

EM-EVDC

CHARGER FOR ELECTRIC VEHICLES EM-EVDC

The EM-EVDC electric vehicle charger has been designed for use in generally available commercial charging stations. The device is equipped with an intuitive user interface, one or two DC charging points and one AC charging point.

The device is characterized by a modular structure, which allows you to configure its equipment in accordance with the user's requirements, moreover, such a solution significantly reduces the time and costs of inspections, maintenance and service.

Description

The EM-EVDC charger is designed to charge electric car batteries with direct current through CCS and CHAdeMO connectors. The charger can be operated both indoors, e.g. garages, shelters or underground car parks, and outdoors.

The EM-EVDC series of chargers is intended for companies and organizations that want to provide the service of publicly available vehicle charging. These devices are adapted to work "online" with the system of the charging service provider.

Compliance with standards: IEC 61851-1; IEC 61851-21,22: 2001; IEC 61851-23,24: 2014; ISO15118-1-2013; ISO15118-2-2014; ISO 15118-3: 2015; IEC 62196-1-2014; IEC 62196-3-2014; DIN 70121-2014.

Features/Technical specification

Supply voltage	3x260V±530V, 50/60Hz
Efficiency	≥95%
Power factor	≥0,99
Output voltage	150-750V DC or 150-1000V DC
Output current	up to 200A DC
Environmental protection	P55
Mechanical protection	IK10
Working environment humidity	5% ~ 95% without condensation
Working temperature	-30°C ÷ +70°C
Protocol	OCPP 1.6 JSON or SOAP
User authorization type	- RFID card charging service provider - authorization via the application
Enclosure material	Stainless or coated steel
Dimensions	750/1885/923 mm
Length of the charging cable	Up to 5m

Functions

- DC charging with a power of up to 150kW
- two stations CCS 2 or CCS 2 + CHAdeMO
- charging with alternating current with a power of up to 22 kW (cable with a plug type 2)
- load balancing within the charging station
- convenient handles for storing the cable after charging the vehicle

CATEGORY:

ELECTROMOBILITY

CERTIFICATIONS

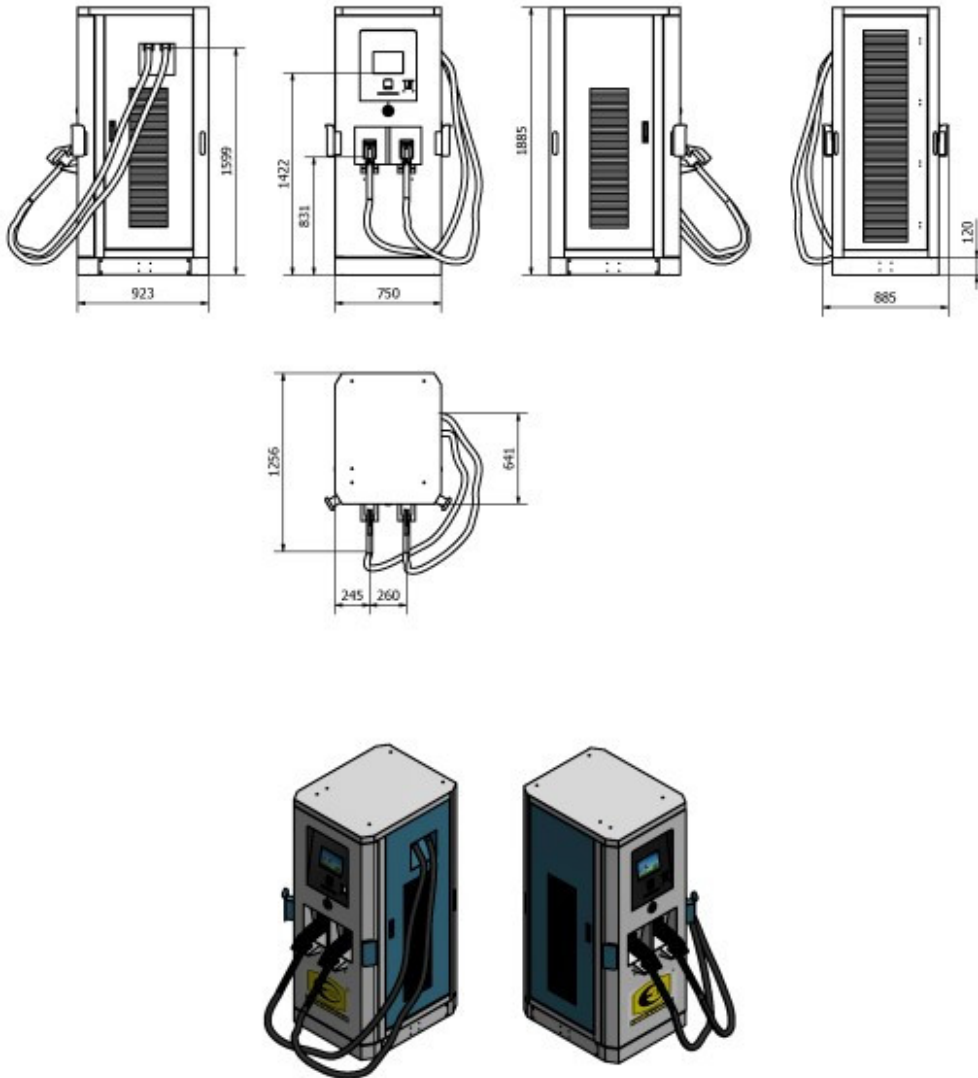


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- measurement of the supplied electricity for each charging station
- RFID card reader
- touchscreen

Design and operation



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EM-EVAC

CHARGER FOR ELECTRIC VEHICLES EM-EVAC

The electric car charger type EM-EVAC allows you to charge one or two vehicles with a power of up to 7.4kW (type 1) and up to 22kW (type 2). The device is equipped with a type 2 socket or flexible charging cables terminated with a type 1 and / or type 2 plug.

Designed and made in Poland, these stylish charging units are quick to install and easy to use. In the individual version, the customer can decide on the color of the charger and the graphics of the front panel.

Description

The EM-EVAC charger is intended for charging batteries of electric and plug-in hybrid cars as well as batteries of other vehicles equipped with type 1 or type 2 charging connectors. The charger can be operated both indoors, such as garages, shelters or underground car parks, and outdoors.

The EM-EVAC series of chargers is intended for companies and organizations that want to provide the service of publicly available vehicle charging. These devices are adapted to work "online" with the system of the charging service provider.

Functions:

- one or two charging stations,
- free-standing structure (up to 2 positions) or hanging "Wallbox" (1 position),
- each of the charging stations performs the functions of measuring the supplied electricity,
- RFID card reader,
- charger software that supports the OCPP 1.6 protocol,
- 3G / 4G / LTE connectivity,
- type 1 and / or type 2 charging plugs, alternatively type 2 charging socket,
- convenient handles for putting away the cable after charging the vehicle,
- overload and short-circuit protection,
- extended protection against electric shock,
- the ability to adapt the software to customer requirements

CATEGORY:

ELECTROMOBILITY

CERTIFICATIONS



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Features/Technical specification

Rated voltage	3 x 400 V; 50 Hz
Rated current	63 A
Rated power	do 2 x 22 kW
Number of charging points	1 lub 2
Charging connector type	Cable with plug type 2 Charging socket type 2 Cable with plug type 1
Length of the charging cable	Up to 4 m
User authorization type	- RFID card of the charging service provider - Authorization via the application
Protocol	OCPP 1.6 JSON or SOAP
Network connection	GSM / 3G / 4G, VPN, APN
Environmental protection	Minimum IP54
Mechanical protection	IK10
Cross-section of the connecting cables	6 ÷ 16 mm ²



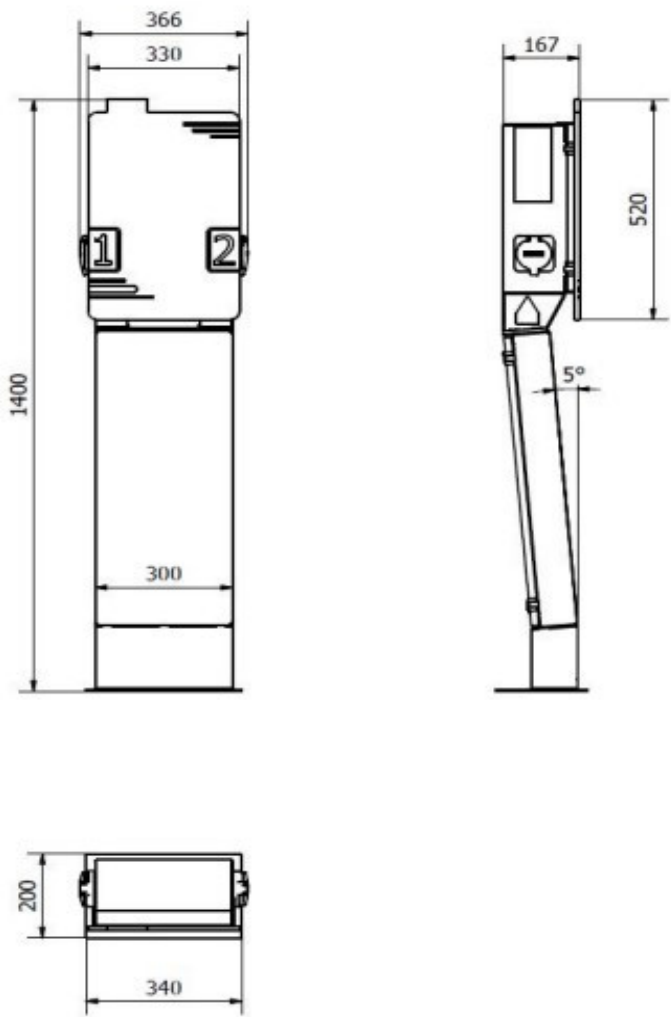
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Dimensions +/- mm	366 / 1400 / 200 mm
Operating temperature	-25 °C do +55 °C
Enclosure material	Stainless or coated steel

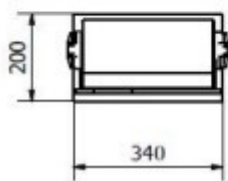
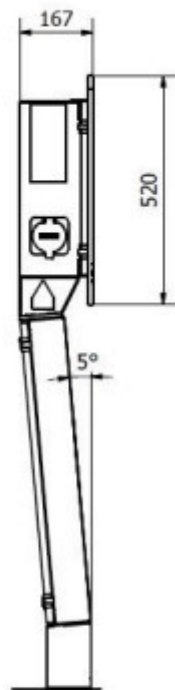
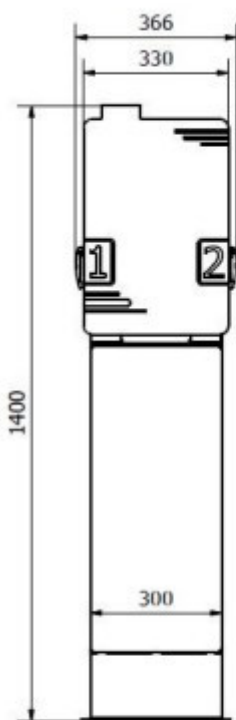
Design and operation

Freestanding version:

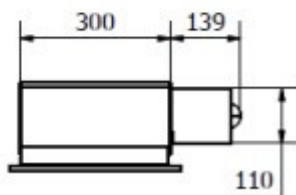
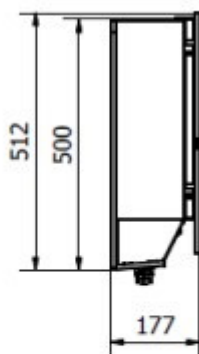
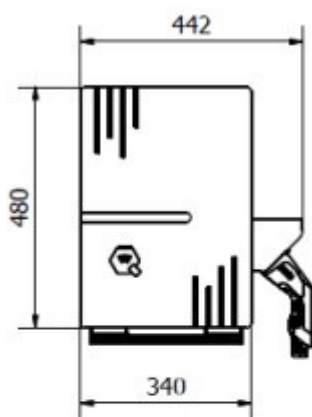


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Hanging version (wallbox):



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Types of workmanship



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EM-EVDC2

CHARGER FOR ELECTRIC VEHICLES EM-EVDC2

Rapid DC Charger EM-EVDC2 is a device which supplies electric energy for recharging of plug-in electric vehicles (EV)

Description

EM-EVDC2 is a dual CCS charger with modular construction enabling to adopt the device to User's power consumption needs. Each model has two CCS type 2 outflows with possibility of spreading energy between two plugged in vehicles or maximizing efficiency of charging processes if only one unit connected.

Features/Technical specification

Rapid DC Charger EM-EVDC2 has the following unique key features:

- modular technology
- wide range of DC output voltage 300-900V
- high power with air cooling system
- advanced data visualization and analysis software

	EM- EVDC2-40	EM- EVDC2-80	EM- EVDC2-120
Input AC line-line voltage range	3x400V		
Input line power	44kW	88kW	132kW
Input line frequency	50-60 Hz		
Input connection	3P +PE		
Protection class	I		
CCS2 output current	40 kW or 2x20 kW	80 kW or 2x40 kW	120 kW or 2x60 kW
CCS2 output current range	80A or 2x40A	160A or 2x80A	200A or 2x100A
CCS2 Output DC Voltage	300 - 900V DC		
Power conversion efficiency	≥ 94%		
Power factor	≥ 0,99		
Charging standard	2xCCS type 2, IEC 62196-3		
Protocol	OCPP 1.5 / 1.6j		
Network connection	ethernet, 2G/3G/4G LTE		
Standard cable length 1 i 2	5m		
Environmental protection	IP54		
Mechanical protection	IK10		
Compliance and safety	CE/ EN55011/ IEC61000-6-4-2		
Operating noise level	≤ 65dB (for work with parameters at a temperature of + 25 ° C)		
Operating temperature	od -30°C do +40°C		
Operating environment	Outdoor		
Weight	~320kg	~350kg	~380kg
Dimensions	1100 x 1000 x 1100mm		
Enclosure material	Stainless or coated steel		
Colour	RAL palette		
Equipment options	7m cable length , mobile version of enclosure		

CATEGORY:

ELECTROMOBILITY

CERTIFICATIONS



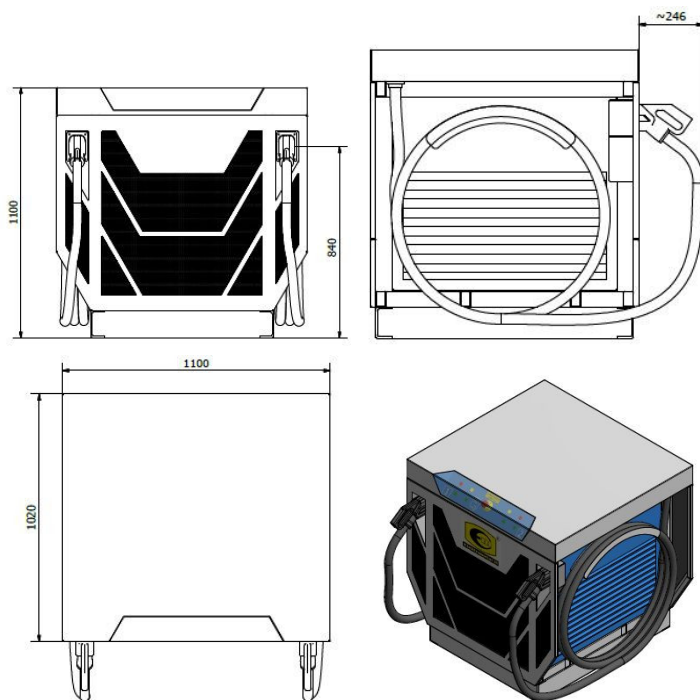
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Detailed description

The EM-EVDC2 charger is designed as compact metal cabinet which can be placed on a foundation basis or as a mobile version equipped with wheels. The front side of the charger is equipped with a user interface in the form of LED indicators, an emergency shutdown button and a key switch or an RFID reader. The side walls are equipped with ventilation openings. The electric apparatus of the charger is placed on the supporting construction inside the enclosure. All walls have openable covers that allow access to the inside of the charger. AC cable inlet is provided on the bottom of the charger.

