



Welcome

Panorama y guía de selección

Lámparas LED y Señalización

IMA Marketing



Webinars

Agenda

- Panorama General
 - Lámparas LED para gabinetes y Armarios
 - Lámparas LED para máquinas
 - Señalización PSD
 - Señalización en Exteriores e Interiores
-



Panorama

Panorama y guía de selección de Lámparas LED y Señalización



Lámparas LED para Armarios y Gabinetes



Lámparas LED para Máquinas



Torres de Señalización 50 y 70 mm



Señalización en exteriores e interiores

Enclosure Lights



PLD E 400 600

PLD enclosure lights

Optimum illumination with quick installation

Common illumination



PLD enclosure light



PLD enclosure lights

Two product types

Class 400 (PLD E 400 ...)



Class 600 (PLD E 608 ...)



PLD enclosure lights
Class 400



PLD enclosure lights of class 400

Optimum illumination

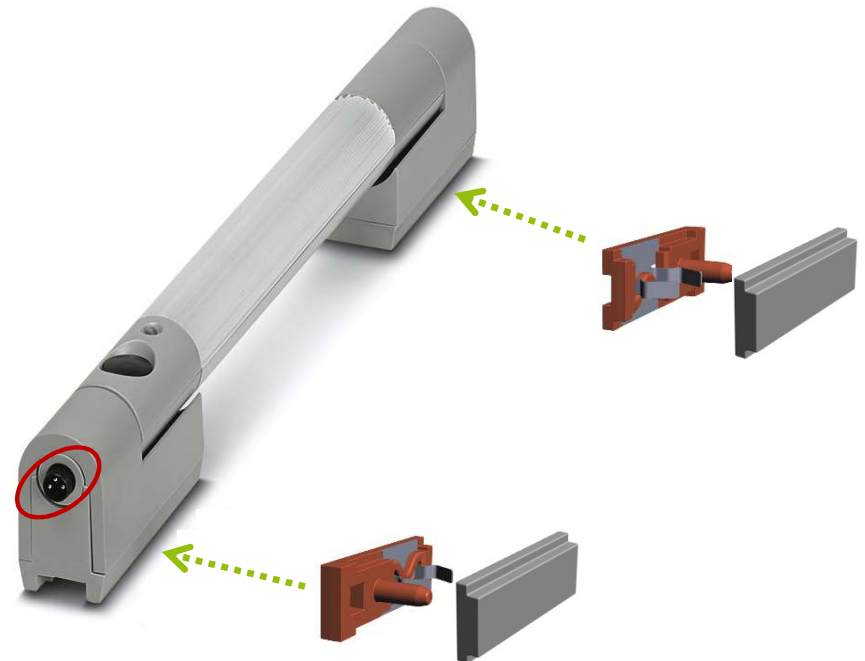
- Light cover with lense structure
 - Optimum illumination even in the lower area of the enclosure
- Swivel light
 - Optimum adaptation to different enclosure depths
- Light lengths 250, 375 und 500 mm
 - Optimum adaptation to different enclosure widths



PLD enclosure lights of class 400

Quick and easy installation

- Tool-free installation with clips or magnets
 - Low installation costs due to fast installation
 - Simple enclosure maintenance thanks to flexible mounting position
- Optional: screw mounting
- Connection with M8-Snap-In



PLD enclosure lights of class 400

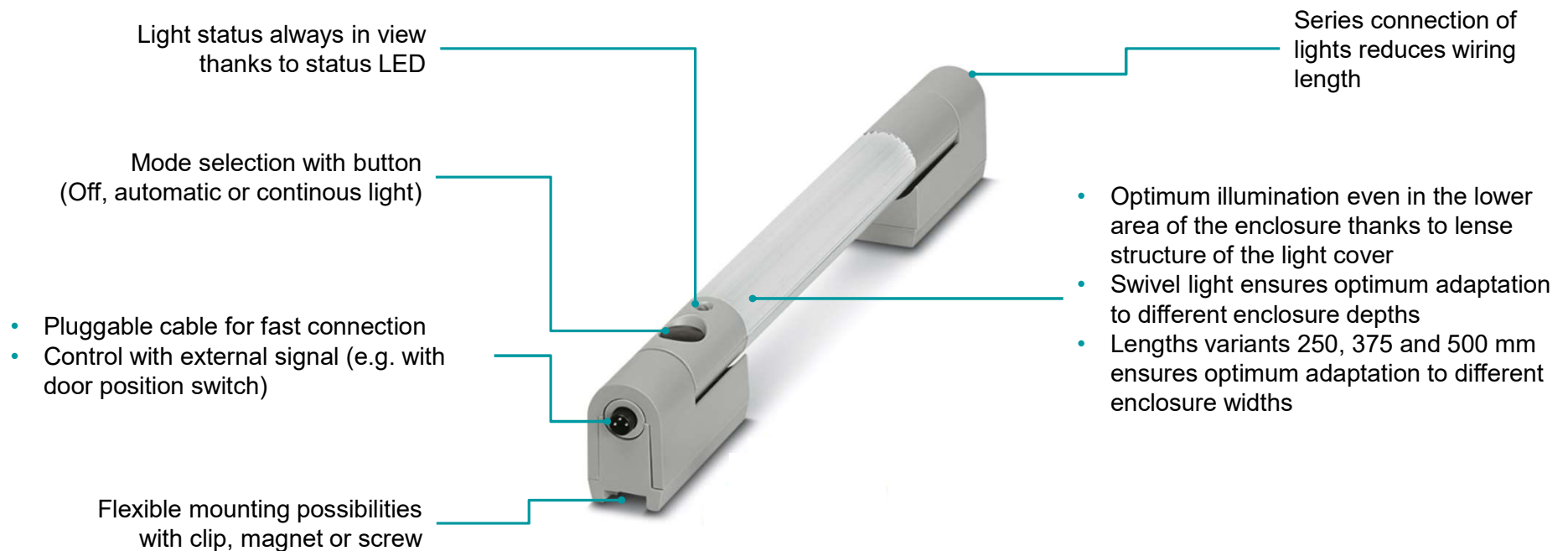
Flexible control and mounting

- Controllable with
 - Integrated button
 - External door position switch
 - Flexible light control
- Series connection
 - Low installation costs due to less cabling



