



Power Electronics & Cable Solutions



PRODUCT CATALOGUE

ABOUT US



PHD Power is a South African based distributor of cable, power electronics and fans. Our products are sourced globally and adhere to high international standards to ensure that our clients are supplied the best!

With over 10 years experience in the power industry, our staff is equipped with the knowledge to find the right products for a customer's application.

We strive to provide the best service at the most competitive prices.

CABLE

Our extensive range of power cable provides customers with the quality and flexibility required for various applications. These cables are ideally suited for use in exposed and concealed locations with dry, damp or wet environments. Cable can be measured and cut to customer's specification or supplied in complete drums.



FANS

We supply high quality AC and DC cooling fans used in computers and machines where ventilation is essential. Our fans are power efficient, quiet in operation with minimal electromagnetic and radio interference. Accessories for fans such as chrome silver guards or dust filters are also available



POWER ELECTRONICS

Our electronics division includes power semiconductors such as thyristors, diodes, rectifiers, IGBTs' and assemblies. Each component is available in an extensive range of voltage and current ratings, recovery times, case configurations and terminations depending on its application.



In 2022, we expanded our service to the Western Cape opening a branch under the entity Powertex Distributions.



RUBBER CABLES

1-6	HO7RN-F
7-8	OZOFLEX (S07RC4N8-F)
9-10	OZOFLEX (PLUS) S1RN8-F
11	TYPE 41

HEAT RESISTANT CABLES

12	SILICONE SINGLE CORE
13-15	SILICONE CABTYRE
16	UNILEV
17	POLY BRAID

PVC CABLES

18	PVC WELDING
19	ORANGE TRAILING
20	SUBMERSIBLE
21	PANEL FLEX
22	CABTYRE
23	GENERAL PURPOSE WIRE
24	FLEXTEL

MARINE CABLES

25	SIENOPVR FR (L) M2XH
26	SIENOPVR FR (L) M2CXH

SOLAR CABLES

27	H1Z2Z2-K
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CABLE TERMINALS

28-30	LUGS
31	PIN LUGS
31	NARROW PALM LUGS
32	FERRULES
33-34	TORQUE SHEAR LUGS & FERRULES
35	BW INDUSTRIAL GLANDS
36	A2 COMPRESSION GLANDS

CABLE ACCESSORIES

37	CABLE TIES
37	NITTO TAPE

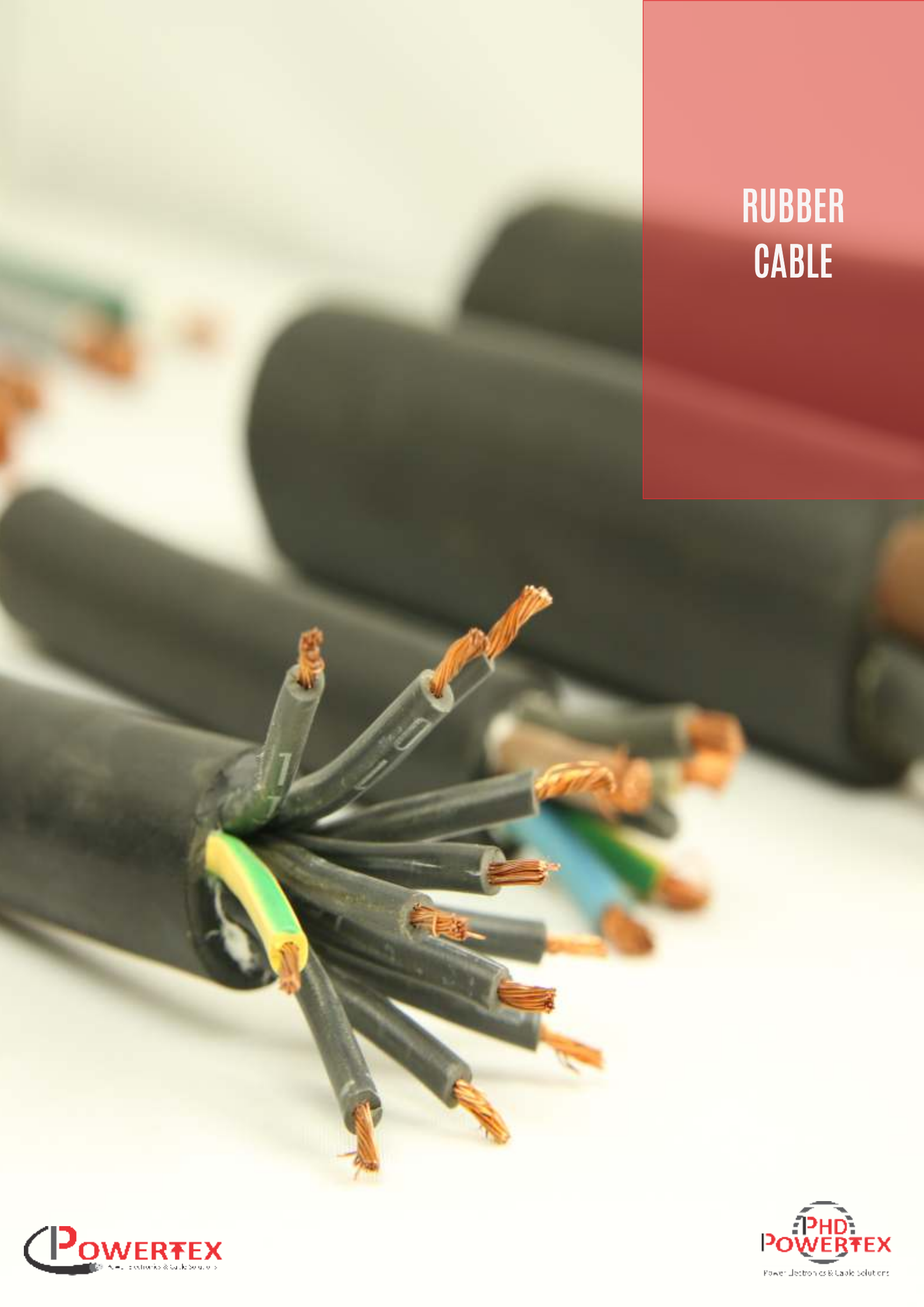
FANS

38	AC TUBE AXIAL FANS
39	DC TUBE AXIAL FANS
40	FAN ACCESSORIES

POWER ELECTRONICS

41-42	DIODES
43-44	THYRISTORS
45-46	SCR/DIODE MODULES
47-49	BRIDGE RECTIFIERS
50	IGBT
51-52	MACMIC
53	ALUMINIUM RESISTORS
54	PLATE RECTIFIERS
55	EZYTRIGGER
56	HD METAL OXIDE VARISTORS
57	TEMPERATURE SWITCHES
58	CAPACITORS
59	SOLID STATE RELAYS

RUBBER CABLE





PROPERTIES

Nominal Voltage:	450/750V
Max. Voltage:	Fixed and protected insulation: 1000V
Temperature Rating:	Fixed : -40°C to +60°C Fixed and protected : +85°C
Min. Bending Radius:	Fixed : $D < 8 D = 3D < 3D 12 = D < 20 = 4D D > 20 = 4D$ Free: $D < 8 D = 4D < 12 = 4D D < 5D = 20 > 20 = 6D$
Max. Pulling Stress:	Fixed: 50 N/mm ² Copper Dynamic Applications: 15 N/mm ²

APPLICATION

This cable is designed primarily as trailing cable for portable and mobile equipment where it is often subject to medium mechanical stress. These cables provide high flexibility and has the capacity to withstand weather, oil/grease, mechanical and thermal stresses. It is used in pumps, refrigerators, catering equipment, power tools, boilers, heating plates, portable lamps, motors, generators and other heavy mechanical electrical equipment. It is suitable for dry, humid or wet environments in open air.

CONSTRUCTION

Conductor:	Flexible class 5 copper
Insulation:	Ethylene Propylene Rubber (EPR)
Sheath:	Polychloroprene (PCP)
Sheath Colour:	Black

CORE IDENTIFICATION

Single Core	: Black
Two Cores	: Blue - Brown
Three Cores	: Brown - Black - Grey (or Y/G, Blue-Brown)
Four Cores	: Blue-Brown-Black-Grey (or Y/G instead of Blue)
Five Cores	: Y/G-Blue-Brown-Black-Grey
Multi-Cores	: Black with number markings

STANDARDS

- » Ozone Resistant according to:
- » CEI EN 60811-2-1 (Test method A)
- » CEI EN 50396 (Test Method B)
- » CEI EN 50525-2-21 CEI 20-107/2-21
- » CEI 20-19/4 (CENELEC HD 22.4 S4)
- » BS 7919:2001 NF C 32-102-4
- » VDE 0282-4
- » EN 50575:2014 + EN 50575/A1:2016
- » SANS 1574-5
- » SANS 1574-1



PACKAGING

Sold in full drums or cut to specification

FLEXIBLE RUBBER INSULATED CABLE

Cores No.	Cross Section	Approx. Conductor Diam.	Insulation Medium Thickness	Approx. External Production Diam.	Approx. Cable Weight	Electric Resistance at 20°C	Mobile Service Current Carrying Capacity at 60°C (conductor temp)	Current Carrying Rate for Fixed Installation at 85°C of conductor (temp. open air)
(N°)	(mm²)	(mm)	(mm)	(mm)	(kg/km)	(Ohm/km)	(A)	(A)
SINGLE CORE								
1x	1.5	1.6	0.8	5.90	50	13.3	16	23
1x	2.5	2.0	0.9	6.50	65	7.98	25	32
1x	4	2.6	1.0	7.40	89	4.95	30	43
1x	6	3.4	1.0	8.10	115	3.3	38	56
1x	10	4.4	1.2	10.40	190	1.91	53	77
1x	16	5.7	1.2	11.62	259	1.21	70	102
1x	25	6.9	1.4	13.74	375	0.78	94	136
1x	35	8.1	1.4	15.35	492	0.554	117	168
1x	50	9.8	1.6	17.68	675	0.386	148	203
1x	70	11.6	1.6	20.00	908	0.272	185	254
1x	95	13.3	1.8	22.12	1171	0.206	222	299
1x	120	15.1	1.8	24.54	1445	0.161	260	363
1x	150	16.8	2.0	26.87	1783	0.129	300	416
1x	185	18.6	2.2	28.89	2125	0.106	341	475
1x	240	21.4	2.4	32.62	2733	0.0801	407	559
1x	300	23.9	2.6	36.46	3348	0.0641	468	637
1x	400	27.5	2.8	39.60	4800	0.0486	553	722
1x	500	35.0	3.0	45.50	5800	0.0384	620	833
1x	630	39.0	3.0	49.50	6800	0.0287	742	888

FLEXIBLE RUBBER INSULATED CABLE

Cores No.	Cross Section	Approx. Conductor Diam.	Insulation Medium Thickness	Approx. External Production Diam.	Approx. Cable Weight	Electric Resistance at 20°C	Mobile Service Current Carrying Capacity at 60°C (conductor temp)	Current Carrying Rate for Fixed Installation at 85°C of conductor (temp. open air)
(N°)	(mm²)	(mm)	(mm)	(mm)	(kg/km)	(Ohm/km)	(A)	(A)
TWO CORES								
2x	1	1.3	0.8	8.40	90	19.5	10	18
2x	1.5	1.6	0.8	9.10	109	13.3	18	23
2x	2.5	2.0	0.9	10.80	158	7.98	27	32
2x	4	2.6	1.0	12.40	217	4.95	34	43
2x	6	3.4	1.0	13.80	282	3.3	43	56
2x	10	4.4	1.2	19.37	539	1.91	60	77
2x	16	5.7	1.2	21.76	722	1.21	79	102
2x	25	6.9	1.4	25.93	1043	0.78	105	136
2x	35	8.1	1.4	28.77	1169	0.554	129	168
2x	50	9.8	1.6	33.10	1606	0.386	150	203
2x	70	11.6	1.6	37.80	2140	0.272	185	254
THREE CORES								
3G	1	1.3	0.8	9.07	110	19.5	10	18
3G	1.5	1.6	0.8	10.18	134	13.3	16	23
3G	2.5	2	0.9	11.58	196	7.98	25	32
3G	4	2.6	1.0	13.30	271	4.95	29	43
3G	6	3.4	1.0	14.78	355	3.3	36	56
3G	10	4.4	1.2	20.73	674	1.91	51	77
3G	16	5.7	1.2	23.26	913	1.21	67	102

FLEXIBLE RUBBER INSULATED CABLE

Cores No.	Cross Section	Approx. Conductor Diam.	Insulation Medium Thickness	Approx. External Production Diam.	Approx. Cable Weight	Electric Resistance at 20°C	Mobile Service Current Carrying Capacity at 60°C (conductor temp)	Current Carrying Rate for Fixed Installation at 85°C of conductor (temp. open air)
(N°)	(mm²)	(mm)	(mm)	(mm)	(kg/km)	(Ohm/km)	(A)	(A)
THREE CORES								
3G	25	6.9	1.4	27.69	1324	0.78	89	136
3G	35	8.1	1.4	30.95	1754	0.554	110	168
3G	50	9.8	1.6	35.80	2409	0.386	138	203
3G	70	11.6	1.6	40.45	3211	0.272	172	254
3G	95	13.3	1.8	45.08	4210	0.206	204	299
3G	120	15.1	1.8	49.93	5205	0.161	238	363
3G	150	16.8	2.0	54.78	6389	0.129	273	416
3G	185	18.6	2.2	58.99	7591	0.106	309	475
3G	240	21.4	2.4	67.85	9944	0.0801	365	559
3G	300	23.9	2.6	75.56	10133	0.0641	450	637
FOUR CORES								
4G	1	1.3	0.8	10.0	136	19.5	10	16
4G	1.5	1.6	0.8	10.76	166	13.3	16	21
4G	2.5	2	0.9	12.73	241	7.98	20	29
4G	4	2.6	1.0	14.63	336	4.95	30	38
4G	6	3.4	1.0	16.44	449	3.3	37	50
4G	10	4.4	1.2	22.57	833	1.91	52	68
4G	16	5.7	1.2	25.36	1138	1.21	69	92
4G	25	6.9	1.4	30.75	1714	0.78	92	122

FLEXIBLE RUBBER INSULATED CABLE

Cores No.	Cross Section	Approx. Conductor Diam.	Insulation Medium Thickness	Approx. External Production Diam.	Approx. Cable Weight	Electric Resistance at 20°C	Mobile Service Current Carrying Capacity at 60°C (conductor temp)	Current Carrying Rate for Fixed Installation at 85°C of conductor (temp. open air)
(N°)	(mm²)	(mm)	(mm)	(mm)	(kg/km)	(Ohm/km)	(A)	(A)
FOUR CORES								
4G	35	8.1	1.4	34.23	2204	0.554	114	150
4G	50	9.8	1.6	39.56	3029	0.386	143	182
4G	70	11.6	1.6	44.89	4121	0.272	178	232
4G	95	13.3	1.8	50.36	5361	0.206	210	281
4G	120	15.1	1.8	55.33	6546	0.161	246	325
4G	150	16.8	2.0	60.87	8095	0.129	282	373
4G	185	18.6	2.2	65.70	9652	0.100	319	425
4G	240	21.4	2.4	75.70	12614	0.0801	377	500
4G	300	23.9	2.6	86.33	13890	0.0641	460	588
FIVE CORES								
5G	1	1.3	0.8	11.0	168	19.5	10	16
5G	1.5	1.6	0.8	11.80	206	13.3	16	21
5G	2.5	2	0.9	13.95	297	7.98	20	29
5G	4	2.6	1.0	16.25	422	4.95	30	38
5G	6	3.4	1.0	18.07	567	3.3	38	50
5G	10	4.4	1.2	24.75	1010	1.91	54	68
5G	16	5.7	1.2	28.01	1400	1.21	71	92
5G	25	6.9	1.4	33.57	2096	0.78	94	122
5G	35	8.1	1.4	39.20	2697	0.554	114	150

FLEXIBLE RUBBER INSULATED CABLE

Cores No.	Cross Section	Approx. Conductor Diam.	Insulation Medium Thickness	Approx. External Production Diam.	Approx. Cable Weight	Electric Resistance at 20°C	Mobile Service Current Carrying Capacity at 60°C (conductor temp)	Current Carrying Rate for Fixed Installation at 85°C of conductor (temp. open air)
(N°)	(mm ²)	(mm)	(mm)	(mm)	(kg/km)	(Ohm/km)	(A)	(A)
FIVE CORES								
5G	50	8.9	1.6	45.4	3740	0.386	143	182
5G	70	11.6	1.6	48.0	5033	0.272	178	232
5G	95	13.3	1.8	53.22	6271	0.206	210	281
MULTI- CORES								
7G	1.5	1.6	0.8	15.30	315	13.30	16	21
7G	2.5	2.0	0.9	17.90	445	7.98	20	29
7G	4	2.6	1.0	19.64	618	4.95	25	38
10G	1.5	1.6	0.8	17.9	420	13.3	16	21
12G	1.5	1.6	0.8	18.4	493	13.3	16	21
12G	2.5	2.0	0.9	22.17	702	7.98	20	29
12G	4	2.6	1.0	25.77	1004	4.95	25	38
19G	1.5	1.6	0.8	22.79	710	13.3	16	21
19G	2.5	2	0.9	26.25	1030	7.98	20	29
24G	1.5	1.6	0.8	25.04	898	13.3	16	21
24G	2.5	2.0	0.9	29.37	1312	7.98	20	29
36G	1.5	1.6	0.8	29.3	1246	13.3	16	11
36G	2.5	2.0	0.9	35.0	1851	7.98	20	29

CROSS LINKED ELASOMETRIC INSULATION

PROPERTIES



Nominal Voltage:	450/750V
Max. permissible Operating Voltage	AC: 0.476/0.825 kV DC: 0.619/1.238 kV
AC Test Volatage (Main Cores)	2.5 kV (15 Min.)
Max. Submersing Depth:	500 meters
Temperature Rating:	Fixed : -40°C to +90°C Free : -25°C
Max. Water Temperature	40°C
Min. Bending Radius:	Fixed : 4 X ODmax. Free : 6 x ODmax.