Technical characteristics



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INDUSTRIAL TELEPHONE TAP

CATEGORY:

COMMUNICATION

CERTIFICATIONS



The device meets the requirements of the PN-T-83001:1999 standard.
The device meets the EMC requirements for immunity levels in industrial environments, emissions in industrial and domestic environments.

The telephone has the following functionality:

- High-intensity red LED light on top of camera for:
 - signaling an incoming call
 - locating the phone in the dark in the idle state of the camera by a slight glow
- loud signal 90dB (from 1m) with adjustable sound intensity
- Selection keypad (reinforced foil) with buttons:
 - R - Redial - redial last number
 - F - Flash - calibration of the "break" enabling access to the functions of the telephone exchange (e.g. subscriber redirection)
 - M - Memory - a button for recalling numbers stored in the memory of the selected selection (e.g. M1, M5, M*, MR, MA, etc.)
 - 1-9,*,0,#,A - enter selective with specifying the assignment of numbers triggered by the selection (* each/demu with built-in assignment of the call number by using the "M" key)
- the ability to automatically establish a connection after dropping the handset to the saved number
- DTMF tone dialling
- any line polarity
- compatibility with a standard exchange with analog telephone lines
- output to an external siren through a built-in relay with NO contacts
- metal housing characterized by high mechanical strength
- optional "visor" for additional protection against harsh environmental conditions



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ATI

INTRINSICALLY SAFE TELEPHONE ATI (INDUSTRY)

An intrinsically safe telephone is intended for voice communication in a hostile environment in which reliability, performance and safety are of paramount importance. Telephone prepared for work in a wide temperature range, resistant to weather conditions, explosion hazard, noise, dustiness, high humidity or mechanical exposure.

ATEX

II 2G Ex ia IIB T4 Gb

II 1D Ex ia IIIC T₂₀₀ 70°C Da

Description

The most important functionalities:

- Possibility to connect to any telephone exchange / server with analogue lines through BSI intrinsically safe barriers
- Effortless operation over a distance of 10km
- Easy to find the camera in difficult conditions (intense blinks of the main LED every 6 seconds and backlit emergency button)
- Possibility of programming 17 speed dial numbers in non-volatile memory
- Automatic connection to the programmed number after picking up / dropping the handset (programmable time 0-10s.)
- LCD display for easy operation and programming of the camera
- Two large buttons on the housing (including one backlit), enabling direct connection to the dispatcher / driver's station in alarm and ordinary mode
- Direct connection to the Awizo position (telephone operator position or any other)
- Programming the telephone (including speed dial numbers and camera parameters) without opening the case - directly from the keyboard
- Strong sound signal and intensive LED signaling of incoming calls
- Dustproof and waterproof to IP65
- Protecting the cable of the microchip with a protective armor
- Low telephone weight

Features/Technical specification

Parameter name	Value (unit)
The maximum power supply	45V
Call level	min. 90dB from distance 1m
Selection	Tone (DTMF), frequency (FSK) - option
Phone input resistance	800Ω +/- 25%
Phone input impedance	600Ω +/- 25%
Frequency response	300Hz - 3400Hz
Reference attenuation for transmitting	-4dB - +4dB
reference attenuation for receive	-8dB - +0dB
The intensity of the ringing tone	min. 90dB

CATEGORY:
COMMUNICATION

CERTIFICATIONS



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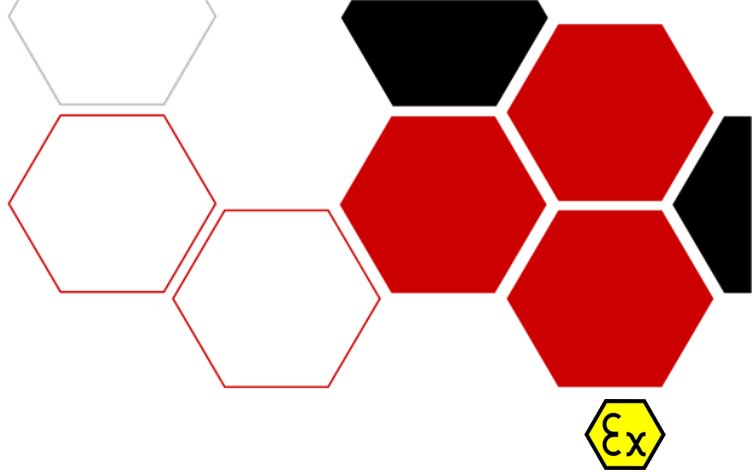
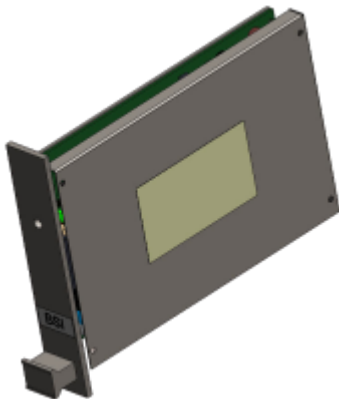
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Electrical insulation strenght	500V
ATEX marking	II 2G Ex ia IIB T4 Gb II 1D Ex ia IIIC T ₂₀₀ 70°C Da
Ambient temperature range	-40 to +60 °C
Permissible humidity (at 60 ° C)	95%
Degree of protection	IP65
Weight	approx 3,5kg
External dimensions	Max. 375x195 (with handset) x 120 mm



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0 PRODUKTY TYPU HMC OŚWIETLENIE PRZEMYSŁOWE USŁUGI GÓRNICTWÓ GAZOWNICTWÓ PRODUKTY TYPU HMC OŚWIETLENIE PRZEMYSŁOWE
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BSI

INTRINSIC SAFETY BARRIER BSI (INDUSTRY)


The BSI intrinsic safety barrier is a device installed individually between non-intrinsically safe telecommunications links (switchboard subscriber links) and non-intrinsically safe circuits for devices in the hazardous area i.e.:


- ATI intrinsically safe telephone
- IKAR broadcast telephone
- Lamps powered by a telecommunications line.
- Other compatible devices

The device is used to transfer telephone calls between non-hazardous and hazardous areas and to apply safety voltage to devices.

ATEX

Execution 2

 II (1)G [Ex ia Ga] IIB

 II (1)D [Ex ia Da] IIIC

Execution 3

 II (1)G [Ex ia Ga] IIC

Description

The device is used as an intermediary in the transfer of telephone calls between the non-hazardous and hazardous zones and for supplying devices with safe voltage.

The task of the device is:

- Galvanic separation between the telecommunications link circuit from the PBX side and the intrinsically safe part of the link, i.e. the cable route and the telephone set or telephone-signalling device located in the hazardous zone
- Two-way transmission of signals: talk, DTMF, FSK
- Supplying telephone sets or lamps with safe voltage

The BSI barrier is designed to power intrinsically safe devices of group I, category M1 or M2 (exit from category "ia"). The BSI barrier is an accompanying device, mounted on the surface in spaces not at risk of an explosive atmosphere. Alternatively, it is allowed to install BSI barriers in underground mines, where there is a risk of an explosive atmosphere inside an appropriate certified enclosure made in the form of a flameproof enclosure with a minimum protection level of IP 54

The barriers are mounted in Euro 19" KSI-1 cassette

Each of the barriers, regardless of the version, can be connected to any intrinsically safe device (i.e. ATI apparatus, IKAR apparatus, lamps). In order to match the specific solution, the jumper located on the side of the barrier should be moved to the appropriate position.

Features/Technical specification

Technical data ATI

Parameter name	Value (unit)
Powering the device	48V DC (42 - 62 VDC)
Telephone exchange	Any telephone exchange with analog lines and DTMF signals

CATEGORY:

COMMUNICATION

CERTIFICATIONS



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The ringing voltage from the telephone exchange	U = 90V AC
Output voltage to intrinsically safe device	37VDC +/- 1V
Maximum input current (inrush) typ.	85mA
Maximum output current	36mA (ring), 25mA (talk) +/- 20%
Forwarding ringing signals	By changing the polarity of the output side line
max. range from BSI to device	10 km mining (for a cable with min. parameters R=70ohm/km, C=60nF/km)
Input voltage (panel line)	Umax = 95VAC
ATEX	Execution 2: II (1)G [Ex ia Ga] IIB Execution 2: II (1)D [Ex ia Da] IIIC Execution 3: II (1)G [Ex ia Ga] IIC
EC type examination certificate number	TEST 17 ATEX 0032X
Ambient temperature range	-20 C do 60 C
Permissible humidity (at 60 C)	95%
Level of security	IP00
Weight	approx 0,4kg
External dimensions	Max. 180x100x25,4 mm

The barrier does not have a special switch and operates in the e HOT SWAP mode. It is activated automatically when the barrier cassette is inserted into the appropriate guides.

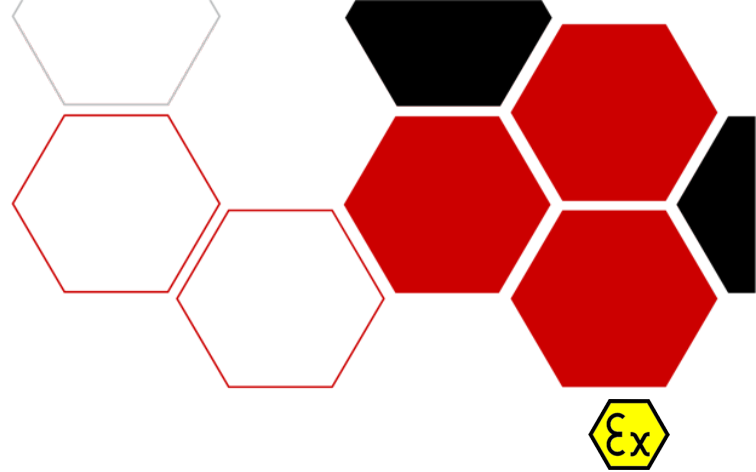
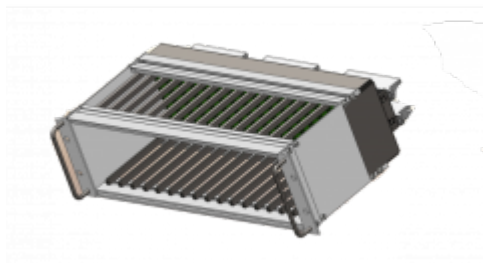
Design and operation

The BSI intrinsic safety barrier is made of an aluminum front plate of an eurocassette and an electronic board installed on it. The front plate comes with an external handle that allows the barrier to be inserted into/removed from a barrier cassette. In addition, each barrier has screws that can be driven to the cassette in order to protect the barrier from being accidentally removed from the cassette. The electronic board comes with a plate that protects electronic components from damage or touching other components, which could cause a short-circuit.



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KSI-1

INTRINSIC SAFETY CASSETTE KSI-1 (INDUSTRY)

Designed for installation outside the hazardous area, the intrinsic safety cassette is an auxiliary device used to install intrinsic safety barriers (e.g. BSI), which, in turn, are used to power equipment installed in potentially explosive atmospheres. The KSI-1 cassette is designed for installation in 19" racks having the IP rating of at least IP20.

ATEX

 II (1)G [Ex ia Ga] IIC

 II (1)D [Ex ia Da] IIIC

Description

Cassette consisting of a control device with 64-pin controllers, in a body made of aluminum profiles with auxiliary guides for installation of intrinsically safe barriers (push-on).

Features/Technical specification

The cassette in the rear part has three corpses of connectors:

- intrinsically safe connectors for connecting intrinsically safe lines to receivers
- connectors on the non-intrinsically safe side intended for connecting the control panel line (or non-intrinsically safe automation)
- non-intrinsically safe power connector -48VDC

Parameter name	Value (unit)
Power supply	U = 42-60Vdc, typically 48Vdc. (Um=250V - for intrinsically-safe analysis). Voltage stems from the range of input voltages of the BSI barriers used.
Number of barriers	Max. 16
Dielectric strength of insulation	500V
ATEX marking	I (M1) [Ex ia Ma] I
EC-type examination certificate	TEST 17 ATEX 0037X
Ambient temperature	-20 °C to 60 °C
Permitted humidity (at 60°C)	95%
IP rating	IP00
Weight	Approx. 2.5 kg
External dimensions	Max. 480x130x200 mm

The cassette allows the removal and insertion of the barriers under voltage (Hot Swap)

If it is necessary to connect more barriers, multiple KSI-1 cassettes connected to one power supply (of appropriate power) can be used in a 19" cabinet.

Design and operation

The cassette has an electronic board with 64-pin connectors, which is installed in the body made of aluminum profiles with rails for mounting intrinsically safe barriers (by press fitting).

CATEGORY:

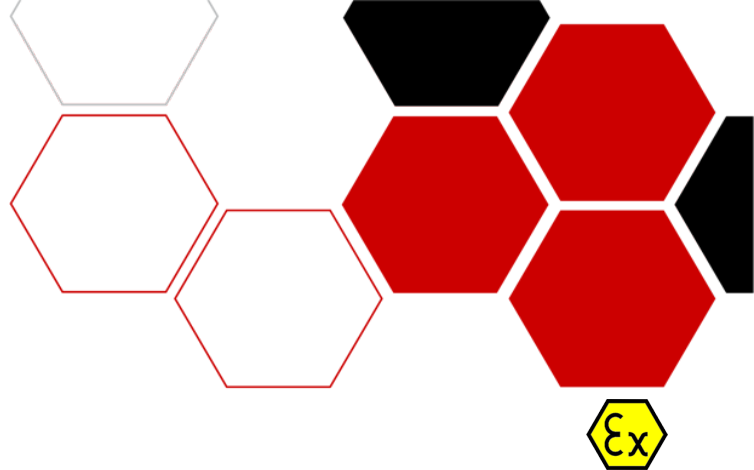
COMMUNICATION

CERTIFICATIONS



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EMLG 2 Ex

EMLG 2 EX (ZONE 2, 21, 22)

Zones 2, 21

- II 3G Ex ec op is IIC T6/T5 Gc
- II 2D Ex tb op is IIIC T85..T95°C Db

Zones 2, 22

- II 3G Ex ec IIC T6/T5 Gc
- II 3D Ex tc IIIC T85..T95°C Dc

Description

The EMLG 2 Ex luminaire is designed to illuminate:

- industrial halls and spaces classified as zones 2, 21 of explosion hazard of dust, gases, vapors and mists of flammable liquids,
- auxiliary rooms with high dustiness with the possibility of water splashes, i.e.: boiler rooms, hydro-nodes, baths, garages, shelters, warehouses,
- stationary technological lines of the chemical, oil, petrochemical, gas industry, gas distribution, processing of loose mining and construction materials;
- rooms of public utility facilities, including health service facilities, as well as plants of the pharmaceutical industry, cosmetics industry, meat processing, food production and storage, food industry and catering facilities.

