210 000000000006

OPERATING INSTRUCTIONS

doublepower SEA EX 1/21
LED luminaire

doublepower

BASIC DATA

Identification data of manufacturer

Manufacturer

doublepower!! s.r.o.
Bílkova 18,
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Czech Republic
IČO: 27951855
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Production site

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PRODUCT OVERVIEW

Energy-saving industrial doublepower SEA EX 1/21 luminaires are designed for installation indoors and outdoors. They have been specially developed for explosive environment areas in zone 1/21 in accordance with standards:

ČSN EN IEC 60079-0:2018	IEC 60079-0:2017
ČSN EN 60079-1:2015	IEC 60079-1:2014
ČSN EN 60079-7:2017+A1:2018	IEC 60079-7:2015
ČSN EN 60079-28:2016	IEC 60079-28:2015
ČSN EN 60079-31:2014	IEC 60079-31:2022

They are suitable for installation at heights from 1 m to 10 m and are designed for highly demanding environments, thanks to IP66 and IP68 protection. They are certified for environments with ambient temperatures from -20 °C up to +50 °C. The luminaires are maintenance-free and require only external cleaning according to the operating conditions throughout their service life.

LABELING

The marking of luminaires follows the following rules:

E1–XSA/x–3/xxx/xxx–SS–xxx–xx–S–xx

- Version specification / tab 1
- Type of lens / tab 2
- Luminaire type / tab 3
- Typical power consumption / tab. 4 (standard version only) For non-standard supply current, determined by the manufacturer
- Supply current (of LED modules) / tab 4
- Cable glands holes orientation / tab 5

tab 1

			Class II		Class III	
			Temperature Class		Surface Temperature	
Version Specification	**Group**	**Condensation Protection**	**Ta (°C) -20/+40**	**Ta (°C) -20/+50**	**Ta (°C) -20/+40**	**Ta (°C) -20/+50**
01	IIC[1]	No	T6	T6	85 °C	85 °C
02	IIC[2]	Yes		T5		
03	IIB+H2[3]	Yes				
04	IIB[4]	Yes				

tab 2

Type of Lens	Description
FR	Diffused lens
40	Lens with emitting angle 40°
60	Lens with emitting angle 60°
90	Lens with emitting angle 90°
120	Lens with emitting angle 120°

tab 3

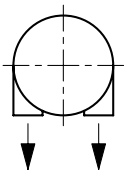
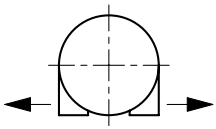
Characteristics of Luminaire	Correlated Colour Temperature (K)	Colour Rendering Index CRI
830	3000	80
840	4000	
850	5000	
865	6500	
930	3000	90
940	4000	
950	5000	
965	6500	

tab 4

Supply Current (mA)*	Typical Power Consumption (W)**
375	55
275	41
180	28

* Customizable from 375 mA to 100 mA (step 1 mA)
** For supply currents other than those listed, the manufacturer to determine the value

tab 5

	Orientation of Holes 1	Orientation of Holes 2
Scheme		

[1] Using / Plug / EATON / CYA1200YXN
[2] Using / Breather / nVent Hoffman / EXBDM20SS6
[3] Using / Breather / EATON / BDU3004D0
or Breather / EATON / BDU1104D0
or Breather / EATON / BDU1204D0
[4] Using / Breather / EATON / BDU1004D0

TECHNICAL PARAMETERS

Protection Class
The doublepower SEA EX 1/21 luminaire fulfills protection class I for electrical appliances.

The luminaire may be connected to a 230 V AC power supply equipped with a 10 A or 16 A circuit breaker with an available short-circuit current of up to 10 kA.

Light Source
doublepower 280x24_48LED
Correlated Color Temperature 3000, 4000, 5000, 6500 K; Color Rendering Index Ra 80, 90

Optical System
Linear lens 40°/ 60°/ 90°/ 120°/ diffuse

Luminaire Construction
Clear borosilicate glass (Duratan)
Luminaire length 1182 mm

Power Supply
Tridonic LCI 75W 100-700mA 250V flexC NF lp EXC3 (INDUSTRY) 87500919

Supply Current
SEA EX 1/21 luminaire (3 modules), example for standard power variants:

ILED (mA)	U (V)	f (Hz)	I (mA)	Pmax (W)	cosΦ (–)
375	230	50	256	58	0,984
275	230	50	198	44	0,966
180	230	50	140	30	0,930

