

SYSTEMATIC QUALITY

PowerSAFE



Product information



GIFAS
ELECTRIC

08|01

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PowerSAFE compact switchbox



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POWERSAFE

As a result of the increased demand for temporary power generators which operate with high-voltage current in the areas of entertainment and industrial applications, selection of the high-current connector is particularly important, in order to guarantee safety and reliability for any application.

The single-pole PowerSAFE connectors were developed for the connection of single- and three-phase high-current circuits. They have been used and tested in the world's harshest environments, from the oil fields of Canada to data processing centres in the Arctic Circle. They are the right choice for demanding applications on account of their impressive technical capacity, safety functions, robust design, reliability and quality.

The standard safety functions include an additional locking system which requires a key to activate the connection. In addition, all electrical contacts on all plugs have finger-proof protection against electric shock, whereby the risk of accidental contact when switching on the connector is reduced.

The connectors are available in line and panel mount format with either crimp or screw contacts. The PowerSAFE connectors can be used with single-core cables between 25 and 300 mm² for high current connections up to 800 A and are currently the highest rated and safest connectors of their type on the market.



High current carrying capacity

The PowerSAFE connector's advanced contact design achieves its 800 A* continuous rating by utilising an arrangement of 29 transfer bridges. Each transfer bridge is rated at 30 A, giving a total of 870 A per contact.

*Subject to environmental factors, cable choice, etc.

Technical Data

No. of contacts:	1
Max. continuous current rating:	up to 800 A
Surge current:	75 kA
Short circuit rating:	up to 35.5 kA
Cable cross sectional area C.S.A.:	25 mm ² to 300 mm ²
Contact termination:	Screw or crimp connection
Mating method:	Bayonet lock
Operating voltage:	1'000 VAC
Max. rated voltage to earth:	2 kVAC / 3 kVDC
Min. flashover:	9.5 kVDC
Insulation resistance:	> 5 MOhm@500VDC
Protection category:	IP67
Protection against electric shock:	IP2X
Flammability:	UL94-V0
Mating cycles:	> 500
Material housing:	thermoplastic
Contact area:	silver

Product features

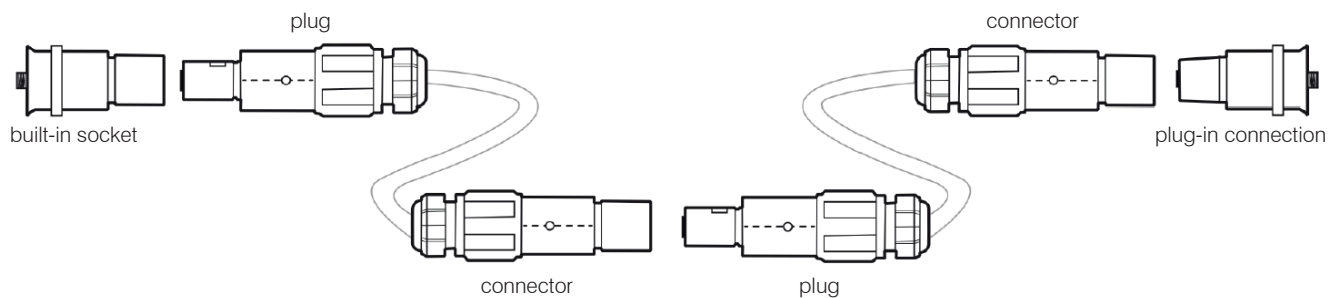
- maximum continuous current rating 800 A
- colour coded and mechanically keyed to prevent connection errors
- Flame retardant UL94-V0
- Locking mechanism to prevent accidental disconnection under load
- Finger proof contacts both genders (IP2X) to prevent access to electrical contacts when uncoupled
- silver-coated, self-cleaning contacts
- enhanced impact-resistant housing
- Protection category IP67
- for cables between 25 mm² and 300 mm²
- temperature resistant materials
- integrated cable strain relief
- Cable glands with generous clamping range
- Rubber protective caps to protect connectors from moisture, dirt and abrasion when uncoupled (optional)
- compatible with PowerLock
- CE-konform in EN 60309-1, DIN-EN 61984 and IEC 60900



Video tutorial for PowerSAFE assembly

You will find further technical information in the PowerSAFE connector crimping guide

