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Instruction

CARINA LED plafond

Model: surface mounted emergency luminaire

READ
Read carefully these instructions before installation. It contains important information for installation, operation and maintenance of this emergency light luminaire.

GENERAL INFORMATION:
1. The luminaire should be installed by a qualified installer.
2. An electrical installation should be made in conformity to existing standards.
3. Improper connection, unauthorised modifications or using not in accordance with predefined applications might result in a loss of the guarantie.
4. Before installation the mains supply must be switched off.
5. The luminaire is made in I class of protection, so that it must be connected to a PE protection wire.

MAINS CONNECTION
Supply voltage is placed on a product's housing. Supply terminal block is marked with symbols of all supply and communication wires (depending on version).

OPERATION OF EMERGENCY LIGHTING LUMINAIRES

AN SELF-CONTAINED EMERGENCY LUMINAIRE WITH MANUAL TEST
It is recommended to test a luminaire's operation and autonomy once a 6 month by disconnecting a supply voltage. Before the test is to be performed, the battery pack must be charged without interruption for a period of 24 hours minimum.

AN	INDICATOR
OFF	No mains supply or charger circuit's malfunction
ON	Mains supply present, charger circuit in operation

AT SELF-CONTAINED EMERGENCY LUMINAIRE WITH AUTO TEST
A luminaire with auto test is equipped in an automated control circuit. A light source, an electronic circuit and a battery pack are being controlled. Functional tests are being performed every 7 days, while autonomy tests every 6 months.
An actual state of a luminaire is being signalled by two LED indicators (D1, D2), which are placed on a luminaire's housing. In a case of any malfunction, one or two indicators flash in orange. See the full signalling list below.

LED signalling codes for auto test luminaire

D 1	D 2
Flashing green (3 flashes every 3s): – a luminaire during a test.	No signal: – a luminaire during emergency operation.
Green (signals 24h after a test) – a luminaire works correctly.	Flashing green (1 flash every 3s): – a battery pack charging is started.
Flashing orange (1 flash every 3s): – a light source is damaged.	Flashing green (3 flashes every 3s): – charging in process.
Flashing orange (2 flashes every 3s): – insufficient autonomy time.	Continuous green: – a battery pack is fully charged.
Flashing orange (3 flashes every 3s): – electronic circuit is damaged.	Flashing orange (3 flashes every 3s): – a charging circuit is damaged.
No signal – a luminaire works correctly	

CB CENTRAL BATTERY EMERGENCY LUMINAIRE
A luminaire designed to be supplied from a central battery doesn't have its own testing circuit. It is being tested by a central battery system's controller.

CT SELF-CONTAINED EMERGENCY LUMINAIRE WITH EXTERNAL MONITORING
A luminaire designed for a central monitoring system, it has an addressing unit, connected to a central controller by communication wires.

BATTERY PACK
If an autonomy time appears to be shorter than required, a battery pack must be replaced. Battery packs applied should assure proper operation (i.e. nominal autonomy) for a period of minimum four years.
A battery pack which is used or damaged must be replaced for a new one with same parameters, which are given on a label. Before replacement mains supply must be disconnected. Used battery pack must be disposed for recycling.

IMPORTANT:
During a battery replacement one need to pay a particular attention on given battery parameters: voltage, capacity, polarisation. Improper battery parameters or reversed connection may result in an electronic circuit's damage.

INSTALLATION:

1. CEILING DIRECT INSTALLATION:
1.1. Remove a diffuser and an LED panel.
1.2. Drill holes in a ceiling or a wall, for a luminaire's fixing.
1.3. Lead a supply cable through a cable gland/grommet in the luminaire's housing.
1.4. Fix the luminaire's base to a ceiling or a wall.

2. CONNECTIONS:
3.1. Choose one of the connections schemes given (drawing 1).
3.2. Connect the power cable and a communication cable (when needed, for CT).
3.3. Set desired parameters of a movement detector (for versions with a movement detector).
3.4. Connect a battery plug to an electronic circuit.
3.5. Re-install the LED panel and the diffuser.

IMPORTANT:
Supply cable may have maximum diameter of 13.4 mm. A luminaire's terminal block is designed for wires with a maximum cross-section of 4 mm2.

5. SWITCHING POWER ON:
5.1. Switch the power on.
5.2 Check if signal LEDs display correct operation (charging).
5.3. Verification of the autonomy time may be checked after min. 24 h since the power was on.