Ingress Protection Class
The enclosure protection class is IP66/68

Ex marking

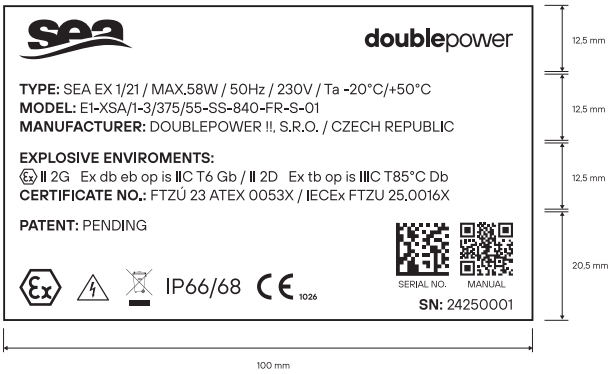
<u>According to ATEX Directive 2014/34/EU</u>

Gases ⟨Ex⟩ II 2G Ex db eb op is IIC T6...T5 Gb
or ⟨Ex⟩ II 2G Ex db eb op is IIB+H2 T6...T5 Gb
or ⟨Ex⟩ II 2G Ex db eb op is IIB T6...T5 Gb
Dusts ⟨Ex⟩ II 2D Ex tb op is IIIC T85°C Db

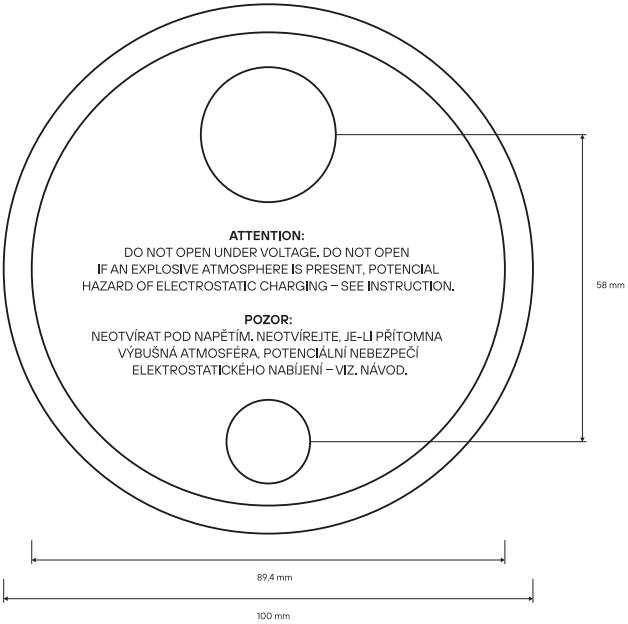
<u>According to IECEx scheme</u>

Gases Ex db eb op is IIC T6...T5 Gb
or Ex db eb op is IIB+H2 T6...T5 Gb
or Ex db eb op is IIB T6...T5 Gb
Dusts Ex tb op is IIIC T85°C Db

View of the engraved product label



View of the engraved label ATTENTION



SAFETY WARNING

Installation

– Installation may only be carried out by authorized personnel and in accordance with the installation instructions. Follow the terminal block wiring diagram. Any other installation is considered incorrect.
– Always ensure that the luminaire is disconnected from the power supply before installation.
– After unpacking, inspect the luminaire for mechanical damage that may have occurred during transport. Do not use the luminaire if it is damaged or if the supply cable is damaged. A damaged luminaires must be safely removed from operation immediately.
– Do not dispose of the luminaires or its parts in household (municipal) waste, but recycle it properly. doublepower!! s.r.o. is part of the EKOLAMP collective system in accordance with Act No. 541/2020 Coll. on waste.
– Do not loosen screws or manipulate with components that are not part of the procedure in chapter INSTALLATION.

