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CERTIFICATION ACCORDING TO ISO 9001 : 2015

The PCE quality management system has been certified according to the standard ISO 9001 : 2015!

CE-MARKING - LOW VOLTAGE GUIDELINE

Purpose:

- mainly a symbol for free trade in the European Community,
- if a product has been traded legally in one of the member countries, it can be traded legally in the whole Community,
- no quality mark or grade labelling,
- no sign of conformity to standards; to a certain extent a safety mark, because it indicates the compliance to the fundamental safety requirements.

The guidelines determine only basic requirements the products have to meet.

The essential points for the CE-identification are:

- it is obligatory for the producer or the EEC importer to put on the CE-identification label,
- the producer, EEC-importer must hold the engineering data for the disposal of the authorities.
- standard marks of conformity are permissible besides the CE-identification - but no longer necessary.

Applicable directives:

RoHS DIRECTIVE 2011/65/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of June 8th 2011on the restriction of the use of certain hazardous substances in electrical and electronic equipment

EMC DIRECTIVE 2014/30/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of February 26th 2014 on the harmonisation of the laws of the Member States relating to electromagnetic compatibility

LVD DIRECTIVE 2014/35/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of February 26th 2014 on the harmonisation of the laws of the Member States relating to the making available on the market of electrical equipment designed for use within certain voltage limits

APPROVALS - THE QUALITY MARKS

There has been created a CCA-method (CENELEC Certification Agreement) for mutual recognition of national approvals. PCE has tested all important products according to this method. An outline of certificates obtained is listed below for reference:

CEE and IEC

The term „CEE" generally refers to Industrial Plugs and Sockets that comply with International Standard IEC 60309. CEE is the abbreviation of „International Commission on rules for the approval of Electrical Equipment".

CONFORMITY TO STANDARDS

CEE plugs and sockets are internationally normalized by **IEC 60309-1** and **IEC 60309-2** equivalent to the **E**uropean **N**orms **EN 60309 part 1** and **EN 60309 part 2**.
IEC is the **„I**nternational **E**lectrotechnical **C**ommission" - which is the world organization for international standardization of electrical equipment.

CENELEC

European Committee for Electrotechnical Normalization - members are the national electrotechnical committees from Austria, Belgium, Bulgaria, Czech Republic, Croatia, Cyprus, Denmark, Germany, Estonia, Finland, France, Greece, Hungary, Ireland, Iceland, Italy, Latvia, Lithuania, Luxemburg, Malta, Macedonia, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovenia, Slovakia, Sweden, Switzerland, Spain, Turkey and the United Kingdom.