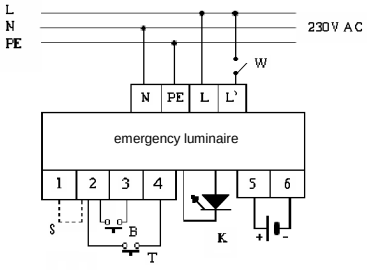
TECHNICAL DETAILS:

Power supply	:	230V AC lub 220V DC
Power consumption	:	18 W lub 25W
Autonomy	:	1 lub 3 godziny
Light source (non-replaceable)	:	panel LED 12W or 18 W
Module	:	LED; LED /AT
Charging time	:	24 godziny
Ambient temperature (ta)	:	0°C - 40°C
Battery pack (replaceable)	:	NiCd lub NiMH HT 3,6V - 1,5; 2,5; 4,0; 4,5Ah
Protection class	:	I
Installation	:	F
Housing's protection level	:	IP 65
Emergency luminous flux	:	133 lm
Mains luminous flux	:	1304 lm
Conformance to standards	:	PN-EN 60598-2-22, PN-EN 60598-1

The housing and the diffuser made of plastic.
The luminaire might be optionally equipped in a micro-wave movement detector.

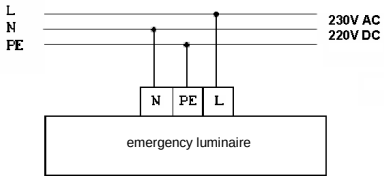
Drawing 1
(CONNECTION SCHEMES)

1. SELF-CONTAINED EMERGENCY LUMINAIRE AN or AT with optional movement detector

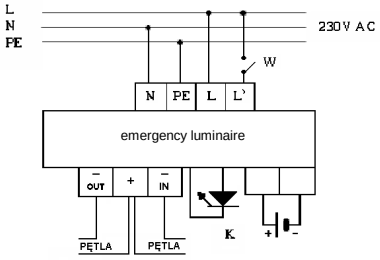


W – light switch
B – emergency operation inhibit switch (by connecting terminals 2 and 3 an emergency operation will not start)
T – manual test button (by connecting terminals 2 and 4 it is possible to test the emergency operation)
K – control circuit:
AN – battery charging LED indicator
AT – auto test circuit LED indicators
S – emergency operation rest switch (by connecting terminals 1 and 2 the emergency operation will be interrupted till recovery of a mains supply)

2. CENTRAL BATTERY EMERGENCY LUMINAIRE



3. CENTRAL MONITORING EMERGENCY LUMINAIRE



The emergency luminaire with installed ECS110 addressing module (for a central monitoring system)

MOVEMENT DETECTOR SETTING

Basic information
The lamp can be equipped in one of several microwave movement detectors and can operate either in on-off (e.g. ST701F, MC008S, ST701D, …) mode or in dimmable (e.g. ST760, MC003V, …) mode. It blocks for the luminaire to operate when there is no one in proximity, what gives energy savings. Their detection range: 360°, detection distance: up to 8 m, HF system: 5,8 GHz, ISM wave band, transmitting power: from below 0.2 mW to 0.5 mW, depending on model.

Ambient light setting
For versions with DIP switches, it can be adjusted using "LUX" (ST701F) or "Daylight Sensor" (other models) section of dip switches. There are several settings available, out of which 5 lx or 10lx are designed for operation in darkness, the ones from between 30lx and 150lx allow operation during twilight period, while 2000lx or "Disable" settings can be used to determine working during both day and night or for the purpose of testing if a lamp or a detector work properly. On drawings one can find all possible settings, depending on a sensor's model.
For version with knobs' settings (ST701D and ST701E), a „LUX" knob allows regulation of ambient light setting from 3lx (left limit) up to 2000lx (right limit).

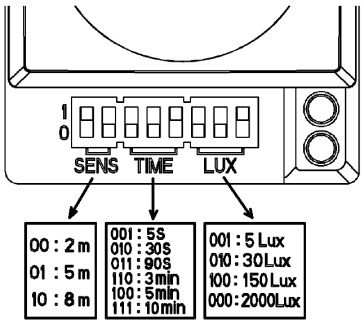
Sensitivity setting
For versions with DIP switches, it can be adjusted using „SENS" (ST701F) or „Detection Area" (other models) section of dip switches. There are several settings available, out of which 8m (for ST701F) or 100% (other sensors) gives maximum sensitivity, i.e. optimum operation in 8m radius (16m diameter) and allows them to be used in biggest spaces, e.g. big halls or long corridors. Other settings can reduce this range, depending on application. On drawings one can find all possible settings, depending on a sensor's model.
For version with knobs' settings (ST701D and ST701E), a „SENS" knob allows regulation of a distance setting from 1m (left limit) up to 8m (right limit).

Time-delay setting
For versions with DIP switches, it can be adjusted using "TIME" (ST701F) or „Hold Time" (other models) section of dip switches. There are 6 settings available - to be chosen according to a user preference, from 5s up to 30min. The counting restarts with every new movement detected. On drawings one can find all possible settings, depending on a sensor's model.
For version with knobs' settings (ST701D and ST701E), a „TIME" allows regulation of a time delay from 10s (left limit) up to 12min (right limit).

