

EN

DESCRIPTION

The DALI light regulator from the POSEIDON® system is primarily designed to control luminaires equipped with a DALI control device (DALI electronic ballasts, DALI LED drivers, etc.). This regulator provides the regulation of the lighting to the desired level for up to four independent groups of lights. The device includes an internal movement sensor that can automatically turn lamps on or off based on the presence of people in the monitored area. The device also provides DALI bus power supply.

The commands for controlling the lighting level can be also wirelessly transmitted to other POSEIDON® receivers. The regulator can be used for contactless self-operated control in the function of movement sensor in cooperation with a suitable receiver.

The internal light sensor is used to measure light intensity and send the values wirelessly for further processing, especially with the P8 TR IP receiver. The DALI light regulator can be also used as signal repeater to re-transmit RF signal (RETR function).

The DALI regulator is designed (thanks to its scanning characteristics) to be used primarily in manufacturing halls (P8 LR HF DLM) and warehouses (P8 LR HC DLM), where it should be placed on the ceiling.

FUNCTION

The regulator consists of four functional elements: movement sensor (occupancy), light sensor (lx levels), light regulator (for some types of regulation modes it can be extended up to four independent regulators) and control part with DALI bus power supply.

Movement sensor

The movement sensor reacts to the body heat of moving people, animals or objects. The internal movement sensor only sends the coded signal about movement to connected receivers in case when the ambient lighting level is lower than the Lighting level set at the movement sensor card at the section Parameters. Then the sensor sends the coded signal and the cooperating receiver turns on the controlled device.

In the ON+OFF mode, the movement sensor transmits two different signals to the connected receiver. The first one is the turn ON signal, the second one is the OFF signal. The Turn ON state (closed state) lasts as long as the sensor senses movement plus for a period of time set on the internal Timer. The mode ON+OFF is suitable for situations when the DALI regulator controls just one receiver. In the ON mode, the movement sensor transmits only the ON signal and the Timer is set at the connected receiver. The ON mode must be used in cases when one receiver is controlled by more movement sensors (regulators). The receiver must be set in the TIMER mode. To optimize the frequency of transmission of the information about movement, the minimum transmission period has to be set on the sensor. If needed, the sensor sensitivity can be lowered. Some of the movement sensor functions can be also simulated by other POSEIDON® transmitters.

Light sensor

The value of light intensity measured by light sensor is used by movement sensor and by light regulator. It is also possible to transmit this value for further use to other POSEIDON® devices. The daylight sensor is located under the light guide next to the lens of the movement sensor.

Light regulator

Light regulator works in several modes, which can be set and controlled by the internal movement sensor and/or by other POSEIDON® transmitters.

During the feedback daylight regulation to the normal and lowered level, the DALI regulator compares the actual light value measured at the lens of the sensor with the desired light value (it is usually not possible to use the external lighting regulator for the feedback regulation). If the two values differ more than the set hysteresis level, the regulator sends the output control signal to adjust the lights accordingly. The comparison continues in the pre-set time steps until the measured and desired light values are equal. The feedback daylight regulation can only be set for regulator no.1.

In some cases, the curve daylight regulation is a more favourable option. The curve daylight regulation uses the conversion curve which describes the relation between direct daylight level measured at the lens of the daylight sensor and the level of its output control signal which is based directly on the measured value. The regulator provides the possibility to set up 8 adjustable conversion curves which can control up to 4 groups of lights on two different light levels (Normal and Low this applies to regulators 1 to 4). The DALI regulator used as a light sensor for the curve daylight regulation has to be installed in places without influence of the lighting fixtures, so in most cases, the external lighting regulator must be used. During the daylight regulation to the normal and low level, the output control signal can be set also at a fixed level (similarly to the Dimmer mode). Each of the four outputs control signals (Normal regulation) provides a possibility to use the offset function, i.e. to use the second (offset) output control signal level adjusted by a fixed percentage value, e.g. for independent control of the series of lights in darker or lighter areas. For each of the output control signals, it is possible to set the state for the outputs after turning ON or after a power failure. The programmed POSEIDON® transmitters can control and set some of the special functions of the DALI regulator.

DALI bus control and power supply

The DALI bus control block with power supply provides power and control up to 32 ballasts. (The number of connected ballasts is limited by their total current consumption, which must not exceed the maximum allowed value.) An independent DALI

group of ballasts can be connected to each output signal from the regulation block 1 to 4. DALI groups G0 to G3, which are assigned to control blocks 1 to 4, are used.

INSTALLATION

The DALI light regulator is suitable for non-stop operation and for connection to the fixed installation which must comply with the relevant standards and regulations. The device must be connected to the power grid only by a specialized technician with appropriate electrical qualification.

Turn off the electrical grid voltage supply before initiating installation work!

