



PCE

Connection
to the future

Motor protection plugs

MOST

MOTOR PROTECTION PLUGS

Switching and protection of all single and multi-phase motors

RESULTS WITHOUT MOTOR PROTECTION PLUGS:

Do you know the problem of...

- >> ...a destroyed engine?
- >> ...a defective arrangement?
- >> ...a burnt through winding by overloading?
- >> ...mechanical damage on account of wrong rotation direction?
- >> ...secondary damage such as flooding?



FIELD OF APPLICATIONS

>> PUMPS

Submerged pumps, mobile pumping plants, pumps for construction sites, water pumps, ...

>> AGITATORS

Mobile machines for mixing (building site machines)

>> BLOWERS

Ventilators, space ventilation, ...

>> COMPRESSORS

Breathing air compressors, mobile compressors, ...

>> CONVEYORS

Rolling and chain conveyors, band-conveyors, ...

>> INDUSTRIAL MOTORS

>> CONSTRUCTION MACHINES

Circular saws, hand tools, ...

>> EXTRACTIONS

mobile laboratory ventilation, smoke extraction, ...



MOTOR PROTECTION PLUGS 230V UP TO 16A

Protection degree: IP44

Switching and protection of
all single-phase motors

DESIGNS

>> ON/OFF (I-O)

>> Hand operation/Automatic (H-A) for the use of a float switch (see page 8)



- 1 RESET SWITCH
- 2 ROCKER SWITCH
- 3 SCHUKO PLUG
- 4 CABLE ENTRIES

FIELD OF APPLICATION

>> SINGLE-PHASE MOTORS

pumps, compressors, ...



CEE-PLUGS WITH SWITCH

Protection degree: IP44

Switching of multi-phase motors without protective function

DESIGN

>> ON/OFF (I-0) switch

>> With reversing switch (I-0-2) to change the direction of rotation



- | | | | |
|---|---|---|----------------------------|
| 1 | CABLE ENTRY | 5 | CEE-PLUG OR PHASE INVERTER |
| 2 | ROTARY LEVER | 6 | WITH OR WITHOUT HOLDER |
| 3 | ROTATION FIELD CHECK OR OPERATING DISPLAY | | |
| 4 | LOCKING DEVICE (CONFORM TO EN 60309) | | |

FIELD OF APPLICATION

>> MULTIPHASE MOTORS

agitators, compressors, conveyors, ...



CEE-MOTOR PROTECTION PLUGS

PKZMO with rotary lever

Z-MS with toggle switch

Protection degree: IP44

Switching and protection of AC 3-phase motors with outputs of up to 15 kW (380/400V and 480/500V)

DESIGN

>> PKZMO with rotary lever



DESIGN

>> Z-MS with toggle switch



- | | | | |
|---|---|---|----------------------------|
| 1 | CABLE ENTRY | 5 | CEE-PLUG OR PHASE INVERTER |
| 2 | ROTARY LEVER | 6 | WITH OR WITHOUT HOLDER |
| 3 | ROTATION FIELD CHECK OR OPERATION DISPLAY | 7 | TOGGLE SWITCH |
| 4 | LOCKING DEVICE (CONFORM TO EN 60309) | | |

FIELD OF APPLICATION

>> AC 3-PHASE MOTORS

pumps, air compressors, ...



CEE-MOTOR PROTECTION PLUGS CONTACTOR UP TO 7,5kW / 15kW

Protection degree: IP44

Switching, protection and operation of AC 3-phase motors.

By the slim design a close formation is possible. Exclusively with phase inverter, rotation field check and operation display.

DESIGNS

- >> ON/OFF
- >> MANUAL/AUTOMATIC



- | | |
|---------------------------------|--|
| 1 CABLE ENTRY | 5 OPERATION DISPLAY |
| 2 RESET SWITCH | 6 LOCKING DEVICE (CONFORM TO EN 60309) |
| 3 ROCKER SWITCH / ROTARY SWITCH | 7 CEE-PHASE INVERTER |
| 4 ROTATION FIELD CHECK | 8 CEE-PHASE INVERTER WITH 20M CABLE |

FIELD OF APPLICATION

- >> AC 3-PHASE MOTORS
- pumps, compressors, conveyors, ...