PLD enclosure lights of class 400

Features and benefits at a glance



PLD enclosure lights of class 400

Accessories

- Door position switch
 - Two variants
 - Automatic switching on and off of the light
- Plug-in power supply
 - 12 W und 30 W variant
 - Transportable power supply for transportable maintenance light



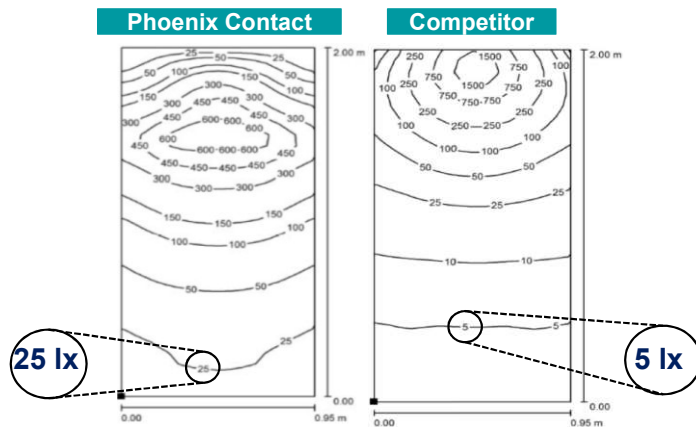
PLD enclosure lights
Class 600



PLD enclosure lights of class 600

Optimum illumination

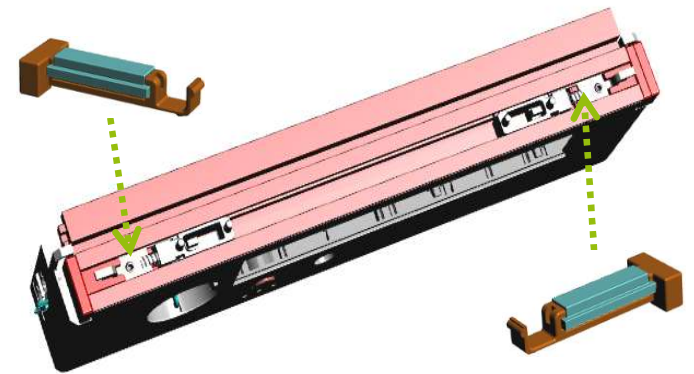
- Light cover with integrated optics
 - Optimum illumination even in the lower area of the enclosure



PLD enclosure lights of class 600

Quick and easy installation

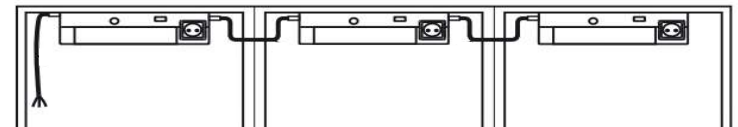
- Tool-free installation with snap-fit system or magnets
 - Low installation costs due to fast installation
 - Simple control cabinet maintenance thanks to flexible mounting position
- Optional: screw mounting



PLD enclosure lights of class 600

Minimum wiring effort

- Series connection
 - Minimum wiring effort for enclosures arranged in a series
- Integrated motion sensor
 - Saves on MRP and installation costs for door position switches



PLD enclosure lights of class 600

Worldwide use

- 4 Varianten (with or without country-specific socket)
 - Worldwide use
- AC wide-range input
 - Worldwide use
 - No order errors



PLD enclosure lights of class 600

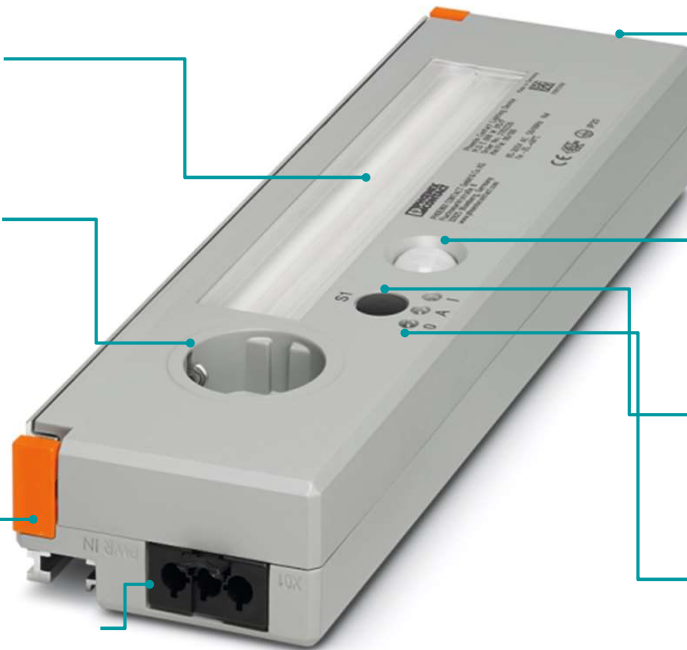
Features and benefits at a glance

Optimum illumination even in the lower area of the enclosure thanks to integrated optics

Country-specific sockets allow external devices to be operated even with a de-energized enclosure

Flexible mounting possibilities with snap-fit system, magnet or screw

- Pluggable cable for fast connection
- AC wide-range input for worldwide use



Series connection of lights reduces wiring length

Integrated motion sensor saves on MRP and installation costs for door position switches

Mode selection with button (Off, automatic or continuous light)

Light status always in view thanks to three status LEDs

Machine Lights



PLD M 100 200

PLD machine lights

Optimum illumination of machines

Machine users need enough light inside of the machine during the ...

- set up of the machine
- observation of the manufacturing process
- maintenance tasks



PLD machine lights

Portfolio overview

Class 100	Class 200	
		
		

PLD machine lights
Class 100 lights



PLD machine lights

Features of class 100 lights

PLD M 160 W-95/105 ...

- Five lengths (196 mm ... 1176 mm)
- Very small design (22 x 23 mm)
- 3 m attached cable
- Light holder included in delivery
- Emission angle 95°
- Rotational position ($\pm 35^\circ$)



PLD machine lights

Features of class 100 lights

PLD M 160 W-95/105 ...

