7	1.4	0.6	1.0	20.9	0.3	1.7	25.8	1.1	19.3	1,050	1,500	820
7T	1.0	7	1.4	0.6	1.0	20.9	0.3	1.7	25.8	1.1	19.3	1,050	1,500	870
8T	1.0	7	1.4	0.6	1.0	22.4	0.3	1.7	27.3	1.1	19.3	1,050	1,500	970
10T	1.0	7	1.4	0.6	1.0	25.5	0.3	1.9	30.8	1.2	19.3	1,050	1,500	1,160
12T	1.0	7	1.4	0.6	1.2	27.5	0.3	2.0	33.0	1.3	19.3	1,050	1,500	1,300
14T	1.0	7	1.4	0.6	1.2	28.7	0.3	2.0	34.2	1.3	19.3	1,050	1,500	1,450
16T	1.0	7	1.4	0.6	1.2	30.6	0.4	2.1	36.7	1.4	19.3	1,050	1,500	1,710
19T	1.0	7	1.4	0.6	1.2	33.1	0.4	2.2	39.4	1.5	19.3	1,050	1,500	2,030
24T	1.0	7	1.4	0.6	1.2	36.8	0.4	2.3	43.3	1.6	19.3	1,050	1,500	2,420
32T	1.0	7	1.4	0.6	1.4	42.8	0.4	2.6	49.9	1.8	19.3	1,050	1,500	3,130
1T	1.5	7	1.7	0.7	1.0	9.9	0.3	1.2	13.8	0.7	12.9	1,020	1,500	310
2T	1.5	7	1.7	0.7	1.0	15.8	0.3	1.5	20.3	0.9	12.9	1,020	1,500	530
3T	1.5	7	1.7	0.7	1.0	16.8	0.3	1.5	21.3	0.9	12.9	1,020	1,500	640
4T	1.5	7	1.7	0.7	1.0	18.6	0.3	1.6	23.3	1.0	12.9	1,020	1,500	760
5T	1.5	7	1.7	0.7	1.0	20.8	0.3	1.7	25.7	1.1	12.9	1,020	1,500	880
6T	1.5	7	1.7	0.7	1.0	23.6	0.3	1.8	28.7	1.2	12.9	1,020	1,500	1,030
7T	1.5	7	1.7	0.7	1.0	23.6	0.3	1.8	28.7	1.2	12.9	1,020	1,500	1,100
8T	1.5	7	1.7	0.7	1.0	25.4	0.3	1.9	30.7	1.2	12.9	1,020	1,500	1,230
10T	1.5	7	1.7	0.7	1.2	29.4	0.3	2.0	34.9	1.3	12.9	1,020	1,500	1,590
12T	1.5	7	1.7	0.7	1.2	31.2	0.4	2.1	37.3	1.4	12.9	1,020	1,500	1,780
14T	1.5	7	1.7	0.7	1.2	32.6	0.4	2.2	38.9	1.5	12.9	1,020	1,500	2,070
16T	1.5	7	1.7	0.7	1.2	34.8	0.4	2.3	41.3	1.5	12.9	1,020	1,500	2,300
19T	1.5	7	1.7	0.7	1.4	38.1	0.4	2.4	44.8	1.6	12.9	1,020	1,500	2,620
24T	1.5	7	1.7	0.7	1.4	42.3	0.4	2.6	49.4	1.8	12.9	1,020	1,500	3,230
32T	1.5	7	1.7	0.7	1.6	49.1	0.4	2.8	56.6	2.0	12.9	1,020	1,500	4,070
1T	2.5	7	2.2	0.7	1.0	10.8	0.3	1.3	14.9	0.7	8.02	850	1,500	370
2T	2.5	7	2.2	0.7	1.0	17.4	0.3	1.5	21.9	1.0	8.02	850	1,500	640
3T	2.5	7	2.2	0.7	1.0	18.6	0.3	1.6	23.3	1.0	8.02	850	1,500	770
4T	2.5	7	2.2	0.7	1.0	20.6	0.3	1.7	25.5	1.1	8.02	850	1,500	930
5T	2.5	7	2.2	0.7	1.0	23.0	0.3	1.8	28.1	1.1	8.02	850	1,500	1,100
6T	2.5	7	2.2	0.7	1.0	26.1	0.3	1.9	31.4	1.2	8.02	850	1,500	1,290
7T	2.5	7	2.2	0.7	1.0	26.1	0.3	1.9	31.4	1.2	8.02	850	1,500	1,390
8T	2.5	7	2.2	0.7	1.2	28.5	0.3	2.0	34.0	1.3	8.02	850	1,500	1,560
10T	2.5	7	2.2	0.7	1.2	32.5	0.4	2.2	38.8	1.5	8.02	850	1,500	2,080
12T	2.5	7	2.2	0.7	1.2	34.5	0.4	2.2	40.8	1.5	8.02	850	1,500	2,360
14T	2.5	7	2.2	0.7	1.2	36.1	0.4	2.3	42.6	1.6	8.02	850	1,500	2,620
16T	2.5	7	2.2	0.7	1.4	38.9	0.4	2.4	45.6	1.7	8.02	850	1,500	2,920
19T	2.5	7	2.2	0.7	1.4	42.1	0.4	2.6	49.2	1.8	8.02	850	1,500	3,430
24T	2.5	7	2.2	0.7	1.4	46.9	0.4	2.7	54.2	1.9	8.02	850	1,500	4,130
32T	2.5	7	2.2	0.7	1.6	54.5	0.4	3.0	62.4	2.2	8.02	850	1,500	5,400

HV Power Cable

LV Power &amp; Lighting Cable

Instrumentation &amp; Communication Cable

Earthing &amp; Bonding wire

VFD Cable

Technical Information

# Instrumentation & Communication Cable



## Cable Designation (S3, S3/S7)

250V BFOU(i), BFCU(i), BFBU(i)

## Application Standard

- Design guide	: NEK-606 & IEC 60092-376
- Flame retardant	: IEC 60332-1 & IEC 60332-3 Category A
- Fire resistance	: IEC 60331-21(90min) IEC 60331-1, -2(120min)
- Halogen content	: IEC 60754-1, 0.5% ↓
- Cold bend / impact	: CSA 22.2 No.03 (-40°C/-35°C)
- Mud resistant	: NEK-606 (Mud type only)
- Smoke light transmittance	: IEC 61034, 60% ↑
- Sunlight (UV) resistant	: UL 1581

## Construction

Sectional view	Classification	Code	Construction detail
	Conductor		- Stranded tinned annealed copper wires as per IEC 60228, Class 2
	Fire resisting layer	<b>B</b>	- Mica/glass tape
	Insulation		- EPR as per IEC 60092-360
	Twisting		- Two/Three Insulated cores shall be twisted together to form a pair/Triad
	Individual screen	<b>(i)</b>	- CU/PS or AL/PS tape + Tinned copper drain wire
	Cabling		- Twisted pairs / triads shall be cabled - Flame retardant & non-hygroscopic fillers may be used - Suitable tape(s) may be applied on the cabled core - A Filler may be applied to obtain a circular Cable
	Inner covering	<b>F</b>	- Flame retardant halogen free thermoset compound
	Armor	<b>O</b> <b>(B,C)</b>	- Braid of tinned copper wire (O) / bronze wire (B) /galvanized steel wire (C) - A suitable separator tape(s) may be applied under/over the armor
	Sheath	<b>U</b>	- SHF2 or SHF Mud as per IEC 60092-360 - Outer sheath color : Grey (Non-IS Type) or Blue (IS Type)
	Core identification		- Each Pair / Triad : Core color ① Pair : Black, Light blue    ② Triad : Black, Light blue, Brown - Multi Pairs / Triads : Number printing on the insulation or numbered tape

**Note.** Flexible cable (Class5 Conductor) can be supplied

## 250V BFOU(i), 250V BFCU(i), 250V BFBU(i)

No. of Pairs	Conductor			Thickness of Insulation	Thickness of inner covering	Nominal dia. inner covering	Dia. of wire for armour	Thickness of sheath	Overall diameter		Conductor Resistance (at 20°C) (Max.)	Insulation Resistance (at 20°C) (Min.)	Test Voltage	Cable Weight Approx.
	Nominal Area	Max. No. of wires	Max. overall dia.						Nominal	Tolerance				
No.	mm²	EA	mm	mm	mm	mm	mm	mm	mm	±mm	Ω/km	MΩ-km	V/5min.	kg/km
1P	0.75	7	1.2	0.6	1.0	8.0	0.3	1.2	11.9	0.7	26.3	1,170	1,500	220
2P	0.75	7	1.2	0.6	1.0	12.9	0.3	1.4	17.2	0.8	26.3	1,170	1,500	380
3P	0.75	7	1.2	0.6	1.0	13.7	0.3	1.4	18.0	0.8	26.3	1,170	1,500	440
4P	0.75	7	1.2	0.6	1.0	15.0	0.3	1.5	19.5	0.9	26.3	1,170	1,500	510
5P	0.75	7	1.2	0.6	1.0	16.8	0.3	1.5	21.3	0.9	26.3	1,170	1,500	600
6P	0.75	7	1.2	0.6	1.0	17.5	0.3	1.6	22.2	1.0	26.3	1,170	1,500	650
7P	0.75	7	1.2	0.6	1.0	17.5	0.3	1.6	22.2	1.0	26.3	1,170	1,500	690
8P	0.75	7	1.2	0.6	1.0	19.3	0.3	1.6	24.0	1.0	26.3	1,170	1,500	780
10P	0.75	7	1.2	0.6	1.0	22.0	0.3	1.7	26.9	1.1	26.3	1,170	1,500	930
12P	0.75	7	1.2	0.6	1.0	22.9	0.3	1.8	28.0	1.1	26.3	1,170	1,500	1,030
14P	0.75	7	1.2	0.6	1.0	24.2	0.3	1.8	29.3	1.2	26.3	1,170	1,500	1,130
16P	0.75	7	1.2	0.6	1.0	26.0	0.3	1.9	31.3	1.2	26.3	1,170	1,500	1,270
19P	0.75	7	1.2	0.6	1.0	26.6	0.3	1.9	31.9	1.3	26.3	1,170	1,500	1,400
24P	0.75	7	1.2	0.6	1.2	31.6	0.4	2.1	37.7	1.4	26.3	1,170	1,500	1,820
32P	0.75	7	1.2	0.6	1.2	34.3	0.4	2.2	40.6	1.5	26.3	1,170	1,500	2,310
1P	1.0	7	1.4	0.6	1.0	8.4	0.3	1.2	12.3	0.7	19.3	1,050	1,500	240
2P	1.0	7	1.4	0.6	1.0	13.6	0.3	1.4	17.9	0.8	19.3	1,050	1,500	420
3P	1.0	7	1.4	0.6	1.0	14.4	0.3	1.4	18.7	0.9	19.3	1,050	1,500	490
4P	1.0	7	1.4	0.6	1.0	15.9	0.3	1.5	20.4	0.9	19.3	1,050	1,500	570
5P	1.0	7	1.4	0.6	1.0	17.8	0.3	1.6	22.5	1.0	19.3	1,050	1,500	670
6P	1.0	7	1.4	0.6	1.0	18.5	0.3	1.6	23.2	1.0	19.3	1,050	1,500	730
7P	1.0	7	1.4	0.6	1.0	18.5	0.3	1.6	23.2	1.0	19.3	1,050	1,500	780
8P	1.0	7	1.4	0.6	1.0	20.4	0.3	1.7	25.3	1.1	19.3	1,050	1,500	880
10P	1.0	7	1.4	0.6	1.0	23.3	0.3	1.8	28.4	1.2	19.3	1,050	1,500	1,060
12P	1.0	7	1.4	0.6	1.0	24.3	0.3	1.8	29.4	1.2	19.3	1,050	1,500	1,170
14P	1.0	7	1.4	0.6	1.0	25.6	0.3	1.9	30.9	1.2	19.3	1,050	1,500	1,310
16P	1.0	7	1.4	0.6	1.2	28.0	0.3	2.0	33.5	1.3	19.3	1,050	1,500	1,470
19P	1.0	7	1.4	0.6	1.2	28.6	0.3	2.0	34.1	1.3	19.3	1,050	1,500	1,630
24P	1.0	7	1.4	0.6	1.2	33.5	0.4	2.2	39.8	1.5	19.3	1,050	1,500	2,200
32P	1.0	7	1.4	0.6	1.2	36.4	0.4	2.3	42.9	1.6	19.3	1,050	1,500	2,690
1P	1.5	7	1.7	0.7	1.0	9.3	0.3	1.2	13.2	0.7	12.9	1,020	1,500	280
2P	1.5	7	1.7	0.7	1.0	15.2	0.3	1.5	19.7	0.9	12.9	1,020	1,500	500
3P	1.5	7	1.7	0.7	1.0	16.1	0.3	1.5	20.6	0.9	12.9	1,020	1,500	590
4P	1.5	7	1.7	0.7	1.0	17.7	0.3	1.6	22.4	1.0	12.9	1,020	1,500	690
5P	1.5	7	1.7	0.7	1.0	20.0	0.3	1.7	24.9	1.0	12.9	1,020	1,500	810
6P	1.5	7	1.7	0.7	1.0	20.7	0.3	1.7	25.6	1.1	12.9	1,020	1,500	890
7P	1.5	7	1.7	0.7	1.0	20.7	0.3	1.7	25.6	1.1	12.9	1,020	1,500	950
8P	1.5	7	1.7	0.7	1.0	22.9	0.3	1.8	28.0	1.1	12.9	1,020	1,500	1,080
10P	1.5	7	1.7	0.7	1.0	26.3	0.3	1.9	31.6	1.2	12.9	1,020	1,500	1,300
12P	1.5	7	1.7	0.7	1.2	27.8	0.3	2.0	33.3	1.3	12.9	1,020	1,500	1,470
14P	1.5	7	1.7	0.7	1.2	29.2	0.3	2.0	34.7	1.3	12.9	1,020	1,500	1,630
16P	1.5	7	1.7	0.7	1.2	31.5	0.4	2.1	37.6	1.4	12.9	1,020	1,500	1,920
19P	1.5	7	1.7	0.7	1.2	32.2	0.4	2.2	38.5	1.5	12.9	1,020	1,500	2,230
24P	1.5	7	1.7	0.7	1.4	38.2	0.4	2.4	44.9	1.6	12.9	1,020	1,500	2,750
32P	1.5	7	1.7	0.7	1.4	41.5	0.4	2.5	48.4	1.8	12.9	1,020	1,500	3,440
1P	2.5	7	2.2	0.7	1.0	10.2	0.3	1.3	14.3	0.7	8.02	850	1,500	320
2P	2.5	7	2.2	0.7	1.0	16.7	0.3	1.5	21.2	0.9	8.02	850	1,500	590
3P	2.5	7	2.2	0.7	1.0	17.8	0.3	1.6	22.5	1.0	8.02	850	1,500	700
4P	2.5	7	2.2	0.7	1.0	19.6	0.3	1.6	24.3	1.0	8.02	850	1,500	840
5P	2.5	7	2.2	0.7	1.0	22.1	0.3	1.7	27.0	1.1	8.02	850	1,500	990
6P	2.5	7	2.2	0.7	1.0	23.0	0.3	1.8	28.1	1.1	8.02	850	1,500	1,100
7P	2.5	7	2.2	0.7	1.0	23.0	0.3	1.8	28.1	1.1	8.02	850	1,500	1,180
8P	2.5	7	2.2	0.7	1.0	25.4	0.3	1.9	30.7	1.2	8.02	850	1,500	1,340
10P	2.5	7	2.2	0.7	1.2	29.6	0.3	2.0	35.1	1.4	8.02	850	1,500	1,720
12P	2.5	7	2.2	0.7	1.2	30.8	0.4	2.1	36.9	1.4	8.02	850	1,500	1,930
14P	2.5	7	2.2	0.7	1.2	32.5	0.4	2.2	38.8	1.5	8.02	850	1,500	2,250
16P	2.5	7	2.2	0.7	1.2	35.0	0.4	2.3	41.5	1.5	8.02	850	1,500	2,520
19P	2.5	7	2.2	0.7	1.2	35.8	0.4	2.3	42.3	1.6	8.02	850	1,500	2,800
24P	2.5	7	2.2	0.7	1.4	42.4	0.4	2.6	49.5	1.8	8.02	850	1,500	3,550
32P	2.5	7	2.2	0.7	1.4	46.2	0.4	2.7	53.5	1.9	8.02	850	1,500	4,390