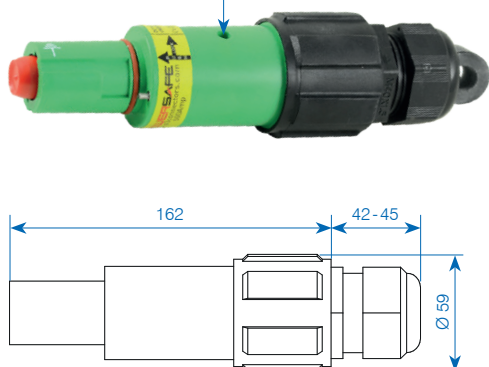
System



Dimensions

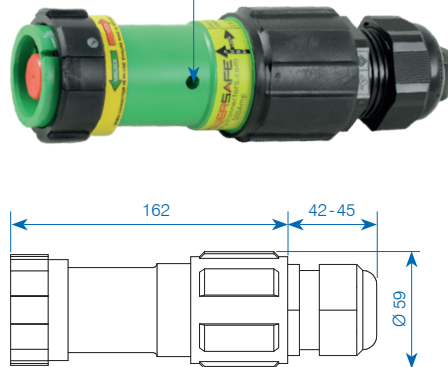
Plug

** Item no. 136411

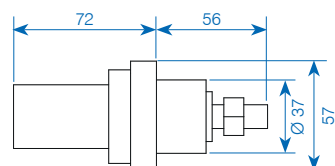


Connector with Rotalock

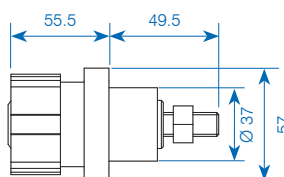
** Item no. 136412



Plug-in connection



Built-in socket with Rotalock



Assortment

Plug

			Cable diameter 25-150mm ² Screw connection max. 500A	Cable diameter 185mm ² crimp connection max. 800A	Cable diameter 240mm ² crimp connection max. 800A	Protective cap IP67
			Item no.	Item no.	Item no.	Item no.
L1	brown	✓	037821*	✓ 242728	✓ 104992	✓ 106545
L2	black	✓	037822*	✓ 242729	✓ 104993	✓ 106547
L3	grey	✓	037823*	✓ 242730	✓ 104994	✓ 106548
N	blue	✓	037824*	✓ 242731	✓ 104995	✓ 106544
PE	yellow-green	✓	037825*	✓ 242732	✓ 104996	✓ 106543

* PowerSAFE reduction sleeve set 95 mm²/70 mm²/50 mm²/35 mm²/25 mm² (Item no. 147795)

** Accessories/spare parts: Item no. 136411 (47 mm)

Connector with Rotalock

			Cable diameter 25-150mm ² Screw connection max. 500A	Cable diameter 185mm ² Screw connection max. 800A	Cable diameter 240mm ² Screw connection max. 800A	Protective cap IP67
			Item no.	Item no.	Item no.	Item no.
L1	brown	✓	037816*	✓ 242722	✓ 104981	✓ 106540
L2	black	✓	037817*	✓ 242724	✓ 104982	✓ 106541
L3	grey	✓	037818*	✓ 242725	✓ 104984	✓ 106542
N	blue	✓	037819*	✓ 242726	✓ 104985	✓ 106539
PE	yellow-green	✓	037820*	✓ 242727	✓ 104986	✓ 106538

* PowerSAFE reduction sleeve set 95 mm²/70 mm²/50 mm²/35 mm²/25 mm² (Item no. 147795)

** Accessories/spare parts: Item no. 136412 (43 mm)

Plug-in connection

			Screw connection thread M12 max. 500A	Screw connection thread M12 max. 800A	Protective cap IP67
			Item no.	Item no.	Item no.
L1	brown	✓	038856	✓ 104997	✓ 113312
L2	black	✓	038857	✓ 104998	✓ 113313
L3	grey	✓	038858	✓ 104999	✓ 113314
N	blue	✓	038859	✓ 105000	✓ 113315
PE	yellow-green	✓	038860	✓ 105001	✓ 113316



* Item no. 147795



** Item no. 136411 (47 mm)

** Item no. 136412 (43 mm)

Built-in socket with Rotalock

			Screw connection thread M12 max. 500A	Screw connection thread M12 max. 800A	Protective cap IP67
			Item no.	Item no.	Item no.
L1	brown	✓	038851	✓ 104987	✓ 105561
L2	black	✓	038852	✓ 104988	✓ 105563
L3	grey	✓	038853	✓ 104989	✓ 105564
N	blue	✓	038854	✓ 104990	✓ 113311
PE	yellow-green	✓	038855	✓ 104991	✓ 105565