- Ambient temperature (operation) 0 °C ... +40 °C
- Degree of protection IP67
- LED lifetime 50.000 h (L70)
- ETL Intertek approval



PLD machine lights

Benefits of class 100 lights

- Very slim design (22 mm) allows mounting on narrow machine parts
- Five lengths (196 mm ... 1170 mm)



Optimal alignment through
 $\pm 35^\circ$ swivel range in light holder



- Glare suppression by milky plastic cover
- Degree of protection IP67

Light holder included in delivery

- 3 m attached cable
- Protection function against polarity reversal and high supply voltage

PLD machine lights

Use cases of class 100 lights



- Mounting on slim machine parts
- Distances up to $\approx 0,5$ m
- Illumination of small areas
- Applications without coolants and lubricants

PLD machine lights
Class 200 lights, Ø40 mm



PLD machine lights

Features of class 200 lights, Ø40 mm

PLD M 260.../D40...

- Small design (Ø 40 mm)
- Four lengths (190 mm ... 715 mm)
- M12 connector, A-coded
- Two emission angles variants: 40° or 80°
- Optional: series connection
- Rotational position ($\pm 45^\circ$)
- 4 mm safety glass



PLD machine lights

Features of class 200 lights, Ø40 mm

PLD M 260.../D40...

- Resistant against coolants, lubricants, vibration (4g) and shock (50g)
- Ambient temperature (operation): 0 °C ... +50 °C
- Degree of protection IP67
- LED lifetime 60.000 h (L70)
- ETL Intertek approval



PLD machine lights
Emission angles

PLD M 260 W-85...



85°

PLD M 260 W-40...



40°

Optimum illumination for big and small target areas

PLD machine lights
Series connection

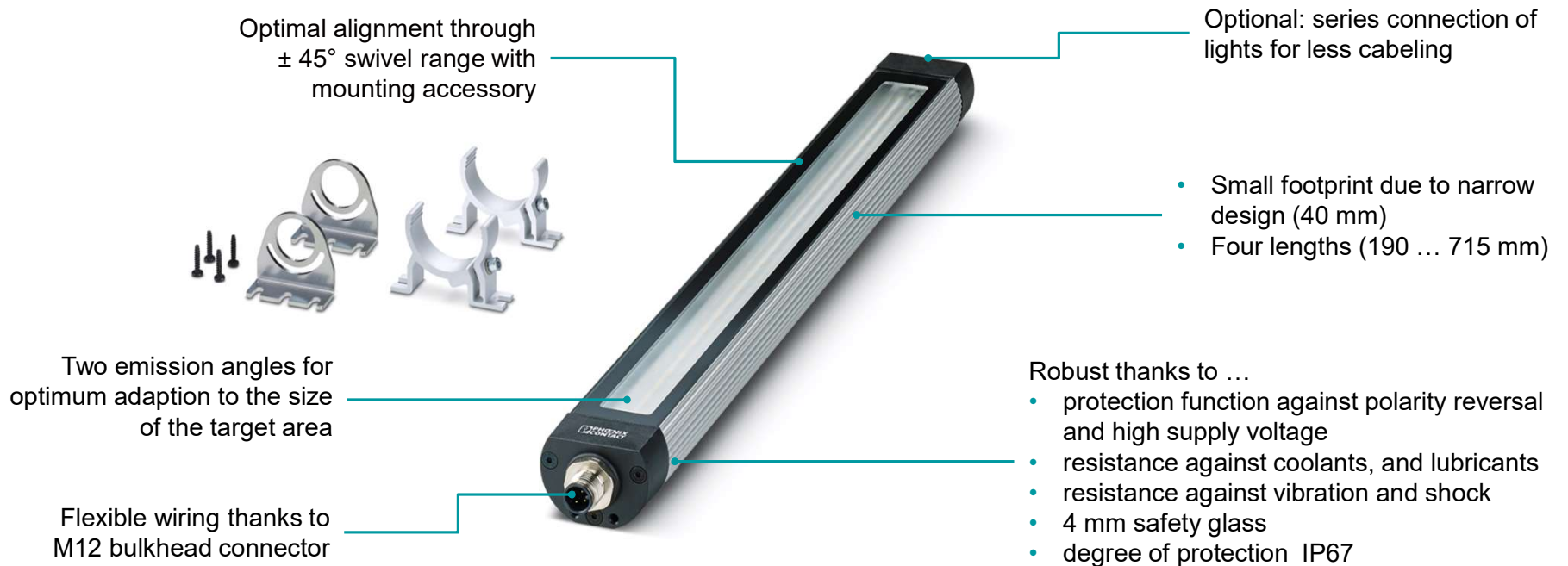
PLD M 260 W-85.../SC



Less cabling = less cost of installation

PLD machine lights

Benefits of class 200 lights, Ø40 mm



PLD machine lights

Use cases of class 200 lights, Ø40 mm



- Mounting in small installation areas
- Illumination of long machines (variant with series connection)
- Spot light (variant with 40° emission angle)
- Distances up to $\approx 1,5$ m
- Illuminated area up to 2 m² per light
- Applications with coolants and lubricants

PLD machine lights
Class 200 lights, Ø70 mm



PLD machine lights

Features of class 200 lights, Ø70 mm

PLD M 260 W-75/95 .../D70

- „Retrofit design“ (Ø 70 mm)
- Five lengths (370 mm ... 1070 mm)
- M12 connector, A-coded
- Emission angle 75°
- Rotational position ($\pm 65^\circ$)
- 4 mm safety glass



PLD machine lights

Features of class 200 lights, Ø70 mm

PLD M 260 W-75/95 .../D70

- Resistant against coolants, lubricants, vibration (4g) and shock (50g)
- Ambient temperature (operation): 0 °C ... +45 °C
- Degree of protection IP67
- LED lifetime 60.000 h (L70)
- ETL Intertek approval



PLD machine lights

Benefits of class 200 lights, Ø70 mm

Optimal alignment through
 $\pm 65^\circ$ swivel range with mounting



Robust thanks to ...

- protection function against polarity reversal and high supply voltage
- resistance against coolants, and lubricants
- resistance against vibration (4g) and shock (50g)
- 4 mm safety glass
- degree of protection IP67



- Diameter of 70 mm to allow easy mechanical replacement of traditional tube lights
- Five lengths (370 ... 1070 mm)



Flexible wiring thanks to
M12 bulkhead connector

PLD machine lights

Use cases of class 200 lights, Ø70 mm



- Exchange of 70 mm tube luminaires (Retrofit)
- Mounting position in the worker's field of view
- Illumination of long machine parts
- Distances up to $\approx 1,5$ m
- Illuminated area up to 2 m^2 per light
- Necessary rotation angle $>45^\circ$
- Applications with coolants and lubricants

PLD machine lights
Class 200 lights, IP69



PLD machine lights

Features of class 200 lights, IP69

PLD M 280 W-40 284

- Very flat design (20 mm)
- Glare free due to optics
- Emission angle 40°
- 3 m attached cable



PLD machine lights

Features of class 200 lights, IP69

PLD M 280 W-40 284

- Resistant against coolants, lubricants, vibration and shock
- Ambient temperature (operation): 0 °C ... +40 °C
- Degree of protection IP67/IPX9
- LED lifetime 50.000 h (L70)
- ETL Intertek approval



PLD machine lights

Benefits of class 200 lights, IP69

Robust thanks to ...