Technical characteristics

Technical parameters	
Power supply	230 VAC/DC 50-60(0) Hz 100-277 VAC 50-60 Hz
Power	max 160 W +/-10% (according to the table)
Atex marking	II 3G Ex ec op is IIC T6/T5 Gc II 2D Ex tb op is IIIC T85...T95°C Db II 3G Ex ec IIC T6/T5 Gc II 3D Ex tc IIIC T85..T95°C Db
EU-type examination certificate number	OBAC 24 ATEX 0173X
Standards	PN-EN IEC 60079-0:2018-09 PN-EN 60079-7:2016-02+A1:2018-03 PN-EN 60079-11:2012 PN-EN 60079-18:2015-06+A1:2018-02 PN-EN 60079-28:2015-12 PN-EN 60079-31:2014-10
Ingress protection	IP 66
Protection class	I
Permissible ambient temperature	-32°C do + 40°C (HP version) -32°C do + 55°C -32°C do + 60°C (only zone 2 22) 0°C do + 70°C (HT, HT SD, HT IPS only zone 2 22)
Connection terminals (max)	4 ² mm, permissible load on the terminal 32A

CATEGORY:

EXPLOSION PROOF
LUMINAIRES

CERTIFICATIONS

CE



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Technical parameters	
Weight	EMLG 2 Ex 300 - 1,65 kg; EMLG 2 Ex 600 - 2,65 kg; EMLG 2 Ex 900 - 3,65 kg; EMLG 2 Ex 1200 - 4,74 kg;
Dimensions	EMLG 2 Ex 300 - 300 x 88 x 70; EMLG 2 Ex 600 - 600 x 88 x 70; EMLG 2 Ex 900 - 900 x 88 x 70; EMLG 2 Ex 1200 - 1150 x 88 x 70;
Source of light	ultra-bright LEDs
Color temperature	4000K \pm 5% (others as option \pm 10%)
CRI	80 (others as option)

Power [W]	Luminaire temperature class EMLG 2 Ex - standard, SD, IPS versions				
	Ambient temperature range				
	Zone 2 21				Zone 2 22
	-32°C \leq Ta \leq +4 0°C	-32°C \leq Ta \leq +45°C	-32°C \leq Ta \leq +50°C	-32°C \leq Ta \leq \leq +55°C	-32°C \leq Ta \leq +60°C
-15	T6/T85	T6/T85	T6/T85	T6/T85	T5/T85
16-30	T6/T85	T6/T85	T6/T85	T6/T85	T5/T90
31-45	T6/T85	T6/T85	T5/T85	T5/T85	T5/T90
46-60	T6/T85	T6/T85	T5/T85	-	-
61-80	T5/T85	T5/T90	-	-	-
81-100	T5/T90	-	-	-	-
101-120	T5/T90	-	-	-	-
121-140	T5/T95	-	-	-	-
141-160	T5/T95	-	-	-	-

Power [W]	Temperature class EMLG 2 Ex - HT, HT SD, HT IPS	
	Ambient temperature range	
	Zone 2 22	
	0°C \leq Ta \leq +70°C	
10	T5/T90	
20	T5/T90	
30	T5/T95	
45	T5/T95	

Design and operation

- body - anodized aluminum;
- tempered glass with increased transparency;
- LED light module;
- silicone gaskets;
- aluminum side cover;

Montage

The luminaire in the standard version is equipped with two brackets with M6 thread. Optional additional mounting accessories are available, e.g. on a pipe, to the wall (others on request). The luminaire is connected by unscrewing the four mounting screws located in the side cover of the luminaire. The luminaire is equipped with two M20 cable glands and stopping plug.

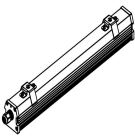


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Advantages

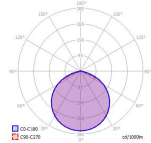
- solid, compact design,
- simple, easy and fast installation, mount with M6 thread, other on request,
- high quality power supply and LEDs,
- UV resistant



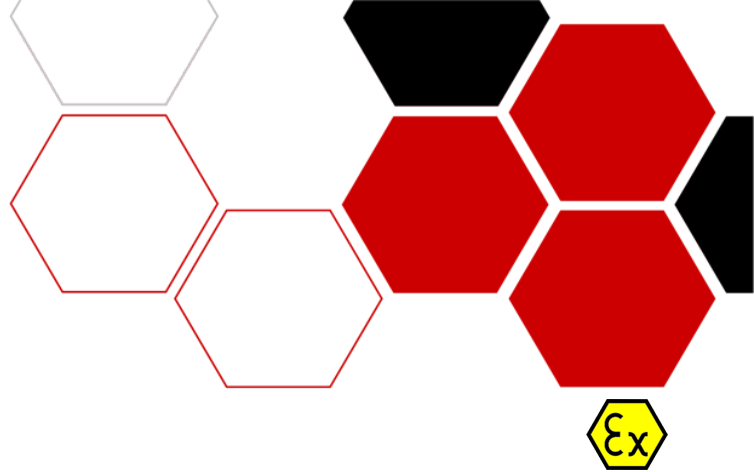
Options

EMLG 2 Ex				*	/	**	/	***	/	****
Size:										
300										
600										
900										
1200										
Max power ³ :										
15, 10HT, 25HP			other on request		for 300					
30, 20HT, 50HP, 80IPS, 80SD			other on request		for 600					
45, 30HT, 75HP, 120IPS, 120SD			other on request		for 900					
60, 45HT, 100HP, 160IPS, 160SD			other on request		for 1200					
Light unit:										
CRI:			Color temperature:			Alternative distribution curves:				
7 70			40 4000K			None – transparent glass /G2 – diffusing glass ...				
8 80			50 5000K							
9 90			65 6500K							
... other			... other							
Housing unit:										
Optional code:			Cable gland:				Mounting accessories:			
../DR	Breath drain		../NiCG	nickel-plated brass		../1xM20	../ST	on the pipe		
../DALI	DALI		../CG	plastic		../2xM20	../DF	spacers on the pipe		
../II class	II class protection		../BCG	brass		../1xM25	../WM	to the wall		
			...	other		../2xM25	../EH	eye bolt		
						../1xM16	../D	protective canopy		
						../2xM16				

³ Luminaire power with +/-10% tolerance
Example order code: EMLG 2 Ex 900 /45 /840 /CG /2xM20 - EMLG 2 Ex luminaire 900 mm long, 45 Watt, CRI80, 4000K, 2 plastic M20 cable glands and stopping plug.
Distribution curve:



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EMLG 1 Ex

EMLG 1 EX (ZONE 1, 21)

Zones 1, 21

- II 2G Ex eb ib mb op is IIC T5 Gb
- II 2D Ex tb op is IIIC T85°C Db

Description

The EMLG 1 Ex luminaire is designed to illuminate:

- industrial halls and spaces classified as zones 1, 21 of explosion hazard of dust, gases, vapors and mists of flammable liquids,
- auxiliary rooms with high dustiness with the possibility of water splashes, i.e.: boiler rooms, hydro-nodes, baths, garages, shelters, warehouses,
- stationary technological lines of the chemical, oil, petrochemical, gas industry, gas distribution, processing of loose mining and construction materials;
- rooms of public utility facilities, including health service facilities, as well as plants of the pharmaceutical industry, cosmetics industry, meat processing, food production and storage, food industry and catering facilities.

Technical characteristics

Technical parameters	
Power supply	198-277 VAC, 198-250 VDC, 50-60(0) Hz 100-277 VAC, 100-250 VDC, 50-60 Hz (as option)
Power	max 60 W +/-10% (according to the table)
Atex marking	II 2G Ex eb ib mb op is IIC T5 Gb II 2D Ex tb op is IIIC T85°C Db
EU-type examination certificate number	OBAC 24 ATEX 0173X
Standards	PN-EN IEC 60079-0:2018-09 PN-EN 60079-7:2016-02+A1:2018-03 PN-EN 60079-11:2012 PN-EN 60079-18:2015-06+A1:2018-02 PN-EN 60079-28:2015-12 PN-EN 60079-31:2014-10
Ingress protection	IP 66
Protection class	I
Permissible ambient temperature	-32°C do + 55°C
Connection terminals (max)	4 ² mm, permissible load on the terminal 32A
Weight	EMLG 1 Ex 300 - 1,65 kg; EMLG 1 Ex 600 - 2,65 kg; EMLG 1 Ex 900 - 3,65 kg; EMLG 1 Ex 1200 - 4,74 kg;
Dimensions	EMLG 1 Ex 300 - 300 x 88 x 70; EMLG 1 Ex 600 - 600 x 88 x 70; EMLG 1 Ex 900 - 900 x 88 x 70; EMLG 1 Ex 1200 - 1150 x 88 x 70;
Source of light	ultra-bright LEDs
Color temperature	4000K ± 5% (others as option ± 10%)
CRI	80 (others as option)

CATEGORY:
EXPLOSION PROOF
LUMINAIRES

CERTIFICATIONS



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Design and operation

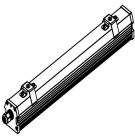
- body - anodized aluminum;
 - tempered glass with increased transparency;
 - LED light module;
- silicone gaskets;
 - aluminum side cover;

Montage

The luminaire in the standard version is equipped with two brackets with M6 thread. Optional additional mounting accessories are available, e.g. on a pipe, to the wall (others on request). The luminaire is connected by unscrewing the four mounting screws located in the side cover of the luminaire. The luminaire is equipped with two M20 cable glands and stopping plug.

Advantages

- solid, compact design,
- simple, easy and fast installation, mount with M6 thread, other on request,
- high quality power supply and LEDs,
- UV resistant



Options

EMLG 1 Ex				**	/	**	/	***	/	****
Size:										
300										
600										
900										
1200										
Max power ³ :										
15,		other on request		for 300						
30,		other on request		for 600						
45,		other on request		for 900						
60,		other on request		for 1200						
Light unit:										
CRI:			Color temperature:			Alternative distribution curves:				
7			40			None – transparent glass / G2 – diffusing glass ...				
8			50							
...			65							
			...							
70			4000K							
80			5000K							
other			6500K							
			other							
Housing unit:										
Optional code:			Cable gland:				Mounting accessories:			
../DR ../II class	Breather drain		../NiCG		nickel-plated brass		../1xM20 ../2xM20 ../1xM25 ../2xM25 ../1xM16 ../2xM16	../ST ../DF ../WM ../EH ../D	on the pipe spacers on the pipe to the wall eye bolt protective canopy	
	II class protection		../CG		plastic					
			../BCG		brass					
			...		other					



EML Ex LED (zone 2, 21, 22)

EML EX LED (ZONE 2, 21, 22), CNBOP

Zones 2, 21

- II 3G Ex ec IIC T6/T5 Gc
- II 2D Ex tb IIIC T85°C Db

Zones 2, 22

- II 3G Ex ec IIC T6/T5 Gc
- II 3D Ex tc IIIC T85°C Dc

Description

The EML Ex LED linear luminaire is intended mainly for general lighting of halls, industrial spaces, production and storage zones 2, 21, 22 with the possibility of high dustiness, moisture, water splashes in the work environment, including: technological lines of the chemical industry, oil, petrochemical, gas, energy, wood, paper, construction and food materials.

Technical characteristics

Technical parameters	
Power supply	230 V AC/DC 50-60(0)Hz, 110V (according to versions) 230 V AC 50-60Hz - versions with battery
Atex marking for zones 2, 21	II 3G Ex ec IIC T6/T5 Gc II 2D Ex tb IIIC T85°C Db
Atex marking for zones 2, 22	II 3G Ex ec IIC T6/T5 Gc II 3D Ex tc IIIC T85°C Dc
EU-type examination certificate number	OBAC 14 ATEX 0351X
Standards	PN-EN IEC 60079-0:2018, PN-EN 60079-7:2016, PN-EN 60079-11:2012, PN-EN 60079-18:2015, PN-EN 60079-31:2014
Ingress protection	IP 66/67
IK protection class	IK 10
Protection class	I
Battery	3H - Ni-Cd 4,5 Ah 3,6V 4,8V 3H - LiFe Po 4,5 Ah 9,6V
Permissible ambient temperature	from -20°C to +50°C - versions without a battery - temp. class T6 from -20°C to +40°C - HP versions - temp. class T6 from 0°C to +40°C - versions with battery - temp. class T6
	from -20°C to +50°C - HP versions - temp. class T5 from 0°C to +50°C - versions with battery - temp. class T5
Cable gland	M20 or M25 (other on request)

21/60

CATEGORY:

EXPLOSION PROOF
LUMINAIRES

CERTIFICATIONS



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Technical parameters	
Connection terminals (max)	4 mm ² , permissible load on the terminal 32A
Wight	1.8 ÷ 4.8 kg (according to versions)
Dimensions	660 x 145 x 101
	1277 x 145 x 101
	1573 x 145 x 101
Source of light	ultra-bright LEDs
Color temperature	4000K ± 5% (others as option ± 10%)

Name	Max power [W]	Luminous flux [lm]
EML Ex LED 600/18	18	2 677
EML Ex LED 1200/34	34	5 045
EML Ex LED 1200/44HP	44	6 435
EML Ex LED 1200/70HP	70	10 038
EML Ex LED 1500/42	42	6 596
EML Ex LED 1500/86HP	86	12 615

Design and operation

- anti-glare diffuser grooved from the inside lenticular made of PC flammability class in accordance with the safety standard UL94: V-2, incandescent test with wire in accordance with (PN-EN 60695-11-2): 850 °C,
- body of reinforced structure made of polyester reinforced with glass fiber GRP class flammability in accordance with the safety standard UL94: HB, glow wire test in accordance with (PN-EN 60695-11-2): 650 °C,
- diffuser fixing elements (hinged lampshade suspension), fitting fixing accessories made of stainless steel or plastic,
- EM emergency power module acc. to types,
- as an option DALI, PZH, CNBOP (according to versions),

Montage

A universal luminaire adapted to through and end wire supply through cable gland located on the transverse side walls. The luminaire has mounting accessories enabling it to be mounted on the ceiling surface or from the side wall, it can also be hung on chains.

The EML Ex LED luminaire is equipped with 2 Ex cable glands with a seal diameter of 7-13 mm and an Ex plug. As an option, cable entries with a seal diameter of 8-17 mm are available (ordered separately).

Execution

Ordering code	Zone	Max power [W]	Optional distribution curves	Optional code	Additional accessories	Weight [kg]
EML Ex LED 600	../221 or ../222	../18	../BW or ../TB or ../P or ../..	../B ../ADR ../110 ../OUT1 ../DR ../10V ../DALI ../II class ../..K ../RA.. ../3P ../CR ../K ../HP ../AP ../RAL.. ../SG or ../M25 ../CNBOP	../ST ../DF ../WM ../EH ../D ../SMC ../JB.. ../SN1 ../SN2	1,8
EML Ex LED 1200		../34 ../44HP ../70HP		3,2		
EML Ex LED 1500		../42 ../86HP		3,9		



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Version with battery:

Ordering code	Zone	Max power [W]	Optional distribution curves	Optional code	Additional accessories	Weight [kg]
EML Ex LED 600 EM	../221 or ../222	../22*	../BW or ../TB or ../P or ../..	../B ../AT ../OUT1 ../DR ../10V ../DALI ../II class ../..K ../RA.. ../3P ../CR ../K ../AP ../RAL.. ../SG or ../M25 ../CNBOP	../ST ../DF ../WM ../EH ../D ../SMC ../JB.. ../SN1 ../SN2	2,5
EML Ex LED 1200 EM		../38*				3,9
EML Ex LED 1500 EM		../46*				4,6

* power given when the luminaire is in light mode.