FLOAT SWITCH

Protection degree: IP44

functions:

- Monitoring of liquid conditions
- Change-over switch for filling or emptying



- 1 FLOAT SWITCH
- 2 SPECIAL CABLE

FIELD OF APPLICATION

>> PUMPS

submerged pumps, ...



ADVANTAGES

>> COMPACT

- modern, slim design
- space-saving application (>> side by side mounting)
- large connection area



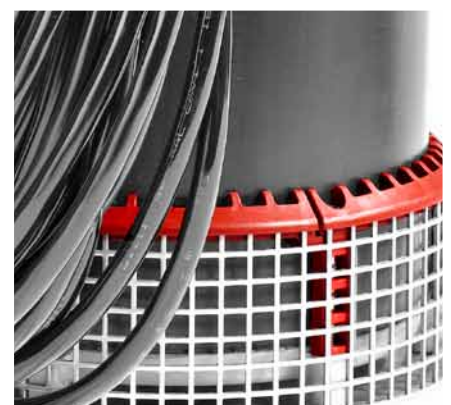
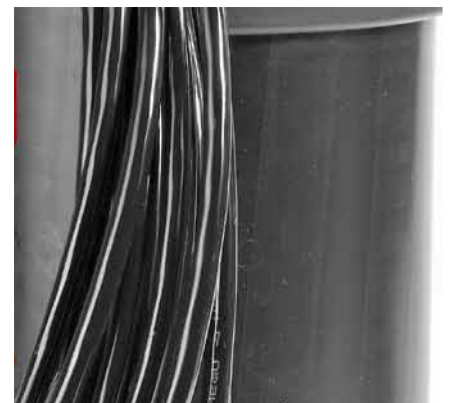
>> SAFETY

- reliable protection for motors
 - >> overload protection
 - >> protection for short-circuit
 - >> protection for wrong rotary direction
- impact resistant housing
- weather resistant



>> INDIVIDUAL FEATURES

- customised designs
- extensive operational area
- user-friendly
- easy handling

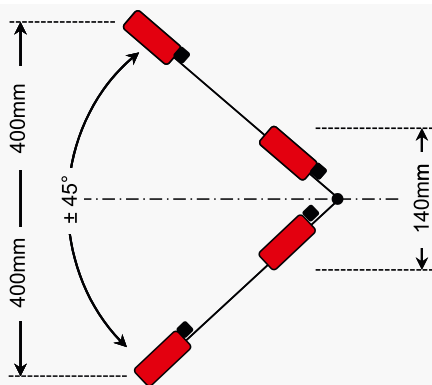


TECHNICAL GLOSSARY

CABLE ENTRIES

Motor protection plug 230V	M16 -> (5-10 mm), M20 -> (10-14 mm)
CEE plug with switch, CEE motor protection plug, CEE motor protection plug with contactor	M25 -> (13-18 mm), M32 -> bis 16A (12-21 mm) über 16A (18-25 mm)

FLOAT SWITCH



Technical data:

- temperature range: -5°C to +60°C
- switching capacity: max. 400VAC 10(4)A min. 10(8)A
- durability: > 50.000 cycles
- beam angle $\pm 45^\circ$
- hysteresis: min. 140mm to max. 400mm

designs:

- changer (top: brown-grey, bottom: brown-black)
- hot plate welded housing
- elastomer – sealed cable entry
- cable: Nexans 05RN8-F 4G1mm² black

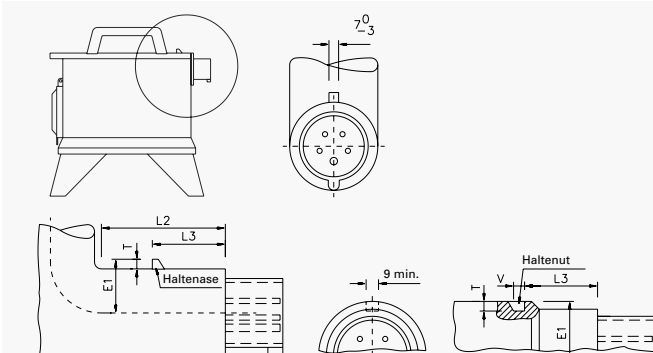
HOLDER / BRACKET

An injection-moulded fixing device on the housing of the products CEE-plugs with switch, CEE motor protection plugs Z-MS / PKZM0 as well as motor protection plugs with contactor (max. 7.5kW) which in terms of the standard prevents direct plugging with attachment sockets and wall sockets is called a „holder / bracket“.

