

## CRYSTAL SGN LED



CE IP40

INSTALLATION AND MAINTENANCE MANUAL **EN**

## MOUNTING TYPE

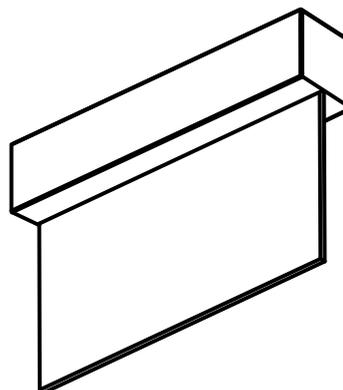
- C5 - recessed
- C6 - directly to the ceiling
- C7 - flexible suspended
- W3 - side to the wall
- W4 - back to the wall

## SYSTEM VARIANT

- ST - STANDARD - tests commissioned manually (see menu and magnetic switch)
- AT - AUTOTEST - internal components, battery and light source tests being performed automatically
- CENTRALTEST - internal components, battery and light source tests being performed on command from the main unit of central management system

## OPERATING MODE

- NM - NON-MAINTAINED - luminaire operates in emergency mode after power supply failure
- SWITCHED MAINTAINED - luminaire operates in emergency mode after power supply failure, mains operation controlled by the switched phase L.
- NIGHT - luminaire operates in emergency mode after power supply failure, mains operation controlled from the main unit of central management system (only CT luminaire system version)



## TESTS

The microcontroller - based control and test unit performs automatically (AT) or on order from the central management system (CT) or by manual execution (ST) two types of tests:

**A TEST** - internal components and light source test lasting 60 seconds - performed every 30 days for the AT system variant

**B TEST** - internal components, light source and operation duration test (till the battery is fully discharged) - performed every 360 days for AT system variant

## TECHNICAL DATA

Supply voltage	230V AC 50/60Hz
Ingress protection	IP40
Protection class	I
Light source type	LED strip <sup>1)</sup>
Light source temperature	5000K
Light source supply power	1W
Light source lifespan	> 50 000h
Battery type / voltage	Ni-Cd, Ni-MH / 4,8V
Battery capacity	1,0; 1,6Ah

Battery charging time	< 24h
Emergency operation time	1h; 3h
Ambient temperature range	+5 - +40°C TE: <sup>2)</sup> -20 - +40°C
Supply cable cross-section area	0,5 - 2,5mm <sup>2</sup>
Supply cable diameter	≤ 13mm
Communication cable diameter	≤ 7mm
Suitable for through wiring	YES
Suitable for surface wiring	YES

<sup>1)</sup> Non-exchangeable, but serviceable light source; <sup>2)</sup> TE - extended temperature range

## SAFETY

- During the installation and usage of emergency luminaires, follow the national safety rules as well as generally accepted technical rules.
- Supply voltage should never be removed from the permanent phase by any external switches, relays or contactors (BMS, wall switch, etc.).
- During usage of emergency luminaires keep a register of inspection reports.
- Luminaire installation or maintenance has to be preceded by turning off the power supply and battery.
- Ensure that all foreign bodies are removed before the luminaire power is switched on.
- The luminaire is to be used undamaged and in accordance with specifications.
- The luminaire designed for use inside the building.

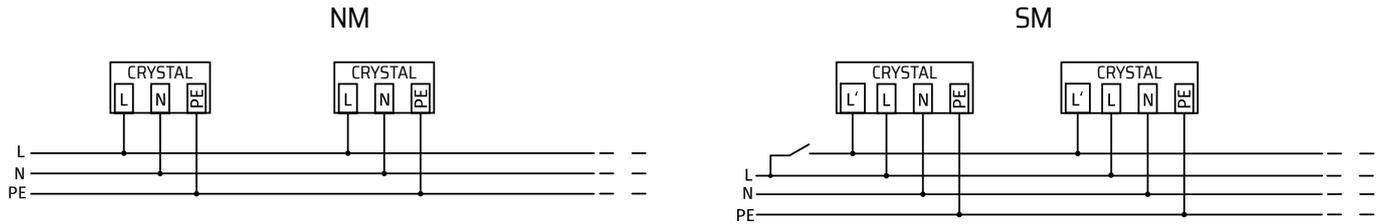
**The above-mentioned luminaire is a fire protection equipment and therefore falls within relevant standards and regulations.**