Optional distribution curves (please see LDT file):

- ../BW - lens with beam curve BW;
- ../P - lens with beam curve P;
- ../TB - lens with beam curve TB;
- ../.. - other;

Optional code:

- ../B/ - zabudowany bezpiecznik;
- ../ADR - version with address module,
- ../AT - emergency version with self-test. The luminaire carries out an automatic test, signaling the operation status of the luminaire in the form of a built-in LED diode;
- ../110 - 110V power supply,
- ../OUT1 - version with EPDM gasket,
- ../DR - version with breather drain,
- ../10V - luminaire version with luminous flux adjustment from 10% to 100%;
- ../DALI - version with DALI control;
- ../II class - execution in protection class II (without CNBOP);
- ../..K - light colour..K (30K - 3000K; 65K - 6500K),
- ../RA.. - color rendering index,
- ../3P - version with 3-phase through wire,
- ../CR - connector mounted on the cable,
- ../K - end fitting without through-wire,
- ../HP - versions with increased power and luminous flux;
- ../AP - additional protection against corrosion;
- ../RAL.. - housing color according to RAL palette,
- ../SG - special cable gland with a choke diameter of 8-17mm,
- ../M25 - cable gland M25x1.5,
- ../AL - version with an aluminium gear tray,
- ../CNBOP - luminaire with CNBOP approval.

Additional accessories:

- ../ST - tube mounting;
- ../DF - distance fixing for the pipe;
- ../WM - wall mounting;
- ../EH - eye mounting;
- ../D - protective hood;
- ../JB.. - junction box;
- ../SN1, SN2 - version equipped with a pictogram for indoor or outdoor use

Luminaires designed for cooperation with a central battery, additionally equipped with one of the following address monitoring and switching modules:

ADR1 - ADR20-ILS,
ADR2 - TM-AM 01,
ADR3 - V-CG SE 4-400W,
ADR4 - V-CG-S 4-400W,
ADR5 - ADS 20,
ADR6 - ADN.

Luminaires are available as standard with the powers given in the table "types of execution". Optionally, versions with reduced power are available on request. Example of an order: EML Ex LED 1200/221/34/P/50K - a luminaire with a length of 1200mm, approved for operation in zones 2 and 21, with a power of 34 W with a "P"



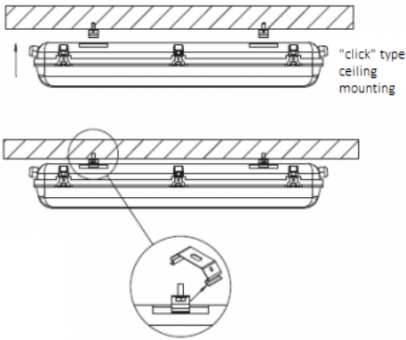
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type lens, with LEDs with a color temperature of 5000K.

Advantages

- solid, compact structure,
- simple, easy and quick assembly,
- high resistance to industrial corrosive environment,
- high luminous efficiency,
- resistant to UV radiation,
- long life of light sources,
- possibility of building (as a through-hole).



OPTIONAL MOUNTING ACCESSORIES

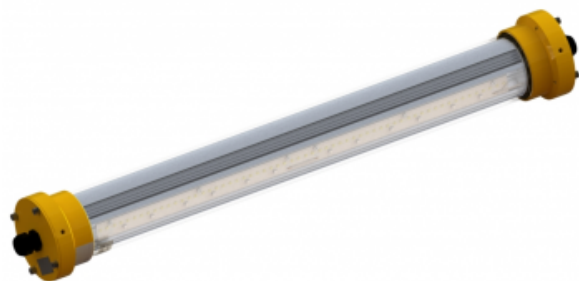
72 pipe mount, diameter 48-54 mm, other on request;	
72-2258 - steel mesh;	
72-2958 - adjustable wall mounting;	
72-2966 - pipe mount, diameter 48-50 mm;	

Optional distribution curves		
standard version	../BW	../P



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LLS Ex

LLS EX ZONE 1, 21, 2, 21, 22

Zones 1, 21

II 2G Ex eb mb ib op is IIC T5 Gb

II 2D Ex tb op is IIC T77°C Db

Zone 2, 21

II 3G Ex ec mc op is IIC T5 Gc

II 2D Ex tb op is IIC T77°C Db

Zone 2, 22

II 3G Ex ec mc op is IIC T5 Gc

II 3D Ex tc op is IIC T77°C Dc

Features/Technical specification

Parameter	Value (unit)
Supply voltage	198-264 VAC/DC, 50-60/0Hz
Power	12-56 W
Source of light	LED
Color temperature	4000K ± 10% as option 3000K, 5000K, 6500K ± 10% (other on request)
Luminous flux	130 lm/W ± 10%
Protection class	I
Degree of protection	IP 66/67 IK08
Ambient temperature	-35°C do +55°C

Design and operation

- diffuser made of high-quality (PC), flammability class in accordance with UL94 safety standard: V-2, optional resistant glass tube,
- powder coated, depending on the version, made of steel or aluminum,
- cable gland with M20x1.5, M25x1.5,
- terminals max 5x4mm² or 6x2.5mm²,
- through wiring 2.5mm²,
- LED modules mounted on a specially designed aluminum profile,
- address module (option),
- mounting bracket,

Montage

The luminaire is structurally adapted to feed-through or end-supply through cable glands M20 (M25) x 1.5 located on the top cover. For versions ../121 (strefa 1, 21), the fixture is equipped with one slot and a stopping plug as standard (long slot available as an option, on request). Luminaire accessories provides fastening to the surface of the ceiling, wall or on a rope.

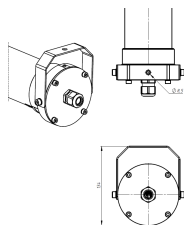
CATEGORY:
EXPLOSION PROOF
LUMINAIRES

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Advantages

- solid, compact structure,
- simple, easy and quick installation,
- high resistance to industrial corrosive environment,
- very high luminous efficiency,
- high-quality power supply and LED diodes,
- very high tightness IP66 / 67,
- resistant to UV radiation.

Options

Order code	Zone	Optional code			Max Power [W]	Luminaire dimensions
LLS Ex 300	.. /121 .. /221 .. /222	.. /1 0V	.. /110 .. /ADR..	.. /E N .. /D E .. /S P .. /R U .. /C Z .. /X X	.. /12	Ø104x460
LLS Ex 600			.. /3P .. /P1 .. /K		.. /23	Ø104x760
LLS Ex 1200			.. /M25 .. /SS .. /ALU .. /GL		.. /45	Ø104x1300
LLS EX 1500			.. /ST .. /DF .. /WM .. /EH .. /D .. /K .. /RA.. .. /CR .. /AP .. /RAL.. .. /DALI .. /CNBOP		.. /56	Ø104x1600

- .. /ADR.. - version with address module;
- .. /3P - version with 3-phase through wiring;
- .. /P1 - version with a one-way through;
- .. /K - end luminaire;
- .. /M25 - cable gland M25;
- .. /SS - version with stainless steel cover;
- .. /ALU - version with aluminium cover;
- .. /GL - version with a tempered glass cover;
- .. /ST - pipe mount max 44mm;
- .. /DF - distance fixing for the pipe;
- .. /WM - wall mount;
- .. /EH - eyebolt fastening;
- .. /D - safety hood;
- .. /..K - LED with light with a color temperature of ..K (e.g. 30K-3000K; 65K -6500K);



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- ../Ra.. - color rendering index Ra ..;
- ../CR - connector mounted on the cable;
- ../AP - additional protection against corrosion;
- ../RAL..- cover painting according to RAL number;
- ../121 - luminaire version approved for operation in zones 1 and 21;
- ../221 - luminaire version approved for operation in zones 2 and 21;
- ../222 - luminaire version approved for operation in zones 2 and 22;
- ../10V - luminaire version with luminous flux adjustment from 10% to 100%;
- ../110 - 110V power supply;
- ../EN - version with markings in English;
- ../DE - version with markings in German;
- ../SP - version with markings in Spanish;
- ../RU - version with markings in Russian;
- ../CZ - version with markings in Czech;
- ../DALI - version with DALI
- ../CNBOP - version with CNBOP certificate;

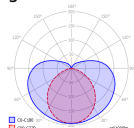
Luminaires designed for cooperation with a central battery, additionally equipped with one of the following address monitoring and switching modules:

ADR1 - ADR20-ILS or
 ADR2 - TM-AM 01 or
 ADR3 - V-CG SE 4-400W or
 ADR4 - V-CG-S 4-400W or
 ADR5 - ADS 20 or
 ADR6 - ADN

Standard luminaires are available with the powers given in the table: 12 W, 23 W, 45W and 56W. Optionally, versions with reduced power are available on request.

Example of an order: LLS Ex 1200/221 / 65K / 45 - luminaire with a power of 45W, approved for operation in zones 2 and 21 with LED diodes with a color temperature of 6500K.

Light distribution curve



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EMLB 2 Ex

EMLB 2 EX ZONE 2, 21

Zones 2, 21

II 3G Ex ec IIC T6..T5 Gc

II 2D Ex tb op is IIC T85°C

Description

The EMLB 2 Ex luminaire is intended mainly for general lighting of low halls, shelters, industrial, production and warehouse spaces classified as zones 2, 22, 21 with the possibility of high dust, moisture and water splashes in the working environment, including: workplace technological lines chemical, petroleum, petrochemical, gas, energy, mining, wood, paper industries, processing of loose mine, construction and food materials.

Features/Technical specification

Parameter	Value (unit)
Supply voltage	90-305 VAC 140-250 VDC 50-60/0 Hz
Power	20-80 W
Power factor	PF ≥ 0,95**
ATEX marking	II 3G Ex ec IIC T6..T5 Gc II 2D Ex tb op is IIC T85°C Db
Standards	PN-EN IEC 60079-0:2018-09 PN-EN 60079-7:2016-02+A1:2018-03 PN-EN 60079-28:2015-12 PN-EN 60079-31:2014-10
Source of light	LED
Color temperature	4000K ± 10% as option 3000K, 5000K, 6500K ± 10% (other on request)
Luminous flux	140 lm/W ± 10%
Protection class	I
Degree of protection	IP 66/67 IK08
External dimension	23 x 23 x 32 cm
Weight	3,5 kg
Power cord diameter	wire 0,2-6 mm ² / AWG 24-10 string 0,2-4 mm ² / AWG 24-12

** At 230VAC and 80W luminaire power.

Power [W]	The temperature class of the EMLB 2 Ex Ambient temperature range		
	-32°C ≤ Ta ≤ +50°C	-32°C ≤ Ta ≤ +55°C	-32°C ≤ Ta ≤ +60°C
20 - 40	T6 / T85	T5 / T85	T5 / T85
41 - 60	T5 / T85	T5 / T85	-
61 - 80	T5 / T85	-	-

Design and operation

The luminaire is made as a hermetic, closed structure in which we can separate three main components:

CATEGORY:

EXPLOSION PROOF
LUMINAIRES

CERTIFICATIONS

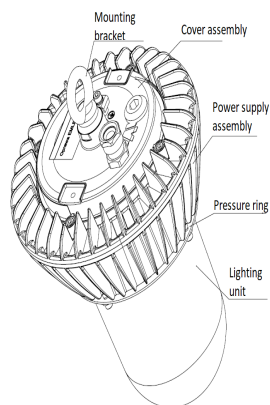
CE



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- power supply unit - consisting of a body made of die-cast aluminum protected by a paint coating
- lighting unit - consisting of a lampshade made of polycarbonate with a built-in LED panel;
- cover assembly - cable gland equipped with a terminal block and a mounting bracket.



Montage

As standard, the luminaire is adapted for hanging mounting, e.g. on a rope or chain. Optionally luminaire can be mounted with additional accessories, for example to the surface of a wall, pipe/mast. As standard, the luminaire is equipped with one M20x1.5 cable gland (seal range from 6.5mm to 11.9mm, nickel-plated brass) and a blind hole Ø20, to which an additional cable gland can be mounted. On request, it is possible to install other cable gland and / or make holes of different diameter

Advantages

- solid, compact structure,
- simple, easy and quick installation,
- high resistance to industrial corrosive environment,
- very high luminous efficiency,
- high-quality power supply and LED diodes,
- resistant to UV radiation.

Options

Luminaire designation:

EMLB 2 Ex * / ** / * / ******

* power

** lighting unit

*** power supply assembly

**** additional information (e.g. a different type of painting, additional accessories etc.)

Sample order code:

- **EMLB 2 Ex 80/840 / P** - EMLB 2 Ex fitting with 80W power, LED matrix 4000K CRI 80, diagnostic connector, cable gland made of nickel-plated brass M20.
- **EMLB 2 Ex 50/930 / P10 2 NiCG / R WG A90AI** - EMLB 2 Ex luminaire, 50 W, LED matrix 3000K CRI 90, power supply with a diagnostic connector and 1- 10V analog dimming, two cable glands made of nickel-plated brass 2xM20x1.5, symmetrical reflector, diffuser covered with a steel mesh, angular inlet adapters made of anodized aluminum.



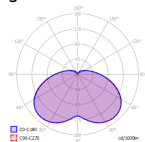
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Name	Power [W]	Lighting unit			Power supply assembly				Painting
		Color rendering index [CRI]	Temp. color [K]	Optics	Driver type	Cable gland			
						Quantity	Type	Size	
EMLB 2 Ex	20; 30; 40; 50; 60; 70; 80; ...	8 – 80	40 - 4000	NONE – opal diffuser	P – diagnostic connector	NONE – one cable gland and stopping plug	NONE – Brass-nickel cable gland	NONE – M20	NONE – RAL1003
		Variants on request:							
		7 – 70; 9 – 90; ...	30 - 3000; 35 - 3500; 50 - 5000; 65 - 6500; ...		10V – analog dimming 1-10V P10V – service connector and analog dimming 1-10V NONE – luminaire without dimming and diagnostic connector	1 – one cable gland 2 – two cable gland ...	CG – plastic cable gland NiCG – nickel-plated cable gland BCG – brass cable gland ACG – cable gland for armored cable H – housing with a hole for cable gland	20 – M20 25 – M25 1” ¾” ...	RAL...
							OUT – luminaire with integrated power cord and junction box OUTD – luminaire with integrated power and control cables and a junction box		

Accessories		
Lighting system	Mounting accessories	Others
NONE – luminaire without reflector; R – symmetrical reflector; AR – asymmetrical reflector; WG – steel mesh; ... – other on request;	NONE – luminaire equipped with an eyebolt; L – angular mounting bracket; WM – wall mount; ST 48-55 – pipe mount (Ø48mm to Ø55mm); ST 56-65 – pipe mount (Ø56mm to Ø65mm); NA – luminaire without mounting accessories; ... – other on request;	A90... – angle adapter for cable gland; CR – power cable with a certified connector; ... – other on request;

Light distribution curve:



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EMLB 1 Ex

EMLB 1 EX ZONE 1 21

Zones 1, 21

II 2G Ex eb ib mb op is IIC T5 Gb

II 2D Ex tb op is IIC T95°C Db

Description

EMLB 1 Ex luminaire is designed to work in the following zones: 1, 2, 21 and 22 hazard explosion of dust, gases, vapors and mists of flammable liquids. It can be used to illuminate, among others:

- industrial halls,
- auxiliary rooms with high dustiness with the possibility of water splashes, i.e. boiler rooms, hydro nodes, baths, garages, shelters, warehouses in open and closed areas,
- workplace technological lines, among others: chemical and petroleum industries, petrochemical, gas, wood, processing of loose mine materials, construction and food,
- internal or external industrial areas, including those with concentrated areas technological infrastructure.