HOUSING MATERIAL

The housings of the motor protection plug series are manufactured from shock-resistant and heat-resistant PC/ABS (polycarbonate with acrylonitrile / butadiene / styrene blend). This material is distinguished by a high rigidity and strength which, in the broad sense, ensures a high-quality and scratch-proof surface.

HOLDING DEVICE



		E1	L2	L3	T	V
16	3	29-31	>75	40-41	>4	>8
16	4	33-35	>80	46-47	>5	>8
16	5	37-39	>90	52-53	>7	>8
32	3	39-41	>90	53-54	>7	>8
32	4	39-41	>90	53-54	>7	>8
32	5	44-46	>105	59-60	>8	>9

OPERATING DISPLAY

The task of this monitoring device is to set a signal which is visible (white indicator lamp) when the supply voltage is applied to the motor protection circuit breaker.

RATED CURRENTS

MOST 230V Fix, non-adjustable rated currents up to 16A
 MOST / MOST Contactor adjustable rated current ranges

RESET SWITCH

The „RESET switch“ is used for restarting the motor protection device with the products motor protection plug 230V along with the CEE motor protection plug with contactor. By means of this operating element, a triggered protection device can be eliminated. The circuit breakers used with PCE is triggered thermally in the event of an overload. For that reason a reset is only possible after several minutes when the bimetal has cooled down.

ROTATING FIELD CHECK

This visual safety device (through red signal lamp) indicates an existing anticlockwise rotating field. The examination of the rotating field takes place by means of the phases L2 and L3. CEE – plug with switch
CEE – motor protection plug Z-MS / PKZM0

ROTARY LEVER

(CEE - MOTOR PROTECTION PLUG PKZM0)

External actuation device of the motor protection circuit breaker which can be operated by means of a rotary movement.

TOGGLE SWITCH

(CEE - MOTOR PROTECTION PLUG Z-MS)

The motor protection circuit breaker is actuated by a tilting movement of the integrated switching element (under the translucent cover).

IP DEGREE OF PROTECTION

The motor protection plugs conform to the protection degree IP44 „splash-proof“ according to **DIN EN 60529**.

1st digit	Protection against ingress of solid objects	2nd digit	Protection against penetration of water
2	Ø 12,5mm	0	Non protection
3	Ø 2,5mm	3	Spraying water at an angle of up to 60° from vertical
4	Ø 1,0mm	4	Splashing water from any direction
5	Dustproof	5	Water jets from any direction
6	Dust-tight	6	Strong water jets from any direction
		7	Temporary immersion in water
		8	Continuous submersion in water

IP44 1st digit 4. Protection against solid objects larger than Ø 1mm
2nd digit .4 Protection against splashing water from any directions

DIFFERENCES BETWEEN THE CIRCUIT BREAKERS OF Z-MS AND PKZM0

	Z-MS	PKZM0
Actuation	Toggle switch	Rotary lever
Short-circuit switching capacity	10kA	50kA resp. 150kA
Rated operating voltage	440V	690V
Motor switching capacity	400V	690V
Connectable cross-section	1-25mm ²	1x (1-6mm ²)
		2x (1-6mm ²)
		AWG 18-10

PCE

Connection
to the future



Группа ICS
Центр дистрибуции

Москва

+7 (495) 720-49-00, +7 (495) 720-49-08

ics@icsgroup.ru

www.icsgroup.ru

Санкт-Петербург

+7 (812) 337-10-87, +7 (812) 337-56-32

baltica@icsgroup.ru

www.icsbaltica.ru

Розничный магазин

Бакунинская, д.74, +7 (495) 720-49-05

www.icsmarket.ru