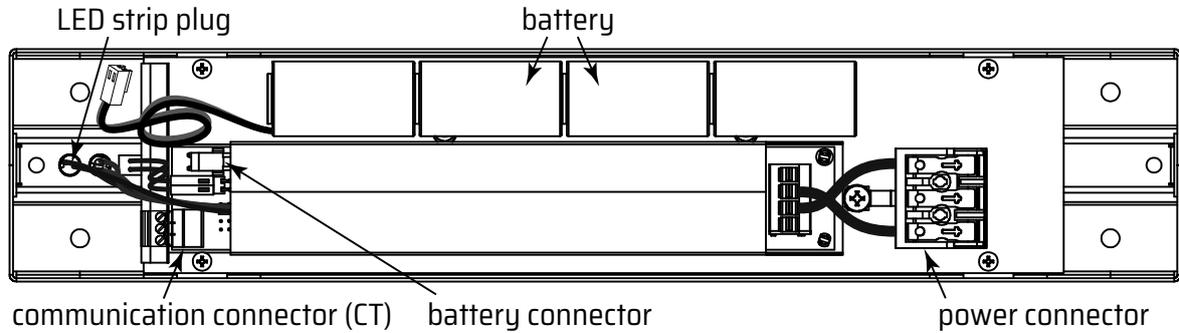
**NOT OBEYING THE SAFETY INSTRUCTIONS AND RECOMMENDATIONS CAN CAUSE LIFE THREAT OR EVEN DEATH**

Not obeying this instruction manual can result in luminaire damage and loss of warranty