Features/Technical specification

Parameter	Value (unit)		
Supply voltage	90-250 VAC 140-250 VDC 50-60/0 Hz - standard version 90-277 VAC 140-250 VDC 50-60/0 Hz - on request		
Power	20-80 W		
Power factor	PF ≥ 0,95**		
ATEX marking	Ex II 2G Ex eb ib mb op is IIC T5 Gb Ex II 2D Ex tb op is IIC T95°C Db		
Standards	PN-EN IEC 60079-0:2018-09 PN-EN 60079-7:2016-02+A1:2018-03 PN-EN 60079-11:2012 PN-EN 60079-18:2015-06+A1:2018-02 PN-EN 60079-28:2015-12 PN-EN 60079-31:2014-10		
Source of light	LED		
Color temperature	4000K ± 10% as option 3000K, 5000K, 6500K ± 10% (other on request)		
Luminous flux	140 lm/W ± 10%		
Protection class	I		
Degree of protection	IP 66/67 IK08		
External dimension	23 x 23 x 32 cm		
Ambient temperature range	Ambient temperature [°C]	Power [W]	Temperature class
	-32 do +60	20-40	T5/T95°C
	-32 do +55	41-60	
	-32 do +50	61-80	
Weight	4,5 kg		
Power cord diameter	wire 0,2-6 mm ² / AWG 24-10 string 0,2-4 mm ² / AWG 24-12		

** At 230VAC and 80W luminaire power.

CATEGORY:

EXPLOSION PROOF
LUMINAIRES

CERTIFICATIONS



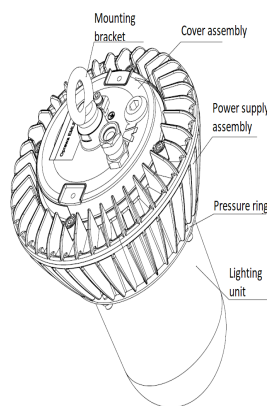
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Design and operation

The luminaire is made as a hermetic, closed structure in which we can separate three main components:

- power supply unit - consisting of a body made of die-cast aluminum protected by a paint coating
- lighting unit - consisting of a lampshade made of polycarbonate with a built-in LED panel;
- cover assembly - cable gland equipped with a terminal block and a mounting bracket.



Montage

As standard, the luminaire is adapted for hanging mounting, e.g. on a rope or chain. Optionally luminaire can be mounted with additional accessories, for example to the surface of a wall, pipe/mast. As standard, the luminaire is equipped with one M20x1.5 cable gland (seal range from 6.5mm to 11.9mm, nickel-plated brass) and a blind hole Ø20, to which an additional cable gland can be mounted. On request, it is possible to install other cable gland and / or make holes of different diameter

Advantages

- solid, compact structure,
- simple, easy and quick installation,
- high resistance to industrial corrosive environment,
- very high luminous efficiency,
- high-quality power supply and LED diodes,
- resistant to UV radiation.

Options

Luminaire designation:

EMLB 1 Ex * / ** / * / ******

* power

** lighting unit

*** power supply assembly

**** additional information (e.g. a different type of painting, additional accessories etc.)

Sample order code:

- **EMLB 1 Ex 80/840 / P** - EMLB 1 Ex fitting with 80W power, LED matrix 4000K CRI 80, diagnostic connector, cable gland made of nickel-plated brass M20.
- **EMLB 1 Ex 50/930 / P10 2 NiCG / R WG A90Al** - EMLB 1 Ex luminaire, 50 W, LED matrix 3000K CRI 90, power supply with a diagnostic connector and 1- 10V analog dimming, two cable glands made of nickel-plated brass 2xM20x1.5, symmetrical reflector, diffuser covered with a steel mesh, angular inlet adapters made of anodized aluminum.



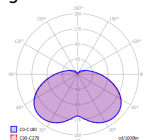
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Name	Power [W]	Lighting unit			Power supply assembly				Painting
		Color rendering index [CRI]	Temp. color [K]	Optics	Driver type	Cable gland			
						Quantity	Type	Size	
EMLB 1 Ex	20; 30; 40; 50; 60; 70; 80; ...	8 – 80	40 - 4000	NONE – opal diffuser	P – diagnostic connector	NONE – one cable gland and stopping plug	NONE – Brass-nickel cable gland	NONE – M20	NONE – RAL1003
		Variants on request:							
		7 – 70; 9 – 90; ...	30 - 3000; 35 - 3500; 50 - 5000; 65 - 6500; ...		10V – analog dimming 1-10V P10V – service connector and analog dimming 1-10V NONE – luminaire without dimming and diagnostic connector	1 – one cable gland 2 – two cable gland ...	CG – plastic cable gland NiCG – nickel-plated cable gland BCG – brass cable gland ACG – cable gland for armored cable H – housing with a hole for cable gland	20 – M20 25 – M25 1” ¾” ...	RAL...
						OUT – luminaire with integrated power cord and junction box OUTD – luminaire with integrated power and control cables and a junction box			

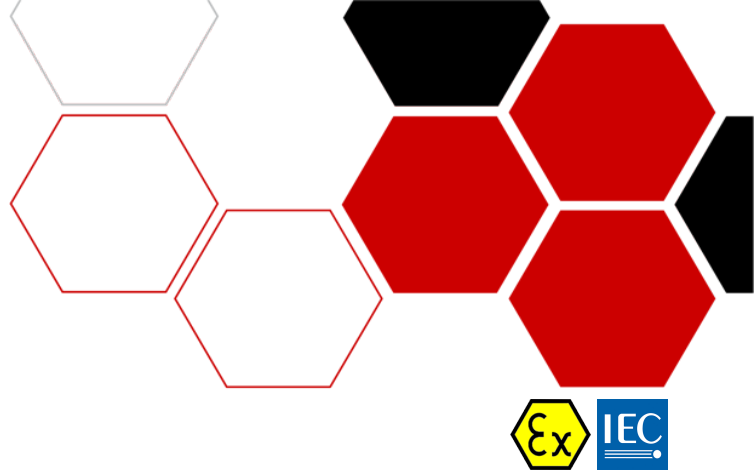
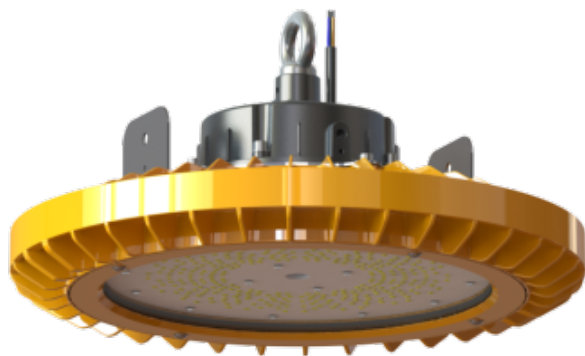
Accessories		
Lighting system	Mounting accessories	Others
NONE – luminaire without reflector; R – symmetrical reflector; AR – asymmetrical reflector; WG – steel mesh; ... – other on request;	NONE – luminaire equipped with an eyebolt; L – angular mounting bracket; WM – wall mount; ST 48-55 – pipe mount (Ø48mm to Ø55mm); ST 56-65 – pipe mount (Ø56mm to Ø65mm); NA – luminaire without mounting accessories; ... – other on request;	A90... – angle adapter for cable gland; CR – power cable with a certified connector; ... – other on request;

Light distribution curve:



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EMHB 2 Ex

EMHB 2 EX ZONE 2 21,22

Zones 2, 21, 22

Ex II 3G Ex ec op is IIC T5..T4 Gc

Ex II 2D Ex tb op is IIC T80°C ... 115°C Db

Description

EMHB 2 Ex luminaire is designed to illuminate:

- industrial halls and spaces classified as zones 2, 21 and 22 of the explosion hazard of dust, gases, vapors and mists of flammable liquids,
- auxiliary rooms with high dustiness with the possibility of water splashes, i.e. boiler houses, hydro nodes, baths, garages, shelters, open and closed warehouses,
- workstation process lines, among others: chemical, petroleum, petrochemical, gas, wood, mining, construction and food loose materials,
- rooms with increased temperature.

Technical characteristics

Technical parameters	
Parameter name	Value (unit)
Supply voltage	90-305 VAC 140-250 VDC 50-60/0Hz
Power	40-270W ±5%
Power factor	PF ≥ 0.95 * *
ATEX marking	Ex II 3G Ex ec op is IIC T5..T4 Gc Ex II 2D Ex tb op is IIC T80°C ...115°C Db
IECEx marking	Ex ec op is IIC T5..T4 Gc Ex tb op is IIC T80°C ...115°C Db
EU-type examination certificate number	OBAC 21 ATEX 0134X
IECEx certificate number	IECEx OBAC 21.0002X
Standards	PN-EN 60079-0:2018, PN-EN 60079-7:2016, PN-EN 60079-28:2015, PN-EN 60079-31:2014
Source of light	ultra-bright LED lights
Color temperature	4000K ±10% as an option 3000K, 5000K, 6500K ±10%
Light flux	155 ±10%
Protection class	I
Degree of protection	IP 66/67 *** IK 10
Ambient temperature range	in accordance with the table below
Weight	6,8 kg
External dimensions	Ø380x150 mm
CRT	80 (other on request) ±10%

** At 230VAC and 160W

*** When using a cable gland with a lower IP, the degree of protection of the entire luminaire is reduced

CATEGORY:

EXPLOSION PROOF
LUMINAIRES

CERTIFICATIONS

CE



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Design and operation

- body - aluminum alloy,
- pressure ring - aluminum alloy,
- tempered glass,
- LED light module,
- power supply with an integrated 3x1.0mm² power cord (length 250mm),
- luminous flux adjustment via 1-10V, DALI according to versions,
- mounting eyelet,

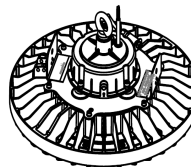
Optionally, the luminaire can be:

- equipped with a connection chamber (ICB variant) with two openings for inserting power cables. The holes are equipped with M20, M25 cable gland or can be blind,
- equipped with an industrial power supply (IPS variant),
- adapted to work at elevated temperatures (HT variant),
- led driver is separated from the light unit (SD variant).

Advantages

- robust and compact design,
- quick, simple and easy installation,
- high resistance to a corrosive industrial environment,
- very high luminous efficacy,
- high-quality power supply unit and LEDs,
- UV-resistant.

Mounting method



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Options

Luminaire designation:

EMHB 2 Ex * / ** / * / ******

* luminaire power,

** lighting unit,

*** power supply unit,

**** additional information (e.g. a different type of painting, additional accessories).

Luminaire name	Power [W]	Light unit			Power supply unit		Coating
		Color rendering index [CRI]	Color temperature [K]	Optics	Control	Additional information	
EMHB 2 Ex	40 60 80 100 120 140 150 160 180 200 220 240 250 260 270	8 – 80	40 – 4000	none – standard glass	P – diagnostic connector	none – round type power supply high-bay equipped with integrated power cord	none – RAL1003
		Variants on request:					
		7 – 70 9 – 90 ...	30 – 3000 35 – 3500 50 – 5000 65 – 6500 ...	G1 – milk glass G.. – other glass on request	DA – DALI digital dimming PDA – diagnostic connector and DALI digital dimming 10V – analog dimming 1-10V P10V – diagnostic connector and 1-10V analog dimming A10V – 1-10V analog dimming and 12V AUX output none – the fixture is equipped only with a power cord	IPS – Industrial external power supply with integrated power cord (increased life span) SD – power supply unit and lighting unit separated, connected by a cable ICB – variant with industrial power supply and connection chamber Cable gland (in variant ICB) Quantity Type Size 1 – cable gland and stopping plug CG – plastic cable gland 20 – M20 2 – two cable glands NiCG – nickel-plated brass cable gland 25 – M25 ... BCG – brass cable gland 1" ... – specify the hole size ACG – cable gland for armored cable 3/4" H – housing with a hole for cable gland	RAL..**** KAT.. – cataphoresis ...

Power [W]	Temperature class luminaire EMHB 2 Ex – standard, ICB, SD, IPS versions				
	Ambient temperature range				
	-32≤Ta≤+40 [°C]	-32≤Ta≤+45 [°C]	-32≤Ta≤+50 [°C]	-32≤Ta≤+55 [°C]	-32≤Ta≤+60 [°C]
40 – 80	T5 / T80°C	T5 / T85°C	T5 / T90°C	T5 / T95°C	T4 / T100°C****
81 – 120	T5 / T80°C	T5 / T85°C	T5 / T90°C	T5 / T95°C	T4 / T100°C****
121 – 160	T5 / T85°C	T5 / T90°C	T5 / T95°C	T4 / T100°C****	–
161 – 200	T5 / T85°C	T5 / T90°C	T5 / T95°C	T4 / T100°C****	–
201 – 240	T5 / T85°C	T5 / T90°C	T5 / T95°C	T4 / T100°C****	–
241 – 270	T5 / T90°C	T4 / T95°C	T4 / T100°C****	–	–



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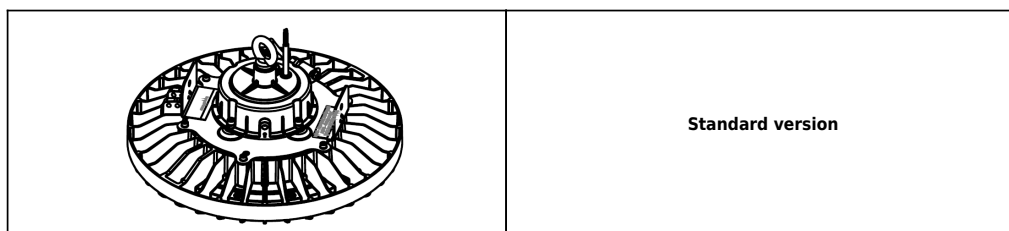
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High temperature version HT:

Luminaire name	Power [W]	Light unit			Power supply unit		Coating		
		Color rendering index [CRI]	Color temperature [K]	Optics	Control	Additional information			
EMHB 2 Ex	40 HT 60 HT 80 HT	8 – 80	40 – 4000	none – standard glass	P – diagnostic connector	None – industrial power supply with additional heat sink	none – RAL1003		
		Variants on request:							
		7 – 70 9 – 90 ...	30 – 3000	G1 – milk glass G.. – other glass on request	DA – DALI digital dimming	SD – power supply unit and lighting unit separated, connected by a cable		RAL..**** KAT.. – cataphoresis ...	
			35 – 3500		PDA – diagnostic connector and DALI digital dimming	ICB – variant with industrial power supply and connection chamber			
			50 – 5000		Cable gland (in variant ICB)				
			65 – 6500		10V – analog dimming 1-10V	Quantity	Type		Size
			...		P10V – diagnostic connector and 1-10V analog dimming A10V – 1-10V analog dimming and 12V AUX output none – the fixture is equipped only with a power cord	1 – cable gland and stopping plug 2 – two cable glands ...	CG – plastic cable gland NiCG – nickel-plated brass cable gland BCG – brass cable gland ACG – cable gland for armored cable H – housing with a hole for cable gland		20 – M20 25 – M25 1" ¾" ... – specify the hole size