HV Power Cable

LV Power &amp; Lighting Cable

Instrumentation &amp; Communication Cable

Earthing &amp; Bonding wire

VFD Cable

Technical Information

# Instrumentation & Communication Cable

## 250V BFOU(i), 250V BFCU(i), 250V BFBU(i)

No. of Triads	Conductor			Thickness of Insulation	Thickness of inner covering	Nominal dia. inner covering	Dia. of wire for armour	Thickness of sheath	Overall diameter		Conductor Resistance (at 20°C) (Max.)	Insulation Resistance (at 20°C) (Min.)	Test Voltage	Cable Weight Approx.
	Nominal Area	Max. No. of wires	Max. overall dia.						Nominal	Tolerance				
No.	mm <sup>2</sup>	EA	mm	mm	mm	mm	mm	mm	mm	±mm	Ω/km	MΩ-km	V/5min.	kg/km
1T	0.75	7	1.2	0.6	1.0	8.4	0.3	1.2	12.3	0.7	26.3	1,170	1,500	240
2T	0.75	7	1.2	0.6	1.0	13.7	0.3	1.4	18.0	0.8	26.3	1,170	1,500	430
3T	0.75	7	1.2	0.6	1.0	14.7	0.3	1.4	19.0	0.9	26.3	1,170	1,500	510
4T	0.75	7	1.2	0.6	1.0	16.2	0.3	1.5	20.7	0.9	26.3	1,170	1,500	590
5T	0.75	7	1.2	0.6	1.0	18.0	0.3	1.6	22.7	1.0	26.3	1,170	1,500	690
6T	0.75	7	1.2	0.6	1.0	20.4	0.3	1.7	25.3	1.1	26.3	1,170	1,500	810
7T	0.75	7	1.2	0.6	1.0	20.4	0.3	1.7	25.3	1.1	26.3	1,170	1,500	870
8T	0.75	7	1.2	0.6	1.0	22.0	0.3	1.7	26.9	1.1	26.3	1,170	1,500	970
10T	0.75	7	1.2	0.6	1.0	25.0	0.3	1.9	30.3	1.2	26.3	1,170	1,500	1,160
12T	0.75	7	1.2	0.6	1.0	26.5	0.3	1.9	31.8	1.3	26.3	1,170	1,500	1,300
14T	0.75	7	1.2	0.6	1.2	28.1	0.3	2.0	33.6	1.3	26.3	1,170	1,500	1,450
16T	0.75	7	1.2	0.6	1.2	30.0	0.3	2.1	35.7	1.4	26.3	1,170	1,500	1,600
19T	0.75	7	1.2	0.6	1.2	32.4	0.4	2.2	38.7	1.5	26.3	1,170	1,500	1,930
24T	0.75	7	1.2	0.6	1.2	36.0	0.4	2.3	42.5	1.6	26.3	1,170	1,500	2,420
32T	0.75	7	1.2	0.6	1.4	41.9	0.4	2.5	48.8	1.8	26.3	1,170	1,500	3,110
1T	1.0	7	1.4	0.6	1.0	8.9	0.3	1.2	12.8	0.7	19.3	1,050	1,500	270
2T	1.0	7	1.4	0.6	1.0	14.5	0.3	1.4	18.8	0.9	19.3	1,050	1,500	480
3T	1.0	7	1.4	0.6	1.0	15.5	0.3	1.5	20.0	0.9	19.3	1,050	1,500	570
4T	1.0	7	1.4	0.6	1.0	17.1	0.3	1.5	21.6	0.9	19.3	1,050	1,500	680
5T	1.0	7	1.4	0.6	1.0	19.1	0.3	1.6	23.8	1.0	19.3	1,050	1,500	800
6T	1.0	7	1.4	0.6	1.0	21.7	0.3	1.7	26.6	1.1	19.3	1,050	1,500	940
7T	1.0	7	1.4	0.6	1.0	21.7	0.3	1.7	26.6	1.1	19.3	1,050	1,500	1,000
8T	1.0	7	1.4	0.6	1.0	23.3	0.3	1.8	28.4	1.2	19.3	1,050	1,500	1,110
10T	1.0	7	1.4	0.6	1.0	26.6	0.3	1.9	31.9	1.3	19.3	1,050	1,500	1,330
12T	1.0	7	1.4	0.6	1.2	28.6	0.3	2.0	34.1	1.3	19.3	1,050	1,500	1,510
14T	1.0	7	1.4	0.6	1.2	29.9	0.3	2.0	35.4	1.4	19.3	1,050	1,500	1,780
16T	1.0	7	1.4	0.6	1.2	31.8	0.4	2.1	37.9	1.4	19.3	1,050	1,500	1,960
19T	1.0	7	1.4	0.6	1.2	34.5	0.4	2.2	40.8	1.5	19.3	1,050	1,500	2,350
24T	1.0	7	1.4	0.6	1.4	38.7	0.4	2.4	45.4	1.7	19.3	1,050	1,500	2,820
32T	1.0	7	1.4	0.6	1.4	44.6	0.4	2.7	51.9	1.9	19.3	1,050	1,500	3,630
1T	1.5	7	1.7	0.7	1.0	9.9	0.3	1.2	13.8	0.7	12.9	1,020	1,500	310
2T	1.5	7	1.7	0.7	1.0	16.2	0.3	1.5	20.7	0.9	12.9	1,020	1,500	580
3T	1.5	7	1.7	0.7	1.0	17.3	0.3	1.5	21.8	1.0	12.9	1,020	1,500	690
4T	1.5	7	1.7	0.7	1.0	19.2	0.3	1.6	23.9	1.0	12.9	1,020	1,500	830
5T	1.5	7	1.7	0.7	1.0	21.4	0.3	1.7	26.3	1.1	12.9	1,020	1,500	990
6T	1.5	7	1.7	0.7	1.0	24.3	0.3	1.8	29.4	1.2	12.9	1,020	1,500	1,160
7T	1.5	7	1.7	0.7	1.0	24.3	0.3	1.8	29.4	1.2	12.9	1,020	1,500	1,250
8T	1.5	7	1.7	0.7	1.0	26.2	0.3	1.9	31.5	1.2	12.9	1,020	1,500	1,380
10T	1.5	7	1.7	0.7	1.2	30.3	0.4	2.1	36.4	1.4	12.9	1,020	1,500	1,770
12T	1.5	7	1.7	0.7	1.2	32.1	0.4	2.2	38.4	1.5	12.9	1,020	1,500	2,090
14T	1.5	7	1.7	0.7	1.2	33.6	0.4	2.2	39.9	1.5	12.9	1,020	1,500	2,330
16T	1.5	7	1.7	0.7	1.2	35.8	0.4	2.3	42.3	1.6	12.9	1,020	1,500	2,580
19T	1.5	7	1.7	0.7	1.4	39.2	0.4	2.4	45.9	1.7	12.9	1,020	1,500	2,970
24T	1.5	7	1.7	0.7	1.4	43.6	0.4	2.6	50.7	1.8	12.9	1,020	1,500	3,640
32T	1.5	7	1.7	0.7	1.6	50.6	0.4	2.9	58.3	2.0	12.9	1,020	1,500	4,640
1T	2.5	7	2.2	0.7	1.0	10.8	0.3	1.3	14.9	0.7	8.02	850	1,500	370
2T	2.5	7	2.2	0.7	1.0	17.9	0.3	1.6	22.6	1.0	8.02	850	1,500	680
3T	2.5	7	2.2	0.7	1.0	19.1	0.3	1.6	23.8	1.0	8.02	850	1,500	850
4T	2.5	7	2.2	0.7	1.0	21.2	0.3	1.7	26.1	1.1	8.02	850	1,500	1,010
5T	2.5	7	2.2	0.7	1.0	23.7	0.3	1.8	28.8	1.2	8.02	850	1,500	1,200
6T	2.5	7	2.2	0.7	1.0	27.0	0.3	1.9	32.3	1.3	8.02	850	1,500	1,430
7T	2.5	7	2.2	0.7	1.0	27.0	0.3	1.9	32.3	1.3	8.02	850	1,500	1,560
8T	2.5	7	2.2	0.7	1.2	29.4	0.3	2.0	34.9	1.3	8.02	850	1,500	1,830
10T	2.5	7	2.2	0.7	1.2	33.6	0.4	2.2	39.9	1.5	8.02	850	1,500	2,290
12T	2.5	7	2.2	0.7	1.2	35.6	0.4	2.3	42.1	1.6	8.02	850	1,500	2,620
14T	2.5	7	2.2	0.7	1.2	37.3	0.4	2.4	44.0	1.6	8.02	850	1,500	2,930
16T	2.5	7	2.2	0.7	1.4	40.2	0.4	2.5	47.1	1.7	8.02	850	1,500	3,270
19T	2.5	7	2.2	0.7	1.4	43.5	0.4	2.6	50.6	1.8	8.02	850	1,500	3,830
24T	2.5	7	2.2	0.7	1.6	48.8	0.4	2.8	56.3	2.0	8.02	850	1,500	4,650
32T	2.5	7	2.2	0.7	1.6	56.3	0.4	3.1	64.4	2.2	8.02	850	1,500	6,080



## Cable Designation

250V BFOU(i&c), BFCU(i&c), BFBU(i&c)

## Application Standard

- Design guide	: NEK-606 & IEC 60092-376
- Flame retardant	: IEC 60332-1 & IEC 60332-3 Category A
- Fire resistance	: IEC 60331-21(90min) IEC 60331-1,-2(120min)
- Halogen content	: IEC 60754-1, 0.5% ↓
- Cold bend / impact	: CSA 22.2 No.03 (-40°C/-35°C)
- Mud resistant	: NEK-606 (Mud type only)
- Smoke light transmittance	: IEC 61034, 60% ↑
- Sunlight (UV) resistant	: UL 1581

## Construction

Sectional view	Classification	Code	Construction detail
	Conductor		- Stranded tinned annealed copper wires as per IEC 60228, Class 2
	Fire resisting layer	<b>B</b>	- Mica/glass tape
	Insulation		- EPR as per IEC 60092-360
	Twisting		- Two/Three Insulated cores shall be twisted together to form a pair/Triad
	Individual screen	<b>(i)</b>	- CU/PS or AL/PS tape + Tinned copper drain wire
	Cabling		- Twisted pairs / triads shall be cabled - Flame retardant & non-hygroscopic fillers may be used - Suitable tape(s) may be applied on the cabled core - A Filler may be applied to obtain a circular Cable
	Collective screen	<b>(c)</b>	- CU/PS or AL/PS tape + Tinned copper drain wire
	Inner covering	<b>F</b>	- Flame retardant halogen free thermoset compound
	Armor	<b>O</b> <b>(B,C)</b>	- Braid of tinned copper wire (O) / bronze wire (B) / galvanized steel wire (C) - A suitable separator tape(s) may be applied under / over the armor
	Sheath	<b>U</b>	- SHF2 or SHF Mud as per IEC 60092-360 - Outer sheath color : Grey (Non-IS Type) or Blue (IS Type)
Core identification			- Each Pair / Triad : Core color ① Pair : Black, Light blue    ② Triad : Black, Light blue, Brown - Multi Pairs / Triads : Number printing on the insulation or numbered tape

**Note.** Flexible cable (Class5 Conductor) can be supplied



# Instrumentation & Communication Cable

## 250V BFOU(i&c), 250V BFCU(i&c), 250V BFBU(i&c)

No. of Pairs	Conductor			Thickness of Insulation	Thickness of inner covering	Nominal dia. inner covering	Dia. of wire for armour	Thickness of sheath	Overall diameter		Conductor Resistance (at 20°C) (Max.)	Insulation Resistance (at 20°C) (Min.)	Test Voltage	Cable Weight Approx.
	Nominal Area	Max. No. of wires	Max. overall dia.						Nominal	Tolerance				
No.	mm <sup>2</sup>	EA	mm	mm	mm	mm	mm	mm	mm	±mm	Ω/km	MΩ-km	V/5min.	kg/km
1P	0.75	7	1.2	0.6	1.0	8.0	0.3	1.2	11.9	0.7	26.3	1,170	1,500	220
2P	0.75	7	1.2	0.6	1.0	12.9	0.3	1.4	17.2	0.8	26.3	1,170	1,500	380
3P	0.75	7	1.2	0.6	1.0	13.7	0.3	1.4	18.0	0.8	26.3	1,170	1,500	440
4P	0.75	7	1.2	0.6	1.0	15.0	0.3	1.5	19.5	0.9	26.3	1,170	1,500	510
5P	0.75	7	1.2	0.6	1.0	16.8	0.3	1.5	21.3	0.9	26.3	1,170	1,500	600
6P	0.75	7	1.2	0.6	1.0	17.5	0.3	1.6	22.2	1.0	26.3	1,170	1,500	650
7P	0.75	7	1.2	0.6	1.0	17.5	0.3	1.6	22.2	1.0	26.3	1,170	1,500	690
8P	0.75	7	1.2	0.6	1.0	19.3	0.3	1.6	24.0	1.0	26.3	1,170	1,500	780
10P	0.75	7	1.2	0.6	1.0	22.0	0.3	1.7	26.9	1.1	26.3	1,170	1,500	930
12P	0.75	7	1.2	0.6	1.0	22.9	0.3	1.8	28.0	1.1	26.3	1,170	1,500	1,030
14P	0.75	7	1.2	0.6	1.0	24.2	0.3	1.8	29.3	1.2	26.3	1,170	1,500	1,130
16P	0.75	7	1.2	0.6	1.0	26.0	0.3	1.9	31.3	1.2	26.3	1,170	1,500	1,270
19P	0.75	7	1.2	0.6	1.0	26.6	0.3	1.9	31.9	1.3	26.3	1,170	1,500	1,400
24P	0.75	7	1.2	0.6	1.2	31.6	0.4	2.1	37.7	1.4	26.3	1,170	1,500	1,820
32P	0.75	7	1.2	0.6	1.2	34.3	0.4	2.2	40.6	1.5	26.3	1,170	1,500	2,310
1P	1.0	7	1.4	0.6	1.0	8.4	0.3	1.2	12.3	0.7	19.3	1,050	1,500	240
2P	1.0	7	1.4	0.6	1.0	13.6	0.3	1.4	17.9	0.8	19.3	1,050	1,500	420
3P	1.0	7	1.4	0.6	1.0	14.4	0.3	1.4	18.7	0.9	19.3	1,050	1,500	490
4P	1.0	7	1.4	0.6	1.0	15.9	0.3	1.5	20.4	0.9	19.3	1,050	1,500	570
5P	1.0	7	1.4	0.6	1.0	17.8	0.3	1.6	22.5	1.0	19.3	1,050	1,500	670
6P	1.0	7	1.4	0.6	1.0	18.5	0.3	1.6	23.2	1.0	19.3	1,050	1,500	730
7P	1.0	7	1.4	0.6	1.0	18.5	0.3	1.6	23.2	1.0	19.3	1,050	1,500	780
8P	1.0	7	1.4	0.6	1.0	20.4	0.3	1.7	25.3	1.1	19.3	1,050	1,500	880
10P	1.0	7	1.4	0.6	1.0	23.3	0.3	1.8	28.4	1.2	19.3	1,050	1,500	1,060
12P	1.0	7	1.4	0.6	1.0	24.3	0.3	1.8	29.4	1.2	19.3	1,050	1,500	1,170
14P	1.0	7	1.4	0.6	1.0	25.6	0.3	1.9	30.9	1.2	19.3	1,050	1,500	1,310
16P	1.0	7	1.4	0.6	1.2	28.0	0.3	2.0	33.5	1.3	19.3	1,050	1,500	1,470
19P	1.0	7	1.4	0.6	1.2	28.6	0.3	2.0	34.1	1.3	19.3	1,050	1,500	1,630
24P	1.0	7	1.4	0.6	1.2	33.5	0.4	2.2	39.8	1.5	19.3	1,050	1,500	2,200
32P	1.0	7	1.4	0.6	1.2	36.4	0.4	2.3	42.9	1.6	19.3	1,050	1,500	2,690
1P	1.5	7	1.7	0.7	1.0	9.3	0.3	1.2	13.2	0.7	12.9	1,020	1,500	280
2P	1.5	7	1.7	0.7	1.0	15.2	0.3	1.5	19.7	0.9	12.9	1,020	1,500	500
3P	1.5	7	1.7	0.7	1.0	16.1	0.3	1.5	20.6	0.9	12.9	1,020	1,500	590
4P	1.5	7	1.7	0.7	1.0	17.7	0.3	1.6	22.4	1.0	12.9	1,020	1,500	690
5P	1.5	7	1.7	0.7	1.0	20.0	0.3	1.7	24.9	1.0	12.9	1,020	1,500	810
6P	1.5	7	1.7	0.7	1.0	20.7	0.3	1.7	25.6	1.1	12.9	1,020	1,500	890
7P	1.5	7	1.7	0.7	1.0	20.7	0.3	1.7	25.6	1.1	12.9	1,020	1,500	950
8P	1.5	7	1.7	0.7	1.0	22.9	0.3	1.8	28.0	1.1	12.9	1,020	1,500	1,080
10P	1.5	7	1.7	0.7	1.0	26.3	0.3	1.9	31.6	1.2	12.9	1,020	1,500	1,300
12P	1.5	7	1.7	0.7	1.2	27.8	0.3	2.0	33.3	1.3	12.9	1,020	1,500	1,470
14P	1.5	7	1.7	0.7	1.2	29.2	0.3	2.0	34.7	1.3	12.9	1,020	1,500	1,630
16P	1.5	7	1.7	0.7	1.2	31.5	0.4	2.1	37.6	1.4	12.9	1,020	1,500	1,920
19P	1.5	7	1.7	0.7	1.2	32.2	0.4	2.2	38.5	1.5	12.9	1,020	1,500	2,230
24P	1.5	7	1.7	0.7	1.4	38.2	0.4	2.4	44.9	1.6	12.9	1,020	1,500	2,750
32P	1.5	7	1.7	0.7	1.4	41.5	0.4	2.5	48.4	1.8	12.9	1,020	1,500	3,440
1P	2.5	7	2.2	0.7	1.0	10.2	0.3	1.3	14.3	0.7	8.02	850	1,500	320
2P	2.5	7	2.2	0.7	1.0	16.7	0.3	1.5	21.2	0.9	8.02	850	1,500	590
3P	2.5	7	2.2	0.7	1.0	17.8	0.3	1.6	22.5	1.0	8.02	850	1,500	700
4P	2.5	7	2.2	0.7	1.0	19.6	0.3	1.6	24.3	1.0	8.02	850	1,500	840
5P	2.5	7	2.2	0.7	1.0	22.1	0.3	1.7	27.0	1.1	8.02	850	1,500	990
6P	2.5	7	2.2	0.7	1.0	23.0	0.3	1.8	28.1	1.1	8.02	850	1,500	1,100
7P	2.5	7	2.2	0.7	1.0	23.0	0.3	1.8	28.1	1.1	8.02	850	1,500	1,180
8P	2.5	7	2.2	0.7	1.0	25.4	0.3	1.9	30.7	1.2	8.02	850	1,500	1,340
10P	2.5	7	2.2	0.7	1.2	29.6	0.3	2.0	35.1	1.4	8.02	850	1,500	1,720
12P	2.5	7	2.2	0.7	1.2	30.8	0.4	2.1	36.9	1.4	8.02	850	1,500	1,930
14P	2.5	7	2.2	0.7	1.2	32.5	0.4	2.2	38.8	1.5	8.02	850	1,500	2,250
16P	2.5	7	2.2	0.7	1.2	35.0	0.4	2.3	41.5	1.5	8.02	850	1,500	2,520
19P	2.5	7	2.2	0.7	1.2	35.8	0.4	2.3	42.3	1.6	8.02	850	1,500	2,800
24P	2.5	7	2.2	0.7	1.4	42.4	0.4	2.6	49.5	1.8	8.02	850	1,500	3,550
32P	2.5	7	2.2	0.7	1.4	46.2	0.4	2.7	53.5	1.9	8.02	850	1,500	4,390