APPLICATION

This cable is commonly utilised for making connections to electrical equipment used in a waste-water environments that are subject to medium mechanical stress. It caters for frequency converter controlled AC drives where there is considerable demands in respect of electromagnetic compatibility (EMC) according to the EMC directive imposes.

For an effective shielding, both ends of cable must have a good shield contact to ground. For connection with 1-level frequency converter (rated output voltage max. 690V), owing to the various (and frequently changing) substances of which the contaminated water is made up, the cables may be used only in easily accessible areas that can be inspected (installation depth of approximately 10 meters, as customarily encountered in sewage water tanks).

This cable is also suitable for use in process water, cooling water, mine surface water, rainwater and combined waste water. Under certain circumstances they can be suitable for groundwater and seawater; it is possible to impose less stringent specifications in terms of accessibility and inspection. In such cases the cables can be used at depths up to 500 m. (The water types are defined in accordance with DIN 4045 and DIN 4046). If the water concerned is aggressive or composed of special substances, the cable's resistance properties should be examined.

These cables can be used indoors, outdoors, in explosion-hazard areas to DIN VDE 0165, in fire-hazard locations, on construction sites in accordance with DIN VDE 0100 Part 704, in open-cast mining and in quarries in accordance with DIN VDE 0168, in industry and in agriculture. They can also be permanently installed, e.g. on plaster, on excavators or on hoisting gear. If they are permanently installed in protective conduits or equipment, or e.g. in well installations or are used as rotor circuit cables for motors, the cables may be operated with an AC voltage of up to 1000 V or a DC voltage to earth of up to 750 V. The permissible AC test voltage in connection with motor tests is 3 kV, the maximum test duration is 3 minutes. In other respects the specifications of DIN VDE 0298-300 apply

CORE IDENTIFICATION

Conductor:	Copper, finely stranded, class 5 in accordance with DIN VDE 0295 / IEC 60228; tinned up to and including 6mm ²
Insulation:	Vulcanized rubber compound insulation and inner sheath, basis EPR, compound EI7 in accordance with DIN EN 50363 (VDE 0207)
Inner Sheath:	Vulcanized rubber compound, basis EPR, compound EM6 in accordance with DIN EN 50363. Light in colour
Screen:	Braid of tinned copper wires
Outer Sheath:	Vulcanized rubber compound, basis CPE, compound EM7 in accordance with DIN EN 50363
Sheath Colour:	Black

CONSTRUCTION

Up to 5 cores: coloured in accordance with DIN VDE 0293-308
From 6 cores: black with white numerals

STANDARDS

- » Flame propagation : DIN EN 60332-1-2
- » Resistance to oil : DIN EN 60811-404
- » Water resistance : DIN EN 50525-2-21
- » Based on EN 50525-2-21

PACKAGING

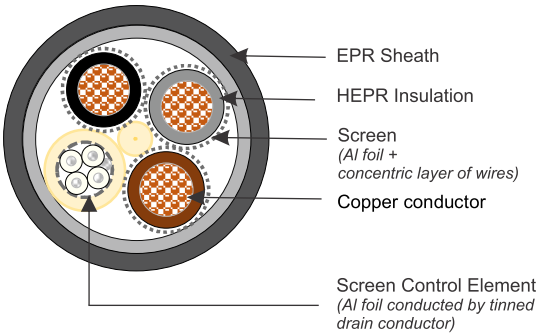
Sold in full drums or cut to specification

Cores No.	Cross Section	Approx. Conductor Diam.	Outer Diameter		Bending Radius		Cable Weight Net 1000m	Current Carrying Capacity at 30°C	Permissible Short Circuit Current (1s)	Permissible Pulling force
			Min	Max	Fixed Install (Min)	Free Moving (Min)				Max
(N°)	(mm²)	(mm)	(mm)	(mm)	(mm)	(mm)	(kg)	(A)	(kA)	(N)
FOUR CORES										
4x	1.5	1.5	12.8	14.4	58	72	266	23	0.21	90
4x	2.5	1.9	15.2	17.2	69	86	388	30	0.36	150
4x	4	2.4	17.0	19.0	76	95	516	41	0.57	240
4x	6	2.9	18.9	20.9	84	105	630	53	0.86	360
4x	10	3.9	23.1	25.1	100	126	972	74	1.43	600
4x	16	5.7	26.6	29.6	118	148	1447	99	2.29	960
4x	25	6.8	31.8	34.8	139	174	2015	131	3.25	1500
4x	35	8.0	35.3	38.3	153	192	2539	162	5.01	2100
4x	50	9.4	40.5	43.5	174	218	3458	202	7.15	3000
4x	70	11.1	45.2	48.2	193	241	4586	250	10.01	4200
4x	95	12.1	50.0	54.0	216	270	5350	301	13.59	5700
MULTI- CORES										
7x	1.5	1.5	15.9	17.9	72	90	401	15	0.21	158
7x	2.5	1.9	18.8	20.8	83	104	580	19.5	0.36	263
8x	1.5	1.5	17.2	19.2	77	96	475	13.8	0.21	180
10x	2.5	1.9	24.0	26.0	104	130	854	16.5	0.36	375
12x	1.5	1.5	19.4	21.4	86	107	596	12	0.21	270
12x	2.5	1.9	22.4	24.4	98	122	809	15.6	0.36	450

SUBMERSIBLE RUBBER CABLE FOR WASTE WATER

PROPERTIES

Nominal Voltage:	0,6/1 (1.2) kV
Test Voltage	4kV
Max. Submersing Depth:	2000 meters
Temperature Rating:	Fixed : -40°C to +90°C Free : -25°C
Max. Water Temperature	40°C
Min. Bending Radius:	Fixed : 4 X OD > 12mm. Free : 5 x OD > 12mm



APPLICATION

Suitable for pumps, sewage water tanks or any electrical equipment submerged in waste-water environments. The flexibility of the rubber sheath enables the cable to endure medium mechanical stress and may be submerged up to 2000 meters.

Each power core is covered with Alu-laminated PET foil and a layer of tinned copper wires. The screening ensures minimum electromagnetic interference as well as strength and insulation.

The 4 controls cores on the cable transmit signals to manage the operation of the pump such as speed, start/stop commands, pressure and other functions. This cable provides a single solution to both power and control of the pump

CONSTRUCTION

Conductor:	plain or tinned copper, finely stranded, class 5
Core Insulation:	EPR rubber
Inner Sheath:	EPDM rubber
Outer Sheath:	Chlorinated polyethylene (CM/CPE)
Screen:	Aluminum foil and concentric layer of wires
Sheath Colour:	Black

STANDARDS

DIN EN 50565-2	Application
DIN EN 50565-1	Application
DIN VDE 0100-704 / 0165 / 0168	Application
DIN EN 60228	Conductor
DIN EN 50363-1	Compound
DIN EN 50363-2-1	Compound
DIN VDE 0293-308	Core identification
DIN EN 50525-1	Core identification
EN 50525-2-1	Electrical parameters
IEC 60502-1	Electrical parameters
DIN EN 50525-2-21	Chemical behavior
DIN EN 60811-404	Chemical behavior
DIN 4045 / DIN 4046	Chemical behavior
DIN EN 60332-1-2	Fire performance

CHEMICAL PARAMETERS

- Flame Retardant
- Oil Resistant
- Chemical Resistant
- Sea Water Resistant

SUBMERSIBLE RUBBER CABLE FOR WASTE WATER

Basic Construction	Max. Wire Diam.	Min Outer Diam	Max Outer Diam	Bending Radius Fixed	Bending Radius Mobile	Conductor Resistance at 20 °C	Current Carrying Capacity	Short Circuit Current Conductor	Cable Weight
	(mm)	(mm)	(mm)	(mm)	(mm)	[Ohmn/Km]	(A)	(1sec) [kA]	(kg/km)
3x2.5 + 3x2.5/3E + (4x0.5)St	2.0 plain/0.9 tinned	18.0	20.0	75	94	7.98 40.1	38	0.36 0.072	410
3x6 + 3x6/3E + (4x0.5)St	2.0 plain/0.9 tinned	20.0	22.0	84	105	30.3 40.1	67	0.86 0.072	580
3x10 + 3x10/3E + (4x0.5)St	3.8 plain/0.9 tinned	24.0	26.0	98	123	1.91 40.1	93	1.43 0.072	940
3x16 + 3x16/3E + (4x0.5)St	5.0 plain/0.9 tinned	24.0	26.0	100	126	1.21 40.1	125	2.29 0.072	1060
3x25 + 3x25/3E + (4x0.5)St	6.4 plain/0.9 tinned	29.0	31.0	118	148	0.780 40.1	165	3.58 0.072	1480
3x35 + 3x35/3E + (4x0.5)St	7.5 plain/0.9 tinned	32.0	34.0	131	164	0.554 40.1	205	5.01 0.072	1850
3x50 + 3x50/3E + (4x0.5)St	9.0 plain/0.9 tinned	38.0	40.0	153	192	0.386 40.1	255	7.15 0.072	2650
3x70 + 3x70/3E + (4x0.5)St	10.7 plain/0.9 tinned	42.0	44.0	172	215	0.272 40.1	316	10.0 0.072	3500

FLEXIBLE COPPER SCREENED MINING CABLE



PROPERTIES

Nominal Voltage:	640/1100V
Temperature Rating:	-25°C to +90°C
Min. Bending Radius:	6 x ODmax

APPLICATION

Type 41 is suitable for mining operations around the world. This cable is applied for permanent use in waste water and in industrial water up to 40°C at a depth of max. 2000 m. Typical applications include electrically driven machines, any movable electric apparatus in hazardous area, small pumps, drills and for shuttle cars.

CONSTRUCTION

Conductor:	Flexible class 5 comply to SANS 1411 - 1 from tinned annealed copper wires left lay
Insulation:	Ethylene propylene thermosetting compound type RD 3 comply to SANS 1411-3
Configuration:	Three tinned copper/nylon braid screened power cores and one unscreened pilot core laid up in the right hand lay around rubber (RD1) filler center
Inner Sheath:	Thermosetting compound type RS 6 comply to SANS 1411-3
Screen:	Open nylon braid
Outer Sheath:	Thermosetting compound type RS 6 comply to SANS 1411-3
Sheath Colour:	Black

STANDARDS

» SANS 1520-1



PACKAGING

Sold in full drums or cut to specification

Power Cores				Pilot Cores		
Conductor Size	Max. Wire Diam.	Max. Screen Wire Diam.	Braided screen filling factor	Conductor Size	Cable Diam.	Cable weight approx.
(mm ²)	(mm)	(mm)	%	(mm ²)	(Mm %5)	(kg/ km)
2.5	0.26	0.21	80	2.5	21.00	720
4	0.31	0.21	80	4	26.00	910
6	0.31	0.21	80	6	27.00	1110
10	0.41	0.31	80	10	30.00	1575
16	0.41	0.31	80	16	34.50	2125
25	0.41	0.31	80	16	40.00	2735



HEAT RESISTANT CABLES

SILICONE SINGLE CORE

EXTERNAL SILICONE SHEATH

HEAT
RESISTANT



PROPERTIES

Nominal Voltage:	300/500V
Test Voltage:	2000V
Temperature Rating:	-50°C - 180°C
Min. Bending Radius:	5 x ODmax

APPLICATION

Cable is used for high temperatures such as fixed installation inside light instruments. The cable is suitable for both domestic and industrial use and is available in both bare or tinned. The silicone rubber insulation, in addition to giving high performance in high temperature environments, the cable is halogen free with excellent UV, ozone, oxygen, artificial light and atmospheric resistance. It also maintains its characteristics of elasticity in low temperatures of -50°C.

CONSTRUCTION

Conductor:	Twisted strands of flexible tin coated copper wires. Copper wire class 5. Construction in conformity to EN60228
Insulation:	Silicone compound
External Ø Tolerance:	0.5mm ² to 3.00mm ² : 0.10mm 4.00mm ² to 25.00mm ² : 0.20mm
Other:	Halogen Free, Low Smoke

STANDARDS



PACKAGING

Sold in 100 meter coils
Available in different colours

Conductor Characteristics		Insulation				
Size	Diam.	Thick.	External	Resistance max @ 20°C	(I) Max 20°C	Cable weight approx.
(mm ²)	(mm)	(mm)	(mm)	(ohm/km)	(A)	(kg/ km)
0.5	0.70	0.45	1.60	81.00	5.00	5.40
0.35	0.80	0.50	1.80	56.50	8.00	6.50
0.50	0.90	0.60	2.10	39.00	12.00	9.10
0.75	1.20	0.60	2.40	26.00	15.00	12.60
1.00	1.30	0.60	2.50	19.50	17.00	15.10
1.50	1.60	0.60	2.80	13.30	23.00	20.40
2.00	1.80	0.60	3.00	9.75	28.00	25.80

Conductor Characteristics		Insulation				
Size	Diam.	Thick.	External	Resistance max @ 20°C	(I) Max 20°C	Cable weight approx.
(mm ²)	(mm)	(mm)	(mm)	(ohm/km)	(A)	(kg/ km)
2.50	2.00	0.70	3.40	7.98	33.00	32.60
3.00	2.20	0.70	3.60	6.50	37.00	36.00
4.00	2.70	0.75	4.20	4.95	41.00	50.00
6.00	3.30	0.85	5.00	3.30	50.00	74.50
10.00	4.40	1.05	6.50	1.91	80.00	125.00
16.00	5.50	1.25	8.00	1.21	100.00	196.00
25.00	6.80	1.50	9.80	0.78	145.00	304.00



PROPERTIES

Nominal Voltage:	300/500V
Test Voltage:	2000V
Temperature Rating:	-60°C to +180°C
Min Bending Radius:	Fixed Installations 3 x outer diam
	Mobile Installations 4 x outer diam

APPLICATION

Cable is used for high temperatures such as fixed installation inside light instruments. The silicone rubber insulation, in addition to giving high performance in high temperature environments, the cable is halogen free with excellent UV, ozone, oxygen, artificial light and atmospheric resistance. It also maintains its characteristics of elasticity in low temperatures of -50°C.