Power [W]	Temperature class of the luminaire – HT versions ****				
	Ambient temperature range				
	-32≤Ta≤+55 [°C]	-32≤Ta≤+60 [°C]	-32≤Ta≤+65 [°C]	-32≤Ta≤+70 [°C]	-32≤Ta≤+75 [°C]
40 – 80	T5 / T95°C	T4 / T100°C	T4 / T105°C	T4 / T110°C	T4 / T115°C

**** Operating the luminaire at elevated temperature shortens its service life

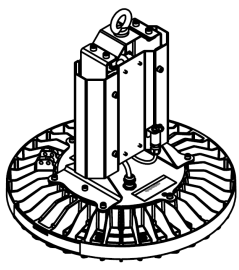
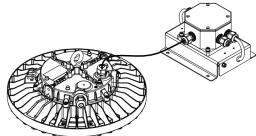
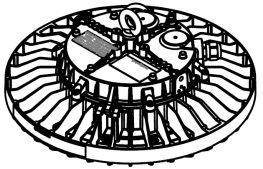
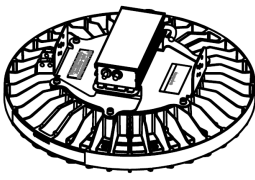


Standard version



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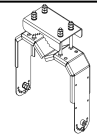
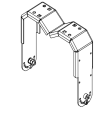

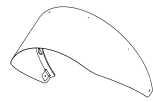
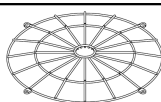
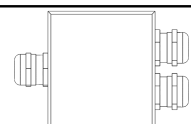
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	HT version - power supply with an additional heat sink		../SD or HT .. / SD version - power supply unit and lighting unit separated, connected with wire
	Version ../ICB or HT ../ICB - variant with power supply and connection chamber		IPS version - external power supply equipped with an integrated power cord

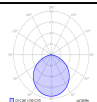
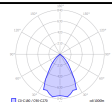
Examples of the designation:

- **EMHB 2 Ex 160/840** - EMHB 2 Ex, 160 W power, 4000K CRI80 LED matrix
- **EMHB 2 Ex 100/930 G1 / P10V ICB 2NiCG20 / AR WM** - EMHB 2 Ex 100W fitting, 4000K CRI 80 LED matrix, milk glass. Equipped with a diagnostic connector with analog 1-10V dimming, with an integrated connection chamber with two cable glands made of nickel-plated brass, size M20. Additional accessories asymmetrical reflector and wall mount.

Accessories

WU - universal tube mounting max fi 60	
WM - wall mounting	
R - symmetrical reflector	
AR - asymmetrical reflector	
WG - steel mesh	
JB - junction box (dimension 80x75x55 or 122x120x55)	

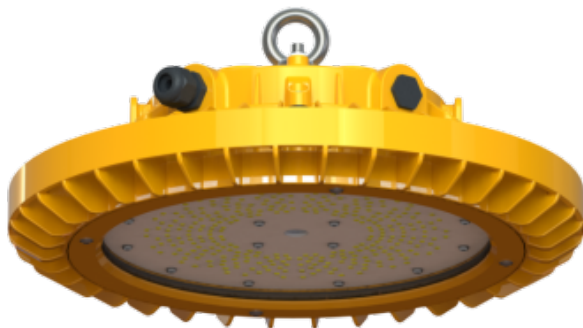
Light distribution curve

EMHB 2 Ex	EMHB 2 Ex with symmetrical reflector
	



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EMHB 1 Ex ... /EN

EMHB 1 EX ZONE 1, 21

Zones 1, 21

- II 2G Ex eb ib mb op is IIC T5 Gb
- II 2D Ex tb op is IIIC T95°C Db

for SPD version:

- II 2G Ex db eb ib mb op is IIC T5 Gb
- II 2D Ex tb op is IIIC T95°C Db

for HT version

- II 2G Ex eb ib mb op is IIC T4 Gb
- II 2D Ex tb op is IIIC T121°C Db

Description

EMHB 1 Ex luminaire is designed to illuminate, among others:

- industrial halls and spaces classified as zones 1, 2, 21 and 22 of the explosion hazard of dust, gases, vapors and mists of flammable liquids,
- auxiliary rooms with high dustiness with the possibility of splashes of water, i.e. boiler rooms, hydro junctions, baths, garages, shelters, warehouses in open and closed areas,
- workstation process lines, among others: chemical, petroleum, petrochemical, gas and wood industries, processing of loose mine, construction and food materials,
- places with increased temperature.

Technical characteristics

Parameter name	Value (unit)
Supply voltage	198-277 VAC 198-250 VDC 50-60/0Hz - standard version 90-250 VAC 140-250VDC 50-60/0Hz - on request 90-277 VAC 140-250 VDC 50-60/0Hz - on request
Power	40-160 W [1]±10%
Power factor	PF ≥ 0.95 **
Efficiency	160 lm/W







CATEGORY:
EXPLOSION PROOF
LUMINAIRES

CERTIFICATIONS



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Parameter name	Value (unit)
ATEX marking	<p>  II 2G Ex eb ib mb op is IIC T5 Gb  II 2D Ex tb op is IIIC T95°C Db </p> <p>for SPD variant:</p> <p>  II 2G Ex db eb ib mb op is IIC T5 Gb  II 2D Ex tb op is IIIC T95°C Db </p> <p>for HT variant:</p> <p>  II 2G Ex eb ib mb op is IIC T4 Gb  II 2D Ex tb op is IIIC T121°C Db </p>
	<p>Ex eb ib mb op is IIC T5 Gb Ex tb op is IIIC T95°C Db</p> <p>for SPD variant:</p> <p>Ex db eb ib mb op is IIC T5 Gb Ex tb op is IIIC T95°C Db</p> <p>for HT variant</p> <p>Ex eb ib mb op is IIC T4 Gb Ex tb op is IIIC T121°C Db</p>
EU-type examination certificate number	OBAC 21 ATEX0134X
IECEx Certificate number	IECEx OBAC 21.0002X
Standards	EN IEC 60079-0:2018 EN 60079-18:2015+A1:2017 EN 60079-7:2015+A1:2018 EN 60079-28:2015 EN 60079-11:2012 EN 60079-31:2014
Source of light	ultra-bright LED
Color temperature	4000K ±10% as an option 3000K, 5000K, 6500K ±10% (other on request)
Protection class	I
Degree of protection	IP 66/67***
CRT	80 (other on request) ±10%
Permissible ambient temperature ***	<div> <div>Ambient temperature</div> <div>Power</div> <div>Class Temperature</div> </div>
	<div> <div>-32°C do +60°C</div> <div>40 - 80 W</div> <div rowspan="3">T5 / T95°C</div> </div>
	<div> <div>-32°C do +55°C</div> <div>81 - 120 W</div> </div>
	<div> <div>-32°C do +50°C</div> <div>121-160 W</div> </div>
	<div> <div>-32°C do +75°C</div> <div>40-50 W HT</div> <div rowspan="3">T4 / T121°C</div> </div>
	<div> <div>-32°C do +70°C</div> <div>51-60 W HT</div> </div>
	<div> <div>-32°C do +65°C</div> <div>61-80 W HT</div> </div>
Weight	6,3 kg
External dimensions	Ø380x125 mm
Wire diameter	wire 0,2-6 mm² / AWG 24-10 cord 0,2-4 mm² / AWG 24-12
Recommended tightening torque for terminal block screws	0,6-0,8 Nm
Length of the stripped part of the wire	9 mm

[1] According to the table of execution types - point. 3.1; Rated power with a tolerance of $\pm 5\%$

** At 230VAC and 160W luminaire power;

*** When using a cable gland with a lower IP or a narrower operating temperature range, the parameters of the entire luminaire are reduced - see point 8.2 in instruction manual



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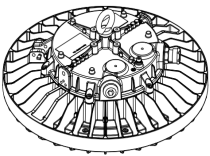
Design and operation

- body - aluminum alloy,
- back cover - aluminum alloy,
- pressure ring - aluminum alloy,
- toughened glass,
- LED light module,
- as standard, the luminaire has two Ø20mm holes with a M20x1.5 cable gland and with an M20 stopping plug. Other configurations others on request,
- pass-through clamps enabling the use of wires from 1mm2 up to 4mm2,
- mounting eyelet,
- luminous flux adjustment via 1-10V or DALI interface according to versions.

Advantages

- solid, compact structure,
- simple, easy and quick assembly,
- high resistance to industrial corrosive environment,
- very high luminous efficiency,
- high-quality power supply and LED diodes,
- very high tightness IP66 / 67,
- resistant to UV radiation.

Mounting method



Options

Luminaire designation:

EMHB 1 Ex * / ** / *** / **** EN

- * luminaire power,
- ** lighting unit,
- *** power supply unit,
- **** additional information (e.g. a different type of painting, additional accessories).

Name	Power [W]	Lighting unit			Power supply unit				Coating
		Color rendering index [CRI]	Color temperature [K]	Optics	Control	Cable gland			
						Quantity	Type	Size	
EMHB 1 Ex		8 – 80	40 – 4000	None – standard glass	None – the fixture is equipped only with a power cord	None – one cable gland and stopping plug	None – nickel-plated brass cable gland	None – M20	None – RAL1003
		Variants on							
	40	7 – 70	30 – 3000	G1 – milk glass	P – diagnostic connector	1 – one cable gland	CG – plastic cable gland	20 – M20	RAL.. ****
	60	9 – 90	35 – 3500						
	80	...	50 – 5000	G.. – other glass on request	10V – analog dimming 1-10V	2 – to cable glands	NiCG – nickel-plated brass cable gland	25 – M25	KAT.. – cataphoresis
	100		65 – 6500						
	120		...		P10V – diagnostic connector and 1-10V analog dimming	...	BCG – brass cable gland	1"	...
	140			HE – increased efficiency			ACG – cable gland for armored cable	3/4"	...
	150				SPD – over-voltage module		H – housing with holes for cable glands	... – specify the hole size	
	160								
	40HT 60HT 80HT								

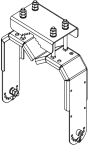
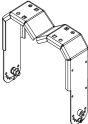

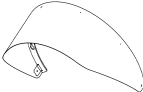

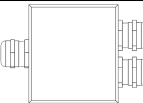


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
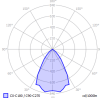
Sample order code:

- **EMHB 1 Ex 160/840 / P** - EMHB 1 Ex power 160W, LED matrix 4000K CRI 80, diagnostic connector, cable gland made of nickel-plated brass M20.
- **EMHB 1 Ex 100/930 G1 / 2H25 / R WU JB** - EMHB 1 Ex power 100 W, LED matrix 3000K CRI 90, frosted glass, two holes for the M25 cable inlet (cable gland in accordance with the list in instruction manual), symmetrical reflector, universal mounting, additional connection box.

Accessories

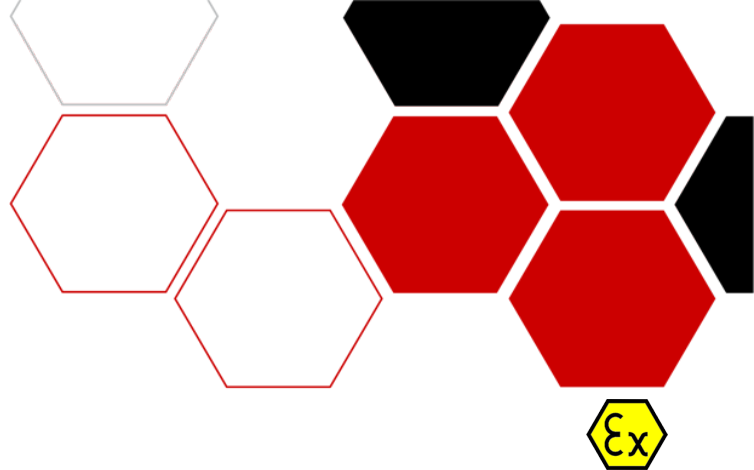
WU - universal tube mounting max fi 60	
WM - wall mounting	
R - symmetrical reflector	
AR - asymmetrical reflector	
WG - steel mesh	
JB - junction box (wym. 80x75x55 or 122x120x55)	

Distribution curve

EMHB 1 Ex	EMHB 1 Ex with symmetrical reflector
	



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EML Ex LED

EML EX LED (ZONE 1, 21)

Zones 1, 21

Ex II 2G Ex eb ib mb IIC T6/T5 Gb

Ex II 2D Ex tb IIIC T85°C Db

Description

EML Ex LED luminaire is intended basically for general lighting industrial, production and storage spaces classified to zone 1, 21 where occurrence of high dust concentrations, humidity, water splashes in working environment is possible, i.a. : processing lines for chemical industry, oil & gas industry, power industry, woodworking industry, papermaking industry and building and foodstuff processing industry.

Technical characteristics

Technical parameters	
Power supply	198-264 VAC, 176-276 VDC or 90-270 VAC, 127-300VDC
Ingress protection	IP 66/67
Protection class	I
Source of light	ultra-bright LEDs
Cable gland	M20 or M25 (other on request)
Connection terminals (max)	4 mm ² , permissible load on the terminal 32A
Wight	1.8 ÷ 4.8 kg (according to versions)
Dimensions	660 x 145 x 101 1277 x 145 x 101 1573 x 145 x 101
Color temperature	4000K ± 10% (others as option ± 10%)
Standards	PN-EN IEC 60079-0:2018, PN-EN 60079-7:2016, PN-EN 60079-11:2012, PN-EN 60079-18:2015, PN-EN 60079-31:2014
ATEX marking for zones 1 and 21	II 2G Ex eb ib mb IIC T6/T5 Gb II 2D Ex tb IIIC T85°C Db
CRI	80 (other on request)
Lifetime	>50 000H L80 (other on request)*

*at ambient temperature +25°C

Version	Ambient temperature	
	-20°C ≤ Ta ≤ +40°C	-20°C ≤ Ta ≤ +50°C
Standard	T6 / T85 °C	T5 / T85 °C
../AL	-	T6 / T85 °C

CATEGORY:

EXPLOSION PROOF
LUMINAIRES

CERTIFICATIONS

CE



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Luminous flux [lm]			
Lens	EML Ex LED 600	EML Ex LED 1200	EML Ex LED 1500
BW	2948	6419	7975
P	2886	6272	7846
standard	2833	6077	7804

Design and operation

- anti-glare diffuser grooved from the inside lenticular made of PC flammability class in accordance with the safety standard UL94: V-2, incandescent test with wire in accordance with (PN-EN 60695-11-2): 850 ° C,
- body of reinforced structure made of polyester reinforced with glass fiber GRP class flammability in accordance with the safety standard UL94: HB, glow wire test in accordance with (PN-EN 60695-11-2): 650 ° C,
- diffuser fixing elements (hinged lampshade suspension), fitting fixing accessories made of stainless steel or plastic,
- as an option DALI, PZH, CNBOP (according to versions)

Montage

A universal luminaire adapted to through and end wire supply through cable gland located on the transverse side walls. The luminaire has mounting accessories enabling it to be mounted on the ceiling surface or from the side wall, it can also be hung on chains.

The EML Ex LED luminaire is equipped with 2 Ex cable glands with a seal diameter of 7-13 mm and an Ex plug. As an option, cable entries with a seal diameter of 8-17 mm are available (ordered separately).