## 250V BFOU(i&amp;c), 250V BFCU(i&amp;c), 250V BFBU(i&amp;c)

No. of Pairs	Conductor			Thickness of Insulation	Thickness of inner covering	Nominal dia. inner covering	Dia. of wire for armour	Thickness of sheath	Overall diameter		Conductor Resistance (at 20°C) (Max.)	Insulation Resistance (at 20°C) (Min.)	Test Voltage	Cable Weight Approx.
	Nominal Area	Max. No. of wires	Max. overall dia.						Nominal	Tolerance				
No.	mm <sup>2</sup>	EA	mm	mm	mm	mm	mm	mm	mm	±mm	Ω/km	MΩ-km	V/5min.	kg/km
1T	0.75	7	1.2	0.6	1.0	8.4	0.3	1.2	12.3	0.7	26.3	1,170	1,500	240
2T	0.75	7	1.2	0.6	1.0	13.7	0.3	1.4	18.0	0.8	26.3	1,170	1,500	430
3T	0.75	7	1.2	0.6	1.0	14.7	0.3	1.4	19.0	0.9	26.3	1,170	1,500	510
4T	0.75	7	1.2	0.6	1.0	16.2	0.3	1.5	20.7	0.9	26.3	1,170	1,500	590
5T	0.75	7	1.2	0.6	1.0	18.0	0.3	1.6	22.7	1.0	26.3	1,170	1,500	690
6T	0.75	7	1.2	0.6	1.0	20.4	0.3	1.7	25.3	1.1	26.3	1,170	1,500	810
7T	0.75	7	1.2	0.6	1.0	20.4	0.3	1.7	25.3	1.1	26.3	1,170	1,500	870
8T	0.75	7	1.2	0.6	1.0	22.0	0.3	1.7	26.9	1.1	26.3	1,170	1,500	970
10T	0.75	7	1.2	0.6	1.0	25.0	0.3	1.9	30.3	1.2	26.3	1,170	1,500	1,160
12T	0.75	7	1.2	0.6	1.0	26.5	0.3	1.9	31.8	1.3	26.3	1,170	1,500	1,300
14T	0.75	7	1.2	0.6	1.2	28.1	0.3	2.0	33.6	1.3	26.3	1,170	1,500	1,450
16T	0.75	7	1.2	0.6	1.2	30.0	0.3	2.1	35.7	1.4	26.3	1,170	1,500	1,600
19T	0.75	7	1.2	0.6	1.2	32.4	0.4	2.2	38.7	1.5	26.3	1,170	1,500	1,930
24T	0.75	7	1.2	0.6	1.2	36.0	0.4	2.3	42.5	1.6	26.3	1,170	1,500	2,420
32T	0.75	7	1.2	0.6	1.4	41.9	0.4	2.5	48.8	1.8	26.3	1,170	1,500	3,110
1T	1.0	7	1.4	0.6	1.0	8.9	0.3	1.2	12.8	0.7	19.3	1,050	1,500	270
2T	1.0	7	1.4	0.6	1.0	14.5	0.3	1.4	18.8	0.9	19.3	1,050	1,500	480
3T	1.0	7	1.4	0.6	1.0	15.5	0.3	1.5	20.0	0.9	19.3	1,050	1,500	570
4T	1.0	7	1.4	0.6	1.0	17.1	0.3	1.5	21.6	0.9	19.3	1,050	1,500	680
5T	1.0	7	1.4	0.6	1.0	19.1	0.3	1.6	23.8	1.0	19.3	1,050	1,500	800
6T	1.0	7	1.4	0.6	1.0	21.7	0.3	1.7	26.6	1.1	19.3	1,050	1,500	940
7T	1.0	7	1.4	0.6	1.0	21.7	0.3	1.7	26.6	1.1	19.3	1,050	1,500	1,000
8T	1.0	7	1.4	0.6	1.0	23.3	0.3	1.8	28.4	1.2	19.3	1,050	1,500	1,110
10T	1.0	7	1.4	0.6	1.0	26.6	0.3	1.9	31.9	1.3	19.3	1,050	1,500	1,330
12T	1.0	7	1.4	0.6	1.2	28.6	0.3	2.0	34.1	1.3	19.3	1,050	1,500	1,510
14T	1.0	7	1.4	0.6	1.2	29.9	0.3	2.0	35.4	1.4	19.3	1,050	1,500	1,780
16T	1.0	7	1.4	0.6	1.2	31.8	0.4	2.1	37.9	1.4	19.3	1,050	1,500	1,960
19T	1.0	7	1.4	0.6	1.2	34.5	0.4	2.2	40.8	1.5	19.3	1,050	1,500	2,350
24T	1.0	7	1.4	0.6	1.4	38.7	0.4	2.4	45.4	1.7	19.3	1,050	1,500	2,820
32T	1.0	7	1.4	0.6	1.4	44.6	0.4	2.7	51.9	1.9	19.3	1,050	1,500	3,630
1T	1.5	7	1.7	0.7	1.0	9.9	0.3	1.2	13.8	0.7	12.9	1,020	1,500	310
2T	1.5	7	1.7	0.7	1.0	16.2	0.3	1.5	20.7	0.9	12.9	1,020	1,500	580
3T	1.5	7	1.7	0.7	1.0	17.3	0.3	1.5	21.8	1.0	12.9	1,020	1,500	690
4T	1.5	7	1.7	0.7	1.0	19.2	0.3	1.6	23.9	1.0	12.9	1,020	1,500	830
5T	1.5	7	1.7	0.7	1.0	21.4	0.3	1.7	26.3	1.1	12.9	1,020	1,500	990
6T	1.5	7	1.7	0.7	1.0	24.3	0.3	1.8	29.4	1.2	12.9	1,020	1,500	1,160
7T	1.5	7	1.7	0.7	1.0	24.3	0.3	1.8	29.4	1.2	12.9	1,020	1,500	1,250
8T	1.5	7	1.7	0.7	1.0	26.2	0.3	1.9	31.5	1.2	12.9	1,020	1,500	1,380
10T	1.5	7	1.7	0.7	1.2	30.3	0.4	2.1	36.4	1.4	12.9	1,020	1,500	1,770
12T	1.5	7	1.7	0.7	1.2	32.1	0.4	2.2	38.4	1.5	12.9	1,020	1,500	2,090
14T	1.5	7	1.7	0.7	1.2	33.6	0.4	2.2	39.9	1.5	12.9	1,020	1,500	2,330
16T	1.5	7	1.7	0.7	1.2	35.8	0.4	2.3	42.3	1.6	12.9	1,020	1,500	2,580
19T	1.5	7	1.7	0.7	1.4	39.2	0.4	2.4	45.9	1.7	12.9	1,020	1,500	2,970
24T	1.5	7	1.7	0.7	1.4	43.6	0.4	2.6	50.7	1.8	12.9	1,020	1,500	3,640
32T	1.5	7	1.7	0.7	1.6	50.6	0.4	2.9	58.3	2.0	12.9	1,020	1,500	4,640
1T	2.5	7	2.2	0.7	1.0	10.8	0.3	1.3	14.9	0.7	8.02	850	1,500	370
2T	2.5	7	2.2	0.7	1.0	17.9	0.3	1.6	22.6	1.0	8.02	850	1,500	680
3T	2.5	7	2.2	0.7	1.0	19.1	0.3	1.6	23.8	1.0	8.02	850	1,500	850
4T	2.5	7	2.2	0.7	1.0	21.2	0.3	1.7	26.1	1.1	8.02	850	1,500	1,010
5T	2.5	7	2.2	0.7	1.0	23.7	0.3	1.8	28.8	1.2	8.02	850	1,500	1,200
6T	2.5	7	2.2	0.7	1.0	27.0	0.3	1.9	32.3	1.3	8.02	850	1,500	1,430
7T	2.5	7	2.2	0.7	1.0	27.0	0.3	1.9	32.3	1.3	8.02	850	1,500	1,560
8T	2.5	7	2.2	0.7	1.2	29.4	0.3	2.0	34.9	1.3	8.02	850	1,500	1,830
10T	2.5	7	2.2	0.7	1.2	33.6	0.4	2.2	39.9	1.5	8.02	850	1,500	2,290
12T	2.5	7	2.2	0.7	1.2	35.6	0.4	2.3	42.1	1.6	8.02	850	1,500	2,620
14T	2.5	7	2.2	0.7	1.2	37.3	0.4	2.4	44.0	1.6	8.02	850	1,500	2,930
16T	2.5	7	2.2	0.7	1.4	40.2	0.4	2.5	47.1	1.7	8.02	850	1,500	3,270
19T	2.5	7	2.2	0.7	1.4	43.5	0.4	2.6	50.6	1.8	8.02	850	1,500	3,830
24T	2.5	7	2.2	0.7	1.6	48.8	0.4	2.8	56.3	2.0	8.02	850	1,500	4,650
32T	2.5	7	2.2	0.7	1.6	56.3	0.4	3.1	64.4	2.2	8.02	850	1,500	6,080

HV Power Cable

LV Power &amp; Lighting Cable

Instrumentation &amp; Communication Cable

Earthing &amp; Bonding wire

VFD Cable

Technical Information



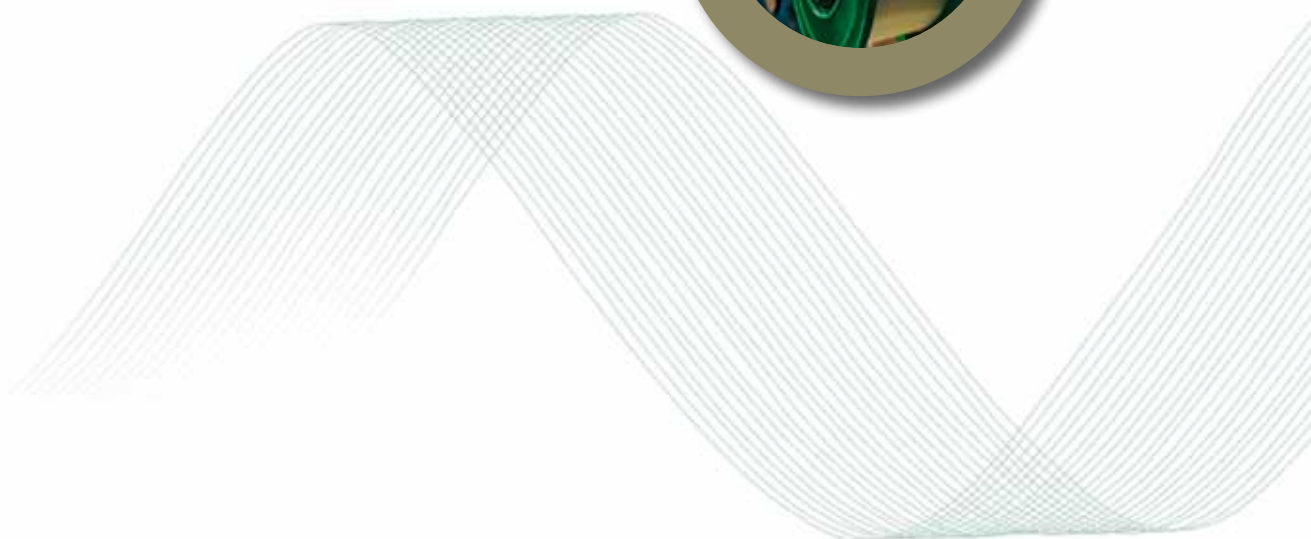
# Earthing & Bonding<sub>wire</sub>



0.6/1kV UX, FX - UX

0.6/1kV RX

69 ~ 70



# Earthing & Bonding wire

O-Route®

NEK-606, IEC 60092-350, 353, 354, 376



## Cable Designation (P15)

0.6/1kV UX, FX - UX, RX

## Application Standard

- Design guide : NEK-606 & IEC 60092-353
- Flame retardant : IEC 60332-1 & IEC 60332-3 Category A
- Halogen content : IEC 60754-1, 0.5% ↓
- Cold bend / impact : CSA 22.2 No.03 (-40°C/-35°C)
- Mud resistant : NEK-606 (Mud type only)
- Smoke light transmittance : IEC 61034, 60% ↑
- Sunlight (UV) resistant : UL 1581

HV Power Cable

LV Power &amp; Lighting Cable

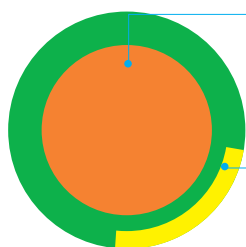
Instrumentation &amp; Communication Cable

Earthing &amp; Bonding wire

VFD Cable

Technical Information

## Construction



Sectional view	Classification	Code	Construction detail
	Conductor		Stranded tinned annealed copper wires as per IEC 60228, Class 2
		<b>RX</b>	EPR as per IEC 60092-360
		<b>UX</b>	SHF2 or SHF Mud as per IEC 60092-360
	-		Insulation color : Yellow/Green (Green base with yellow strip) or Green

## 0.6/1kV UX (CLASS 2 CONDUCTOR)

No. of Cores	Conductor			Thickness of Insulation	Overall diameter		Conductor Resistance (at 20°C) (Max.)	Insulation Resistance (at 20°C) (Min.)	Test Voltage	Cable Weight
	Nominal Area	Min. No. of wires	Max. overall dia.		Nominal	Tolerance				
No.	mm²	EA	mm	mm	mm	±mm	Ω/km	MΩ-km	V/5min.	kg/km
1	1.0	7	1.4	2.0	5.5	0.5	18.2	22	3,500	50
	1.5	7	1.7	2.0	5.8	0.5	12.2	20	3,500	58
	2.5	7	2.2	2.0	6.2	0.5	7.56	18	3,500	71
	4	7	2.7	2.0	6.7	0.6	4.70	15	3,500	89
	6	7	3.3	2.0	7.3	0.6	3.11	13	3,500	114
	10	7	4.2	2.0	8.2	0.6	1.84	11	3,500	160
	16	7	5.3	2.1	9.4	0.7	1.16	10	3,500	230
	25	7	6.6	2.4	11.3	0.8	0.734	9	3,500	350
	35	7	7.9	2.4	12.4	0.8	0.529	8	3,500	450
	50	19	9.1	2.7	14.4	0.9	0.391	8	3,500	600
	70	19	11.0	3.0	16.7	1.0	0.270	7	3,500	840
	95	19	12.9	3.0	18.6	1.0	0.195	6	3,500	1,110
	120	37	14.5	3.1	20.3	1.1	0.154	6	3,500	1,360
	150	37	16.2	3.4	22.4	1.2	0.126	6	3,500	1,660
	185	37	18.0	3.7	24.9	1.3	0.100	6	3,500	2,080
	240	61	20.6	4.0	28.1	1.4	0.0762	5	3,500	2,690
	300	61	23.1	4.3	31.0	1.5	0.0607	5	3,500	3,330

## Earthing & Bonding wire

### 0.6/1kV FX-UX (CLASS 5 CONDUCTOR)

No. of Cores	Conductor			Thickness of Insulation	Overall diameter		Conductor Resistance (at 20°C) (Max.)	Insulation Resistance (at 20°C) (Min.)	Test Voltage	Cable Weight
	Nominal Area	Min. No. of wires	Max. overall dia.		Nominal	Tolerance				
No.	mm <sup>2</sup>	EA	mm	mm	mm	±mm	Ω/km	MΩ-km	V/5min.	kg/km
1	1.0	0.21	1.5	2.0	5.5	0.5	20.0	22	3,500	50
	1.5	0.26	1.8	2.0	5.8	0.5	13.7	20	3,500	58
	2.5	0.26	2.4	2.0	6.3	0.6	8.21	17	3,500	72
	4	0.31	3.0	2.0	6.8	0.6	5.09	15	3,500	91
	6	0.31	3.9	2.0	7.4	0.6	3.39	13	3,500	115
	10	0.41	5.1	2.0	8.3	0.6	1.95	11	3,500	160
	16	0.41	6.3	2.1	10.0	0.7	1.24	9	3,500	230
	25	0.41	7.8	2.4	12.1	0.8	0.795	8	3,500	340
	35	0.41	9.2	2.4	13.3	0.8	0.565	7	3,500	450
	50	0.41	11.0	2.7	15.5	0.9	0.393	7	3,500	630
	70	0.51	13.1	3.0	18.0	1.0	0.277	7	3,500	880
	95	0.51	15.1	3.1	19.9	1.1	0.210	6	3,500	1,110
	120	0.51	17.0	3.1	21.7	1.2	0.164	5	3,500	1,370
	150	0.51	19.0	3.4	24.1	1.3	0.132	5	3,500	1,710
	185	0.51	21.0	3.7	26.2	1.3	0.108	5	3,500	2,060
	240	0.51	24.0	4.0	29.5	1.5	0.0817	5	3,500	2,680
	300	0.51	27.0	4.3	32.7	1.6	0.0654	5	3,500	3,360