- protection function against polarity reversal and high supply voltage
- resistance against coolants and lubricants
- resistance against high-pressure or steam-jet cleaning
- 4 mm safety glass
- degree of protection IP67/IP69



Integrated optics ensures ...

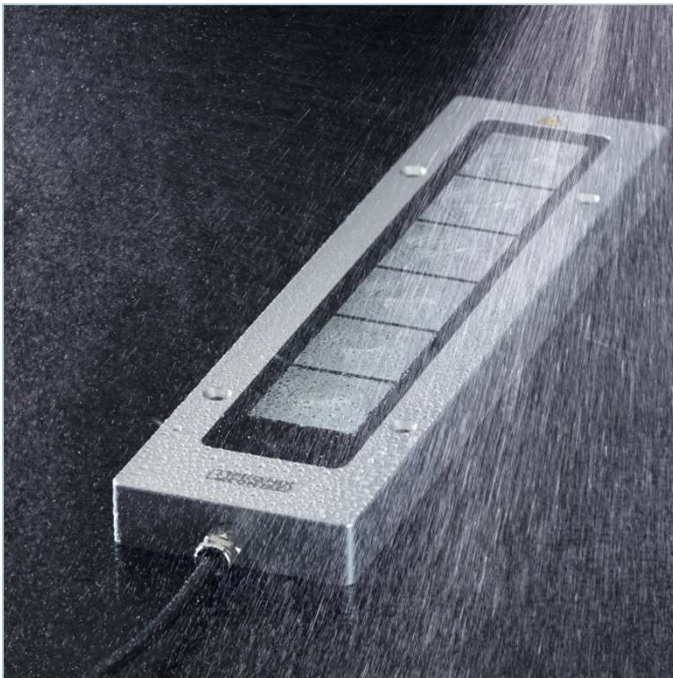
- focused illumination (40°)
- optimum glare suppression

Very slim design (20 mm)

3 m attached cable

PLD machine lights

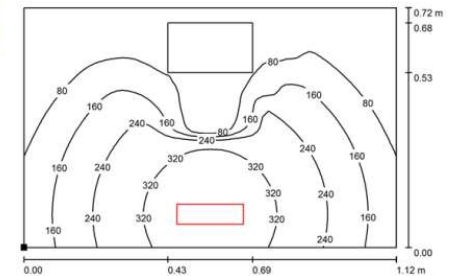
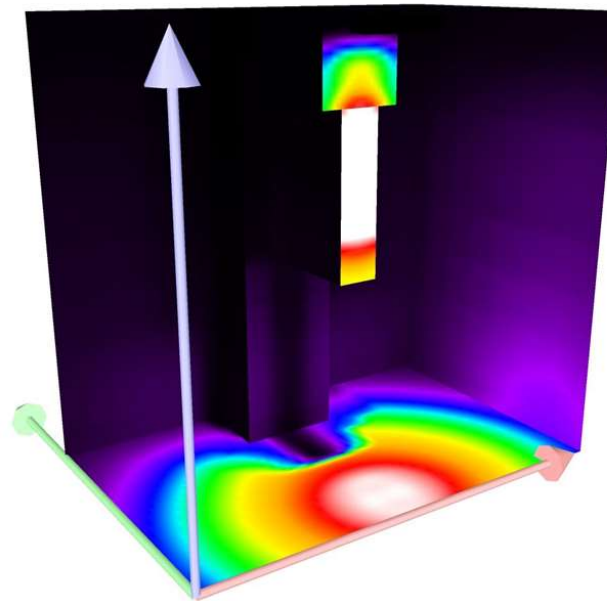
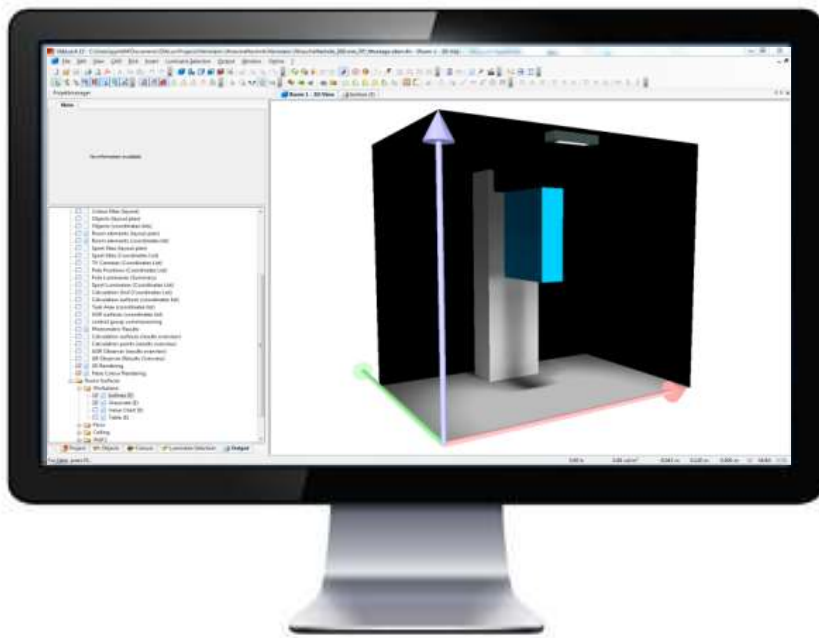
Use cases of class 200 lights, IP69



- Distances up to ≈ 1 m
- Focused illumination of a smaller area of up to $0,25 \text{ m}^2$ (spot light)
- Applications with high-pressure or steam-jet cleaning
- Applications with coolants and lubricants