CONSTRUCTION

Conductor:	Twisted strands of flexible tin coated copper wires. Copper wire class 5. Construction in conformity to EN60228
Insulation:	Silicone Rubber E12
Sheath Colour:	Red Brick
External Ø Tolerance:	0.20mm
Other:	Halogen Free, Low Smoke



CORE IDENTIFICATION

3 Cores	:	Yellow/Green - Blue - Brown
4 Cores	:	Yellow/Green - Blue - Brown - Black
5 Cores	:	Yellow/Green - Blue - Brown - Black - Grey

PACKAGING

Sold in full drums or cut to specification

STANDARDS

- » EN 50525
- » EN 60228
- » EN 50363
- » EN 50395
- » EN 50396



Cores No.	Cross Section	Insulation Thickness	Sheath Thickness	Outer Diameter	Approx. Cable Weight	Electric Resistance at 20°C
(N°)	(mm ²)	(mm)	(mm)	(mm)	(kg/km)	(Ohm/km)
TWO CORES						
2G	0.50	0.6	0.8	5.8	52	39
2G	0.75	0.6	0.8	6.2	62	26
2G	1.00	0.6	0.8	6.5	71	19.5
2G	1.50	0.6	0.8	7.1	89	13.3
2G	2.50	0.7	1.0	8.9	141	7.98
2G	4.00	0.8	1.1	10.4	197	4.95
2G	6.00	0.8	1.1	11.6	257	3.3
2G	10.00	1.0	1.3	14.8	423	1.91
2G	16.00	1.2	1.4	17.8	603	.121
2G	25.00	1.4	1.5	21.2	878	0.78
THREE CORES						
3G	0.50	0.6	0.8	6.1	61	39
3G	0.75	0.6	0.8	6.5	73	26
3G	1.00	0.6	0.8	6.9	85	19.5
3G	1.50	0.6	0.9	7.7	112	13.3
3G	2.50	0.7	1.1	9.6	177	7.98
3G	4.00	0.8	1.2	11.3	247	4.95
3G	6.00	0.8	1.2	12.6	326	3.3
3G	10.00	1.0	1.3	15.8	512	1.91
3G	16.00	1.2	1.5	19.2	767	1.21
3G	25.00	1.4	1.5	22.6	1112	0.78

Cores No.	Cross Section	Insulation Thickness	Sheath Thickness	Outer Diameter	Approx. Cable Weight	Electric Resistance at 20°C
(N°)	(mm²)	(mm)	(mm)	(mm)	(kg/km)	(Ohm/km)
FOUR CORES						
4G	0.50	0.6	0.8	6.7	74	39
4G	0.75	0.6	0.8	7.1	89	26
4G	1.00	0.6	0.9	7.7	107	19.5
4G	1.50	0.6	1.0	8.6	142	13.3
4G	2.50	0.7	1.1	10.6	218	7.98
4G	4.00	0.8	1.2	12.3	306	4.95
4G	6.00	0.8	1.2	13.8	406	3.3
4G	10.00	1.0	1.4	17.6	648	1.91
4G	16.00	1.2	1.5	21.1	962	1.21
4G	25.00	1.4	1.6	25.2	1414	0.78
FIVE CORES						
5G	0.50	0.6	0.8	7.3	89	39
5G	0.75	0.6	0.9	8.0	112	26
5G	1.00	0.6	0.9	8.4	130	19.5
5G	1.50	0.6	1.0	9.4	173	13.3
5G	2.50	0.7	1.1	11.6	265	7.98
5G	4.00	0.8	1.3	13.7	381	4.95
5G	6.00	0.8	1.4	15.5	504	3.3



PROPERTIES

Nominal Voltage:	300/500 V up to 1mm ² 450/750 V for over 1mm ²
Temperature Rating:	-50°C to +155°C
Max. Short Circuit Temp.	250°C on the conductor
Min. Bending Radius:	Fixed : 4 X ODmax.
Fire Performance:	Halogen Free

APPLICATION

Cable is used for electric motors, automotive and power installation. Used up to 1000V in fixed and protected installation (inside pipes, inside equipments, switchgear, or control-panel. The cable has excellent tearing resistance and is halogen free

STANDARDS

- » Flexible copper class 5 EN 60228
- » Special rubber compound LEV1 150 LSOH



Conductor Characteristics		
Size	Outer Diam.	Cable Weight
(mm ²)	(mm)	(kg.km)
1x0.50	2.1	8
1x0.75	2.4	11
1x1.00	2.5	13
1x1.50	2.8	18
1x2.50	3.4	29
1x4.00	4.2	43
1x6.00	4.8	61
1x10.00	6.1	106
1x16.00	7.1	156
1x25.00	8.7	241

Conductor Characteristics		
Size	Outer Diam.	Cable Weight
(mm ²)	(mm)	(kg.km)
1x35	9.9	330
1x50	11.6	476
1x70	13.3	665
1x95	15.2	863
1x120	17.0	1112
1x150	18.9	1372
1x185	21.0	1700
1x240	23.9	2254



PROPERTIES

Nominal Voltage:	1.5 kV
Temperature Rating:	-60°C to +180°C
Max. Short Circuit Temp.	350°C on the conductor
Min. Bending Radius:	Fixed: 4 X ODmax.

APPLICATION

Cable is typically used in control panels where high temperatures often resinate. The cable maybe connected directly and permanently to a coil winding, motor or other components of electrical devices.

CONSTRUCTION

Conductor:	Flame Resistant flexible copper class 5
Insulation:	Silicone Rubber
Sheath :	Polyester Braid
Sheath Colour:	Orange

STANDARDS

- » Fire: EN 60754-1/2EN 61034-1/2EN 60332-1-2
- » EN 50363IEC EN 60228

PACKAGING

Sold in full drums or cut to specification

Nominal Size	Insulation Thickness	Outer Diam	Cable Weight
(mm ²)	(mm)	(mm)	(kg/km)
1x16	6	17.6	396
1x25	6	19.2	504
1x35	6	20.4	613
1x50	6	21.7	780
1x70	6	23.4	1000
1x95	6	24.9	1213
1x120	6	26.7	1489
1x150	6	28.2	1575
1x185	6	29.9	2091

**PVC
CABLES**

WELDING CABLE

FLEXIBLE POWER CABLE

PVC
CABLE



PROPERTIES

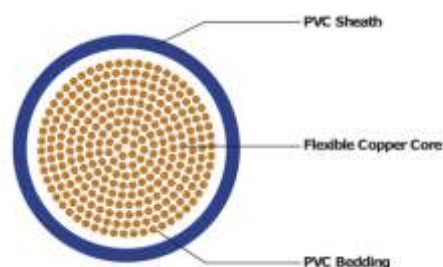
Nominal Voltage	1000V
Test Voltage	2000V
Temperature Rating	-10°C to +80°C

APPLICATION

Suitable for all types of indoor and outdoor electric welding and power equipment.

CONSTRUCTION

Conductor:	High connectivity annealed copper. Class 4 & 5
Insulation:	Soft flexible grade PVC
Sheath Colour:	Available in various colour



STANDARDS

» SABS 1574

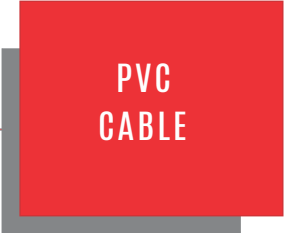
PACKAGING

Sold in full drums or cut to specification

Cable Size	Outer Sheath Colour	Nominal Stranding	Approx. Overall Diam.	Current Rating		Volt Drop	Approx. Cable Weight
				1ph 220V	3ph 380V		
(mm ²)		No X Diam	(mm)	(A)	(A)	(mV/A/M)	Mass per 100m Coil (kg)
16	Green	120 x 0.41	8.70	76	75	1.210	21.0
25	Blue	180 x 0.41	9.90	101	96	0.780	30.33
35	Grey	252 x 0.41	11.00	125	116	0.554	41.44
50	Red	366 x 0.41	13.40	151	138	0.386	59.88
70	Brown	516 x 0.41	15.40	192	171	0.272	83.00
95	Yellow	456 x 0.501	18.60	232	205	0.206	107.06
120	Black	582 x 0.501	21.30	269	234	0.161	136.92
150	Black	762 x 0.501	24.70	300	263		179.32
185	Black	924 x 0.501	26.80	341	298		220.1

ORANGE PVC TRAILING

FOUR CORE NITRILE CABLE



PROPERTIES

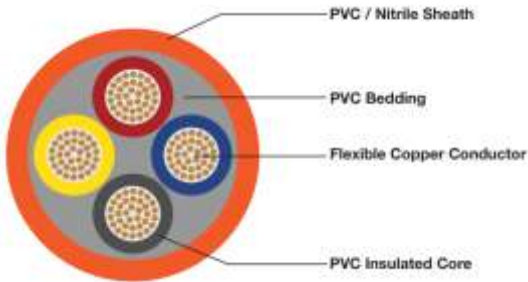
Nominal Voltage	1000V
Test Voltage	3000V
Temperature Rating	-10°C to +70°C

APPLICATION

Suitable for all types of indoor and outdoor mobile and portable machinery in wet, oily, all weather conditions. Used on buildings and construction sites, in workshops, mines, dockyards, opencast mining operations, railways, road works and factories

CONSTRUCTION

- Conductor:** High connectivity annealed copper. Class 4 & 5
- Insulation:** Final protection is with a tightly bonded, water, oil and abrasion resistant PVC/rubber blend nitrile sheath
- Sheath Colour:** Orange



CORE IDENTIFICATION

4 Cores : Red, Yellow, Blue and Black

PACKAGING

Sold in full drums or cut to specification

STANDARDS

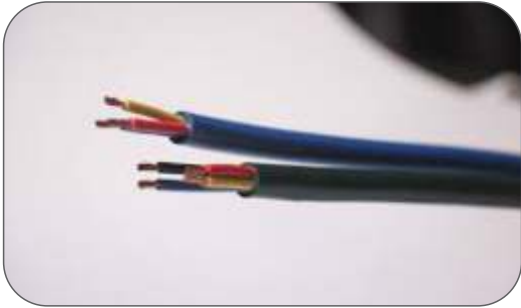
» SABS 1507

Cores No.	Cross Section	Nominal Stranding	Approx. Overall Diam.	Nominal Amp. Rating	Volt Drop		Approx. Cable Weight
					1ph 220V	3ph380V	
(N°)	(mm²)	No X Diam	(mm)	(A)	(mV/A/M)	(mV/A/M)	Mass per 100m Coil (kg)
4G	1.5	28 x 0.26	10.90	15	29.00	25.00	17.38
4G	2.5	44 x 0.26	12.00	21	18.00	15.00	22.79
4G	4.00	49 x 0.31	14.70	28	11.00	9.50	34.80
4G	6.00	74x0.31	16.10	36	7.30	6.40	45.28
4G	10.00	126 x 0.31	19.10	50	4.40	3.80	69.80
4G	16.00	200 x 0.31	21.30	68	2.80	2.40	96.10

SUBMERSIBLE PUMP

THREE & FOUR CORE PVC SUBMERSIBLE

PVC
CABLE



PROPERTIES

Nominal Voltage	600/1000V
Test Voltage	3000V
Temperature Rating	-10°C to +80°C

APPLICATION

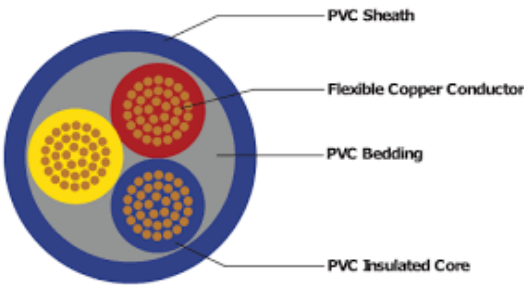
PVC is superior to rubber in a waterproof submersible cable, therefore the cable can be used for supplying power to all types of indoor and outdoor, mobile, portable and fixed pumping equipment. PVC submersible cable is used as a cost effective alternative to rubber insulated cables for boreholes, drainage, dewatering, cleaning and irrigation pumping equipment. Also used on farms and in mines, dockyards, municipalities, construction operations, railways, road works and factories.

CONSTRUCTION

Conductor: High connectivity annealed copper.

Insulation: Flexible grade waterproof PVC

Sheath Colour: Blue - 3 core, Green - 4 core



CORE IDENTIFICATION

3 Core - Red, Yellow, Blue
4 Core - Red, Yellow, Blue, Black

STANDARDS

» SABS 1574

PACKAGING

Sold in full drums or cut to specification

Cores No.	Cross Section	Nominal Stranding	Volt Drop (Amp/m)		Mass
(N°)	(mm ²)	No X Diam	1 ph 220V	3 ph 380V	(kg/100m)
3	1.5	28 x 0.26	29.00	25.00	17.38
3	2.5	44 x 0.26	18.00	15.00	22.79
3	4.00	49 x 0.31	11.00	9.50	34.80
3	6.00	74x0.31	7.30	6.40	45.28
3	10.00	126 x 0.31	4.40	3.80	69.80
3	16.00	200 x 0.31	2.80	2.40	96.10

MULTI-STRANDED PANEL WIRE



PROPERTIES

Nominal Voltage	300/500V
Test Voltage	6000V
Temperature Rating	-10°C to +80°C

APPLICATION

Suitable for all types of control panels, light fittings, appliances, communication panels, signalling relay racks, etc. The cable comprises of highly conductive bunched plain annealed flexible copper conductors insulated with general purpose grade PVC. The insulation is water, oil and abrasion resistant.

CONSTRUCTION

Conductor:	High connectivity annealed copper. Class 5
Insulation:	Flexible grade waterproof PVC
Sheath Colours:	Blue, Black, Brown, Yellow, Green/Yellow, Red, Orange, Pink, Violet, White and Green

STANDARDS

» SABS 1574

PACKAGING

Sold in 100m coils

Cable Size	Nominal Stranding	Nominal Diameter	Nominal Current	Approx. Cable Weight
(mm ²)	No X Diam	(mm)	(A)	(kg/100m)
0.5	14 x 0.21	2.1	3	0.89
0.75	21 x 0.21	2.7	6	1.39
1.0	28 x 0.21	2.9	10	1.67
1.5	42 x 0.21	3.2	16	2.21
2.5	44 x 0.26	3.6	25	3.10
4.0	48 x 0.31	4.5	32	5.05
6.0	72 x 0.31	5.1	41	7.02
10	126 x 0.31	6.1	57	11.53
16	200 x 0.31	7.3	76	17.53
25	312 x 0.31	9.2	101	28.12
35	440 x 0.31	9.8	125	36.74

Cable Size	Nominal Stranding	Nominal Diameter	Nominal Current	Approx. Cable Weight
(mm ²)	No X Diam	(mm)	(A)	(kg/100m)
50	632 x 0.31	12.4	151	53.82
70	904 x 0.31	14.0	192	73.87
95	678 x 0.31	16.3	232	99.09
120	864 x 0.31	18.4	269	125.53

**PROPERTIES**

Nominal Voltage	300/500V
Test Voltage	2000/3000V
Temperature Rating	-10°C to +80°C

APPLICATION

For supplying mains power to all types of domestic and industrial appliances and equipment such as refrigerators, washing machines, glass cutters, hand tools, polishers, kitchen appliances, woodworking equipment/machinery, hobby and garden tools, extension leads, etc. The sheath is made of a flame retardant, water and oil resistant flexible grade PVC.