Execution

Ordering code	Zone	Max powe [W]	Optional distribution curves	Optional code	Additional accessories	Weight [kg]
EML Ex LED 600	../121	../23	../BW or ../P or ../NO or ../..	../ADR ../110 ../OUT1 ../DR ../..K ../RA.. ../3P ../CR ../K ../RAL.. ../SG OR ../M25 ../AL ../CNBOP	../ST ../DF ../WM ../EH ../D ../SMC ../JB.. ../SN1 ../SN2	2,5
EML Ex LED 1200		../45				4,1
EML Ex LED 1500		../56				4,8

Optional distribution curves (please see LDT file):

- ../BW - lens with beam curve BW;
- ../P - lens with beam curve P;
- ../.. - other;
- Optional code:**
- ../ADR - version with address module,
- ../110 - 110V power supply,
- ../OUT1 - version with EPDM gasket,
- ../DR - version with breather drain,
- ../..K - light colour..K (30K - 3000K; 65K - 6500K),
- ../RA.. - color rendering index,
- ../3P - version with 3-phase through wire,
- ../CR - connector mounted on the cable,
- ../K - end fitting without through-wire,
- ../RAL.. - housing color according to RAL palette,
- ../SG - special cable gland with a choke diameter of 8-17mm,
- ../M25 - cable gland M25x1.5,
- ../AL - version with an aluminium gear tray,
- ../CNBOP - luminaire with CNBOP approval.

Additional accessories:



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- **../ST** - tube mounting;
- **../DF** - distance fixing for the pipe;
- **../WM** - wall mounting;
- **../EH** - eye mounting;
- **../D** - protective hood;
- **../JB..** - junction box;
- **../SN1, SN2** - version equipped with a pictogram for indoor or outdoor use

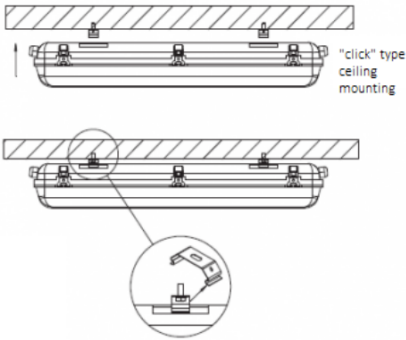
Luminaires designed for cooperation with a central battery, additionally equipped with one of the following address monitoring and switching modules:

- ADR1 - ADR20-ILS,
- ADR2 - TM-AM 01,
- ADR3 - V-CG SE 4-400W,
- ADR4 - V-CG-S 4-400W,
- ADR5 - ADS 20,
- ADR6 - ADN.

Luminaires are available as standard with the powers given in the table "types of execution". Optionally, versions with reduced power are available on request. Example of an order: EML Ex LED 1200/121/45 / P / 50K - a luminaire with a length of 1200mm, approved for operation in zones 1 and 21, with a power of 45 W with a "P" type lens, with LEDs with a color temperature of 5000K.

Advantages

- solid, compact structure,
- simple, easy and quick assembly,
- high resistance to industrial corrosive environment,
- high luminous efficiency,
- resistant to UV radiation,
- long life of light sources,
- possibility of building (as a through-hole).



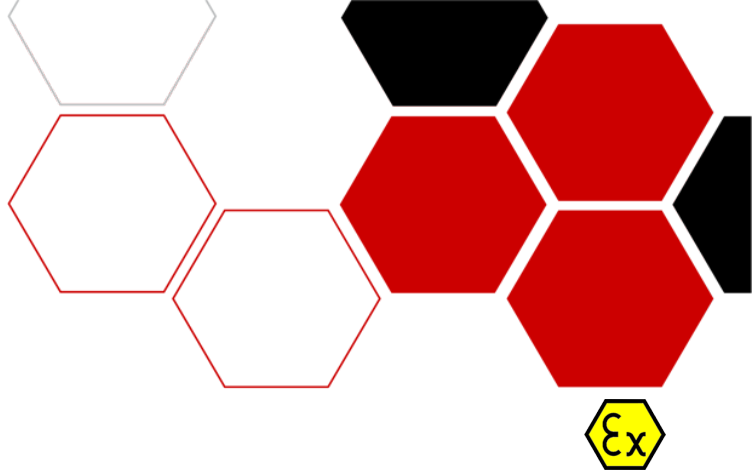
OPTIONAL MOUNTING ACCESSORIES

72 pipe mount, diameter 48-54 mm, other on request;	
72-2258 - steel mesh;	
72-2958 - adjustable wall mounting;	
72-2966 - pipe mount, diameter 48-50 mm;	

Optional distribution curves		
standard version	../BW	../P



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SIGHT GLASS FIXTURE TYPE EMWZ EX

II 2D Ex tb IIIC T85 C Db

Sight glass fixture type EMWZ EX is used to illuminate flow viewfinders, pipelines, mixers, bioreactors, as well as the interiors of pressure vessels, containers and other normally closed containers in potentially explosive atmospheres. The flame-proof enclosure of the sight glass fixture type EMWZ Ex comprises of body made of aluminium alloy, a sight glass (toughened sodium-silicon glass) and optional mounting elements.

Rated voltage	220-240 V AC 50-60 Hz 12/24 V AC/DC - as option
Protection class	I
Ambient temperature	-35 C to + 55 C
Light sources	LEDs GU10, MR16 (4000 K other as option)
Ingress protection of luminaire	max IP 68 - depending of kable gland used in luminaire
Impact resistance	IK 08

- housing made of casting aluminum alloy, protected against corrosive environment
- toughened sodium-silicon glass
- accessories fixing the luminaire made of stainless steel

The luminaire is structurally adapted to the final power supply through the M20x1.5 or M25x1.5 cable gland. The equipment of the luminaire is secured to the surface with an adjustable holder. Holder should be mounted using 2 holes in the base of the aluminium body of the luminaire.

C E



46/60

Execution

Type	Power [W]	Product dimensions [mm]	Luminous flux [lm]	Ordering code
EMWZ Ex GU10/M	8	Ø110 x 145 x 128	Depending on the light source used (GU10, MR16)	403-00-131/1
EMWZ Ex MR16/M				403-00-131/2
EMWZ Ex GU10		Ø110 x 145 x 188		403-00-131/5
EMWZ Ex MR16				403-00-131/6
EMWZ Ex	9		800	403-00-131/4

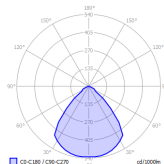
Advantages

- solid, compact body
- simple, easy and quick assembly
- replaceable light source
- external grounding clamp

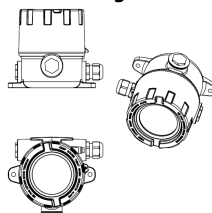
Options

- ../24 - 24V luminaire power supply (GU10 or MR16)
- ../12 - 12V luminaire power supply (GU10 or MR16)
- ../DR - breather drain
- ../CR - external connector
- ../M25 - cable gland M25
- ../MA - mounting accessories
- ../M - small bod

Light distribution curve:

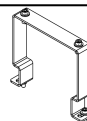


Mounting method:



Optional accessories:

72-2999 Mounting accessories



See on the website



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EMSL 3

STREET LIGHTING EMSL 3

The EMSL 3 LED street luminaire is intended for illuminating roads, spaces and industrial places. Suitable for lighting areas adjacent to outdoor industrial production installations.

Description

The EMSL 3 LED street luminaire is intended for illuminating roads, spaces and industrial places. Suitable for lighting areas adjacent to outdoor industrial production installations.

Features/Technical specification

Order code	Luminous flux [lm]	Power [W]
EM35SL3	4 900 +/-7,5%	35
EM50SL3	7 000 +/- 7,5%	50
EM60SL3	8 400 +/-7,5%	60
EM80SL3	11 200 +/-7,5%	80
EM100SL3	14 000 +/-7,5%	100
EM120SL3	16 800 +/-7,5%	120
EM150SL3	21 000 +/-7,5%	150

Rated voltage	AC 110-277 V
Protection class	I
Degree of protection	IP 65 option IP 66
Impact resistance	IK 10
Permissible ambient temperature	-30°C do +45°C
Light sources	LED
Service life	> 100 000 h (at temp. 30°C)
Housing material	glass, aluminum, steel
Optics type	lens
Control options (option)	twilight sensor, intensity sensor, DALI, 1-10V
Surge protection	10 kV

Usage

- streets;
- parks and squares;
- outdoor lighting;
- industrial and production plants;
- open industrial areas;
- sports facilities;
- warehouses, shelters;
- logistics facilities;

CATEGORY:

NON-EXPLOSION
PROOF LUMINAIRES

CERTIFICATIONS



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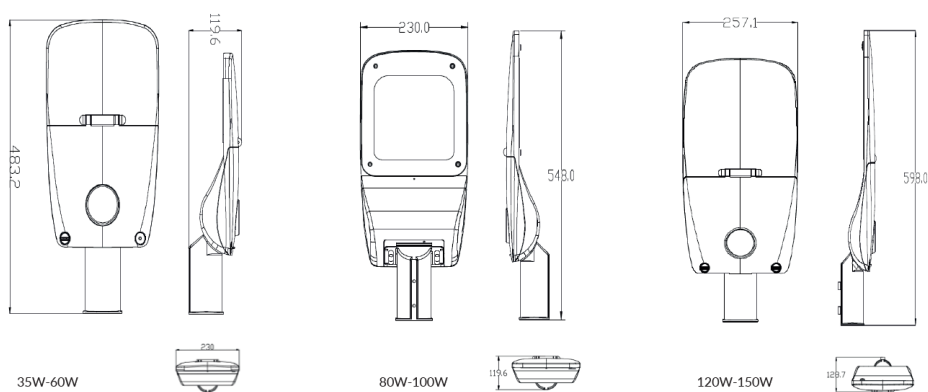
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Design and operation

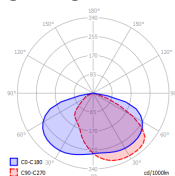
- body and radiator made of aluminum;
- high-quality LEDs built on replaceable modules;
- wide viewing angle;
- luminaire resistant to overvoltage and overheating;
- easy, quick assembly;

Advantages

- high light efficiency;
- possibility of changing the angle of inclination of the luminaire;
- optical system, lens and tempered glass;
- the optical part separated from the electrical part;
- 10kV protection;
- tightness class IP 65 (IP 66 option);



Lighting curve



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EMHB

EMHB

Description

The EMHB luminaire is intended mainly for general lighting of high halls, sheds, industrial, production and warehouse spaces with the possibility of high dust, moisture, water splashes, high and low temperatures in the working environment, including: technological lines of the chemical and petroleum industries, petrochemical, gas, energy, wood, metallurgy, steel, paper, processing of loose mining, construction and food materials.

Technical characteristics

Technical parameters		
Parameter name	Value (unit)	
Supply voltage	90-305 VAC	140-250 VDC 50-60/0Hz
Power	40-270W $\pm 5\%$	
Power factor	PF ≥ 0.95 * *	
Source of light	ultra-bright LED lights	
Color temperature	4000K $\pm 10\%$ as an option 3000K, 5000K, 6500K $\pm 10\%$	
Light flux	155 $\pm 10\%$	
Protection class	I	
Degree of protection	IP 66/67 ***	IK 10
Ambient temperature range	in accordance with the table below	
Weight	6,8 kg	
External dimensions	$\varnothing 380 \times 150$ mm	
CRT	80 (other on request) $\pm 10\%$	
Permissible ambient temperature	-32 °C to + 55 °C - for 40 - 120 W -32°C to + 50°C - for 140 - 240 W -32°C to + 45°C - for 250 - 270 W -32°C to + 75°C - for HT version 40 - 80 W	

** At 230VAC and 160W

*** When using a cable gland with a lower IP, the degree of protection of the entire luminaire is reduced

Design and operation

- body - aluminum alloy,
- pressure ring - aluminum alloy,
- tempered glass,
- LED light module,
- power supply with an integrated 3x1.0mm² power cord (length 250mm),
- luminous flux adjustment via 1-10V, DALI according to versions,
- mounting eyelet,

Optionally, the luminaire can be:

- equipped with a connection chamber (ICB variant) with two openings for inserting power cables. The holes are equipped with M20, M25 cable gland or can be blind,
- equipped with an industrial power supply (IPS variant),

50 / 60

CATEGORY:

NON-EXPLOSION
PROOF LUMINAIRES

CERTIFICATIONS



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- adapted to work at elevated temperatures (HT variant),
- led driver is separated from the light unit (SD variant).

Advantages

- robust and compact design,
- quick, simple and easy installation,
- high resistance to a corrosive industrial environment,
- very high luminous efficacy,
- high-quality power supply unit and LEDs,

Mounting method



Options

Luminaire designation:
EMHB * / ** / *** / ****

- * luminaire power,
- ** lighting unit,
- *** power supply unit,
- **** additional information (e.g. a different type of painting, additional accessories).

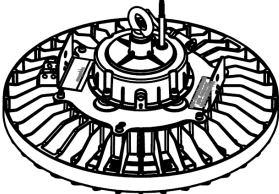
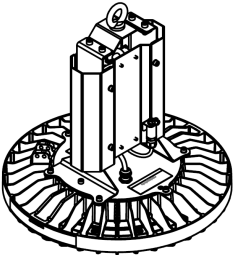
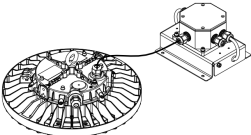
Luminaire name	Power [W]	Light unit			Power supply unit			Coating
		Color rendering index [CRI]	Color temperature [K]	Optics	Control	Additional information		
EMHB	40 60 80 100 120 140 150 160 180 200 220 240 250 260 270	8 – 80	40 – 4000	none – standard glass	P – diagnostic connector	none – round type power supply high-bay equipped with integrated power cord		none – RAL7035
		Variants on request:						
		7 – 70 9 – 90 ...	30 – 3000	G1 – milk glass	DA – DALI digital dimming	IPS – Industrial external power supply with integrated power cord (increased life span)		RAL.. **** KAT.. – cataphoresis ...
			35 – 3500	G.. – other glass on request	PDA – diagnostic connector and DALI digital dimming	SD – power supply unit and lighting unit separated, connected by a cable		
			50 – 5000		ICB – variant with industrial power supply and connection chamber			
			65 – 6500		Cable gland (in variant ICB)			
			...					