PLD machine lights

Optimum light selection with software DIALux



Machine lights – General

Portfolio overview



CLASS 100

CLASS 200

IP54

IP67

Ø 25 mm

Ø 35 mm

Ø 40 mm

Ø 70 mm

Class 100 lights

Class 100 lights



Class 100 lights

Features of class 100 lights, Ø25 mm

PLD M 140 W .../D25

- Small design (Ø 25 mm)
- Rotational position ($\pm 60^\circ$)
- Emission angle (89°)
- Lumen output (315 lm ... 1890 lm)
- LED lifetime 60.000 h (L70)
- Ambient temperature (operation): $+5^\circ\text{C}$... $+40^\circ\text{C}$
- Resistant against vibration (4g) and shock (25g)
- ETL Intertek approval



Class 100 lights

Features of class 100 lights, Ø35 mm

PLD M 140 W .../D35/SC

- Small design (Ø 35 mm)
- Rotational position ($\pm 75^\circ$)
- Emission angle (85°)
- Lumen output (550 lm ... 3300 lm)
- LED lifetime 60.000 h (L70)
- Ambient temperature (operation): $+5^\circ\text{C}$... $+50^\circ\text{C}$
- Resistant against vibration (4g) and shock (25g)
- ETL Intertek approval



Class 100 lights

Main differences of class 100 lights

PLD M 140 W .../D25 (Ø 25 mm)

- Very narrow design
- Powerless switching

PLD M 140 W .../D35/SC (Ø 35 mm)

- Series connection
- Dimmable in seven steps (0%; 40% ... 100%)



COMMON FEATURES

IP54

M12



195 mm to
895 mm

Class 100 lights

Benefits of class 100 lights

Very slim design allows mounting on narrow machine parts ✓

Protection function against polarity reversal and high supply voltage ✓

Flexible wiring thanks to M12 connector ✓

Glare suppression by milky plastic cover ✓

Light holder included in delivery ✓

Optimal alignment through $\pm 60^\circ$ or $\pm 75^\circ$ swivel range in light holder ✓



Class 100 lights

Two possibilities now PLD M 100 Series



PLD M 160...



PLD M 140 .../D25

PLD M 140.../D25

- ✓ Universal mounting bracket (+/- 60°) provided
- ✓ With **two times higher lumen output**
- ✓ M12 connection technology for variable cable lengths

FULLY EXCHANGE-COMPATIBLE!

Class 100 lights

Product list of class 100 lights

Item No	Item Name	Item Description
1118035	PLD M 140 W 195/D25	Ø 25 mm, length: 195 mm
1118022	PLD M 140 W 335/D25	Ø 25 mm, length: 335 mm
1118036	PLD M 140 W 615/D25	Ø 25 mm, length: 615 mm
1118015	PLD M 140 W 895/D25	Ø 25 mm, length: 895 mm
1118021	PLD M 140 W 195/D35/SC	Ø 35 mm, length: 195 mm, series connection
1118016	PLD M 140 W 335/D35/SC	Ø 35 mm, length: 335 mm, series connection
1118024	PLD M 140 W 615/D35/SC	Ø 35 mm, length: 615 mm, series connection
1118028	PLD M 140 W 895/D35/SC	Ø 35 mm, length: 895 mm, series connection

Why should I buy a new PLD M 140 W?

LIGHT

CASES OF APPLICATION

- Mounting on slim machine parts
- Distances up to $\approx 1,0$ m
- Illumination of small(er) areas
- Necessary swing angle $< 45^\circ$
- Applications **without** coolants and lubricants

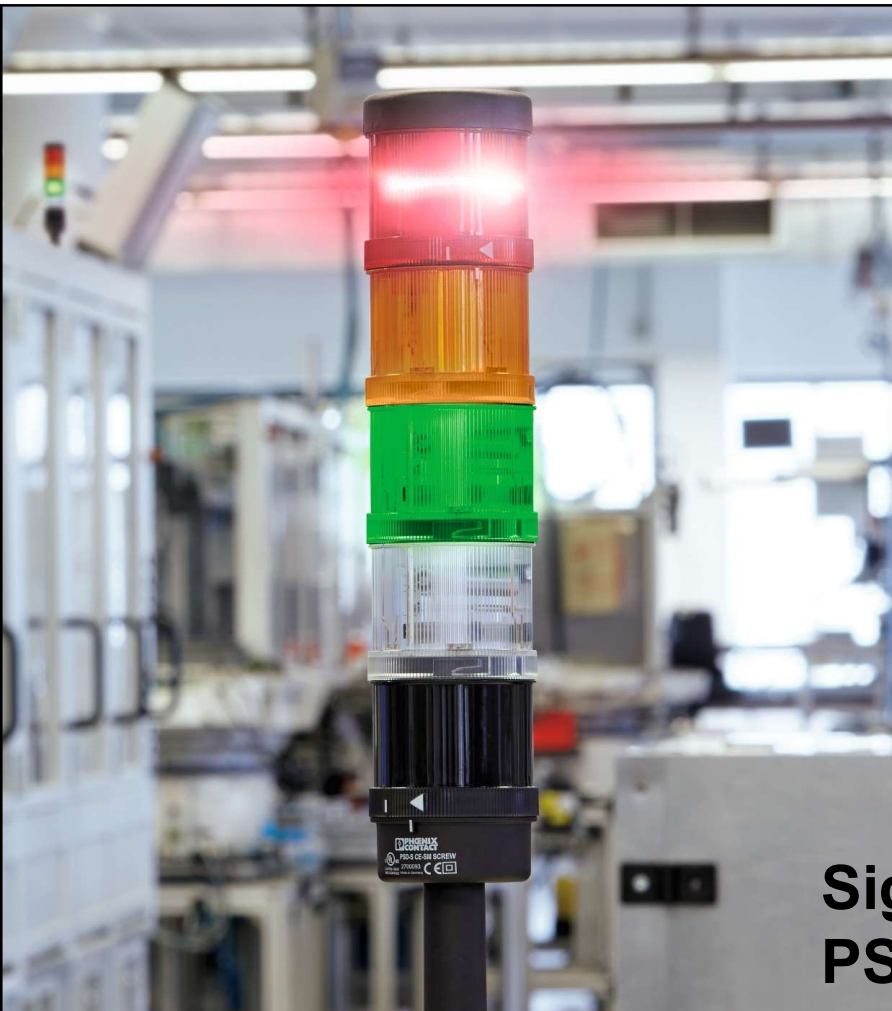
SALES SUPPORTING FEATURES

- ✓ Application-oriented protection class IP54
- ✓ Price below existing PLD M160 –
with same lumen output
- ✓ Universal mounting bracket ($\pm 60^\circ$) provided
- ✓ Strong and homogeneous light
- ✓ Latest LED technology

