PLD M 260 W-85/95 540/D40

LED machine light, 24 V DC, IP67 protection, 85°/95° emission angle, 40 mm diameter, M12 connector

Data sheet
107001_en_00

1 Description

This LED machine light is designed to provide illumination inside or on machinery.

You can use the light in harsh environments.
This is possible thanks to:

- The high degree of protection
- Resistance to common cooling agents and lubricants
- Resistance to vibrations and shock
- The 4 mm thick safety glass

The small diameter of just 40 mm enables mounting even where space is at a premium.

Mounting is by means of holders or brackets (neither of which are supplied as standard) in which the light can swivel and the lighting can therefore be optimally aligned.

Features

- Length: 540 mm
- Diameter: 40 mm
- 24 V DC supply voltage
- M12 connectors
- Color temperature 5000 K
- Emission angle 85°/95°
- Can be swiveled up to ±45° using accessories
- Resistant to cooling agents and lubricants
- IP67 degree of protection

Make sure you always use the latest documentation.
It can be downloaded from the product at phoenixcontact.net/products.

2 Table of contents

3 Ordering data

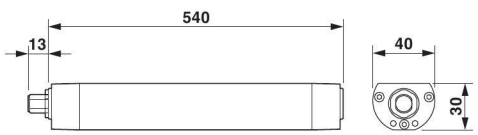
Description	Type	Order No.	Pcs./Pkt.
LED machine light, 24 V DC, Degree of protection IP67, Emission angle 85 °/95 °, Color temperature 5000 K, Length 540 mm, Diameter 40 mm, M12 connector, Light housing: Anodized aluminum, Pane: Single-pane safety glass (ESG, thermally toughened float glass), pivoting, Resistant to coolants and lubricants	PLD M 260 W-85/95 540/D40	2702482	1

mandatory product	Type	Order No.	Pcs./Pkt.
The PLD M-ME MC/D40 mounting holder (Order No. 2702491) or the PLD M-ME MB/D40 mounting bracket (Order No. 2702527) is required in order to mount the light.			
Mounting holder, for machine lights PLD M 260 .../D40, Swiveling range ±20°	PLD M-ME MC/D40	2702492	1
Mounting brackets, for machine lights PLD M 260 .../D40, Swiveling range ±45°	PLD M-ME MB/D40	2702527	1

Accessories	Type	Order No.	Pcs./Pkt.
Sensor/Actuator cable, 4-position, PUR halogen-free, black-gray RAL 7021, free cable end, on Socket straight M12, A-coded, Cable length: 1.5 m	SAC-4P- 1,5-PUR/M12FS	1668108	1
Sensor/Actuator cable, 4-position, PUR halogen-free, black-gray RAL 7021, free cable end, on Socket straight M12, A-coded, Cable length: 3 m (Cable/conductor)	SAC-4P- 3,0-PUR/M12FS	1668111	1
Sensor/Actuator cable, 4-position, PUR halogen-free, black-gray RAL 7021, free cable end, on Socket straight M12, A-coded, Cable length: 5 m (Cable/conductor)	SAC-4P- 5,0-PUR/M12FS	1668124	1
Sensor/Actuator cable, 4-position, PUR halogen-free, black-gray RAL 7021, free cable end, on Socket angled M12, A-coded, Cable length: 1.5 m	SAC-4P- 1,5-PUR/M12FR	1668221	1
Sensor/Actuator cable, 4-position, PUR halogen-free, black-gray RAL 7021, free cable end, on Socket angled M12, A-coded, Cable length: 3 m	SAC-4P- 3,0-PUR/M12FR	1668234	1
Sensor/Actuator cable, 4-position, PUR halogen-free, black-gray RAL 7021, free cable end, on Socket angled M12, A-coded, Cable length: 5 m	SAC-4P- 5,0-PUR/M12FR	1668247	1

4 Technical data

Dimensions (nominal sizes in mm)