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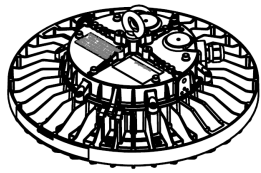
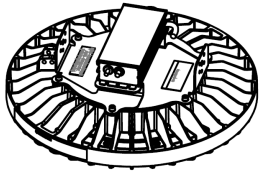
High temperature version HT:

Luminaire name	Power [W]	Light unit			Power supply unit			Coating	
		Color rendering index [CRI]	Color temperature [K]	Optics	Control	Additional information			
EMHB	40 HT 60 HT 80 HT	8 – 80	40 – 4000	none – standard glass	P – diagnostic connector	None – industrial power supply with additional heat sink		none – RAL7035	
		Variants on request:							
		7 – 70 9 – 90 ...	30 – 3000	G1 – milk glass G.. – other glass on request	DA – DALI digital dimming	SD – power supply unit and lighting unit separated, connected by a cable		RAL..**** KAT.. – cataphoresis ...	
			35 – 3500		PDA – diagnostic connector and DALI digital dimming	ICB – variant with industrial power supply and connection chamber			
			50 – 5000		10V – analog dimming 1-10V P10V – diagnostic connector and 1-10V analog dimming A10V – 1-10V analog dimming and 12V AUX output none – the fixture is equipped only with a power cord	Cable gland (in variant ICB)			
			65 – 6500			Quantity	Type		Size
			...			1 – cable gland and stopping plug 2 – two cable glands ...	CG – plastic cable gland NiCG – nickel-plated brass cable gland BCG – brass cable gland ACG – cable gland for armored cable H – housing with a hole for cable gland		20 – M20 25 – M25 1" ¾" ... – specify the hole size

		Standard version	
	HT version - power supply with an additional heat sink		../SD or HT ../ SD version - power supply unit and lighting unit separated, connected with wire



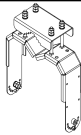
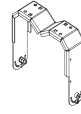

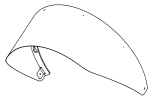

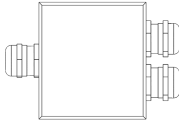
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	Version ../ICB or HT ../ICB - variant with power supply and connection chamber		IPS version - external power supply equipped with an integrated power cord
-----------------------------------------------------------------------------------	---------------------------------------------------------------------------------------	------------------------------------------------------------------------------------	-----------------------------------------------------------------------------------


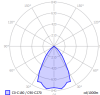
Examples of the designation:

- **EMHB 160/840** - EMHB 160 W power, 4000K CRI80 LED matrix

Accessories

WU - universal tube mounting max fi 60	
WM - wall mounting	
R - symmetrical reflector	
AR - asymmetrical reflector	
WG - steel mesh	
JB - junction box (dimension 80x75x55 or 122x120x55)	

Light distribution curve

EMHB	EMHB with symmetrical reflector
	



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Advantages

- solid, compact structure,
- simple, easy and quick installation,
- high resistance to industrial corrosive environment,
- very high luminous efficiency,
- high-quality power supply and LED diodes,
- resistant to UV radiation.

Options

Luminaire designation:
EMLB * / ** / * / ******

- * power
- ** lighting unit
- *** power supply assembly
- **** additional information (e.g. a different type of painting, additional accessories etc.)

Name	Power [W]	Lighting unit			Power supply assembly				Painting
		Color rendering index [CRI]	Temp. color [K]	Optics	Driver type	Cable gland			
						Quantity	Type	Size	
EMLB	20; 30; 40; 50; 60; 70; 80; ...	8 – 80	40 - 4000	NONE – opal diffuser	P – diagnostic connector	NONE – one cable gland and stopping plug	NONE – Brass-nickel cable gland	NONE – M20	NONE – RAL7035
		Variants on request:							
		7 – 70; 9 – 90; ...	30 - 3000; 35 - 3500; 50 - 5000; 65 - 6500; ...	10V – analog dimming 1-10V P10V – service connector and analog dimming 1-10V NONE – luminaire without dimming and diagnostic connector	1 – one cable gland 2 – two cable gland ...	CG – plastic cable gland NiCG – nickel-plated cable gland BCG – brass cable gland ACG – cable gland for armored cable H – housing with a hole for cable gland	20 – M20 25 – M25 1” ¾ ” ...	RAL...	
						OUT – luminaire with integrated power cord and junction box OUTD – luminaire with integrated power and control cables and a junction box			

Sample order code:

- **EMLB 80/840 / P** - EMLB luminaire with 80W power, LED matrix 4000K CRI 80, diagnostic connector, cable gland made of nickel-plated brass M20.



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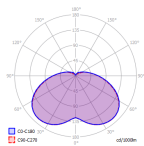
Accessories		
Light system	Mounting accessories	Other
NONE – luminaire without reflector; R – symmetrical reflector; AR – asymmetrical reflector; WG – steel mesh; ... – other on request;	NONE – luminaire equipment with an eyebolt; L – angular mounting bracket; WM – wall mount; ST 43-49 – pipe mount (Ø43 mm to Ø55mm); ST 48-55 – pipe mount (Ø48mm do Ø55mm); ST 56-65 – pipe mount (Ø56mm do Ø65mm) NA – luminaire without mounting accessories; ... – other on request;	A90... – angle adapter for cable gland; CR – power cable with a certified connector; ... – other on request;

Recommended permissible ambient temperature:

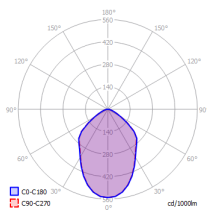
Power [W]	Ambient temperature range		
	-32°C ≤ Ta ≤ + 50 °C	-32 °C ≤ Ta ≤ + 55 °C	-32 °C ≤ Ta ≤ + 60 °C
20 - 40	X	X	X
41 - 60	X	X	-
61 - 80	x	-	-

Light distribution curve:

EMLB



EMLB wit reflector



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POH-SUW

POH-SUW LAMP

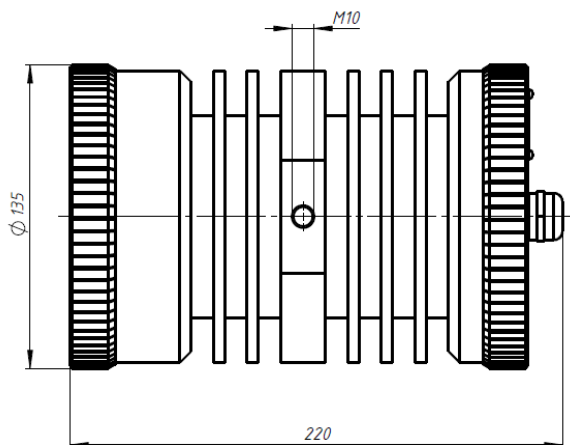
Lamp designed primarily to be used on cranes, however its construction allows freely for any other application. It's intended for installation on machines and devices to illuminate the selected spot of observation with red or white light.

Technical characteristics

Rated voltage	100-240V 50-60Hz
Protection class	I
Ingress protection of luminaire	IP 65 IP 66 - on request
Weight	4 kg
External dimensions	
- without handle	135 x 135 x 220 mm
- with handle	135 x 135 x 275 mm
Luminous flux of luminaire	
- POH-SUW (red);	1500 lm
- POH-SUW/B (white);	3000 lm
Power	25 W
Cable gland	M20x1,5

Design and operation

- body made from aluminum;
- lampshade made from hardened glass;
- source of light - LED.



CATEGORY:

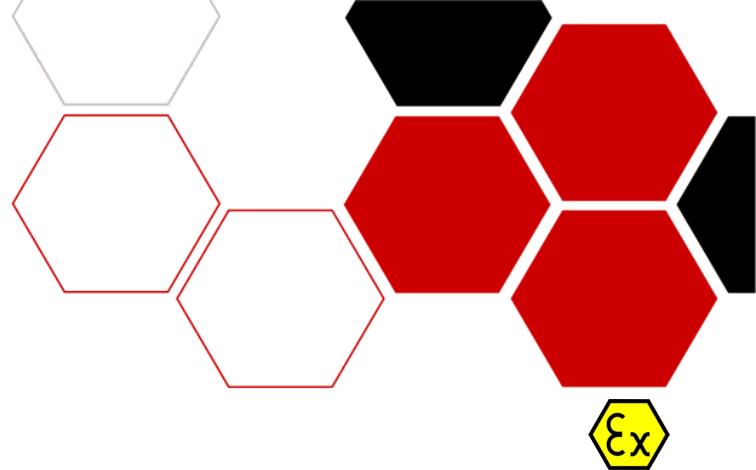
NON-EXPLOSION
PROOF LUMAIRES

CERTIFICATIONS



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E*M1 PL*

JUNCTION BOX E*M1 PL* (ZONE 1, 2, 21, 22)

Zones 1, 21

Ex II 2G Ex eb IIC T6/T5 Gb

Ex II 2D Ex tb IIIC T85/T100°C

Description

Junction boxes intended for operation in an explosive atmosphere. Junction boxes type E * M1 PL * are intended for connecting wires and electric cables with cores made of wire and rope. Body made from polyester, with a screw-on cover. The side walls of the housing have openings with cable glands for inserting wires and cables. Unused holes are sealed with stopping plugs. Optionally, the housing can also be equipped with vent plug. All the above-mentioned components have their own certificates.

Features/Technical specification

Nominal voltage	500 V
Rated current	Depends on the version - see plate on junction box 1,5 mm ² :500 V, 10 A 2,5 mm ² :500 V, 16 A 4 mm ² :500 V, 24 A
Degree of protection	min IP 66
Ambient temperature	-35°C ≤ Ta ≤ +40°C (T6/T85°C) -35°C ≤ Ta ≤ +55°C (T5/T00°C)
ATEX marking	Ex II 2G Ex eb IIC T6/T5 Gb Ex II 2D Ex tb IIIC T85/T100°C
Protection class	II

Types of workmanship

Enclosure size (see table below) **E*M1 PL***

Code designation of the specific version (specific type and number of cable glands and terminals)

CATEGORY:

EX EQUIPMENT

CERTIFICATIONS

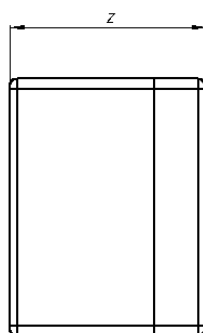
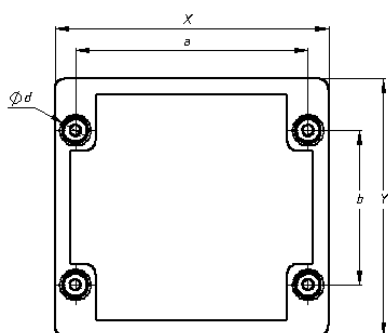


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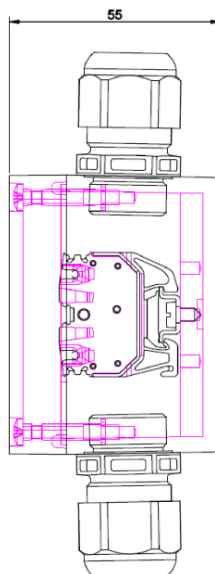
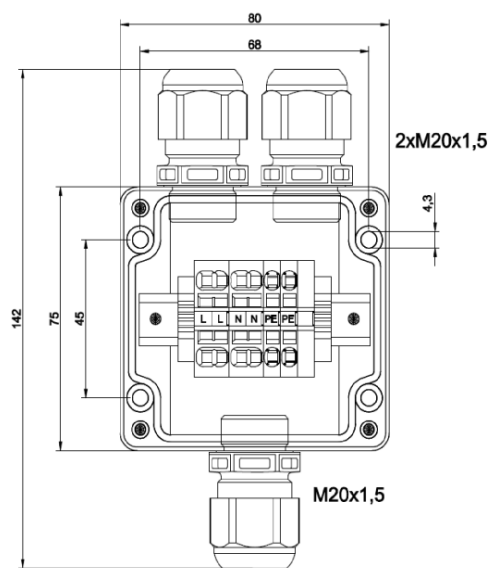
List of enclosure sizes used

Mark	Dimensions [mm]					
	X	Y	Z	a	b	d
E01M1	75	80	55	45	68	5
E02M1	120	122	90	82	106	6,6
E03M1	75	110	55	45	98	5
E04M1	75	160	55	45	148	5
E05M1	75	190	55	45	178	5
E06M1	75	230	55	45	218	6
E07M1	120	220	90	82	204	6,6
E08M1	160	160	90	110	140	6,6
E09M1	160	260	90	110	240	6,6
E12M1	250	255	120	200	235	6,6
E13M1	250	255	160	200	235	6,6
E19M1	80	75	75	68	45	5
E20M1	160	75	75	148	45	5
E21M1	190	75	75	148	45	5



Exemplary execution:

E01M1 PL06



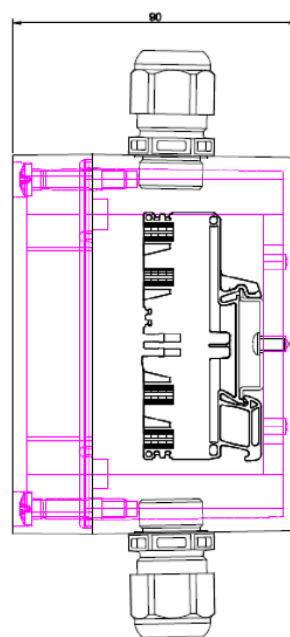
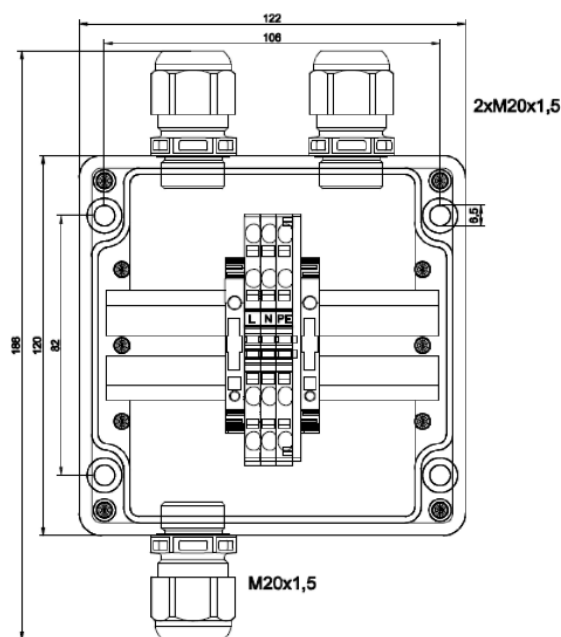
- 3x cable gland M20 (choke diameter 7-13 mm);
- 1x stopping plug M20;
- terminals L N PE - 4x2.5mm²;



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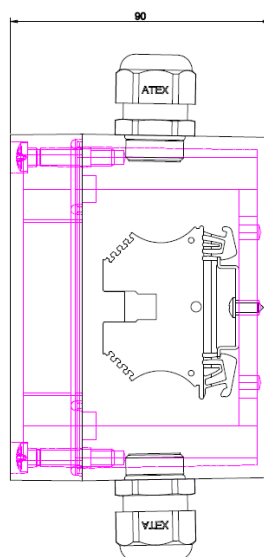
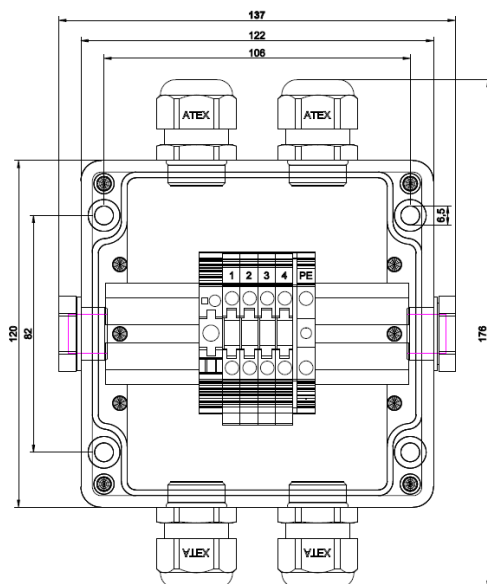
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E02M1 PL18



- 3 x cable gland M20 (choke diameter 7-13mm);
- 1 stopping plug M20;
- terminals L N PE - 4 x 2,5mm²;

E02M1 PL16



- 4 x cable gland M25 (choke diameter 10-14mm)
- 2 stopping plug M20;
- terminals 1 2 3 4 PE - 2 x 4 mm²;



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