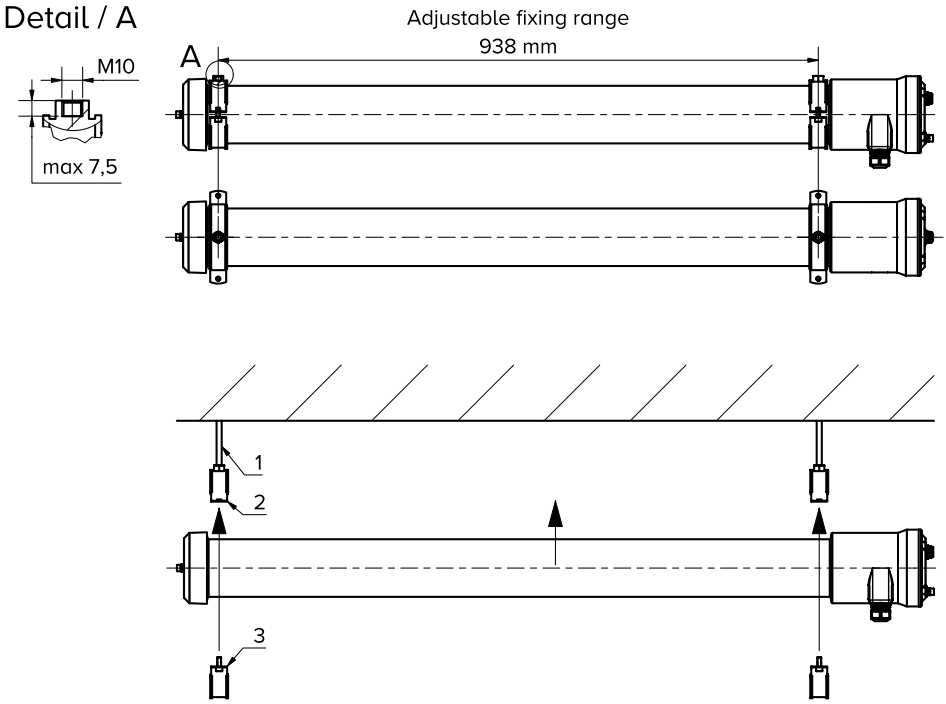
Operating Conditions

– The specific conditions stated in the certificates of separately certified components must be met.
– The luminaire must not be opened when the terminal block is live.
– Luminaire components may only be replaced by the manufacturer, their service representative, or a similarly qualified person, and only with original parts.
– The cemented joints of the flameproof enclosure must not be repaired.
– If the gasket is damaged, it must be replaced.
– Replacement of parts which affect explosion protection is prohibited.
– Any sort of modifications to the luminaire are prohibited.
– The luminaires may only be serviced outside of potentially explosive atmospheres.
– The opening in any unused cable gland must be sealed with an ATEX plug „Instructions for the installation of cable glands and stopping plugs“.
– Possible danger of electrostatic charge. In potentially explosive atmospheres, the luminaire may only be cleaned with a damp cloth, and the person performing the cleaning must be grounded.
– The manufacturer and supplier cannot be held responsible for any damage caused by incorrect installation or improper use of the luminaires.

Warning
- The manufacturer is not liable for any damage caused by improper handling of the luminaire.
- The luminaire must be connected to the power supply by a qualified professional in accordance with applicable standards and regulations.

INSTALLATION

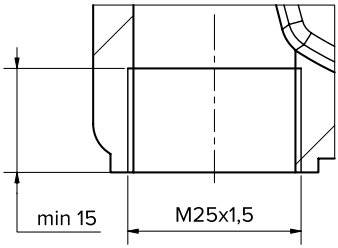
Instructions for suspending the luminaire
The luminaire is equipped with two two-screw clamps with threaded holes for further installation.



1. Unscrew both screws on each clamp to removed them from the luminaire. At the factory, the clamp screws (1) are tightened to a torque of 6.4 Nm. A washer is fitted on the screws, be careful not to lose it while loosening the screws.
2. Screw both halves of the clamp with the M10 thread onto the connection points. The distance between the connection points must not exceed 938 mm.
3. Place the luminaire into the clamp halves (2) attached to the anchoring point (1), then use the other clamp halves (3) to securely attach the luminaire.
4. Tighten the clamp screws again to a torque of 6.4 Nm. The luminaire is now securely suspended.

Instructions for installing cable glands and stopping plugs
The luminaire contains two openings for cable glands/stopping plugs and is typically supplied without cable glands and only with one stopping plug.

The openings can be located in one of the ways described in the chapter „LABELING – tab 5“. The parameters of the openings are shown in the figure below.



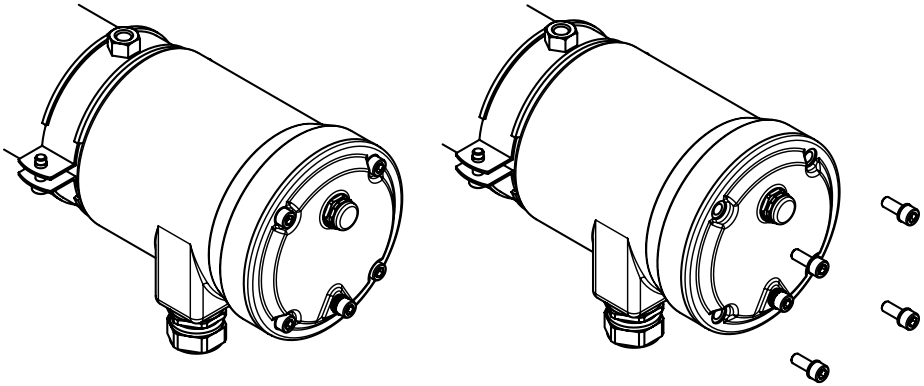
Cable glands with appropriate dimensions and a protection class of at least:

