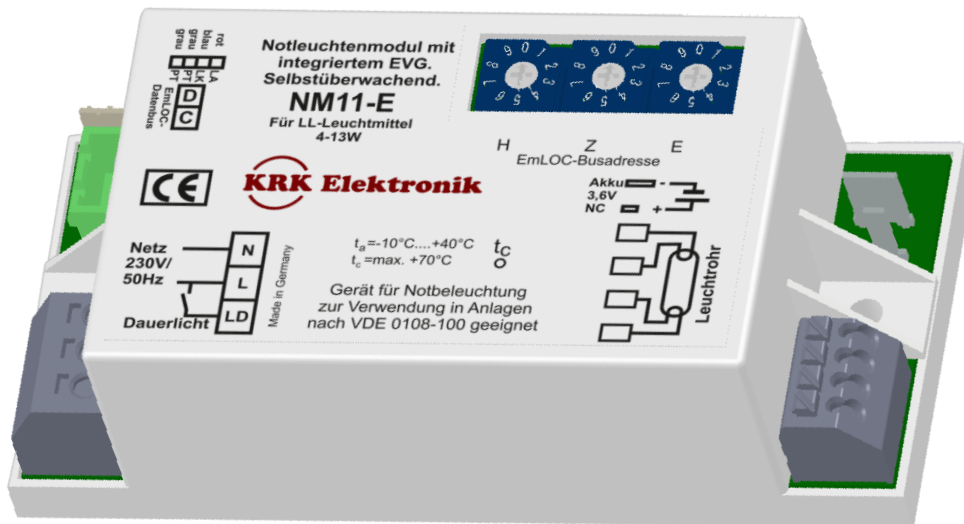


Product data sheet

Product: NM11



Description:

The emergency light modules NM11 operate fluorescent tubes from 4 W to 13 W. The electronics evaluates errors such as lamp failure, battery voltage error, charging error and temperature error during operation or tests and displays them using a two-colour LED. The entire electronics is housed in a module housing with protection against contact. The module is suitable for installing in a housing, where protection against contact is not ensured in accordance with VDE due to open electronics. The modern circuit design ensures maximum energy efficiency with least heat generation.

Derivatives:

NM11-S	Standard electronics with manual testing facility.
NM11-SUE	Self-monitoring electronics with automatic weekly testing.
NM11-E	Self-monitoring electronics with EmLOC bus connection for central testing and configuration.

Functions:

Function	NM11-S	NM11-SUE	NM11-E
Integrated power supply unit for DS	X	X	X
Automatic charging current regulation for battery	X	X	X
4 W to 13 W fluorescent lamps	X	X	X
Manual test button for 30 seconds test	X	X	X
Display of mains operation, emergency, checking and test mode as well as group errors	X	X	X
Error display of battery voltage error	X	X	X
Error display of battery charging error	X	X	X
Error display of temperature error	X	X	X
Error display of lamp failure	X	X	X
Output with zero DC voltage for increased lamp life	X	X	X
Switched steady light possible using external switches	X	X	X
Self-monitoring with automatic weekly testing		X	X
EmLOC bus connection			X
Steady light programming / switching using a bus host			X
Separate group addresses for steady light switching using a bus host			X
Flashing mode for error search			X
Emergency light blocking via central unit during free times			X

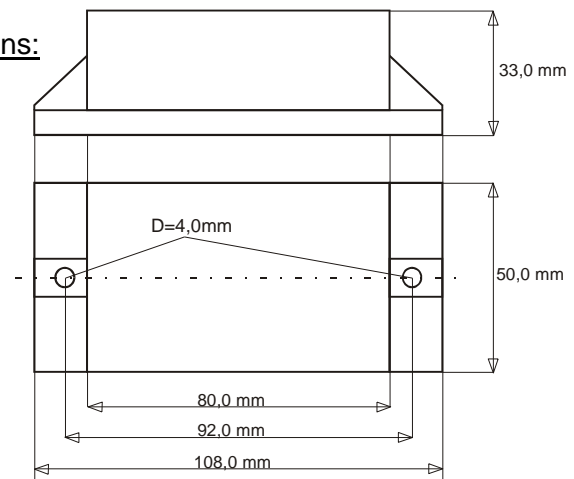
Technical data:

Supply voltage	230 V / 50-60 Hz
Connected wattage	4 W to 13 W
Battery voltage, recommended capacity at Full load (at 13 W approximately 1.4 A).	NC battery 3.6 V 1 h = 1.5 Ah / 3 h = 4.0 Ah
Battery charging	150 mA with conversion into intermittent trickle charge (75 mA).
Operating temperature when $t_u = 20^\circ\text{C}$	Approximately 36°C
Operating temperature range (t_a)	-20°C to $+40^\circ\text{C}$
Maximum permissible Operating temperature	$+70^\circ\text{C}$
Consumption in standby mode (lamp off, battery charged).	approximately 3.0 W

Charge tables:

Number of LED	Battery current (approximately)
6 W fluorescent	790 mA
8 W fluorescent tube	950 mA
10W-PL	1050 mA
11W-PL	1370 mA
13W-PL	1400 mA

Dimensions:



The necessary battery capacity can be calculated from the current drain stated.