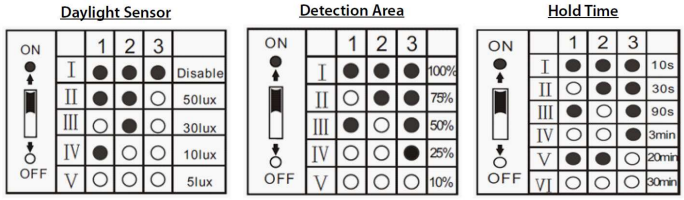
Stand-by settings
Concerns dimmable versions only (ST760, MC003V). Intended to create a comfort light while assuring energy savings after „TIME" / "Hold Time" (i.e. 100% light) was finished. Can be adjusted using "Stand-by Period" and "Stand-by Dimming Level" sections of dip switches.
"Stand-by period" will last as long as determined by a user, starting from 5s or 10s up to 1h. When there is no new movement during the set time, the lamp is switched off. Additionally, sensors are equipped in functions described as "Disable" or „+∞" – which enable to maintain the comfort light level all the time, until new movement is detected (light is never off). The setting 0s for ST760 allows inhibition of a dimmable operation.
„Stand-by Dimming Level" means a desired comfort light level, which can be chosen between 10% and 50%, with several steps between, depending on a sensor's model.
On drawings one can find all possible settings, depending on a sensor's model.

Default factory settings
At the factory a luminaire gets default settings, which enable to test a fitting both during production and during final installation. The parameters should be modified during installation according to a final user's preferences.
Facory settings:
- model ST701F: „LUX" = 2000lx , „SENS" = 8m, „TIME" = 5s;
- model MC008S: „Daylight Sensor" = Disable , „Detection Area" = 100%, „Hold Time" = 5s;
- model ST760: „Daylight Sensor" = 2000lx , „Detection Area" = 100%, „Hold Time" = 5s, „Stand-by Period" = 10s, „Stand-by Dimming Level" = 10%;
- model MC003V: „Daylight Sensor" = Disable , „Detection Area" = 100%, „Hold Time" = 5s, „Stand-by Period" = 5s, „Stand-by Dimming Level" = 10%;
- models with knobs (ST701D and ST701E): „LUX" = max. (2000lx), „SENS" = max. (8m), „TIME" = min. (10s).

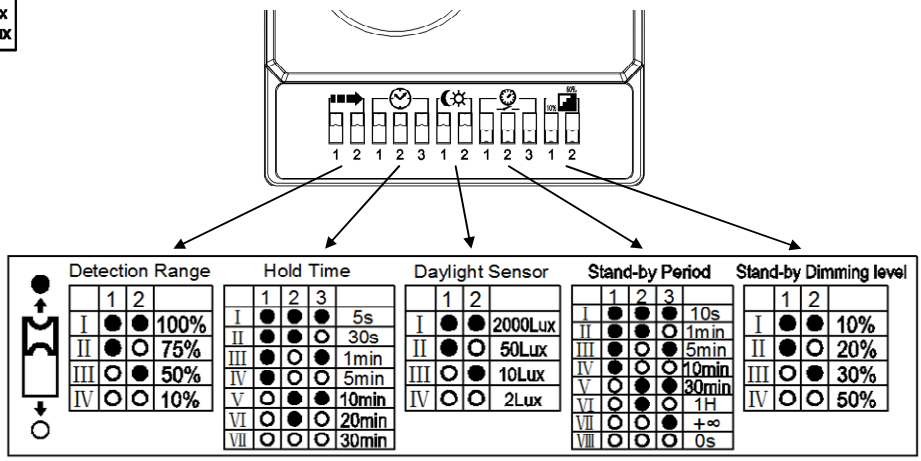
All settings for ST701F sensor:



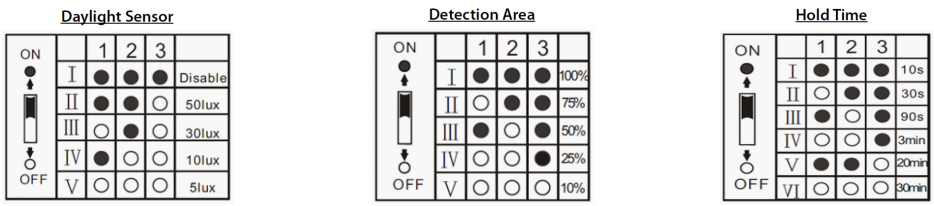
All settings for MC008S sensor:

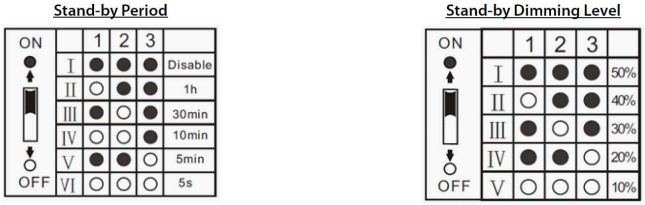


All settings for ST760 sensor:



All settings for MC003V sensor:





Settings' way for ST701D and ST701E sensors: