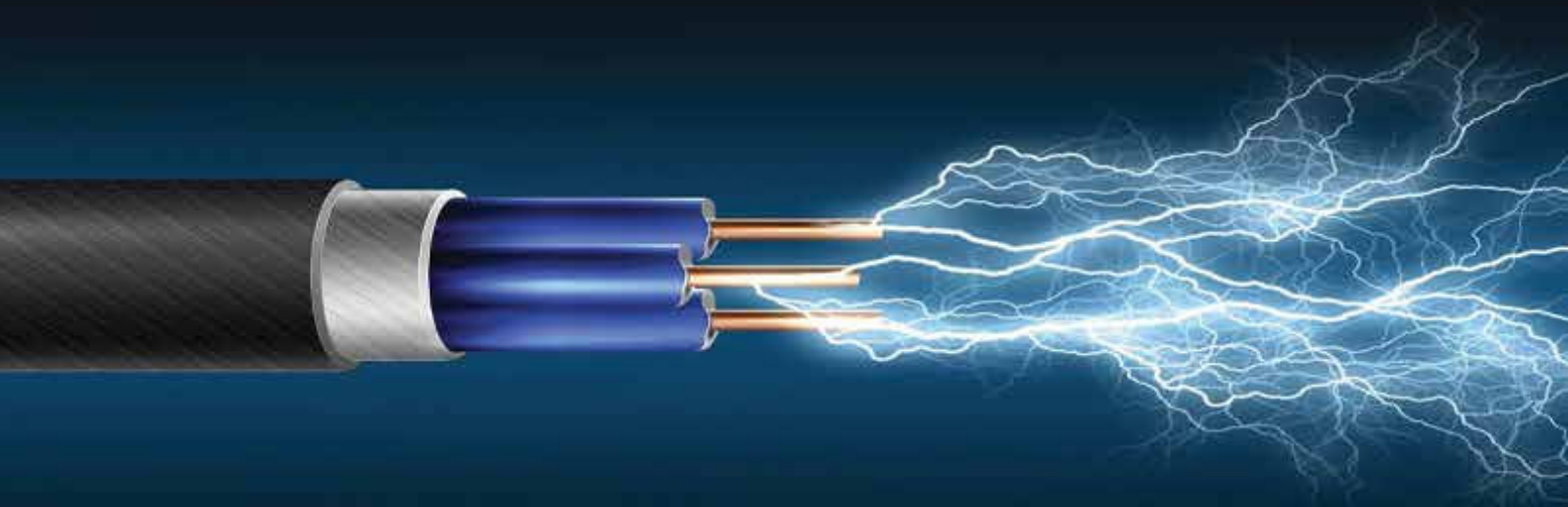


Electrical Solutions

- 2nd Edition

POWER FLEX CABLES



- Switches • Enclosures • Industrial Control • Din Terminals •
- Connectors • Cable • Audio-Visual Alarms •
- Military Standard Transport Cases •

Power Flex Cables is the leader in design and manufacture low voltage, medium voltage and high voltage cables, also communication and instrumentation cables to your specifications. Our innovative products can easily be customized to meet the most challenging applications.

Power Flex Cables is an Australian owned and Australian based company, with a strong reputation, combined with the backing of our European based cabling manufacturing partners. We have earned the reputation for delivering the highest quality applications to meet our customers specifications and deadlines, striving to offer quality, exceptional service, product and advice for all the individual cable needs of our customers.

Our highly qualified and experienced management team offers a combined total of over 60 years experience in the cable and allied industries, we consider Power Flex Cables to have both the knowledge and the experience to supply the correct solutions to your problems.

Power Flex Cables provides a safer, longer lasting and more durable cables for world wide usage indoors, outdoors and under the sea – for normal or harsh environments, normal and extreme weather and temperatures we combine sophisticated, advanced technology and rugged durability.

Our fields of expertise include mining, military/defence, aviation/aerospace, airport lighting, power, marine, medical, oil and gas, rail and rolling stock, industrial, submersible and solar just to mention a few. We are also involved in the green initiative, producing the finest resources needed for companies to move forward, that is both cost effective and efficient, so together we can make tomorrow a better planet.

Our customer base is extensive and we proudly continue to be involved with projects with Australian Military and Navy, local governments, Rio Tinto, Australian Aviation, Boeing to name a few, our custom designed and standard cables meet all stringent certification.



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Switches

Our portfolio of Switching technology is extremely broad, we carry stock of many items within the categories of;

- Anti-vandal Switches
- Automotive Switches
- Cam Switches
- DIP Switches
- Emergency Stop Switches
- Float and Flow Switches
- Foot Switches
- Isolators
- Industrial Control
- Joysticks
- Key Switches
- Keypad Switches
- Limit Switches
- Load Break Switches
- Micro Switches
- Push Button Switches
- Pressure Switches
- Pendant Switches
- Ribbon Switches
- Rocker Switches
- Rotary Switches
- Safety Switches
- Selector Switches
- Slide Switches
- Switch locks
- Switched Combination Outlets
- Tact Switches
- Thermal Switches
- Toggle Switches
- Twilight Switches



Connectors

To interconnect your equipment, we supply a well-rounded list of electrical and electronic solutions;

- 400A high current single pole Connectors
- Weatherproof Industrial Plugs and Sockets
- Industrial Multi-pole Connectors
- Industrial Circular Connectors
- Mil-Spec Connectors
- IP68 Rated Connectors
- XLR Connectors
- CEEform IEC Connectors



Switchgear

The highest quality products are available from European manufacturers, Schrack and Conta-Clip.

- Time and Monitoring Relays
- Time Clocks
- Control and Signalling Devices
- Relays
- Contactors, Motor Control and Thermal Overloads
- Power supplies & Transformers
- Din Rail Mounted Modular Components
- Din Rail Terminals

Contained within this catalogue is a small selection of commonly used products we supply the Electrical Industry.

Many more products are available within our range.

If you can't find the product you are looking for within this catalogue, please contact us and we will be more than happy to help.



Specialty Products

We also provide some niche solutions with a range of LCD displays, step motors and controllers, along with IP65 rated keyboards for infection control and industrial applications.



Cable

To safely connect your equipment and installations, we offer a vast range of wire and cables;

- Building Wires
- Orange Circular Cables
- Rubber Cables
- Industrial Control Cables
- VSD Cables
- Instrumentation Cables



Cable accessories

A large range of accessories;

- Cable Glands
- Ferrules
- Quick Connects
- Industrial Conduits
- Drag Chain



Beacons, Indicators & Alarms

To protect the wellbeing of people, and to monitor equipment, and industrial processes, we carry a comprehensive stock of Audio & LED Visual Alarms and Indicators;

- Alarms for Automotive applications
- Panel Mounted Alarm Sounders and Visual Indicators
- Wall mounted Alarm Sounders and Visual Indicators
- Tower Lights and Alarm Sounders



Enclosures

We carry an extensive range of enclosures in various formats, sizes and materials, for applications from hand held to large format wall mounted enclosures. The material types we stock include;

- ABS, Polyester, & Polycarbonate
- Aluminium
- Fibreglass
- Steel UV Powder Coated
- Stainless Steel



Transport Cases

SKB cases are manufactured to meet or exceed military standards. We stock a comprehensive range of products;

- Mil Standard carry cases
- 19" Rack Cases
- 19" Shock Rack Cases



We distribute the highest quality products from some of the leading manufacturers in their respective fields. Most of our product lines are manufactured in Europe, USA, Australia, Korea, Singapore or Taiwan, and you can rest assured, that we only source products from the best, and most trusted manufacturers in the world.





Keystone Cable is a leading Singapore-based cable manufacturer.



Keystone Cable is a leading Singapore-based cable manufacturer and supplier for the regional markets.

Established since 1990, Keystone Cable specializes in the manufacturing & supply of Extra Low Voltage, Low Voltage and High Voltage cables, to various industries. These industries include Building & Infrastructure, Oil & Gas, Data Communication and many others. In our unwavering commitment to providing cable solutions of the highest quality, our product range in Building & Infrastructure, Oil & Gas, and Data Communication are backed by TÜV SÜD PSB and UL certifications.

In addition, we are ISO 9001, ISO 14001 and OHSAS 18001 accredited for our Quality, Environmental and Safety Management Systems. With our emphasis on stringent quality control processes, we provide our customers with a guarantee of product excellence and reliability.

Keystone Cable is a trusted brand within the cable industry and have been a supplier to major projects such as; Australia-Pacific Gas Project, Barron Island LNG, Gorgon Pluto LNG, Santos LNG, Wheatstone LNG, and BHP Billiton Macedon, to name just a few.



H07 - Rubber Cable

Class 5 flexible, 600/1000V



H07 cables are designed to supply power to low voltage appliances, including electric motors, and submersible pumps in deep water installations, as well as many other types of electrical equipment.

Nominal Voltage:

0.6/1kV

Temperature Range:

Fixed: -40°C to +90°C

Conductor:

Electrolytic copper, class 5 or 6 (flexible), based on EN 60228

Outer sheath:

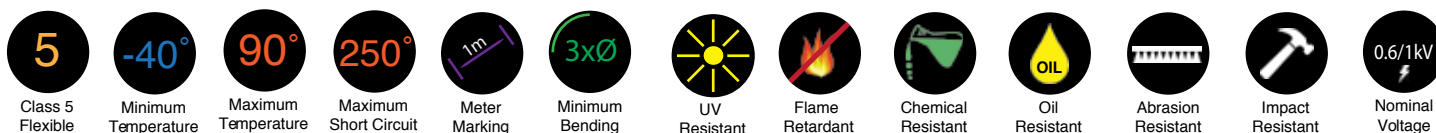
Thermosetting rubber (type EM2).
Black colour.

Insulation:

Thermosetting rubber (type EI4).

Colour Code:

2x Brown + Blue
3G Brown + Blue + G/Y
4G Brown + Black + Grey + G/Y
5G Brown + Black + Grey + Blue + G/Y
6G or more Black numbered + G/Y



Part Number	Nominal conductor area mm ²	Number of cores	Approx outside Ø mm	Approx weight kg/km
H072/1	1	2 core	8.3	92
H073G1		2 core + earth	8.9	111
H074G1		3 core + earth	9.7	134
H072/1.5	1.5	2 core	8.7	109
H073G1.5		2 core + earth	9.7	137
H074G1.5		3 core + earth	10.7	169
H075G1.5		4 core + earth	11.6	206
H077G1.5		6 core + earth	14.8	307
H0712G1.5		11 core + earth	17.5	456
H072/2.5	2.5	2 core	10.6	162
H073G2.5		2 core + earth	11.4	198
H074G2.5		3 core + earth	12.6	244
H075G2.5		4 core + earth	14.0	299
H077G2.5		6 core + earth	17.0	434
H0712G2.5		11 core + earth	20.4	654
H072/4	4	2 core	12.0	220
H073G4		2 core + earth	13.1	276
H074G4		3 core + earth	14.4	343
H075G4		4 core + earth	16.3	431
H073G6	6	2 core + earth	14.8	370
H074G6		3 core + earth	16.7	474
H075G6		4 core + earth	18.4	585
H073G10	10	2 core + earth	20.1	668
H074G10		3 core + earth	21.6	822
H075G10		4 core + earth	24.2	1010
H074G16	16	3 core + earth	24.6	1120
H074G25	25	3 core + earth	30.7	1730
H075G25		4 core + earth	33.5	2120

RVK Cable

Class 5 flexible, 600/1000V



The high flexibility of this electric cable, makes the installation process substantially easier and, as a result, it is particularly suitable for use in difficult layouts.

This low voltage cable can be buried, or installed in a conduit, as well as in open air - without requiring additional protection. RVK cable can withstand damp conditions, including total immersion in water.

Nominal Voltage:
0.6/1kV

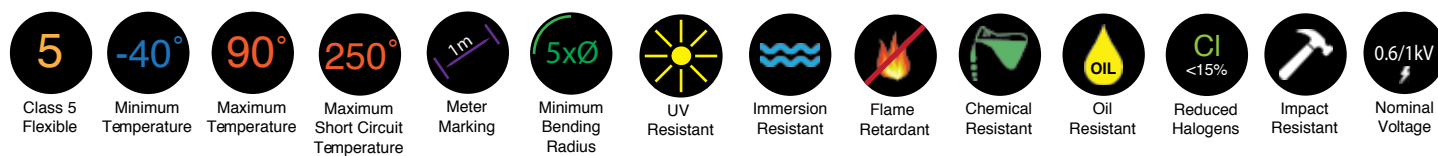
Temperature Range:
Fixed: -40°C to +90°C

Colour Code:
3G Brown + Blue + G/Y
4G Brown + Black + Grey + G/Y
5G Brown + Black + Grey + Blue + G/Y

Insulation:
XLPE

Outer sheath:
Flexible PVC outer sheath,
Black colour.

Conductor:
Electrolytic copper, class 5 (flexible),
based on EN 60228

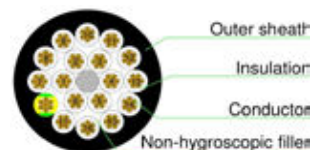


Part Number	Nominal conductor area mm ²	Number of cores	Approx outside Ø mm	Approx weight kg/km
RVK2/1.5	1.5	2 core	8.2	90
RVK3G1.5		2 core + earth	9	108
RVK4G1.5		3 core + earth	9.6	128
RVK5G1.5		4 core + earth	10.7	153
RVK2/2.5	2.5	2 core	6.2	53
RVK3G2.5		2 core + earth	10	145
RVK4G2.5		3 core + earth	10.8	174
RVK5G2.5		4 core + earth	11.6	213
RVK2/4	4	2 core	10.3	161
RVK3G4		2 core + earth	11	198
RVK4G4		3 core + earth	12	243
RVK5G4		4 core + earth	13.2	298
RVK2/6	6	2 core	11.3	211
RVK3G6		2 core + earth	12.1	263
RVK4G6		3 core + earth	13.4	328
RVK5G6		4 core + earth	14.7	403
RVK5G10	10	4 core + earth	17.1	624

Please note: Other sizes available, please contact the office.

Flexible Control Cable

Class 5 flexible, PVC/PVC



These cables are designed for flexible use, involving medium mechanical stresses, with free movement in dry, moist and wet rooms, as measuring and control cables, in tool machines, conveyor belts and production lines in machinery production, in air conditioning and steel production.

Construction:

Flexible, self extinguishing, oil resistant and flame retardant PVC insulated, and UV resistant PVC sheathed. Class 5 flexible copper conductors.

Bending Radius:

Flexing 10x cable Ø
Fixed 4x cable Ø

Temperature Range:

Flexing -15°C to 70°C
Fixed -40°C to 80°C

Nominal Voltage:

300/500V

Colour Code:

Black Sheath - White Numbered Cores

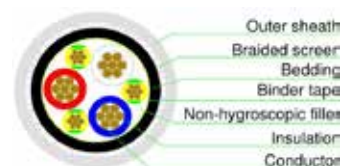


Black Sheath	Nominal conductor area mm²	Number of cores	Approx outside Ø mm	Approx weight kg/km	Black Sheath	Nominal conductor area mm²	Number of cores	Approx outside Ø mm	Approx weight kg/km
PF2/0.5	0.5	2 core	5.5	48	PF2/1	1	2 core	5.7	53
PF3G0.5		2 core + earth	5.5	48	PF3G1		2 core + earth	6.4	69
PF4G0.5		3 core + earth	6.0	56	PF4G1		3 core + earth	7.3	88
PF5G0.5		4 core + earth	6.5	66	PF5G1		4 core + earth	7.8	104
PF7G0.5		6 core + earth	7.4	86	PF7G1		6 core + earth	8.7	137
PF12G0.5		11 core + earth	9.6	140	PF12G1		11 core + earth	11.6	225
PF18G0.5		17 core + earth	11.5	200	PF18G1		17 core + earth	13.9	326
PF25G0.5		24 core + earth	13.7	286	PF25G1		24 core + earth	16.4	450
PF36G0.5		35 core + earth	16.0	385	PF36G1		35 core + earth	19.5	632
PF2/0.75	0.75	2 core	5.4	45	PF2/1.5	1.5	2 core		94
PF3G0.75		2 core + earth	6.0	60	PF3G1.5		2 core + earth	7.3	94
PF4G0.75		3 core + earth	6.8	74	PF4G1.5		3 core + earth	7.9	114
PF5G0.75		4 core + earth	7.4	88	PF5G1.5		4 core + earth	8.9	140
PF7G0.75		6 core + earth	8.0	112	PF7G1.5		6 core + earth	9.7	181
PF12G0.75		11 core + earth	10.8	188	PF9G1.5		8 core + earth	11.4	221
PF18G0.75		17 core + earth	12.7	270	PF12G1.5		11 core + earth	13.0	306
PF25G0.75		24 core + earth	15.2	380	PF18G1.5		17 core + earth	15.6	446
PF36G0.75		35 core + earth	17.8	515	PF25G1.5		24 core + earth	16.9	560
					PF36G1.5		35 core + earth	19.8	767
					PF3G2.5	2.5	2 core + earth	9.0	146
					PF4G2.5		3 core + earth	9.9	180
					PF5G2.5		4 core + earth	11.0	220
					PF7G2.5		6 core + earth	12.2	293
					PF12G2.5		11 core + earth	16.4	490
					PF18G2.5		17 core + earth	19.6	710
					PF25G2.5		24 core + earth	20.8	890

Please note: Other sizes available, please contact the office.

EMC/VSD Power Cable

Class 5 flexible, PVC/PVC



VSD cables provide EMC protection to drives and motors. The tinned copper braid screen, provides the highest level of screening, whilst the Class 5 copper conductors make for a very flexible cable, making it very easy to handle.

Symmetrical earth design on larger cables, provide a better balanced cable, providing far better screening properties than traditional single earth designs.

Nominal Voltage:

Flexing $\leq 1\text{mm}^2$ 300/500V
 $\geq 1.5\text{mm}^2$ 450/750V
 Fixed $\geq 1.5\text{mm}^2$ 600/1000V

Temperature Range:

Fixed: -40°C to +80°C

Conductor Stranding:

Bare copper fine wire, Class 5

Minimum Braid Coverage:

80%

Insulation:

PVC compound

Colour code:

3G Brown + Blue + G/Y

4G Red + White + Blue + G/Y

Bending Radius:

Flexing 20x cable Ø

Fixed 6x cable Ø



Class 5 Flexible



Minimum Temperature



Maximum Temperature



Meter Marking



Minimum Bending Radius



EMC Compliant



Flame Retardant



Oil Resistant



Nominal Voltage



Nominal Voltage



Nominal Voltage

Part Number	Nominal phase conductor area mm ²	Nominal earth conductor area mm ²	Number of cores	Approx outside Ø mm	Approx weight kg/km
EMC3G1.5	1.5	1.5	2 core + earth	10.2	150
EMC4G1.5			3 core + earth	11.2	182
EMC3G2.5	2.5	2.5	2 core + earth	11.7	208
EMC4G2.5			3 core + earth	13.4	256
EMC4G4	4	4	3 core + earth	14.9	353
EMC4G6	6	6	3 core + earth	17.1	505
EMC4G10	10	3x2.5	3 core + 3 earth	20.6	755
EMC4G16	16	3x2.5	3 core + 3 earth	23.8	928
EMC4G25	25	3x4	3 core + 3 earth	28.4	1385
EMC4G35	35	3x6	3 core + 3 earth	32.3	1950
EMC4G50	50	3x10	3 core + 3 earth	36.6	2690
EMC4G70	70	3x16	3 core + 3 earth	43.5	3590

EMC Brass Cable Gland

(Locknut to be ordered separately)

Part Number	Thread	Thread Length (mm)	Cable Clamping Range (mm)	Pack Qty	EMC Locknut to suit
HSM-EMVSC-M16L	M16	10	4-8	32	GME-M16
HSM-EMVSC-M20L	M20	10	7-12	32	GME-M20
HSM-EMVSC1-M20L	M20	10	9-14	32	GME-M20
HSM-EMVSC-M25L	M25	12	11-16	18	GME-M25
HSM-EMVSC-M32L	M32	12	15-21	8	GME-M32
HSM-EMVSC-M40L	M40	15	21-30	8	GME-M40
HSM-EMVSC-M50L	M50	15	30-38	2	GME-M50
HSM-EMVSC-M63L	M63	15	37-44	2	GME-M63
HSM-EMVSC1-M63L	M63	15	38-53	2	GME-M63



SDI Rubber Cable

Class 6 flexible, 600/1000V, halogen free



Class 6 copper conductors with RE-110 insulation and oversheathed with HF-110-R. It has the outstanding features of halogen-free, low smoke, flame and heat retardant, UV, chemical and weather-resistant.

Nominal Voltage:
0.6/1kV

Temperature Range:
Flexing -25°C to 90°C
Fixed -40°C to 110°C

Insulation/Outer Sheath:
RE-110/HF-110-R

Bending Radius:
Flexing 10x cable Ø
Fixed 6x cable Ø



Class 6 Flexible



Minimum Temperature



Maximum Temperature



Maximum Short Circuit Temperature



Meter Marking



Minimum Bending Radius



UV Resistant



Flame Retardant



Chemical Resistant



Low-smoke Zero Halogen



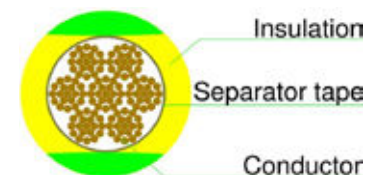
Nominal Voltage

Orange	Nominal conductor area mm ²	Approx outside Ø mm	Approx weight kg/km	Current Rating (A)*
RP-110-16	16	11.8	247	112
RP-110-25	25	13.9	349	149
RP-110-35	35	15.1	452	184
RP-110-50	50	17.8	627	233
RP-110-70	70	19.3	836	292
RP-110-95	95	22.1	1081	353
RP-110-120	120	24.4	1345	418
RP-110-150	150	26.4	1682	482
RP-110-185	185	28.7	2039	553
RP-110-240	240	32.5	2613	665
RP-110-300	300	36.3	3352	766

*The current-carrying capacities refer to Three single-core as per AS/NZS 3808. Ambient temperature:40°C;Ground temperature:25°C

Rubber Earth Cable

Class 6 flexible, 600/1000V



Class 6 copper conductors with oil resistant TPR insulation, providing excellent UV and weathering resistance.

Nominal Voltage:
0.6/1kV

Temperature Range:
-30°C to 90°C

Insulation:
TPR

Bending Radius:
Flexing 15x cable Ø
Fixed 5x cable Ø

Part Number	Nominal conductor area mm ²	Approx outside Ø mm	Approx weight kg/km
RE-90-16	16	8.2	175
RE-90-25	25	10.1	266
RE-90-35	35	11.4	363
RE-90-50	50	13.5	516
RE-90-70	70	15.0	716
RE-90-95	95	17.5	945
RE-90-120	120	19.6	1180

V90HT Building wire

105°C Flexible building wire

Class 5 flexible tinned copper conductors insulated with heat resistant, flame retardant PVC (V90HT) insulation. Supplied in 100mtr rolls.

Nominal Voltage:
600/1000V

Temperature Range:
Fixed: -20°C to +105°C



Class 5 Flexible



Minimum Temperature



Maximum Temperature



Minimum Bending Radius



Flame Retardant



Nominal Voltage

Conductor size (mm²)	Red	Black	White	Blue	Green/Yellow
0.5	FLB0.5RD	FLB0.5BK	FLB0.5WE	FLB0.5BE	FLB0.5GNYW
0.75	FLB0.75RD	FLB0.75BK	FLB0.75WE	FLB0.75BE	FLB0.75GNYW
1	FLB1RD	FLB1BK	FLB1WE	FLB1BE	FLB1GNYW
1.5	FLB1.5RD	FLB1.5BK	FLB1.5WE	FLB1.5BE	FLB1.5GNYW
2.5	FLB2.5RD	FLB2.5BK	FLB2.5WE	FLB2.5BE	FLB2.5GNYW
4	FLB4RD	FLB4BK	FLB4WE	FLB4BE	FLB4GNYW
6	FLB6RD	FLB6BK	FLB6WE	FLB6BE	FLB6GNYW

Conductor size (mm²)	Brown	Grey	Orange	Violet	Pink
0.5	FLB0.5BN	FLB0.5GY	FLB0.5OE	FLB0.5VT	FLB0.5PK
0.75	FLB0.75BN	FLB0.75GY	FLB0.75OE	FLB0.75VT	FLB0.75PK
1	FLB1BN	FLB1GY	FLB1OE	FLB1VT	FLB1PK
1.5	FLB1.5BN	FLB1.5GY	FLB1.5OE	FLB1.5VT	FLB1.5PK
2.5	FLB2.5BN	FLB2.5GY	FLB2.5OE	FLB2.5VT	FLB2.5PK

A comprehensive range of Din mount terminals manufactured in Germany by CONTA-CLIP, are available on pg 62.

CONTA-CLIP is one of Europe's leading manufacturers of electric terminal blocks. Based in Hövelhof, Germany, the company has been producing electric and electronic connection systems for the process and automation industries for more than 30 years.

CONTA-CLIP supplies all industry sectors, focusing on railroad industries, shipbuilding, building automation, conveyor technology, machine and plant engineering and construction, instrumentation and control technology, control panel manufacturing, transformer manufacturing, and environmental technology.

The company consists of three specialized branches: CONTA-CONNECT for electric connection technology, CONTA-ELECTRONICS for electronics and CONTA-CON for PCB edge connectors. Additionally, CONTA-CLIP provides services such as customizing housings and mounting rails, labeling and supplying user-specific electronic components.



Orange Circular

Class 2 stranding, PVC/PVC



Class 2
Stranded



Maximum
Temperature
90°C



UV
Resistant



Flame
Retardant

UV resistant, Australian standard power distribution and control cable, compliant to AS5000.1 and AS5000.2

Nominal Voltage:

1.5mm ²	(Control)	0.6/1kV
1.5mm ² to 6mm ²	(Power)	450/750V
10mm ² to 300mm ²		0.6/1kV

Temperature Range:

Fixed: -20°C to +90°C

Outer sheath:

V-90 PVC, Orange or Black

Insulation:

≤ 6mm² V-90 PVC
≥ 10mm² XLPE

Colour Code:

Power (Orange sheath)

3G Brown + Blue + G/Y

4G Red + White + Blue + G/Y

5G Red + White + Blue + Black + G/Y

Control (Black Sheath)

6G or more white numbered + G/Y

Part Number	Number of cores	Nominal conductor area mm²	Nominal earth mm²	Approx outside Ø mm	Approx weight kg/km
OC3G1.5	2 core + earth	1.5	1.5	8.9	109
OC3G2.5		2.5	2.5	10.4	161
OC3G4		4	2.5	11.7	211
OC3G6		6	2.5	12.7	261
OC3G10		10	4	16.4	446
OC3G16		16	6	18.5	613
OC3G25		25	6	21.1	828
OC4G1.5	3 core + earth	1.5	1.5	9.6	133
OC4G2.5		2.5	2.5	11.5	204
OC4G4		4	2.5	12.9	271
OC4G6		6	2.5	13.8	339
OC4G10		10	4	18	580
OC4G16		16	6	20.3	805
OC4G25		25	6	22.6	1090
OC5G1.5	4 core + earth	1.5	1.5	10.4	158
OC5G2.5		2.5	2.5	12.5	245
OC5G4		4	2.5	14.3	339
OC5G6		6	2.5	15.5	430
OC5G10		10	4	19.9	720
OC5G16		16	6	22.4	1010
OC5G25		25	6	25.3	1390
OC5G35		35	10	28	1840
OC5G50		50	16	32.3	2480
OC5G70		70	25	37.4	3470
Control Cable - Black Sheath					
OC7G1.5	6 core + earth	1.5	1.5	13.4	245
OC9G1.5	8 core + earth	1.5	1.5	15.9	309
OC11G1.5	10 core + earth	1.5	1.5	16.5	358
OC21G1.5	20 core + earth	1.5	1.5	20.6	607
OC51G1.5	50 core + earth	1.5	1.5	30.3	1352
OC11G2.5	10 core + earth	2.5	2.5	18.5	500.4
OC21G2.5	20 core + earth	2.5	2.5	23.2	87.5

Specialised Cable

Customised cables for challenging or difficult applications



(N) TSCGEWOU



(N) TSCGEWOU dragline cable with extra heavy duty sheath and copper wire core screens to withstand the aggressive operating conditions of open cut mining.