A reserve should be included due to age related capacity loss.

Accessories:

- LED / test button combination LED-4 (duo-LED) with connecting cable and plug.
- LED / test button combination of membrane keys 20 x 20 mm

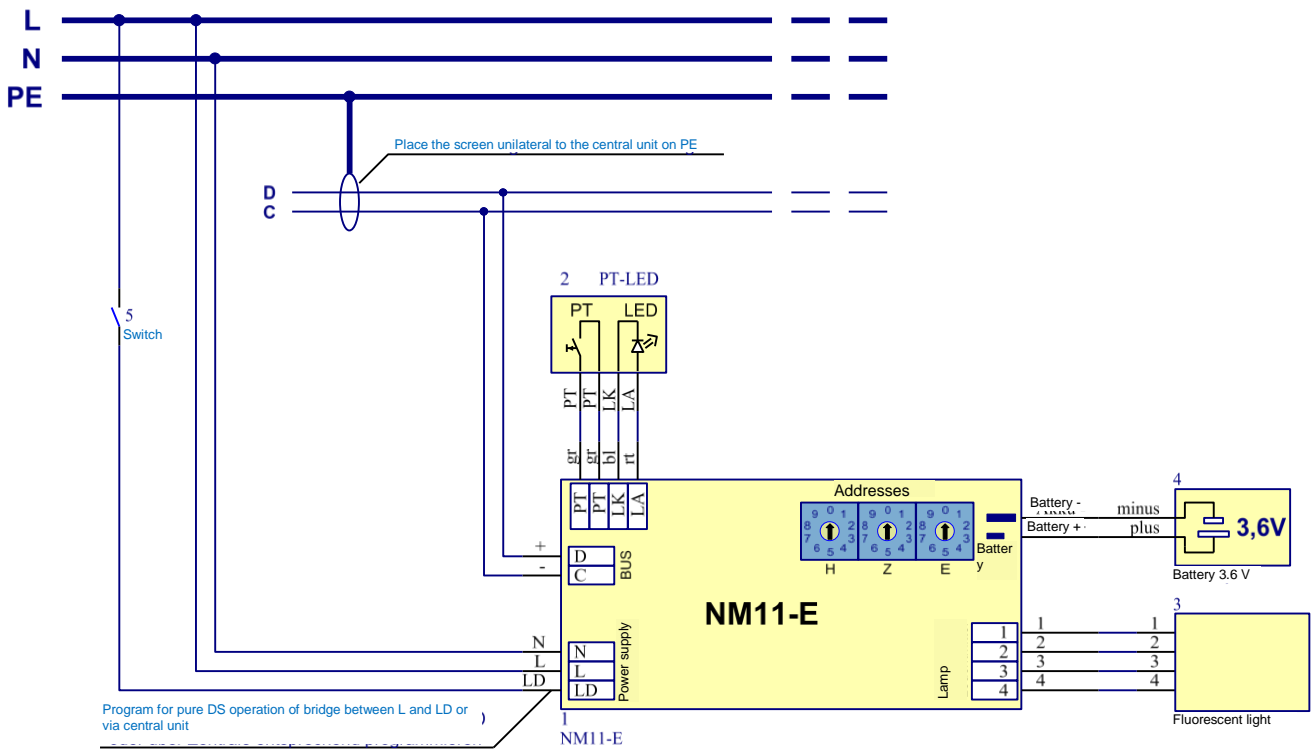
Error displays:

Display	Definition	Duration
LED turns green	no error, mains operation	
LED flashes green	Light is in test mode (30 seconds) or operation endurance test.	test runs for as long as the check
LED turns red	Light is in emergency mode (mains failure)	till the main supply is restored
LED flashes red (1x / second)	Light is signalling battery failure. Battery voltage too low or too high.	till error is rectified
LED flashes red (2x / second)	Light is signalling battery charging failure.	till error is rectified
LED flashes red (3x / second)	Light is signalling temperature error. Internal temperature of lights > 80°C	till error is rectified
LED flashes red (4x / second)	Light is signalling lamp failure (no indicator lamp connected or short-circuit)	Till error is rectified