Signaling



Tower Lights PSD



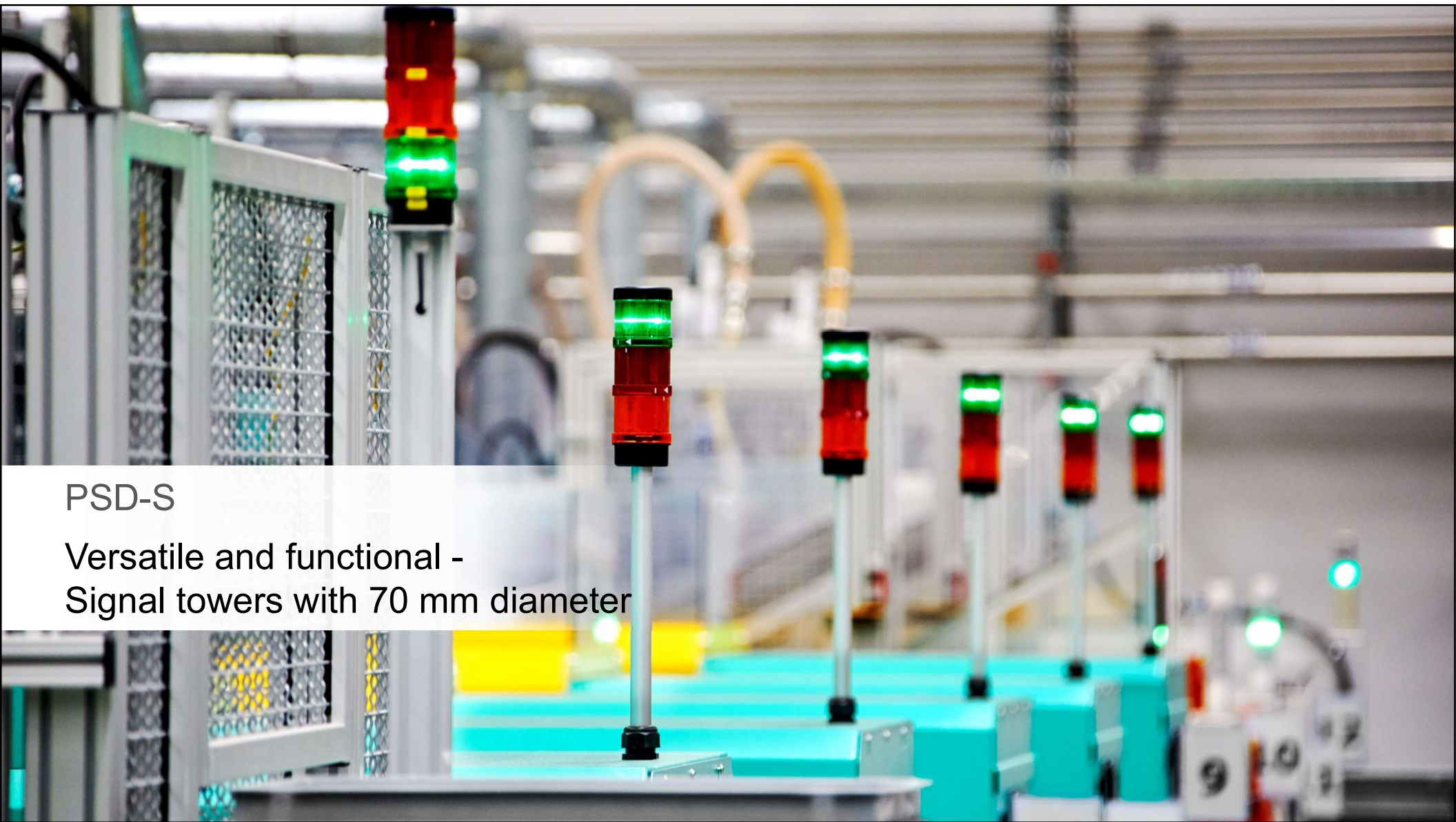
**Signal towers
PSD-S and PSD-S 50**



PSD

Agenda

- Technical features PSD-S
 - Portfolio PSD-S
 - PSD-S with IO-Link
 - Technical features PSD-S 50
 - Portfolio PSD-S 50
 - Technical comparison
-



PSD-S

Versatile and functional -
Signal towers with 70 mm diameter



PSD-S

Advantages

“ Numerous optical and acoustic elements can be flexibly combined with the modular signal towers – just like you need it. The modular structure enables a later retrofitting of additional elements. ”

- ✓ Large selection of optical and acoustic elements
- ✓ Control via IO-Link interface
- ✓ Reliable in harsh industrial environment due to high protection class
- ✓ Fast installation due to bajonet connection

PSD-S

Features

70mm diameter

Optical elements

- Steady light
- Flashing light
- Blinking light

Basic element with various mounting options

- Floor mounting
- Pipe assembly
- Magnetic base
- NPT thread



Acoustic element

- 8 sounds
- Voice output element

Signal elements

Up to 5 optical elements or
4 optical elements + one acoustic element

Robust connection technology

- Spring-cage
- Screw connection

PSD-S

Simple control

- Signal towers elements are driven via parallel wiring and are connected at the connection element
 - Up to five optical elements or four optical elements plus one acoustic element
- Electrical connection via screw or spring-cage connection
- Max wire cross section up to 1,5 mm²



i

Max. 5 signal elements
per signal tower!