CONSTRUCTION

Conductor:	High connectivity annealed copper. Class 5
Insulation:	General purpose flexible grade PVC
Sheath :	General purpose flexible grade PVC
Sheath Colour:	Black and White

STANDARDS

- » SANS 157-2\IEC 60227-5
- » SANS 1574-2

PACKAGING

Sold in 100m coils

CORE IDENTIFICATION

- 2 Core - Blue, Brown
- 3 Core - Blue, Brown, Green/Yellow
- 4 Core - Blue, Brown, Black, Green/Yellow
- 5 Core - Blue, Brown, Black, Green/Yellow, Violet
- 7 Core - Blue, Brown, Black, Green/Yellow, Violet, Pink, Orange

Cable Size (mm ²)	Nominal Amps		Nominal Diam					Mass kg/100m				
	1 ph 220V	3 ph 380V	2C	3C	4C	5C	7C	2C	3C	4C	5C	7C
0.5	3	3	5.0	5.3	5.8	-	-	3.60	4.30	5.18	-	-
0.75	6	6	5.4	5.8	6.3	8.0	8.7	4.41	5.34	6.48	9.67	11.98
1.0	13	11	6.6	7.0	7.8	8.5	9.3	6.33	7.61	9.54	11.55	14.30
1.5	16	15	7.5	8.2	9.2	10.2	11.1	8.60	10.81	13.59	16.89	21.34
2.5	23	20	9.2	10.0	10.9	12.1	13.2	13.45	16.45	20.29	25.58	32.13
4.0	30	27	10.7	11.3	12.4	14.0	15.2	18.8	23.09	28.50	36.14	45.67



PROPERTIES

Nominal Voltage	600/1000V
Test Voltage	3000V
Temperature Rating	-10°C to +80°C

APPLICATION

For the wiring of all types of control panels, buildings, factors, relay racks, etc. General purpose HOUSE WIRE is used by electrical contractors, electricians, municipalities and all major switchboard manufacturers.

CONSTRUCTION

Conductor:	High connectivity annealed copper. Class 5
Insulation:	General purpose flexible grade PVC
Sheath Colours:	Blue, Black, Brown, Yellow, Green/Yellow, Red, Orange, Pink, Violet, White and Green

STANDARDS

» SANS 1507-2

PACKAGING

Sold in 100m
500/1000m drums available on request

Cable Size (mm ²)	Stranding No x Diam	Nominal Diam.	Cubical Wiring Amp Ratings		Mass kg/100m
			1 ph 220V	3 ph 380V	
1.5	7 x 0.53	3.1	16	16	2.38
2.5	7x 0.67	3.6	24	21	3.43
4.0	7 x 0.86	4.6	32	28	5.67
6.0	7x1.06	5.1	41	36	7.82
10.0	7 x 1.37	6.1	57	50	12.24
16	7 x 1.72	7.1	76	68	18.46
25.0	19 x 1.38	8.4	101	89	25.60
35.0	19 x 1.62	9.5	125	110	34.70
50.0	19 x 1.88	11.3	151	134	47.20
70.0	19 x 2.28	12.6	192	171	66.10
95.0	19 x 2.50	15.8	232	207	97.60

FLEXIBLE 0.6/1KV CONTROL CABLE

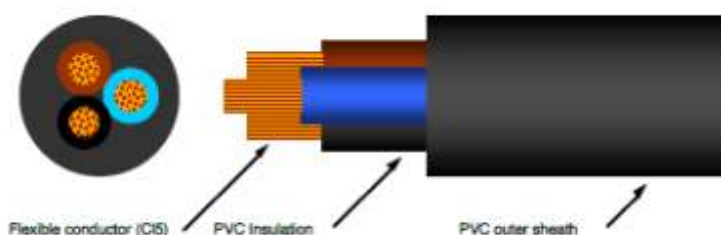


PROPERTIES

Nominal Voltage:	0.6/1 kV
Temperature Rating:	Fixed : -40°C to +70°C Free : -5°C to +70°C
Max. Short Circuit Temp.	160°C
Min. Bending Radius:	5 X ODmax.
Fire Performance:	Low Halogen Emission

APPLICATION

Suitable for control, transport and distribution of electric power. Special designed wiring cable for the theater branches, for lighting and controlling. The cable structure and conductor lay-length make the cable more flexible and suitable for easy winding and unwinding.



CONSTRUCTION

Conductor:	Electrolytic annealed copper conductor, class 5 according to IEC 60228
Insulation:	Flexible PVC insulation, type PVC/A according to IEC 60502 and PVC 90 °C acc. UL 1581
Outer Sheath:	Flexible PVC outer sheath, black, type ST2 according to IEC 60502-1
Sheath Colour:	Black

STANDARDS

- » Based On: IEC 60502-1
- » Flame non-propagation : based on EN 60332-1 / IEC 60332-1
- » Resistance to oil : DIN EN 60811-404
- » UV resistance : UNE 211605, Annex A.2

PACKAGING

Sold in full drums or cut to specification

MARINE CABLES

MAERSK

HBC FRANCESCO
PANAMA

0,6/1KV light power cable for ships and off-shore units



PROPERTIES

Nominal Voltage:	0,6/1kV
Test Voltage:	3,5 kV
Max Conductor Temperature:	90°C
Max Conductor Temp. at short circuit:	250°C
Laying Temperature (min):	-15°C
Permanent tensile strength	50 N/mm ²
Bending Radius:	6 x OD (4 x OD for cables with D<25mm)

APPLICATION

These cables are used for fixed installation on ships and offshore units in all locations and on open decks. The cables are not suitable for continuous use in water

CONSTRUCTION

Conductor:	Copper: plain, round stranded class 2 or 5
Core Insulation:	XLPE
Sheath :	HFFR
Sheath Colour:	Black

PACKAGING

Sold in full drums or cut to specification

CHEMICAL PROPERTIES

- Flame Retardant
- Low Smoke
- Halogen Free
- Oil Resistant
- Ozone Resistant

STANDARDS

» General:	IEC 60092-353
» Conductor:	IEC 60228
» Compound:	IEC 60092-360
» Electrical Param.	IEC 60092-201
» Fire Performance	DIN EN 60332-1-2 / IEC 60332-1-2
» Fire Performance	IEC 60332-3-22
» Fire Performance	IEC 60754-3
» Fire Performance	IEC 61034
» Low Smoke	IEC/EN 61034-2
» Halogen Free	IEC/EN 60754-1/2
» Oil Resistance	IEC/EN 60811-404



0,6/1KV light power cable for ships and off-shore units



PROPERTIES

Nominal Voltage:	0,6/1kV
Test Voltage:	3.5 kV
Max Conductor Temperature:	90°C
Max Conductor Temp. at short circuit:	250°C
Laying Temperature (min):	-15°C
Permanent tensile strength	50 N/mm ²
Bending Radius:	6 x OD (4 x OD for cables with D<25mm)

APPLICATION

These cables are used for fixed installation on ships and offshore units in all locations and on open decks. The cables are not suitable for continuous use in water

CONSTRUCTION

Conductor:	Copper: plain, round stranded class 2 or 5
Core Insulation:	XLPE
Screen :	Copper Braiding
Sheath :	HFFR
Sheath Colour:	Black

CHEMICAL PROPERTIES

- Flame Retardant
- Low Smoke
- Halogen Free
- Oil Resistant
- Ozone Resistant

STANDARDS

» General:	IEC 60092-353
» Conductor:	IEC 60228
» Compound:	IEC 60092-360
» Electrical Param.	IEC 60092-201
» Fire Performance	DIN EN 60332-1-2 / IEC 60332-1-2
» Fire Performance	IEC 60332-3-22
» Fire Performance	IEC 60754-3
» Fire Performance	IEC 61034
» Low Smoke	IEC/EN 61034-2
» Halogen Free	IEC/EN 60754-1/2
» Oil Resistance	IEC/EN 60811-404



SOLAR CABLES



PROPERTIES

Nominal Voltage:	1kV/1kV
Test Voltage:	3.5 kV
Operating Temp:	-40°C to 90°C (<i>on conductor</i>)
Max Conductor Temp. at short circuit:	150°C
Min. Bending Radius:	4 x OD

APPLICATION

This cable suitable for the interconnection of the various elements of photovoltaic systems. It's suitable for fixed installation outside and inside without protection or inside pipes, ducts or similar closed systems, in direct or indirect buried installation and in environment subjected to partial or total water submersion.

The cable has high resistance against Ozone, U.V rays, oils, moisture and weather conditions. Suitable for use at an ambient temperature up to 90°C (120°C overload), thanks to the use of materials with temperature-index of 120 °C, determined according to Norm IEC 60216 (20,000 h and 50% of residual elongation). The estimated lifetime of these cables is at least 25 years.

CONSTRUCTION

Conductor:	Flexible Tin Platted Copper Class 5
Core Insulation:	LSOH Rubber Compound
Sheath :	LSOH Rubber Compound
Sheath Colour:	Red, Black

STANDARDS

» EN50618



PACKAGING

Sold in 100/500/1000 m drums

Cable Size	Max Diam. of wiring	Outer Diameter	Approx. Cable Weight
(mm ²)	(mm)	(mm)	(kg/km)
4.0	0.31	5.5	62
6.0	0.31	6.3	85
10.0	0.41	7.5	135

CABLE TERMINALS



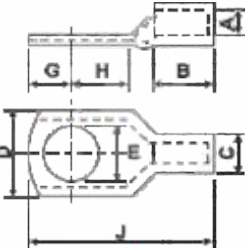
High Connectivity Copper Crimping Lugs

**APPLICATION**

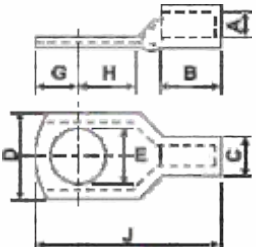
Heavy duty copper lugs are typically used in electrical substations, transformers, distribution boards, control panels and any system that requires conductor joining.

PROPERTIES

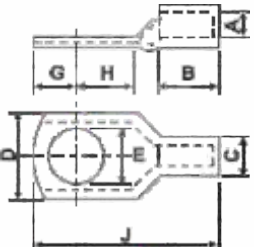
Lugs are made with high grade copper for crimping to copper or XLPE cables without any soldering required.

	Cable Size	Stud Hole	Dimensions						
	(mm ²)	E	A	C	D	G	H	B	J
 Material: ETP Copper Finish: Tin Platted	1.5	4.2	1.8	3.7	8.0	4.0	5.0	6.0	17.0
		5.2	1.8	3.7	8.0	4.0	5.0	6.0	17.0
		6.5	1.8	3.7	10.0	4.0	6.0	6.0	19.0
	2.5	4.2	2.4	4.0	8.0	4.0	5.0	8.0	19.0
		5.2	2.4	4.0	8.0	4.0	5.0	8.0	19.0
		6.5	2.4	4.0	10.0	5.0	6.0	8.0	21.0
		8.4	2.4	4.0	12.0	6.0	9.0	8.0	26.0
	4	4.2	3.1	4.8	10.0	5.0	6.0	8.0	21.0
		5.2	3.1	4.8	10.0	5.0	6.0	8.0	21.0
		6.5	3.1	4.8	10.0	5.0	6.0	8.0	21.0
		8.4	3.1	4.8	12.0	6.0	9.0	8.0	26.0
	6	5.2	3.8	5.5	10.0	5.0	6.0	10.0	24.0
		6.5	3.8	5.5	10.0	5.0	6.0	10.0	24.0
		8.4	3.8	5.5	12.0	6.0	9.0	10.0	27.0
		10.5	3.8	5.5	15.0	8.0	11.0	10.0	32.0
	10	6.5	4.5	6.2	11.0	6.0	7.0	10.0	26.5
		8.4	4.5	6.2	12.0	6.0	9.0	10.0	28.0
		10.5	4.5	6.8	15.0	8.0	11.0	11.0	32.0
	16	5.2	5.4	7.1	12.0	7.0	7.0	12.0	30.0
		6.5	5.4	7.1	12.0	7.0	7.0	12.0	30.0
		8.4	5.4	7.1	12.0	7.0	7.0	12.0	30.0
		10.5	5.4	7.6	15.0	8.0	12.0	12.0	35.0
		13.0	5.4	7.6	17.0	11.0	13.0	12.0	39.0

High Connectivity Copper Crimping Lugs

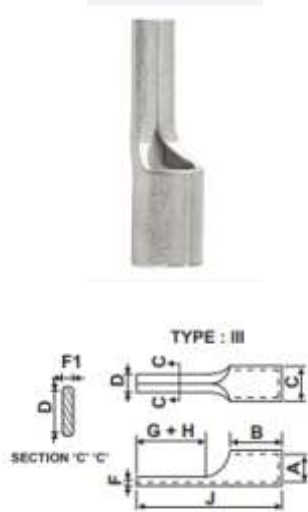
	Cable Size	Stud Hole	Dimensions						
	(mm ²)	E	A	C	D	G	H	B	J
 Material: ETP Copper Finish: Tin Platted	25	6.5	6.8	8.8	13.0	7.0	7.0	12.0	30.0
		8.4	6.8	8.8	13.0	7.0	7.0	12.0	30.0
		10.5	6.8	8.8	15.0	10.0	11.0	13.0	36.5
		13.0	6.8	8.8	17.0	10.0	12.0	15.0	40.0
	35	6.5	8.2	10.6	16.0	9.0	9.0	13.5	36.0
		8.4	8.2	10.6	16.0	9.0	9.0	13.5	36.0
		10.5	8.2	10.6	16.0	9.0	9.0	13.5	37.0
		13.0	8.2	10.6	18.0	10.0	12.0	13.5	41.0
		17.0	8.2	10.6	22.0	14.0	18.0	13.5	50.0
	50	8.4	9.5	12.4	18.0	9.0	10.0	17.0	42.0
		10.5	9.5	12.4	18.0	9.0	10.0	17.0	42.0
		13.0	9.5	12.4	20.0	10.0	12.0	17.0	45.0
		17.0	9.5	12.4	22.0	15.0	15.0	18.0	54.0
	70	8.4	11.3	14.6	21.0	11.0	11.0	18.5	47.0
		10.5	11.3	14.6	21.0	11.0	11.0	18.5	47.0
		13.0	11.3	14.6	21.0	11.0	11.0	18.5	47.0
		14.5	11.3	14.6	22.0	14.0	15.0	18.5	55.0
		17.0	11.3	14.6	26.0	14.0	16.0	18.5	5
	95	8.4	13.5	17.4	25.0	12.0	13.0	21.0	53.0
		10.5	13.5	17.4	25.0	12.0	13.0	21.0	53.0
		13.0	13.5	17.4	25.0	12.0	13.0	21.0	53.0
		14.5	13.5	17.4	25.0	14.0	15.0	22.0	55.0
		17.0	13.5	17.4	25.0	14.0	16.0	22.0	56.0
	120	10.5	15.0	19.4	28.0	13.0	14.0	23.0	60.0
		13.0	15.0	19.4	28.0	13.0	14.0	23.0	60.0
		14.5	15.0	19.4	28.0	13.0	14.0	23.0	60.0
		17.0	15.0	19.4	28.0	16.0	16.0	23.0	64.0

High Connectivity Copper Crimping Lugs

	Cable Size	Stud Hole	Dimensions						
	(mm ²)	E	A	C	D	G	H	B	J
 Material: ETP Copper Finish: Tin Platted	150	10.5	16.5	21.2	30.0	16.0	16.0	27.0	70.0
		13.0	16.5	21.2	30.0	16.0	16.0	27.0	70.0
		14.5	16.5	21.2	30.0	16.0	16.0	27.0	70.0
		17.0	16.5	21.2	30.0	16.0	16.0	27.0	70.0
		21.0	16.5	21.2	30.0	19.0	16.0	27.0	73.0
	185	10.5	18.5	23.5	34.0	17.0	19.0	32.0	80.0
		13.0	18.5	23.5	34.0	17.0	19.0	32.0	80.0
		14.5	18.5	23.5	34.0	17.0	19.0	32.0	80.0
		17.0	18.5	23.5	34.0	17.0	19.0	32.0	80.0
		21.0	18.5	23.5	34.0	17.0	19.0	32.0	80.0
	240	10.5	21.0	26.5	38.0	20.0	20.0	37.0	94.0
		13.0	21.0	26.5	38.0	20.2	20.0	37.0	94.0
		14.5	21.0	26.5	38.0	20.2	20.0	37.0	94.0
		17.0	21.0	26.5	38.0	20.0	20.0	37.0	94.0
		21.0	21.0	26.5	38.0	20.0	20.0	37.0	94.0
		-	21.0	26.5	38.0	-	-	37.0	94.0
	300	10.5	23.5	30.0	43.0	22.0	22.0	42.0	101.0
		13.0	23.5	30.0	43.0	22.0	22.0	42.0	101.0
		14.5	23.5	30.0	43.0	22.0	22.0	42.0	101.0
		17.0	23.5	30.0	43.0	22.0	22.0	42.0	101.0
		21.0	23.5	30.0	43.0	22.0	22.0	42.0	101.0
		-	23.5	30.0	43.0	-	-	42.0	101.0

PIN LUGS

High Connectivity Copper Pin Type Lugs



Cable Size mm ²	DIMENSIONS mm							
	A	C	D	F1	F	B	G + H	J
10	4.5	6.7	4.3	2.4	0.95	8.0	14	14
16	5.8	8.2	5.5	2.6	1.15	10	17	17
25	7.5	11.1	7.2	1.75	3.8	11	22	22
35	9.0	12.6	8.2	1.75	3.8	12	21	21
50	10.5	14.1	9.0	1.75	3.8	16	25	25
70	12	16	10.0	1.95	4.1	16	30	30

NARROW PALM LUGS

LUGS FOR CIRCUIT BREAKER TERMINATION



Material: ETP Copper
Finish: Tin Platted

Cable Size mm ²	Stud Size E	DIMENSIONS mm					
		A	E	D	F	B	J
35	M 6	8.2	6	15.0	3.0	21	41
50	M 6	9.5	6	15.0	3.2	22	43
	M 10	9.5	10	19.0	3.2	22	49
70	M 6	11.2	6	17.0	3.3	24	45
	M 10	11.2	10	19.0	3.3	24	51
95	M 8	13.4	8	19.0	3.9	27	55
	M10	13.4	10	19.0	3.9	27	55
120	M 8	15.0	8	19.0	5.0	30	61
	M 10	15.0	10	19.0	5.0	30	61
150	M 8	16.7	8	19.0	5.5	30	66
	M 10	16.7	10	19.0	5.5	30	66
185	M 10	18.4	10	31.0	5.7	38	82
240	M 10	21.2	10	31	7.1	38	82
300	M10	23.5	10	31	7.8	42	87

Heavy Duty Copper Tubular Connectors



APPLICATION

High connectivity ferrules are typically used in electrical substations, transformers, distribution boards, control panels and any system that requires conductor joining.