SINGLE CORE MV



Single Core designed for voltages up to 22kV for power supply interconnections, transformer drop cable, mobile substations, overhead service line connections and H.V. switchboards.

NEO-FLAT



Mining Cables
Crane Cables
Instrumentation Cables
Marine Cables
Medium Voltage Cables
Aerospace Cable

TYPE 241.1



Defence Cables
Low Voltage Cables
Solar Cables
Oil and Gas Cables
High Voltage Cables
Airfield Lighting Cable

(N) TSCGEWOU



(N) TSCGEWOU for stackers and reclaimers, shiploaders, tripper cars, stockpilers and festoons for medium mechanical stresses.



Nylon Cable Gland

(Supplied with Locknut), IP68, Halogen free, UV resistant

Part Number	Thread	Thread Length (mm)	Cable Clamping Range (mm)	Pack Qty	Locknut
HSK-M12B-L	M12	15	3-6.5	100	Included
HSK-M16B-DL	M16	15	5-10	100	
HSK-M20B-DL	M20	15	8-14	50	
HSK-M25B-L	M25	15	13-18	50	
HSK-M32B-L	M32	15	18-25	25	
HSK-M40B	M40	13	22-32	25	
HSK-M50B	M50	14	30-38	10	



Brass Cable Gland

(Locknut to be ordered separately), IP68

Part Number	Thread	Thread Length (mm)	Cable Clamping Range (mm)	Pack Qty	Locknut to suit
HSM-M12-L	M12	10	3-6.5	50	GM-M12
HSM-M16-DL	M16	10	5-10	32	GM-M16
HSM-M20-DL	M20	10	8-14	32	GM-M20
HSM-M25-DL	M25	12	13-18	18	GM-M25
HSM-M32-DL	M32	12	18-25	8	GM-M32
HSM-M40-L	M40	15	22-30	4	GM-M40
HSM-M50-L	M50	15	30-38	2	GM-M50
HSM-M63-L	M63	15	37-44	2	GM-M63



EMC Brass Cable Gland

(Locknut to be ordered separately), IP68

Part Number	Thread	Thread Length (mm)	Cable Clamping Range (mm)	Pack Qty	EMC Locknut to suit
HSM-EMVSC-M16L	M16	10	4-8	32	GME-M16
HSM-EMVSC-M20L	M20	10	7-12	32	GME-M20
HSM-EMVSC1-M20L	M20	10	9-14	32	GME-M20
HSM-EMVSC-M25L	M25	12	11-16	18	GME-M25
HSM-EMVSC-M32L	M32	12	15-21	8	GME-M32
HSM-EMVSC-M40L	M40	15	21-30	8	GME-M40
HSM-EMVSC-M50L	M50	15	30-38	2	GME-M50
HSM-EMVSC-M63L	M63	15	37-44	2	GME-M63
HSM-EMVSC1-M63L	M63	15	38-53	2	GME-M63



Spiral Gland - Nylon

IP68

Part Number	Thread	Cable Clamping Range (mm)	Pack Qty	Locknut to suit
HSK-F-M16B-OR	M16	4-8	50	GMK-M16B
HSK-F-M20B-OR	M20	6-12	50	GMK-M20B
HSK-F-M25B-OR	M25	13-18	25	GMK-M25B



Pre-Insulated Terminals

Pack size 100 pieces



Conductor size (mm²)		0.25 - 1.65	1.04 - 2.63	2.63 - 6.64	0.25 - 1.65	1.04 - 2.63	2.63 - 6.64
Tab Width (mm)	4.8	QFF1-5/8CS	QFF2-5/8CS	-	-	-	-
	6.4	QFF1-6CS	QFF2-6CS	QFF5-6CS	QM1-6CS	QM2-6CS	QM5-6CS



Conductor size (mm²)		0.25 - 1.65	1.04 - 2.63	2.63 - 6.64	0.25 - 1.65	1.04 - 2.63	2.63 - 6.64
Tab Width (mm)	2.8	QF1-3/5CS	QF2-3/5CS	-	BSI1	BSI2	BSI5
	6.4	QF1-6CS	QF2-6CS	QF5-6CS	-	-	-



Conductor size (mm²)		0.25 - 1.65	1.04 - 2.63	2.63 - 6.64	0.25 - 1.65	1.04 - 2.63	2.63 - 6.64
Stud Size (mm)	4	RL 1-4	RL2-4	-	SL 1-4	SL2-4	SL5-4
	5	RL 1-5	RL2-5	-	SL 1-5	SL2-5	SL5-5
	6	RL 1-6	RL2-6	RL5-6	-	-	SL5-6
	8	-	RL2-8	RL5-8	-	-	-
	10	-	-	RL5-10	-	-	-

Thread Enlarger

Includes O-Ring, IP68



Part Number	Thread Conversion	Pack Qty
EWM-M16/M20	M16 to M20	50
EWM-M20/M25	M20 to M25	50
EWM-M25/M32	M25 to M32	25
EWM-M32/M40	M32 to M40	25
EWM-M40/M50	M40 to M50	20

Thread Reducer

Includes O-Ring, IP68



Part Number	Thread Conversion	Pack Qty
REM-M20/M16	M20 to M16	100
REM-M25/M20	M25 to M20	50
REM-M32/M25	M32 to M25	25
REM-M40/M32	M40 to M32	25

Blanking Plugs

Includes O-Ring, IP68



Part Number	Thread	Pack Qty
DPMC-M16	M16	100
DPMC-M20	M20	100
DPMC-M25	M25	100
DPMC-M32	M32	50

Gland Insert

(4x9mm M32)

Part Number	Description	Pack Qty
CTH-P29/4x9	4x9mm insert to suit M32 Gland	100



Single Wire Ferrules

Insulated

Part Number	Conductor size (mm ²)	Internal Diameter (mm)	Length (mm)	Colour	Pack qty
A00552GB	0.5	3.0	8	White	100
A00752GB	0.75	3.4	8	Light Blue	
A01052GB	1	3.4	8	Red	
A01552GB	1.5	3.8	8	Black	
A02552	2.5	4.2	8	Grey	
A04052	4	4.8	10	Orange	
A06052	6	6.2	12	Green	
A10052	10	7.5	12	Brown	
A16052	16	8.8	12	White	50



Twin Wire Ferrules

Insulated

Part Number	Conductor size (mm ²)	Internal Diameter (mm)	Length (mm)	Colour	Pack qty
A00552TWIN	0.5	2.3x4.5	8	White	100
A00752TWIN	0.75	2.6x8.1	8	Light Blue	
A01052TWIN	1	3.0x5.1	8	Red	
A01552TWIN	1.5	3.5x6.4	8	Black	
A02552TWIN	2.5	4.0x7.5	8	Grey	
A04052TWIN	4	4.9x8.6	12	Orange	
A06052TWIN	6	5.8x9.6	14	Green	
A10052TWIN	10	7.0x12.6	14	Brown	
A16052TWIN	16	8.8x16.6	16	White	50



Single Wire Ferrules in Dispensor pack

Insulated, designed for automatic or hand tool crimping

Part Number	Conductor size (mm ²)	Internal Diameter (mm)	Length (mm)	Colour	Pack qty
A00552K	0.5	2.6	8	White	1000
A00752K	0.75	2.8	8	Light Blue	
A01052K	1	3.0	8	Red	
A01552K	1.5	3.4	8	Black	
A02552K	2.5	4.2	8	Grey	500



Ferrule Crimping Tools



Conductor size (mm ²)	0.5-16mm ² - Crimp	0.5-6mm ² - Crimp	0.5-2.5mm ² - Cut, Strip & Crimp
Part Number	464-482	399-2031	452-473

KDSClick
Revolutionary IP66 cable entry system

Fast. Safe. Very simple.

Our KDSClick cable entry system, is a cable management solution for switchgear cabinets, housings and machines, that features secure seals, and strain relief for pre-assembled, and non-assembled cables – with or without connectors.

KDSClick saves you time and provides you with maximum versatility.



It's easy.
It's quick.
It's KDSClick!



Split Cable Glands
IP66

For metric break-outs, CONTA-CLIP provides split cable glands, from M20 to M63 for cables with or without connectors. During servicing or retrofitting, with pre-assembled cable harnesses, cables with diameters from 2 to 35 mm can quickly and safely be guided into the switch-gear cabinet or housing, and then sealed to IP66. The divisible system ensures quick and simple assembly. The slitted seal has a wave-cut profile that ensures a reliable seal and a totally secure attachment. The seal is first placed around the cable and then inserted in one of the two halves.

Depending on the size of the cable gland, up to four seals can be inserted, (*M40 accepts large seal only). After that, the two halves of the cable gland are snapped together. A split locknut, (supplied with the gland), on the inside of the cabinet, ensures a safe and secure attachment.



Small (accepts 1 x small seal)				Large (accepts 1 x large seal or 4 x small seals*)		
	M20	M25	M32	M40	M50	M63
Part Number	28610.4	28611.4	28612.4	28613.4	28614.4	28615.4

KDSClick

Revolutionary cable entry system

Fast. Safe. Very simple. Our KDSClick cable entry system, is a cable management solution for switchgear cubicles, enclosures, and machines, that features secure seals and strain relief for pre-assembled and non-assembled cables – with or without connectors. KDSClick, saves you time, and provides you with maximum versatility. **THREE PARTS, MANY SOLUTIONS!** - A frame. An inlay. A seal. - The modular design of these three basic components, guarantees maximum versatility, variability and variety.

The seals can be removed by pressing from the outside, inwards. Changes, retrofits, service work, or the readjustment of cable lengths, can be made when needed, without removing the frame. An optional inner locking frame can be used to prevent the possibility of unwanted external manipulation.

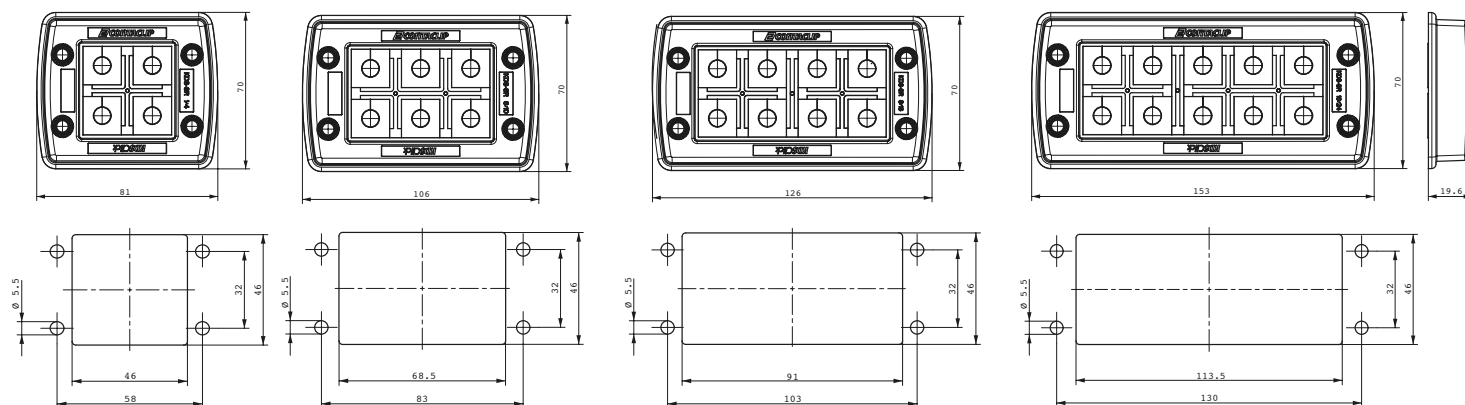
Frames

IP66

Made from a single mould, the one-piece frame is quick and easy to assemble. It is made of sturdy, glass-fibre reinforced plastic. The foamed seal gasket, guarantees an optimal seal with IP66 protection, even on painted or rough surfaces. Dimensions correspond with standard industrial multipole cutouts.



	KDS-SR 1-4 BK	KDS-SR 6/10 BK	KDS-SR 8/16 BK	KDS-SR 10/24 BK
Dimensions (mm)	70x81	70x106	70x126	70x153
Small insert spaces	4	6	8	10
Mounting frame	28506.4	28500.4	28502.4	28504.4
Locking frame	28507.4	28501.4	28503.4	28505.4



Inlays

IP66

The click-in inlays, allow for a requirements-based dimensioning of the frame opening, for the seal being used. An audible “click”, confirms a correct installation. So you can variably configure cable entries to match various requirements, (for cables, lines, tubing, pneumatic and hydraulic lines).



	Inlay for vertical split	Inlay T shape	Inlay for 4 way splits	Inlay for 6 way splits
Part Number	28516.4	28517.4	28518.4	28519.4

Seals (inserts)

IP66

The seal's tapered shape, allows it to be easily pressed in. It reliably seals the gaps, and provides strain relief, in accordance with DIN EN 62444. The seals are installed by pressing them from the inside outwards into the openings of the previously installed inlays. Their wave-cut profile, make them easy to install, and ensures a perfect fit around the cables.

Features of black seals

- Material: TPE
- Flammability: UL94 HB
- Temperature range: – 40 °C to +120 °C (static)
- Halogen-free, silicone-free
- Excellent resistance to chemicals
- UV-stabilized
- Protection: IP66

Features of grey seals

- Material: TPE
- Flammability: UL94 V0
- Temperature range: – 40 °C to +90 °C (static)
- Halogen-free, silicone-free
- Protection: IP66



Small insert

Cable range Ø (mm)	Grey	Black
Blank	28561.6	28520.4
1-2	28562.6	28521.4
2-3	28563.6	28522.4
3-4	28564.6	28523.4
4-5	28565.6	28524.4
5-6	28566.6	28525.4
6-7	28567.6	28526.4
7-8	28568.6	28527.4
8-9	28569.6	28528.4
9-10	28570.6	28529.4
10-11	28571.6	28530.4
11-12	28572.6	28531.4
12-13	28573.6	28532.4
13-14	28574.6	28533.4
2x 4-5	28595.6	28555.4
2x 5-6	28596.6	28556.4
4x 2-3	28597.6	28557.4
4x 3-4	28598.6	28558.4
1x ASI	28599.6	28559.4
2x ASI	28600.6	28560.4
Conical Version		
2-15		28553.4

Large insert

Cable range Ø (mm)	Grey	Black
Blank	28575.6	28534.4
14-15	28576.6	28535.4
15-16	28577.6	28536.4
16-17	28578.6	28537.4
17-18	28579.6	28538.4
18-19	28580.6	28539.4
19-20	28581.6	28540.4
20-21	28582.6	28541.4
21-22	28583.6	28542.4
22-23	28584.6	28543.4
23-24	28585.6	28544.4
24-25	28586.6	28545.4
25-26	28587.6	28546.4
26-27	28588.6	28547.4
27-28	28589.6	28548.4
28-29	28590.6	28549.4
29-30	28591.6	28550.4
30-31	28592.6	28551.4
31-32	28593.6	28552.4
32-33	28594.6	28601.4
Conical Version		
15-34		28554.4

Please note: Black stocked in Australia, Grey is ex Germany, leadtimes and pack sizes of 10 pieces apply.



Landscaping, irrigation, lighting, pumping, and signage applications, are some of the toughest tests for electrical connectors. Often subjected to freezing temperatures, direct sunlight, heavy rain, and even full submersion in water, or buried underground, the connectors need to protect wiring year round, with no requirement for maintenance or repair. The Tee range of waterproof products from Italian manufacturer, Techno, are ideally suited to these types of applications and many more. Techno connectors are re-useable, as they do not require gel, and accommodate a wide range of cable sizes.



IP68 Cable Joiners

Screw Termination



Part number	Poles	Dimensions	Conductor	Rating	Cable diameter
THB.391.A2C	2	Ø23x68 mm	0.25 - 2.5mm ²	24A 450V	7 - 12 mm
THB.391.A3C	3	Ø23x68 mm	0.25 - 2.5mm ²	24A 450V	7 - 12 mm
THB.391.A3A	3	Ø23x68 mm	0.5 - 4mm ²	32A 450V	7 - 12 mm
THB.391.A4A.L.Z	4	Ø23x95 mm	0.5 - 4mm ²	32A 450V	7 - 13.5 mm



Part number	Poles	Dimensions	Conductor	Rating	Cable diameter
THB.392.A4A.LR	4	Ø23x95 mm	0.5-2.5mm ²	17.5A 450V	7 - 13.5 mm



Part number	Poles	Dimensions	Conductor	Rating	Cable diameter
THB.400.C1A	3	Ø26.5x115mm	0.5 - 4mm ²	32A 450V	7 - 13.5 mm
THB.400.D1AZ	5	Ø32x130mm	0.5 - 4mm ²	32A 450V	8 - 17 mm



Part number	Poles	Dimensions	Conductor	Rating	Cable diameter
THB.402.D4AR	4	Ø32x91x121	0.5 - 4mm ²	32A 450V	7 - 13.5 mm

Part number	Poles	Dimensions	Conductor	Rating	Cable diameter
THB.390.C1AZ	3	Ø32x91x93	0.5 - 4mm ²	32A 450V	7 - 13.5 mm

IP68 Connectors

Screw Termination

Our TEEPLUG® P381 Micro Plug and Socket Connector is an amazing 14mm in diameter, and 90mm in length when mated, and allows the installation of electrical equipment to a high protection class, IP68/69K. Quick, easy and intuitive installation is made without the use of cast resin, gel or heat shrink. The mated connectors are held securely together with a simple press to release locking mechanism.

Assembly Spanner - P/N 6000462KC

Operating current	max. 10A
Operating voltage	max. 400V AC/DC
Operating temperature	-40°C / +125°C
Conductor size	0.25 mm ² - 1.5 mm ²
Cable diameter	5.8 mm - 6.9 mm
Dimensions (mated)	Ø14x90mm



Description	Inline Plug	Panel Mount Plug (M16 locknut included)	Inline Socket	Panel Mount Socket (M16 locknut included)
2 Pole Connector	P3812APML	P3812MP	P3812PFL	P3812FP
Caps to suit	6000447GT	6000447GT	6000448GT	6000448GT

Our TEEPLUG® P387 Plug and Socket Connector allows for the installation of electrical equipment to a high protection class, IP68. The IP68 connection is made quickly and safely without the use of cast resin, gel or heat shrink. The P387 is additionally impressive by its small dimensions that allow their use in the smallest spaces. A threaded lock ring secures the mated connectors. A 4 way distributor is also available for quick branching of cables (cover any unused sockets with caps if not being used, and you can also use it as a 2 or 3 way distributor)

Operating current	max. 17.5A
Operating voltage	max. 450V
Operating temperature	-40°C / +125°C
Conductor size (4 pole)	0.5 mm ² - 4.0 mm ²
Conductor size (5 pole)	0.5 mm ² - 1.5 mm ²
Cable diameter	7.0 mm - 13.5 mm
Dimensions (mated)	Ø23x113 mm

Assembly Spanner - P/N 6000337BC



Description	Inline Plug	Panel Mount Plug	Inline Socket	Panel Mount Socket	4 way distributor (1 plug - 3 socket)
4 Pole Connector	P3874PML	P3874MP	P3874PFL	P3874FP	THH.624.A4A
5 pole Connector	P3875PML	P3875MP*	P3875PFL	P3875FP*	
Caps to suit	6DB021900	6DB023500	6DB023400	6DB02180C	refer panel mount
M25 Locknut to suit		GMK-M25B		GMK-M25B	

*M20, locknut included, 4 pole panel mounts also available upon request in M20 version

Our TEEPLUG® P405 Plug and Socket Connector allows for the installation of electrical equipment to a high protection class, IP68. The IP68 connection is made quickly and safely without the use of cast resin, gel or heat shrink. The P405 additionally is robust and easy to work with. The bayonet style locking mechanism is backed up by a secondary locking clip on the body of the connector to ensure that the connectors stay mated.

Operating current	max. 17.5A
Operating voltage	max. 400V
Operating temperature	-40°C / +125°C
Conductor size	0.5 mm ² - 4.0 mm ²
Cable diameter	7.0 mm - 14 mm
Dimensions (mated)	Ø36.5x130 mm

Assembly Tool - P/N 600009600



Description	Inline Plug	Inline Socket
5 Pole Connector	P4055PML	P4055PFL
6 Pole Connector	P4056PML	P4056PFL
Caps to suit	6DB00900C	6DB00900C

IP67 Connectors

Ultra flat, prewired

Our TEEPLUG® P20 Ultra thin Plug and Socket Connector is only 4mm thick, and is ideal where space constraints exist. Rated at IP67, and 6A at 230V, these connectors are ideal for under floor heating, facade lighting, window shutters, or any other application requiring a super thin, highly reliable, connector solution. The plug and socket are both supplied with a 450mm long preterminated cable, 2x0.75mm²

Contact marking	1 - 2
Operating current	max. 6A
Operating voltage	max. 230V
Operating temperature	-20°C / +110°C
Conductor size	0.75 mm ²
Dimensions (mated)	22x84mm



Description	Inline Plug	Inline Socket
2 Pole Connector	P4202PML	P4202PFL

Accessories

Suits all except TH400, and TH420



6000087LF	Cable OD 6.0 mm - 7.0 mm
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600012500	Cable OD 2.0 mm - 4.0 mm
-----------	--------------------------



600012600	Cable OD 2.0 mm - 4.0 mm
-----------	--------------------------



600012700	Cable OD 5.5 mm x 11.0 mm
-----------	---------------------------



600013600	Cable OD 1.5 mm - 4.0 mm
-----------	--------------------------



600013700	Blank
-----------	-------



6000156LF	Blank
-----------	-------



600018200	Cable OD 2.0 mm - 3.5 mm
-----------	--------------------------



600022400	Cable OD 1.5 mm - 3.5 mm
-----------	--------------------------



600030600	Cable OD 4.5 mm - 5.5 mm
-----------	--------------------------



600037000	Cable OD 5.0 mm - 6.5 mm
-----------	--------------------------



604003900	Spiral top - max cable OD 12.5 mm
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604001100	Cable OD 7.5 mm - 9.0 mm
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604004900	Cable OD 14.0 mm
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6000302CC	Connector mount accessory
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6000461GT*	Cable OD 1.9 mm - 2.5 mm
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6000473GT*	Cable OD 4.0 mm - 5.0 mm
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600009600	THB.405 Assy tool
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*Suits TH381 only

Powerline Connectors 400A
400A, IP68

POWERLINE, Industry standard single pole power connectors, are designed to provide safe, reliable and quick connection, of Cable to Cable or Cable to Equipment, in Electrical power distribution systems. Compatible with brands such as the original Litton Veam series, our connectors feature a unique clip contact removal system, improved finger proofing, easier mating, and thicker wall sections on the mouldings. Also available in 750A version upon request.

Applications include:

- Event Power distribution
- Temporary Generators
- Loadbanks
- Emergency Power systems
- Military
- Traction



Colour	400Amp Panel Source	400Amp Panel Drain	120mm² Line Source	120mm² Line Drain
Green	PSF-E-GN-T4-FP	PIF-E-GN-T4-FP	CCF-E-GN-S120-M-FP	CPF-E-GN-S120-M-FP
Black	PSF-N-BK-T4-FP	PIF-N-BK-T4-FP	CCF-N-BK-S120-M-FP	CPF-N-BK-S120-M-FP
Red	PSF-1-R-T4-FP	PIF-1-R-T4-FP	CCF-1-R-S120-M-FP	CPF-1-R-S120-M-FP
White	PSF-2-WH-T4-FP	PIF-2-WH-T4-FP	CCF-2-WH-S120-M-FP	CPF-2-WH-S120-M-FP
Blue	PSF-3-BU-T4-FP	PIF-3-BU-T4-FP	CCF-3-BU-S120-M-FP	CPF-3-BU-S120-M-FP
IP 67 Caps	ENV-CAP-PSF	ENV-CAP-PIF	ENV-CAP-CCF	ENV-CAP-CCF

Unique Clip contact retention system.

Some versions of this connector format, have relied upon the Electrical Contact, being retained within the Insulator by means of a Plastic dowel/cotter pin. These pins are forced through a mating hole in the Insulator, and contact ,and any re-use of the same pin may adversely affect the IP sealing of the connector.

Ten 47 "Powerline" contacts are retained, by means of a spring clip design, that can retain the equivalent weight of 100metres of 240mm² cable. The contacts are inserted from the rear and "snap " into position within the Insulator, with no requirement for any Cotter/Dowel pin, or assembly tools. As our clip design does not require any holes, through the Insulator, it provides several advantages over the "cotter/dowel pin" design;

- On-Centre contact alignment ensures low connector mating forces.
- Improved mechanical Insulator strength and Environmental Sealing to IP68.
- Improved electrical integrity of the Insulator.
- Reduced assembly times - insert contact and it 'clicks' into place.
- The contacts can be removed and replaced, with no detrimental affect to the Insulator, by simply inserting a screwdriver and pushing against the sliding collar.
- No replacement parts (cotter/dowel pins) are required.



To compliment our Powerline connectors, we can also supply several accessories, and devices, to allow for various connection requirements onto LV Busbars and Circuits:

- Short, Long and 90° G-Clamps
- Rotary Clamps
- Overhead Line Clamps
- JSU / JPU Fuse Carriers with a built in Powerline Generator Connection.



Part Number	Description
SK950025	R95-R25 reduction sleeve kit
PA000002	Panel Mount Gasket

Industrial Multipoles

Industrial Multipole connectors, are specially designed for rigorous environments, and suitable for numerous applications including industrial automation, equipment manufacturing, industrial system connection, stage and theatre lighting, as well as information, and control technology.

Featuring stainless steel handles, and silver plated contacts, (up to 500 mating cycles), these multipoles are built to last!