### 0.6/1kV RX

No. of Cores	Conductor			Thickness of Insulation	Overall diameter		Conductor Resistance (at 20°C) (Max.)	Insulation Resistance (at 20°C) (Min.)	Test Voltage	Cable Weight
	Nominal Area	Min. No. of wires	Max. overall dia.		Nominal	Tolerance				
No.	mm <sup>2</sup>	EA	mm	mm	mm	±mm	Ω/km	MΩ-km	V/5min.	kg/km
1	1.0	7	1.4	2.0	5.5	0.5	18.2	22	3,500	47
	1.5	7	1.7	2.0	5.8	0.5	12.2	20	3,500	54
	2.5	7	2.2	2.0	6.2	0.5	7.56	18	3,500	67
	4	7	2.7	2.0	6.7	0.6	4.70	15	3,500	85
	6	7	3.3	2.0	7.3	0.6	3.11	13	3,500	109
	10	7	4.2	2.0	8.2	0.6	1.84	11	3,500	150
	16	7	5.3	2.1	9.4	0.7	1.16	10	3,500	220
	25	7	6.6	2.3	11.1	0.7	0.734	9	3,500	330
	35	7	7.9	2.4	12.4	0.8	0.529	8	3,500	440
	50	19	9.1	2.7	14.4	0.9	0.391	8	3,500	590
	70	19	11.0	2.9	16.5	1.0	0.270	7	3,500	810
	95	19	12.9	3.0	18.6	1.0	0.195	6	3,500	1,090
	120	37	14.5	3.1	20.3	1.1	0.154	6	3,500	1,340
	150	37	16.2	3.4	22.4	1.2	0.126	6	3,500	1,630
	185	37	18.0	3.7	24.9	1.3	0.100	6	3,500	203
	240	61	20.6	4.0	28.1	1.4	0.0762	5	3,500	2,640
	300	61	23.1	4.3	31.0	1.5	0.0607	5	3,500	3,270





# VFD Cable



0.6/1kV(1.8/3kV) RFOU(VFD), FX-RFOU(VFD)

72 ~ 73

0.6/1kV(1.8/3kV) BFOU(VFD), FX-BFOU(VFD)

74 ~ 75





# VFD Cable



## Cable Designation

0.6/1KV(1.8/3KV) RFOU(VFD), FX-RFOU(VFD)  
1.8/3KV RFOU(VFD), FX-RFOU(VFD)

## Application Standard

- Design guide : NEK-606 & IEC 60092-353
- Flame retardant : IEC 60332-1 & IEC 60332-3 Category A
- Halogen content : IEC 60754-1, 0.5% ↓
- Cold bend / impact : CSA 22.2 No.03 (-40℃/-35℃)
- Mud resistant : NEK-606 (Mud type only)
- Smoke light transmittance : IEC 61034, 60% ↑
- Sunlight (UV) resistant : UL 1581

## Construction

Sectional view	Classification	Code	Construction detail
	Conductor		- Stranded tinned annealed copper wires as per IEC 60228, Class 2
	Insulation	<b>R</b>	- EPR as per IEC 60092-360
	Cabling		- Insulated cores shall be cabled - Flame retardant & non-hygroscopic fillers may be used - Suitable tape(s) may be applied on the cabled core - A Filler may be applied to obtain a circular Cable
	Inner covering	<b>F</b>	- Flame retardant halogen free thermoset compound
	Armor (Screen)	<b>(VFD)</b> <b>O</b>	- CU/PS tape providing 100% Coverage - Braid of tinned annealed copper wire - A suitable separator tape(s) may be applied under/over the armor
	Sheath	<b>U</b>	- SHF2 or SHF Mud as per IEC 60092-360 - Outer sheath color : Black
	Core identification		- 3C+3E : Off-white, Black, Red + G/Y

**Note.** 1. Flexible cable (Class5 Conductor) can be supplied  
2. Earth core(G/Y) : Yellow/Green(Green base color with yellow stripe)

## 0.6/1KV(1.8/3KV) RFOU(VFD), 1.8/3KV RFOU(VFD)

No. of Cores	Conductor			Thickness of Insulation	Thickness of inner covering	Nominal dia. inner covering	Dia. of wire for armour	Thickness of sheath	Overall diameter		Conductor Resistance (at 20°C) (Max.)	Insulation Resistance (at 20°C) (Min.)	Test Voltage	Cable Weight
	Nominal Area	Min. Number of wires	Max. Dia.						Nominal	Tolerance				
No.	mm <sup>2</sup>	ea.	mm	mm	mm	mm	mm	mm	mm	±mm	Ω/km	MΩ-km	V/5min.	kg/km
3C	25	7	6.6	2.2	1.0	25.7	0.3	1.9	31.7	1.6	0.734	830	6,500	1,970
+3E	6	7	3.3	1.0							3.110	790	3,500	
3C	35	7	7.9	2.2	1.2	28.7	0.3	2.0	34.9	1.7	0.529	730	6,500	2,420
+3E	6	7	3.3	1.0							3.110	790	3,500	
3C	50	19	9.1	2.2	1.2	31.5	0.4	2.2	38.5	1.8	0.391	640	6,500	3,160
+3E	10	7	4.2	1.0							1.840	640	3,500	
3C	70	19	11.0	2.2	1.2	35.4	0.4	2.3	42.6	2.0	0.270	550	6,500	4,150
+3E	16	7	5.3	1.0							1.160	530	3,500	
3C	95	19	12.9	2.4	1.4	40.7	0.4	2.5	48.3	2.2	0.195	510	6,500	5,330
+3E	16	7	5.3	1.0							1.160	530	3,500	
3C	120	37	14.5	2.4	1.4	44.2	0.4	2.7	52.2	2.4	0.154	460	6,500	6,540
+3E	25	7	6.6	1.2							0.734	510	3,500	
3C	150	37	16.2	2.4	1.4	47.6	0.4	2.8	55.8	2.5	0.126	420	6,500	7,590
+3E	25	7	6.6	1.2							0.734	510	3,500	
3C	185	37	18.0	2.4	1.6	51.9	0.4	3.0	60.5	2.7	0.1000	380	6,500	9,230
+3E	35	7	7.9	1.2							0.5290	440	3,500	
3C	240	61	20.6	2.4	1.6	57.7	0.4	3.2	66.7	3.0	0.0762	340	6,500	11,690
+3E	50	19	9.1	1.4							0.3910	440	3,500	

## 0.6/1KV(1.8/3KV) FX-RFOU(VFD), 1.8/3KV FX-RFOU(VFD)

No. of Cores	Conductor			Thickness of Insulation	Thickness of inner covering	Nominal dia. inner covering	Dia. of wire for armour	Thickness of sheath	Overall diameter		Conductor Resistance (at 20°C) (Max.)	Insulation Resistance (at 20°C) (Min.)	Test Voltage	Cable Weight
	Nominal Area	Max. dia. of wires	Max. overall dia.						Nominal	Tolerance				
No.	mm <sup>2</sup>	mm	mm	mm	mm	mm	mm	mm	mm	±mm	Ω/km	MΩ-km	V/5min.	kg/km
3C	25	0.41	7.8	2.2	1.2	28.3	0.3	2.0	34.5	1.7	0.795	750	6,500	2,140
+3E	6	0.31	3.9	1.0							3.390	790	3,500	
3C	35	0.41	9.2	2.2	1.2	31.3	0.4	2.1	38.1	1.8	0.565	650	6,500	2,710
+3E	6	0.31	3.9	1.0							3.390	790	3,500	
3C	50	0.41	11.0	2.2	1.2	34.7	0.4	2.3	41.9	2.0	0.393	570	6,500	3,520
+3E	10	0.41	5.1	1.0							1.950	630	3,500	
3C	70	0.51	13.1	2.2	1.4	39.2	0.4	2.5	46.8	2.2	0.277	490	6,500	4,550
+3E	16	0.41	6.3	1.0							1.240	470	3,500	
3C	95	0.51	15.1	2.4	1.4	44.0	0.4	2.7	52.0	2.4	0.210	470	6,500	5,640
+3E	16	0.41	6.3	1.0							1.240	470	3,500	
3C	120	0.51	17.0	2.4	1.4	47.8	0.4	2.8	56.0	2.5	0.164	420	6,500	6,880
+3E	25	0.41	7.8	1.2							0.795	450	3,500	
3C	150	0.51	19.0	2.4	1.6	52.1	0.4	3.0	60.7	2.7	0.132	380	6,500	8,120
+3E	25	0.41	7.8	1.2							0.795	450	3,500	
3C	185	0.51	21.0	2.4	1.6	56.2	0.4	3.1	65.0	2.9	0.108	350	6,500	9,620
+3E	35	0.41	9.2	1.2							0.565	390	3,500	
3C	240	0.51	24.0	2.4	1.6	63.1	0.4	3.4	72.5	3.2	0.0817	310	6,500	12,390
+3E	50	0.41	11.0	1.4							0.393	380	3,500	

HV Power Cable

LV Power &amp; Lighting Cable

Instrumentation &amp; Communication Cable

Earthing &amp; Bonding wire

VFD Cable

Technical Information

# VFD Cable



## Cable Designation

0.6/1kV(1.8/3kV) BFOU(VFD), FX-BFOU(VFD)  
1.8/3kV BFOU(VFD), FX-BFOU(VFD)

## Application Standard

- Design guide	: NEK-606 & IEC 60092-353
- Flame retardant	: IEC 60332-1 & IEC 60332-3 Category A
- Fire resistance	: IEC 60331-21(90min) IEC 60331-1,-2(120min)
- Halogen content	: IEC 60754-1, 0.5% ↓
- Cold bend / impact	: CSA 22.2 No.03 (-40°C/-35°C)
- Mud resistant	: NEK-606 (Mud type only)
- Smoke light transmittance	: IEC 61034, 60% ↑
- Sunlight (UV) resistant	: UL 1581

## Construction

Sectional view	Classification	Code	Construction detail
	Conductor		- Stranded tinned annealed copper wires as per IEC 60228, Class 2
	Fire resisting layer	<b>B</b>	- Mica/glass tape
	Insulation		- EPR as per IEC 60092-360
	Cabling		- Insulated cores shall be cabled - Flame retardant & non-hygroscopic fillers may be used - Suitable tape(s) may be applied on the cabled core - A Filler may be applied to obtain a circular Cable
	Inner covering	<b>F</b>	- Flame retardant halogen free thermoset compound
	Armor (Screen)	<b>(VFD)</b>	- CU/PS tape providing 100% Coverage
		<b>O</b>	- Braid of tinned annealed copper wire - A suitable separator tape(s) may be applied under/over the armor
	Sheath	<b>U</b>	- SHF2 or SHF Mud as per IEC 60092-360 - Outer sheath color : Black
	Core identification		- 3C+3E : Off-white, Black, Red + G/Y

**Note.** 1. Flexible cable (Class5 Conductor) can be supplied  
2. Earth core(G/Y) : Yellow/Green(Green base color with yellow stripe)

## 0.6/1KV(1.8/3KV) BFOU(VFD), 1.8/3KV BFOU(VFD)

No. of Cores	Conductor			Thickness of Insulation	Thickness of inner covering	Nominal dia. inner covering	Dia. of wire for armour	Thickness of sheath	Overall diameter		Conductor Resistance (at 20°C) (Max.)	Insulation Resistance (at 20°C) (Min.)	Test Voltage	Cable Weight
	Nominal Area	Min. Number of wires	Max. Dia.						Nominal	Tolerance				
No.	mm <sup>2</sup>	ea.	mm	mm	mm	mm	mm	mm	mm	±mm	Ω/km	MΩ-km	V/5min.	kg/km
3C	25	7	6.6	2.2	1.0	26.8	0.3	2.0	33.0	1.6	0.734	830	6,500	2,070
+3E	6	7	3.3	1.0							3.110	790	3,500	
3C	35	7	7.9	2.2	1.2	29.8	0.4	2.1	36.6	1.8	0.529	730	6,500	2,630
+3E	6	7	3.3	1.0							3.110	790	3,500	
3C	50	19	9.1	2.2	1.2	32.8	0.4	2.2	39.8	1.9	0.391	640	6,500	3,270
+3E	10	7	4.2	1.0							1.840	640	3,500	
3C	70	19	11.0	2.2	1.2	36.7	0.4	2.4	44.1	2.1	0.270	550	6,500	4,300
+3E	16	7	5.3	1.0							1.160	530	3,500	
3C	95	19	12.9	2.4	1.4	42.0	0.4	2.6	49.8	2.3	0.195	510	6,500	5,490
+3E	16	7	5.3	1.0							1.160	530	3,500	
3C	120	37	14.5	2.4	1.4	45.5	0.4	2.7	53.5	2.4	0.154	460	6,500	6,690
+3E	25	7	6.6	1.2							0.734	510	3,500	
3C	150	37	16.2	2.4	1.6	49.3	0.4	2.9	57.7	2.6	0.126	420	6,500	7,800
+3E	25	7	6.6	1.2							0.734	510	3,500	
3C	185	37	18.0	2.4	1.6	53.4	0.4	3.0	62.0	2.8	0.100	380	6,500	9,420
+3E	35	7	7.9	1.2							0.529	440	3,500	
3C	240	61	20.6	2.4	1.6	59.0	0.4	3.3	68.2	3.0	0.0762	340	6,500	11,900
+3E	50	19	9.1	1.4							0.391	440	3,500	

## 0.6/1KV(1.8/3KV) FX-BFOU(VFD), 1.8/3KV FX-BFOU(VFD)

No. of Cores	Conductor			Thickness of Insulation	Thickness of inner covering	Nominal dia. inner covering	Dia. of wire for armour	Thickness of sheath	Overall diameter		Conductor Resistance (at 20°C) (Max.)	Insulation Resistance (at 20°C) (Min.)	Test Voltage	Cable Weight
	Nominal Area	Max. dia. of wires	Max. overall dia.						Nominal	Tolerance				
No.	mm <sup>2</sup>	mm	mm	mm	mm	mm	mm	mm	mm	±mm	Ω/km	MΩ-km	V/5min.	kg/km
3C	25	0.41	7.8	2.2	1.2	29.3	0.3	2.1	35.7	1.7	0.795	750	6,500	2,240
+3E	6	0.31	3.9	1.0							3.390	790	3,500	
3C	35	0.41	9.2	2.2	1.2	32.4	0.4	2.2	39.4	1.9	0.565	650	6,500	2,840
+3E	6	0.31	3.9	1.0							3.390	790	3,500	
3C	50	0.41	11.0	2.2	1.2	35.8	0.4	2.3	43.0	2.0	0.393	570	6,500	3,640
+3E	10	0.41	5.1	1.0							1.950	630	3,500	
3C	70	0.51	13.1	2.2	1.4	41.6	0.4	2.6	49.4	2.3	0.277	490	6,500	4,870
+3E	16	0.41	6.3	1.0							1.240	470	3,500	
3C	95	0.51	15.1	2.4	1.4	45.0	0.4	2.7	53.0	2.4	0.210	470	6,500	5,770
+3E	16	0.41	6.3	1.0							1.240	470	3,500	
3C	120	0.51	17.0	2.4	1.6	50.2	0.4	2.9	58.6	2.6	0.164	420	6,500	7,210
+3E	25	0.41	7.8	1.2							0.795	450	3,500	
3C	150	0.51	19.0	2.4	1.6	53.2	0.4	3.0	61.8	2.8	0.132	380	6,500	8,300
+3E	25	0.41	7.8	1.2							0.795	450	3,500	
3C	185	0.51	21.0	2.4	1.6	57.3	0.4	3.2	66.3	3.0	0.108	350	6,500	9,840
+3E	35	0.41	9.2	1.2							0.565	390	3,500	
3C	240	0.51	24.0	2.4	1.8	65.6	0.4	3.5	75.2	3.3	0.0817	310	6,500	12,830
+3E	50	0.41	11.0	1.4							0.393	380	3,500	

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Instrumentation &amp; Communication Cable

Earthing &amp; Bonding wire

VFD Cable

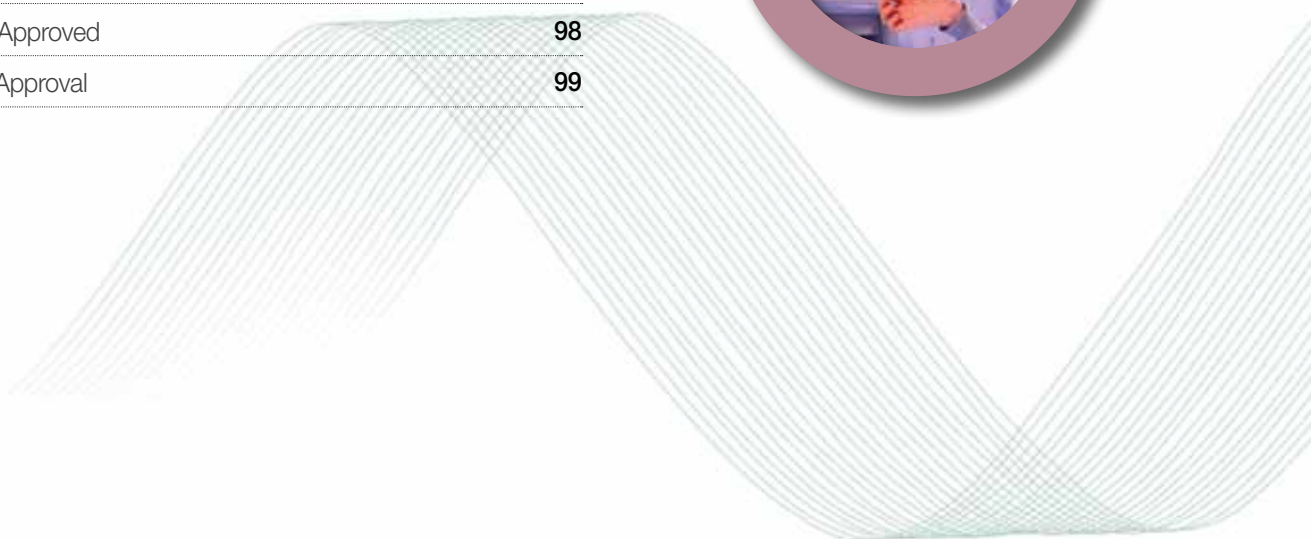
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# Technical Information

