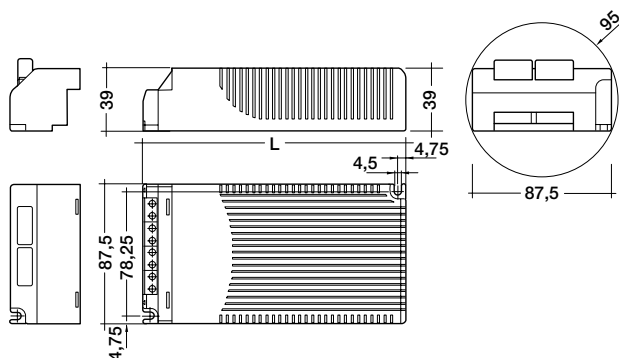




Digital, electronic ballasts
High pressure sodium lamps

powerCONTROL PCS 0070 / PCS 0150 stepDIM



The digital components in powerCONTROL control the power circuit and ignition. powerCONTROL is suitable for high pressure sodium lamps with ignition voltage of 1.8–2.5 kV. The basic circuit elements are patented.

- dimmable to 50 % of maximum light output in two steps (50 % / 100 %)
- flicker free light
- stable colour through constant light output
- lamp life increased up to **50 %**
- power consumption reduced by **10–20 %**
- light weight
- no acoustic resonance

- switches off when the lamp is missing or faulty
- increased ignition energy thanks to pulse packages (**PulseControl** technology)
- re-strike time reduced by up to **50 %**
- electromagnetic interference during ignition reduced by up to **95 %**
- overtemperature cut off
- one-piece housing in black polyamide, IP 20
- screw terminals for 2.5 mm² or 2x1.5 mm²
- can be used in movable lamps with plugs (discharge voltage < 34 V after 1 s)
- accessories are terminal cover and strain relief:
ZE 002 article number 86448230

Type		PCS 0070 stepDIM A001	PCS 0150 stepDIM A001
article number		86457093	86457094
lamp wattage 100 % operation	W	72	147
lamp wattage 50 % operation	W	50	100
circuit wattage* 100 % operation	W	80	160
circuit wattage* 50 % operation	W	57	110
mains voltage	V	220–240	220–240
AC voltage range	V	198–254	198–254
DC voltage range	V	153–320	153–320
current 100 % operation	A	0.36	0.70
current 50 % operation	A	0.24	0.53
mains frequency	Hz	0/50/60	0/50/60
power factor	λ	0.97	0.97
operation frequency	Hz	125	125
max. ignition voltage	kVp	2.3	5.0
max. distance from lamp	m/pF	5/400	5/400
max. ambient temperature ta	°C	50	50
min. ambient temperature ta	°C	-25	-25
max. housing temperature tc	°C	80	85
fixing centres – length	mm	120–123	150–153
fixing centres – width	mm	77–80	77–80
length incl. ZE 002	mm	156	186
dimensions length x width x height	mm	130 x 87.5 x 39	160 x 87.5 x 39
weight	g	313	468

* at ta = 25 °C

Installation instructions

Wiring type and cross section

Stranded wire with end ferrule or solid wire with a cross section between 0.5 and 2.5 mm² may be used for wiring.

wire preparation:

0.5 – 1.5 □



Important advise

Always switch off at the mains before changing the lamp.

Warning – starting voltage up to max. 2.3 kV (PCS 70) resp. 5 kV (PCS 150)!

Not suitable for use with lamps with integral igniters.

Packing quantities

10 pieces/box
60 boxes/pallet
600 pieces/pallet

Standards

EN 55015 (radio interference)
EN 61000-3-2 (mains harmonics)
EN 61547 (interference immunity)
EN 61347-2-12
CE mark

Dimming operation

After starting up the PCS stepDIM the connected lamp needs to be burned in for the first 13 min in operation. A power reduction within these 13 min is not possible.

Should no mains voltage be connected (e.g. with ZRM U6M A003*) the light output will be reduced from 100 % to 50 % within 3.5 min.

By connecting the mains voltage (e.g. with ZRM U6M A003*) the device will increase the light output from 50 % to 100 % within 3.5 min.

It is allowed to connect another phase to the dimming pin D than the phase of the power supply.

* not possible with ZRM U6M A001 (Art. no. 22082722).