Connecting and installation

Place the DALI regulator so that the monitored area covers the area of the supposed movement. The centre of the monitored area is also the spot where the light intensity is measured. The shape of the monitored area for P8 LR HF DLM approximates the shape of the circle (Fig. 1a) and the range is independent of the direction of movement. The monitored area for the P8 LR HC DLM approximates the rectangle (Fig. 1b), and it is optimal for movement detection in the corridors between the shelves, it is necessary to install the device in the way that the arrows on the lens cover suggest. At the same time, there are more detection spots for the P8 LR HC DLM, which ensures a higher sensitivity of monitoring the movement. The adjustment of the monitoring area can be done by putting one or two blind covers on the lens. The blinds can be adjusted by cutting off the needed segment. The approximate limitation is shown on Fig. 2a for P8 LR HF DLM and Fig. 2b for P8 LR HC DLM.

The DALI regulator is, after connecting to the power supply and to the bus, screwed or hanged under the ceiling on the defined spot at the defined mounting height, so that the size of the monitored area of the sensor matches the desired area on the ground. For P8 LR HC DLM, it is important to make sure that the direction of movement of people in the corridor corresponds to the arrows placed on the sensor cover.

Note:

In case when it is needed, the monitored area range can be extended by using another POSEIDON® movement sensor, which can be programmed in the regulator sensor by the Movement function or, if required, it is programmed by using one of the functions which control directly the light regulator.

The usual assembly method (Fig. 3): Screw the supplied grommet (b) to the regulator box (a) and put the joint cable for DALI power supply and bus (c) through it, or there can be second grommet screwed on when there are two cables. Use the supplied terminals (d) to connect the corresponding pairs of wires L and N from the power supply cable and from the DALI regulator (Fig. 4). Insert the supplied O-ring (e) into the slot on the back side of the DALI regulator body and close the DALI regulator box (a), and it is screwed to the regulator body (f) with four screws (g) and after that, the jointing on the grommet is tightened.

The assembled DALI regulator can be out on a ceiling or other suitable surface in several ways:

- Screwed through the ceiling plate into the pre-pressed holes on the DALI regulator box with ø4 mm plastic screws (Fig. 5a). The depth of screwing into the box is max. 12 mm.

- Screwed on the ceiling plate using covers with holes. These accessory covers have to be replaced before assembling the DALI regulator by two caps attached to the DALI regulator body and two caps attached to its box. THE DALI regulator is screwed on the ceiling with twin screws of ø4 mm and of suitable length, together with the box (Fig. 5b). The length of the hole for the screws in the covers is 37 mm.

- Turning mounting with the stirrup (not supplied). Use the two ø4 mm plastic screws and place the DALI to achieve its desired angle (Fig. 5c). The depth of screwing into the box is max. 8 mm.

Note:

If the supplied grommet is not enough for connecting the power supply and the DALI bus, another hole for another grommet can be screwed in the box. Do not install the DALI regulator in the vicinity of any disturbing source like lights or heating elements. Unless the device is used as a light sensor in the daylight curve regulation, do not install it in place facing the direct sunshine. The monitoring area is changing according to the installation height of the DALI regulator.

In case of any further questions, please contact the technical support at enika@enika.cz.

PROGRAMMING

The DALI light regulator is designed for programming only by using the distance control via PC, using the configuration software POSEIDON® Assistant and the P8 TR USB transmitter. The distance control is used also for addressing the individual ballasts. The distance control is used mainly for setting the regimes of the light regulator:

Modes of light regulator:

DIMMER

Output control signals of the DALI regulator are set on the desired value independently on the value of ambient light. The change of output control signal value is done according to the pre-set start and finish time.

NORMAL

The light regulation is on and it regulates the light value to the desired level.

LOW

The light regulation is on and it regulates the light value to the desired lower level.

OFF

Regulation is off. The values of the output signals for controlled lights are zero (lights are off).

AUTO

This mode combines all of the previous modes. The DIMMER, NORMAL AND LOW modes are gradually activated for the time given by three independent timers with the return to the OFF mode Timers can and their values be changed by internal movement sensor and/or by any connected POSEIDON® transmitter.

The built-in movement sensor can be also controlled by programmed POSEIDON® transmitters in following functions:

MOVEMENT

Command sent by a transmitter (mostly sensor of movement simulates movement and activates the internal movement sensor. In case the ambient light intensity is lower than the set value (Lighting) at the movement sensor (Movement sensor/Parameters), the sensor sends the command to the connected POSEIDON® receiver and the light is on for the set period of time (Timer). It is possible to ignore the Lighting level so the lights will always be switched on when the button is pressed. This function can be used in large corridors where the transmitter is placed outside the range of the monitored area of the movement sensor.

OFF PIR

Command sent by a POSEIDON® transmitter to cancel the current mode and running Timer of the movement sensor, so the movement sensor is in quiet mode.