Explosive Atmosphere	**Cable Gland**
Gases	Ex II 2G Ex eb IIC Gb
Dusts	Ex II 2D Ex tb IIIC Db

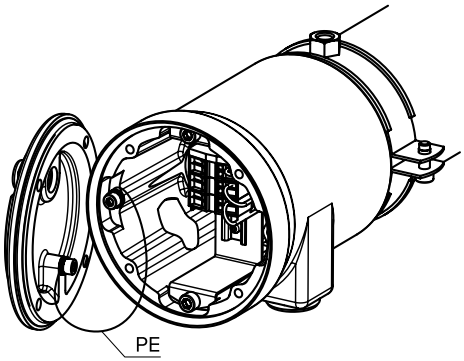
In accordance with standards, the minimum permissible IP protection rating for a cable gland is IP64. To guarantee the certified IP protection rating of IP66/68 for the luminaire, a cable gland with an IP66/68 rating must also be used.

Instructions for installing the power supply cable

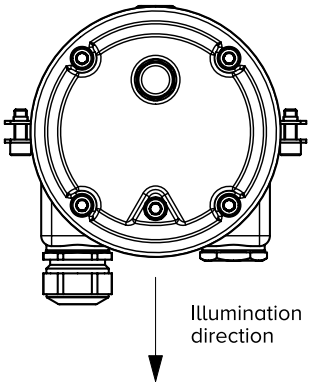
1. Unscrew the four screws (including the gasket) holding the cover.



2. Carefully store the screws and their gaskets.
3. Remove the cover. Be careful as it is connected to the luminaire body by a grounding cable. Do not disconnect or otherwise manipulate with this cable.
4. Accessing the terminal block it is now possible to connect wires according to the terminal block wiring diagram (the terminal blocks are also labelled).

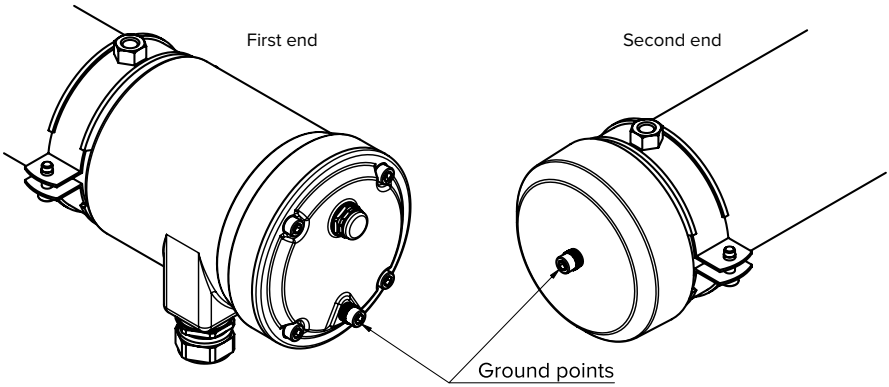


5. Thread the supply cable through the cable gland and connect the individual wires according to the terminal block wiring diagram.
   – Use wires with a cross-section of 0.75 mm^2 to 2.5 mm^2 / 18 to 12 AWG. For stranded wires, use wire end ferrules with a length of 8-9 mm.
   – Strip ends of solid wires to by at least length of 9 mm.
   – Connect the wires using the tool specified by the manufacturer WAGO part no. 210-720 – operating tool; blade: 3.5 × 0.5 mm

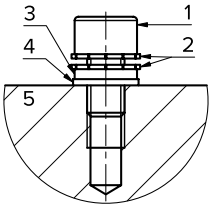


6. After installing the supply cable or cables if two cable glands are used, you can replace the cover. Ensure that the cover fits correctly, otherwise the IP rating of the luminaire will not be guaranteed. Pay attention to correct position of the cover and to the correct placement of the O-ring used to prevent damage during closing, as this could negatively affect the IP rating.
7. Tighten the compression nuts of the cable glands according to the instructions for the selected cable glands.
8. Replace the screws holding the cover in place and their sealing washers and tighten them to a torque of 1.5 Nm.

Instructions for connecting external grounding and equipotential bonding
There are connection points for external grounding on both sides of the luminaire.
The minimum conductor cross-section is 2.5 mm^2.