PROPERTIES

Made from high grade copper for crimping to copper or XLPE cables without any soldering required.



Cable Size	DIMENSIONS mm			Cutting Length
	A	C	J	
1.5	1.8	3.7	12.0	16.0
2.5	2.4	4.0	15.0	19.0
4	3.1	4.8	15.0	19.0
6	3.8	5.5	15.0	19.0
10	4.5	6.2	20.0	24.0
16	5.4	7.1	20.0	24.0
25	6.8	8.8	32.0	36.0
35	8.2	10.6	36.0	40.0
50	9.5	12.4	40.0	44.0
70	11.2	14.7	50.0	54.0
95	13.5	17.4	60.0	64.0
120	15.0	19.4	65.0	69.0
150	16.5	21.2	70.0	74.0
185	18.5	23.5	75.0	79.0
240	21.0	26.5	90.0	95.0
300	23.5	30.0	100.0	105.0

Mechanical Lugs & Ferrules



DESIGN

Heavy duty torque shear lugs/connectors consist of a tin plated aluminium lug body with shear bolts. With only four sizes available in the range, a single torque shear can accommodate several conductor sizes. They are designed for the perfect fit in low or medium voltage cable up to 42kV. Each torque has factory applied grease for protection against moisture and oxidation. Once the bolts are tightened the heads are sheared off, the torque is irremovable.

LUG/CONNECTOR BODY

- Lug bodies are made of a high-tensile, tin-plated aluminium alloy.
- The internal surfaces of the conductor holes are grooved.
- Connectors are chattered at the edges and available with or without oil barrier (as blocked and unblocked types) depending on the application requirements.
- Lugs are suitable for outdoor and indoor applications and are available with different palm hole sizes.

SHEAR HEAD BOLTS

- Made of an aluminium alloy, these contact bolts have a single or double shear-head point and are hexagonal in shape.
- The bolts are treated with a highly lubricating agent and equipped with a contact ring.
- Contact bolts are irremovable once their heads have been sheared off.



FEATURES

- » With only four sizes available in the range the torque shears cover a wide range of conductor cross-sections from 25mm² to 630 mm²
- » Installation requires no expensive crimping tools and a standard socket and wrench will be sufficient
- » The aluminum alloy provides excellent connectivity for both copper and aluminium conductors



Mechanical Lugs & FERRULES

TORQUE SHEAR LUGS



Cable Size	Palm Hole Size	Dimensions (mm)				No of Bolts	Head Size of AF
(mm ²)		C	A	L1	B		(mm)
25 - 95	13	24	12.8	62.5	32	1	13
35-150	13	28	15.8	86	36	1	13
	17	28	15.8	86	36	1	17
95-240	13	33	20	111.5	65	2	19
	17	33	20	111.5	65	2	19
120-300	13	37	24	115.5	70	2	22
	17	37	24	115.5	70	2	22
185-400	13	42	25.5	137	85	3	22
	17	42	25.5	137	85	3	22
	21	42	25.5	137	85	3	22
500-630	13	50	33	153	110	3	27
	17	50	33	153	110	3	27
	21	56	36	185	130	4	27
800	21	5.4	7.1	12.0	7.0	4	27

TORQUE SHEAR CONNECTORS



Cable Size	Dimensions (mm)				No of Bolts	Head Size of AF
(mm ²)	L	B	C	A		(mm)
25 - 95	65	30	24	12.8	2	13
35-150	80	38	28	15.8	2	17
95-240	125	60	33	20	4	19
120-300	140	68	37	24.0	4	22
185-400	170	83	42	29.5	6	22
500	160	75	46	29.6	6	13
630	160	75	50	33	6	13
800	220	105	56	36	6	27

CAPTIVE CONE GLAND



PROPERTIES

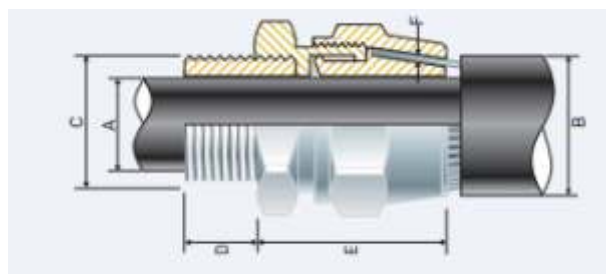
Gland Material:	Brass (Nickel Plated) BS 2874, EN 12164 or Aluminium ASTM B221
Cable Type:	Steel Wire Armour, Aluminium Armour Wire
Armour Clamping:	Rotating Captive Cone
Continuous Operating Temp:	-65°C to +120°C

FEATURES

- BW Cone glands are used for steel wire armoured and aluminium armoured cable
- Glands are designed for indoor use with a two-part handling system that has no loose parts
- The freely rotating captive cone provides an armoured clamp and earth bond without twisting the armouring of the cable
- Each gland is manufactured precisely from high quality brass (nickel plated)

STANDARDS

- » Design Standards: BS 6121:Part 1
- » IEC/BS EN 62444
- » SANS 62444
- » SANS 1213
- » EMC Compatible: EN 55011, + A1, EN 55022
- » Installation Standards: AS/NZS 3000
- » BS 6121-5
- » BS 7671
- » BS 7430
- » IEC 60364-5-54
- » SANS 0142



Gland Size Ref	Metric Entry Thread		NPT Entry Thread		Cable Detail		
	C	Min D	C	Min D	Max A	Min B	Max B
0-20s	M20x1.5	10	1/2 / 3/4	15	12.0	11.5	16.0
1-20	M20x1.5	10	1/2 / 3/4	15	15.0	14.5	20.5
2-25	M25x1.5	10	3/4 / 1	15/19	20.0	20.5	26.5
3-32	M32x1.5	10	1 / 1 1/4	19	26.5	26.5	33.5
4-40	M40x1.5	15	1 1/4 / 1 1/2	19/21	34.0	33.5	42.5
5-50	M50x1.5	15	1 1/2 / 2	21	44.5	42.5	52.5
6-63	M63x1.5	15	2 / 2 1/2	21/30	56.5	52.5	
7-75	M75x1.5	15	2 1/2 / 3	30/32	67.5	65.5	
8-80	M80x2.0	20	3	32	74.0	78.0	
9-90	M90x2.0	20	3 / 3 1/2	32/33	81.5	82.0	
10-100	M100x2.0	20	3 1/2 / 4	33/34	91.0	90.0	
11-110	M110x2.0	20	4	34	98.0	100.0	
12-120	M120x2.0	20	-	-	103.0	103.0	118.0
13-130	M130x2.0	20	-	-	115.0	113.0	124.0



PROPERTIES

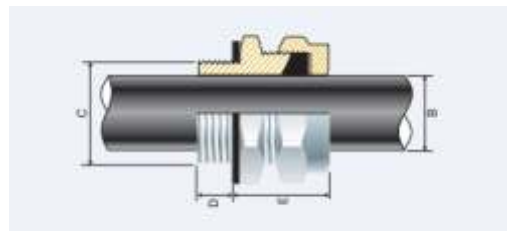
Gland Material:	Brass (Nickel Plated) BS 2874, EN 12164, Aluminium ASTM Bs221, Stainless Steel 316/316L
Cable Type:	Unarmoured
Seal Material:	Thermoset Elastomer or Silicon on request
Continuous Operating Temp:	-65°C to +120°C

FEATURES

- For indoor and outdoor use
- Seals the cable sheath to IP66/68
- Specially formulated elastomeric seals.
- Precision manufactured from high-quality brass (Nickel Plated) available in aluminium or stainless steel 316/316L on request.
- Complete with a heavy-duty locknut
- Supplied with a thread-sealing gasket (parallel threads only)

STANDARDS

- » Design Standards: BS 6121:Part 1
- » EN 50262
- » IEC/BS EN 62444
- » SANS 62444
- » SANS 1213
- » IP66/68 100m - Parallel : IEC 60529
- » IP65 - Tapered: IEC 60529
- » Marine ABS IEC 60529, IEC 62444
- » DNV-GL IEC 60529, BS 6121, IEC 62444
- » London Underground Approval BS EN 62444



Gland Size Ref	Metric Entry Thread		NPT Entry Thread		Cable Detail		Max Leng. E
	C	Min D	C	Min D	Min B	Max B	
00-16S	M16x1.5	10	-	-	1.0	6.0	20.0
00-16ss	M16x1.5	10	-	-	3.0	8.5	20.0
00-20ss	M20x1.5	10	1/2 3/4	15	3.0	8.5	20.0
0-20s	M20x1.5	10	1/2 3/4	15	7.0	11.5	20.0
1-20	M20x1.5	10	1/2 3/4	15	11.0	15.0	24.0
2s-25s	M25x1.5	10	3/4 1	15/19	11.5	17.5	25.0
2-25	M25x1.5	10	3/4 1	15/19	15.0	20.0	25.0
3s-32s	M32x1.5	10	1 1/4	19	16.0	22.0	30.0
3-32	M32x1.5	10	1 1/4	19	20.0	26.5	30.0
4s-40s	M40x1.5	15	1 1/4 1 1/2	19/21	22.0	31.5	30.0
4-40	M40x1.5	15	1 1/4 1 1/2	19/21	26.0	34.0	30.0
5s-50s	M50x1.5	15	1 1/2	21	29.0	38.0	42.0
5-50	M50x1.5	15	2	21	34.0	44.5	42.0

Gland Size Ref	Metric Entry Thread		NPT Entry Thread		Cable Detail		Max Leng. E
	C	Min D	C	Min D	Min B	Max B	
6s-63s	M63x1.5	15	2	21	38.0	50.0	48.0
6-63	M63x1.5	15	2 1/2	30	44.5	56.5	48.0
7s-75s	M75x1.5	15	2 1/2	30	50.0	62.0	50.0
7-75	M75x1.5	15	3	32	56.0	67.5	50.0
8s-80s	M80x2.0	20	3	32	54.0	69.0	55.0
8-80	M80x2.0	20	3	32	65.0	74.0	55.0
9s-90s	M90x2.0	20	3	32	60.0	75.0	60.0
9-90	M90x2.0	20	3 1/2	33	73.0	81.5	60.0
10-100	M100x2.0	20	3 1/2 4	33/34	81.0	91.0	74.0
11-110	M110x2.0	20	4	34	91.0	101.0	92.5
12-120	M120x2.0	20	-	-	101.0	109.0	92.5
13-130	M130x2.0	20	-	-	109.0	119.0	92.5



CABLE ACCESSORIES



CABLE TIES

NYLON



PROPERTIES

Material:	Nylon 66, 94V-2 certified by UL
Temp. Range:	-40°C to +85°C

APPLICATION

Open lock head for easy insertion. The tail end of the cable tie is pulled through to tighten. Inside serration to ensure a strong hold

Product Code	Size	Tensile Strength
	MM	KG
PHD18R	2.5 x 100	11
PHD30R	3.6 x 150	20
PHD50R	4.6 x 200	28
PHD50I	4.6 x 300	36
PHD50L	4.6 x 400	36
PHD120R	7.6 x 350	65



NITTO TAPE

INSULATION TAPE



PROPERTIES

PVC tape coated with a rubber-based pressure sensitive adhesive

APPLICATION

The Nitto PVC 21 is a heavy duty general purpose tape which is ideal for wire and cable harnessing; color coding; duct sealing; corrosion preventing; holding and protection.

FANS



POWER EFFICIENT AND QUIET IN OPERATION

PROPERTIES

The AC Axial (propeller) Fan provides a large constant flow and is used in applications where ventilation and cooling is essential. The fan is power efficient, quiet in operation and cause less electromagnetic and radio interference.



Stock Code	Size	Blade Material	Bearing Type	Voltage Grade	Max. Rated Current	Max. Input Power	Speed	Max. Air Flow	Noise
	(mm)			(VAC 50Hz)	(mA)	(W)			
8P-230HB	80x80x25	Glass Plastic	Dual Ball	230	95	18	2500	21	30
3C-DVB	80x80x38	Glass Plastic	Dual Ball	230/115	200/170	15	2600	29	30
9P-115HB	92x92x25	Glass Plastic	Dual Ball	115	160	16	2400	28.56	35
9P-230HB	92x92x25	Glass Plastic	Dual Ball	230	80	16	2400	28.56	35
4C-230LB	120x120x38	Glass Plastic	Dual Ball	230	65	10	1500	57	30
4C-230HB	120x120x38	Glass Plastic	Dual Ball	230	135	22	2650	89	46
4E-115B	120x120x38	Metal	Dual Ball	115	250	24	2650	82.4	41
4E-230B	120x120x38	Metal	Dual Ball	230	140	22	2650	82.4	41
4E-DVB	120x120x38	Metal	Dual Ball	230/115	30/250	22	2650	85	41
5E-115B	170x150x55	Metal	Dual Ball	115	640	48	2750	200	50
5E-230B	170x150x55	Metal	Dual Ball	230	300	46	2750	200	50
5E-DVB	170x150x55	Metal	Dual Ball	230/115	10/640	45	2750	200	50
6C-230HBSE	172x150x51	Glass Plastic	Dual Ball	230	300	46	2750	198	55
6C-230HBSR	172x172x51	Glass Plastic	Dual Ball	230	300	46	2750	198	55

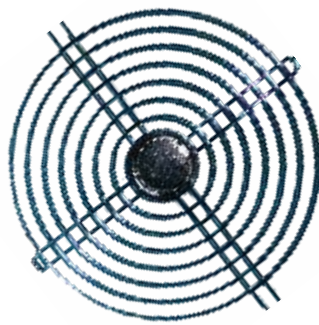
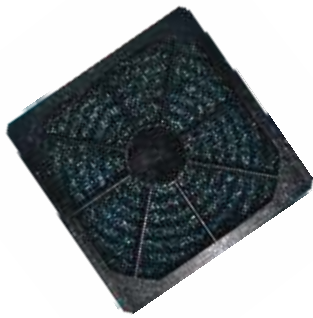
POWER EFFICIENT AND QUIET IN OPERATION



PROPERTIES

The DC Axial (propeller) Fan can run at variable speeds and operates using lower voltage. The DC fan is most commonly used in computers, servers and any equipment where the need for thermal control is necessary for the longevity of the product.