PSD-S

Surface mounting



- Signal tower is directly mounted on a **surface** (e.g. machine cover) or bracket

PSD-S

Flexible mounting options for surface mounting



Bracket for one-sided mounting



Bracket for two-sided mounting



Junction box with lateral cable entry



Bracket without concealed cable routing

PSD-S

Tube mounting



- Signal tower is mounted on a **tube** with foot
- Foot is mounted on a bracket or directly on a surface

PSD-S

Flexible mounting options for tube mounting



Foot with integrated tube, length 110 mm



Plastic foot for tube



Metal foot for tube



Tubes
250, 400, 1000 mm



Junction box with lateral cable entry



Junction box with magnetic base



Bracket with concealed cable routing



Bracket without concealed cable routing

PSD-S

Foldaway base – Most flexible mounting



- Use cases of foldaway base:
 - Vertical alignment of the signal tower on oblique surfaces
 - Folding the wired signal tower during the transport of the machine

PSD-S

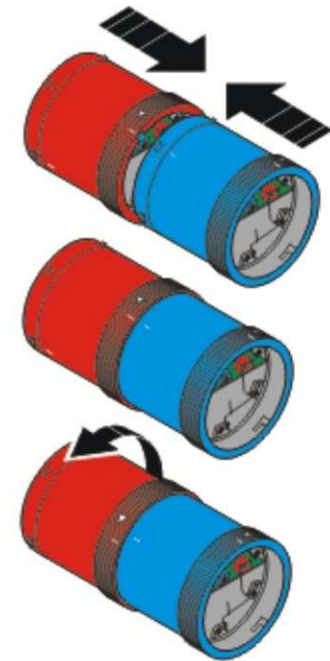
Fast assembly

- Tool-free assembly thanks to bajonet-connection system
 - Elemente are mechanically and electrically connected within seconds with each other.



NOT COMPATIBLE!

PSD-S (70mm) and PSD-S 50 (50mm)
are not compatibel to each other.



PSD-S

Great optical signal variety

- 21 optical elements with LED
- 5 signal types
 - Continuous light
 - Blinking light
 - Rotating light
 - Flashing light
 - Random flashing light
- 5 colours or multicolour



✓ 1200 signal combinations

PSD-S

Multicolour element – One element, seven colours

- Up to seven colours selectable via three control lines
 - Red, yellow, green, white, blue, violet and turquoise
- Selection of red, green and yellow with only two e.g. digital outputs
- Up to two further elements above the multicolour element possible



PSD-S

Loudest audible signaling

- Siren with alternating continuous tone
- 24 V DC
- max. 105 dB(A)
- Degree of protection IP40!
- No UL approval!



PSD-S

Switchable audible signaling

- Buzzer with continuous and pulse tone
- 24 V AC/DC
- max. 85 dB(A)
- Tone selection by internal switch



PSD-S

Flexible audible signaling – One element, 8 tones

- Siren with eight tones
- Tones selectable via internal DIP switch
- 24 V AC/DC
- max. 100 dB(A)
- Adjustable volume via potentiometer



potentiometer

DIP switch for tone selection



Low storage costs

PSD-S

Remote audible signaling

- Siren with seven tones
- Tones selectable via three control lines
- 24 V DC
- max. 100 dB(A)
- Adjustable volume via potentiometer

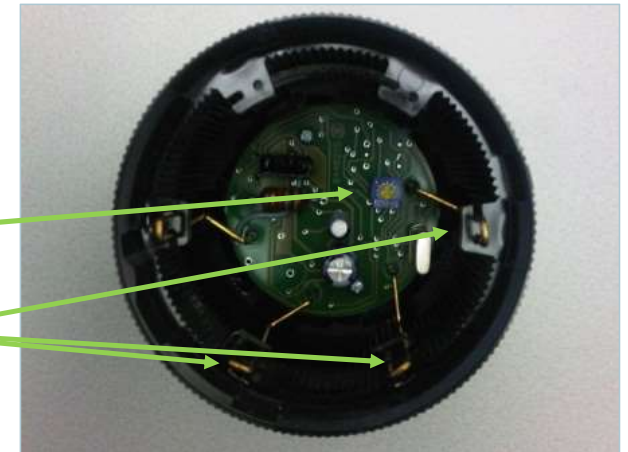


Different audible signaling
with only one signal tower



potentiometer

tone selection
contacts



PSD-S

Adaptive audible signaling

- Pulse tone siren with self-regulating volume
 - Optimum volume depending on the surrounding noise
- 24 V DC
- max. 100 dB(A)



Signaling volume only as
loud as necessary



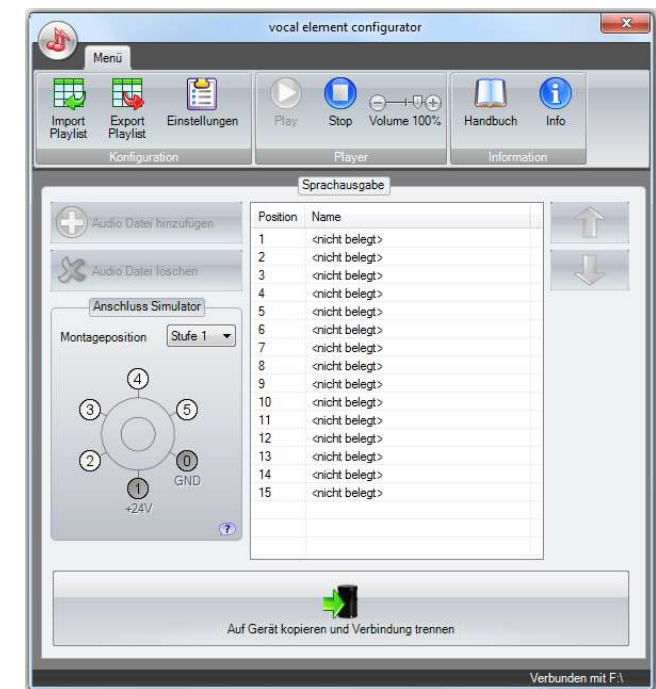
PSD-S

Individual audible signaling

- Self-configurable sound output
- Sound files selection (mp3 or wav files) and download via software and USB interface
- Up to 15 sound sequences selectable via three control lines
- 24 V DC



Language-specific
instructions



PSD-S IOL SL

PSD with IO-Link

- IO-Link Type/Class A
- 70mm diameter
- 66mm height
- 24V DC operating voltage
- Rated current 6mA
- Operating temperature from -30°C ... +60°C