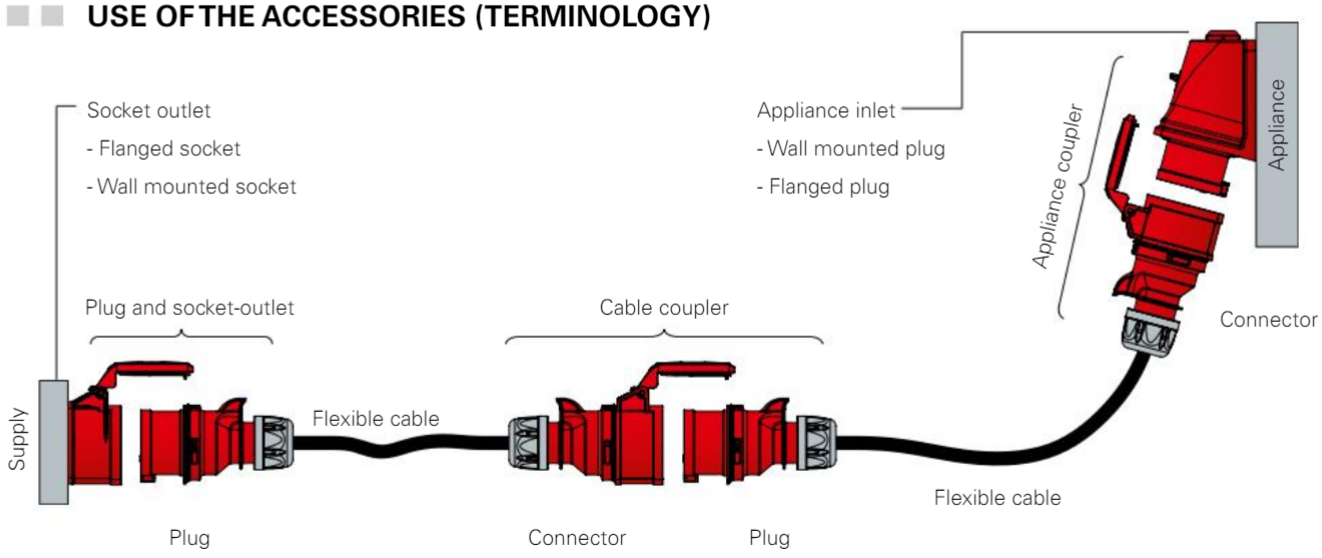
SYSTEM

The standard CEE plugs and sockets according to EN 60309-2 respectively IEC 60309-2 are designed in their main dimensions in a way that plugs and sockets with the same rated currents, nominal working voltage ranges, the same number of poles and frequency of different producers are compatible.

In order to prevent the insertion of plugs and sockets of different voltages and frequencies, 12 positions of the earthing contact are assigned to the polarizing slot of the skirt of a socket.

The number with the following letter „h" indicates the position of the earth contact tube, comparing the frontside of the socket or connector with the face of a clock. The keyway is situated at 6 o'clock (see page 9).

USE OF THE ACCESSORIES (TERMINOLOGY)



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PILOT CONTACT

The pilot contact for levels of current from 63A to 125A is an auxiliary contact (with delayed close when inserted and leading open when pulled) and is used as an electrical interlock.
An interlock prevents inserting and pulling under load. CEE connectors and socket-outlets with pilot contact have longer phase contacts and do not guarantee safety from finger-touch. This must be done by an interlock.

Technical data:	
Connection type:	Screw terminals
Wire flexible [mm²]	1 - 2,5
solid [mm²]	1 - 4
Contact screws [Ncm]	100 Ncm
Rated current	2A

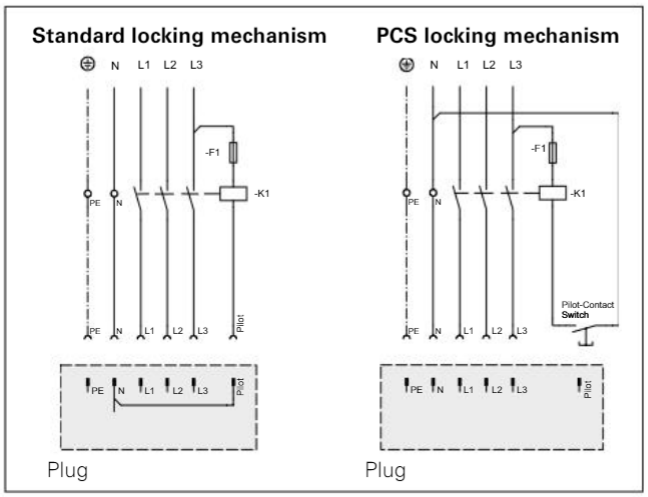
As PCE CEE plugs and sockets have sufficient switching capacity, the CEE couplings and socket-outlets are supplied as standard without a pilot contact and shorter phase contact with protection from finger-touch.

PCS (PILOT CONTACT SYSTEM)

The PCS is a built-in auxiliary contact, used only for 63A and 125A connectors and socket-outlets, for protective electrical interlocking or for additional control purposes, with isolated connection in the socket-outlet. CEE connectors and sockets have longer phase contacts and guarantee no finger protection; this must be fulfilled by a locking.

The PCS provides the following advantages:
- no special cable required for the plug
- isolated inserting and pulling

Technical Datas:
- contacts: silver-coated
- wires: 2x YF 1.5qmm 450mm
- rated current: 2A



TERMINAL CROSS-SECTION, DISMANTLING AND STRIPPING LENGTH

Recommended datas for PCE products

	Terminal cross-section		Dismantling lenth	Stripping length
Rated current	wire flexible [mm²]	wire solid (single or stranded) [mm²]	[mm]	[mm]
16A - CEE	1 - 2,5	1 - 4	50	10 - 12
32A - CEE	2,5 - 6	2,5 - 10	50	12 - 14
63A - CEE	6 - 16	6 - 25	100	15 - 18
125A - CEE	16 - 50	16 - 70	100	24 - 27
16/32A - extra low voltage <50V	1 - 10	1,5 - 10	70	14 - 16
S-Nova	1*) - 2x2,5	1 - 2x2,5		8 - 10
S-Nova (screwless)	1*) - 2x2,5	1 - 2x2,5		8 - 14
P-Nova Plus	1*) - 2x2,5	1 - 2x2,5		8 - 10
Taurus and TopTaurus plug	0,75 - 2,5		30	7
Taurus and TopTaurus connector	1 - 2,5		30	7
Taurus and Top Taurus 3-way connector	1 - 2,5		30	7
Nautilus plug and connector	1 - 2,5		30	7
Nautilus flanged socket	1 - 2x2,5	1 - 2x2,5		7

*) End sleeves must be used!