**O-Route®**

NEK-606, IEC 60092-350, 353, 354, 376

## ELECTRICAL DATA

### 1. Current rating for continuous

Conductor temperature	90°C		
Nominal cross-sectional area (mm²)	Single core (A)	Two core (A)	Three core & four core (A)
1	18	15	13
1.5	23	20	16
2.5	30	26	21
4	40	34	28
6	52	44	36
10	72	61	50
16	96	82	67
25	127	108	89
35	157	133	110
50	196	167	137
70	242	206	169
95	293	249	205
120	339	288	237
150	389	331	273
185	444	377	311
240	522	444	366
300	601	511	420

#### NOTES)

- Maximum permissible service temperature of the conductor is 90°C
- The current ratings given above are based on an ambient air temperature of 45°C
- The current ratings given above are for 6 cables of less bunched or laid together in flat formation.  
When more than 6 cables are bunched or laid close together, the current ratings given above should be multiplied correction factor 0.85.  
In case of cables not being loaded simultaneously, consideration of the actual loading appertaining is permitted
- For cables with more than 4 core cables, the current ratings are given by the Formula;

$$I = \frac{I_1}{\sqrt[3]{N}}$$

Where,  $I_1$  : Current for single core cable  
 $N$  : Number of cores

No. of cores	1.0SQMM	1.5SQMM	2.5SQMM
5	11	13	18
7	9	12	16
9	9	11	14
12	8	10	13
14	7	10	12
16	7	9	12
19	7	9	11
24	6	8	10
30	6	7	10
37	5	7	9
44	5	7	8

Maximum conductor temperature	Correction factors for various ambient air temperature									
°C	35	40	45	50	55	60	65	70	75	80
90	1.10	1.05	1.00	0.94	0.88	0.82	0.74	0.67	0.58	0.47

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Earthing &amp; Bonding wire

VFD Cable

Technical Information



# Technical Information

## ELECTRICAL DATA

### 2. Capacitance, Inductance, Reactance, Impedance Data

#### 3.6/6kV RFOU, 3.6/6kV RFCU, 3.6/6kV RFBU

Nominal Area	Single core cable						Multi core cable					
	Capacitance C	Inductance L	Reactance X 50 Hz	Reactance X 60 Hz	Impedance Z at 50 Hz 90°C	Impedance Z at 60 Hz 90°C	Capacitance C	Inductance L	Reactance X 50 Hz	Reactance X 60 Hz	Impedance Z at 50 Hz 90°C	Impedance Z at 60 Hz 90°C
mm <sup>2</sup>	μF/km	mH / km	Ω/km	Ω/km	Ω/km	Ω/km	μF/km	mH / km	Ω/km	Ω/km	Ω/km	Ω/km
10	0.247	0.458	0.144	0.173	2.351	2.353	0.247	0.324	0.102	0.122	2.348	2.349
16	0.284	0.434	0.136	0.164	1.485	1.488	0.284	0.306	0.096	0.115	1.482	1.484
25	0.328	0.409	0.128	0.154	0.945	0.949	0.328	0.290	0.091	0.109	0.940	0.942
35	0.362	0.393	0.123	0.148	0.686	0.691	0.362	0.281	0.088	0.106	0.680	0.683
50	0.408	0.375	0.118	0.142	0.512	0.518	0.408	0.270	0.085	0.102	0.506	0.509
70	0.466	0.358	0.112	0.135	0.362	0.370	0.466	0.260	0.082	0.098	0.354	0.358
95	0.528	0.343	0.108	0.129	0.273	0.282	0.528	0.252	0.079	0.095	0.263	0.268
120	0.581	0.332	0.104	0.125	0.224	0.234	0.581	0.246	0.077	0.093	0.213	0.219
150	0.624	0.326	0.102	0.123	0.193	0.205	0.624	0.242	0.076	0.091	0.181	0.187
185	0.695	0.317	0.099	0.119	0.165	0.177	0.695	0.237	0.074	0.089	0.151	0.159
240	0.742	0.310	0.097	0.117	0.140	0.154	0.742	0.234	0.073	0.088	0.125	0.134
300	0.770	0.305	0.096	0.115	0.126	0.141	-	-	-	-	-	-

#### 6/10kV RFOU, 6/10kV RFCU, 6/10kV RFBU

Nominal Area	Single core cable						Multi core cable					
	Capacitance C	Inductance L	Reactance X 50 Hz	Reactance X 60 Hz	Impedance Z at 50 Hz 90°C	Impedance Z at 60 Hz 90°C	Capacitance C	Inductance L	Reactance X 50 Hz	Reactance X 60 Hz	Impedance Z at 50 Hz 90°C	Impedance Z at 60 Hz 90°C
mm <sup>2</sup>	μF/km	mH / km	Ω/km	Ω/km	Ω/km	Ω/km	μF/km	mH / km	Ω/km	Ω/km	Ω/km	Ω/km
16	0.228	0.450	0.141	0.170	1.486	1.489	0.228	0.335	0.105	0.126	1.483	1.484
25	0.261	0.425	0.134	0.160	0.945	0.950	0.261	0.316	0.099	0.119	0.941	0.943
35	0.287	0.407	0.128	0.153	0.687	0.692	0.287	0.305	0.096	0.115	0.681	0.684
50	0.321	0.390	0.123	0.147	0.513	0.520	0.321	0.292	0.092	0.110	0.507	0.511
70	0.365	0.370	0.116	0.140	0.363	0.371	0.365	0.280	0.088	0.106	0.355	0.360
95	0.411	0.355	0.111	0.134	0.275	0.284	0.411	0.270	0.085	0.102	0.265	0.271
120	0.450	0.346	0.109	0.130	0.226	0.237	0.450	0.263	0.083	0.099	0.215	0.222
150	0.484	0.337	0.106	0.127	0.195	0.207	0.484	0.258	0.081	0.097	0.183	0.190
185	0.535	0.330	0.104	0.124	0.167	0.181	0.535	0.251	0.079	0.095	0.153	0.162
240	0.591	0.321	0.101	0.121	0.143	0.158	0.591	0.245	0.077	0.092	0.127	0.137
300	0.651	0.311	0.098	0.117	0.128	0.143	-	-	-	-	-	-

#### 8.7/15kV RFOU, 8.7/15kV RFCU, 8.7/15kV RFBU

Nominal Area	Single core cable						Multi core cable					
	Capacitance C	Inductance L	Reactance X 50 Hz	Reactance X 60 Hz	Impedance Z at 50 Hz 90°C	Impedance Z at 60 Hz 90°C	Capacitance C	Inductance L	Reactance X 50 Hz	Reactance X 60 Hz	Impedance Z at 50 Hz 90°C	Impedance Z at 60 Hz 90°C
mm <sup>2</sup>	μF/km	mH / km	Ω/km	Ω/km	Ω/km	Ω/km	μF/km	mH / km	Ω/km	Ω/km	Ω/km	Ω/km
25	0.215	0.443	0.139	0.167	0.946	0.951	0.215	0.344	0.108	0.130	0.942	0.945
35	0.235	0.424	0.133	0.160	0.688	0.693	0.235	0.330	0.104	0.125	0.682	0.686
50	0.261	0.406	0.128	0.153	0.515	0.522	0.261	0.316	0.099	0.119	0.508	0.513
70	0.295	0.386	0.121	0.145	0.365	0.374	0.295	0.302	0.095	0.114	0.357	0.363
95	0.330	0.371	0.117	0.140	0.277	0.288	0.330	0.290	0.091	0.109	0.267	0.274
120	0.360	0.362	0.114	0.137	0.229	0.241	0.360	0.281	0.088	0.106	0.217	0.225
150	0.386	0.353	0.111	0.133	0.198	0.211	0.386	0.275	0.086	0.104	0.185	0.194
185	0.424	0.341	0.107	0.129	0.169	0.184	0.424	0.267	0.084	0.101	0.156	0.166
240	0.468	0.332	0.104	0.125	0.145	0.161	0.468	0.260	0.082	0.098	0.130	0.141
300	0.514	0.324	0.102	0.122	0.131	0.147	-	-	-	-	-	-

## 0.6/1kV(1.8/3kV) RFOU(VFD), 1.8/3kV RFOU(VFD)

No. of Cores	Nominal Area	Multi core cable					
		Capacitance C	Inductance L	Reactance X 50 Hz	Reactance X 60 Hz	Impedance Z at 50 Hz 90°C	Impedance Z at 60 Hz 90°C
No.	mm²	µF/km	mH / km	Ω/km	Ω/km	Ω/km	Ω/km
3C	25	0.417	0.296	0.093	0.112	0.941	0.943
3E	6						
3C	35	0.455	0.284	0.089	0.107	0.680	0.683
3E	6						
3C	50	0.516	0.272	0.085	0.103	0.506	0.509
3E	10						
3C	70	0.562	0.260	0.082	0.098	0.354	0.358
3E	16						
3C	95	0.582	0.255	0.080	0.096	0.264	0.269
3E	16						
3C	120	0.667	0.249	0.078	0.094	0.213	0.219
3E	25						
3C	150	0.715	0.244	0.077	0.092	0.181	0.188
3E	25						
3C	185	0.736	0.238	0.075	0.090	0.151	0.159
3E	35						
3C	240	0.794	0.233	0.073	0.088	0.125	0.134
3E	50						

## 0.6/1kV(1.8/3kV) BFOU(VFD), 1.8/3kV BFOU(VFD)

3C	25	0.417	0.305	0.096	0.115	0.941	0.943
3E	6						
3C	35	0.447	0.292	0.092	0.110	0.681	0.683
3E	6						
3C	50	0.500	0.281	0.088	0.106	0.506	0.510
3E	10						
3C	70	0.544	0.268	0.084	0.101	0.354	0.359
3E	16						
3C	95	0.550	0.262	0.082	0.099	0.264	0.270
3E	16						
3C	120	0.603	0.255	0.080	0.096	0.214	0.220
3E	25						
3C	150	0.658	0.250	0.079	0.094	0.182	0.189
3E	25						
3C	185	0.715	0.244	0.077	0.092	0.152	0.160
3E	35						
3C	240	0.770	0.238	0.075	0.090	0.126	0.135
3E	50						

## 0.6/1kV(1.8/3kV) FX-RFOU(VFD), 1.8/3kV FX-RFOU(VFD)

3C	25	0.455	0.287	0.090	0.108	1.018	1.019
3E	6						
3C	35	0.516	0.276	0.087	0.104	0.726	0.728
3E	6						
3C	50	0.544	0.264	0.083	0.099	0.508	0.511
3E	10						
3C	70	0.596	0.254	0.080	0.096	0.362	0.366
3E	16						
3C	95	0.642	0.251	0.079	0.095	0.282	0.286
3E	16						
3C	120	0.676	0.245	0.077	0.092	0.225	0.230
3E	25						
3C	150	0.747	0.240	0.075	0.090	0.187	0.194
3E	25						
3C	185	0.770	0.235	0.074	0.089	0.160	0.167
3E	35						
3C	240	0.834	0.230	0.072	0.087	0.130	0.139
3E	50						

HV Power Cable

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Earthing &amp; Bonding wire

VFD Cable

Technical Information

## Technical Information

### 0.6/1kV(1.8/3kV) FX-BFOU(VFD), 1.8/3kV FX-BFOU(VFD)

No. of Cores	Nominal Area	Multi core cable					
		Capacitance C	Inductance L	Reactance X 50 Hz	Reactance X 60 Hz	Impedance Z at 50 Hz 90°C	Impedance Z at 60 Hz 90°C
No.	mm <sup>2</sup>	μF/km	mH / km	Ω/km	Ω/km	Ω/km	Ω/km
3C	25	0.417	0.296	0.093	0.111	1.018	1.020
3E	6						
3C	35	0.455	0.283	0.089	0.107	0.726	0.728
3E	6						
3C	50	0.527	0.270	0.085	0.102	0.508	0.511
3E	10						
3C	70	0.562	0.260	0.082	0.098	0.362	0.367
3E	16						
3C	95	0.596	0.256	0.080	0.096	0.282	0.287
3E	16						
3C	120	0.642	0.249	0.078	0.094	0.225	0.231
3E	25						
3C	150	0.715	0.244	0.077	0.092	0.188	0.195
3E	25						
3C	185	0.747	0.239	0.075	0.090	0.161	0.168
3E	35						
3C	240	0.782	0.233	0.073	0.088	0.131	0.140
3E	50						

### 0.6/1kV RFOU, 0.6/1kV RFCU, 0.6/1kV RFBU

Nominal Area	Single core cable * )						Multi core cable					
	Capacitance C	Inductance L	Reactance X 50 Hz	Reactance X 60 Hz	Impedance Z at 50 Hz 90°C	Impedance Z at 60 Hz 90°C	Capacitance C	Inductance L	Reactance X 50 Hz	Reactance X 60 Hz	Impedance Z at 50 Hz 90°C	Impedance Z at 60 Hz 90°C
mm <sup>2</sup>	μF/km	mH / km	Ω/km	Ω/km	Ω/km	Ω/km	μF/km	mH / km	Ω/km	Ω/km	Ω/km	Ω/km
1.5	0.199	0.546	0.171	0.206	15.557	15.558	0.305	0.356	0.112	0.134	15.557	15.557
2.5	0.237	0.506	0.159	0.191	9.641	9.642	0.345	0.329	0.103	0.124	9.640	9641
4	0.282	0.471	0.148	0.177	5.995	5.996	0.379	0.307	0.096	0.116	5.994	5.994
6	0.326	0.441	0.138	0.166	3.968	3.969	0.435	0.291	0.091	0.110	3.967	3.967
10	0.401	0.409	0.128	0.154	2.350	2.351	0.477	0.272	0.085	0.102	2.348	2.348
16	0.490	0.379	0.119	0.143	1.484	1.486	0.500	0.257	0.081	0.097	1.481	1.482
25	0.509	0.360	0.113	0.136	0.943	0.946	0.589	0.254	0.080	0.096	0.939	0.941
35	0.588	0.342	0.107	0.129	0.683	0.687	0.685	0.245	0.077	0.092	0.679	0.681
50	0.591	0.332	0.104	0.125	0.509	0.514	0.705	0.245	0.077	0.092	0.504	0.507
70	0.705	0.315	0.099	0.119	0.358	0.364	0.715	0.236	0.074	0.089	0.352	0.356
95	0.713	0.307	0.096	0.116	0.269	0.276	0.770	0.235	0.074	0.089	0.262	0.266
120	0.813	0.296	0.093	0.111	0.219	0.228	0.834	0.230	0.072	0.087	0.211	0.216
150	0.793	0.293	0.092	0.110	0.188	0.197	0.834	0.231	0.072	0.087	0.179	0.185
185	0.799	0.289	0.091	0.109	0.160	0.171	0.834	0.232	0.073	0.088	0.150	0.158
240	0.832	0.282	0.089	0.106	0.134	0.147	0.848	0.230	0.072	0.087	0.124	0.133
300	0.857	0.286	0.090	0.108	0.122	0.136	0.848	0.230	0.072	0.087	0.109	0.119

\* Reactance for 1-conductor cables given at Three-foil formation

## 0.6/1kV BFOU, 0.6/1kV BFCU, 0.6/1kV BFBU

Nominal Area	Single core cable * )						Multi core cable					
	Capacitance C	Inductance L	Reactance X 50 Hz	Reactance X 60 Hz	Impedance Z at 50 Hz 90°C	Impedance Z at 60 Hz 90°C	Capacitance C	Inductance L	Reactance X 50 Hz	Reactance X 60 Hz	Impedance Z at 50 Hz 90°C	Impedance Z at 60 Hz 90°C
mm <sup>2</sup>	μF/km	mH / km	Ω/km	Ω/km	Ω/km	Ω/km	μF/km	mH / km	Ω/km	Ω/km	Ω/km	Ω/km
1.5	0.172	0.556	0.175	0.210	15.557	15.558	0.278	0.382	0.120	0.144	15.557	15.557
2.5	0.203	0.516	0.162	0.195	9.641	9.642	0.309	0.353	0.111	0.133	9.640	9.641
4	0.239	0.480	0.151	0.181	5.995	5.996	0.345	0.328	0.103	0.124	5.994	5.994
6	0.276	0.453	0.142	0.171	3.968	3.969	0.385	0.309	0.097	0.117	3.967	3.967
10	0.336	0.417	0.131	0.157	2.350	2.351	0.435	0.288	0.090	0.108	2.348	2.349
16	0.436	0.387	0.121	0.146	1.484	1.486	0.500	0.271	0.085	0.102	1.482	1.483
25	0.461	0.367	0.115	0.138	0.943	0.946	0.527	0.265	0.083	0.100	0.940	0.941
35	0.531	0.348	0.109	0.131	0.683	0.687	0.556	0.255	0.080	0.096	0.679	0.681
50	0.542	0.337	0.106	0.127	0.510	0.515	0.589	0.253	0.080	0.096	0.505	0.508
70	0.644	0.320	0.101	0.121	0.359	0.365	0.695	0.243	0.076	0.092	0.353	0.356
95	0.660	0.311	0.098	0.117	0.269	0.277	0.715	0.242	0.076	0.091	0.262	0.267
120	0.749	0.301	0.094	0.113	0.220	0.228	0.758	0.237	0.074	0.089	0.212	0.217
150	0.738	0.296	0.093	0.112	0.188	0.198	0.758	0.236	0.074	0.089	0.180	0.186
185	0.749	0.291	0.092	0.110	0.160	0.171	0.782	0.235	0.074	0.089	0.151	0.158
240	0.784	0.284	0.089	0.107	0.135	0.147	0.807	0.233	0.073	0.088	0.125	0.134
300	0.811	0.288	0.090	0.108	0.122	0.136	0.820	0.232	0.073	0.087	0.110	0.120