Radio interference

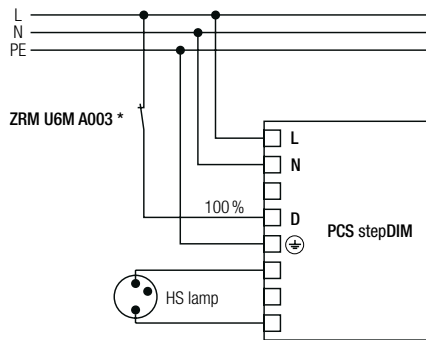
- Do not cross mains and lamp cables.
- Do not lay mains cables together with lamp cables (ideally they should be 5–10 cm apart).
- Do not lead mains cables too closely along the electronic ballast.
- Twist lamp cables.
- Increase the distance between lamp cables and earthed metal surfaces.
- Keep the mains cable in the luminaire short.

Note on wiring

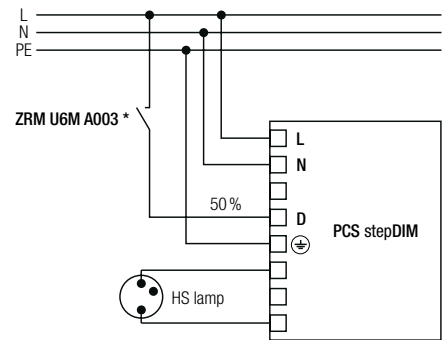
The length of the lamp wires is limited by the value of cable capacitance. The maximum of 400 pF would enable connection of approximately 5 metres of lamp wire.

In class 1 luminaires it is necessary to earth the ballast via the earth terminal, in class 2 luminaires not.

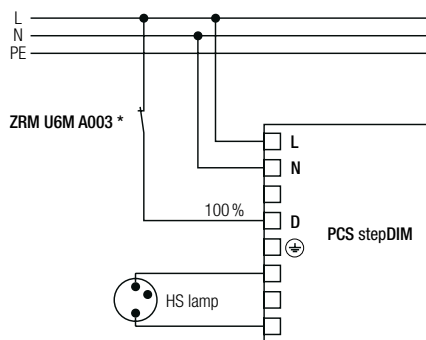
To avoid the damage of the control gear, the wiring must be protected against short circuits to earth (sharp edged metal parts, metal cable clips, louver, etc.).



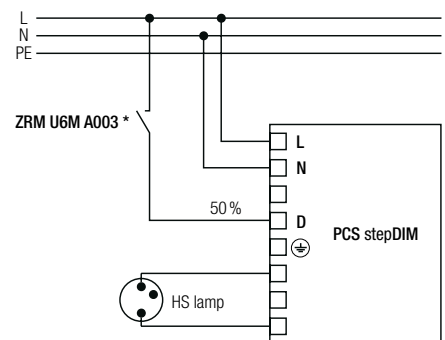
1) PCS stepDIM, 100 % operation/SK1 luminaire



2) PCS stepDIM, 50 % operation/SK1 luminaire



3) PCS stepDIM, 100 % operation/SK2 luminaire



4) PCS stepDIM, 50 % operation/SK2 luminaire

* not possible with ZRM U6M A001 (Art. no. 22082722).

Safety switch off

End of life of the lamps

At the end of their useful life, lamps often cycle on/off. The PCI ballast recognises this condition and switches off the lamp, after three complete on/off cycles and whilst the supply has been unswitched. Complete lamp switch off enables easy identification of a defective lamp in the application. After a change of the faulty lamp and an interruption of the mains supply (mains reset) the ballast will strike the lamp. When there is no lamp in circuit or a defective lamp is connected to the ballast, the ballast will switch off after approx. 25 minutes (3.5 minutes of ignition time).

Overtemperature shutdown

The units shut down at Δt approx. +10 °C compared with t_c/t_a . A mains reset must be carried out so that the units switch on again.

Overload strength

320 V_{AC} / 1 h

Harmonic distortion in the mains supply

Ballast

type	THD	3	5	7	9	11
PCS 0070 100 %	9.5	7.5	4.8	1.0	1.7	0.9
PCS 0070 50 %	13.7	11.3	6.8	1.4	1.8	0.5
PCS 0150 100 %	9.2	7.2	5.1	0.8	2.1	1.5
PCS 0150 50 %	15.6	12.6	7.7	1.1	2.1	0.7

Loading of automatic circuit breakers

Automatic circuit

breaker type	C10	C13	C16	C20	B10	B13	B16	B20
Installation \varnothing	1.5 mm ²	1.5 mm ²	1.5 mm ²	2.5 mm ²	1.5 mm ²	1.5 mm ²	1.5 mm ²	2.5 mm ²
PCS 0070	14	25	36	42	8	14	18	18
PCS 0150	7	14	20	20	4	6	7	7