Length	540 mm
Diameter	40 mm
Width	40 mm
Height	30 mm
Note on dimensions	Length without M12 flush-type connector

General data

Weight	0.8 kg
Color	aluminum color
Ambient temperature (operation)	0 °C ... 50 °C
Ambient temperature (storage/transport)	-20 °C ... 75 °C
Permissible humidity (operation)	95 %
Permissible humidity (storage/transport)	95 % (non-condensing)
Air pressure (operation)	69 kPa ... 102 kPa
Air pressure (storage/transport)	69 kPa ... 102 kPa
Degree of protection	IP67
Protection class	III, IEC 61140, EN 61140, VDE 0140-1
Mounting position	any
Mounting type	Screw mounting (Mounting with mounting holders or mounting brackets, please observe the notes in the package slip.)
Material	Anodized aluminum (Light housing) Single-pane safety glass (ESG, thermally toughened float glass) (Pane)

Special properties

pivoting (with mounting accessories)
Resistant to coolants and lubricants

Connection data

Connection method	M12 connector
Connection method	M12 connector, (A-coded)
Number of positions	4

Power supply for module electronics

Supply voltage	24 V DC
Supply voltage range	20 V DC ... 28 V DC
Current consumption	typ. 0.67 A (at 24 V DC)
Power consumption	approx. 16 W (at 24 V DC)
Surge protection	Varistor and suppressor diode, 36 V DC
Protection against polarity reversal	Polarity protection diode

Light properties

Source of light type	LED
Number of LEDs	42
Service life, lighting appliance	60000 h (L70)
Light color	Neutral white
Color temperature	5000 K
Color rendering index	80
Luminous flux	approx. 1680 lm (Net luminous flux)
Luminous efficacy	approx. 105 lm/W
Energy efficiency class	A+
Average illumination	541 lx (Distance of 1 m over 1 m^2 area)
Illumination	max. 732 lx (Distance of 1 m) min. 326 lx (Distance of 1 m over 1 m^2 area)
Emission angle	85 ° / 95 °

Mechanical tests	
Vibration resistance in acc. with EN 60068-2-6/IEC 60068-2-6	4g
Shock in acc. with EN 60068-2-27/IEC 60068-2-27	50g

Conformance with EMC Directive 2004/108/EC (valid until 19.04.2016) / 2014/30/EU (valid from 20.04.2016)	
Noise immunity test in accordance with EN 61547	
Electrostatic discharge (ESD) EN 61000-4-2/IEC 61000-4-2	Criterion B, 4 kV contact discharge, 8 kV air discharge
Electromagnetic fields EN 61000-4-3/IEC 61000-4-3	Criterion A, field strength: 3 V/m
Fast transients (burst) EN 61000-4-4/IEC 61000-4-4	Criterion B, ±0.5 kV
Conducted interference EN 61000-4-6/IEC 61000-4-6	Criterion A, test voltage 3 V
Noise emission test according to EN 61000-6-3	
Radio interference properties EN 55015	Class B

Approvals
For the latest approvals, please visit phoenixcontact.net/products.

5 Illuminance distribution and luminous intensity distribution

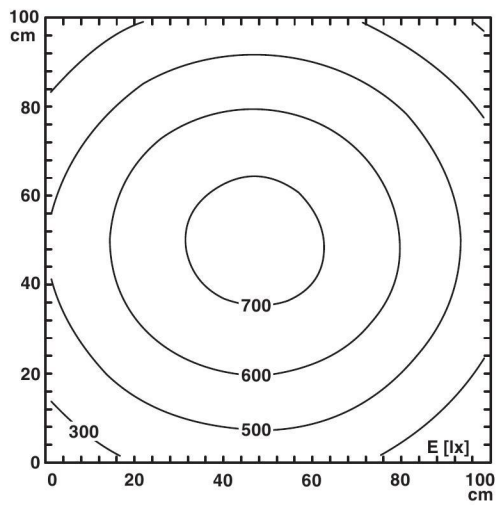


Figure 1 Illuminance distribution
(Distance d = 1 m)