POSITION OF THE EARTHING CONTACT ACC. TO IEC 60309-2 – SERIE I

Voltage	Frequency	2P+E		3P+E		3P+N+E	
V	Hz	16+32A	63+125A	16+32A	63+125A	16+32A	63+125A
57/100 to 75/130	50 and 60					4	4
100 to 130	50 and 60	4	4	4	4		
120/208 to 144/250	50 and 60					9	9
200 to 250	50 and 60	6	6	9	9		
200/346 to 240/415	50 and 60					6	6
220/380 250/440	50 60					3	3
250/440 to 265/460	60					11	11
277/480 to 288/500	50 and 60					7	7
347/600 to 400/690	50 and 60					5	5
380 to 415	50 and 60	9	9	6	6		
380 440	50 60			3	3		
440 to 460	60			11	11		
480 to 500	50 and 60	7	7	7	7		
600 to 690	50 and 60			5	5		
1000	50 and 60				8		
> 50	100 to 300	10	10	10	10	10	10
> 50	>300 to 500	2	2	2	2	2	2
> 50 to 250	DC	3	3				
> 250	DC	8	8				
supply by isolating transformer	50 and 60	12	12	12	12	12	12
All rated operating voltage and/or frequencies not covered by other configurations.		1	1	1	1	1	1

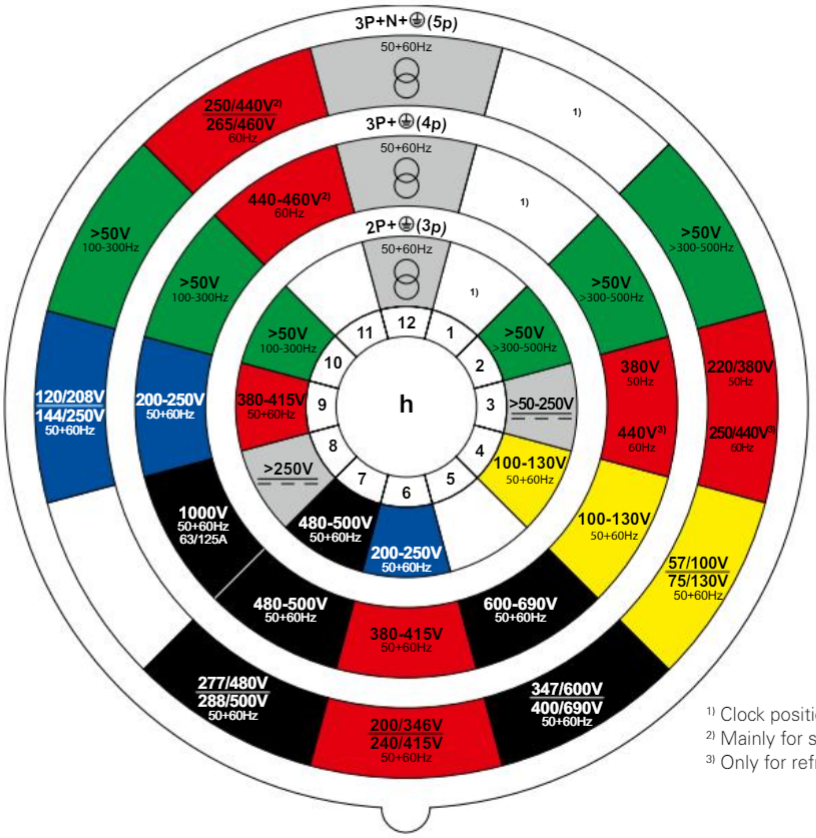
COLOUR CODES

For ease of identification of the various voltages and frequencies all CEE plugs and sockets are colour coded:

Rated operating voltage:	Colour code:
20-25V	violet
40-50V	white
100-130V	yellow
200-250V	blue
380-480V	red
500-1000V	black
>50V (100-500Hz)	green
no colour code	grey

INTERNATIONAL RATING – SERIE I

for appliances >50V – details see table above

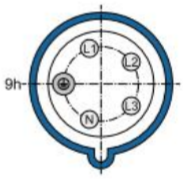


Position of the earthing contact.
View: frontside socket or connector

Example:

400V 5p = 6h

230V 5p = 9h



1) Clock position not standardized and free for use for special applications
2) Mainly for ship installations
3) Only for refrigerated containers