Each grounding point consists of:



1. Screw – DIN 912 M6x10 – A4 (1x)
2. Washer – DIN 6798 6.4 – A4 (2x)
3. Washer – DIN 125A M6 – A4 (1x)
4. Sealing Washer
5. Luminaire Body

Note: The grounding points are only partially tightened at the factory. If their use is not required, they must be tightened to the same torque as if they were used after the luminaire is installed.

1. Install external grounding only after the installation of entire luminaire.
2. Unscrew the entire grounding assembly, place a cable lug of the appropriate size for the screw used (1) between the washers (2).
3. Screw the entire assembly back into its original place in the luminaire body (5) now with the cable lug. Do not forget the washer (3) and the sealing washer (4). Tighten to a torque of 3 Nm.

EU PROHLÁŠENÍ O SHODĚ
EU DECLARATION OF CONFORMITY

My / We:
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Prohlašujeme na svou výlučnou odpovědnost, že vlastnosti níže popsaného výrobku jsou ve shodě s těmito technickými a legislativními předpisy / Hereby declare that properties of product described below are in conformity with the following directives:

Výrobek / Product:
SEA EX 1/21

Popis / Description:
LED svítidlo (ochrana typu “d”, “e”, “op”, “t”)
LED luminaire (protection type “d”, “e”, “op”, “t”)

Nařízení vlády ČR / Decrees of Czech government	Zákony ČR / Czech Laws
116/2016 Sb.; 481/2012 Sb.	90/2016 Sb.

Směrnice Evropského parlamentu a Rady / Directives of the European Parliament and of the Council
2011/65/EU; 2014/30/EU; 2014/34/EU; 2014/35/EU;

České normy / Czech Standards	EN normy / EN Standards	IEC normy / IEC Standards
ČSN EN IEC 60598-1 ed. 7:2021+A11:2022	EN IEC 60598-1:2021	IEC 60598-1:2024
ČSN ENIEC60598-2-1 ed. 2:2021	EN 60598-2-1:1989	IEC 60598-2-1:2020
ČSN EN IEC 62031 ed. 3:2023	EN IEC 62031:2020	IEC 62031:2018
ČSN EN IEC 55015 ed. 5:2020	EN IEC 55015:2019	
ČSN EN IEC 61547 ed. 3:2023	EN 61547:2009	IEC 61547:2020
ČSN EN 61000-3-3 ed. 3:2014+A1:2019	EN 61000-3-3:2013	IEC 61000-3-3:2013+AMD1:2017
ČSN EN IEC 61000-3-2 ed. 5:2019+A1:2021	EN 61000-3-2:2014	IEC 61000-3-2:2018+AMD1:2020
ČSN EN IEC 60079-0:2018	EN IEC 60079-0:2018	IEC 60079-0:2017
ČSN EN 60079-1:2015	EN 60079-1:2014	IEC 60079-1:2014
ČSN EN 60079-7:2017	EN 60079-7:2015	IEC 60079-7:2015
ČSN EN 60079-28:2016	EN 60079-28:2015	IEC 60079-28:2015
ČSN EN 60079-31:2014	EN 60079-31:2014	IEC 60079-31:2022

Výrobek certifikován (zkoušen) v / Product certified (tested) by:
Fyzikálně technický zkušební ústav, s.p. – EU Notified Body No.1026,
Czech Certification Body No.3051, Pikartská 1337/7, 716 07 Ostrava – Radvanice,
Czech Republic

Výsledky zkoušek uvedeny v / Test results stated in:

EU Certifikát / Certificate:
FTZÚ 23 ATEX 0053X

IECEx Certifikát / Certificate:
IECEx FTZU 25.0016X

EU Zajištění kvality výroby / Production quality assurance:
FTZÚ 25 ATEX Q 004

IECEx Zajištění kvality výroby / Production quality assurance:
CZ/FTZU/QAR25.0003/00

Označení zařízení / Marking of equipment:
⟨Ex⟩ II 2G Ex db eb op is IIC T6...T5 Gb or
⟨Ex⟩ II 2G Ex db eb op is IIB+H2 T6...T5 Gb or
⟨Ex⟩ II 2G Ex db eb op is IIB T6...T5 Gb
⟨Ex⟩ II 2D Ex tb op is IIIC T85 °C Db

Datum a místo vydání / Date and place of issue:
1. 7. 2025, Kladno

Za doublepower!! s.r.o. / On behalf of doublepower!! s.r.o.:

Martin Hexner – jednatel

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Datum vydání 25.6.2025 / 2.0