POWER REDUCTION

NEW ADDITION TO THE PRODUCT RANGE





SWITCH UNITS

For power reduction using electronic ballasts with a 1–10 V interface

Suitable for a broad range of lamps

Vossloh-Schwabe's switch units are designed to enable one-step power reduction of lamps (FL, CFL, LED, HS, HI and C-HI) with the help of the respective electronic ballast or converter. To this end, the switch units utilises the 1–10 V interface of the control gear unit. The switch unit is mainly intended for outdoor luminaires in systems with or without a control phase.

Discharge lamps may only be operated at reduced power if they have been expressly approved for this purpose by the manufacturer. In addition, the unit can also be used to dim tubular and compact fluorescent lamps as well as LEDs.

The 1–10 V interface is addressed via an external circuit at the output of the switch unit using a suitably dimensioned resistor. The type of resistor and circuitry are selected by the luminaire manufacturer to suit the desired degree of power reduction.

The switch unit satisfies the provisions of DIN EN 61347 and is suitable for use in outdoor luminaires of protection classes I and II.

1–10 V Switch Units

- **FOR POWER REDUCTION OF OUTDOOR LUMINAIRES**
- **SUITABLE FOR VARIOUS LAMP TYPES**
- **FOR ELECTRONIC CONTROL GEAR FEATURING A 1–10 V INTERFACE**
- **TWO MODELS AVAILABLE FOR LIGHTING SYSTEMS WITH OR WITHOUT A CONTROL PHASE**

istockphoto.com

VOSSLOH SCHWABE

A Member of the Panasonic Group Panasonic

Vossloh-Schwabe Deutschland GmbH · Hohe Steinert 8 · 58509 Lüdenscheid · Germany · Phone +49 23 51/10 10 · Fax +49 23 51/10 12 17 · www.vossloh-schwabe.com

Switch units for electronic control gear featuring a 1–10 V interface



Power Reduction SU 1–10 V K
For lighting systems featuring an L_{ST} control phase

The switch unit employs a positive switching to reduce power, i.e. power is reduced when the control phase is switched off (L_{ST} = 0 V). The 1–10 V interface of the electronic ballast is addressed at the moment that power reduction is effected.

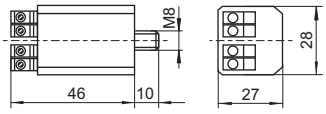
Power Reduction PR 1–10 V K LC
For lighting systems without a control phase

This switch unit can be used to effect power reduction in lighting systems that do not feature a control phase.

The 1–10 V interface is addressed on the basis of the fundamental operating principle used by Vossloh-Schwabe's PR 12 K LC power switch (details available on request). This power switch is capable of determining the starting time of reduced-power operation over the measured operating time of a lighting system.

As a result, it is no longer necessary to spend valuable time modifying the power-reduction unit to suit the continually changing day-night cycle; changing the clocks in line with daylight saving measures in the summer and winter is equally unnecessary. The 1–10 V interface of the electronic ballast is addressed as soon as the system is switched to reduced power.

Dimensions



Technical Data

Switch Unit	**149992**	**149993**
Type	SU 1–10 V K	PR 1–10 V K LC
Lamp type	HS, HI*, C-HI*, FL, CFL, LED	
Control voltage L_{ST}	220–240 V ±10%	none
Nominal frequency	50 / 60 Hz	
Externally connected resistor ($R_{ext.}$)	1–70 kΩ (min. 0.1 W)	
Self-heating	< 10 K	
Maximum permissible casing temperature (t_c)	80 °C	
Minimum permissible ambient temperature (t_a)	-30 °C	
Casing material / Dimensions (LxWxH)	PC / 56 x 28 x 27 mm	
Weight	50 g	
Screw terminals	0.75–2.5 mm^2	
Fastening (plastic pin)	M8x10	
Standards	EN 61347	
Country of origin	Made in Germany	

* suitable for lamps that have been expressly approved for power-reduced operation by the manufacturer

Switch units for electronic control gear featuring a 1–10 V interface

Function PR 1–10 V K LC

The intelligent PR 1-10 V K LC switch unit does not require a control line to reduce lamp output.

Thanks to an integrated microprocessor, the PR 1-10 V K LC switch unit can measure the burning time of the luminaire.
This value is then compared to data stored on the chip and used to set the time at which the luminaire will switch over to power-reduced operation.

The luminaire will be operated at reduced power for a minimum of six hours. This period of power reduction can be extended to a maximum of 10 hours.

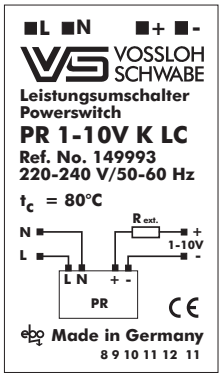
Setting Periods of Power-Reduced Operation for PR 1–10 V K LC

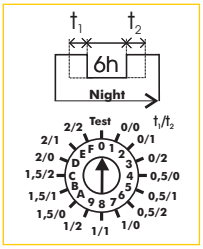
The PR 1-10 V K LC switch unit is delivered in its default setting – i.e. the dial is set to 'Test (Code 0)'.

After the luminaire has been installed, the desired power reduction time must be set using the dial on the switch unit.
The power-reduction period can be set to a minimum of six hours and can be extended by up to two hours in both directions (i.e. earlier or later). This results in a maximum power-reduction period of 10 hours.

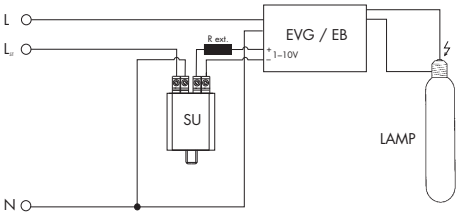
The dial enables the following settings:

Dial Settings Position	Timings	t_1 Hours	Basic power reduction period (hrs.)	t_2 Hours	**Total power reduction time (hrs.)**
0	**Test**	Factory setting: 5 seconds on full load, followed by power reduction			
1	**0/0**	0	6	0	**6**
2	**0/1**	0	6	1	**7**
3	**0/2**	0	6	2	**8**
4	**0,5/0**	0.5	6	0	**6.5**
5	**0,5/1**	0.5	6	1	**7.5**
6	**0,5/2**	0.5	6	2	**8.5**
7	**1/0**	1	6	0	**7**
8	**1/1**	1	6	1	**8**
9	**1/2**	1	6	2	**9**
A	**1,5/0**	1.5	6	0	**7.5**
B	**1,5/1**	1.5	6	1	**8.5**
C	**1,5/2**	1.5	6	2	**9.5**
D	**2/0**	2	6	0	**8**
E	**2/1**	2	6	1	**9**
F	**2/2**	2	6	2	**10**

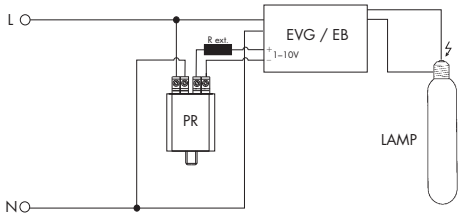




Wiring Diagram



SU 1–10 V K



PR 1–10 V K LC

Switch units for electronic control gear featuring a 1–10 V interface



VOSSLOH SCHWABE

A Member of the Panasonic Group Panasonic

Vossloh-Schwabe Deutschland GmbH · Hohe Steinert 8 · 58509 Lüdenscheid · Germany · Phone +49 23 51/10 10 · Fax +49 23 51/10 12 17 · www.vossloh-schwabe.com