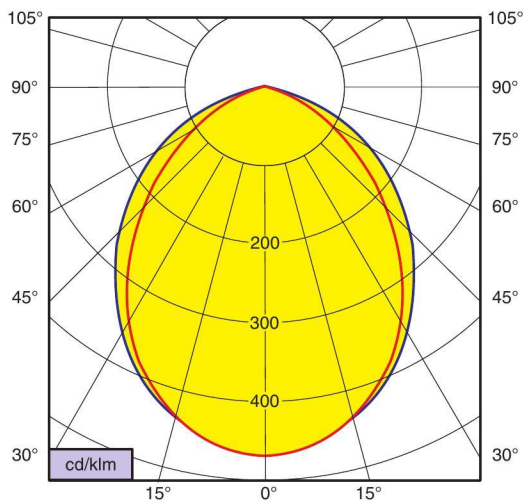


Figure 2 Luminous intensity distribution (LID)
(red line: C0 - C180, blue line: C90 - C270)

6 Safety notes

WARNING: Explosion hazard

- Do not install and operate the light in potentially explosive spaces!

WARNING: danger of electric shock

- Electrical work may only be performed by qualified electricians.
- Perform all work on the light with it de-energized!

CAUTION: Risk of glare due to bright light source

Looking directly at the light source can lead to temporarily limited vision and after-images. This can lead to irritation, nuisances, adverse effects, and accidents.

- Do not look at the light source!
- Position the light so as to avoid looking directly into the light source!

NOTE: damage due to exposure to direct sunlight

Exceeding the permissible ambient temperature shortens the service life of the electronic components.

- Do not expose the light to direct sunlight!

CAUTION: Damage due to incident laser beam

Being struck directly or indirectly by a laser beam can destroy the LED.

- Only use the light outside of the effective range of high-power lasers such as cutting lasers or welding lasers!

7 Mount light

Mounting holders and mounting brackets are available as mounting elements. These cannot be used in combination. Use either mounting holders or mounting brackets.

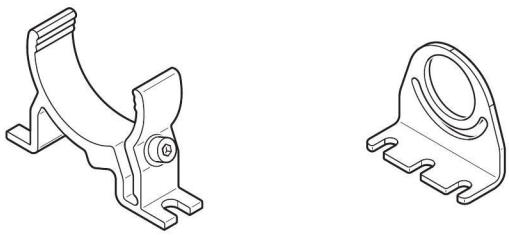


Figure 3 Mounting holder and mounting bracket

CAUTION: risk of injury or material damage due to falling light

Strong vibrations or impacts in particular can cause a vertically mounted light to slip and cause personal injury or material damage.

- Only use the mounting elements available as accessories!
- Vertical mounting: install additional mounting holders or use mounting brackets.

Mount the light as specified in the package slip.

8 Connecting the supply voltage

To connect the supply voltage, connect the M12 socket of the cable to the A-coded connector of the light.

CAUTION: Damage due to incorrect connection

Incorrect connection voltage or polarity can damage or destroy the light.

- Only connect the light when the operating unit is switched off!
- Only operate the light with safety extra-low voltage (SELV)!
- Ensure that the connection voltage corresponds to the nominal voltage given on the ratings plate!
- Pay attention to the correct polarity!
- Use a class 2 power supply unit when the light is used on the North American market!

CAUTION: Damage due to penetrating humidity

- Ensure the tightness of the cable feed!
- Use a plug connection that provides at least the IP67 degree of protection!
- Mount the connecting cable and the plug connection correctly!
- Avoid a transverse load on the plug connection!

Pin assignment

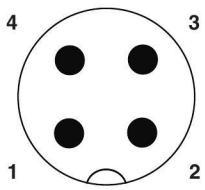


Figure 4 Pin assignment

Pin	Assignment
1	24 V DC
2	Not used
3	GND
4	Not used