Stock Code	Size	Blade Material	Bearing Type	Voltage Grade	Max. Rated Current	Max. Input Power	Speed	Max. Air Flow	Noise
	(mm)			(VDC)	(A)	(W)	(R.P.M)	(CFM)	(dB-A)
BP402012M	40x40x20	Glass Plastic	Dual Ball	10.2 ~ 13.8	0.10	1.2	6000	7.09	26.4
BP501012M	50x50x10	Glass Plastic	Dual Ball	10.2 ~ 13.8	0.10	1.2	4000	8.79	29
BP601012M	60x60x10	Glass Plastic	Dual Ball	10.2 ~ 13.8	0.16	1.92	4200	20.7	35
BP602512H-03	60x60x25	Glass Plastic	Dual Ball	10.2 ~ 13.8	0.13	1.56	3800	19.5	29.6
BP602524HM-03	60x60x25	Glass Plastic	Dual Ball	20.4 ~ 27.6	0.18	4.32	6000	33.2	42.4
BP802512H-03	80x80x25	Glass Plastic	Dual Ball	10.2 ~ 13.8	0.30	3.6	3300	44	35.6
BP802524H-03	80x80x25	Glass Plastic	Dual Ball	20.4 ~ 27.6	0.21	5.04	3300	44	35.6
BP803012H	80x30(snail)	Glass Plastic	Ball	10.2 ~ 13.8	0.20	2.4	2600	8.94	35
BP922512H-02	92x92x25	Glass Plastic	Dual Ball	10.2 ~ 13.8	0.32	3.84	3000	63.5	40.3
BP922524H-02	92x92x25	Glass Plastic	Dual Ball	20.4 ~ 27.6	0.22	4.32	3000	58.7	38
BP1202512H	120x120x25	Glass Plastic	Dual Ball	10.2 ~ 13.8	0.38	4.56	3000	88.3	48.32
BP1203812H-03	120x120x38	Glass Plastic	Dual Ball	10.2 ~ 13.8	1.10	13.2	2900	145	48
BP1202524H	120x120x25	Glass Plastic	Dual Ball	20.4 ~ 27.6	0.24	5.76	3000	88.3	48.32
BP1203824H-03	120x120x38	Glass Plastic	Dual Ball	20.4 ~ 27.6	0.80	19.2	2900	145	48
BP1203848M-03	120x120x38	Glass Plastic	Dual Ball	40.8 ~ 55.2	0.18	8.64	2400	121	46
BP1203848H-03	120x120x38	Glass Plastic	Dual Ball	40.8 ~ 55.2	0.40	19.2	2900	145	48
BP172514HE	172x150x51	Glass Plastic	Dual Ball	12 ~ 27.6	0.80	19.2	3400	235.1	59.6
BP1725124HR	172x172x51	Glass Plastic	Dual Ball	12 ~ 27.6	0.80	19.2	3400	235.1	59.6
BP1725148HE	172x150x51	Glass Plastic	Dual Ball	25 ~ 60	0.40	19.2	3400	235.1	59.6
BP1725148HR	172x172x51	Glass Plastic	Dual Ball	25 ~ 60	0.40	19.2	3400	235.1	59.6



Fan grills and filter kits provide optimal protection against dust and foreign bodies. Convenient design for easy installation and fits most fans and vents

Stock Code	Size	Description
	(mm)	
6G-60	60x60	Silver chrome finger guard/grill
6G-80	80x80	Black plastic finger guard/grill
6G-80P	80x80	Three piece black plastic dust filter kit
6G-3E	80x80	Silver chrome finger guard/grill
6G-92E	92x92	Silver chrome finger guard/grill
6G-92P	92x92	Three piece black plastic dust filter kit
6G-120G	120x120	Black plastic filter guard/grill
6G-120P	120x120	Three piece black plastic dust filter kit
6G-4E	120x120	Silver chrome finger guard/grill
4SG	120x120	Baffle/Fan spacer
6G-150P	172x150	Three piece black plastic dust filter kit
6G-5E	172x150	Silver chrome finger guard/grill

POWER ELECTRONICS



STUD TYPES AND CAPSULES



PROPERTIES

Our comprehensive range of little fuse rectifier diodes offers class leading performance and reliability. Devices with blocking voltages from 400V up to 6kV are available making them ideal for applications with line voltages up to 2kV. Optimised to offer low conduction losses, these devices are ideally suited to line frequency applications including input rectifiers for variable speed drives, traction converters, trackside substations, welding and DC power supplies. Featuring compression bonded, alloyed Silicon wafer construction, these devices feature low thermal impedance and high overload capacity and are designed to survive even the most arduous applications.

Stock Code	IT _{Ave} @ 55°C	Vrrm	Case Style	Case Size	Tail
W06285SA080SAB	628	800	Stud	3/4"unf	Yes
W0628SA160SAB	628	1600	Stud	3/4"unf	Yes
W0735SA040SAB	735	400	Stud	3/4"unf	Yes
W0944WC150	944	1500	Capsule	42x41mm	-
W1748LC180	1748	1800	Capsule	58x26mm	-
W1263YC250	1263	2500	Capsule	42x41mm	-
W2052NC400	2050	4000	Capsule	74x26mm	-

Stock Code	IT _{Ave} @ 55°C	Vrrm	Case Style	Case Size (mm)	Tail
W2058LC020	2058	200	Capsule	58x26	-
W2416NC250	2500	2500	Capsule	74x26	-
W2899MC480	2899	4800	Capdule	74x26	-
W3270NC080	3270	800	Capsule	74x26	-
W4534N020	4534	200	Capsule	74x26	-
W4693QK080	4693	800	Capsule	58x14	-
W5696VC020	5696	200	Capsule	102x33	-

PHD EQUIVALENT



Image	Part Number	IT _{Ave} @ 55°C	Vrrm	Case Size	Case Style	Tail
1	D16A(K) 1K6VC	16	1600	Stud	10-32"unf	No
1	DA25A(K) 1K6VC	25	1600	Stud	10-32"unf	No
2	D85A(K) 1K2VC	85	1200	Stud	1/4"unf	No
2	D85A(K) 1K8VC	85	1800	Stud	1/4"unf	No
2	D85A(K) 1K6VM	85	1600	Stud	Metric M8x1.5mm	No
3	D100A(K) 1K6VB	100	1600	Stud	1/2"unf	Yes
3	D150A(K) 1K8VB	150	1800	Stud	1/2"unf	Yes
3	D150A(K) 1K8VM	150	1800	Stud	M12X1.5mm	Yes
3	DA160A 1K8VM	160	1800	Stud	M12X1.75mm	Yes
3	D180A(K) 1K8VB	180	1800	Stud	1/2"unf	Yes
3	D240A(K) 1K8VB	240	1800	Stud	3/4"unf	Yes
3	D240A(K) 1K8VM	240	1800	Stud	M16X1.5mm	Yes
3	D301A(K) 2K6V	300	2600	Stud	3/4"unf	Yes
3	D400A(K) 1K8V	400	1800	Stud	3/4"unf	Yes
3	D401A(K) 1K8VM	400	1800	Stud	M20x1.5mm	Yes
4	D700A 2KV	700	2000	Capsule	42x41mm	No

FAST & SOFT RECOVERY

PROPERTIES

Little Fuse soft recovery diodes are available with a range of reverse recovery characteristics tailored to meet the requirements of both freewheeling and snubber applications. These devices are available with blocking voltages up to 6kV and average currents up to 2413A. 24mm to 75mm diameter silicon slices. These parts are particularly suitable where soft recovery is required, such as RCD snubbers, voltage clamping and snubberless applications. The devices utilise compression bonding along with both alloyed and floating silicon technologies to deliver robust devices that you can rely on in demanding applications



Stock Code	Previous Stock Code	$I_{T_{AVE}} @ 55^{\circ}C$	V_{rrm}	Case Style	Case Size	Tail
M0437WC140	SM14CXC170	437	1400	Capsule	42x14mm	3.0
M0859LC120	SM12CXC220	859	1200	Capsule	58x26mm	3.0
M1022LC180	SM18CXC724	1022	1800	Capsule	58x26mm	3.0

STUD TYPE & CAPSULE

PHASE CONTROL

Stock Code	Previous Stock Code	$I_{T_{AVE}} @ 55^{\circ}C$	V_{rrm}	Case Style	Case Size	Taill
N0795YN180	N0734YS180	734	1600	Capsule	42x14mm	-
N0910LS180	N330SH18	910	1800	Capsule	58x26mm	-
N1010NC380	N360CH38	1010	3800	Capsule	74x26mm	-
N1075LN180	N1114LS180	1114	1800	Capule	58x26mm	-
N1263JK180	N1263JK180	1263	1800	Capsule	50x14mm	-
N1467NS240	N490SH24	1467	2400	Capule	74x26mm	-
N1661VC320	N630CH32	1661	3200	Capsule	102x33mm	-
N1718NS180	N540SH18	1718	1800	Capsule	74x26mm	-
N2046NS160	N740SH16	2046	1600	Capsule	74x26mm	-
N2500VC160	N990CH16	2500	1600	Capdule	102x33mm	-
N3022MK140	-	3022	1400	Capsule	74x14mm	-
N4085ZC120	N1600CH12	4085	1200	Capsule	110x36mm	-
N4400TC220	N1863CH22	4400	2200	Capsule	112x26mm	-



PROPERTIES

We provide one of the most comprehensive ranges of standard phase control thyristors in the industry. Devices with voltage ranges from 600V to 4500V are available, making them suitable for applications with line voltages from 230V to over 1000V (higher voltage applications are now served by our range of Medium Voltage Thyristors). IXYS UK Westcode Ltd. is a leading supplier of phase control products into demanding markets such as industrial DC drives, induction melting, marine/rail propulsion systems, wind power converters, electrochemical power supplies and soft starters. These devices are optimised to give low conduction losses and are primarily intended for applications with line frequencies up to 400Hz.

The Wespac outline is a new concept in phase control thyristors for applications requiring devices rated to 2200V. It gives the maximum power rating for weight and volume without compromising on quality and reliability. It also gives the maximum current rating and lowest thermal resistance for the package size.

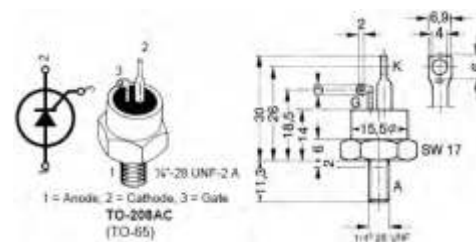
Features

- Thyristor for line frequencies
- International standard package
- JEDEC TO-208AC
- Planar glassivated chip
- Long-term stability of blocking currents and voltages

Applications

- Motor control
- Power converter
- AC power controller

Part Number	CS35-14IO4
Current $I_{T_{AVE}}$	63A @ 85 °C
V_{RMS}	100V
V_{GT}	1.5V
I_{GT}	100mA
Package	TO-65(TO-208AC)



STUD TYPE & CAPSULE

PHD EQUIVALENT

Image	Part Number	IT _{Ave} @ 55°C	V _{rrm}	Case Size	Case Style	Tail
1	T25AS 1K6VC	25	1600	Stud	1/4"unf	No
1	T50AS 1K6VC	50	1600	Stud	1/4"unf	No
1	T80AS 1K6VC	80	1600	Stud	1/2"unf	No
2	T80AS1K8VB	80	1800	Stud	1/2"unf	Yes
2	T110AS 1K8VB	110	1800	Stud	1/2"unf	Yes
2	T160AS 1K8VM	160	1800	Stud	1/2"unf	Yes
2	T230AS 1K8VB	230	1600	Stud	3/4"unf	Yes
2	T330AS 2KVB	330	2000	Stud	3/4"unf	Yes
3	T400A 1K8V	400	1800	Capsule	42x14mm	-
3	T800A 1K8V	800	1800	Capsule	42x14mm	-
3	T990A 1K8V	990	1800	Capsule	57x26mm	-
3	T1500A 2KV	1500	2000	Capsule	75x26mm	-
3	T2500A 3KV	2500	3000	Capsule	110x36mm	-



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FAST DISTRIBUTED GATE THYRISTORS



Littelfuse

PROPERTIES & APPLICATION

These devices are available with blocking voltages to 4.5kV and currents to 4kA, with tq from 10 to 300 micro seconds. The unique distributed gate design and lifetime control features give these devices both high di/dt capability and fast, low recovery turn-off, while maintaining a low on-state voltage drop. Ideally suited to application including: induction heating, power supplied, high frequency inverters/converters, UPS and pulse power.

Stock Code	IT _{Ave} @ 55°C	V _{rrm}	Case Style	Case Size	Tail
R0830LS14E	830	1400	Capsule	58x26mm	25
R0878LS21K	878	2100	Capsule	58x26mm	60
R0929LS12C	929	1200	Capsule	58x26mm	15
R0964LS12E	964	1200	Capsule	58x26mm	25
R0990LS08A	990	1800	Capsule	58x26mm	10
R1275NS18L	1275	1800	Capule	74x26mm	65
R1446NS12E	1446	1200	Capsule	74x26mm	25

PHD EQUIVALENT

Part Number	IT _{Ave} @ 55°C	V _{rrm}	Case Size	Case Style	Tail
TF083A 1KVL	83	1000	Stud	1/2"unf	No
TF180A 1K2V	180	800	Capsule	42x14mm	No
TF33A 1K2V	333	1200	Capsule	42x14mm	No
R1300A 2KV	1300	2000	Capsule	75x26mm	No
R1500A2KV	1500	2000	Capsule	75x26mm	No
R2500A 2KV(26)	2500	2000	Capsule	110x26mm	No
R2500A 2KV(36)	2500	2000	Capsule	110x36mm	No





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FEATURES

A silicon controlled rectifier (SCR) is a solid state switching device which can provide fast, infinitely variable proportional control of electric power. Not only does this give maximum control of your heat process, but it can extend heater life many times over other control methods. Since the SCR is solid state, it can cycle on and off over a billion times, if properly used. The SCR has the following features:

- Line rectifying 50/60 Hz
- Planar passivated chips
- Long-term stability
- Direct copper bonded Al2O3-ceramic

APPLICATIONS

- Thyristor for line frequency
- Soft start AC motor control
- DC motor control
- Power converter
- AC power control
- Lighting and temperature control

ADVANTAGES

- Space and weight saving
- Simple mounting with 2 screws
- Improved temperature & power cycling
- Power converter
- Reduced protection circuits



Image	Part Number	$I_{T_{AVE}} @ 85^{\circ}C$	V_{rrm}	Circuit	Config.	Width (mm)
1	MCC26-16IO1B	27	1600	SCR-SCR	Series A-K	20
1	MCC44-16IO1B	49	1600	SCR-SCR	Series A-K	20
1	MCC56-16IO1B	60	1600	SCR-SCR	Series A-K	20
1	MCC72-16IO1B	85	1600	SCR-SCR	Series A-K	20
1	MCC95-16IO1B	116	1600	SCR-SCR	Series A-K	20
1	MCC95-18IO1B	116	1800	SCR-SCR	Series A-K	20
2	MCC162-18IO1	181	1800	SCR-SCR	Series A-K	34
2	MCD160-18IO1	181	1800	SCR-Diode	Series A-K	34
1	MCD56-16IO1B	60	1600	SCR-Diode	Series A-K	20
1	MCD72-16IO1B	85	1600	SCR-Diode	Series A-K	20
1	MCD95-16IO1B	116	1600	SCR-Diode	Series A-K	20
3	MCC255-18IO1	250	1800	SCR-SCR	Series A-K	34
3	MCC312-18IO1	320	1800	SCR-SCR	Series A-K	50
3	MCD255-18IO1	250	1600	SCR-Diode	Series A-K	50

POWER CONVERTERS

Image	Part Number	$I_{T_{AVE}} @ 85^{\circ}C$	V_{rrm}	Circuit	Config.	Width (mm)
1	TT25A 1K8V	25	1800	SCR-SCR	Series A-K	20
1	TT63A 1K8V	63	1800	SCR-SCR	Series A-K	20
1	TT72A 1K8V	72	1800	SCR-SCR	Series A-K	20
1	TT95A 1K8V	95	1800	SCR-SCR	Series A-K	20
1	TT110A 1K8V	110	1800	SCR-SCR	Series A-K	20
1	TD110A 1K8V	110	1800	SCR-Diode	Series A-K	20
1	TD250A 1K8V	250	1800	SCR-Diode	Series A-K	50
1	DD100A 1K8V	100	1800	Diode-Diode	Series A-K	20
1	DD100 1K8V-K	100	1800	Diode-Diode	Common Cathode	20
1	TT110A 1K8VW	100	1800	SCR-SCR	Series A-K	25
2	TT130A 1K8V	130	1800	SCR-SCR	Series A-K	34
2	TT160A 1K8V	160	1800	SCR-SCR	Series A-K	34
2	TD63A 1K8V	63	1800	SCR-Diode	Series A-K	20
2	DD160A 1K8V	160	1800	Diode-Diode	Series A-K	34
3	TT250A 1K8V	250	1800	SCR-SCR	Series A-K	50
3	TT350A 1K8V	350	1800	SCR-Diode	Series A-K	50
4	TT500A 1K8V	500	1800	SCR-Diode	Series A-K	
4	TT600A 1K8V	600	1800	SCR-Diode	Series A-K	



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Image	Part Number	Description
5	MDG80A 1K8V	3 x Diode 80A 1800V Common Live Anode Base
5	MDY80A 1K8V	3 x Diode 80A 1800V Common Live Cathode Base
5	MTG80A 1K8V	3 x SCR 80A Common Live Anode Base
5	MTY80A 1K8V	3 x SCR 80A Common Live Cathode Base
6	MDG160A 1K8V	3 x Diode 160A 1800V Common Live Anode Base
6	MDY160A 1K8V	3 x Diode 160A 1800V Common Live Cathode Base
6	MTG160A 1K8V	3 x SCR 160A Common Live Anode Base
6	MTY160A 1K8V	3 x SCR 160A Common Live Cathode Base

Image	Part Number	Description	Size (mm)
7	MUR20020	FRED 2x100A 200V Common Live Cathode Base 50ns	92x20
7	MUR40020	FRED 2x100A 100V Common Live Cathode Base 75ns	92x20



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PROPERTIES

Bridge rectifiers consist of four diodes or thyristors that are arranged to convert AC supply voltage to DC. These rectifiers are available in both single and three phase and may be classified as full controlled, half controlled and uncontrolled.