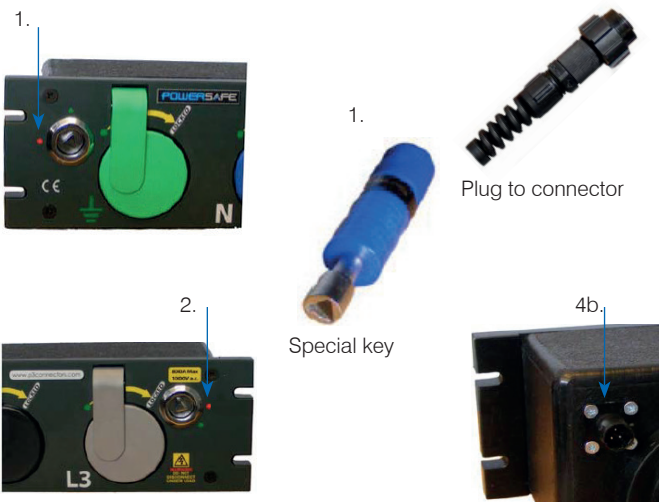
✓ from stock, offer subject to prior sale



The PowerSAFE Box is a 5-pin connecting unit for connecting to a generator or the mains. The sequence of connecting and disconnecting is predetermined to ensure the safety circuits (PE+N) are the first to be connected and the last to be disconnected. The coded connections also prevent the possibility of incorrect contacts.

Functional description

- The cover of the earth connection is opened by rotating it clockwise using the special key provided. Insert the PE high current plug to the end stop and then rotate it clockwise (lock).
- After inserting the earth conductor properly, the protective cover of the neutral conductor opens – also insert the neutral conductor to the end stop and then rotate it clockwise.
- Connect all L1 to L3 phase conductors to the switchbox in the same way – comply with correct sequence! Then the L3 phase conductor contact must also be locked with the special key in the clockwise direction. L3 is now also locked and unwanted disconnection is prevented.
- This process triggers two processes:
 - It closes the L3 connection to prevent accidental interruptions under load and also prevents access to the device..
 - The microswitch (toggle function) is also activated and can therefore switch the switchbox on or off via an external contactor. (Leading or lagging) The load can be regulated in a controlled manner by connecting this switch to the power distribution.
- The removing and unplugging of the individual conductors is carried out in reverse order and procedure: Open the lock at L3 using the special key L3 and undo all connections beginning with L3.
- Important: All protective covers close automatically after removing the plug. (touch protection).



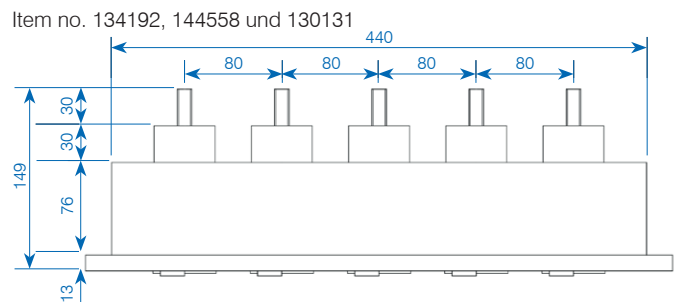
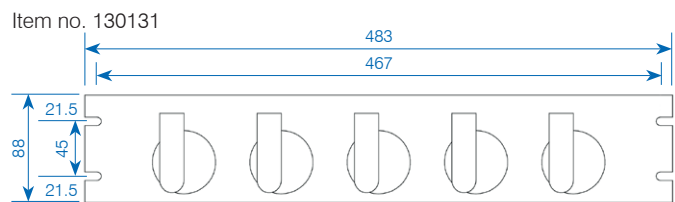
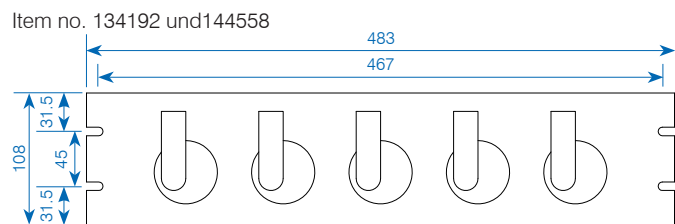
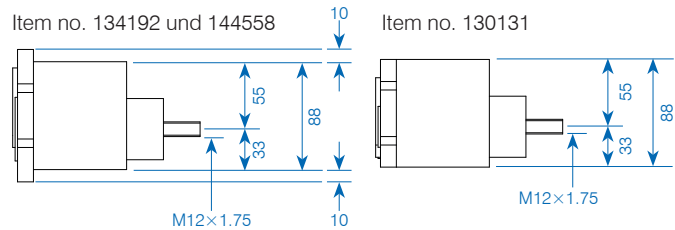
✓ from stock, offer subject to prior sale

