

## nkt cables CB/CC Screened T-Connectors

CB/CC MV switchgear connections for EN 50180/50181 Type C



**nkt cables manufactures a wide range of cables and cable accessories and is the leading supplier of medium voltage screened connectors across much of Australasia.**

nkt cables was the first to manufacture silicone rubber cable terminations and now has 50 years' experience, in applications up to 400 kV.

The CB/CC range of screened T-connectors and coupling connectors are made of silicone rubber for connecting to medium voltage switchgear, RMUs and transformers fitted with Type C bushings according to EN 50180/50181.

The silicone rubber grade used in CB/CC connectors is durable, UV and ozone resistant, waterproof, non-flammable, self-extinguishing and heat resistant. Together with its excellent mechanical and electrical

properties, this makes it the preferred material for 11-33 kV screened connectors.

In addition to offering high quality electrical insulation and superior corona and tracking resistance, the elasticity of silicone rubber facilitates a wide application range for each CB/CC size. So one product can be used for many different conductor cross-sections.

The Type C bolted connection type is secure and safe and is very widely used, with sizes available up to 1000 mm<sup>2</sup>. Installation is straightforward and fast, requiring no special tools.

The outer screen is a fully bonded conductive layer specially developed by nkt cables for long term reliability. Operation is maintenance free.

Screened connectors for interface Sizes A, B and F are also available.

# Product Data Sheet

## nkt cables screened connectors for Type C interface

Hamer Code		System Voltage			Application range				Dimensions	
		11kV	22kV	33kV	Cross section <sup>1</sup> , mm		Insulation diameter, mm		Approx length <sup>2</sup>	Approx depth <sup>3</sup>
T-connector	Coupling connector				Min	Max	Min	Max	mm	mm
NKTCB12630C0	NKTCC12630C0	✓			25	70	12.7	19.2	245	190
NKTCB12630D2	NKTCC12630D2	✓				95		25.0		
NKTCB12630G1	NKTCC12630G1	✓			95	150	17.0	24.3		
NKTCB12630G3	NKTCC12630G3	✓						32.6		
NKTCB12630L4	NKTCC12630L4	✓			185	240	21.2	33.6		
NKTCB12630L5	NKTCC12630L5	✓						34.6		
NKTCB12630M5	NKTCC12630M5	✓			300	300		33.6		
NKTCB12630M4	NKTCC12630M4	✓						33.6		
NKTCB12630N6	NKTCC12630N6	✓			400	500	28.9	40.0	385	
NKTCB24630C3	NKTCC24630C3		✓		25	95	12.7	25.0	245	190
NKTCB24630H5	NKTCC24630H5		✓		95	240	21.2	34.6		
NKTCB24630M5	NKTCC24630M5		✓		300	300		34.6		
NKTCB241250P7	NKTCC241250P7	✓	✓		400	630	34.0	45.6	385	
NKTCB36630A2	NKTCC36630A2			✓	25	35	17.0	24.3	245	190
NKTCB36630F4	NKTCC36630F4			✓	50	120	21.2	33.6		
NKTCB36630K6	NKTCC36630K6			✓	150	240	28.9	40.0		
NKTCB36630M6	NKTCC36630M6			✓	300	300		40.0		
NKTCB361250N7	NKTCC361250N7			✓	400	500	34.0	45.6	385	190
NKTCB361250P8	NKTCC361250P8			✓	400	630	39.1	51.0		
NKTCB421250R8				✓	630	800		51.0	440	200
NKTCB421250S9				✓	630	1000	45.5	57.8		

## Test requirements

Test	Test voltage	Product voltage code				Requirements
		NKTCB12 <sup>4</sup>	NKTCB24 <sup>5</sup>	NKTCB36 <sup>6</sup>	NKTCB42 <sup>7</sup>	
Humidity and salt fog	1.25 U <sub>o</sub>	7.5 kV	15 kV	22.5 kV	26 kV	No Breakdown or flashover, <3 ignitions, no visual damage.
Partial discharge	2 U <sub>o</sub>	12 kV	24 kV	36 kV	42 kV	XLPE cable: ≤10 pC
Thermal cycling 500 h <sup>8</sup>	2.5 U <sub>o</sub>	15 kV	30 kV	45 kV	52 kV	No breakdown or flashover
AC withstand 5min	4.5 U <sub>o</sub>	27 kV	54 kV	81 kV	94 kV	
DC withstand 15 min	6 U <sub>o</sub>	36 kV	72 kV	108 kV	125 kV	
Impulse withst and ±10x	-	75 kVpk	125 kVpk	170 kV	200 kV	

# Product Data Sheet

## nkt cables screened coupling surge arresters

Hamer code	Residual voltages							
	Max continuous operating voltage, $U_c$	Rated voltage, $U_r$	Nominal discharge current, $I_n$	Steep current impulse (5/10 kA, 1/20 $\mu$ s)	Long duration current impulse (125 A, 30/75 $\mu$ s)	Lightning current impulse (5/10 kA, 8/20 $\mu$ s)	Partial discharge at 1.05x $U_c$	Approx length <sup>9</sup>
	kV	kV	kA	kV	kV	kV	pC	mm
NKTCSA125	12	15	5	43.1	30.3	27	<5	270
NKTCSA1210	12	15	10	42.8	30.1	40.0		225
NKTCSA245	24	30	5	86.1	60.6	79.7		370
NKTCSA2410	24	30	10	85.3	61.4	79.7		345
NKTCSA3610	36	45	10	128.0	92	85.2		470

## nkt cables accessories for inner cone connectors

Hamer code	Description	Max system voltage kV	Notes
NKTCBEAS630	End plug for C type connectors	33	Fits into front of T-connector (in place of bushing)
NKTCBC40630	End cover for C type bushings		Fits onto bushing in place of T-connector
NKTCBE20M12	Earthing plug for NKTCB12/24/36630 connectors		Fits into back of T-connector to provide earthing point (20 mm dia)
NKTCBE20M16	Earthing plug for NKTCB36/421250 connectors		Fits into back of T-connector to provide test point for AC, DC, VLF testing
NKTCBPAKM12	Test adaptor for NKTCB12/24/36630 connectors		
NKTCBPAKM16	Test adaptor for NKTCB36/421250 connectors	-	Always use the correct assembly paste
NKT-PASTE	Assembly paste (60 g tube)		

### Notes

- Maximum size is for AL or CU RMV conductor
- From bushing centre line to end of stress cone
- From mounting face to back plug cover
- $U_c = 6 \text{ kV} / U = 10 \text{ kV} / U_m = 12 \text{ kV}$
- $U_c = 12 \text{ kV} / U = 20 \text{ kV} / U_m = 24 \text{ kV}$
- $U_c = 18 \text{ kV} / U = 30 \text{ kV} / U_m = 36 \text{ kV}$
- $U_c = 20.8 \text{ kV} / U = 36 \text{ kV} / U_m = 42 \text{ kV}$
- AC withstand 15 min
- From mounting face to end of arrester (excluding earth stud)