- Package with DCB ceramic
- Improved temperature and power cycling
- Planar passivated chips
- Low forward voltage drop
- Low leakage current

APPLICATION

- Diode for main rectification
- For one phase bridge configurations
- Supplies for DC power equipment
- Input rectifier for PWM inverter
- Battery DC power suppliers
- Field supply for DC motors

Image	Part Number	I _o @T _c		V _{rrm}	V _{FM} @ I _{FM}		I _{RRM}	I _{FSM}	R _{JC}	T _{JM}	V _{ISO}
		A @	°C	V	V	A	mA	A	°C/W	°C	VAC
SINGLE PHASE											
1	VB030-16N07	35	85	1600	2.2	150	5	400	0.7	150	3000
2	VB050-16N07	50	64	1600	1.6	150	10	750	0.65	150	3000

Image	Part Number	I _o @T _c		V _{rrm}	V _{FM} @ I _{FM}		I _{RRM}	I _{FSM}	R _{JC}	T _{JM}	V _{ISO}
		A @	°C	V	V	A	mA	A	°C/W	°C	VAC
THREE PHASE											
3	VU030-16N07	38	85	1600	2.2	150	5	400	0.7	150	3000
4	VU055-16N07	58	85	1600	1.6	150	10	750	0.45	150	3000



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Image	Part Number	I _o @T _c		V _{rrm}	V _{FM} @ I _{FM}		I _{RRM}	I _{FSM}	R _{JC}	T _{JM}	V _{ISO}
		A @	°C	V	V	A	mA	A	°C/W	°C	VAC
SINGLE PHASE											
1	BPC25A 1K2V	25	85	1200						150	2500
1	BPC35A 1K6V	35	85	1600						150	2500
2	BPC50A 1K6V	50	85	1600						150	2500
2	BPC50A 1K8V	50	85	1600						150	2500
3	BPC100A 1K6V	100	100	1600	1.53	150	10	1.500	0.24	150	2500
4	BPC150A 1K6V	150	100	1600	1.47	150	10	2.500	0.15	150	2500



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Image	Part Number	$I_o @ T_c$		V_{rrm}	$V_{FM} @ I_{FM}$		I_{RRM}	I_{FSM}	R_{JC}	T_{JM}	V_{ISO}
		A @	°C		V	A					
1	DPC30A 1K6V	30	85							150	2500
2	DPC35A 1K6V	35	60	1600				0.475		150	2500
3	DPC70A 1K6V	75	100	1600	1.47	75	8	1.000	0.32	150	2500
4	DPC70A 1K6VF	75	100	1600	1.47	75	8	1.000	0.32	150	2500
3	DPC100A 1K6V	100	100	1600	1.53	100	10	1.500	0.24	150	2500
4	DPC100A K6VF	100	100	1600	1.53	100	10	1.500	0.24	150	2500
5	DPC150A 1K6V	150	100	1600	1.5	150	10	2.500	0.15	150	2500
6	DPC250A 1K6V	250	100	1600						150	2500
7	DPC300A 1K6V	300	100	1600						150	2500

SINGLE PHASE WITH FREE WHEEL DIODE



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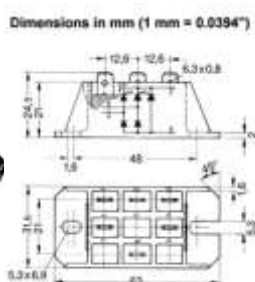
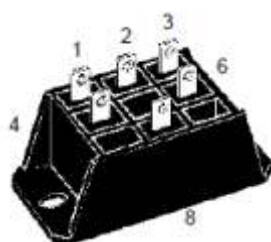


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Image	Part Number	I_o	V_{rrm}
		A	V
1	CHB13614W	36	1400
2	CHB14012W	40	1200
3	CHB16012W	60	1200
4	CHB110012W	100	1200



Features

Package with DCB ceramic base plate
Isolation voltage 3600 V~
Planar passivated chips
¼" fast-on terminals
UL registered E 72873

Applications

Supply for DC power equipment
DC motor control

Part Number	VHF36-16IO5
$I_{t_{AVE}}$ (module)	36A @ 85 °C
$I_{t_{AVE}}$ (leg)	28A
V_{RPM}	1600V
$V_{GT} - I_{GT}$ @ 25°C	1.0V/65mA

THREE PHASE WITH FREE WHEEL DIODE

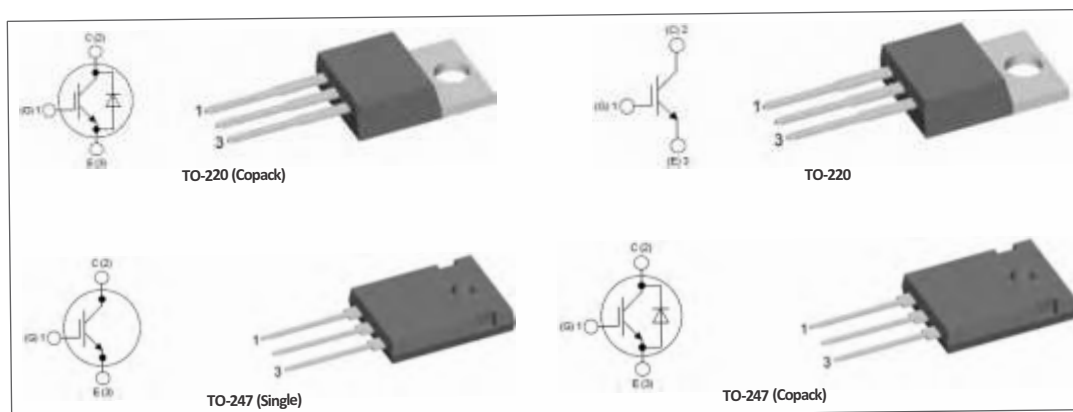


1



2

Image	Part Number	I_o	V_{rrm}
		A	V
1	CHD16016W	60	1600
2	CHD110016W	100	1600



PROPERTIES

Manufactured through the state-of-the-art GenX3™ IGBT process and an extreme-light Punch Through (XPT™) design platform, these devices feature high-current handling capabilities, high-speed switching abilities, low total energy losses, and low current fall times. They have a positive collector-to-emitter voltage temperature coefficient, making it possible for designers to use multiple devices in parallel to meet high current requirements.

Their low gate charges also help reduce gate drive requirements and switching losses. These devices have square Reverse Bias Safe Operating Areas (RBSOA) up to the breakdown voltage – a necessary ruggedness in snubberless hard-switching applications

APPLICATION

- AC motor drives
- Solar Inverter
- Medical equipment
- Uninterruptible power supply
- Air-conditioning systems
- Welding equipment
- Switched-mode and resonate-mode power suppliers
- Inductive heating, cookers
- Power Factor Correction (PFC) circuits

Part Number	Configuration	V_{CEs}	$I_c @ T_c 25^\circ C$	I_c	$V_{CE(SAT)} T_j$ 25°C	$t_{fi(typ)}$	$E_{off(typ)}$ 150 °C	$R_{thJC(max)}$	I_F DIODE	$I_{THJC(max)}$ DIODE	PACKAGE
		V	A	A	V	ns	ns	°C/W	A	°C/W	
IXXH50N60C3	Single	600	100	50@T _c 110	1.95	42	0.48	0.25	-	-	TO-247
IXXH100N60C3	Single	600	190	100@T _c 110	1.68	75	1.4	0.18	-	-	TO-247
IXA12IF1200PB	Copack (FRD)	1200	20	13@T _c 90	1.8	100	1.1	1.5	14@90°C	1.8	TO-220
IXA201200PB	Single	1200	33	11@T _c 90	1.8	100	17	0.95	-	-	TO-220
IXA33IF1200HB	Copack (FRD)	1200	58	34@T _c 100	1.8	100	3	0.5	33@100°C	0.7	TO-247
IXA45IF1200HB	Copack(FRD)	1200	78	45@T _c 100	1.8	100	4.1	0.38	33@100°C	0.7	TO-247

MACMIC



PROPERTIES

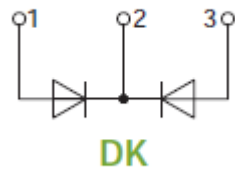
The Insulated Gate Bipolar Transistor or IGBT is a three-terminal power semiconductor device, noted for high efficiency and fast switching. The IGBT combines the simple gate-drive characteristics of the MOSFETs with the high-current and low-saturation-voltage capability of bipolar transistors by combining an isolated gate FET for the control input, and a bipolar power transistor as a switch, in a single device.

- High short circuit capability, self limiting short circuit current
- IGBT CHIP (T4 Fast Trench+Field Stop Technology)
- VCE(SAT) with positive temperature coefficient
- Fast switching and short tail current
- Free wheeling diodes with fast and soft reverse recovery

APPLICATION

- High frequency switching application
- Medical Applications
- Motion/servo control
- UPS systems

MacMic Part Number	Desc	V_{CES}	$V_{CE(SAT)}$	I_C	T_F
		V	V (T _J = 125°C)	A	ns
MMG50S120B6TN	50A 1200V DUAL 34mm 2-Hole Mnt	1200	1.9	50	90
MMG75S060B6EN	75A 600V DUAL 34mm 2-Hole Mnt	600	1.6	75	70
MMG75S120B6HN	75A 1200V 34mm HS3 HI-SPEED INFINEON CHIP 30KHz	1200	2.5	75	60
MMG75S120B6TN	75A 1200V DUAL 34mm 2-Hole Mnt	1200	1.9	75	70
MMGTU75S120B6C	75A 1200V 34mm HI FREQ WELDING APP 15-30KHz	1200	2.5	75	60
MMG100S060B6EN	100A 600V DUAL 34mm 2-Hole Mnt	600	1.6	100	70
MMG100D120B6HN	100A 1200V DUAL 62x108 4-Hole Mnt	1200	2.5	100	60
MMG150DR120B	150A 1200V DUAL 62x108 4-Hole Mnt	1200	2.0	150	90
MMG150S120B6TN	150A 1200V DUAL 34mm 2-Hole Mnt	1200	1.9	150	90
MMG200D120B6HN	200A 1200V DUAL 62 x 108 4 Hole Mnt Hi-Frequency	1200	2.5	200	60
MMG200D120B6TN	200A 1200V DUAL 62X108 4-HOLE Mnt	1200	1.9	200	160
MMG200Q120B6TN	200A 1200V DUAL 45MM 2-HOLE Mnt	1200	1.9	200	160
MMG300D060B6R	300A 600V DUAL 62X108 4-HOLE Mnt	600	2.25	300	60
MMG300D120B6TN	300A 1200V DUAL 62X108 4-HOLE Mnt	1200	1.9	300	160
MMG400D060B6EN	400A 600V DUAL 62X108 4-HOLE MNT	600	1.6	400	70
MMG400D120B6TN	400A 1200V DUAL 62X108 4-HOLE MNT	1200	1.9	400	160

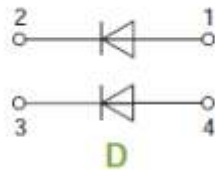


PROPERTIES

- Ultra fast Reverse Recovery Time
- Soft Reverse Recovery Characteristics
- Low Reverse Recovery Loss
- Low Forward Voltage
- High Surge Current Capability
- Low Inductance Package

APPLICATION

- Inversion Welder
- Uninterruptible Power Supply (UPS)
- Plating Power Supply
- Ultrasonic Cleaner and Welder
- Converter & Chopper
- Power Factor Correction (PFC) Circuit

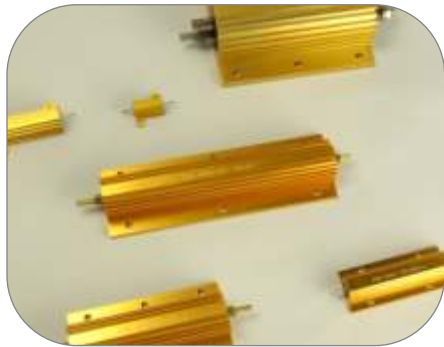
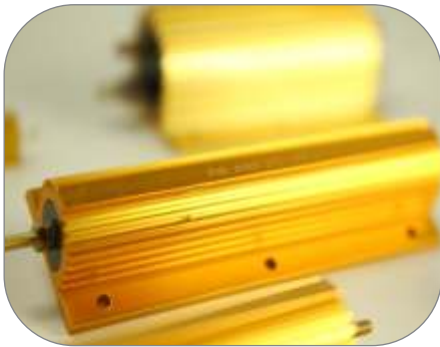


Part Number	Description	V_{RRM}	$V_{F(TYP)}$	$I_{F(AVG)}$	$T_{RR(TYP)}$
		V	V	A	ns
MMF2X100J040D	100A 400V FRED SOT-227	400	1.05	100 x 2	90
MMF2X100J060D	100A 600V FRED SOT-227	600	1.05	100 x 2	90
MMF2X60J120D	60A 1200V FRED SOT-227	1200	1.70	60 x 2	80
MMF2X100J120D	100A 1200V FRED SOT-227	1200	1.70	100 x 2	130
MMF200S060DK	200A 600V COMM-CATHODE 34mm FRED	600	1.50	200 x 2	180
MMF200S120DA	200A 1200V COMM-ANODE 34mm FRED	1200	1.90	150 X 2	110

MacMic Part Number	Desc	V_{RRM}	$V_{CE(SAT)}$	I_C	T_F
		V	V ($T_J = 125^\circ\text{C}$)	A	ns
MM40GTU60B	40A 600V IGBT TO-247 WITH INTEGRATED DIODE	600	1.9	40	90
MM40GTU120B	40A 1200V IGBT TO-247 WITH INTEGRATED DIODE	1200	2.35	40	100

ALUMINIUM RESISTOR

WATER COOLED



PROPERTIES

Having been originally designed for use in thyristor protection circuits, the HSW600 is most suitable where water cooling is available and space limited. The withdrawal of heat, internally and externally, ensures a low temperature gradient across the unit reducing Internal stress. Heat is extracted internally through the cooling pipe and externally by direct mounting onto the chassis or additional water cooled heat sink, thereby reducing temperature across internal insulation.