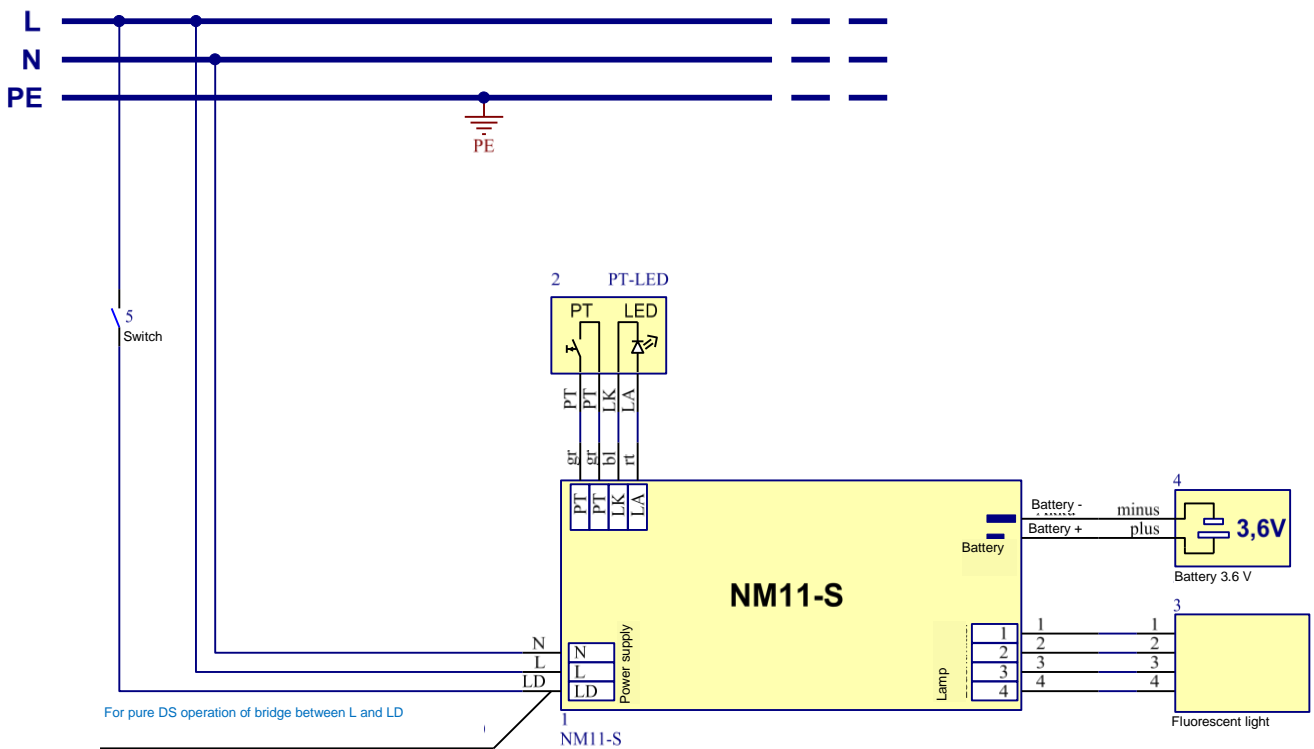
Order numbers:

Name	Description	Order number
NM11-S	Emergency light module without accessories:	109-1040-0060
NM11-SUE	Emergency light module without accessories:	109-1040-0030
NM11-E	Emergency light module without accessories:	109-1040-0050
PT-LED-4/2x2	Test button / function check combination (integrated)	109-1036-0100