\* Reactance for 1-conductor cables given at Three-foil formation

## 0.6/1kV RU

Nominal Area	Single core cable * )						Multi core cable					
	Capacitance C	Inductance L	Reactance X 50 Hz	Reactance X 60 Hz	Impedance Z at 50 Hz 90°C	Impedance Z at 60 Hz 90°C	Capacitance C	Inductance L	Reactance X 50 Hz	Reactance X 60 Hz	Impedance Z at 50 Hz 90°C	Impedance Z at 60 Hz 90°C
mm <sup>2</sup>	μF/km	mH / km	Ω/km	Ω/km	Ω/km	Ω/km	μF/km	mH / km	Ω/km	Ω/km	Ω/km	Ω/km
1.5	0.199	0.451	0.142	0.170	15.557	15.557	0.305	0.356	0.112	0.134	15.557	15.557
2.5	0.237	0.417	0.131	0.157	9.641	9.641	0.345	0.329	0.103	0.124	9.640	9.641
4	0.282	0.387	0.121	0.146	5.994	5.995	0.379	0.307	0.096	0.116	5.994	5.994
6	0.326	0.363	0.114	0.137	3.967	3.968	0.435	0.291	0.091	0.110	3.967	3.967
10	0.401	0.334	0.105	0.126	2.349	2.350	0.477	0.272	0.085	0.102	2.348	2.348
16	0.490	0.316	0.099	0.119	1.482	1.484	0.500	0.257	0.081	0.097	1.481	1.482
25	0.509	0.303	0.095	0.114	0.941	0.943	0.589	0.254	0.080	0.096	0.939	0.941
35	0.588	0.292	0.092	0.110	0.681	0.683	0.685	0.245	0.077	0.092	0.679	0.681
50	0.591	0.288	0.091	0.109	0.507	0.510	0.705	0.245	0.077	0.092	0.504	0.507
70	0.705	0.274	0.086	0.103	0.355	0.359	0.715	0.236	0.074	0.089	0.352	0.356
95	0.713	0.271	0.085	0.102	0.265	0.271	0.770	0.235	0.074	0.089	0.262	0.266
120	0.813	0.264	0.083	0.100	0.215	0.222	0.834	0.230	0.072	0.087	0.211	0.216
150	0.793	0.264	0.083	0.099	0.183	0.192	0.834	0.231	0.072	0.087	0.179	0.185
185	0.799	0.263	0.083	0.099	0.155	0.165	0.834	0.232	0.073	0.088	0.150	0.158
240	0.832	0.259	0.081	0.098	0.130	0.141	0.848	0.230	0.072	0.087	0.124	0.133
300	0.857	0.258	0.081	0.097	0.115	0.127	0.848	0.230	0.072	0.087	0.109	0.119

\* Reactance for 1-conductor cables given at Three-foil formation

HV Power Cable

LV Power &amp; Lighting Cable

Instrumentation &amp; Communication Cable

Earthing &amp; Bonding wire

VFD Cable

Technical Information

## Technical Information

### 0.6/1kV BU

Nominal Area	Single core cable * )						Multi core cable					
	Capacitance C	Inductance L	Reactance X 50 Hz	Reactance X 60 Hz	Impedance Z at 50 Hz 90°C	Impedance Z at 60 Hz 90°C	Capacitance C	Inductance L	Reactance X 50 Hz	Reactance X 60 Hz	Impedance Z at 50 Hz 90°C	Impedance Z at 60 Hz 90°C
mm <sup>2</sup>	μF/km	mH / km	Ω/km	Ω/km	Ω/km	Ω/km	μF/km	mH / km	Ω/km	Ω/km	Ω/km	Ω/km
1.5	0.172	0.468	0.147	0.176	15.557	15.557	0.278	0.382	0.120	0.144	15.557	15.557
2.5	0.203	0.432	0.136	0.163	9.641	9.641	0.309	0.353	0.111	0.133	9.640	9.641
4	0.239	0.401	0.126	0.151	5.994	5.995	0.345	0.328	0.103	0.124	5.994	5.994
6	0.276	0.376	0.118	0.142	3.967	3.968	0.385	0.309	0.097	0.117	3.967	3.967
10	0.336	0.351	0.110	0.132	2.349	2.350	0.435	0.288	0.090	0.108	2.348	2.349
16	0.436	0.326	0.102	0.123	1.483	1.484	0.500	0.271	0.085	0.102	1.482	1.483
25	0.461	0.315	0.099	0.119	0.941	0.943	0.527	0.265	0.083	0.100	0.940	0.941
35	0.531	0.300	0.094	0.113	0.681	0.684	0.556	0.255	0.080	0.096	0.679	0.681
50	0.542	0.295	0.093	0.111	0.507	0.511	0.589	0.253	0.080	0.096	0.505	0.508
70	0.644	0.283	0.089	0.107	0.356	0.360	0.695	0.243	0.076	0.092	0.353	0.356
95	0.660	0.276	0.087	0.104	0.266	0.272	0.715	0.242	0.076	0.091	0.262	0.267
120	0.749	0.270	0.085	0.102	0.216	0.223	0.758	0.237	0.074	0.089	0.212	0.217
150	0.738	0.268	0.084	0.101	0.184	0.192	0.758	0.236	0.074	0.089	0.180	0.186
185	0.749	0.266	0.083	0.100	0.156	0.165	0.782	0.235	0.074	0.089	0.151	0.158
240	0.784	0.261	0.082	0.098	0.130	0.141	0.807	0.233	0.073	0.088	0.125	0.134
300	0.811	0.260	0.082	0.098	0.116	0.128	0.820	0.232	0.073	0.087	0.110	0.120

\* Reactance for 1-conductor cables given at Three-foil formation

### 250V Instrument & communication cables.

Size	unit	0.75mm <sup>2</sup>	1.0mm <sup>2</sup>	1.5mm <sup>2</sup>	2.5mm <sup>2</sup>
Mutual capacitance	Individual screen	nF/km	100	100	120
	Collective screen	nF/km	80	80	90
Inductance		mH/km	0.75	0.73	0.68

## ELECTRICAL DATA

### 3. Short circuit current rating

The short circuit currents quoted here are for cables operating normally at maximum conductor temperature of 90°C. HF EPR insulation is actually capable of withstanding short-term Temperature up to 250°C

According to ICEA P-32-382 Curves based on formula

$$I_s = A \times \sqrt{\frac{0.115 \log \frac{(T_2 + 234)}{(T_1 + 234)}}{t}}$$

Where  $I_s$  : Short Circuit Current (kA)  
 $A$  : Conductor area (mm<sup>2</sup>)  
 $T_1$  : Operating temperature ( 90°C)  
 $T_2$  : Short Circuit temperature ( 250°C)  
 $t$  : Short Circuit duration (sec)

$T_1 = 90, T_2 = 250$

Nominal Area mm <sup>2</sup>	Short circuit currents (kA)													
	Duration of short circuit in second													
	0.03	0.05	0.07	0.1	0.14	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
1.5	1.3	1.0	0.8	0.7	0.6	0.5	0.4	0.3	0.3	0.3	0.3	0.2	0.2	0.2
2.5	2.0	1.6	1.3	1.1	0.9	0.8	0.6	0.6	0.5	0.5	0.4	0.4	0.4	0.3
4	3.2	2.5	2.1	1.8	1.5	1.3	1.0	0.9	0.8	0.7	0.7	0.6	0.6	0.6
6	4.9	3.8	3.2	2.7	2.3	1.9	1.5	1.3	1.2	1.1	1.0	0.9	0.9	0.8
10	8.2	6.3	5.4	4.5	3.8	3.2	2.6	2.2	2.0	1.8	1.7	1.6	1.5	1.4
16	13.0	10.1	8.5	7.1	6.0	5.0	4.1	3.6	3.2	2.9	2.7	2.5	2.4	2.2
25	20.6	15.9	13.5	11.3	9.5	8.0	6.5	5.6	5.0	4.6	4.3	4.0	3.8	3.6
35	28.5	22.1	18.7	15.6	13.2	11.1	9.0	7.8	7.0	6.4	5.9	5.5	5.2	4.9
50	38.6	29.9	25.3	21.2	17.9	15.0	12.2	10.6	9.5	8.6	8.0	7.5	7.1	6.7
70	55.9	43.3	36.6	30.6	25.9	21.6	17.7	15.3	13.7	12.5	11.6	10.8	10.2	9.7
95	77.5	60.0	50.7	42.4	35.9	30.0	24.5	21.2	19.0	17.3	16.0	15.0	14.1	13.4
120	97.9	75.8	64.1	53.6	45.3	37.9	31.0	26.8	24.0	21.9	20.3	19.0	17.9	17.0
150	120.3	93.1	78.7	65.9	55.7	46.6	38.0	32.9	29.5	26.9	24.9	23.3	22.0	20.8
185	150.8	116.8	98.8	82.6	69.8	58.4	47.7	41.3	36.9	33.7	31.2	29.2	27.5	26.1
240	198.3	153.6	129.8	108.6	91.8	76.8	62.7	54.3	48.6	44.3	41.0	38.4	36.2	34.3
300	248.7	192.6	162.8	136.2	115.1	96.3	78.6	68.1	60.9	55.6	51.5	48.2	45.4	43.1
400	329.3	255.1	215.6	180.4	152.5	127.6	104.1	90.2	80.7	73.6	68.2	63.8	60.1	57.0
500	401.0	310.6	262.5	219.6	185.6	155.3	126.8	109.8	98.2	89.7	83.0	77.7	73.2	69.5

HV Power Cable

LV Power &amp; Lighting Cable

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Earthing &amp; Bonding wire

VFD Cable

Technical Information



# Technical Information

## 4. Voltage drop

### Calculate fomula

#### 1) D.C. circuit

$$\text{Voltage drop rate} = \frac{R_{dc} \times 2L \times I}{V} \times 100(\%)$$

#### 2) A.C. circuit

$$\text{Voltage drop rate of single-phase A.C.} = \frac{R_{ac} \times 2L \times I}{V} \times \partial \times 100(\%)$$

$$\text{Voltage drop rate of three-phase A.C.} = \frac{R_{ac} \times 2L \times I}{V} \times \frac{\sqrt{3}}{2} \times \partial \times 100(\%)$$

Where

L : Cable length (km)

I : Current(A)

V : Circuit Voltage(V)

R<sub>dc</sub> : D.C. resistance at maximum rated conductor temperature (see following table)

R<sub>ac</sub> : A.C. resistance at maximum rated conductor temperature (see following table)

∂ : Inductive voltage drop coefficient

### Voltage drop coefficient

#### 3.6/6kV RFOU, 3.6/6kV RFCU, 3.6/6kV RFBU

Nominal Area	R-dc (at 20°C)	R-dc (at 90°C)	R-ac (at 90°C)	Inductive voltage drop coefficient						
				Dielectric power factor (at 60HZ & 90°C Conductor temperature)						
mm <sup>2</sup>	Ω/km	Ω/km	Ω/km	100%	95%	90%	85%	80%	75%	70%
10	1.840	2.346	2.346	1.00	0.97	0.93	0.89	0.84	0.80	0.75
16	1.160	1.479	1.479	1.00	0.98	0.95	0.91	0.87	0.82	0.78
25	0.734	0.936	0.936	1.00	1.00	0.97	0.94	0.90	0.86	0.82
35	0.529	0.675	0.675	1.00	1.02	1.00	0.97	0.93	0.90	0.86
50	0.391	0.499	0.499	1.00	1.04	1.02	1.00	0.97	0.94	0.90
70	0.270	0.344	0.344	1.00	1.07	1.07	1.06	1.04	1.01	0.98
95	0.195	0.249	0.251	1.00	1.11	1.12	1.12	1.11	1.09	1.07
120	0.154	0.196	0.198	1.00	1.15	1.17	1.18	1.18	1.17	1.15
150	0.126	0.161	0.164	1.00	1.18	1.23	1.25	1.25	1.25	1.24
185	0.100	0.128	0.131	1.00	1.23	1.30	1.33	1.35	1.35	1.35
240	0.0762	0.0972	0.1010	1.00	1.31	1.40	1.46	1.49	1.51	1.53

#### 6/10kV RFOU, 6/10kV RFCU, 6/10kV RFBU

Nominal Area	R-dc (at 20°C)	R-dc (at 90°C)	R-ac (at 90°C)	Inductive voltage drop coefficient						
				Dielectric power factor (at 60HZ & 90°C Conductor temperature)						
mm <sup>2</sup>	Ω/km	Ω/km	Ω/km	100%	95%	90%	85%	80%	75%	70%
16	1.160	1.479	1.479	1.00	0.99	0.95	0.91	0.87	0.83	0.78
25	0.734	0.936	0.936	1.00	1.00	0.97	0.94	0.90	0.86	0.82
35	0.529	0.675	0.675	1.00	1.02	1.00	0.97	0.94	0.90	0.86
50	0.391	0.499	0.499	1.00	1.04	1.03	1.01	0.98	0.95	0.91
70	0.270	0.344	0.344	1.00	1.08	1.08	1.06	1.04	1.02	0.99
95	0.195	0.249	0.251	1.00	1.12	1.13	1.13	1.12	1.10	1.08
120	0.154	0.196	0.198	1.00	1.16	1.19	1.20	1.19	1.19	1.17
150	0.126	0.161	0.164	1.00	1.19	1.24	1.26	1.27	1.26	1.25
185	0.100	0.128	0.131	1.00	1.25	1.31	1.35	1.37	1.38	1.38
240	0.0762	0.0972	0.1010	1.00	1.32	1.42	1.48	1.52	1.54	1.55

#### 8.7/15kV RFOU, 8.7/15kV RFCU, 8.7/15kV RFBU

Nominal Area	R-dc (at 20°C)	R-dc (at 90°C)	R-ac (at 90°C)	Inductive voltage drop coefficient						
				Dielectric power factor (at 60HZ & 90°C Conductor temperature)						
mm <sup>2</sup>	Ω/km	Ω/km	Ω/km	100%	95%	90%	85%	80%	75%	70%
25	0.734	0.936	0.936	1.00	1.01	0.98	0.94	0.91	0.87	0.83
35	0.529	0.675	0.675	1.00	1.02	1.00	0.97	0.94	0.91	0.87
50	0.391	0.499	0.499	1.00	1.05	1.03	1.01	0.98	0.95	0.92
70	0.270	0.344	0.344	1.00	1.08	1.08	1.07	1.05	1.03	1.00
95	0.195	0.249	0.251	1.00	1.12	1.14	1.14	1.13	1.12	1.10
120	0.154	0.196	0.198	1.00	1.17	1.20	1.21	1.21	1.21	1.19
150	0.126	0.161	0.164	1.00	1.20	1.25	1.28	1.29	1.29	1.28
185	0.100	0.128	0.131	1.00	1.26	1.33	1.37	1.39	1.40	1.40
240	0.0762	0.0972	0.1010	1.00	1.34	1.44	1.50	1.54	1.57	1.58

## ELECTRICAL DATA

### 0.6/1kV(1.8/3kV) RFOU(VFD), 1.8/3kV RFOU(VFD)

No. of Cores	Nominal Area	R-dc (at 20°C)	R-dc (at 90°C)	R-ac (at 90°C)	Inductive voltage drop coefficient						
					Dielectric power factor (at 60Hz & 90°C Conductor temperature)						
No.	mm <sup>2</sup>	ohm/km	ohm/km	ohm/km	100%	95%	90%	85%	80%	75%	70%
3C	25	0.734	0.936	0.936	1.00	0.99	0.95	0.91	0.87	0.83	0.79
3E	6	3.110	3.966	3.966							
3C	35	0.529	0.675	0.675	1.00	1.00	0.97	0.93	0.90	0.86	0.81
3E	6	3.110	3.966	3.966							
3C	50	0.391	0.499	0.499	1.00	1.01	0.99	0.96	0.92	0.89	0.85
3E	10	1.840	2.346	2.346							
3C	70	0.270	0.344	0.344	1.00	1.04	1.02	1.00	0.97	0.94	0.90
3E	16	1.160	1.479	1.479							
3C	95	0.195	0.249	0.251	1.00	1.07	1.07	1.05	1.03	1.00	0.97
3E	16	1.160	1.479	1.479							
3C	120	0.154	0.196	0.198	1.00	1.10	1.11	1.10	1.08	1.06	1.04
3E	25	0.734	0.936	0.936							
3C	150	0.126	0.161	0.164	1.00	1.13	1.15	1.15	1.14	1.12	1.10
3E	25	0.734	0.936	0.936							
3C	185	0.100	0.128	0.131	1.00	1.16	1.20	1.21	1.21	1.20	1.19
3E	35	0.529	0.675	0.675							
3C	240	0.076	0.097	0.101	1.00	1.22	1.28	1.31	1.32	1.33	1.32
3E	50	0.391	0.499	0.499							