A connector set consists of four main components:

- Male Insert
- Female Insert
- Hood
- Base (or coupling hood)



Part Number	Gland Size	Cable clamping range
WNA-M20/(D8-14)	M20	8 - 14 mm cable O.D.
WNA-M25/(D9-16)	M25	9 - 16 mm cable O.D.
WNA-M32/(D15-22)	M32	15 - 22 mm cable O.D.
WNA-M40/(D22-32)	M40	22 - 32 mm cable O.D.
M3/N		Coding Pin

Cable glands are to be ordered separately if required.

Mini Connectors

230/400V, 10A, IP65



Contacts	Gland	Inserts		Hood without locking lever	
		Socket	Plug	Top Entry	Narrow Entry
3 pole + earth	M20	HA-003-F	HA-003-M	H3A-TE-2B-M20	H3A-SE-2B-M20
4 pole + earth		HA-004-F	HA-004-M		



Contacts	Gland	Coupling Hood	Base with locking lever		
			Open Entry	Right Angle	Bulkhead Mount
3 pole + earth	M20	H3A-CCT-1L/W-M20	H3A-BK-1L/W	H3A-BK-1L/W-SE	H3A-SF-1L/W-M20
4 pole + earth					

High Power Inserts

Fit inside standard housings



Voltage	400/690 V
Current	35A
No. of Pins	6 Pole + Earth
Hood/Base Size	16 Pole

Voltage	690V
Current	80A
No. of Pins	4 Pole + Earth
Hood/Base Size	16 Pole

Voltage	690V/400V
Current	80A/16A
No. of Pins	4 x 80A + 2 x 16A
Hood/Base Size	16 Pole

Description	Part No
Socket Insert	HSB-006-F
Plug Insert	HSB-006-M

Description	Part No
Socket Insert	HK-004/0-F
Plug Insert	HK-004/0-M

Description	Part No
Socket Insert	HK-004/2-F
Plug Insert	HK-004/2-M

Double Locking Levers

500V, 16A, IP65



Contacts	Gland	Inserts		Hood without locking lever		Hood with locking lever	
		Socket	Plug	Narrow Entry	Top Entry	Narrow Entry	Top Entry
10 pole + earth	M20	HE-010-F	HE-010-M	H10B-SE-4B-M20	H10B-TE-4B-M20	H10B-SE-2L/SC-M20	H10B-TE-2L/SC-M20
	M25			-	H10B-TEH-4B-M25	-	-
16 pole + earth	M25	HE-016-F	HE-016-M	H16B-SE-4B-M25	H16B-TE-4B-M25	H16B-SE-2L/SC-M25	H16B-TE-2L/SC-M25
	M32				H16B-TEH-4B-M32	-	-
24 pole + earth	M25	HE-024-F	HE-024-M	H24B-SE-4B-M25	H24B-TE-4B-M25	H24B-SE-2L/SC-M25	H24B-TE-2L/SC-M25
32 pole + earth	M32	HE-016-F	HE-016-M	H32B-SE-4B-M32	H32B-TE-4B-M32	-	-
		HE-016-F (17-32)	HE-016-M (17-32)				



Contacts	Gland	Coupling Hood	Base with locking lever		Base without locking lever	
			Open Entry	Double Entry	Open Entry with Lid	Double Entry with Lid
10 pole + earth	M20	H10B-CCT-2L/SC-M20	H10B-BK-2L/SC	H10B-SF-2L/SC-2M20	H10B-BK-4B-CV	H10B-SF-4B-CV-2M20
	M25	H10B-CCTH-2L/SC-M25	-	-	-	-
16 pole + earth	M25	H16B-CCT-2L/SC-M25	H16B-BK-2L/SC	H16B-SF-2L/SC-2M25	H16B-BK-4B-CV	H16B-SF-4B-CV-2M25
	M32	H16B-CCTH-2L/SC-M32	-	-	-	-
24 pole + earth	M25	H24B-CCT-2L/SC-M25	H24B-BK-2L/SC	H24B-SF-2L/SC-2M25	H24B-BK-4B-CV	H24B-SF-4B-CV-2M25
32 pole + earth	M32	-	H32B-BK-2L/S	-	-	-

Single Locking Lever

500V, 16A, IP65



Contacts	Gland	Inserts		Hood without locking lever	
		Socket	Plug	Narrow Entry	Top Entry
6 pole + earth	M20	HE-006-F	HE-006-M	H6B-SE-2B-M20	H6B-TE-2B-M20
48 pole + earth	M32	HE-024-F	HE-024-M	H48B-SE-2B-M32	H48B-TE-2B-M32
	M40	HE-024-F (25-48)	HE-024-M (25-48)	H48B-SE-2B-M40	H48B-TE-2B-M40



Contacts	Gland	Coupling Hood	Base with locking lever			
			Open Entry	Double Entry	Double Entry with Lid	Open Entry with Lid
6 pole + earth	M20	H6B-CCT-1L/SC-M20	H6B-BK-1L/SC	H6B-SF-1L/SC-2M20	H6B-SF-1L/SC-CV-2M20	H6B-BK-1L/SC-CV
48 pole + earth	M32	-	H48B-BK-1L/S	-	-	H48B-BK-1L/S-CV

CEEform IEC Plugs & Inlets

Rated to IP67 and conforms to
European/International Standards
EN/IEC 60309-1
EN/IEC 60309-2
AS 3123:2005



Inline Plugs

Current	Poles	6h	6h
		230V Part No	400V Part No
16A	3 Pole	QX278	
	4 Pole		QX282
	5 Pole		QX288
32A	3 Pole	QX290	
	4 Pole		QX294
	5 Pole		QX300
63A	3 Pole	QX1571	
	4 Pole		QX1110
	5 Pole		QX1114
125A	3 Pole	QX3400	
	4 Pole		QX1443
	5 Pole		QX1447

Panel Mount Inlets

6h	6h
230V Part No	400V Part No
QX826	
	QX827
	QX829
QX831	
	QX832
	QX834
QX836	
	QX3656
	QX3658
QX3665	
	QX3583
	QX1983

Wall Mount Inlets

6h	6h
230V Part No	400V Part No
QX1003	
	QX1004
	QX1005
QX1006	
	QX1007
	QX1008
QX1107	
	QX357
	QX361

CEEform IEC Sockets

Rated to IP67 and conforms to
European/International Standards
EN/IEC 60309-1
EN/IEC 60309-2
AS 3123:2005



Inline Sockets

Current	Poles	6h	6h
		230V Part No	400V Part No
16A	3 Pole	QX540	
	4 Pole		QX544
	5 Pole		QX550
32A	3 Pole	QX552	
	4 Pole		QX556
	5 Pole		QX562
63A	3 Pole	QX1574	
	4 Pole		QX1117
	5 Pole		QX1121
125A	3 Pole	QX3390	
	4 Pole		QX1450
	5 Pole		QX1454

Panel Mount Socket - Straight

6h	6h
230V Part No	400V Part No
QX218	
	QX222
	QX228
QX230	
	QX234
	QX240
QX1264	
	QX1124
	QX1128
QX3380	
	QX1457
	QX1461

Panel Mount Socket - Angled

6h	6h
230V Part No	400V Part No
QX1475	
	QX1479
	QX1485
QX1502	
	QX1506
	QX1551
QX2180	
	QX205
	QX209
QX3575	
	QX212
	QX216

CEEform IEC Wall mounted Sockets

Rated to IP67 and conforms to
European/International Standards
EN/IEC 60309-1
EN/IEC 60309-2
AS 3123:2005

Also available in 63A and 125A versions



Switched Socket with Mechanical Interlock

Current	Poles	6h	6h
		230V Part No	400V Part No
16A	3 Pole	QX7012	
	4 Pole		QX5600
	5 Pole		QX5603
32A	3 Pole	QX5793	
	4 Pole		QX5605
	5 Pole		QX5608

Wall Mounted Socket

6h	6h
230V Part No	400V Part No
QX1192	
	QX1196
	QX1200
QX1202	
	QX1206
	QX1210

Industrial Sockets

Heavy Duty IP66
UV Stabilised



Inline Extension Socket

Type	3 Pin 250 V	4 Pin 500 V	5 Pin 500 V
10A	56CSC310	M66CSC410	M66CSC510
15A	M66CSC315		
20A	M66CSC320	M66CSC420	M66CSC520
32A	M66CSC332	M66CSC432	M66CSC532
40A		M66CSC440	M66CSC540
50A		M66CSC450	M66CSC550

Surface Mount Socket Outlet

3 Pin 250 V	4 Pin 500 V	5 Pin 500 V
M66SO310	M66SO410	M66SO510
M66SO315		
M66SO320	M66SO420	M66SO520
M66SO332	M66SO432	M66SO532
	M66SO440	M66SO540
	M66SO450	M66SO550

Switched Socket Outlet Combination

3 Pin 250 V	4 Pin 500 V	5 Pin 500 V
M66C310	M66C410	M66C510
M66C315		
M66C320	M66C420	M66C520
M66C332	M66C432	M66C532
	M66C440	M66C540
	M66C450	M66C550

Industrial Plugs

Heavy Duty IP66
UV Stabilised



Inline Straight Plug

Type	3 Pin 250 V	4 Pin 500 V	5 Pin 500 V
10A	56P310	M66P410	M66P510
15A	M66P315		
20A	M66P320	M66P420	M66P520
32A	M66P332	M66P432	M66P532
40A		M66P440	M66P540
50A		M66P450	M66P550

Angled Plug

4 Pin 500 V	5 Pin 500 V
M66PA410	M66PA510
M66PA420	M66PA520
M66PA432	M66PA532
M66PA440	M66PA540
M66PA450	M66PA550

The new M22 series of Industrial Pilot devices, combine modern European styling with an attractive slim design, long life, and worldwide approvals.

The rugged design of the IP65 pushbutton operators and contact blocks, provide reliable mechanical operation exceeding five million switching cycles. The illuminated versions, have a LED light source, that will operate between 12-30V AC/DC, with optional 230V LED modules also available, providing 100,000 hours of illumination.

Contact blocks are capable of switching 6A at 230V AC, and 3A at 24V DC, making them a very versatile switch. Keyed switch operators, Emergency stops, and illuminated selector switches complete the product offering.

Rated operational current

230V	AC-15	6 A
400V		4 A
500V		2A
24V	DC-13	3 A
42V		1.7 A
60V		1.2 A
110V		0.8 A
220V		0.3 A

22mm Pushbuttons

IP65, Supplied
with 1NO + 1NC



Function	LED	Green	Red	White	Yellow /Amber	Blue	Black
Latching	No	M22FP-ASF11G	M22FP-ASF11R	M22FP-ASF11W	M22FP-ASF11Y	M22FP-ASF11BL	
	12-30V AC/DC	M22FP-ASF11E30G	M22FP-ASF11E30R	M22FP-ASF11E30W	M22FP-ASF11E30Y	M22FP-ASF11E30BL	
Momentary	No	M22FP-MSF11G	M22FP-MSF11R	M22FP-MSF11W	M22FP-MSF11Y	M22FP-MSF11BL	M22FP-MSF11BKO
	12-30V AC/DC	M22FP-MSF11E30G	M22FP-MSF11E30R	M22FP-MSF11E30W	M22FP-MSF11E30Y	M22FP-MSF11E30BL	
230V AC LED Module		M22-SF-E230G	M22-SF-E230R	M22-SF-E230W	M22-SF-E230Y	M22-SF-E230BL	

22mm Emergency Stop

Complete assembly

Specifications:
IP65, 230V, 6A



Contacts	Illuminated	Latching, Twist release	Latching, Twist release	Latching, key release	Legend plate	Guard
2 NC	No	M22E-TSF02		M22E-KSF02	LABEL EMERG STOP	M22E-GR
1 NO + 1 NC	12-30V AC/DC		M22EL-TSF11E30			

22mm Mushroom

IP65



Contacts	Function	Red 36mm Ø	Green 36mm Ø
1 NO + 1 NC	Momentary	M22MP-MSF11RO	M22MP-MSF11GO
2 NO	Momentary		M22MP-MSF20GO

22mm Double pushbutton

IP65



Contacts	Function	Double Switch block
1 NO + 1 NC	Momentary	M22DP-SF11E30GR

22mm Selector Switches

IP65, Supplied with 2NO



Position			Maintained	Momentary	Maintained (no key traps)	Momentary
2			M22S-T20SF20WO		M22K-20SF20B	M22K-22SF20A
3 (Off Centre)			M22S-T30SF20WO		M22K-30SF20B	
2 (Spring Return from Right)				M22S-T22SF20WO		
3 Spring Return from Left & Right)				M22S-T32SF20WO		
2 position with 12-30V AC/DC LED Illumination	Green		M22S-T20SF20E30G			
	Red		M22S-T20SF20E30R			

Illuminated selector switches also available in other colours, change colour code at end of part number, W = white, etc

22mm Accessories



Description	NC Contact block	NO Contact block	Emergency Stop Self Monitoring contact 1NC + 1NO	Contact Holder	12-30V AC/DC LED block - white	M22K - Key trap kit
Part Number	M22-SF-NC	M22-SF-NO	M22-K01SMC10S	M22-A3	M22-SF-E30W	MM216406



Description	Face Plate - ARROW	Face Plate - STOP	30mm to 22mm Adaptor	Din Mount Adaptor	Water resistant cover to suit single pushbutton	Water resistant cover to suit double pushbutton
Part Number	M22-ARROW	M22-STOP	MM216408	MM216400	M22-C1	M22-C2

22mm LED Pilot lights

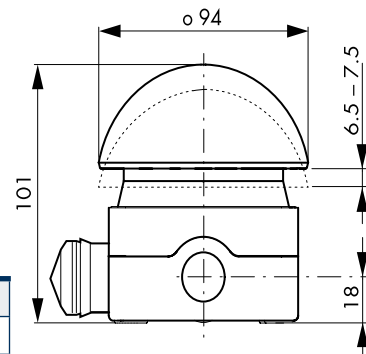
IP65



Voltage	Red	Green	Blue	White	Yellow
12V AC/DC	L22 12V R	L22 12V G	L22 12V B	L22 12V W	L22 12V Y
24V AC/DC	L22 24V R	L22 24V G	L22 24V B	L22 24V W	L22 24V Y
220V AC	L22 220V R	L22 220V G	L22 220V B	L22 220V W	L22 220V Y

Palm switch

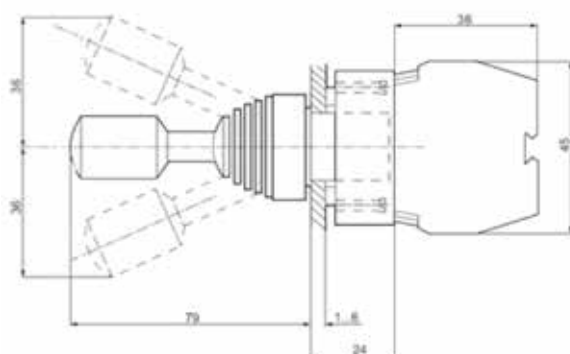
IP67/69K
3xM20
1xM16



Description	Red/Yellow 1 NC + 1 NO	Red/Grey 1 NC + 1 NO	Black/Grey 1 NC + 1 NO
Function	Maintained	Momentary	Momentary
Part Number	MM229748	MM229746	MM229749

Joysticks

M22



Part Number	Action	Position	Axis	Contacts
MSJ11320TH	Spring Return	2	Horizontal	2 NO
MSJ11320TV	Spring Return	2	Vertical	2 NO
MSJ11740T	Spring Return	4	4 way	4 NO

Anti-vandal Pilot lights

IP67, M12 thread, 5mm LED



Voltage	Red	Green	Blue	White	Yellow
24V AC/DC	IL-NI-05-R-4-N	IL-NI-05-G-4-N	IL-NI-05-B-4-N	IL-NI-05-W-4-N	IL-NI-05-Y-4-N

Anti-Vandal pushbuttons

IP67, Single Pole Double Throw

Contacts:

Illuminated: 250V 5A
Non-illuminated: 250V 3A



Function	LED Voltage	Diameter	Red	Green	Blue	White	Non-illuminated
Maintained		16mm					AV03-B3-M3-F
Momentary	12V AC/DC	19mm	AV02L-B22-M3-FR-R-12V	AV02L-B22-M3-FR-G-12V	AV02L-B22-M3-FR-B-12V	AV02L-B22-M3-FR-W-12V	
Momentary	24V AC/DC	22mm	AV02L-B12-M3-FR-R-24V	AV02L-B12-M3-FR-G-24V	AV02L-B12-M3-FR-B-24V	AV02L-B12-M3-FR-W-24V	

Cam Switches

IP65, 22mm mounting

A diverse range of Cam switches rated to IP65, with 22mm central fastening.



Current	Poles	0 - 1	1 - 0 - 2 *	1 - 2
Schematic		A	B	C
20A	1	IN025120	IN026120	IN027120
20A	2	IN025220	IN026220	IN027220
20A	3	IN025320	IN026320	IN027320
32A	3	IN125325		

* Optional face plates also available for 1-0-2 switches. P/N D482FOR/REV (FOR - OFF - REV) and P/N D482MAN/AUTO (MAN - OFF - AUTO), D481-BLANK (Blank)



Current	Poles	1 - 2 - 3	1 - 2 - 3 - 4	START
Schematic		D	E	F
20A	1	IN023901	IN023902	IN0ZC102



Current	Poles	0 - 1 - 2	0 - 1 - 2 - 3	Voltmeter
Schematic		G	H	I
20A	1	IN023904	IN023903	IN009V02

Schematic	A	B	C	E
Schematic	F	G	H	I

LED Light Towers

IP65, 70mm Ø modular design

Modular design and function with bayonet locking system, and polycarbonate construction.

- Fast to install, configure, add to and change modules.
- Modular construction with bayonet locking system.
- Range of mounting options.
- LED light source for trouble free operation (24V AC/DC version)



Light function	Voltage	Amber	Red	Green	Blue	Clear	Yellow
Steady (SDC)	24V AC/DC	211 501 405	211 502 405	211 506 405	211 505 405	211 504 405	211 507 405
Flashing (SDA)	24V AC/DC	221 501 405	221 502 405	221 506 405	221 505 405	221 504 405	221 507 405
Rotating (SDR)	24V AC/DC	231 501 405	231 502 405	231 506 405	231 505 405	231 504 405	231 507 405
Steady (SDC)**	up to 240V AC	210 501 900	210 502 900	210 506 900	210 505 900	210 504 900	210 507 900
Strobe (SLF)	240V AC			230 506 313			230 507 313

** incandescent lamp sold separately p/n 890 010 913 (230v 6w), 890 010 904 (12v 5w), 890 010 905 (24v 6.5w)



	Horizontal mount base M20	Vertical mount base	Horizontal mount base 250mm	Piezo Alarm module 24V AC/DC*
Part Number	200 500 900	200 600 900	200 703 900	247 500 405

* Continuous or pulsing tone, and volume (90/107dB) selectable via DIP switch

65mm Ø Xenon Strobe Beacon

IP65, Xenon tube included



Voltage	Amber	Red	Green	Blue	Clear
24V AC		D118 522 305		D118 525 305	
24V DC	D118 521 005	D118 522 005	D118 526 005	D118 525 005	D118 524 005
240 V AC	D118 521 313	D118 522 313	D118 526 313	D118 525 313	D118 524 313

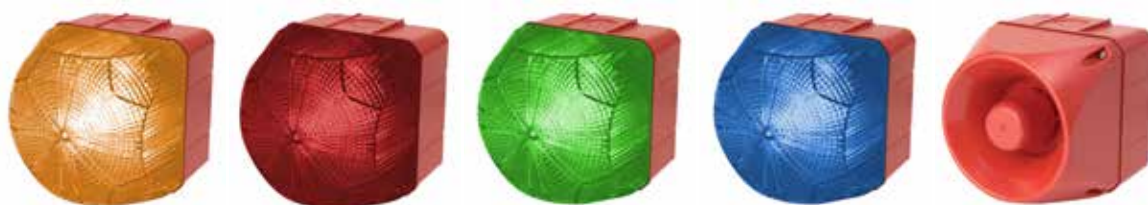
94-132mm □ Q Series LED Beacon and Alarm

Steady or Flashing (chosen via terminal), IP66 with gasket, 32 tone alarm

Auer offers a complete range of LED steady-/flashing and LED strobe beacons, as well as classic xenon strobe beacons, which can be combined with equally sized, multi-tone alarm sounders.

The Alarm series, is suitable for applications in industry, process control, fire alarm, marine etc. with sound pressures from 103 to 127 dB, and up to 63 signal tones. The high protection class IP 66 guarantees trouble-free use, in outdoor applications.

The LED strobe beacons are engineered with the most up-to-date LED technology, and feature multiple externally addressable strobe patterns, and highest signalling efficiency. Long life time, low nominal current, shock/vibration resistance, as well as zero maintenance, are all standard features of the "Q" series LED beacons.



Size	Voltage	Amber	Red	Green	Blue	Alarm
94mm □	24V AC/DC	874 161 405	874 162 405	874 166 405	874 165 405	874 160 405
132mm □	24-48V AC/DC	874 261 408	874 262 408	874 266 408	874 265 408	874 260 405
132mm □	110/240V AC/DC	874 261 413	874 262 413	874 266 413		



Long Life Cubic Design LED Steady/Flashing Beacons stocked in 94mm and 132mm profiles.

Versatile installation and mounting options. Also available in 184 and 228mm profiles.

Easily combined with other beacons or sounders to create traffic and other industrial solutions.

Size	Metal bracket	Gasket
94mm Ø	874 031 900	874 021 900
132mm Ø	874 032 900	874 022 900



30/45/65mm Ø Panel Mount Alarm

IP65, M22 mount, 85-100dB, 12-24V AC/DC



Tone	30mm Ø 85dB	30mm Ø 85dB	45mm Ø 85-100dB*	65mm Ø 85-105dB*
Continuous/Pulsing	812 110 405	812 510 405	813 500 405	
Continuous/Pulsing/Warble				814 500 405

*Adjustable via potentiometer

M28 Audiolarm II

Approx 1" Ø, mounting hole 29mm - IP68 with gasket

Floyd Bell's AudioLarm® II Series, first developed, sold and launched in 1982, and the subject of continuous improvement and innovation, is a solid-state, environmentally secure piezo electric alarm, that has become the most widely used industrial alarm in the world. This series has grown to become the industry's largest selection of piezo electric alarms. Our optional shutter-type manual volume control, provides variable attenuation of up to 20 dB.



Part Number	Tone	Volume	Sound level	Voltage	Termination
MC-07-130-SR	Continuous	Medium loud	93dB	1-30V DC	Screw & Quick Connect
MC-07-530-SR	Continuous	Medium loud	95dB	5-30V DC	Screw & Quick Connect
MW-V07-530-SR	Warble	Loud with volume control	95dB	5-30V DC	Screw & Quick Connect
MW-09-201-S	Extra fast warble	Medium loud	95dB	30-120V AC	Screw & Quick Connect
MW-09-301-SR	Extra fast warble	Loud	95dB	130-240V AC	Screw & Quick Connect
MW-09-530-SR	Moderate warble	Medium loud	95dB	5-30V DC	Screw & Quick Connect
MW-09-550-SR	Extra fast warble	Medium loud	95dB	15-36V AC/DC	Screw & Quick Connect
XB-09-312-SM	Beep	Ultra loud	103dB	5-12V DC	Screw & Quick Connect
XC-09-212-W	Continuous	Ultra loud	108dB	5-15V DC	Wires
G-79	Gasket to suit				

M28 Turbo alarm

Approx 1" Ø, mounting hole 29mm - IP68 with gasket

Floyd Bell's stylish new Turbo Series piezoelectric alarms, are twice as loud and half the size of industry counterparts. The tamper resistant front-mounting case with threaded attachment ring, provides a watertight seal when used with our optional gasket. Our optional shutter-type manual volume control, provides variable attenuation of up to 20 dB.



Part Number	Tone	Volume	Sound level	Voltage	Termination
TXT-86-515-WR	Staccato	Loud	103dB	5-15V DC	Wires
TXW-86-515-SF	Fast warble	Loud	103dB	5-15V DC	Screw & Quick Connect
TXB-V86-515-QF	Fast beep	Extra Loud with volume control	103dB	5-15V DC	6.3mm Quick Connect
G-79	Gasket to suit				

Floyd Bell produces the highest quality piezo electric alarms in the world. How do we do it?

We first introduced our piezo based alarms in 1972, and since that time, our research and development department has continuously improved not only the functionality, but also the components, circuitry, manufacturing processes, and testing procedures. As a result, our alarms produce a higher decibel output, than any alarms of similar size. Our alarms are typically much smaller, resulting in more application versatility for our customers, at a reduced cost. In addition, our alarms are more environmentally secure, than any other alarms on the market, resulting in a longer, corrosion-free lifespan.

We only use stainless steel piezo elements in our alarms, compared to brass elements used by our competitors. The environmental qualities of stainless steel, are well known, and far superior to brass. Floyd Bell also utilizes an expensive process, joining the contact leads to every piezo element, that we use in our alarms. This treatment dramatically increases the reliability, durability, and lifespan of the piezo element, and thus of every Floyd Bell alarm. Our competitors do not utilize this process to treat their piezo devices, because of the associated cost.

Floyd Bell uses only the finest PCBs (Printed Circuit Boards). Our PCBs are double-sided and fully plated through. This dramatically increases the integrity of every Floyd Bell alarm, by increasing the strength of every solder joint, and the stability of our alarms in virtually any environment. Our PCBs are solder-masked, and the material is UL-94VO rated. All of our PCBs are pre-routed, to reduce component stress in de-paneling.

Powder Coated Steel Enclosures

Our Industrial grade enclosures come with a minimum protection rating of IP66 (Dust tight and protected against powerful water jets). The mounting plate, (gear tray), is a generous 2mm thick to carry the heaviest of loads. Foamed polyurethane door gasket. Gland plate also included. Our Steel enclosures are UV resistant powder coated, ensuring they will last and continue to look good. Subject to minimum order requirements and lead times, we can modify and custom build enclosures to your specifications.



Part Number RAL 7035 (grey)	Part Number X-15 (orange)	Inner Door kit (RAL 7035)	Height (mm)	Width (mm)	Depth (mm)	Wall Metal Thickness (mm)	Door Metal Thickness (mm)	Weight (kg)
FT202015			200	200	150	1.2	1.5	2.9
FT302015			300	200	150	1.2	1.5	3.9
FT303020	FT303020-X15		300	300	200	1.2	1.5	5.8
FT403020		FT-IND4030	400	300	200	1.2	1.5	7.2
FT404020	FT404020-X15	FT-IND4040	400	400	200	1.2	1.5	9.1
FT503020			500	300	200	1.2	1.5	10.4
FT504020		FT-IND5040	500	400	200	1.2	1.5	11
FT504025		FT-IND5040	500	400	250	1.2	1.5	12
FT505020	FT505020-X15		500	500	200	1.2	1.5	13.4
FT505025			500	500	250	1.2	1.5	13.9
FT604020	FT604020-X15	FT-IND6040	600	400	200	1.2	1.5	12.9
FT604030		FT-IND6040	600	400	300	1.2	1.5	15
FT605025			600	500	250	1.2	1.5	16.9
FT606020			600	600	200	1.2	1.5	18.4
FT606025	FT606025-X15		600	600	250	1.2	1.5	19.6
FT606030			600	600	300	1.2	1.5	20.8
FT705025			700	500	250	1.2	1.5	19.2
FT806030	FT806030-X15		800	600	300	1.2	1.8	27.7
FT808030			800	800	300	1.2	1.8	34.5
FT1006030			1000	600	300	1.5	1.8	37.8
FT1008030	FT1008030-X15		1000	800	300	1.5	1.8	47.5
FT1208030			1200	800	300	1.5	1.8	53.7

Our range of enclosures include those made from plastics such as ABS, Polycarbonate and Polyester. We also offer Fibreglass, Aluminium and die-cast Aluminium. More information is available within our "Enclosures" catalogue.