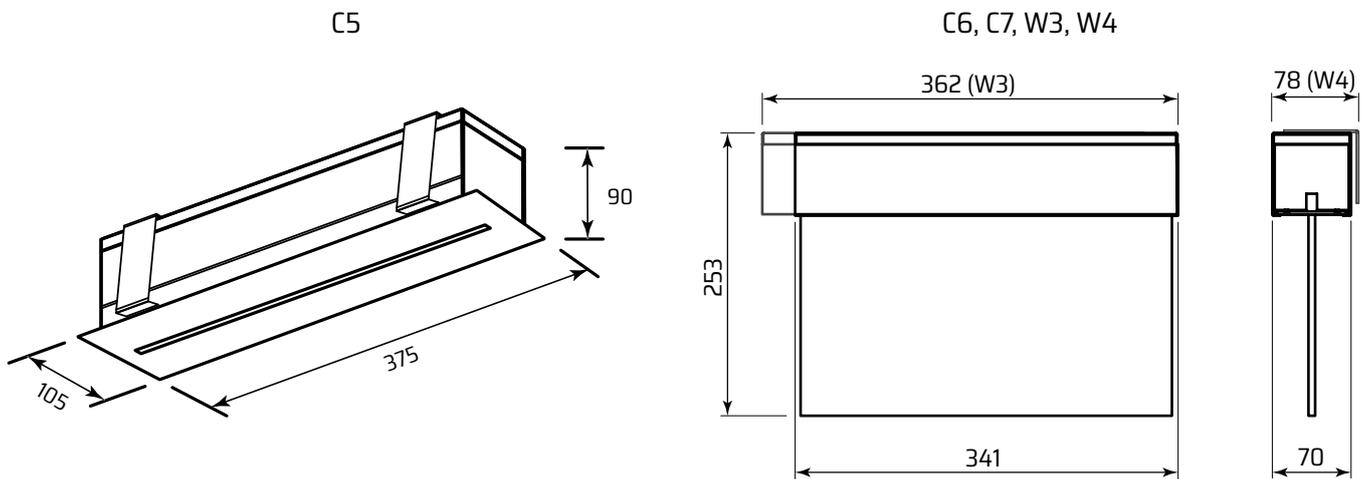
## WIRING DIAGRAM



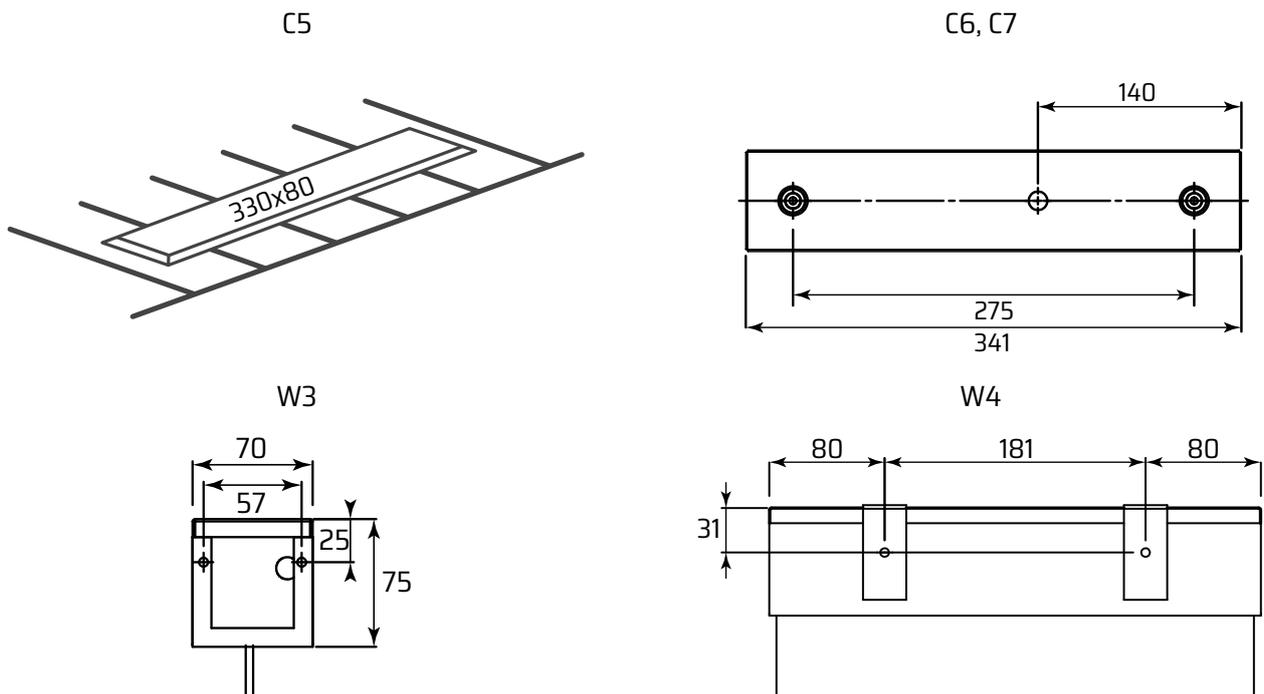
## LUMINAIRE CONSTRUCTION



## DIMENSIONS (mm)



## MOUNTING DIMENSIONS (mm)



# LUMINAIRE STATE SIGNALLING

green	battery state signalling	red	luminaire state signalling
●	connected and fully charged	●	A test or B test failure; battery not connected or disconnected; the light source or luminaire control system failure
●/●	being charged	●/●	A TEST or B TEST in progress
○	disconnected or charging circuit failure	○	the luminaire works properly

● - on, ●/● - blink, ○ - off

NOTE! During emergency mode luminaire LEDs remain off

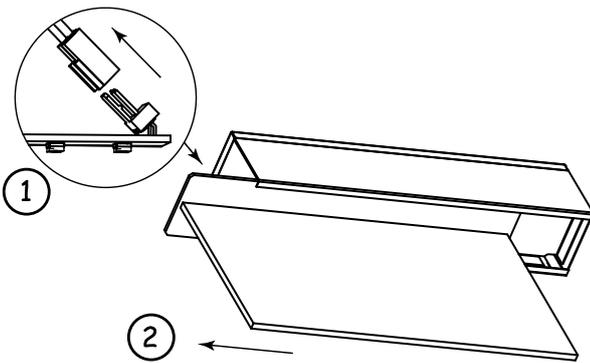


## BEFORE ANY INSTALLATION OR MAINTENANCE OPERATION IS PERFORMED ON THE LUMINAIRE THE POWER SUPPLY SHOULD BE DISCONNECTED

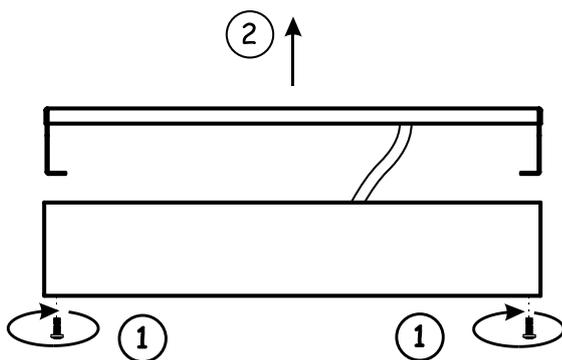
All installation and maintenance procedures can be performed only by qualified, properly trained and if appropriate, certified staff

## INSTALLATION

1. Unpack the luminaire after transport and verify its condition.
2. Make in the ceiling (C5, C6, C7) or in the wall (W3, W4) appropriate holes (see MOUNTING DIMENSIONS).
3. Slide the plate with the safety sign out of the glades until you can easily disconnect the LED strip power. Then slide the plate completely out of the guides.



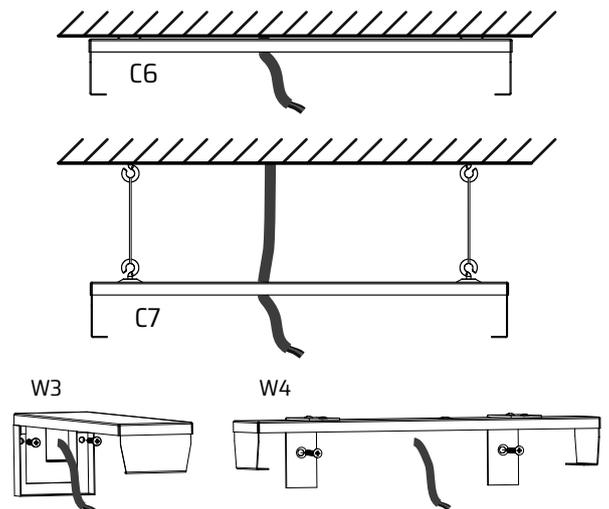
4. Remove the two screws securing the housing cover to gain access to the emergency module.



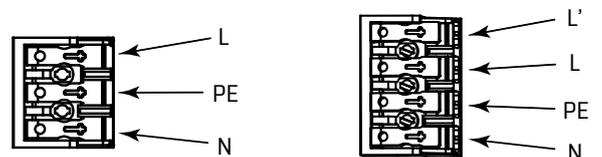
5. Lead the power supply and communication line cables (CT only) through the grommets in the housing cover. Screw the luminaire cover to the ceiling (C6), flexible suspension (C7) or to the wall (W3, W4).

Use the mounting holes created in point 2.

Use dowels and screws suitable for the mounting surface.

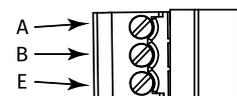


6. Connect the following cables (see LUMINAIRE CONSTRUCTION and WIRING DIAGRAM). Strip 7–8mm of wire copper insulation. Connect power cables to the power supply connector.



The luminaire may be loop-through connected if allowed by national regulations and the electrical design.

In case of CT system variant connect communication cables to the communication connector.



Connect the battery cable to the battery connector. The red wire means the positive pole.

7. Mount the luminaire in the reverse order (points 4 and 3).
8. For C5 mounting type - slide the luminaire through the hole in the ceiling.
9. Perform the commissioning procedure.

## COMMISSIONING

After all installation procedures are finished, the luminaire operation needs to be verified. Follow the instructions below and pay attention to the state of the led indicators:

1. Switch on the luminaire power supply, leave it for 30 second. In that time red indicator LED should not light and the green one should light constantly or blink.
2. Turn off the luminaire power supply. The luminaire will go automatically into emergency operation; the indication LEDs should remain switched off. The light source should light.
3. Switch power supply again - the luminaire should work as in first point.
4. Using the system control unit, check the correct communication of the luminaire and run TEST A.
5. Perform the battery forming procedure.

## BATTERY FORMING

To ensure the battery long lifespan perform a forming procedure. After installation and commissioning follow below instructions:

1. Switch on luminaire power supply. The battery will be charged. During this period no voltage blackouts should occur.
2. After 36 hours turn off luminaire power supply. The luminaire will go automatically into emergency operation and will operate for up to two hours over the rated emergency operation time.
3. Switch the power supply back on after the light source turns off.
4. The luminaire will be ready for operation after 24 hours.

## MAINTENANCE

Luminaire should be cleaned with a damp cloth according to building maintenance plan.

Do not use abrasive cleaners, solvents, substances and cleaning agents containing alcohol to clean the light source.

The light source used in this luminaire may only be replaced by the manufacturer, his service agent or a similar qualified person.

**Battery replacement procedure** if nominal emergency operating time isn't met (follow the drawings in installation procedure):

1. Turn off the luminaire power supply, open the luminaire as shown in the INSTALLATION section.
2. Disconnect the battery from the emergency module, cut the fastening ties and remove it from the housing.
3. Replace it with a new one of the same types as on the battery label.
4. Put the fastening ties (width: 4-5mm) through the handles, place the battery on the handles and tighten the bands.
5. Connect the battery plug to the battery socket on the emergency module. Carefully arrange the battery cable.
6. Close the luminaire as shown in the INSTALLATION section.
7. Perform the commissioning procedure.

## STORAGE

The luminaire should be stored no longer than 6 months from the date of purchase, in a dry place with an ambient temperature range of -10 - +30°C.

## WARRANTY

Warranty is valid and enforceable only when manufacturer's recommendations are preserved, and the installation and usage are proper. Warranty is granted for a period of 12 months from the date of sale, unless the luminaire has been sold under different contract conditions. The warranty is excluded in case of misuse, unsuitable use, wrong connection or mechanical defects of the luminaire caused by the client.