### 0.6/1kV(1.8/3kV) BFOU(VFD), 1.8/3kV BFOU(VFD)

3C	25	0.734	0.936	0.936	1.00	0.99	0.95	0.91	0.87	0.83	0.79
3E	6	3.110	3.966	3.966							
3C	35	0.529	0.675	0.675	1.00	1.00	0.97	0.94	0.90	0.86	0.82
3E	6	3.110	3.966	3.966							
3C	50	0.391	0.499	0.499	1.00	1.02	0.99	0.96	0.93	0.89	0.85
3E	10	1.840	2.346	2.346							
3C	70	0.270	0.344	0.344	1.00	1.04	1.03	1.00	0.98	0.94	0.91
3E	16	1.160	1.479	1.479							
3C	95	0.195	0.249	0.251	1.00	1.07	1.07	1.06	1.04	1.01	0.98
3E	16	1.160	1.479	1.479							
3C	120	0.154	0.196	0.198	1.00	1.10	1.11	1.11	1.09	1.07	1.05
3E	25	0.734	0.936	0.936							
3C	150	0.126	0.161	0.164	1.00	1.13	1.15	1.15	1.15	1.13	1.11
3E	25	0.734	0.936	0.936							
3C	185	0.100	0.128	0.131	1.00	1.17	1.21	1.22	1.22	1.21	1.20
3E	35	0.529	0.675	0.675							
3C	240	0.076	0.097	0.101	1.00	1.23	1.29	1.32	1.33	1.34	1.33
3E	50	0.391	0.499	0.499							

### 0.6/1kV(1.8/3kV) FX-RFOU(VFD), 1.8/3kV FX-RFOU(VFD)

3C	25	0.795	1.014	1.014	1.00	0.98	0.95	0.91	0.86	0.82	0.78
3E	6	3.390	4.323	4.323							
3C	35	0.565	0.720	0.720	1.00	1.00	0.96	0.93	0.89	0.85	0.80
3E	6	3.390	4.323	4.323							
3C	50	0.393	0.501	0.501	1.00	1.01	0.99	0.95	0.92	0.88	0.84
3E	10	1.950	2.486	2.486							
3C	70	0.277	0.353	0.353	1.00	1.03	1.02	0.99	0.96	0.93	0.89
3E	16	1.240	1.581	1.581							
3C	95	0.210	0.268	0.270	1.00	1.06	1.05	1.03	1.01	0.98	0.95
3E	16	1.240	1.581	1.581							
3C	120	0.164	0.209	0.211	1.00	1.09	1.09	1.08	1.06	1.04	1.01
3E	25	0.795	1.014	1.014							
3C	150	0.132	0.168	0.172	1.00	1.11	1.13	1.13	1.12	1.10	1.08
3E	25	0.795	1.014	1.014							
3C	185	0.108	0.138	0.142	1.00	1.15	1.17	1.18	1.17	1.16	1.15
3E	35	0.565	0.720	0.720							
3C	240	0.082	0.104	0.108	1.00	1.20	1.25	1.27	1.28	1.28	1.27
3E	50	0.393	0.501	0.501							

HV Power Cable

LV Power &amp; Lighting Cable

Instrumentation &amp; Communication Cable

Earthing &amp; Bonding wire

VFD Cable

Technical Information

# Technical Information

## ELECTRICAL DATA

### 0.6/1kV(1.8/3kV) FX-BFOU(VFD), 1.8/3kV FX-BFOU(VFD)

No. of Cores	Nominal Area	R-dc (at 20°C)	R-dc (at 90°C)	R-ac (at 90°C)	Inductive voltage drop coefficient						
					Dielectric power factor (at 60Hz & 90°C Conductor temperature)						
No.	mm <sup>2</sup>	ohm/km	ohm/km	ohm/km	100%	95%	90%	85%	80%	75%	70%
3C	25	0.795	1.014	1.014	1.00	0.98	0.95	0.91	0.87	0.82	0.78
3E	6	3.390	4.323	4.323							
3C	35	0.565	0.720	0.720	1.00	1.00	0.96	0.93	0.89	0.85	0.81
3E	6	3.390	4.323	4.323							
3C	50	0.393	0.501	0.501	1.00	1.01	0.99	0.96	0.92	0.88	0.85
3E	10	1.950	2.486	2.486							
3C	70	0.277	0.353	0.353	1.00	1.04	1.02	1.00	0.97	0.93	0.90
3E	16	1.240	1.581	1.581							
3C	95	0.210	0.268	0.270	1.00	1.06	1.06	1.04	1.01	0.99	0.95
3E	16	1.240	1.581	1.581							
3C	120	0.164	0.209	0.211	1.00	1.09	1.09	1.08	1.07	1.04	1.02
3E	25	0.795	1.014	1.014							
3C	150	0.132	0.168	0.172	1.00	1.12	1.13	1.13	1.12	1.10	1.08
3E	25	0.795	1.014	1.014							
3C	185	0.108	0.138	0.142	1.00	1.15	1.18	1.18	1.18	1.17	1.15
3E	35	0.565	0.720	0.720							
3C	240	0.082	0.104	0.108	1.00	1.20	1.25	1.28	1.29	1.29	1.28
3E	50	0.393	0.501	0.501							

### 0.6/1kV RFOU, 0.6/1kV RFCU, 0.6/1kV RFBU

Nominal Area	R-dc (at 20°C)	R-dc (at 90°C)	R-ac (at 90°C)	Inductive voltage drop coefficient						
				Dielectric power factor (at 60Hz & 90°C Conductor temperature)						
mm <sup>2</sup>	ohm/km	ohm/km	ohm/km	100%	95%	90%	85%	80%	75%	70%
1.5	12.2	15.6	15.6	1.00	0.95	0.91	0.86	0.81	0.76	0.71
2.5	7.56	9.64	9.64	1.00	0.96	0.91	0.86	0.81	0.76	0.71
4	4.70	5.99	5.99	1.00	0.96	0.91	0.87	0.82	0.77	0.72
6	3.11	3.97	3.97	1.00	0.96	0.92	0.87	0.83	0.78	0.73
10	1.84	2.35	2.35	1.00	0.97	0.93	0.88	0.84	0.79	0.75
16	1.16	1.48	1.48	1.00	0.98	0.94	0.90	0.86	0.81	0.77
25	0.734	0.936	0.936	1.00	1.00	0.96	0.93	0.89	0.85	0.80
35	0.529	0.675	0.675	1.00	1.01	0.98	0.95	0.91	0.88	0.84
50	0.391	0.499	0.499	1.00	1.03	1.01	0.98	0.95	0.92	0.88
70	0.270	0.344	0.344	1.00	1.06	1.05	1.03	1.01	0.98	0.95
95	0.195	0.249	0.251	1.00	1.09	1.10	1.09	1.08	1.05	1.03
120	0.154	0.196	0.198	1.00	1.13	1.15	1.15	1.14	1.12	1.10
150	0.126	0.161	0.164	1.00	1.16	1.19	1.20	1.20	1.20	1.18
185	0.100	0.128	0.131	1.00	1.21	1.26	1.29	1.30	1.30	1.29
240	0.0762	0.0972	0.1010	1.00	1.28	1.36	1.41	1.43	1.45	1.45
300	0.0607	0.0774	0.0820	1.00	1.36	1.47	1.54	1.59	1.62	1.64

## 0.6/1kV BFOU, 0.6/1kV BFCU, 0.6/1kV BFBU

Nominal Area	R-dc (at 20°C)	R-dc (at 90°C)	R-ac (at 90°C)	Inductive voltage drop coefficient						
				Dielectric power factor (at 60Hz & 90°C Conductor temperature)						
mm²	ohm/km	ohm/km	ohm/km	100%	95%	90%	85%	80%	75%	70%
1.5	12.2	15.6	15.6	1.00	0.95	0.91	0.86	0.81	0.76	0.71
2.5	7.56	9.64	9.64	1.00	0.96	0.91	0.86	0.81	0.76	0.71
4	4.70	5.99	5.99	1.00	0.96	0.91	0.87	0.82	0.77	0.72
6	3.11	3.97	3.97	1.00	0.96	0.92	0.87	0.83	0.78	0.73
10	1.84	2.35	2.35	1.00	0.97	0.93	0.89	0.84	0.79	0.75
16	1.16	1.48	1.48	1.00	0.98	0.94	0.90	0.86	0.82	0.77
25	0.734	0.936	0.936	1.00	1.00	0.96	0.93	0.89	0.85	0.81
35	0.529	0.675	0.675	1.00	1.01	0.98	0.95	0.92	0.88	0.84
50	0.391	0.499	0.499	1.00	1.03	1.01	0.98	0.95	0.92	0.88
70	0.270	0.344	0.344	1.00	1.06	1.05	1.03	1.01	0.98	0.95
95	0.195	0.249	0.251	1.00	1.10	1.10	1.10	1.08	1.06	1.03
120	0.154	0.196	0.198	1.00	1.13	1.15	1.15	1.14	1.13	1.11
150	0.126	0.161	0.164	1.00	1.16	1.20	1.21	1.21	1.20	1.19
185	0.100	0.128	0.131	1.00	1.21	1.26	1.29	1.30	1.30	1.30
240	0.0762	0.0972	0.1010	1.00	1.28	1.36	1.41	1.44	1.45	1.46
300	0.0607	0.0774	0.0820	1.00	1.36	1.48	1.55	1.59	1.62	1.64

## 0.6/1kV RU

Nominal Area	R-dc (at 20°C)	R-dc (at 90°C)	R-ac (at 90°C)	Inductive voltage drop coefficient						
				Dielectric power factor (at 60Hz & 90°C Conductor temperature)						
mm²	ohm/km	ohm/km	ohm/km	100%	95%	90%	85%	80%	75%	70%
1.5	12.2	15.6	15.6	1.00	0.95	0.90	0.86	0.81	0.76	0.71
2.5	7.56	9.64	9.64	1.00	0.96	0.91	0.86	0.81	0.76	0.71
4	4.70	5.99	5.99	1.00	0.96	0.91	0.86	0.81	0.77	0.72
6	3.11	3.97	3.97	1.00	0.96	0.92	0.87	0.82	0.77	0.72
10	1.84	2.35	2.35	1.00	0.97	0.92	0.88	0.83	0.79	0.74
16	1.16	1.48	1.48	1.00	0.98	0.94	0.89	0.85	0.80	0.76
25	0.734	0.936	0.936	1.00	0.99	0.95	0.91	0.87	0.83	0.79
35	0.529	0.675	0.675	1.00	1.00	0.97	0.94	0.90	0.86	0.82
50	0.391	0.499	0.499	1.00	1.02	1.00	0.96	0.93	0.89	0.86
70	0.270	0.344	0.344	1.00	1.04	1.03	1.01	0.98	0.95	0.91
95	0.195	0.249	0.251	1.00	1.08	1.08	1.06	1.04	1.02	0.99
120	0.154	0.196	0.198	1.00	1.11	1.12	1.11	1.10	1.08	1.06
150	0.126	0.161	0.164	1.00	1.14	1.16	1.17	1.16	1.15	1.13
185	0.100	0.128	0.131	1.00	1.19	1.23	1.25	1.25	1.25	1.24
240	0.0762	0.0972	0.1010	1.00	1.25	1.32	1.36	1.38	1.39	1.39
300	0.0607	0.0774	0.0820	1.00	1.32	1.42	1.48	1.51	1.54	1.55

## 0.6/1kV BU

Nominal Area	R-dc (at 20°C)	R-dc (at 90°C)	R-ac (at 90°C)	Inductive voltage drop coefficient						
				Dielectric power factor (at 60Hz & 90°C Conductor temperature)						
mm²	ohm/km	ohm/km	ohm/km	100%	95%	90%	85%	80%	75%	70%
1.5	12.2	15.6	15.6	1.00	0.95	0.90	0.86	0.81	0.76	0.71
2.5	7.56	9.64	9.64	1.00	0.96	0.91	0.86	0.81	0.76	0.71
4	4.70	5.99	5.99	1.00	0.96	0.91	0.86	0.82	0.77	0.72
6	3.11	3.97	3.97	1.00	0.96	0.92	0.87	0.82	0.77	0.73
10	1.84	2.35	2.35	1.00	0.97	0.92	0.88	0.83	0.79	0.74
16	1.16	1.48	1.48	1.00	0.98	0.94	0.89	0.85	0.80	0.76
25	0.734	0.936	0.936	1.00	0.99	0.96	0.92	0.88	0.83	0.79
35	0.529	0.675	0.675	1.00	1.00	0.97	0.94	0.90	0.86	0.82
50	0.391	0.499	0.499	1.00	1.02	1.00	0.97	0.93	0.90	0.86
70	0.270	0.344	0.344	1.00	1.05	1.03	1.01	0.99	0.95	0.92
95	0.195	0.249	0.251	1.00	1.08	1.08	1.07	1.05	1.02	1.00
120	0.154	0.196	0.198	1.00	1.11	1.12	1.12	1.11	1.09	1.07
150	0.126	0.161	0.164	1.00	1.14	1.17	1.18	1.17	1.16	1.14
185	0.100	0.128	0.131	1.00	1.19	1.23	1.25	1.26	1.25	1.24
240	0.0762	0.0972	0.1010	1.00	1.25	1.32	1.36	1.38	1.39	1.40
300	0.0607	0.0774	0.0820	1.00	1.32	1.42	1.48	1.52	1.54	1.55

# Technical Information

## VOLTAGE RATING SELECTION

### Selection cable for A.C systems

Supply system	Supply category	System voltage (kV)					Recommended (kV)	
		Phase to earth (U <sub>0</sub> )		Phase to phase (U)		Maximum sustained voltage (U <sub>m</sub> )	IEC standard	BS standards
		Above	Up to and including	Above	Up to and including		U <sub>0</sub> / U	U <sub>0</sub> / U
3-Phase 4-Wire	A & B	-	0.15	-	0.25	0.28	0.15 / 0.25	0.15 / 0.25
		0.15	0.6	0.25	1	1.2	0.6 / 1	0.6 / 1
3-Phase 4-Wire	C	-	-	-	0.15	-	0.15 / 0.25	0.15 / 0.25
		-	-	0.15	0.6	-	0.6 / 1	0.6 / 1
3-Phase 3-Wire	A & B	-	0.15	-	0.25	0.28	0.15 / 0.25	0.15 / 0.25
		0.15	0.6	0.25	1	1.2	0.6 / 1	0.6 / 1
		0.6	1.9	-	3.3	3.6	1.8 / 3	1.9 / 3.3
		1.9	3.8	3.3	6.6	7.2	3.6 / 6	3.8 / 6.6
		3.8	6.35	6.6	11	12	6 / 10	6.35 / 11
		6.35	8.7	11	15	17	8.7 / 15	-
		8.7	12.7	15	22	24	12 / 20	12.7 / 22
3-Phase 3-Wire	C	-	-	-	0.15	-	0.15 / 0.25	0.15 / 0.25
		-	-	0.15	0.6	-	0.6 / 1	0.6 / 1
		-	-	0.6	1.9	-	1.8 / 3	1.9 / 3.3
		-	-	1.9	3.3	3.6	3.6 / 6	3.8 / 6.6
		-	-	3.3	6.6	7.2	6 / 10	6.35 / 11
		-	-	6.6	11	12	8.7 / 15	11 / 11
		-	-	11	15	17.5	12 / 20	12.7 / 22
2-Phase 3-Wire or 2-Phase 4-Wire	A & B	-	0.15	-	0.21	-	0.15 / 0.25	0.15 / 0.25
		0.15	0.6	-	0.84	-	0.6 / 1	0.6 / 1
2-Phase 3-Wire or 2-Phase 4-Wire	C	-	-	-	0.15	-	0.15 / 0.25	0.15 / 0.25
		-	-	0.15	0.6	-	0.6 / 1	0.6 / 1
		-	-	0.6	1.9	-	1.8 / 3	1.9 / 3.3
1-Phase 3-Wire	A & B	-	0.15	-	0.25	0.28	0.15 / 0.25	0.15 / 0.25
		0.15	0.6	0.25	1	1.2	0.6 / 1	0.6 / 1
1-Phase 3-Wire	C	-	-	-	0.15	-	0.15 / 0.25	0.15 / 0.25
		-	-	0.25	0.6	-	0.6 / 1	0.6 / 1
1-Phase 2-Wire or 1-Phase 1-Wire	C	-	-	-	0.15	-	0.15 / 0.25	0.15 / 0.25
		-	-	0.15	0.6	-	0.6 / 1	0.6 / 1
		-	-	0.6	1.9	-	1.8 / 3	1.9 / 3.3
		-	-	1.9	3.3	3.6	3.6 / 6	3.8 / 6.6
		-	-	3.3	6.6	7.2	6 / 10	6.35 / 11
		-	-	6.6	11	12	8.7 / 15	-
		-	-	11	15	17.5	12 / 20	12.7 / 22

**Note)** The rated voltage of the cable for a given application shall be suitable for the operating condition in the system in which the cable is used. To facilitate the choice of the cable, the system are divided into the following three categories

Category A : This category comprises those systems in which any phase conductor than comes in contact with earth or an earth conductor , is automatically disconnected from the system within 1 minute.