Stainless Steel Enclosures

These enclosures are manufactured with 1.2mm thick, 304 grade stainless steel, with 1.5mm thick doors for extra rigidity. The mounting plate, (gear tray), is a generous 2mm thick, to carry the heaviest of loads. Interior and mounting plates are painted white, to reduce glare inside enclosure. Foamed polyurethane door gasket. With ingress protection rating of IP66, and the heavy duty stainless steel construction, these enclosures are sure to perform and impress. 316 grade available, subject to MOQ's and factory leadtimes.



Part Number (304 grade)	Part Number (316 grade)	Height (mm)	Width (mm)	Depth (mm)	Wall Metal Thickness (mm)	Door Metal Thickness (mm)	Weight (kg)
FTSS202015		200	200	150	1.2	1.5	2.9
FTSS302015		300	200	150	1.2	1.5	3.9
FTSS302515		300	250	150	1.2	1.5	4.5
FTSS303015		300	300	150	1.2	1.5	5.3
FTSS303020		300	300	200	1.2	1.5	5.8
FTSS403020		400	300	200	1.2	1.5	7.2
FTSS404020	FTSS404020-316	400	400	200	1.2	1.5	9.1
FTSS503020		500	300	200	1.2	1.5	10.4
FTSS504020		500	400	200	1.2	1.5	11
FTSS504025	FTSS504025-316	500	400	250	1.2	1.5	12
FTSS604020		600	400	200	1.2	1.5	12.9
FTSS604025	FTSS604025-316	600	400	250	1.2	1.5	15.3
FTSS605025		600	500	250	1.2	1.5	16.9
FTSS606020		600	600	200	1.2	1.5	18.4
FTSS606025		600	600	250	1.2	1.5	19.6
FTSS606030	FTSS606030-316	600	600	300	1.2	1.5	20.8
FTSS705025		700	500	250	1.2	1.5	19.2
FTSS806030	FTSS806030-316	800	600	300	1.2	1.8	27.7
FTSS1008030		1000	800	300	1.5	1.8	47.5

Part Number	Description
FTKEY	Spare key to suit FT enclosure
FTSSKEY	Spare key to suit FTSS enclosure

Part Number	Description
FTWALL	Wall mount kit
FTMOUNT	Stud conversion for gear tray

Part Number	Description
CL001LOCK	CL001 Lock kit
CL001CAM	Cam to suit above

Plastic Enclosures

IP67, IK08

An extensive range of plastic enclosures suitable for various applications. Material choice is dependant on application.

ABS plastic is suitable for indoor use only, but with the addition of polycarbonate, the ABS/PC blend is suitable for outdoor applications. Polyester will provide even greater strength, and resistance to the elements.

All terminal boxes are rated at IP67.



	AG/AT (ABS)	PG/PT (PC 70% + ABS 30%)	PCG/PCT (PBT/PC)	Clear Cover (Polycarbonate)
Outdoor Use	★	★★★	★★★★★	★★★
Indoor Use	★★★★★	★★★★★	★★★★★	★★★★★
High rigidity	★★★	★★★★	★★★★	★★★★
Impact resistance	★★★	★★★★★	★★★★★	★★★★★
Chemical resistance	★★★	Not tested	★★★★★	Not tested
Temperature (Temporary)	-40°C ~ 85°C	-40°C ~ 90°C	-40°C ~ 100°C	-40°C ~ 132°C
Temperature (Continuous)	-40°C ~ 60°C	-40°C ~ 85°C	-40°C ~ 75°C	-40°C ~ 130°C
Flammability	UL94-HB	UL94-V0	UL94-5VA	UL94-V0

★ Poor ★★ Good ★★★ Very Good ★★★★★ Excellent

Terminal box with Transparent Lid

IP67, Solid colour base and polycarbonate lid

ABS	ABS/ Polycarbonate	Polyester	Height (mm)	Width (mm)	Depth (mm)	Mounting plate	
						Plastic	Steel
DS-AT-0818		DS-PCT-0818	80	180	70	DS-0818PL	DS-0818
DS-AT-0825-1			80	250	85	DS-0825PL	DS-0825
DS-AT-1010			100	100	100	Not available	Not available
DS-AT-1212		DS-PCT-1212	125	125	100	DS-1212PL	Not available
		DS-PCT-1217	125	175	75	DS-1217PL	DS-1217
		EL-PCT-1318	130	180	35	Not available	Not available
DS-AT-1520	DS-PT-1520		150	200	100	DS-1520PL	DS-1520
DS-AT-1525-1			150	250	130	DS-1525PL	DS-1525
DS-AT-1725			175	250	75	DS-1725PL	DS-1725
DS-AT-1725-1			175	250	100	DS-1725PL	DS-1725
		DS-PCT-1919	190	190	130	DS-1919PL	DS-1919
		DS-PCT-2020S	200	200	95	DS-2020PL	DS-2020
DS-AT-2020	DS-PT-2020		200	200	130	DS-2020PL	DS-2020
DS-AT-2819			280	190	130	DS-2819PL	DS-2819
DS-AT-2828			280	280	130	DS-2828PL	DS-2828
DS-AT-2834			280	340	130	DS-2834PL	Not available
DS-AT-2838			280	380	130	DS-3828PL	DS-3828
DS-AT-2838-1			280	380	180	DS-3828PL	DS-3828
DS-AT-3819		DS-PCT-3819	380	190	130	DS-3819PL	DS-3819
		DS-PCT-5638	560	380	180	Not available	DS-5638



Terminal box with Opaque Lid

IP67, Solid colour base and lid

ABS	ABS/ Polycarbonate	Polyester	Height (mm)	Width (mm)	Depth (mm)	Mounting plate	
						Plastic	Steel
	DS-PG-0808		80	82	60	Not available	Not available
DS-AG-0811-S	DS-PG-0811-S		80	110	45	DS-0811PL	DS-0811
DS-AG-0811		DS-PCG-0811	80	110	70	DS-0811PL	DS-0811
EL-AG-0813			80	130	35	Not available	Not available
EL-AG-0813-B			80	130	60	Not available	Not available
DS-AG-0813	DS-PG-0813	DS-PCG-0813	80	130	70	DS-0813PL	DS-0813
DS-AG-0813-1			80	130	85	DS-0813PL	DS-0813
DS-AG-0816-S		DS-PCG-0816-S	80	160	55	Not available	DS-0816
DS-AG-0816			80	160	90	Not available	DS-0816
DS-AG-0818	DS-PG-0818	DS-PCG-0818	80	180	70	DS-0818PL	DS-0818
DS-AG-0825			80	250	70	DS-0825PL	DS-0825
DS-AG-0825-1			80	250	85	DS-0825PL	DS-0825
DS-AG-1010			100	100	100	Not available	DS-1010
DS-AG-1212-S		DS-PCG-1212-S	125	125	75	DS-1212PL	Not available
DS-AG-1212		DS-PCG-1212	125	125	100	DS-1212PL	Not available
DS-AG-1217		DS-PCG-1217	125	175	75	DS-1217PL	DS-1217
DS-AG-1217-1		DS-PCG-1217-1	125	175	100	DS-1217PL	DS-1217
EL-AG-1318			130	180	35	Not available	Not available
EL-AG-1318B			130	180	60	Not available	Not available
DS-AG-1417	DS-PG-1417	DS-PCG-1417	140	170	95	DS-1417PL	DS-1417
	DS-PG-1423	DS-PCG-1423	140	230	95	DS-1423PL	DS-1423
DS-AG-1520		DS-PCG-1520	150	200	100	DS-1520PL	DS-1520
DS-AG-1525		DS-PCG-1525	150	250	100	DS-1525PL	DS-1525
DS-AG-1525-1		DS-PCG-1525-1	150	250	130	DS-1525PL	DS-1525
DS-AG-1717-1			175	175	100	DS-1717PL	DS-1717
		DS-PCG-1725	175	250	75	DS-1725PL	DS-1725
		DS-PCG-1919	190	190	130	DS-1919PL	DS-1919
DS-AG-2020-S			200	200	95	DS-2020PL	DS-2020
DS-AG-2020			200	200	130	DS-2020PL	DS-2020
DS-AG-2819	DS-PG-2819	DS-PCG-2819	280	190	130	DS-2819PL	DS-2819
	DS-PG-2819-1	DS-PCG-2819-1	280	190	180	DS-2819PL	DS-2819
DS-AG-2828		DS-PCG-2828	280	280	130	DS-2828PL	DS-2828
DS-AG-2834			280	340	130	DS-2834PL	DS-2834
DS-AG-3819			380	190	130	DS-3819PL	DS-3819
		DS-PCG-3819-1	380	190	180	DS-3819PL	DS-3819
DS-AG-3828	DS-PG-2838	DS-PCG-3828	380	280	130	DS-3828PL	DS-3828
DS-AG-3828-1			380	280	180	DS-3828PL	DS-3828
DS-AG-5628	DS-PG-5628		560	280	130	Not available	DS-5628
DS-AG-5638		DS-PCG-5638	560	380	180	Not available	DS-5638



Hinged Opaque Lid, Plastic Draw Latches

IP67, Solid colour base and lid, includes ext mounting brackets

ABS	Polyester	Hinge side Height (mm)	Width (mm)	Depth (mm)	Mounting plate	
					Plastic	Steel
EN-AG-1013		130	100	70	Included	Not available
	EN-PCG-1013	130	100	70	DS-1013PL	Not available
EN-AG-1015		150	100	70	Included	Not available
EN-AG-1515	NE-PCG-1515	150	150	90	DS-1515PL	Not available
	NE-PCG-2919-S	190	290	100	DS-2819PL	DS-2819
EN-AG-1520		200	150	100	Included	DS-1520
	EN-PCG-1520	200	150	100	DS-1520PL	DS-1520
	NE-PCG-1722	220	170	110	DS-1520PL	DS-1520
	EN-PCG-1027	270	100	70	DS-1027PL	Not available
NE-AG-1727	NE-PCG-1727	270	170	110	DS-1525PL	DS-1525
NE-AG-1929-S	NE-PCG-1929-S	290	190	100	DS-2819PL	DS-2819
NE-AG-1929	NE-PCG-1929	290	190	140	DS-2819PL	DS-2819
NE-AG-2530	NE-PCG-2530	300	250	180	DS-2530PL	Not available
NE-AG-3030-S	NE-PCG-3030-S	300	300	130	DS-3030PL	DS-3030
NE-AG-3030	NE-PCG-3030	300	300	180	DS-3030PL	DS-3030
NE-AG-2535	NE-PCG-2535	350	250	150	DS-2535PL	DS-2535
NE-AG-2939-S	NE-PCG-2939-S	390	290	100	DS-2939PL	DS-2939
NE-AG-2939	NE-PCG-2939	390	290	160	DS-2939PL	DS-2939
EN-AG-3545		450	350	200	Not available	Not available
NE-AG-3546-S	NE-PCG-3546-S	465	350	160	DS-3546PL	DS-3546
EN-AG-4353		530	430	200	DS-4353PL	DS-4353
EN-AG-5060-S		600	500	180	Included	DS-5060
	EN-PCG-5060-S	600	500	180	Not available	DS-5060
	EN-PCG-5060	600	500	250	Not available	DS-5060



Hinged Transparent Lid, Plastic Draw Latches

IP67, Solid colour base and polycarbonate lid, includes ext mounting brackets

ABS	Polyester	Hinge side Height (mm)	Width (mm)	Depth (mm)	Mounting plate	
					Plastic	Steel
NE-AT-1013		130	100	70	DS-1013PL	Not available
NE-AT-1515	NE-PCT-1515	150	150	90	DS-1515PL	Not available
NE-AT-2919	NE-PCT-2919	190	290	140	DS-2819PL	DS-2819
EN-AT-1020		200	100	70	Included	Not available
NE-AT-1722		220	170	110	DS-1520PL	DS-1520
NE-AT-1929-S		290	190	100	DS-2819PL	DS-2819
NE-AT-1929	NE-PCT-1929	290	190	140	DS-2819PL	DS-2819
NE-AT-3030-S		300	300	130	DS-3030PL	DS-3030
NE-AT-3030		300	300	180	DS-3030PL	DS-3030
NE-AT-2939	NE-PCT-2939	390	290	160	DS-2939PL	DS-2939
NE-AT-3546-S		465	350	160	DS-3546PL	DS-3546
NE-AT-3546		465	350	200	DS-3546PL	DS-3546
EN-AT-5070-S		700	500	180	Not available	DS-5070
EN-AT-5070		700	500	250	Not available	DS-5070



Hinged Lid, Steel Draw Latches

IP67, includes ext mounting brackets

ABS		Hinge side Height (mm)	Width (mm)	Depth (mm)	Mounting plate	
Opaque lid	Transparent Lid				Plastic	Steel
DS-AG-02-W		300	400	180	DS-2939PL	DS-2939
DS-AG-02		400	300	180	DS-2939PL	DS-2939
	DS-AT-015	300	200	150	DS-015PL	Not available
	DS-AT-01	300	200	180	DS-015PL	Not available



Terminal box with Integrated Mounting Plate

IP67, Suitable for Indoor Use

ABS	Height (mm)	Width (mm)	Depth (mm)	Plastic Mounting plate
PL-AG-0816	85	165	50	Included



Terminal Box (includes terminals)

IP67, Suitable for Indoor & Outdoor Use

ABS/ Polycarbonate	Height (mm)	Width (mm)	Depth (mm)	No. of Terminals
DS-PG-6P	90	75	40	6
DS-PG-15P	100	200	70	15
DS-PG-20P	170	160	70	20



Terminal Box with glands (includes terminals)

IP67, Suitable for Indoor & Outdoor Use

Polyester	Height (mm)	Width (mm)	Depth (mm)	No. of Terminals
DS-MTB-4P	70	50	40	4
DS-MTB-6P	85	55	40	6
DS-MTB-10P	95	95	40	10



Diecast aluminium enclosures

Suitable for Indoor & Outdoor Use

Versatile general purpose aluminium enclosures, in a range of sizes and IP ratings. These general purpose die cast boxes, are available in a range of sizes, all of which have close fitting lids, secured by either 4, 6, or 8, countersunk screws, ensuring excellent EMI / RFI screening.

There will be a plain finish on this range, which includes rounded edges and a smooth surface. PCB mounts are included, on some models.

A large range is available, please enquire for options.



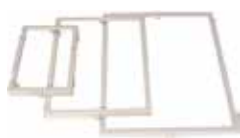
Inner Door Kits

Swing frame, hinges and panels

Multipurpose frames can be fitted to these enclosures, to allow the fitting of internal doors. Either Aluminium or Plastic panels, can be fitted to hinges, and thumb screws, can also be fitted to allow easy access if desired.

Items required to assemble inner door:

- 1 x Swing frame
- 1 x Plastic or Aluminium panel
- 2 x hinges
- 2 x Thumb screws (or standard screws)



Suits enclosure	Multipurpose Swing frame	Aluminium Panel	Plastic Panel	Hinge (includes screws)	Thumb Screw (each)
NE-XXX-1929 / 2919 / -S	DSF-1929	DSD-1929	DS-PD-1929	DSH-25	DSL-10
NE-XXX-2939 / -S	DSF-2939	DSD-2939	DS-PD-2939	DSH-25	DSL-10
NE-XXX-3546-S	DSF-3546	DSD-3546	n.a.	DSH-25	DSL-10

Extension frames

IP66 rated, 50mm height extension, ABS

Extra depth can be obtained in a select range of enclosures, by fitting these extension frames. The frames are supplied with the necessary gaskets, screws etc to assemble. Up to three extension frames can be fitted to an enclosure. 50mm height per frame. These frames are made from ABS, but other materials are also available, subject to MOQ.



Suits enclosure	Part number
DS-AG-2828	EF-AG-2828
DS-AG-3828	EF-AG-3828
DS-AG-5628	EF-AG-5628
DS-AG-5638	EF-AG-5638

Mounting Brackets

Plastic enclosures



Ventilators

Plastic enclosures



Locks

Plastic enclosures



Replacement Cover Screws

Plastic enclosures



Part Number	Length
DS-B-40	40mm
DS-B-50	50mm
DS-B-60	60mm

Part Number	Mounting hole
DS-VH-40	20mm
DS-VH-60	60mm

Part Number	Stainless Steel
DSK-20	Key Lock
DSK-40	Padlock Kit

Part Number	Shape
DSB-25 (-)	-
DSB-25 (+)	+

Part Number	Shape
DSB-49 (-)	-
DSB-49 (+)	+

Filters and fans

IP54, Side or door mounting

The FK55 series, offers a low shape and quick mounting, with a distinct curved modern styling, for the ventilation of control cabinets, enclosures and housings.

- Grey - RAL7035
- Filter mats for dust collection
- IP54
- 230V AC or 24V DC



24V DC Filter and fan	230V AC Filter and fan	Exit filter	Cutout dimensions (W x H)	External dimensions (W x H)	Air Flow no Filter m³/hr	Air Flow with Filter m³/hr
	FK5521.230	FK5521.300	92x92	109x109	35	24/27
FK5522.024	FK5522.230	FK5522.300	125x125	150x150	67	50/58
	FK5523.230	FK5523.300	177x177	204x204	105	85/100
	FK5525.230	FK5525.300	223x223	250x250	230	170/230
	FK5526.230	FK5526.300	291x291	325x325	550	360/490
	FK5527.230	FK5527.300	291x291	325x325	650	500/600

Thermostats

Suitable for heating and cooling applications

- Sensor Element: Bi-metal
- Adjustment Range: 0-60°C
- Contact Rating: 6A 250V AC
- Dimensions: 60H x 33W x 35D (mm)
- Connections: 2 pole screw terminal 2.5mm²
- Mounting: TS35 Din rail mountable



Part Number	Application	Colour
KTO 011	Heating Control	Red
KTS 011	Cooling Control	Blue

M22 Control enclosures

IP65, M22



	E-Stop enclosure	2 x M22	3 x M22	4 x M22
Part Number	B1 YELLOW/BK	B2 GREY	B3 GREY	B4 GREY

Interface Relays

Base only - suits RT Power relay series

The new PRC 2W relay bases, enable the integration of relays with two CO contacts into our proven PRC, relay system. This base also features the well known advantages of this system, including simple bridging with jumpers, and a thin design.

- Mounts on TS 35
- Very versatile and modular construction of individual relay bases
- User-friendly, because the relays can be easily replaced
- High-quality connection terminals
- Integrated EMC coil circuitry, and LED
- High-quality innovative mount/dismount lever
- Relay to be ordered separately

Part Number	Input voltage
15920.2	Suits 12 or 24V RT series relay



Accessories	Blue	Black	Yellow	Partition
8 pole jumper	15930.5	15930.4	15930.8	
Partition				15546.2



Using the mount/dismount lever

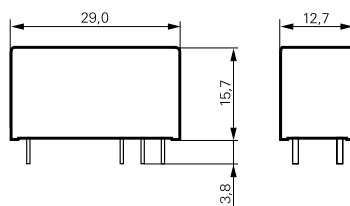
This mounting and dismounting mechanism, forms a reliable connection by latching the relay with the socket base. The fitted relay, can be removed easily, and without force, from the socket base by using the dismount function of the lever.



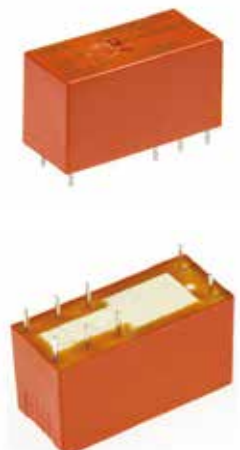
Relays

PCB Power relay RT series

- Sensitive coil 400mW / 0.75 VA
- 5 kV / 10 mm coil-contact, protection class II (VDE 0700)
- Ambient temperature 85°C (DC-coil)
- Module height only 15.7 mm
- PCB and screwed socket available



Part Number	Rated current	Contacts	Coil Voltage
RT314005	16A	1 CO	5VDC
RT314012	16A	1 CO	12VDC
RT314024	16A	1 CO	24VDC
RT314110	16A	1 CO	110VDC
RT314524	16A	1 CO	24VAC
RT314730	16A	1 CO	230VAC
RT424012	8A	2 CO	12VDC
RT424024	8A	2 CO	24VDC
RT424048	8A	2 CO	48VDC
RT424110	8A	2 CO	110VDC
RT424524	8A	2 CO	24VAC
RT424730	8A	2 CO	230VAC

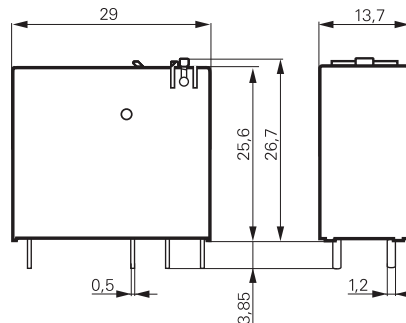


Relays

Pluggable interface relay XT series

- DC or AC coil, sensitive coil 400mW
- Reinforced insulation, protection class II (VDE 0700)
- 4 kV / 8 mm coil-contact
- Manual test tab, optionally lockable
- Suitable for use in Tyco standard RT sockets

Part Number	Rated current	Contacts	Coil Voltage
XT374LC4	16A	1 CO	24VDC
XT484LC4	8A	2 CO	24VDC
XT484R24	8A	2 CO	24VAC
XT484T30	8A	2 CO	230VAC



Accessories

Suit RT and XT series



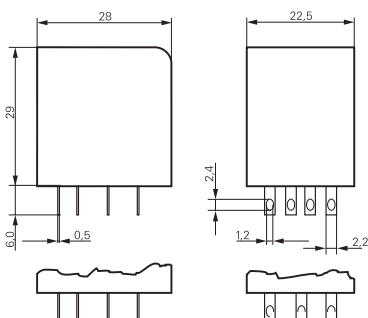
Part Number	RT78725	RT17017	XT17017	RT170R8
Description	Din mount socket with screw terminals for RT & XT Series PCB Relays	Retaining clip for RT-relays	Retaining clip for XT and RP relays	Jumper bar, 12 A, for connection of up to 8 RT-sockets

Relays

Pluggable interface relay PT series

- Switching performance up to 3000 VA
- Relay height 29 mm
- Cadmium free contact material
- Mechanical indicator, optional LED and protection diode
- Manual test tab, optionally lockable
- White marking tabs

Part Number	Rated current	Contacts	Coil Voltage	Poles
PT270024	12A	2 CO	24VDC	8 pin
PT370024	10A	3 CO	24VDC	11 pin
PT570024	6A	4 CO	24VDC	14 pin
PT570524	6A	4 CO	24V AC	14 pin
PT570730	6A	4 CO	230V AC	14 pin



Poles	Din mount socket	Retaining clip for PT socket	Jumper bar, 12A, for connection of up to 6 PT sockets
8 pin	PT78702	PT17024	PT170R6
11 pin	PT78703	PT17024	PT170R6
14 pin	YPT78704	PT17024	PT170R6



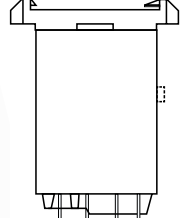
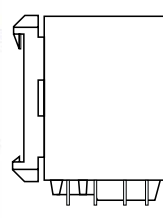
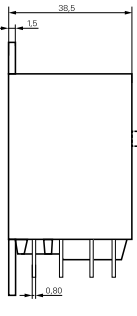
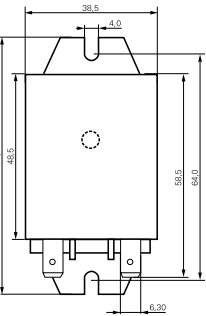
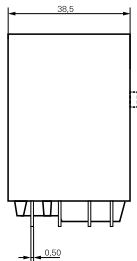
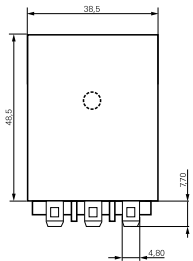
Relays

Power relay RM series

- Mechanical indicator
- Push-to-test button
- Plug-in version, or chassis mount
- Din mount socket available
- RM7 & RM8 - 6000 VA switching capacity
- RMD 7500 VA switching capacity



Part Number	RM732012-C	RM732024-C	RM835024	RMD05024	RM78705
Coil Voltage	12VDC	24VDC	24VDC	24VDC	Suits plug-in terminals
Rated Current	16A	16A	25A	30A	
Contacts	3 CO	3 CO	2 CO	1 NO	
Terminals	Plug-in		6.3mm Quick Connect		
Note			With integrated bracket		

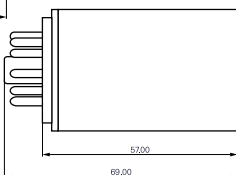
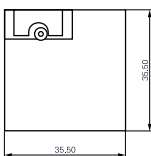


Part Number	RM839024	RM838024
Coil Voltage	24VDC	24VDC
Rated Current	25A	25A
Contacts	2 CO	2 CO
Terminals	6.3mm Quick Connect	
Note	With integrated Din mount bracket	

Relays

Multimode relay MT series

- 2 CO or 3 CO contacts
- DC and AC coils
- Cadmium free contact material
- Mechanical indicator as standard
- Optional electrical indicator
- New test system with front operated finger protected push-to-test button and integral locking test tab
- White write on panel



Part Number	Rated current	Contacts	Coil Voltage	Poles
MT221012	10A	2 CO	12VDC	8 pin
MT221024	10A	2 CO	24VDC	8 pin
MT226024	10A	2 CO	24VAC	8 pin
MT226230	10A	2 CO	230VAC	8 pin
MT321012	10A	3 CO	12VDC	11 pin
MT321024	10A	3 CO	24VDC	11 pin
MT326012	10A	3 CO	12VAC	11 pin
MT326024	10A	3 CO	24VAC	11 pin
MT326230	10A	3 CO	230VAC	11 pin



Poles	Din mount socket
8 pin	YMR78701
11 pin	MT78740

Interface Relays

6.2mm wide Din rail mountable relay package

The narrow housing of the new IRCU relays, allows them to be used in very confined spaces. With their minimal width of only 6.2 mm, they open up new possibilities, in designing control schemes. Their relay-terminal design, makes them very versatile and gives you enormous potential for savings. Jumpers and partitions are also available (see IRCPU version)

- Mounts on TS 35 rail
- Internal EMC coil circuitry and LED display
- All-purpose use as coupling relay at PLC input, or in the output of the PLC for controlling actuators
- Screw connection
- 1 CO with 6 A rated load

Part Number	Contacts	Rated Current	Coil Voltage
16231.2	1 CO	6A	12V AC/DC
16232.2	1 CO	6A	24V AC/DC
16234.2	1 CO	6A	230V AC/DC



Interface Relays - fused

6.2mm wide Din rail mountable fused relay package

Similar to the IRCU version, the IRCPU with the fuse insert module, can be used in all systems. It is unique in the way it meets the requirement that each coupling relay output, can be protected by a replaceable 5x20 mm standard micro-fuse, within the available 6.2 mm width.

- Mounts on TS 35 rail
- Internal EMC coil circuitry and LED display
- All-purpose use as coupling relay at PLC input, or in the output of the PLC for controlling actuators
- Screw connection
- 1 CO with 6 A rated load
- Fuse holder (ordered separately) accepts 5x20mm fuse.

Part Number	Contacts	Rated Current	Coil Voltage
16236.2	1 CO	6A	12V AC/DC
16237.2	1 CO	6A	24V AC/DC
16240.2	1 CO	6A	230V AC/DC



Interface Relays - accessories

6.2mm wide Din rail mountable relays



	Blue	Black	Red	Partition	Fuse Holder
16 pole jumper	16209.5	16209.4	16209.9		
Accessories				16228.2	16208.2

Installation Contactors

Din rail mountable installation contactors are typically used for heating, cooling and lighting applications.

Part Number	Contacts	Rated current (AC-1)	Width	Coil Voltage
BZ326437ME	2 NO	20 A	17.5mm	230V AC
BZ326438ME	1 NO + 1 NC	20 A	17.5mm	230V AC
BZ326461ME	4 NO	25 A	53.3mm	230V AC
BZ326467	4 NC	25 A	53.3mm	230V AC
BZ326442ME	4 NO	40 A	53.3mm	230V AC
BZ326444ME	4 NO	63 A	53.3mm	230V AC



CUBICO Miniature Contactors

3 pole with integrated Aux Contact

Part Number	Rated Power	AC1 Rated Current	AC3 Rated Current	Coil Voltage	Auxiliary Contacts
LZDM1213	5.5kW	20A	12A	230V AC	1NO
LZDM1223	5.5kW	20A	12A	230V AC	1NC
LZDM1210	5.5kW	20A	12A	24V AC	1NO
LZDM1220	5.5kW	20A	12A	24V AC	1NC
LZDM1215	5.5kW	20A	12A	24V DC	1NO
LZDM1225	5.5kW	20A	12A	24V DC	1NC

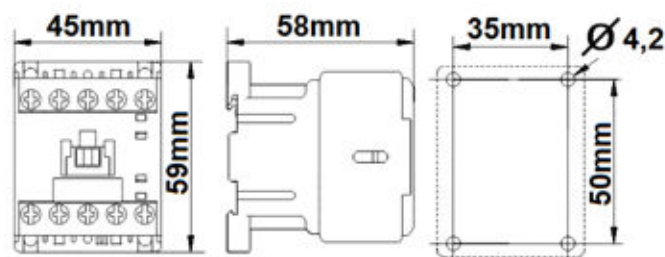


Accessories

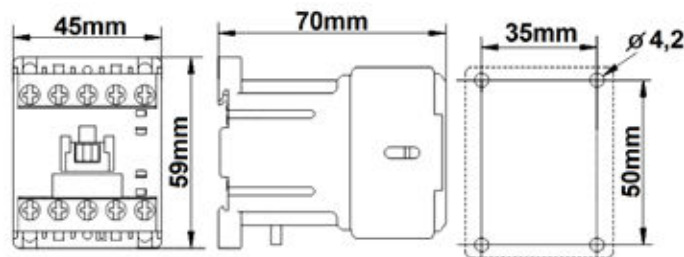
Part Number	Description	Current Range	Voltage	Auxiliary Contacts
LZZMH022	Auxiliary Contacts, front mounting			2NO + 2NC
LZZMV024	Varistor Surge Suppressor		24-48 VAC/DC	
LZZMV024	Varistor Surge Suppressor		110-250 VAC	
LZTM0100	Thermal Overload	0,63 - 1A		
LZTM0160	Thermal Overload	1 - 1,6A		
LZTM0250	Thermal Overload	1,6 - 2,5A		
LZTM0400	Thermal Overload	2,5 - 4A		
LZTM0600	Thermal Overload	4 - 6A		
LZTM0800	Thermal Overload	5,5 - 8A		
LZTM1000	Thermal Overload	7 - 10A		
LZTM1300	Thermal Overload	9 - 13A		



Dimensions



AC Coil



DC Coil

CUBICO Classic Contactors

3 pole with integrated Aux Contact

Part Number	Rated Power	AC1 Rated Current	AC3 Rated Current	Coil Voltage	Auxiliary Contacts
LZDC09B3	4kW	25A	9A	230V AC	1NO + 1NC
LZDC09B0	4kW	25A	9A	24V AC	1NO + 1NC
LZDC09B5	4kW	25A	9A	24V DC	1NO + 1NC
LZDC12B3	5.5kW	25A	12A	230V AC	1NO + 1NC
LZDC12B0	5.5kW	25A	12A	24V AC	1NO + 1NC
LZDC12B5	5.5kW	25A	12A	24V DC	1NO + 1NC
LZDC18B3	7.5kW	32A	18A	230V AC	1NO + 1NC
LZDC18B0	7.5kW	32A	18A	24V AC	1NO + 1NC
LZDC18B5	7.5kW	32A	18A	24V DC	1NO + 1NC
LZDC25B3	11kW	40A	25A	230V AC	1NO + 1NC
LZDC25B0	11kW	40A	25A	24V AC	1NO + 1NC
LZDC32B3	15kW	50A	32A	230V AC	1NO + 1NC
LZDC32B0	15kW	50A	32A	24V AC	1NO + 1NC
LZDC38B3	18.5kW	50A	38A	230V AC	1NO + 1NC
LZDC38B0	18.5kW	50A	38A	24V AC	1NO + 1NC



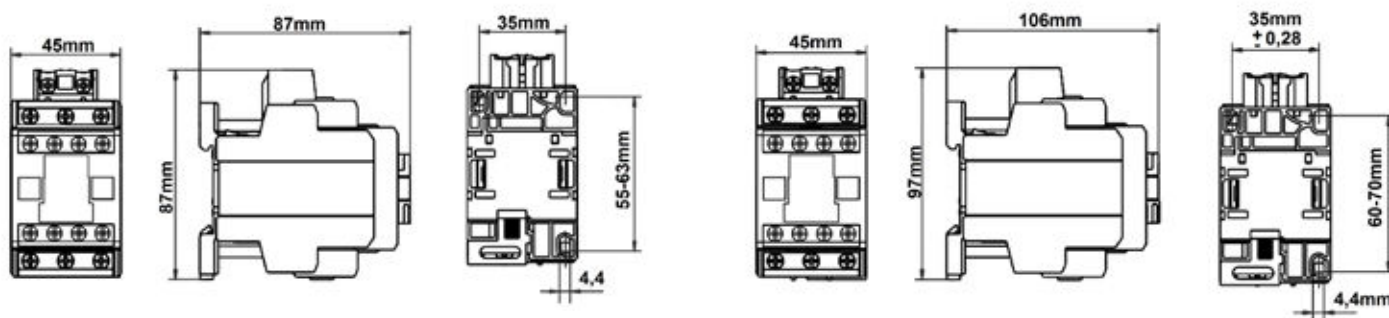
Accessories

Part Number	Description	Voltage	Auxiliary Contacts
LZZCH031	Auxiliary Contacts - front mount		3NO + 1NC
LZZCH022	Auxiliary Contacts - front mount		2NO + 2NC
LZZCH020	Auxiliary Contacts - front mount		2NO
LZZCH002	Auxiliary Contacts - front mount		2NC
LZZCH011	Auxiliary Contacts - front mount		1NO + 1NC
LZZCH711	Auxiliary Contacts - side mount		1NO + 1NC
LZZCL001	Mechanical interlock		
LZZCV024	Varistor Surge Suppressor	24-48 VAC/DC	
LZZCV230	Varistor Surge Suppressor	110-250 VAC	



Part Number	Description	Current Range
LZTC0160	Thermal Overload	1 - 1,6A
LZTC0250	Thermal Overload	1,6 - 2,5A
LZTC0400	Thermal Overload	2,5 - 4A
LZTC0600	Thermal Overload	4 - 6A
LZTC0800	Thermal Overload	5,5 - 8A
LZTC1000	Thermal Overload	7 - 10A
LZTC1300	Thermal Overload	9 - 13A
LZTC1800	Thermal Overload	12 - 18A
LZTC2400	Thermal Overload	16 - 24A
LZTC3200	Thermal Overload	23 - 32A
LZTC3800	Thermal Overload	30 - 38A

Dimensions



LZDC09.., LZDC12.., LZDC18..

LZDC25.., LZDC32.., LZDC38..

Soft Starter with current monitoring

4kW

TELE Haase introduces one of the world's smallest Motor Starters with integrated blocking protection for electric motors of up to 4 kW / 5.5 hp. The device combines 4 functions in a state of the art compact housing with a width of only 22.5 mm.

In addition to the soft start and stop functions, the intelligent motor starter enables the user to change the rotating direction remotely.

The space saving and slim soft starter is designed to drive 3ph electric squirrel cage motors up to 3x480 VAC / 9 A, which corresponds to 4 kW at 400VAC. Two control inputs define clockwise and counter-clockwise rotation. The reversing logic integrates all components, so no external wiring is necessary. The soft-start/soft stop offers a shock-free start/stop behavior. This offers maximum protection for the power supply, motor and machine. Start time and starting torque can be adjusted with knobs at the front of the device.

The current monitoring function provides a blocking protection of motor and machine during the startup phase. The adjustment is done via a simple turning knob at the front fascia. In case of an error, a relay contact and LED indicates the fault state.



Part Number

CHRISTIAN P4.0

Pump Control & Level Monitoring

24-230V AC/DC Supply Voltage

The new V4LM4S30 electrode relay from TELE for level monitoring in conductive fluids combines 10 different functions in one very compact device.

It monitors the level of a fluid via probes, which are directly immersed. Depending on the function selected, the V4LM controls the pumping in and pumping out as well as the running dry and overflow alarm. The device is utilized wherever observing a defined fill level represents an important criterion for the function, efficiency and safety. It protects machines and systems from leakage damage, fluid loss as well as running dry or overflow.

Unlike float switches, the TELE V4LM has no moving parts and thus has a high service life. In contrast to ultrasonic and radar measurements, the device is resistant to contamination, dust, foam and mist in the containers.

With extremely low probe voltage, small measuring currents and a large sensitivity window from 0.25 to 500 kOhm, the fill level measurement is suitable for feed applications and does not endanger the animals. The selected measuring frequency of 18.3 Hz enables an extremely robust measurement without interference (no harmonics to mains frequency 50 or 60 Hz). In addition, the alternating current measurement prevents the build-up of oxyhydrogen gas as well as electrolytic disintegration of the probes, which can occur with comparable devices with direct current measurement.



Part Number

V4LM4S30

Functions:

- 2uA = Pump up; Min- / Max-Alarm (1 container, 4 probes)
- 2dA = Pump down; Min- / Max-Alarm (1 container, 4 probes)
- 3b- = Pump up and down; Min-Alarm (1 container, 3 (4) probes)
- 3b+ = Pump up and down; Max-Alarm (1 container, 3 (4) probes)
- 2u2 = Pump up (2 independent containers, 2 probes each)
- 2d2 = Pump down (2 independent containers, 2 probes each)
- 2uc = Pump up with pump change (1 container, 2 probes)

- 2dc = Pump down with pump change (1 container, 2 probes)
- 3w- = Well control; Min-Alarm (2 containers, 3 probes)
- 4ce = Level code (up to 4 containers, 4 probes)

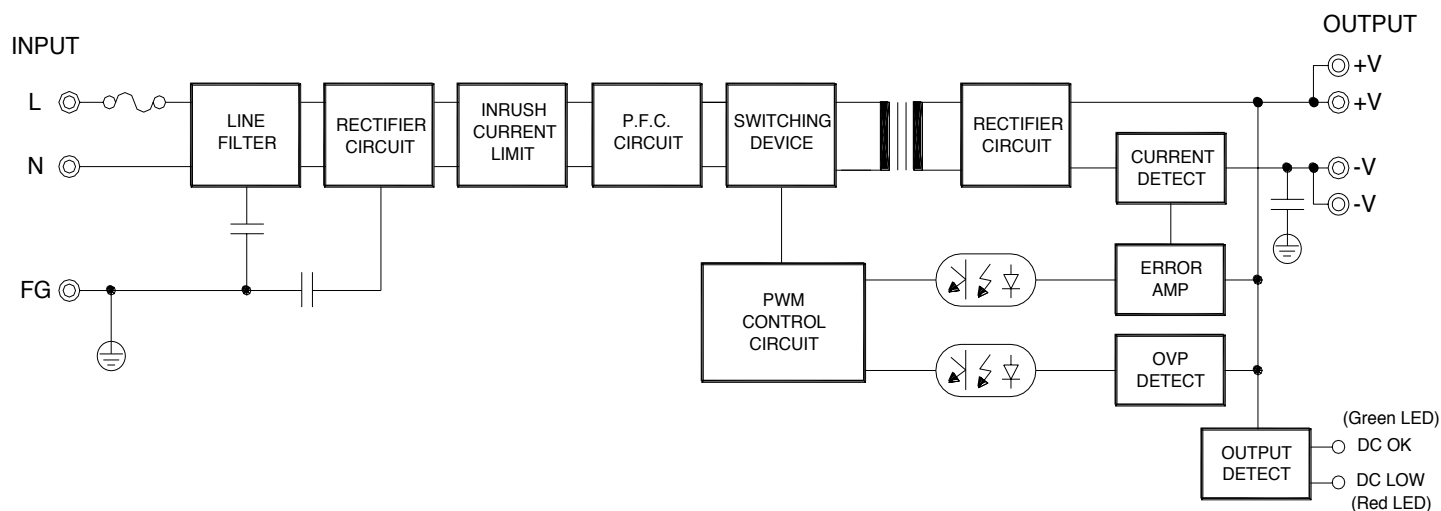
Sensitivity (threshold):

Low = 0,25 ... 12,5 kΩ; High = 10 ... 500 kΩ

Power Supplies

Industrial grade, DIN rail mounted

- Compact size
- Universal input range (88-264V AC - 125-370V DC)
- Installation on 35mm DIN rail
- Built-in EMI filter
- Short circuit protection
- Over voltage protection
- Over current protection
- LED indicator for DC power ON (Green)
- LED indicator for DC low (Red)
- 3 year warranty



Output Power	30W	70W	120W	180W	240W
Output Current	1.3 A	3 A	5 A	7.5 A	10 A
Output Voltage	24V DC	24V DC	24V DC	24V DC	24V DC
Dimensions (mm)	36 x 95 x 108	33 x 130 x 125	40 x 130 x 125	50 x 130 x 125	60 x 130 x 125
Part Number	IS30-24	IS70-24	IS120-24	IS180-24	IS240-24

Bell Transformers

Isolated windings, DIN rail mounted

- Din rail mountable bell transformer
- Includes PTC
- Protection Class IP40
- Isolated windings

Part Number	Secondary Voltage	Secondary Current	Width	Primary Voltage
BZ326578	12 - 24	1.25A	53.5mm	220-240VAC
BZ326579	12 - 24	2.62A / 5.25A	105mm	220-240VAC



Main Switches

IP66, Padlockable, Optional 4th pole for Neutral and Aux contacts also available



AC-21		AC-3		AC-23		3 Pole Panel Mount	4 Pole Panel Mount with door clutch (length adjustable)	3 Pole Enclosed	Neutral Pole	Aux Contacts 1NO + 1 NC
Rated Current	Voltage	Voltage	Utilisation Category	Utilisation Category						
20A	690V	3~400V	5.5 kW	7.5 kW		IN8E2332	IN8A2432	IN8P2332	IN809002	IN809001
32A	690V	3~400V	11 kW	12.5 kW		IN8E2334	IN8A2434	IN8P2334	IN809002	IN809001
63A	690V	3~400V	18.5 kW	22 kW		IN8E2337	IN8A2437	IN8P2337	IN809003	IN809001
80A	690V	3~400V	18.5 kW	22 kW		IN8E2338	IN8A2438	IN8P2338	IN809003	IN809001
125A	690V	3~400V	37 kW	45 kW		IN8E233B				

Isolators and Switches



Current Rating	IP66 Surface Mount Switch		IP66 Isolating Switch		Din Mount Disconnecter		Din Mount C/O Switch I-0-II	
	32 A	63 A	63 A		125A		16A	
3 Pole	M66SW332	M66SW363	MF-3-63		AZ200223		Single Pole	BZ106380

Dome pushbuttons

Momentary action

Compact Momentary Snap Action panel mount switches, for wet and dusty environments, with positive tactile feedback. Manufactured in the USA, with a mechanical life expectancy of 1,000,000 operations.

The P9 Dome series, is a quality precision switch, designed for use in panels, control grips, computers, instruments, heavy equipment and other demanding applications where attractive, rugged pushbutton switches are required.



IP	Contacts	Rating	Red	Green	Blue	Black	Yellow	White
IP68S	SPST 1 NO	5A 28V DC/115V AC	P9-111121W	P9-111125W	P9-111126W	P9-111122W	P9-111124W	
IP64	SPST 1 NO	5A 28V DC/115V AC						P9-111229
IP64	DPST 1NO+1NC	4A 28V DC/115V AC	P9-113121	P9-113125	P9-113126	P9-113122	P9-113124	P9-113129

Linemaster, is the global leader in manufacturing foot switches for medical and industrial applications. The world's best and largest original equipment manufacturers, turn to Linemaster for highly-engineered, custom, foot control products. Whether you need traditional, standard, custom, wireless, durable industrial, or medical-grade foot controls, Linemaster's experience and extensive capabilities, gives you a competitive edge.

In addition to its full-service custom foot switch operations, Linemaster offers more than 550 standard models, more than any other manufacturer, in the global marketplace. Linemaster aggressively develop and produce cutting-edge technologies, that meet and anticipate their customers' needs.

Many more models are available. Please contact us for more information.



Footswitch

Commercial Duty

Construction:

- Steel housing is painted black
- Two single models mounted on a twin base plate
- A divider bar between pedals, which helps prevent accidental operation of both switches, at one time in Twin models

Features & Benefits:

- Non-skid base pad and foot treadle pad
- 2 Holes provided for rigid mounting to floor or equipment
- The low profile and light pressure required to operate reduces operator fatigue



Part Number	Type	Dimensions	Switch Function	Switch circuit	Electrical Rating	IP rating
T-91-S	Single	89 x 66 x 21mm	Momentary	SPDT (NO / NC)	250V AC 15A	IP20
Twin T-91-S	Twin	200 x 141 x 35mm	2 x Momentary	2 x SPDT (NO / NC)	250V AC 15A	IP20
Twin HT-52-S	Twin	138 x 90 x 38mm	2 x Momentary	2 x SPDT (NO / NC)	250V AC 15A	IP20

Construction:

- Mounted in a chrome plated heavy zinc die cast housing
- A full nonskid base pad
- A special vinyl cover gives added environmental protection against limited amounts of water and dirt (VK)
- The dip molded cover, is bonded to the vinyl base pad of the foot switch

Features & Benefits:

- Features a round black actuating cap
- Moderate pressure from any direction operates the switch
- Supplied with 3 core 1.8m prewired lead (bare ends/no plug)
- Wired normally open and grounded
- Ease of operation with foot or hand



Part Number	Type	Dimensions	Switch Function	Switch circuit	Electrical Rating	IP rating
GEM-V36	Single	96 x 33mm	Momentary	SPST (NO)	250V AC 10A	IP20
GEM-VK36	Single	101 x 39mm	Momentary	SPST (NO)	250V AC 10A	IP21

Construction:

- Cover is a medium gray Die Cast Zinc material
- Mechanical Interlock—prevents both circuits from being operated at the same time

Features & Benefits:

- Non-skid Base pad
- Both sides can be wired normally open or normally closed
- All wiring connections are made internally, with only a single cord being brought out



Part Number	Type	Dimensions	Switch Function	Switch circuit	Electrical Rating	IP rating
72	Twin Rocker	138 x 90 x 38mm	2 x Momentary	2 x SPDT (NO / NC)	250V AC 10A	IP21

Footswitch

Medium Duty

Construction:

- Cover is molded from medium gray, high impact polymeric material
- Base and treadles are made of a die cast zinc
- This multi-pedal foot switch, should be considered when function, good looks and economy are required
- A Non-skid base pad provides secure placement

Features & Benefits:

- It incorporates a unique building block approach, that allows the use of up to four basic SPDT snap switches The cover tapers close to the floor in the front, with a full five inches between the side treadle bars
- Supplied with internal adjustable Strain Relief for cable



Part Number	Type	Dimensions	Switch Function	Switch circuit	Electrical Rating	IP rating
68-S3	Twin	174 x 143 x 42mm	Momentary	2 x SPDT (NO / NC)	250V AC 10A	IP21

Construction:

- Rustproof and corrosion proof polymeric material
- Raised ribs on treadle for positive traction during operation
- Integrated adjustable strain relief clamp accommodates cord size from .250" Dia. to .400" Dia

Features & Benefits:

- Flame retardant to 94-VI
- Maximum versatility, total performance
- Non-skid base pad
- 2 holes provided for rigid mounting to Floor or equipment



Part Number	Type	Dimensions	Switch Function	Switch circuit	Electrical Rating	IP rating
971-S	Single (Plastic)	101 x 87 x 29mm	Momentary	SPDT (NO / NC)	250V AC 15A	IP20
971-SWNO210	Single (Plastic-3mtr lead)	101 x 87 x 29mm	Momentary	SPDT (NO / NC)	25V AC 3A	IP20
971-SM	Single (Metal)	101 x 87 x 29mm	Momentary	SPDT (NO / NC)	250V AC 15A	IP20

Construction:

- Cast aluminum body and treadle, with steel base plate and nonskid base pad
- Single 3/4"-14 N.P.T. threaded conduit entry is standard

Features & Benefits:

- Single stage momentary contact
- 2 holes provided for rigid mounting to floor or equipment



Part Number	Type	Dimensions	Switch Function	Switch circuit	Electrical Rating	IP rating
78SN2	Single	150 x 82 x 55mm	Momentary	DPDT (NO / NC)	250V AC 20A	IP56

Construction:

- Constructed of cast aluminum cover and base
- Provided with a reversible strain relief clamp, that accommodates a wide range of cable sizes
- Painted black

Features & Benefits:

- The low, sleek styling of this model reduces operator fatigue
- Non-skid base pads



Part Number	Type	Dimensions	Switch Function	Switch circuit	Electrical Rating	IP rating
09ASAC-10K	Single (1.8mtr cable)	106 x 115 x 247mm	2 watt potentiometer	10 kΩ	250V AC 15A	IP56

Footswitch

Medium Duty

Construction:

- Constructed of Cast Iron for long life
- Non-skid base pad
- Adjustable Strain relief connector
- Durable black finish
- Divider Bar on Twin Model

Features & Benefits:

- Proven Reliability
- 2 holes provided for rigid mounting to floor or equipment



Part Number	Type	Dimensions	Switch Function	Switch circuit	Electrical Rating	IP rating
632-S	Single	115 x 87 x 45mm	Momentary	SPDT (NO / NC)	250V AC 20A	IP20
635-S	Single	115 x 87 x 45mm	Momentary	DPDT (NO / NC)	250V AC 10A	IP20
Twin 632-S	Twin	212 x 115 x 45mm	Momentary	SPDT (NO / NC)	250V AC 20A	IP20
522N30		120 x 92.5 x 5.25mm	Plastisol PVC Protective Boot in Orange. Suits Single Footswitch.			
522N30-1		120 x 92.5 x 5.25mm	Plastisol PVC Protective Boot in Black. Suits Single Footswitch.			

Construction:

- Constructed of Cast Iron for long life
- Non-skid base pad
- Adjustable Strain relief connector
- Durable black finish
- Model 642-DA can be used to control lighting

Features & Benefits:

- Proven Reliability
- All maintained models offer "Push On-Push Off" action, that insures long trouble-free performance
- 2 holes provided for rigid mounting to floor or equipment



Part Number	Type	Dimensions	Switch Function	Switch circuit	Electrical Rating	IP rating
642-S	Single	177 x 139 x 45mm	Momentary	SPDT (NO / NC)	250V AC 20A	IP20
642-DA	Single	177 x 139 x 45mm	Maintained	SPDT (NO / NC)	250V AC 20A	IP20

Construction:

- Constructed of cast aluminum cover and base
- Provided with a reversible strain relief clamp that accommodates a wide range of cable sizes
- Painted black

Features & Benefits:

- The low, sleek styling of this model reduces operator fatigue
- Non-skid base pads



Part Number	Type	Dimensions	Switch Function	Switch circuit	Electrical Rating	IP rating
121-S	Single	140 x 82 x 37.5mm	Momentary	SPDT (NO / NC)	250V AC 20A	IP20

Construction:

- One Piece Cast Aluminum Housing Single Stage Momentary Contact
- Aluminum baseplate on unguarded models
- Single Pedal 1/2"-14 N.P.T. Threaded Conduit Opening is Standard

Features & Benefits:

- Non-skid Feet to minimize movement
- 4 holes provided for rigid mounting to floor or equipment
- Heavy Gauge Steel Full Guard painted Alert Orange Covering Entire Foot Switch



Part Number	Type	Dimensions	Switch Function	Switch circuit	Electrical Rating	IP rating
88SH1	Single	177 x 152 x 114mm	Momentary	SPDT (NO / NC)	250V AC 16A	IP68

Footswitch

Heavy Duty

Construction:

- Treadle and housing constructed from cast iron, for strength and durability
- Protected by a strong cast aluminum Shield
- Painted Alert Orange
- Single 3/4"-14 N.P.T. threaded conduit entry is standard
- All models have a neoprene cover gasket, plus O-rings, on the activating shaft and a separate ground screw

Features & Benefits:

- Rugged cast metal enclosure has sufficient weight to keep the switch from sliding when being operated
- In all Maintained Contact models the release is accomplished by simply pressing the latch with a light forward movement of the toe. The release is placed under the Full Shield, so falling objects cannot easily release it
- 3 holes provided for rigid mounting to the floor or equipment



Part Number	Type	Dimensions	Switch Function	Switch circuit	Electrical Rating	IP rating
531-SWH	Single	228 x 149 x 111mm	Momentary	SPDT (NO / NC)	250V AC 20A	IP56
571-DWH	Single	228 x 149 x 111mm	Maintained	SPDT (NO / NC)	250V AC 20A	IP56

Construction:

- Treadle and housing constructed from cast aluminum, for environmental durability
- Painted Alert Orange
- Single PG 16 threaded conduit entry is standard
- Protected by a strong cast aluminum Shield
- Oversize "O" Shield models accept oversized safety shoes

Features & Benefits:

- Snap action - SPDT with forced disconnect (positive break) on NC contacts
- Direct PLC interface compatible (two-circuit bifurcated contact single-pole versions)
- Galvanically isolated bifurcated contacts - NO and NC circuits can be wired to different loads and polarities
- 3 holes provided for rigid mounting to the floor or equipment



Part Number	Type	Dimensions	Switch Function	Switch circuit	Electrical Rating	IP rating
936-SWH	Single	230 x 149 x 119mm	Momentary	SPDT (NO / NC)	300V AC 10A	IP68
936-SWH-O	Single	230 x 149 x 138mm	Momentary	SPDT (NO / NC)	300V AC 10A	IP68

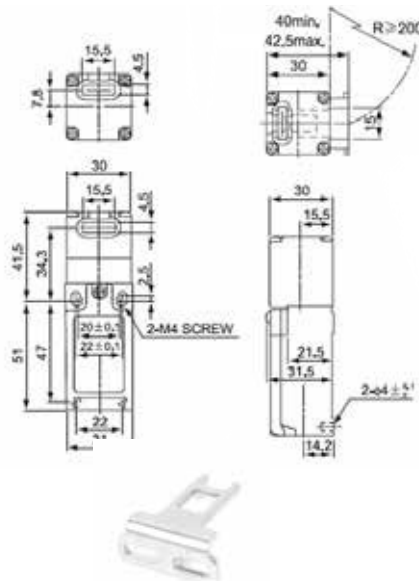
Interlock Switch

IP65, Key interlock, M20, 2 NC

Key interlock switch with right angle mount key. Head can be rotated for side actuation, and key can also be inserted in top of actuation head, allowing maximum mounting versatility.

Operating Specifications

Key plug in force	1500 gf
Key pull out force	3000 gf
Pre Travel	6 ± 3 mm
Total Travel	28 mm
Positive opening travel	10 mm



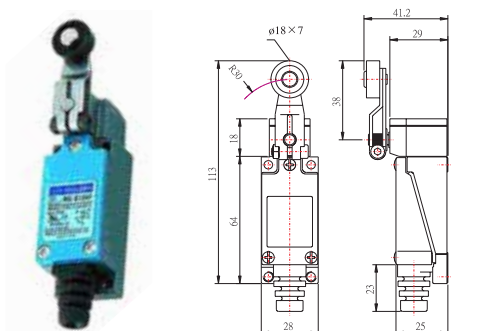
Part Number	Contacts
CZ-93BPM02	2 Normally Closed

Limit Switches - ME Series

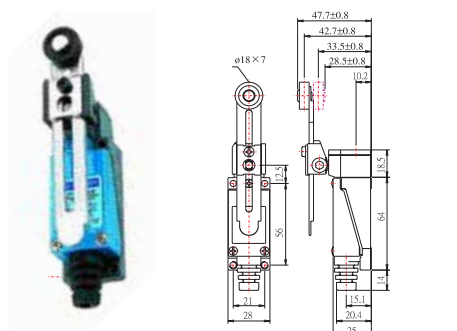
250V AC 5A, DPST, IP65, PBT, Zinc Alloy body, 1 NO + 1 NC, Snap-acting Switch

Rotary motion roller lever, and rod actuators, are adjustable through 360°. They may be set for operation clockwise, counter-clockwise, or in both directions.

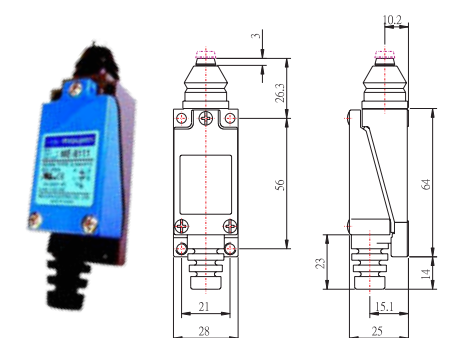
- Variety of operating characteristics
- Wide choice of heads and actuators
- Captive cover screws
- Dust proof, Oil-Tight, Water Resistant
- Temperature range -15° C to 70° C



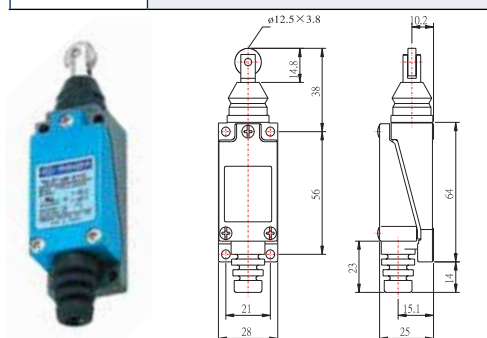
Part Number	Description
ME-8104	Roller Actuator



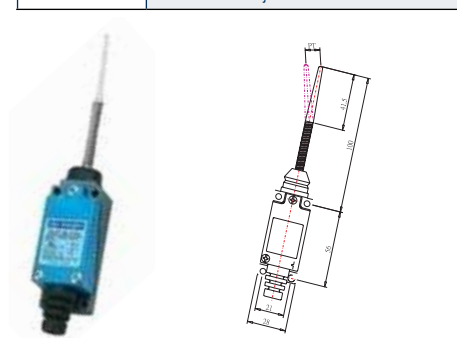
Part Number	Description
ME-8108	Adjustable Roller Actuator



Part Number	Description
ME-8111	Plunger Type Actuator



Part Number	Description
ME-8112	Roller Plunger Actuator



Part Number	Description
ME-8166	Flexible Rod Actuator

Limit Switches - MEA Series

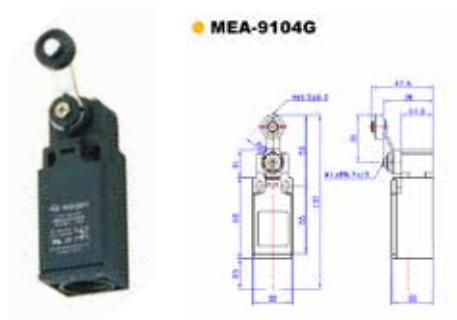
250V AC 6A, DPST, IP65, Light weight Plastic body, 1 NO + 1 NC, Snap-acting Switch

Rotary motion roller lever, and rod actuators, are adjustable through 360°. They may be set for operation clockwise, counter-clockwise, or in both directions. Operating heads, may be positioned in any of four 90° and four 45° positions.

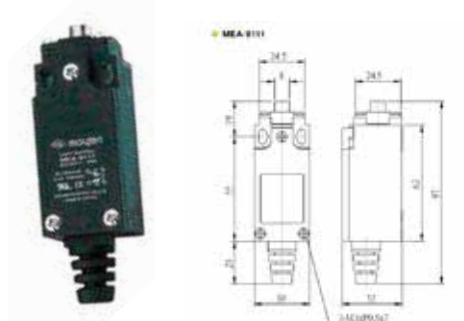
- Variety of operating characteristics
- Wide choice of heads and actuators
- Captive cover screws
- Total plastic enclosure, light weight switches
- Dust proof, Oil-Tight, Water Resistant
- Temperature range -15° C to 70° C



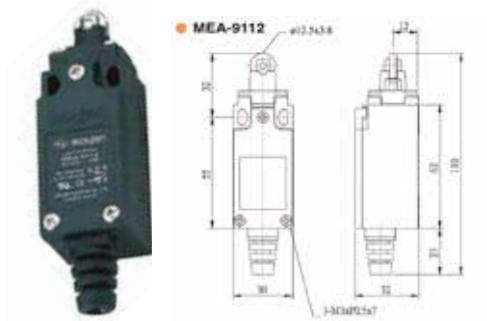
Part Number	Description
MEA-9104	Light Roller Arm



Part Number	Description
MEA-9104-G	Light Roller Arm without cable gland



Part Number	Description
MEA-9111	Light Plunger



Part Number	Description
MEA-9112	Light Roller Plunger



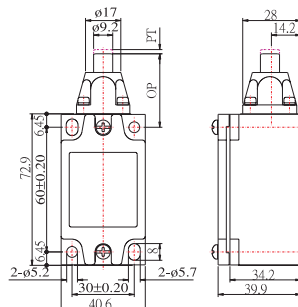
Part Number	Description
MEA-9161	Light Flexible Arm

Limit Switches - MJ Series

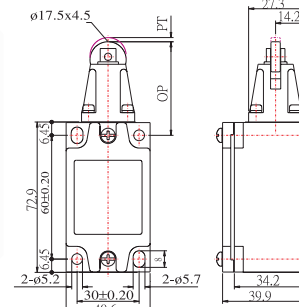
300V AC 10A, DPST, IP65, Aluminium Alloy body, 1 NO + 1 NC, Snap-acting Switch

The MJ series of limit switches from Moujen, feature a rigid diecast construction, and oil/water tight (IP67/ Nema4) housing, and operates in temperatures of -10 to +80 degrees Celsius. This rugged series, offers a wide choice of actuators and comes with 1/2" conduit entry. The double contacts, 1NO/1NC, are rated at 10A/250VAC.

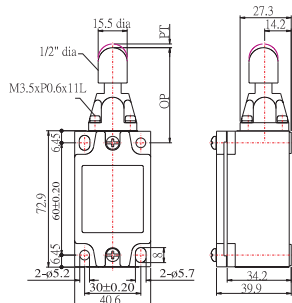
- Captive cover screws
- Dustproof. Oil-Tight, Water-Resistant
- Stainless steel essentials
- Temperature range -10° C to 80° C



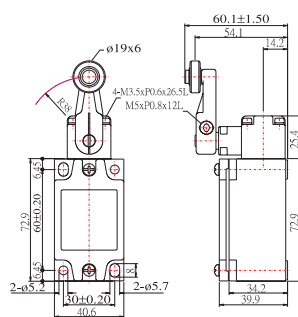
Part Number	Description
MJ-7301	Oil Tight Plunger Actuator



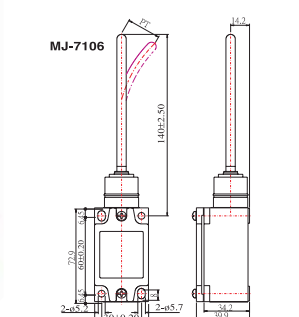
Part Number	Description
MJ-7302	Oil Tight Roller Plunger Actuator



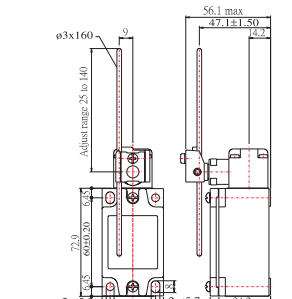
Part Number	Description
MJ-7303	Oil Tight Ball Plunger Actuator



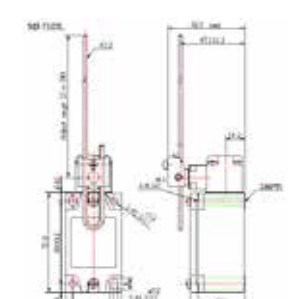
Part Number	Description
MJ-7304-26	Oil Tight Large Roller Actuator



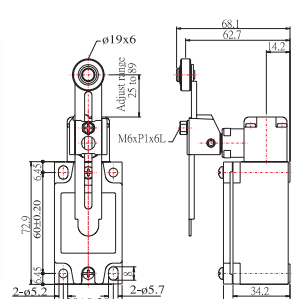
Part Number	Description
MJ-7306	Oil Tight Spring Arm Actuator



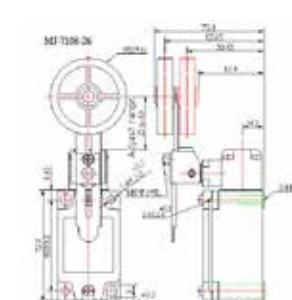
Part Number	Description
MJ-7307	Oil Tight Adjustable Rod Actuator



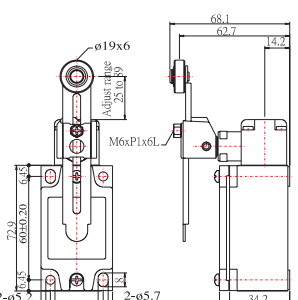
Part Number	Description
MJ-7307L	Oil Tight Extra Long Rod Actuator



Part Number	Description
MJ-7308	45° Oil Tight Adjustable Roller Lever



Part Number	Description
MJ-7308-26	Oil Tight Adj. Large Roller Actuator



Part Number	Description
MJ-7408	90° Oil Tight Adjustable Roller Lever

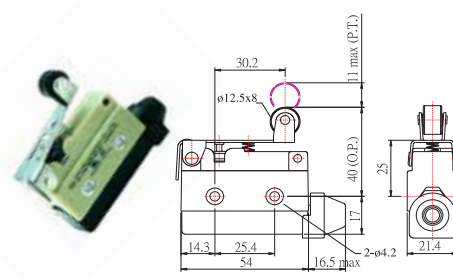
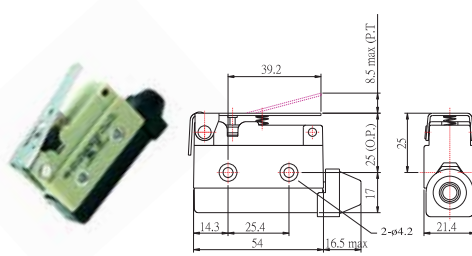
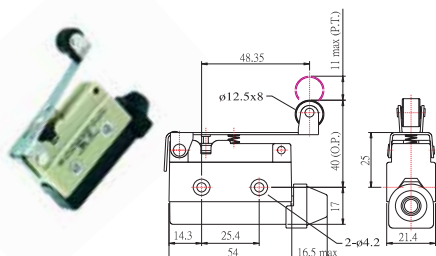
Many more shapes and sizes are available. If you can't find what you need, please call, as we can provide a far greater range than what appears in this catalogue.



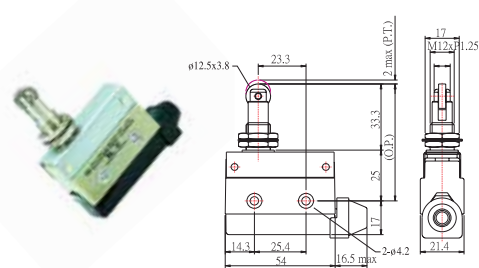
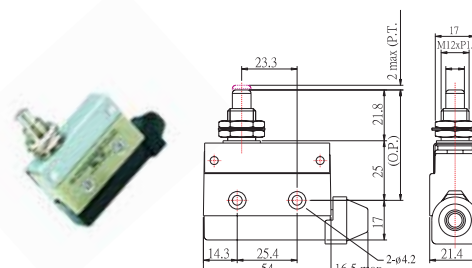
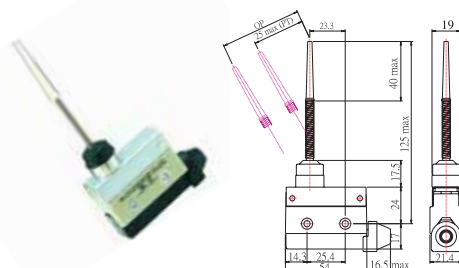
250V AC 10A, SPDT, IP65, PBT, Phenolic & Steel body, Snap-acting Switch

-

Part Number	Description
MN-5120	Lever Actuator

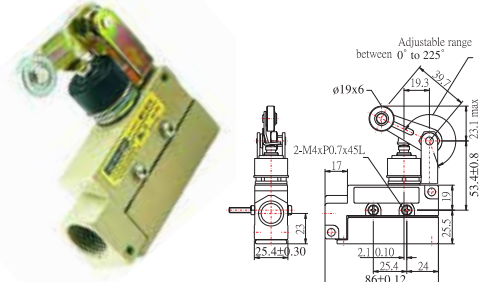
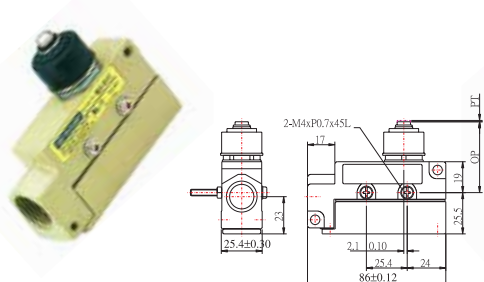
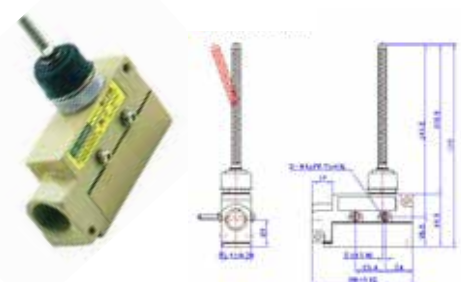


Part Number	Description
MN-5141	Roller Lever Actuator



Part Number	Description
MN-5311	Roller Plunger Actuator

250V AC 15A, SPDT, IP65, Aluminium Alloy & PBT body, Snap-acting Switch



Part Number	Description
MJ1-6114	Roller Actuator

Single tier feed through terminals

Screw Connection



One of the most cutting-edge, screw connection terminal systems, currently available on the market, the CONTA-CLIP SRK series, combines all crucial innovations, in the field of electric terminal blocks, and satisfies even the most demanding quality requirements, regarding stability, safety and easy handling.

The series includes SRK feed-through terminals, and SSL protective earth terminals, in single and double level versions, as well as SSIK fuse disconnect terminals. A very versatile range of accessories is available for all terminal types.



		2.5mm²	4mm²	6mm²	10mm²	16mm²
Ratings	Rated Voltage (IEC)	1000V	1000V	1000V	1000V	1000V
	Rated Current	24A	32A	41A	57A	76A
	Maximum Current	32A	41A	57A	76A	101A
Conductor size	Solid/Stranded	0.2-4mm²	0.2-6mm²	0.2-10mm²	0.2-16mm²	1.5-25mm²
	Flexible					1-25mm²
	Flexible with ferrules	0.2-2.5mm²	0.2-4mm²	0.2-6mm²	0.2-10mm²	1-16mm²
Colour	Beige	17100.2	17104.2	17108.2	17112.2	17124.2
	Blue	17100.5	17104.5	17108.5	17112.5	17124.5
	Red	17100.9	17104.9	17108.9		17124.9
	White	17100.7	17104.7			
	Black	17100.4	17104.4			
Plates	End Plate	2001.2	2001.2	2001.2	2001.2	17254.2
	Partition	2002.2	2002.2	2002.2	2002.2	
Jumpers (cuttable to desired length)	2 pole Insulated	17201.8	17211.8	17221.8	17231.8	17247.8
	10 pole Insulated	17209.8	17219.8	17229.8	17239.8	
	30 pole Insulated	17210.8	17220.8	17230.8	17240.8	
End cap for cut insulated jumpers		17200.8	17200.8	17200.8	17200.8	



		35mm²	50mm²	70mm²	120mm²
Ratings	Rated Voltage (IEC)	1000V	1000V	1000V	1000V
	Rated Current	125A	150A	192A	269A
	Maximum Current	150A	192A	232A	290A
Conductor size	Solid/Stranded	1.5-50mm²	10-70mm²	10-95mm²	16-150mm²
	Flexible		10-50mm²	10-70mm²	16-120mm²
	Flexible with ferrules	1.5-35mm²	10-50mm²	10-70mm²	16-95mm²
Colour	Beige	17140.2	17156.2	17161.2	17165.2

Earth terminals

Screw Connection



		4mm²	6mm²	10mm²	16mm²	35mm²
Conductor size	Solid/Stranded	0.2-6mm²	0.2-10mm²	0.2-16mm²	1.5-25mm²	1.5-50mm²
	Flexible				1-25mm²	
	Flexible with ferrules	0.2-4mm²	0.2-6mm²	0.2-10mm²	1-16mm²	1.5-35mm²
Colour	Green/Yellow	17107.2	17111.2	17115.2	17130.2	17145.2
End Plate		2001.1	2001.1	2001.1	17254.1	

Multi-tier feed through terminals

Screw Connection

*More 3 tier initiator terminals available on next page



		2.5mm² Triple*	2.5mm² Double	4mm² Double	10mm² Double
Ratings	Rated Voltage (IEC)	250V	1000V	1000V	1000V
	Rated Current	24A	24A	32A	57A
	Maximum Current		32A	41A	76A
Conductor size	Solid/Stranded	0.2-4mm²	0.2-4mm²	0.2-6mm²	0.2-16mm²
	Flexible				
	Flexible with ferrules	0.2-2.5mm²	0.2-2.5mm²	0.2-4mm²	0.2-10mm²
Colour	Beige	2268.2	17180.2	17185.2	17190.2
End Plate		2699.2	17292.2	17292.2	17293.2
Jumpers (cuttable to desired length)	2 pole Insulated		17201.8	17211.8	17231.8
	10 pole Insulated		17209.8	17219.8	17239.8
	30 pole Insulated		17210.8	17220.8	17240.8
	10 pole uninsulated	2425.0			
	98 pole uninsulated	2151.0			
End cap for cut insulated jumpers			17200.8	17200.8	17200.8



		2.5mm² Triple w/ earth	2.5mm² Double	4mm² Double	10mm² Double
Ratings		As above	As above	As above	As above
Conductor size					
Colour	Beige/Earth	1425.2	17182.2	17187.2	17192.2
End Plate		2862.2	17292.1	17292.1	17293.1
10 pole Insulated jumper		2141.0	17209.8	17219.8	17239.8

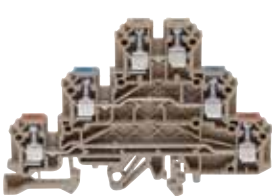
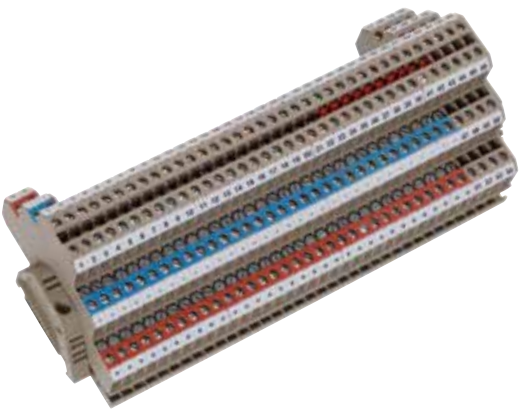
Initiator terminals
Screw Connection



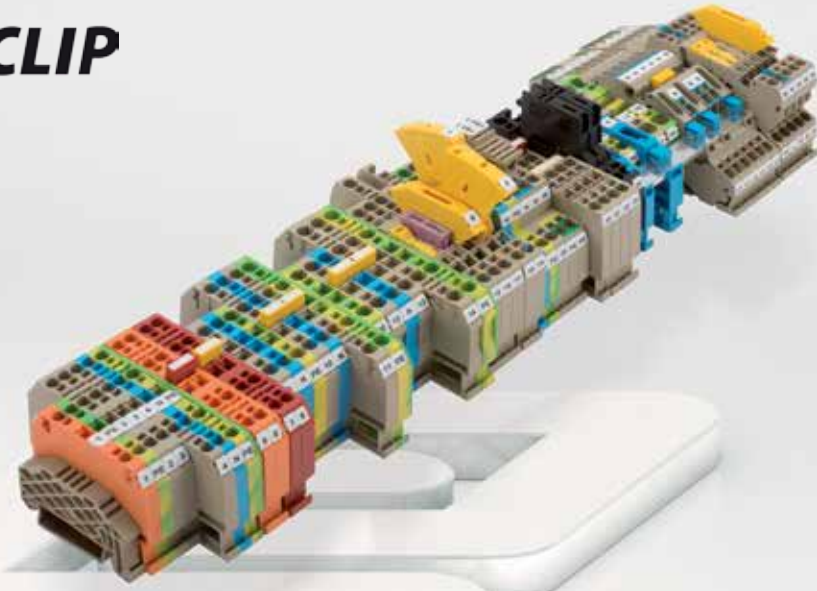
In the field of machinery construction, inductive/capacitive proximity switches, and diffuse reflection sensors, are being increasingly used, for contactless switching purposes. These sensors are mostly designed for three-wire systems: plus and minus wires, for the power supply, and a third wire for switching signals.

In order to ensure the proper overview of wiring, and also to help you save time and space during your work, CONTA-CLIP offers a 5mm thin initiator terminal with a screw connection – the IK 2.5. This product combines all of the connections found in an initiator, or an actuator into a single terminal.

When combined with the IKD 2.5 power supply terminal, it is possible to connect the terminal strip, of the IK 2.5 initiator terminals, to the power supply without any loss of poles.



2.5mm² Triple - IKD 2.5			2.5mm² Triple - IK 2.5		
Ratings	Rated Voltage (IEC)	250V	250V		
	Rated Current	24A	24A		
Conductor size	Solid/Stranded	0.2-4mm²	0.2-4mm²		
	Flexible				
	Flexible with ferrules	0.2-2.5mm²	0.2-2.5mm²		
Colour	Beige	2269.2	1260.2		
End Plate		2699.2	2698.2		
Jumpers	10 pole uninsulated	2425.0	2425.0		
	98 pole uninsulated	2151.0	2151.0		



Spring Clamp feed through terminals

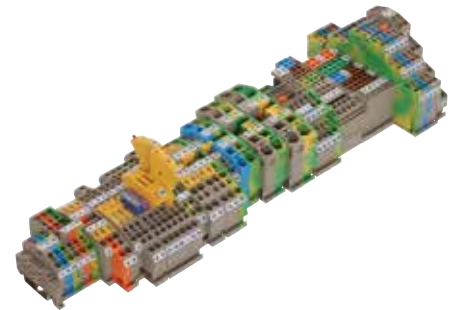
Tension Spring Connection



CONTA-CLIP, offers an innovative product line, featuring the proven tension-spring connection system, for the smallest cross-sections, ranging from 0.2mm² to 16mm². This includes feed through, and protective earth terminal, disconnect terminals, fused terminals, actuator terminals, sensor terminals, motor connection terminals, and direct mounting terminals.

The tension-spring top mechanism, provides safe and quick connections, for solid and stranded wires, with or without wire-end ferrules. The protective-earth terminals, feature a PE foot contact, that is snapped on, ensuring mechanical and electrical safety. The PE foot contact is on both sides of the PE terminals, and can be snapped on to the DIN rail, with no screws.

Our well-designed line of accessories, allows you to significantly reduce your installation and storage costs. You can multiply voltage potentials, with the ZQI pluggable potential distribution systems - both horizontally, and vertically across tiers. All of the insulating materials, used in this product line are free of pollutants. They also comply with flammability class V0, (self- extinguishing), according to UL 94.



2.5mm² Single Tier



2.5mm² Double Deck



4mm² Single Tier

Ratings	Rated Voltage (IEC)	800V	500V	800V
	Rated Current	24A	24A	32A
Conductor size	Solid/Stranded	0.5-4mm ²	0.5-4mm ²	0.5-6mm ²
	Flexible with ferrules	0.5-2.5mm ²	0.5-2.5mm ²	0.5-4mm ²
Colour	Beige	3500.2	3562.2	3515.2
Plates	End Plate	3700.2	3756.2	3703.2
Jumpers	2 pole Insulated	3710.8	3710.8	3720.8
	10 pole Insulated	3718.8	3718.8	3728.8
	Vertical (tiers)		3744.2	



6mm² Single Tier



10mm² Single Tier



4mm² Earth

Ratings	Rated Voltage (IEC)	1000V	1000V	
	Rated Current	41A	57A	
Conductor size	Solid/Stranded	0.5-10mm ²	0.2-16mm ²	0.5-6mm ²
	Flexible with ferrules	0.5-6mm ²	0.2-10mm ²	0.5-4mm ²
Colour	Beige	3581.2	3597.2	3525.2
Plates	End Plate	3760.2	3788.2	3703.1
Jumpers	2 pole Insulated	3763.8	3789.8	
	10 pole Insulated	3771.8		

Fused and Disconnect terminals

Screw Connection



The STK 1 and STK D1 fuse-disconnect terminals, feature a compact shape, so they take up minimal space. The hinged lever, is used to hold the fuse, and locks into its open position. LED status displays, are available for a variety of voltage ranges.

The fuse-disconnect terminals SSIK, feature an extraction lever, that locks into its end position and allows a spare fuse to be attached from the side. Two cross-connection channels, within the fuse-disconnect terminals, allow for potentials to be distributed to adjacent fused and feed-through terminals, from the SRK series, using the standard 4mm² jumper bars. Two or three pole extraction levers, can be coupled, and operated simultaneously by using the VBS connection sleeves. They are available with or without a status display, whereby the display can be retro-fitted onto the base terminal, at a later point in time.

The black fuse holders listed below, have an extended temperature range up to 140°C



4mm² fuse terminal (STK 1)

4mm² fuse terminal
w/- feed through (STK D1)

6mm² fuse terminal (SSIK)

Ratings	Rated Voltage (IEC)	400V	400V	500V
	Rated Current	6.3A	6.3A	10A
Fuse size		5x20	5x20	5x20
Conductor size		0.2-4mm ²	0.2-4mm ²	0.14-6mm ²
Colour	Beige	2190.2	1079.2	
	Black			17150.4
2 pole VBS connection sleeve		2873.3	2873.3	2873.3
3 pole VBS connection sleeve		2874.3	2874.3	2874.3
30 pole Insulated Jumper bar				17220.8
End Plate		2046.2	2187.2	17258.4



10mm² fuse terminal

10mm² fuse terminal

4mm² Disconnect Terminal

Ratings	Rated Voltage (IEC)	400V	400V	400V
	Rated Current	10A	10A	10A
Fuse size		5x20	6.3x32	5x20
Conductor size		0.2-10mm ²	0.2-10mm ²	0.2-4mm ²
Colour	Beige			1390.2
	Black	1367.4	17041.4	
End Plate		2047.4	Not required	

Din Rail and Accessories

Supplied in 2 metre lengths



Description	TS35 x 7.5	Plastic clip-on end bracket	Plastic screw-on end bracket	Metal foot screw-on end bracket
Part Number	4563.0	3748.2	2005.2	2828.0

Single Markers

Supplied as 1 x strip of 10 characters

The AS 3/10, are suitable for labelling all terminal blocks, end stops or marker holders wider than 5 mm. The compact shape, and one-character inscription, allow the printed standard tags, to be put together in any combination. Two or four tags, (depending on the terminal block or end stop), can be attached to a single terminal.

Material: Polyamide 6.6 UL 94-V2, halogen-free



Part Number	Marker
2573.0001	1
2573.0002	2
2573.0003	3
2573.0004	4
2573.0005	5
2573.0006	6
2573.0007	7
2573.0008	8
2573.0009	9
2573.0000	0
2571.0000	Blank

Part Number	Marker
2573.0200	A
2573.0201	B
2573.0202	C
2573.0203	D
2573.0204	E
2573.0205	F
2573.0206	G
2573.0207	H
2573.0208	I
2573.0209	J
2573.0210	K

Part Number	Marker
2573.0211	L
2573.0212	M
2573.0213	N
2573.0214	O
2573.0215	P
2573.0216	Q
2573.0217	R
2573.0218	S
2573.0219	T
2573.0220	U
2573.0221	V

Part Number	Marker
2573.0222	W
2573.0223	X
2573.0224	Y
2573.0225	Z
2573.0419	+
2573.0420	-
2571.1000	Green
2571.3000	Orange
2571.5000	Blue
2571.8000	Yellow
2571.9000	Red

Consecutive Numbering Markers

Supplied as 50x strips of 10 markers - 500 markers per pack

The SB 5 quick marking system, is suitable for labelling all CONTA-CLIP terminals, that are wider than 5 mm (2.5mm²).

Part Number	Marker
2431.0001	1-10
2431.0002	11-20
2431.0003	21-30

Part Number	Marker
2431.0004	31-40
2431.0005	41-50
2431.0006	51-60

Part Number	Marker
2431.0007	61-70
2431.0008	71-80
2431.0009	81-90

Part Number	Marker
2431.0010	99-100
2430.0000	Blank
2471.0004	L1,L2,L3,N PE*



The SB 6 quick marking system, is suitable for labelling all CONTA-CLIP terminals, that are wider than 6 mm (4mm²).

Part Number	Marker
2036.0001	1-10
2036.0002	11-20
2036.0003	21-30

Part Number	Marker
2036.0004	31-40
2036.0005	41-50
2036.0006	51-60

Part Number	Marker
2036.0007	61-70
2036.0008	71-80
2036.0009	81-90

Part Number	Marker
2036.0010	99-100
2035.0000	Blank
2040.0004	L1,L2,L3,N PE*



*PE = earth symbol

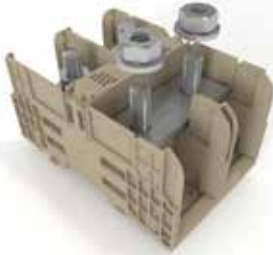
High Current terminals
Stud Connection, Din mount



The newest generation of stud terminals from CONTA-CLIP, offer secure connections, for all energy-transmitting applications. Depending on the wire cross-section, the HSKG stud terminals, can be used with M6, M8, M10, M12 and M16 threaded studs.

The rated current is from 125 A to 520 A, with a rated voltage of 1000 V. The wire connection range is from 2.5 mm² to 300 mm². Wires with crimped cable lugs, are applied to threaded bolts, and then connected securely to the busbar, by tightening the hex nut. Optimal security is guaranteed, by the low voltage drop, and by the use of self-extinguishing material, with a V0 (UL94) flammability rating.

When used together with the ADH hinged covers, the HSKG stud terminals provide outstanding finger and touch protection. The ADH cover is easy to mount; it simply snaps into the side walls of the stud terminals, as it is closed. In this quick and reliable way, touch-safe protection of the terminal points, is always guaranteed.



Conductor size	35mm²	70mm²	120mm²	185mm²	300mm²
Stud Size	M6	M8	M10	M12	M16
Rated Voltage	1000V	1000V	1000V	1000V	1000V
Rated Current	125A	192A	269A	353A	520A
Dimensions	107 x 27 x 51mm	132 x 32 x 61mm	133 x 42 x 72mm	288 x 55 x 90mm	288 x 55 x 90mm
Terminal	17170.2	17035.2	17023.2	17024.2	17027.2
Cover (yellow)	17275.8	17268.8	17025.8	17123.8	17123.8
2 pole jumper	17276.0	17269.0	17241.0	17243.0	17245.0
3 pole jumper	17277.0	17270.0	17242.0	17244.0	17246.0

Terminal Strips
With wire protection



The EKB variants cover a rated cross-section range from 1.5 to 10mm². They are available from 1 to 12 poles. An attachment hole is located between each of the poles, which guarantees proper mechanical alignment, during installation. The terminal housing is made from high-quality polyamide (PA 6.6 UL 94-V2).

Other sizes available upon request.

Part Number	Description
1817.0	1.5mm² 12 pole terminal strip with wire protection
1829.0	2.5mm² 12 pole terminal strip with wire protection
1841.0	4.0mm² 12 pole terminal strip with wire protection

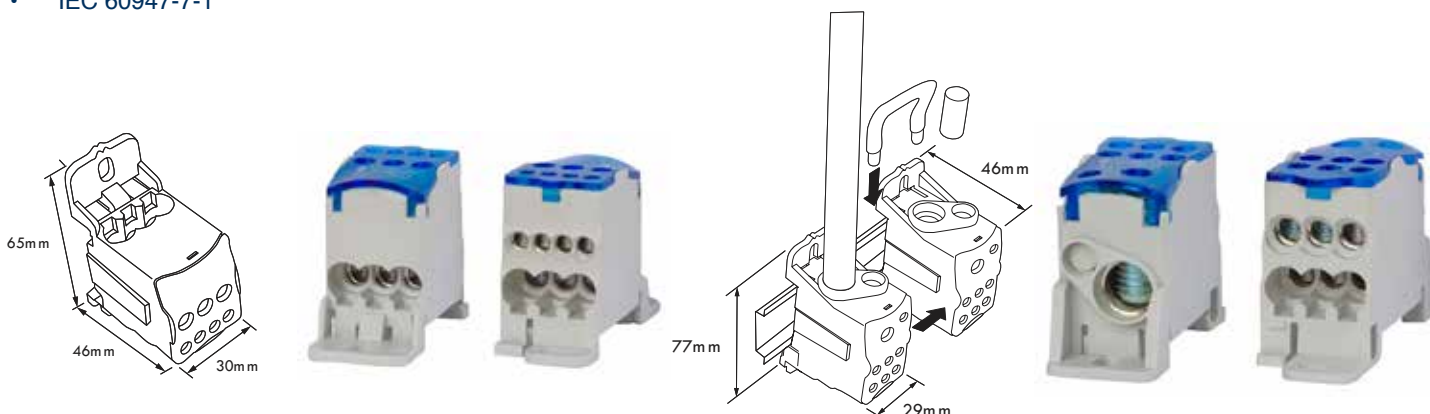


High current distribution blocks

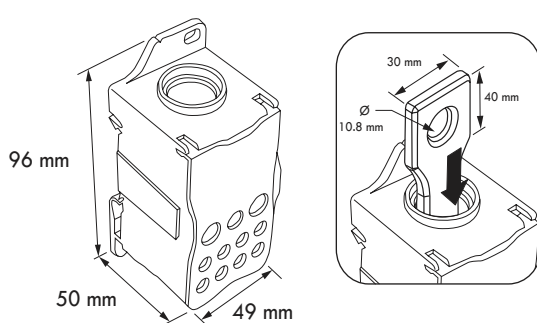
Tinned copper block, IP20 finger protection

A new generation of power distribution blocks, featuring tinned copper, and IP20 finger proof protection. These distribution blocks can be used as stand alone, or jumpered in parallel, to multiply the number of connection points. Busbar lugs, are also available for the larger current rating, distribution blocks.

- Space saving: compact
- Tinned copper block: high conductivity
- IP 20 protection/UL finger-safe: improved safety
- Cable fixing screw diameters >95% fill ratio: excellent electrical contact, safe connections
- Visual inspection of wire: confirmation of connection
- Hinged or removable cover: easy wiring
- Clip-on DIN rail or mount to panel with screws: easy fixing
- IEC 60947-7-1



Part Number	LK-80A	LK-160A
Current Rating	80A	160A
kA	22	30
Input (mm ²)	1x 6-16	1x 6-16 + 1x 10-35
Output (mm ²)	4x 2.5-6 + 2x 2.5-16	6x 2.5-16
Dimensions (mm)	65 x 46 x 30	77 x 46 x 29



Part Number	LK-250A	LK-400A
Current Rating	250A	400A
kA	51	51
Input (mm ²)	1x 35-120	1x 95-185
Output (mm ²)	2x 6-35 + 5x 2.5-16 + 4x 2.5-10	2x 6-35 + 5x 2.5-16 + 4x 2.5-10
Busbar Lug P/N	TF-250A	TF-400A
Dimensions (mm)	96 x 50 x 49	96 x 50 x 49

Voltage Monitoring

24-230V AC/DC Supply Voltage




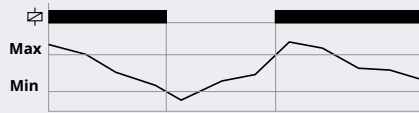
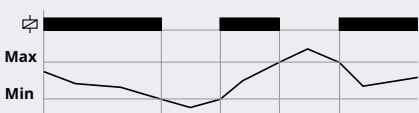
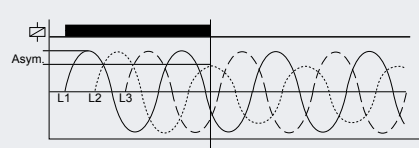
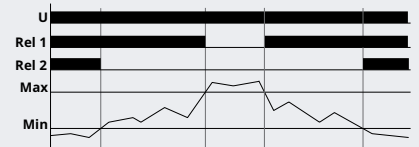
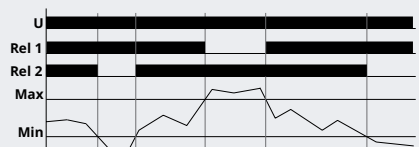

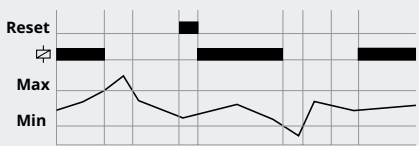
Function	Phase monitoring	3- phase AC voltage monitoring	1- phase AC/DC voltage monitoring	3- phase AC voltage monitoring
U ... Under		•	•	
W ... Window		•	•	
SEQ ... Phase sequence	•	•		•
Phase failure	•	•		•
ASYM ... Asymmetrie	•			•
Temperature monitoring (PTC)				•
Switching threshold				
Maximum	-	75 to 130% of U _N	80 to 115% of U _N	-
Minimum	-	70 to 125% of U _N	75 to 110% of U _N	-
Asymmetry	5 to 25%, OFF	-	-	5 to 25%, OFF
Measuring circuit				
Measuring variable	3~ AC Sinus	3~ AC Sinus	Voltage AC/DC AC Sinus	Temperature, Voltage 3~ AC Sinus
Measuring input	U _N = 208/120V to 480/277V AC	U _N = 400/230V AC	24V AC/DC; 230V AC	U _N = 208/120V to 480/277V AC
Supply circuit				
Supply voltage	= Measuring voltage 3~ 208/120V to 480/277V AC -10% to +10%	= Measuring voltage 3(N)~ 400/230V AC -35% to +35%	= Measuring voltage 24V AC/DC; 230V AC 24V: -30% to +30% 230V: -30% to +20%	= Measuring voltage 3~ 208/120V to 480/277V AC -10% to +10%
Frequency range	48–63 Hz	16.6–400 Hz	16.6–400 Hz or DC	48–63 Hz
Time circuits				
ON DELAY	approx. 400 ms	approx. 200 ms	approx. 300 ms	approx. 500 ms
Tripping delay (DELAY)	< 250 ms	0.1 – 10 s	0.1 – 10 s	approx. 250 ms
Output circuit				
Number of switch contacts	1 CO contact	1 CO contact	1 CO contact	2 CO contacts
Max. switching capacity	2000VA (8A / 250V AC)			
Design				
Dimensions (w x h x d)	22.5 x 67 x 76 mm	22.5 x 67 x 76 mm	22.5 x 67 x 76 mm	45 x 67 x 76mm
Certificates	CE, cULus, EAC			
Part Number	V2PF480Y/277VSY01	V2PM400Y/230VS10	V2UM230V10	V4PF480Y/277VSYTK02

Current & Temperature Monitoring

24-230V AC/DC Supply Voltage



Function	1-phase AC/DC current monitoring	1-phase AC/DC current monitoring	Temperature monitoring (PTC)
O ... Over	•	•	
U ... Under	•	•	
W ... Window	•	•	
2MAX ... Maximum monitoring		•	
MM ... Minimum and maximum monitoring		•	
LATCH ... Error memory		•	
Temperature monitoring (PTC)			•
Short circuit monitoring (PTC)			•
Switching threshold			
Maximum	10 to 100% of I _N	10 to 100% of I _N	≥ 3.6kΩ (switch-off resistance)
Minimum	5 to 95% of I _N	5 to 95% of I _N	≤ 1.6kΩ (switch-on resistance)
Measuring circuit			
Measuring variable	Current AC/DC AC Sinus	Current AC/DC AC Sinus	Temperature
Measuring input	10A AC/DC	100A AC/DC Built-in current transformer	-
Supply circuit			
Supply voltage	AC: 110 - 240V DC: 24 - 240V AC: -15% to +15% DC: -30% to +30%	24 - 240V AC/DC AC: -15% to +10% DC: -30% to +30%	24 – 240V AC/DC -15% to +10%
Frequency range	16.6 to 400Hz or DC	16.6 to 400Hz or DC	16.6 to 400Hz or DC
Time circuits			
ON DELAY	approx. 300 ms	approx. 300 ms	approx. 50 ms
Start-up surpression time (START)	-	0 – 10 s	-
Tripping delay (DELAY)	0.1 – 10 s	0.1 – 10 s	-
Output circuit			
Number of switch contacts	1 CO contact	2 CO contacts	1 NO contact
Max. switching capacity	2000VA (8A / 250V AC)		
Design			
Dimensions (w x h x d)	22.5 x 67 x 76 mm	45 x 67 x 76 mm	22.5 x 67 x 76 mm
Certificates	CE, cULus, EAC		
Part Number	V2IM10AL10	V4IM100AL20	V2TF01

O	OVER
	<p>If the measured value exceeds the adjusted MAX threshold, the output relay switches into off-position. The output relay switches into on-position again, as soon as the measured value falls below the adjusted MIN threshold.</p>
U	UNDER
	<p>If the measured value falls below the adjusted MIN threshold, the output relay switches into off-position. The output relay switches into on-position again, as soon as the measured value exceeds the adjusted MAX threshold.</p>
W	WINDOW
	<p>If the measured value falls below the adjusted MIN threshold, the output relay switches into off-position. The output relay switches into on-position again, as soon as the measured value exceeds the adjusted MIN threshold. If the measured value exceeds the adjusted MAX threshold, the output relay switches into off-position. The output relay switches into on-position again, as soon as the measured value falls below the adjusted MAX threshold.</p>
ASYM	ASYMMETRY MONITORING
	<p>If the asymmetry of the phase-to-phase voltages exceeds the value set at the ASYM-regulator, the output relay switches into off-position. If the neutral wire is connected to the device, the asymmetry of the phase voltages referred to the neutral wire (Y-voltage) is monitored also. In that case both values of the asymmetry are evaluated and if one of the values exceeds the value set at the ASYM-regulator, the output relay switches into off-position.</p>
2MAX	MAXIMUM MONITORING
	<p>If the measured value exceeds the adjusted MIN threshold, the output relay Rel2 switches into off-position. If the measured value exceeds the adjusted MAX threshold, the output relay Rel1 switches into off-position. The output relays Rel1 and Rel2 switch into on-position again, as soon as the measured value falls below the according adjusted threshold (MAX or MIN).</p>
MM	MINIMUM AND MAXIMUM MONITORING (MIN/MAX)
	<p>If the measured value falls below the adjusted MIN threshold, the output relay Rel2 switches into off-position. The output relay Rel2 switches into on-position again, as soon as the measured value exceeds the adjusted MIN threshold. If the measured value exceeds the adjusted MAX threshold, the output relay Rel1 switches into off-position. The output relay Rel1 switches into on-position again, as soon as the measured value exceeds the adjusted MIN threshold.</p>
TEMP	TEMPERATURE MONITORING
	<p>If the supply voltage U is applied and the cumulative resistance of the PTC-circuit is less than 3.6kΩ (standard temperature of the motor), the output relay R switches into on-position. When the cumulative resistance of the PTC-circuit exceeds 3.6kΩ, the output relay switches into off-position. The output relay switches into on-position again after the cumulative resistance falls below 1.6kΩ.</p>
LATCH	LATCH (ERROR MEMORY)
	<p>If the device detects a fault, the output relay only switches on again when the fault latch has been reset. The fault latch can be reset by means of an internal or external reset button or by interrupting the supply voltage.</p>

Analogue, Digital, single or multi-channel Schrack, have a time switch solution for you. Made in Germany, our Time switches have been designed and proven to last the test of time.

Din rail mountable, and modular in design, our time switch range, offers you an intuitive, and user friendly interface, and are packed with features. Model dependent, you can get up to 16A @ 250VAC, Multi-channel change over switching, 10 year battery back-up, 56 memories and more.

7 Day Digital Time Switch

10 year Li-Ion battery backup



Digital time switch, with 1 channel 7 day program. The BZT26440 has a power reserve of 10 years, with battery backup supplied by the built in Li-Ion battery. Spring Clamp Terminals.

- 10 year battery reserve
- Shortest switching time, 1 minute
- 230V AC 50-60 Hz
- 17.5mm wide
- Time accuracy, $\leq \pm 0.5$ s/day

Part Number	Memory Locations	Channels	Contacts
BZT26440	56	1	1 x NO

Day/Week Digital Time Switch

3 year battery backup



Digital time switch, with daily and weekly program. User interface with icons on the display. Screw terminals. Simplified summer-/winter time changeover.

- 3 year battery reserve
- Shortest switching time, 1 minute
- 230V AC 50-60 Hz
- 35mm wide
- Time accuracy, $\leq \pm 0.5$ s/day

Part Number	Memory Locations	Channels	Contacts
BZT28371	28	1	1 x Changeover
BZT28372	56	2	2 x Changeover

24 Hour Analogue Time Switch

Potential free, and phase independent



- Shortest switching time, 15 minutes
- 230V AC 50 Hz
- 17.5mm wide
- Synchronised with mains

Part Number	Switching segments	Channels	Contacts
BZT26448	96	1	1 x NO



- Shortest switching time, 30 minutes
- 230V AC 50 Hz
- 52.5mm wide
- Time accuracy, $\leq \pm 1$ s/day (quartz)

Part Number	Switching segments	Channels	Contacts
BZT26440	48	1	1 x Changeover

Multifunction Timer

6.2mm wide Din rail mountable multi-function timer

MFR-IRC timing relays, embody a new strategy for 6.2 mm coupling relays. It also features the innovative receptacle, for holding additional 5x20 mm SM-IRC fuse modules.

- Base terminal and pluggable relay
- Mounts on TS 35
- Multifunction timing relay with eight time functions, and four time ranges – configurable with DIP switch up to six hours
- Output fuse module for individual standard micro-fuse (5x20 mm) available as accessory
- Internal EMC coil circuitry and LED display
- Pluggable cross-connection (blue, black, red) makes installations easier
- Screw connection



Part Number	Contacts	Rated Current	Supply Voltage
16256.2	1 CO	6A	24V AC/DC

Time Delay Range



Functions without control input

(A) On Delay

The start is triggered, by applying the operating voltage (U). The relay switches to the working position, after the adjustable time delay.



(GI) Fixed pulse (0.5 s) delayed

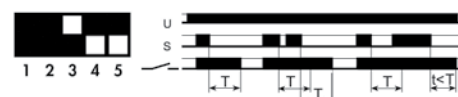
When the operating voltage (U) is applied, and the set delay time has expired, the relay switches for 0.5 seconds in the working position.



Functions with control input

(BE) OFF delay with control contact

The operating voltage (U) is connected. The relay switches immediately to the working position, when the start contact (S) is closed. The adjustable OFF delay begins when the start contact opens.



(DE) Impulse-ON with control contact

The operating voltage (U) is connected. The relay switches immediately to the working position, when the start contact (S) is closed. The adjustable Impulse-ON time begins when the start contact closes.



16 pole jumper	Blue	Black	Red
Part Number	16209.5	16209.4	16209.9



Accessories	Partition	Fuse Holder
Part Number	16228.2	16208.2

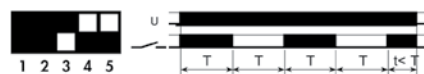
(DI) ON Pulse

The start is triggered, by applying the operating voltage (U). The relay switches immediately to the working position. The relay switches to the rest position, after the adjustable wipe time interval.



(SW) Blinker ON beginning

The relay switches to the working position, when the operating voltage (U) is applied. The relay switches to the rest position, after the pulse time interval, and then switches back to the working position (pulse time = pause time).



(CE) ON and OFF delay with control contact

The operating voltage (U) is connected. The start contact (S) closes. The relay switches to the working position, after the adjustable time delay. The relay switches to the rest position, after the start contact opens and the delay time has expired.



(EE) Impulse-OFF via opened start contact

The operating voltage (U) is connected. The relay switches immediately to the working position, when the start contact (S) opens. The adjustable impulse-OFF time begins when the start contact opens.



Multifunction Timer

Multifunction time relay with auto sensing input voltage

This unique din rail mountable, wide-voltage 12-240V AC/DC, Multi-function timer, will allow you to stock only one item, to perform up to 7 selectable functions. Modular in design at only 17.5mm wide, this small package has 7 time ranges from 1 second to 100 hours.

Functions

The function has to be set before connecting the relay to the supply voltage.

E	ON delay
R	OFF delay
Ws	Single shot leading edge with control input
Wa	Single shot trailing edge with control input
Wu	Single shot leading edge voltage controlled
Bp	Flasher pause first
Es *	ON delay with control input
F #	Toggle (Flip Flop)

* Only available on ZR5 version

Only available on ZRA version

Time ranges

Time range	Adjustment range
1s	50ms - 1s
10s	500ms - 10s
1min	3s - 1min
10min	30s - 10min
1h	3min - 1h
10h	30min - 10h
100h	5h - 100h

Indicators

Green LED U/t ON: indication of supply voltage
Green LED U/t flashes: indication of time period
Yellow LED R ON/OFF: indication of relay output



Part Number	Contact	Functions	Input voltage
ZR5MF011	1 x 8A CO (250V AC)	7 function	12 - 240 V AC/DC
ZRAMF011	1 x 5A CO (250V AC)	7 function	24-48 V DC 24-240 V AC

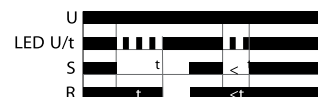
ON delay (E)

When the supply voltage U is applied, the set interval t begins (green LED U/t flashes). After the interval t has expired (green LED U/t illuminated) the output relay R switches into on-position (yellow LED illuminated). This status remains until the supply voltage is interrupted. If the supply voltage is interrupted before the expiry of the interval t, the interval already expired is erased and is restarted when the supply voltage is next applied.



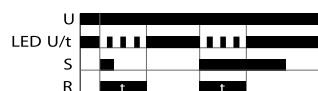
OFF delay (R)

The supply voltage U must be constantly applied to the device (green LED U/t illuminated). When the control contact S is closed, the output relay R switches into on-position (yellow LED illuminated). If the control contact is opened, the set interval t begins (green LED U/t flashes). After the interval t has expired (green LED U/t illuminated) the output relay switches into off-position (yellow LED not illuminated). If the control contact is closed again before the interval t has expired, the interval already expired is erased and is restarted.



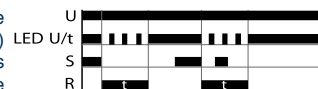
Single shot leading edge with control input (Ws)

The supply voltage U must be constantly applied to the device (green LED U/t illuminated). When the control contact S is closed, the output relay R switches into on-position (green LED U/t illuminated) and the set interval t begins (green LED U/t flashes). After the interval t has expired (green LED U/t illuminated) the output relay switches into off-position (yellow LED not illuminated). During the interval, the control contact can be operated any number of times. A further cycle can only be started when the cycle run has been completed.