TIMER

Command sent by a POSEIDON® transmitter to activate the internal movement sensor and to set it to last for the period given by the transmitter. This function also activates so called "Protected mode" on the Motion sensor. This mode limits, by using other functions, the possibility to change the time of endurance to a lower, non-zero value. The protected mode is automatically finished when the time of endurance is up or when the endurance time is increased by a different function. Any new movement detected by internal movement sensor doesn't influence the actual time of endurance, if the time set on the internal timer of the motion sensor is lower than the actual endurance time (it is shortened from the original set time of endurance in the protected mode.

TIMER / OFF PIR

Short press of the programmed transmitter button activates the function PIR Timer, longer press for more than 0.5 seconds activates the OFF PIR function.

ADD TIMER

Activation of the state of the motion sensor for the time given by the transmitter. Each other pressing of the programmed transmitter button is the time of endurance added up to the maximum value, given by the quadruple time set by the transmitter. The Protected mode, which was described in the function PIR Timer

ADD TIMER / OFF PIR

Short press of the programmed transmitter button activates the function ADD TIMER, longer press for more than 0.5 seconds activates the OFF PIR function.

By default, the DALI regulator is set to time-limited search i.e. that when the DALI regulator is connected to power grid, it is possible to identify it in the commissioning software POSEIDON® Assistant only within the first five minutes, when it is being connected via the distant control for the first time. This distant searching for regulator can be forbidden via the distant control, or there can be set an unlimited searching (this can be used for an unauthorized access to the distant control!).

The setting of the searching of the regulator can be identified when connecting it to the power supply. Three blinks of the green and red LED lights mean unlimited searching, one blink means timely limited searching, no blink means that the searching is forbidden.


Note:

For an easy identification of the installed DALI Regulator, it is possible to use the distant control and alternatively flash the red and green LED lights under the sensor lens.

In the factory setting, all codes transmission is set to OFF and this state is indicated by flashing the green LED light under the lens, approximately once a minute.

ENIKA,CZ s.r.o. hereby declares that the radio products P8 LR HF DLM and P8 LR HC DLM comply with the essential requirements and other relevant provisions of Directive 2014/53/EU. For details and full EU Declaration about compliance, please see: www.enika.eu.

Technická data / Technical data	P8 LR HF DLM, P8 LR HC DLM
Napájení / Power supply:	230 V ±10 % 50 Hz
Výstupní řídicí signál / Output control signal:	podle / according to ČSN EN 62386-101, -102 (DALI)
Napájení sběrnice / Bus bar power supply:	max. 20,5 V, max. 65 mA
Počet řízených kanálů / Number of controlled channels:	4
Provozní kmitočet / Frequency:	868,3 MHz
Dosah / Range:	150 m ve volném prostoru / in open space
Vf výkon / RF power:	10 dBm
Počet kódů / Number of codes:	2 ²⁴
Počet kódů v paměti / Number of codes in the device memory:	32
Provozní teplota / Operating temperature:	-20 až / to + 55 °C
Připojovací svorky / Terminal blocks:	WAGO 222-412 max. 2,5 mm ²
Stupeň krytí / IP protection:	IP 67 podle / according to ČSN EN 60529
Rozměry / Dimensions:	podle obr. 6 / according to fig. 6
Na zařízení není dovoleno provádět dodatečné technické úpravy! / It is forbidden to do any technical modifications on the device!	
Zařízení lze provozovat na základě aktuálního VO–R/10/. (viz www.ctu.cz) a za podmínek v něm uvedených.	

EU Prohlášení o shodě	
Výrobce:	ENIKA,CZ s. r. o. 190 00 PRAHA 9, Pod Harfou 933/86 IČO: 28218167
tímto prohlašuje, že výrobek	
typové označení:	P8 LR HF DLM P8 LR HC DLM
specifikace: druh výrobku:	--- Regulátor osvětlení DALI
frekvence: citlivost:	868,3 MHz -110 dBm
- je ve shodě se základními požadavky evropských direktiv: 2014/53/EU (RED) (dodávání rádiových zařízení na trh) 2011/65/EU (RoHS) (omez. používání některých škodlivých látek)	
- splňuje požadavky těchto harmonizovaných norem a předpisů: ČSN ETSI EN 300 220-1 V3.1.1:17 ČSN ETSI EN 300 220-2 V3.2.1:19 ČSN ETSI EN 301 489-1 V2.1.1:17 ČSN EN 60669-2-5:17 ČSN EN 60669-1 ed.2:03 ČSN EN 50581:2013	
Toto prohlášení je vydáno na výhradní odpovědnost výrobce.	
V Nové Pace dne 17.09.2020	 ing. Vladimír Milítký, řízení systému jakosti