Category B : This category comprises those systems in which, under fault conditions, are operated for a short time, not exceeding 8 hours on any occasion, faults in any year should not exceed 125 hours.

Category C : This category comprises all systems which do not fall into categories A and B.

## TEST METHODS & TEST EQUIPMENT

### 1. Flame retardant test



IEC 60332-3. CAT. A (VTFT)

### 2. Fire resistant test



IEC 60331 (at 750°C, 830°C)

### 3. Cold test (Bending / Impact)



CSA C22.2 No.03 (-40°C/ -35°C)

### 4. Halogen content test



IEC 60754-1,2 Test

### 5. Smoke emission test



IEC 61034-1,2 Test

### 6. Oxygen index test



ASTM D 2863

HV Power Cable

LV Power & Lighting Cable

Instrumentation & Communication Cable

Earthing & Bonding wire

VFD Cable

Technical Information



## Technical Information

### 7. Mud resistant test

Mud resistant cables shall be designed with sheathing compounds suitable for installation and operation in contact with MUD unless otherwise specified. Type SHF Mud.

The variation in the tensile strength and elongation at break values from those values obtained on the unaged sample shall not exceed 25%.

The volume swell and weight increase shall not exceed 20% and 15% respectively.

#### 1) IRM 903 requirements

The variation in the tensile strength and elongation at break values from those values obtained on the unaged sample shall not exceed 30%.

#### 2) "Drilling fluid" mud test requirements for sheathing compound SHF mud

Test shall be carried out on dumbbells as specified in IEC 60092-360 Table 6 except that the test fluids and conditions shall be as given in Table 1.

Tesa fluid	Temperature	Duration
Mineral oil type-IRM 903	100°C	7d
Calcium Bromide Brine (Water based)	70°C	56d
Carbo Sea (oil based)	70°C	56d

### 8. Oil resistance

All thermoset sheathed cables shall be suitable for an oil production installation.

The oil resistance properties shall be demonstrated by a test according to IEC 60092-360 Table 6, type SHF2.

# INSTALLATION RECOMMENDATIONS

The following installation recommendations are in accordance with IEC regulation and practice. Different regulations may apply in other countries.

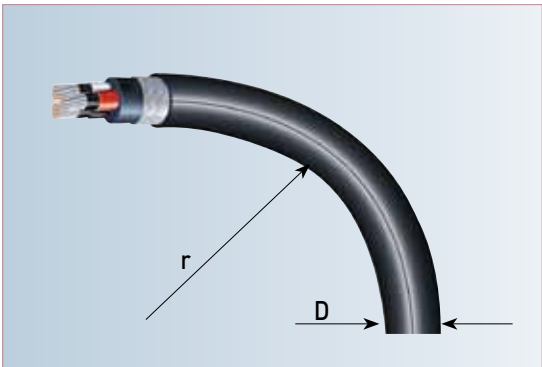
## 1. Minimum cable bending radius

The bending radius for the installation of cables should be not less than the values given as follows;

Type of cable		Minimum bending radius
Unarmored or unbraided		
Up to 1.8/3kV	D ≤ 25mm	4 X D
	D > 25mm	6 X D
	Metal braid screened or armored	6 X D
	Tape screened	8 X D
3.6/6kV above	Single core	12 X D
	3-core	9 X D

Note) For cables rated at 3.6/6(7.2)kV and above employing flexible conductor stranding(Class5) and braid insulation shields indicating a minimum bend radius of 6D for unarmoured cables and 8D for armoured cables in concurrence with the approval of the cable manufacturer.

Notes) D : Overall diameter of cable



## 2. Installation temperature

Minimum recommended installation temperature for cables shall be -20°C. But, if the ambient temperature were below -20°C, the cable should be installed after maintained at room temperature (about 15~25°C) for 24 hours or more.

## 3. Pulling tension

The cable pulling tension during installation can be estimated by means of the following formula:

p=5kg x total cross section of conductors in the armoured cable or,  
p=2.5kg x total cross section of conductors in the unarmoured cable

Additional tension will be supplied from the braid and the insulation and sheathing compound.

## Technical Information

### 4. Explosion risk areas

#### 1) Areas

The areas on board are usually classified in two main categories with regards to the explosion risk :

- ▶ Hazardous areas : Areas in which explosive gas-air mixtures are, or may be expected to be, present in quantities such as to require special precautions for the construction and use of electrical apparatus.
- ▶ Safe areas(non-hazardous areas ) : Area in which explosive gas-air mixtures are not expected to be, present in quantities such as to required special precautions for the construction and use of electrical apparatus.

A hazardous area is divided into three zones :

- ▶ Zone 0 : in which an explosive gas-air mixture is continuously present or present for long periods.
- ▶ Zone 1 : in which an explosive gas-air mixture is likely to occur in normal operation
- ▶ Zone 2 : in which an explosive gas-air mixture is not likely to occur, and if occurs it will only exist for a short time

#### 2) Installation of cables

- ▶ For cables to be used in zone 0 and zone 1, one of the following types of protection is required:
  - A non-metallic outer sheath in combination with braiding or other metallic covering for earth fault detection and mechanical protection. A non-metallic outer sheath is, however, not required if the screen or armouring consists of a corrosion resistant bronze alloy.
  - A lead sheathing in addition to further mechanical protection, for example armour braiding or non-metallic impervious sheath.
  - For mineral insulated cables, a copper or stainless steel sheath.
  - Single core cables in installations with A.C or D.C. current with a high ripple content should be of types without screen or armouring. where mechanical damage is possible, such cables should otherwise be mechanically protected or installed in ducts or similar.
- ▶ For installations in zone 2, cables without screen or armour can be used.

## 5. Earthing of metal coverings of cables

### 1) General requirements

All metal coverings of cables, armouring or shielding shall be earthed. Earthing must be provided at both ends except for final sub-circuits where earthing at only one end (the supply end) is sufficient. Earthing at one end is permitted where it is required for technical or safety reasons, control and instrumentation cables, mineral insulated cables, intrinsically safe circuits, control circuits etc.

Metal covering of single core cable for AC and single core cable for DC with ripple content exceeding 10% and having a current rating exceeding 20A is to be earthed at one and only. when single core cables for AC and DC with ripple content higher than 10% are installed in or passing through hazardous areas, the metal screen or armour is to be earthed inside the hazardous area to avoid dangerous potential between screen armour and earthed part of the installation

### 2) Cross section of earth connections

Earth connections for metal coverings shall be carried out with conductors having cross sectional areas related to the cross sectional areas of the phase conductors and the current ratings of the cables, or at least the same cross sectional areas as the metal covering it self.

### 3) Earthing through metal clamps etc.

Metal coverings of cables may be earthed through clamps. The clamps must grip the metal covering of the cable and must be connected to the hull and provide a good conductive connection between the metal covering and the hull. The metal clamps must be corrosion resistant.

### 4) Earthing through cable glands

The metal coverings of cables may be earthed by means of glands intended for the purpose and so designed as to ensure an effective earth connection. The glands shall be firmly attached to, and in effective electrical contact with, a metal structure earthed in accordance with these regulations.

### 5) Earthing of metal pipes, conduits etc.

Metal pipes and cable conduits are to be earthed. Pipes and conduits may be earthed by being screwed into a metal enclosure, or by nuts in both sides of the wall of metallic enclosure, provided that the surface is clean and free from rust, scale or print.

Comments : For intrinsically safe circuits it is important to separate the earth conductor from the protective earthing. The resistance between a zener barrier earth and protective earth must be max. 1ohm and preferably less than. 0.1ohm to avoid that possible fault current does not lead to a potential increase in the system.

## Technical Information

### 6. Fixing of cables

Cables are to be suitably fixed to the supports. In order to guard against the effects of electrodynamics forces developing on the occurrence of a short circuit, single core cables should be firmly fixed by using supports of a strength adequate to withstand forces corresponding to the values of prospective short circuit current.

The requirement concerning fixing can normally be fulfilled when the cables are clamped as follows:

- For cables entering enclosures and conduits the nearest clamp is to be placed at a minimum distance from the entry of 10 times the diameter the cable concerned from the entry.
- At other points the distance between the clamps must not exceed the in the following table:

External diameter of cable (mm)		Spacing of fixing points (mm)	
Above	Up to	Cables without Metal braid or armor	Cables with copper, bronze or steel braid or armor
-	8	200	250
8	13	250	300
12	20	300	350
20	30	350	400
30	-	400	450

### 7. Mechanical protection of cables

Cables are to be installed in such a way that they are not subject to damaging mechanical stressed. where this can not be obtained the cables are to be protected. Unless the cable itself(for example armour or sheath) provides adequate protection the cables should be:

- Enclosed in suitable conduits or casings
- covered by steel pipes or profiles
- Steel pipes in which the cables are run

in areas where there is an exceptional risk of mechanical damage, for example in cargo hold area or different storage areas, the cables always have to be protected, even when the cables are armoured.

The thickness of the protective conduits must be at least 4mm.

The wall thickness of the protective conduit must be at least 2mm.

Cables lay on aluminum supports may have a corresponding protection of aluminum.

the thickness must be at least 4mm.

Metal casing used for mechanical protection of cables should be efficiently protected against corrosion.

## 8. Installation of cables for fire properties

Cables must at least meet the flame retardant requirements. On board passenger ships, cargo-ships and mobile offshore units, where requirements are considered to be satisfied if the cables have characteristics complying with the cable bunch test IEC-Publication 60332-3, or fire stops are installed in accordance with the following recommendations: When cable complying with single-cable test, but not the cable-bunch-test, are installed, fire stops are to be provided in enclosed or semi-enclosed spaces except for cargo rooms and tunnels in cargo areas.

### a) For vertical cable runs

- with a max. distance between fire stops of two decks or 6 meters, unless installed in totally enclosed cable ducts
- at the main and emergency switchboard
- where cables enter into an engine control room
- at centralized control panels for propulsion machinery and essential auxiliaries
- at the entrance to cables ducts

### b) For horizontal cable runs.

- Fire stops shall be as specified in item a) above but the maximum distance between fire stops may be increased to 14m.

When choosing cable types special attention should be paid to reduce possible damage due to corrosion in case of a fire. Non-halogen free cables(materials) will give off corrosive gases during a fire.

The corrosion effect depends on the amount of halogens in the materials used.

Flame retardant cables are to give characteristics complying with the test requirements in IEC-Publication 60332-1, with amendments.

Fire resistant cables are to give characteristics complying with the requirements in IEC-Publication 60331.

## 9. Intrinsically safe installations

Cables and flexible cables for intrinsically safe circuits must have screen or similar of a conducting material and the outer sheath must be of an insulating material. A non-metallic outer sheath is, however, not required if the screen or armour consists of a corrosion resistant bronze alloy. Where there is no danger of interference from the external electrical or magnetic fields, short flexible cables may be used without screen.

### a) Associated equipment

Associated equipment(e.g.power supply units) shall be situated in a safe area or has protection as mentioned in "Explosion risk areas."

### b) Connection of equipment

Within limitations laid down in 3., ordinary non-explosion protected equipment may be connected to intrinsically safe equipment, provided that it is designed to meet regulations in other respects.

### c) Compliance with any limitations in the certificate

With intrinsically safe circuits special considerations must be given to ensure that the circuits characteristics (including connected equipment, cables, conductors etc.) satisfy any limitations in the test certificate.

Such limitations may be maximum values for capacitance and inductance etc. It is pointed out there is a danger of damage to i.s equipment when using normal equipment for insulation testing

### d) Adjacent location

Conductors for i.s safe circuits and conductors for non-i.s safe circuits shall not be run together in the same cable, flexible cable, conduit, cables bunch etc.

### e) Protection against electrical and magnetic fields

Where i.s circuits are exposed to magnetic or electrical field that may destroy the intrinsic safety of the system.

Precautions must be taken during installation. Such precautions may be:

- cables for i.s circuits and non-i.s circuits to be installed a minimum distance of 50mm apart.
- The minimum distance to heavy current cables using D.C with a high ripple content should be 300mm.
- cables for i.s circuits and non-i.s circuits to be separated panel of conducting material which is earthed.
- cables for i.s circuits to have effective transposition.

### f) Marking

The marking may be a marking plate or by colour marking of the cables when using colour marking, the colour should be light blue.



# Technical Information

## CORE IDENTIFICATION

### 1. High voltage power cables

The individual cores shall be identified by the colored semi-conducting tape or colored ribbon tape run longitudinally on the non-metallic part of insulation screening and the colour scheme shall be as follows:

1 core : Off-white (Grey)

3 core : Off-white (Grey), Black, Red, or Off-white(Grey), Red, Blue

### 2. Low voltage power and control cables

The insulated cores shall be identified by the color of insulation or by the number printed on insulated cores; as follows

#### 1) NEK-606 standard

1core : Off-white(Grey) or Black

2core : Off-white, Black

3core : Off-white, Black, Red

4core : Off-white, Black, Red, Blue or Black, Off-white, Red, Green.

5core and above core: white number on black insulation or black number on white insulation

Earth core : Green/Yellow (green base with yellow stripe)

#### 2) CENELEC harmonization document HD 308 S2

2C	-	-				2C	Blue	Brown			
3C	Green / Yellow	Blue	Brown			3C	-	Brown	Black	Grey	
4C	Green / Yellow	-	Brown	Black	Grey	4C	Blue	Brown	Black	Grey	
5C	Green / Yellow	Blue	Brown	Black	Grey	5C	Blue	Brown	Black	Grey	Black

### 3. Instrumentation and communication cables

Each pair/triad shall be identified as follows.

- Pairs : Black, Light blue or Black, White

- Triads : Black, Light blue, Brown or Black, White, Red

For identification of multi-pair/triad cables, pair/triad are identified by lapping of the numbered tape or by the number print directly on the each cores, and the number interval shall be 100mm or less.

The other color scheme may be applicable when purchaser required.

# Handling, Installation Method & Notice

**O-Route®**  
NEK-606, IEC 60092-350, 353, 354, 376

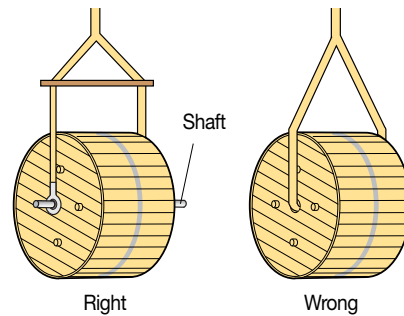
## ■ Loading & Transportation

### 1. In case of a crane

Should transport by using standard rope and a shaft which is put in the center of drum.

\* Matters that requires attention

- Placing it even with the ground.
- Should move slowly and when it placedown, don't do sudden stop.

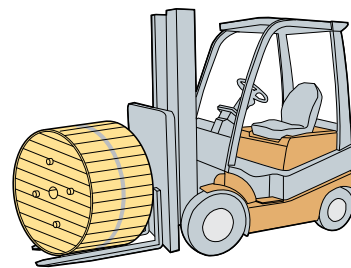


### 2. In case of a forklift

Drums should not be damaged by a forklift.

\* Matters that requires attention:

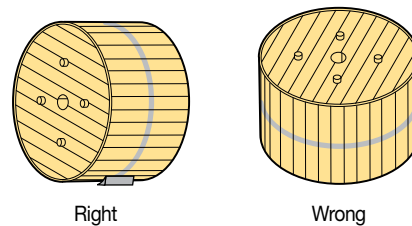
- Place the drum on the center of a fork.
- The width of a fork should be longer than drum size.



## ■ Transportation and Unloading

\* Matters that requires attention while handling cables.

- Don't lie drums down.
- Don't move it 20m longer when rolling it.
- Don't use gimlets or something like sharp when moving.
- Don't roll a damaged drum.
- Don't roll at projecting surface.
- Don't store drum near to stove and heater.



## Check point while handling cables(Storage)

### ■ Storage

- Don't leave the protecting packing materials and outside package until remove it for setting up cables.
- Should construct a fence to protect against damages by moving machines.
- Keep it inside or in depository when safekeeping in long term.  
(For reference, drums and packages can stand against dry whether outside the house)
- Must seal both sides of cables remaining in the drums the cap and heat-contracting tube so that moisture doesn't soak in after finishing the removal of exterior packing materials and cutting and installing cables.

# Certificates Approved



Cert. of ISO 9001



Cert. of ISO 14001



Cert. of OHSAS 18001

## O-Route®

NEK-606, IEC 60092-350, 353, 354, 376



ABS



DNV



BV



GOST-R



[www.tmc-cable.com](http://www.tmc-cable.com)

**Head Office / Ipjang Factory**

443, Yeongok-gil, Ipjang-myeon, Seobuk-gu, Cheonan-si, Chungcheongnam-do, Korea  
Tel. +82-41-589-6500 Fax. +82-41-589-6400

**Bukmyeon Factory**

5, Myungduk 1-gil, Buk-myeon, Dongnam-gu, Cheonan-si, Chungcheongnam-do, Korea  
Tel. +82-41-554-0630 Fax. +82-41-553-7166

**Sales Office**

Songhyun Tower 136, Unjung-ro, Bundang-gu, Seongnam-si, Gyeonggi-do, Korea  
Tel. +82-31-8038-9900 Fax. +82-31-8038-9905

**Geoje Office**

1F. Hyosung Bldg, 107-3 Yongso 1-gil Geoje-si, Gyeongsangnam-do, Korea  
Tel. +82-55-688-5261 Fax. +82-55-688-5262

**Dalian Office (China)**

Europark Soho A1 No. 96 Changjiang East Road Zhongshan District 912 Room Dalian, China 116007  
Tel. +86-411-3902-0518 Fax. +86-411-3902-0518