Single shot trailing edge with control input (Wa)

The supply voltage U must be constantly applied to the device (green LED U/t illuminated). Closing the control contact S has no influence on the condition of the output R. When the control contact is opened, the output relay switches into on-position (yellow LED illuminated) and the set interval t begins (green LED U/t flashes). After the interval t has expired (green LED U/t illuminated), the output relay switches into off-position (yellow LED not illuminated). During the interval, the control contact can be operated any number of times. A further cycle can only be started when the cycle run has been completed.



ON delay with control input (Es)

The supply voltage U must be constantly applied to the device (green LED U/t illuminated). When the control contact S is closed, the set interval t begins (green LED U/t flashes). After the interval t has expired (green LED U/t illuminated) the output relay R switches into on-position (yellow LED illuminated). This status remains until the control contact is opened again. If the control contact is opened before the interval t has expired, the interval already expired is erased and is restarted with the next cycle.



Single shot leading edge voltage controlled (Wu)

When the supply voltage U is applied, the output relay R switches into on-position (yellow LED illuminated) and the set interval t begins (green LED U/t flashes). After the interval t has expired (green LED U/t illuminated) the output relay switches into off-position (yellow LED not illuminated). This status remains until the supply voltage is interrupted. If the supply voltage is interrupted before the interval t has expired, the output relay switches into off-position. The interval already is erased and is restarted when the supply voltage is next applied.



Flasher pause first (Bp)

When the supply voltage U is applied, the set interval t begins (green LED U/t flashes). After the interval t has expired, the output relay R switches into on-position (yellow LED illuminated) and the set interval t begins again. After the interval t has expired, the output relay switches into off-position (yellow LED not illuminated). The output relay is triggered at a ratio of 1:1 until the supply voltage is interrupted.



SKB iSeries, Injection Molded Mil-Standard Waterproof Cases, are molded of ultra high-strength polypropylene copolymer resin, featuring a gasketed, water and dust tight, submersible design, (MIL-C-4150J), that is resistant to corrosion and impact damage. Features a molded-in hinge, patented trigger release latch system, comfortable, snap-down rubber over-molded cushion grip handle, automatic ambient pressure equalization valve (MIL-STD-648C), resistance to UV, solvents, corrosion, fungus, and impact damage (MIL-STD-810F).

All SKB Cases carry a lifetime warranty!

3i Series Cases
Injection Molded

Empty Case				Cubed foam interior			
Part Number	Height (mm)	Width (mm)	Depth (mm)	Part Number	Height (mm)	Width (mm)	Depth (mm)
3i-0907-6B-E	238	187	155	3i-0907-6B-C	238	187	155
3i-0907-4B-E	241	187	104	3i-0907-4B-C	241	187	104
3i-1209-4B-E	304	228	114	3i-1209-4B-C	304	228	114
3i-1510-6B-E	381	263	152	3i-1510-6B-C	381	263	152
3i-1610-5B-E	406	254	139	3i-1610-5B-C	406	254	139
3i-1711-6B-E	432	292	152	3i-1711-6B-C	432	292	152
3i-1813-5B-E	470	330	120	3i-1813-5B-C	470	330	120
3i-1813-7B-E	470	330	177	3i-1813-7B-C	470	330	177
3i-1914N-8B-E	483	368	200	3i-1914N-8B-C	483	368	200
3i-2011-8B-E	517	290	209	3i-2011-8B-C	517	290	209
3i-2015-7B-E	520	393	190	3i-2015-7B-C	520	393	190
3i-2217-8B-E	558	430	203	3i-2217-8B-C	558	430	203

Dimensions are internal

3i Series Cases with Pull Handle & Wheels

Injection Molded



Empty Case

Part Number	Height (mm)	Width (mm)	Depth (mm)
3i-1914-8B-E	483	365	200
3i-2011-7B-E	517	290	190
3i-2015-10B-E	520	393	254
3i-2217-10B-E	559	430	254
3i-2217-12B-E	559	430	322
3i-2222-12B-E	572	572	317
3i-2317-14B-E	584	430	355
3i-2617-12B-E	662	432	305
3i-2918-10B-E	736	457	275
3i-2918-14B-E	736	457	355
3i-4214-5B-E	1079	368	140
3i-5014-6B-E	1282	368	152

Foam interior

Part Number	Height (mm)	Width (mm)	Depth (mm)	Foam
3i-1914-8B-C	483	365	200	Cubed
3i-2011-7B-C	517	290	190	Cubed
3i-2015-10B-C	520	393	254	Cubed
3i-2217-10B-C	559	430	254	Cubed
3i-2217-12B-C	559	430	322	Cubed
3i-2222-12B-C	572	572	317	Cubed
3i-2317-14B-C	584	430	355	Cubed
3i-2617-12B-C	662	432	305	Cubed
3i-2918-10B-C	736	457	275	Cubed
3i-2918-14B-C	736	457	355	Cubed
3i-4214-5B-L	1079	368	140	Layered
3i-5014-6B-L	1282	368	152	Layered

Dimensions are internal

Watertight/dustproof design using tongue & groove construction, and a replaceable o-ring seal, to achieve an IP-67 rated protective case.

Ultimate impact strength polypropylene co-polymer, provides unsurpassed protection and is lighter, while being multiple times stronger, than the competition.

Automatic ambient pressure equalization valve, allows case to "Free Breathe" and equalize pressures, caused by altitude or temperature change while keeping water molecules out, even when submersed.

Patented "Trigger Latches" stay closed until you want them opened. Key locking "TSA" accepted versions are available

Extra wide lift/carry handle for comfortable balance/ two hand lift.

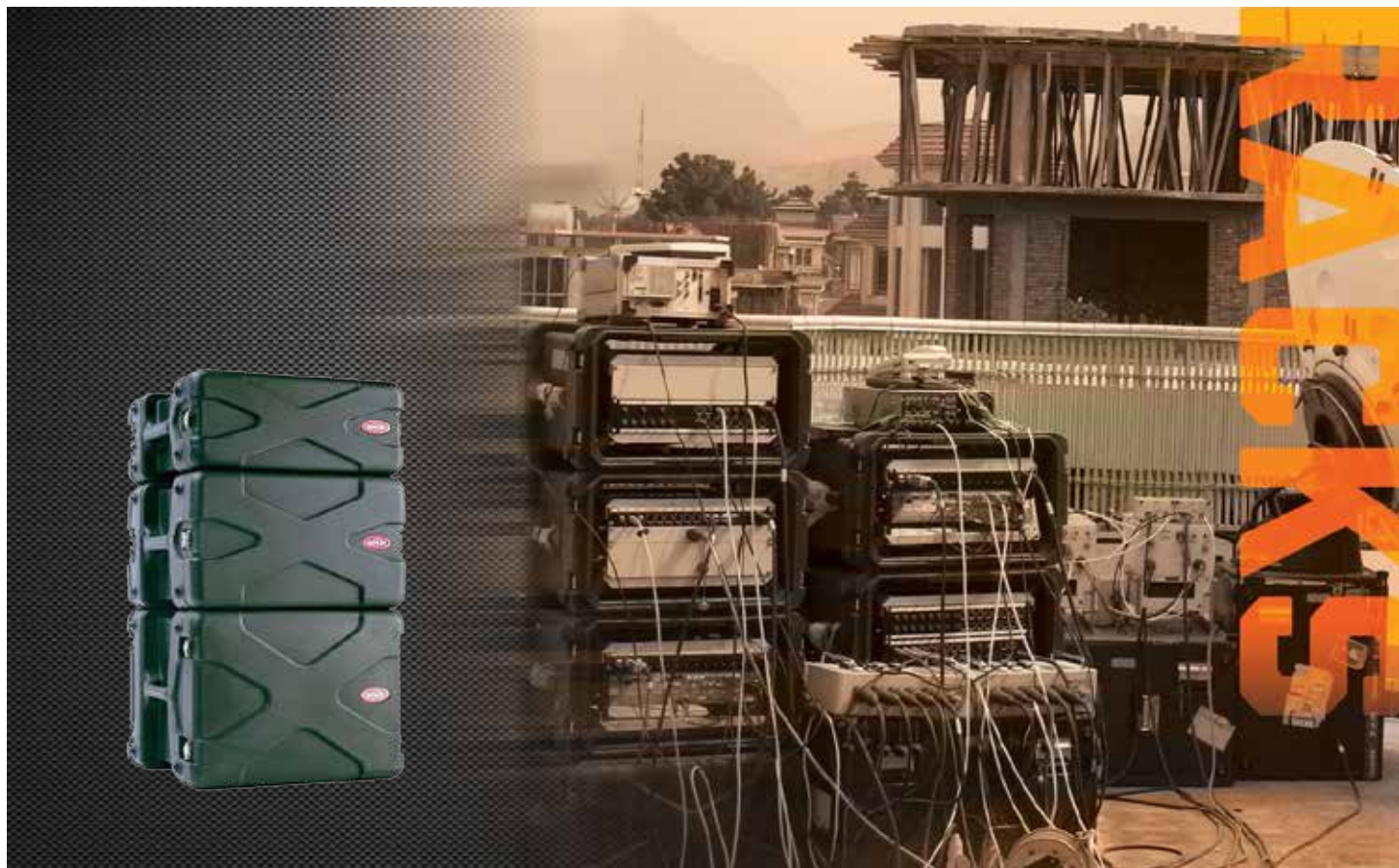
Secure interlocking features ensure stable stacking on uneven surfaces.

Quiet glide polyurethane in-line skate style wheels, with factory lubricated sealed ball bearings, ensure smooth trouble free movement.

Reinforced padlock hasps, allow the use of standard size padlocks for added security. SKB TSA accepted padlocks, are an available accessory.

Flush snap-down overmolded handle for 2 man lift on large or long cases. Cushion grip overmold material reduces hand fatigue.





Shallow 19" Rack Cases

Roto-Mold

The re-designed Roto-molded Shallow Rack Cases, meet the needs of musicians, and pro audio/video engineers. The new 1SKB-R2S, now has a full front, and rear cover, instead of a rear access panel, for easy access. Both doors have a rubber gasket to keep water out of the case.

The Shallow Racks are roto-molded for strength, and durability, and feature a new exterior design, with interlocking capabilities, recessed steel, Mil-Spec black twist latches, shock absorbing rubber feet and new heavy-duty flush handles. With the addition of rear rack rails, and the new cover design, the depth on the new Roto-molded Shallow Racks, has been extended to 10.7" from front to rear rail. Gear can now be mounted front and rear, with the supplied rackmount clips.

- Roto-molded for strength and durability
- Front and rear gasketed covers
- Interlocking stacking ribs
- Recessed latches
- Heavy-duty flushmount handles
- Shock absorbing rubber feet
- Rackmount hardware included for secure mounting front or rear



Part Number	Size (units)	Depth (mm)	Weight (kg)
1SKB-R2S	2U	272	4.2
1SKB-R3S	3U	272	4.7
1SKB-R4S	4U	272	5.8
1SKB-R6S	6U	272	7.9

Lifetime Warranty

SKB brand hardshell cases, are fully warranted against defects in materials, and craftsmanship for the life of the case to the original owner. That means, if your case breaks, SKB will either supply replacement parts, repair the case, or replace the case at no cost to you, for as long as you own the case. Most locks, handles and wheels have been made field replaceable, and will be supplied to you at no charge.

Standard 19" Rack Cases

Roto-Mold

The re-designed Roto-molded Rack Cases, meet the needs of musicians and pro audio engineers. The Roto Racks include a gasketed full front, and rear covers for easy access.

These re-designed Roto Racks, have an exterior design that includes a recognizable bar design, that signifies the rack size on the front and rear covers, with interlocking capabilities, for a secure stack with Roto Racks and the Roto Shallow Racks. Recessed steel, Mil-Spec black twist latches, and heavy-duty flush handles, front and rear rack rails, with a rack depth of 17.6", so gear can now be mounted front and rear, with the supplied rackmount clips.

Part Number	Size (units)	Depth (mm)	Weight (kg)
1SKB-R2U	2U	447	4.9
1SKB-R4U	4U	447	6.5
1SKB-R6U	6U	447	8.4
1SKB-R8U	8U	447	10.1
1SKB-R10U	10U	447	11.5
1SKB-R12U	12U	447	13.3

- Roto-molded for strength and durability
- Front and rear gasketed covers
- Interlocking stacking ribs
- New size bar cover design
- Recessed latches
- Heavy-duty flushmount handles
- Rackmount hardware included for secure mounting front or rear



Rolling 19" Rack Cases

Roto-Mold

Ideal for those looking to transport heavy remote recording, and sound reinforcement equipment, ranging from power amplifiers, to signal processors, the Roto Rolling Rack models, offer secure protection, with the convenience of sturdy built-in wheels, and a handle.

Designed as a complete upgrade and stronger alternative to the previous Roll-X-Rack models, the Roto Rolling Racks, feature industrial grade steel threaded rack rails, (allowing non-destructive screw mount installation and removal), and full access rear lids. Rear rack rails are included, which allows enhanced load capacity, and stability, ideal for especially heavy weighted power amplifier units.

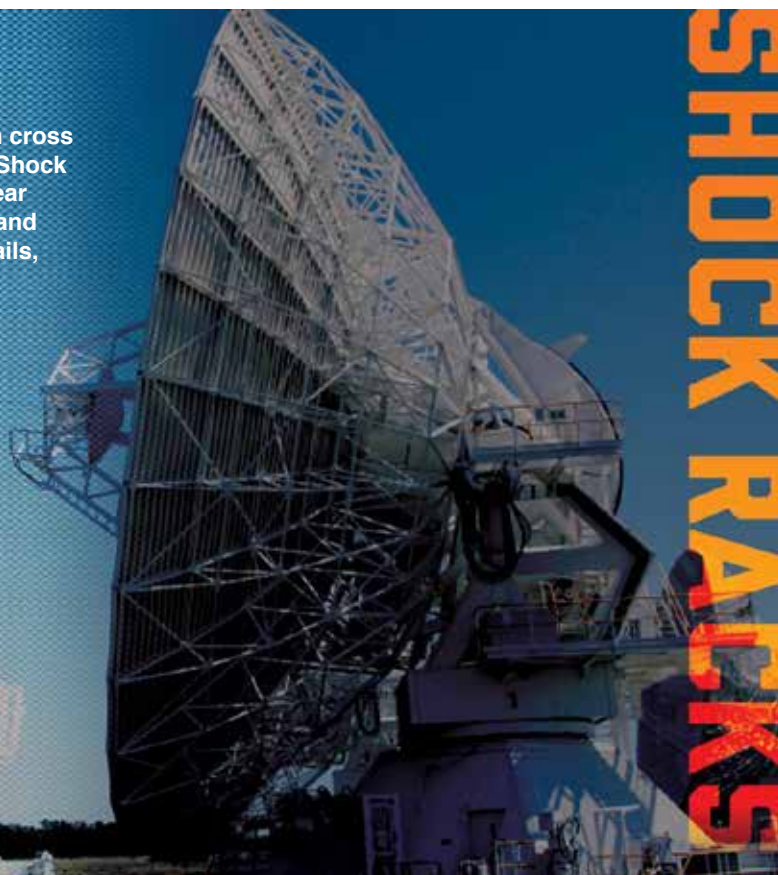
Roto Rolling Racks, are rotational molded of high impact LLDPE Polyethylene, with in-line wheels supporting heavy loads, a nearly indestructible low-profile injection molded telescoping cushion grip, rubber over-molded pull handle, and cushioned handle for carrying comfort. Our proprietary trigger release latching system, with TSA recognized, and accepted recessed locking latches, enables users to securely lock their cases, and still have them inspected by airline security personnel, and safely checked as luggage.

Part Number	Size (units)	Depth (mm)	Weight (kg)
1SKB-R4W	4U	483	7.8
1SKB-R6W	6U	483	10.9
1SKB-R8W	8U	483	12.5

- TSA latches
- Threaded steel rails
- Built-in wheels
- Rear access door
- Low profile handle
- Rear rack rails now included



All models of SKB's Shock Rack cases, are rotationally molded of LMDPE for maximum impact resistance, and feature the latest in shockmount technology, with elastomeric shocks, threaded steel rails, and aluminum cross components, for strength and durability. All models of Shock Racks have EIA standard 19" rack width, and include rear rails and covers for support and accessibility. The 28" and Pullout Shock Racks have standard square hole rack rails, and accept most sliding rail kits.



20" Deep Shock Racks

Roto-Mold

Our 20" Roto Shock Racks, feature a redesigned frame, with threaded steel rails, and aluminum cross components, forming an "H" shaped rigid configuration.

Part Number	Size (units)	Depth (mm)	Weight (kg)
1SKB-R904U20	4U	510	16.3
1SKB-R906U20	6U	510	19.6
1SKB-R908U20	8U	510	21.1
1SKB-R910U20	10U	510	24.7
1SKB-R912U20	12U	510	25.9
1SKB-R914U20	14U	510	31.1
1SKB-R916U20	16U	510	34.5
1SKB-1916	Roto Moulded Caster Cart with 3 inch Wheels		

- Deep Roto X pattern for solid stackability
- Removable front and rear lids
- Shock absorbers on all 8 corners
- Moulded handles provide easy lift points



20" Deep Rolling Shock Racks

Roto-Mold

Our 20" Roto Rolling Shock Racks, feature secure stacking design, recessed in-line wheels, and sliding retractable handle, for easy portability.

Part Number	Size (units)	Depth (mm)	Weight (kg)
3SKB-R04U20W	4U	510	20.1
3SKB-R06U20W	6U	510	23
3SKB-R08U20W	8U	510	25.7
3SKB-R10U20W	10U	510	28
3SKB-R12U20W	12U	510	30.8

- Removable front and rear lids
- Shock absorbers on all 8 corners
- Built-in wheels and tow handle



24" Deep Shock Racks

Roto-Mold

With a unique "plug" style lid sealing system, lids penetrate the body with an approximate 1" molded-in protrusion, that provides outstanding sealing and anti-shear properties.

Part Number	Size (units)	Depth (mm)	Weight (kg)
3SKB-R904U24	4U	610	26.3
3SKB-R906U24	6U	610	30.2
3SKB-R908U24	8U	610	33.9
3SKB-R910U24	10U	610	36.2
3SKB-R912U24	12U	610	37.8
3SKB-R914U24	14U	610	42.7
3SKB-R916U24	16U	610	46.5

- Removable front and rear lids are capable of swinging open 270°
- Shock absorbers on all 8 corners
- Stackable with wheels on/off
- Supplied with slide mount heavy duty casters rated to 544kg
- Supplied with locking latches



24" Deep Pullout Shock Racks

Roto-Mold

Case coupling straps come standard, and molded in stacking ribs and lugs are designed to stack with competitive manufacturers' cases.

Part Number	Size (units)	Depth (mm)	Weight (kg)
3RR-3U24-25B	3U	610	26.8
3RR-4U24-25B	4U	610	28.1
3RR-5U24-25B	5U	610	29.9
3RR-7U24-25B	7U	610	32.2
3RR-9U24-25B	9U	610	35.4
3RR-11U24-25B	11U	610	38.1
3RR-14U24-25B	14U	610	41.7

- Removable front and rear lids with integrated door hangers
- Slide out inner racks for ease of rack access
- Shock absorbers on all 8 corners
- Stackable with coupling straps and stacking lugs/ribs
- Supplied with locking latches



28" Deep Shock Racks

Roto-Mold

Our 28" Roto Shock Racks, feature a 29.25" deep design, and are equipped with standard square hole rack plates, and includes the SKB ARCS System which accepts optional Rail plate Kits. This system is adjustable in width, and accepts most sliding rail kits.

Part Number	Size (units)	Depth (mm)	Weight (kg)
3SKB-R904U28	4U	743	27.9
3SKB-R906U28	6U	743	30.7
3SKB-R908U28	8U	743	35.5
3SKB-R910U28	10U	743	36.9

- Removable front and rear lids are capable of swinging open 270°
- Shock absorbers on all 8 corners
- Stackable with wheels on/off
- Supplied with slide mount heavy duty casters rated to 544kg



30" Deep Shock Racks

Roto-Mold

The 30" deep Roto Shock Rack, is ATA rated, and is built to withstand the rigors of military transport abuse. The 30" deep series, is designed to accept longer rack mount equipment, and servers.

Part Number	Size (units)	Depth (mm)	Weight (kg)
3SKB-R904U30	4U	762	27.6
3SKB-R906U30	6U	762	30.3
3SKB-R908U30	8U	762	34.8
3SKB-R910U30	10U	762	36.2

- Removable front and rear lids are capable of swinging open 270°
- Shock absorbers on all 8 corners
- Stackable with wheels on/off
- Supplied with slide mount heavy duty casters rated to 544kg



Conductor Stranding

VDE0295 / IEC 60228

Conductor Size (mm ²)	Stranded Wires Class 2	Multi Stranded Wires	Fine Wires Class 5	Superfine Wires Class 6	Column 5	Column 6	Column 7
0,14	-	-	18x0,10	18x0,10	18x0,10	36x0,70	72x0,05
0,25	-	-	14x0,15	32x0,10	32x0,10	65x0,70	128x0,05
0,34	-	7x0,25	19x0,15	42x0,10	42x0,10	88x0,70	174x0,05
0,38	-	7x0,27	12x0,20	21x0,15	48x0,10	100x0,70	194x0,05
0,50	7x0,30	7x0,30	16x0,20	28x0,15	64x0,10	131x0,70	256x0,05
0,75	7x0,37	7x0,37	24x0,20	42x0,15	96x0,10	195x0,70	384x0,05
1,00	7x0,43	7x0,43	32x0,20	56x0,15	128x0,10	260x0,70	512x0,05
1,50	7x0,52	7x0,52	30x0,25	84x0,15	192x0,10	392x0,70	768x0,05
2,50	7x0,67	19x0,14	50x0,25	140x0,15	320x0,10	651x0,70	1280x0,05
4,00	7x0,85	19x0,52	56x0,30	224x0,15	512x0,10	1040x0,70	-
6,00	7x1,05	19x0,64	84x0,30	192x0,20	768x0,10	1560x0,70	-
10,00	7x1,35	49x0,51	80x0,40	320x0,20	1280x0,10	2600x0,70	-
16,00	7x1,70	49x0,65	128x0,40	512x0,20	2048x0,10	-	-
25,00	7x2,13	84x0,62	200x0,40	800x0,20	3200x0,10	-	-
35,00	7x2,52	133x0,58	280x0,40	1120x0,20	-	-	-
50,00	7x3,02/19x1,83	133x0,69	400x0,40	705x0,30	-	-	-
70,00	19x2,17	189x0,69	356x0,50	990x0,30	-	-	-
95,00	19x2,52	259x0,69	485x0,50	1340x0,30	-	-	-
120,00	37x2,03	336x0,67	614x0,50	1690x0,30	-	-	-
150,00	37x2,27	392x0,69	765x0,50	2123x0,30	-	-	-
185,00	37x2,52	494x0,69	944x0,50	1470x0,40	-	-	-
240,00	61x2,24	627x0,70	1225x0,50	1905x0,40	-	-	-
300,00	61x2,50	790x0,70	1530x0,50	2385x0,40	-	-	-
400,00	61x2,89	-	2035x0,50	-	-	-	-
500,00	61x3,23	-	1768x0,60	-	-	-	-

The number of strands according to IEC 60228 shown in Class 2 is mandatory. Stranding shown in classes 5 & 6 gives the maximum strand diameters, and may have less strands, provided the conductor does not exceed the maximum resistance assigned to that cross-sectional area.

AWG Conversion Chart

US to European values

American Wire Gauge (AWG)	Cross Sectional Area (mm ²)	American Wire Gauge (AWG)	Cross Sectional Area (mm ²)	American Wire Gauge (AWG)	Cross Sectional Area (mm ²)	American Wire Gauge (AWG)	Cross Sectional Area (mm ²)
0000	107.16	5	16.76	13	2.63	20	0.52
000	84.97	6	13.29	14	2.08	21	0.41
00	67.40	7	10.55	15	1.65	22	0.33
0	53.46	8	8.36	16	1.31	23	0.26
1	42.39	9	6.63	17	1.04	24	0.20
2	33.61	10	5.26	18	0.82	25	0.16
3	26.65	11	4.17	19	0.65	26	0.13
4	21.14	12	3.31	20	0.52		

Minimum Size of Copper Earth Conductors

AS/NZS 3000

Active Conductors (mm ²)	Earth (mm ²)
1	* 1
1.5	* 1.5
2.5	2.5
4	2.5
6	2.5
10	4
16	6

Active Conductors (mm ²)	Earth (mm ²)
25	6
35	10
50	16
70	25
95	25
120	35
150	50

Active Conductors (mm ²)	Earth (mm ²)
185	70
240	95
300	120
400	** ≥120
500	** ≥120
630	** ≥120

* Refer Wiring Rules (AS/NZS 3000) regarding 1.5 earthing conductors. **A larger earthing conductor may be required to satisfy Clause 5.3.3.1.1

IP Ratings

The IP Code, (or International Protection Rating, sometimes also interpreted as Ingress Protection Rating), consists of the letters IP followed by two digits, and an optional letter. As defined in international standard IEC 60529, it classifies the degrees of protection provided, against the intrusion of solid objects, (including body parts like hands and fingers), dust, accidental contact, and water, in electrical enclosures. The standard aims to provide users more detailed information than vague marketing terms, such as waterproof.

Level	Protection against solid objects
0	Not protected
1	>50mm
2	>12.5mm
3	>2.5mm
4	>1mm
5	Dust Protected (no harmful deposit)
6	Totally protected against dust

IP 68

The first digit indicates the level of protection that the enclosure provides against access to hazardous parts, (e.g., electrical conductors, moving parts), and the ingress of solid foreign objects.

Level	Protection against liquids
0	Not protected
1	Dripping water
2	Dripping water when tilted up to 15°
3	Dripping water when tilted up to 60°
4	Splashing water
5	Low pressure water jets
6	Powerful water jets
7	Temporary Immersion up to 1m
8	Continual Immersion beyond 1m
9K	Powerful high temperature water jets

The second digit indicates the level of protection of the equipment, inside the enclosure against harmful ingress of water.

Enclosure Material Selection

The table below indicates basic properties of our enclosures. More detailed resistance tables are available upon request.

	ABS	Polycarbonate	Polyester	Fibreglass	Powder coated steel	304 Stainless steel
Outdoor Use	★	★★★	★★★★★	★★★★★	★★★★★	★★★★★
Indoor Use	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★
High rigidity	★★★	★★★★	★★★★	★★★★★	★★★★★	★★★★★
Impact resistance	★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★
Chemical resistance	★★★	Not tested	★★★★★	★★★★★	★★★★★	★★★★★
Flammability	UL94-HB	UL94-V0	UL94-5VA	UL94-5V	Non-flammable	Non-flammable

★ Poor ★★ Good ★★★ Very Good ★★★★★ Excellent



“We are not just another cable company.”