- Aluminium Housing
- Balanced Cooling
- Low Induction Windings
- Moulded-In Insulated Cabled Terminations
- High Power for small size

Power Ratings	Sizes (mm)			
Watts	Length	Width	Height	Inside Diameter
5	15	9.5	8	6
10	20	11	10.5	7.5
15	20	11	10.5	7.5
25	28	14	14	10
35	33	16.5	15.5	11
50	50	16.5	15.5	11
75 small	60	29	15.5	11
100 small	70	29	15.5	11
75 big	75	48	26	17
100 big	98	48	26	17
150	136	48	26	17
200	155	48	26	17
300	128	72	41	33
500	200	72	41	33
800	250	72	41	33
1000	300	72	41	33

PHDQ150A



Circuit	1 Phase
Mounting Bolts	2
Plates	2
Diodes/Plate	8
ifave (A)	150
Vrrm(V)	1200
Air Flow (M/S)	3.0

PHDQ250A



Circuit	1 Phase
Mounting Bolts	2
Plates	2
Diodes/Plate	12
ifave (A)	250
Vrrm(V)	1200
Air Flow (M/S)	3.0

PHDS250A



Circuit	3 Phase
Mounting Bolts	2
Plates	3
Diodes/Plate	8
ifave (A)	250
Vrrm(V)	1200
Air Flow (M/S)	3.0

PHDS300A



Circuit	3 Phase
Mounting Bolts	2
Plates	6
Diodes/Plate	6
ifave (A)	250
Vrrm(V)	1200
Air Flow (M/S)	3.0

PHDS300AL



Circuit	3 Phase
Mounting Bolts	2
Plates	4
Diodes/Plate	9
ifave (A)	300
Vrrm(V)	1200
Air Flow (M/S)	3.0

PHDS400A



Circuit	3 Phase
Mounting Bolts	2
Plates	6
Diodes/Plate	8
ifave (A)	400
Vrrm(V)	1200
Air Flow (M/S)	3.0

PHDS400AL



Circuit	3 Phase
Mounting Bolts	3
Plates	4
Diodes/Plate	9
ifave (A)	400
Vrrm(V)	1200

PHDS500A



Circuit	3 Phase
Mounting Bolts	2
Plates	6
Diodes/Plate	12
ifave (A)	500
Vrrm(V)	1200

PHDS500AL



Circuit	3 Phase
Mounting Bolts	3
Plates	6
Diodes/Plate	9
ifave (A)	500
Vrrm(V)	1200

OPTICALLY ISOLATED TRIGGERING

PROPERTIES

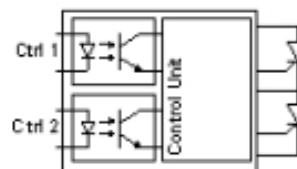
A single EZYTrigger unit replaces two pulse transformers, power supply and associated circuitry and may be connected directly to the output of microcontrollers, microprocessors, CPLDs and FPGAs. It can trigger any size thyristor including amplifying-gate devices, under all possible load conditions

- No pulse induction/transformer
- No gated driver required
- Triggers any size thyristor
- Triggers under any load conditions
- Compact
- Triggers two thyristors
- Up to 5300V isolation

APPLICATION

- Control Rectifier
- AC Controllers
- DC motor control
- Zero Crossing Switching-Heating
- Power Factor Correction
- Solid State Relays
- Electronic Precipitators

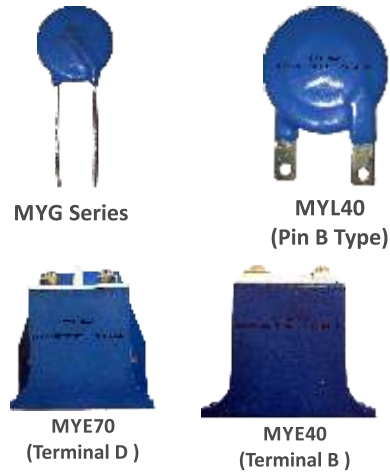
ACTIVE TRIGGER UNIT



Dimensions: 42.2 x 18.2 x 19 mm

Part Number	Description
AT410	Dual trigger, AT400 is geared towards applications where control is required of both thyristors
AT411	Single trigger, the AT401 is geared towards applications where the single triggers both thyristors
AT412	Single trigger with zero crossing, the AT401 is geared towards applications where a single control signal triggers both thyristors and the thyristor turns when the voltage goes through zero
AT414	Single external trigger, the AT414 is geared towards applications where the control circuitry is far removed from the thyristor

M.O.V



PROPERTIES

Steady Stage AC Voltage Range (Vm/AC/rms)	11V - 1000V
High Peak Surge Current Rating (I_{TM}) 8/20 μ s Pulse	250A - 10000A
Single Pulse Energy Range(W_{TM}) 2ms Square Wave	0.40J - 860J
Average Power Dissipation of Transients	<0.10W - <1.00W
Operating Temperature	-55°C - +85°C
Hi-Pot Encapsulation (Insulation Voltage Capacity)	2500Voc
Insulation Resistance	1000 M Ω
Maximum Voltage - Temperature Coefficient	<0.01% / °C
Response Time	<25ns

	Specification (25°C)						Maximum Rating(85°C)				
Part Number	Varistor Voltage (1mA DC)			Clamping Voltage (8/20μs)		Typical Capacitance	Continuous Voltage		Energy (J)		Peak Current
							VRMS	VDC	WTM		(8/20 μs)
	Min (V)	VN (DC)	Max (V)	V _c (C)	I _p (A)	F = 1KHz (pF)	VM(AC) (V)	V _M (DC)	10/1000 μs	2ms	I _{TM} (A)
MYG SERIES											
MYG05-431A	389	430	303	745	5	70	275	350	13.5	20	800
MYG07-431A	389	430	303	710	10	150	275	350	27.5	40	1750
MYG10-431A	389	430	303	710	25	400	275	350	55	80	3500
MYG14-431A	389	430	303	1.47710	15050	650	275	350	110	160	6000
MYG20-431A	389	430	303	710	100	1350	275	350	215	325	10000
MYG05-751A	702	780	858	810	5	70	485	640	15	21	800
MYG07-781A	702	780	858	1290	10	110	485	640	32	59	1750
MYG10-781A	702	780	858	1290	25	150	485	640	75	120	3500
MYG14-781A	702	780	858	1290	50	330	485	640	160	235	6000
MYG20-781A	702	780	858	1290	100	530	485	640	315	460	10000
MYG07-911A	900	1000	1100	915	10	120	625	825	32	46	1750
MYG10-102A	900	1000	1100	1650	25	140	625	825	100	145	3500
MYG14-102A	900	1000	1100	1650	50	300	625	825	200	290	6000
MYG20-102A	900	1000	1100	1650	100	480	625	825	400	565	10000
MYL SERIES											
MYL40-431A/B	389	430	466	710		4100	275	360	530		
MYL40-781A/B	702	780	585	1300		2270	480	640	930		
MYL40-102A/B	900	1000	1080	1650		1730	620	800	1040		
MYE SERIES											
MYE40-431B	389	430	466	710		3800	275	360	550		
MYE40-781B	702	780	858	1300		2100	480	640	930		
MYE40-102B	900	1000	1080	1650		1600	620	800	1040		
MYE40-431D	389	430	466	710		6600	275	360	950		

Normally Open & Normally Closed



Temperature switches are used in a variety of industrial and technical processes. If a preset temperature is reached, then the temperature switch opens or closes a corresponding switch contact. Depending on the requirements, mechanical or electronic switches can be used.

Part Number	Temperature °C	Contact	Base	Fixing
T23A050NCFL	50	Normally Closed	Flush	Loose Base
T23A050NOFL	50	Normally Open	Flush	Loose Base
T23A060NOFL	60	Normally Open	Flush	Loose Base
T23A080NCFL	80	Normally Closed	Flush	Loose Base
T23A090NOFL	90	Normally Open	Flush	Loose Base
T23A100NCFL	100	Normally Closed	Flush	Loose Base
T23A080NCFR	80	Normally Closed	Recessed	Fixed Base
T23A090NCFR	90	Normally Closed	Recessed	Fixed Base
T23A100NCFR	100	Normally Closed	Recessed	Fixed Base
T23A100NOFL	100	Normally Open	Flush	Loose Base
T23A090NCFF	90	Normally Closed	Flush	Fixed Base

High Power & Water Cooled

PROPERTIES

High power capacitors are used in medium frequency induction heating electrical systems for power factor correction or to improve loop characteristics. The electric heating capacitor is mainly composed of a core and a box shell and is filled with a high-quality impregnating agent, and the core is welded with a cooling water pipe for cooling the water supply container

- Water Cooled
- Electrically Live or Dead Case
- Aluminium Alloy Shell
- Polypropylene Film

APPLICATION

Water cooled capacitors offer several advantages over air-cooled ones, making them the preferred choice for high power applications. First and foremost, they can handle higher currents while maintaining a lower temperature due to their efficient cooling system. This means that water cooled capacitors have a longer life span and require less maintenance. In addition, water has a higher heat capacity than air, which allows it to absorb more heat from the capacitor. As a result, water cooled capacitors are able to operate at higher voltages without overheating or causing damage to other components in the circuit. Another advantage of using water cooled capacitors is their compact size. They take up much less space compared to their air-cooled counterparts since they do not need bulky finned heat sinks for cooling purposes. Water cooled capacitors are also more environmentally friendly as they consume significantly less energy than air-cooled ones. The reduced energy consumption results in lower greenhouse gas emissions and decreased carbon footprint. The use of water cooled capacitors in high power applications offers numerous benefits such as improved performance, increased efficiency and reduced environmental impact.

INSTALLATION

- The altitude of the installation and operation area should not exceed 1000 meters
- The installation site is free of severe mechanical vibrations, no harmful gases and vapors, and conductive or explosive dust
- The inlet water temperature of the cooling water should not exceed +30°C. For capacitors below 1000kvar, the water flow rate should not be lower than 4L/min, and the water flow rate of capacitors of 1000kvar and above should not be lower than 6L/min
- It should be able to run for 4 hours every 24h at a rated frequency of 1.1UN. The continuous current should not exceed 1.35IN



Part Number	Rated Voltage (V)	Rated Capacity (Kvar)	Frequency (Hz)	Rated Cap (μF)
RFM0.75-1000-1S	750	1000	1000	6*47.2
RFM1.2-2000-1S	1200	2000	1000	6*36.9
RFM1.6-2000-0.5S	1600	2000	500	6*41.5
RFM0.75-2000-1S	750	2000	1000	10*56.6
RFM1.2-2000-0.5S	1200	2000	500	8*55.3

SOLID STATE RELAYS



PROPERTIES

Solid State Relays (SSR) are semiconductor equivalents of the electromechanical relay and can be used to control electrical loads without the use of moving parts. By having no moving parts, the SSR tends to have a longer operational lifetime as they are not subjected to wear and tear.

HDH are power line relays allowing 10 to 150 Amps. switching power with Voltage ratings from 280 to 480VAC. Hybrid technology provides highly efficient thermal management for greatly increased cyclic life.

- Logic compatible current regulated input, 4000 Vrms optical isolation
- Both “Zero Voltage” & phase controllable “Random Switching” versions
- High voltage (1200 Vpk) versions for 480 Vrms service
- LED-indication for control input, Control voltage range: 4 to 16 Vdc or 3 to 32 Vdc

Part Number	Control Voltage	Line Voltage	Current	Switching Type
	VDC	VAC	A	
HDH2528ZD3	3-32	280	25	Zero Cross
HDH4028RD3	3-32	280	40	Random
HDH4028ZD3	3-32	280	40	Zero Cross
HDH4048RD3	3-32	480	40	Random
HDH4048ZA4	3-32	480	40	Zero Cross
HDH7528RD3	3-32	280	75	Random
HDH10028ZD3	3-32	280	100	Zero Cross
HTH6048ZD3	3-32	480	60	Zero Cross

APPENDIX

KVA/KWA CHART

80% POWER FACTOR

kVA	kW	208V	220V	240V	380V	400V	440V	450V	480V	600V	2400V	3300V	4160V
6.3	5.0	17.5	16.5	15.2	9.6	9.1	8.3	8.1	7.6	6.1			
9.4	7.5	26.1	24.7	22.6	14.3	13.6	12.3	12.0	11.3	9.1			
12.5	10.	34.7	33.0	30.1	19.2	18.2	16.6	16.2	15.1	12.0			
18.7	15.	52.0	49.5	45.0	28.8	27.3	24.9	24.4	22.5	18.			
25.	20.	69.5	66.	60.2	38.4	36.4	33.2	32.4	30.1	24.	6.	4.4	3.5
31.3	25.	87.	82.5	75.5	48.	45.5	41.5	40.5	37.8	30.	7.5	5.5	4.4
37.5	30.	104.	99.	90.3	57.6	54.6	49.8	48.7	45.2	36.0	9.1	6.6	5.2
50.	40.	139.	132.	120.	77.	73.0	66.5	65.0	60.	48.	12.1	8.8	7.
62.5	50.	173.	165.	152.	96.	91.	83.0	81.0	76.	61.	15.1	10.9	8.7
75.	60.	208.	198.	181.	115.	109.	99.6	97.5	91.	72.	18.1	13.1	10.5
93.8	75.	261.	247.	226.	143.	136.	123.0	120.0	113.	90.	22.6	16.4	13.
100	80.	278.	264.	240.	154.	146.	133.0	130.0	120.	96.	24.1	17.6	13.9
125.	100.	347.	330.	301.	192.	182.	166.0	162.0	150.	120.	30.	21.8	17.5
156.	125.	433.	413.	375.	240.	228.	208.	204.	188.	150.	38.	27.3	22.
187.	150.	520.	495.	450.	288.	273.	249.	244.	225.	180.	45.	33.	26.
219.	175.	608.	577.	527.	335.	318.	289.	283.	264.	211.	53.	38.	31.
250.	200.	6940	660.	601.	384.	364.	332.	324.	301.	241.	60.	44.	35.
312.	250.	866.	825.	751.	480.	455.	415.	405.	376.	300.	75.	55.	43.
375.	300.	1040.	990.	903.	576.	546.	498.	487.	451.	361.	90.	66.	52.
438.	350.	1220.	1155.	1053.	672.	637.	581.	568.	527.	422.	105.	77.	61.
500.	400.	1390.	1320.	1203.	770.	730.	665.	650.	602.	481	120.	88.	69.
625.	500.	1735.	1650.	1504.	960.	910.	830.	810.	752.	602.	150.	109.	87.
750.	600.	2080.	1980.	1803.	1150.	1090.	996.	975.	902.	721.	180.	131.	104.
875.	700.	2430	2310.	2104	1344.	1274.	1162..	1136.	1052.	842.	210.	153.	121.
1000.	800.	2780.	2640.	2405.	1540.	1460.	1330.	1300.	1203.	962.	241.	176.	139.
1125.	900.	3120.	2970.	2709.	1730.	1640.	1495.	1460.	1354.	1082.	271.	197.	156.
1250.	1000.	3470.	3300.	3009.	1920.	1820.	1660.	1620.	1504.	1202.	301.	218	174.
1563.	1250.	4350.	4130.	3765.	2400.	2280.	2080.	2040.	1885.	1503.	376.	273.	218.
1875.	1500.	5205.	4950.	4520.	2880.	2730.	2490.	2440.	2260.	1805.	452.	327.	261.
2188.	1750.			5280.	3350.	3180.	2890.	2830.	2640.	2106.	528.	380.	304.
2500.	2000.			6020.	3840.	3640.	3320.	3240.	3015.	2405.	602.	436.	348.
2812.	2250.			6780.	4320.	4095.	3735.	3645.	3400.	2710.	678.	491.	392.
3130.	2500.			7520.	4800.	4560.	4160.	4080.	3765.	3005.	752.	546.	435.
3750.	3000.			9040.	5760.	5460.	4980.	4880.	4525.	3610.	904.	654.	522.
4375.	3500.			10550	6700.	6360.	5780.	4660.	5285.	4220.	1055.	760.	610.
5000.	4000.			12040	7680.	7280.	6640.	6480.	6035.	4810.	1204.	872.	695.



JOHANNESBURG



77 Watt Street,
Meadowdale,
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