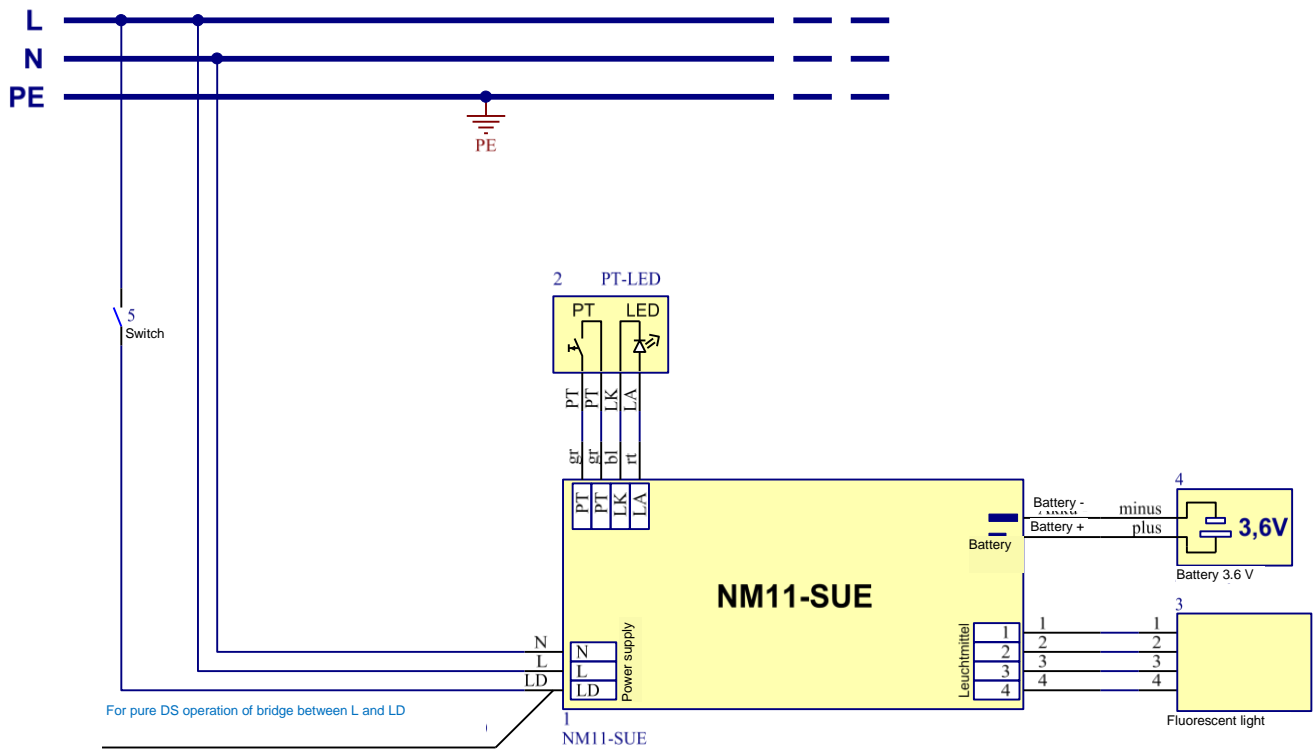
Circuit diagram of NM11-E:



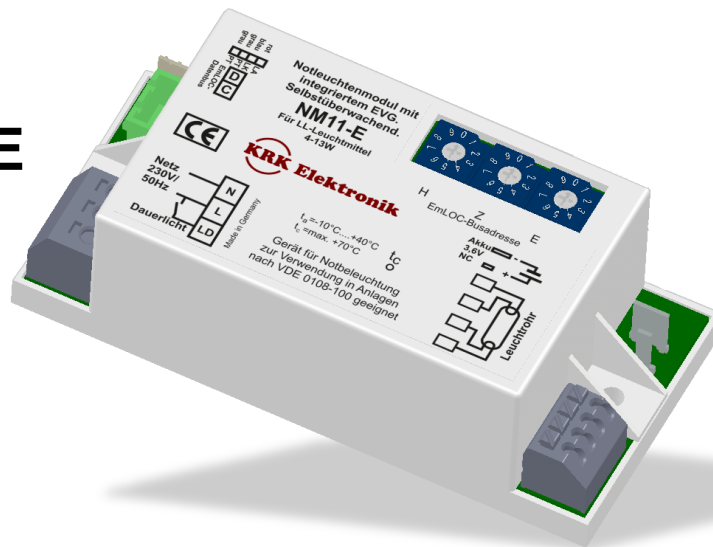
Circuit diagram of NM11-S:



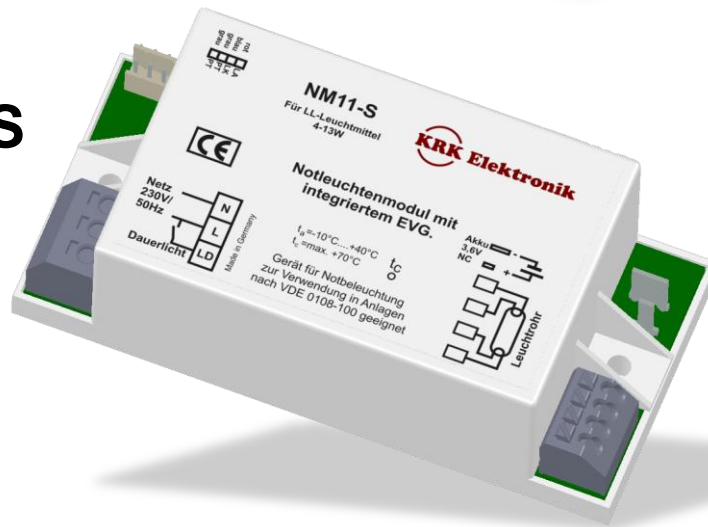
Circuit diagram of NM11-SUE:



NM11-E



NM11-S



NM11-SUE