Dimensions Item no. 134192 and 144558:

Version for installation in housing/wall 108×483×149 mm (H×W×D)

Dimensions Item no. 130131:

Rack installation version 88×483×149 mm (H×W×D)



In any case, it must be excluded that the conductors could be connected or unplugged accidentally in the wrong order or individually to/from the unit.

Built-in connector box

Item no.	Designation
✓ 144558	PowerSAFE Panel Box bis 800 A 3LNPE 108×483×149 mm (H×B×T), wall/housing assembly, 5-fold unit with built-in connection

Built-in socket box

Item no.	Designation
177113	PowerSAFE Panel Box up to 800 A 3LPE 108×483×149 mm (H×B×T), wall/housing assembly, 4-fold unit with built-in sockets
✓ 134192	PowerSAFE Panel Box up to 800 A 3LNPE 108×483×149 mm (H×B×T), wall/housing assembly, 5-fold unit with built-in sockets
130131	PowerSAFE Panel Box up to 800 A 3LNPE 2HE 88×483×149 mm (H×W×D), for Rack mounting, 5-fold unit with built-in sockets

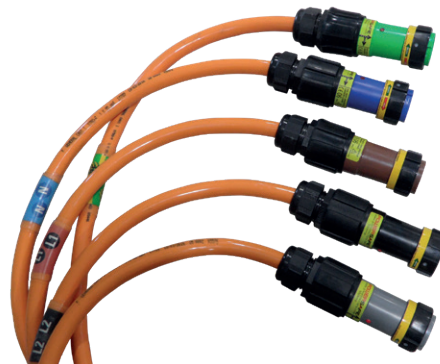
Connecting and extension lines with single conductor cable

Connecting cable set 3P+N+NE completely ready-made and labelled



Item no.	Plug	Cable	Length	Cable socket
157660	500 A	4×95 mm ² /1×50 mm ²	5 m	95 mm ² /M12
157661	500 A	4×120 mm ² /1×95 mm ²	5 m	120 mm ² /M12
157893	500 A	4×120 mm ² /1×95 mm ²	10 m	120 mm ² /M12
141731	500 A	4×150 mm ² /1×95 mm ²	5 m	150 mm ² /M12
148347	500 A	4×150 mm ² /1×95 mm ²	10 m	150 mm ² /M12

Coupling cable set 3P+N+NE completely ready-made and labelled



Item no.	Connector	Cable	Length	Cable socket
180157	500 A	4×95 mm ² /1×50 mm ²	5 m	95 mm ² /M12
175473	500 A	4×120 mm ² /1×95 mm ²	5 m	120 mm ² /M12
180158	500 A	4×120 mm ² /1×95 mm ²	10 m	120 mm ² /M12
180159	500 A	4×150 mm ² /1×95 mm ²	5 m	150 mm ² /M12
180160	500 A	4×150 mm ² /1×95 mm ²	10 m	150 mm ² /M12

Extension cable set 3P+N+NE completely ready-made and labelled



Item no.	Plug	Cable	Length	Connector
157812	500 A	4×95 mm ² /1×50 mm ²	5 m	500 A
161262	500 A	4×95 mm ² /1×50 mm ²	20 m	500 A
157813	500 A	4×120 mm ² /1×95 mm ²	5 m	500 A
157895	500 A	4×120 mm ² /1×95 mm ²	10 m	500 A
163908	500 A	4×120 mm ² /1×95 mm ²	50 m	500 A
157814	500 A	4×150 mm ² /1×95 mm ²	5 m	500 A
157816	500 A	4×150 mm ² /1×95 mm ²	10 m	500 A



Further executions on request.

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We reserve the right to make technical modifications. V 0324



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