- IP65 degree of protection
- Protection class 2



 **IO-Link**

PSD-S IOL SL

Communcation parameter

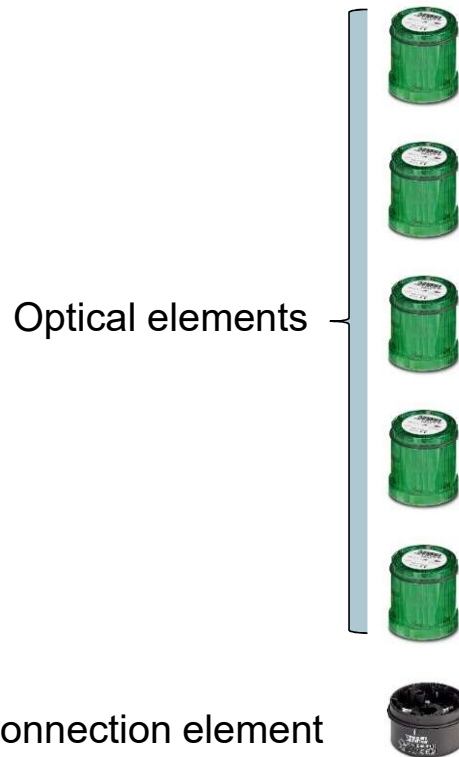
- IO-Link Type/Class A
- IO-Link Revision V1.1
- Bit rate COM2 38400Bps
- Min. Cycle Time 5ms
- SIO Mode – No
- Block parameterization – Yes
- Data storage - Yes



 **IO-Link**

PSD-S IOL SL

Signal towers without IO-Link

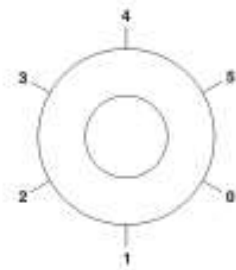


MOUNTING OPTIONS

5 optical elements **OR**

4 optical elements + 1 acoustic element

PIN ASSIGNMENT:



0 – GND

1 – Signal 1

2 – Signal 2

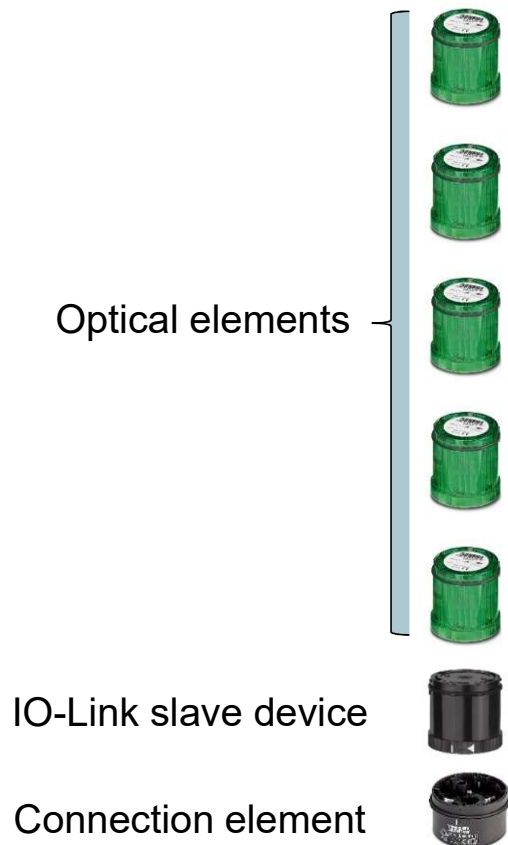
3 – Signal 3

4 – Signal 4

5 – Signal 5

PSD-S IOL SL

Signal towers with IO-Link

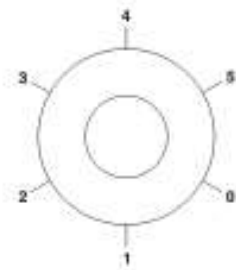


MOUNTING OPTIONS

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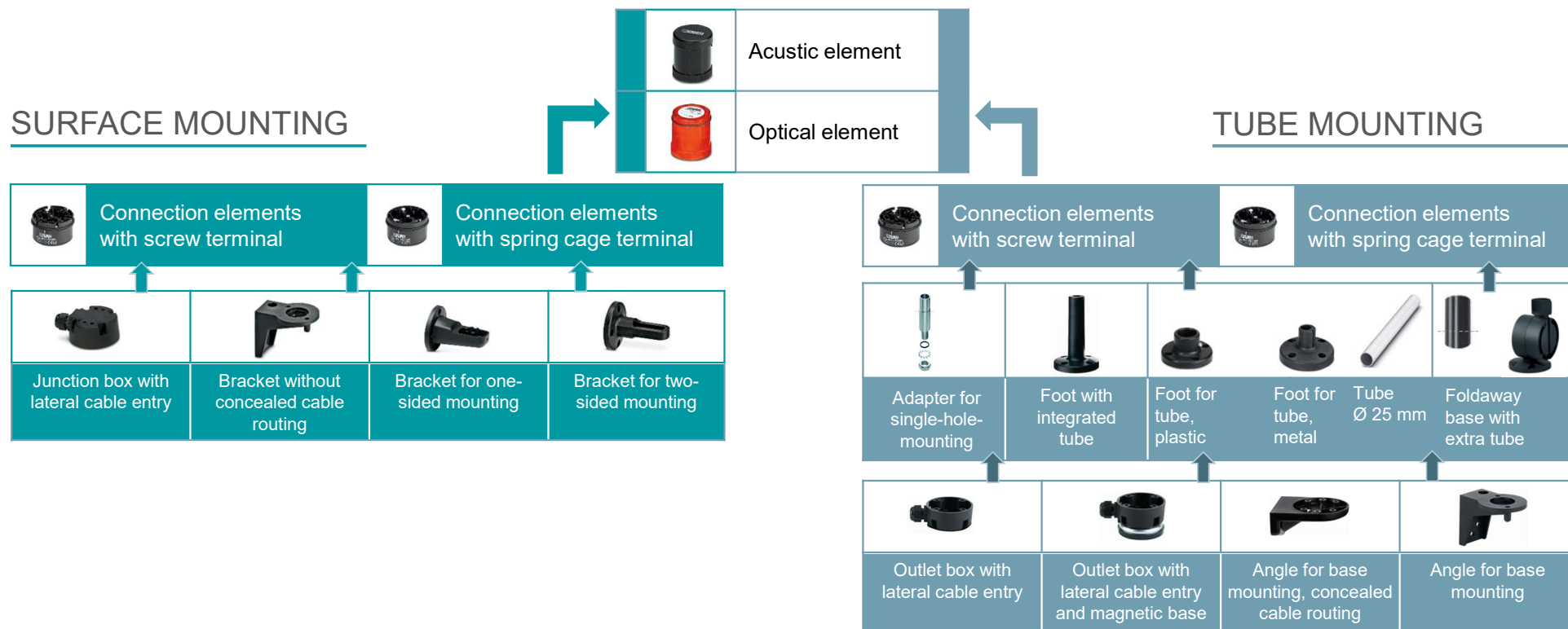


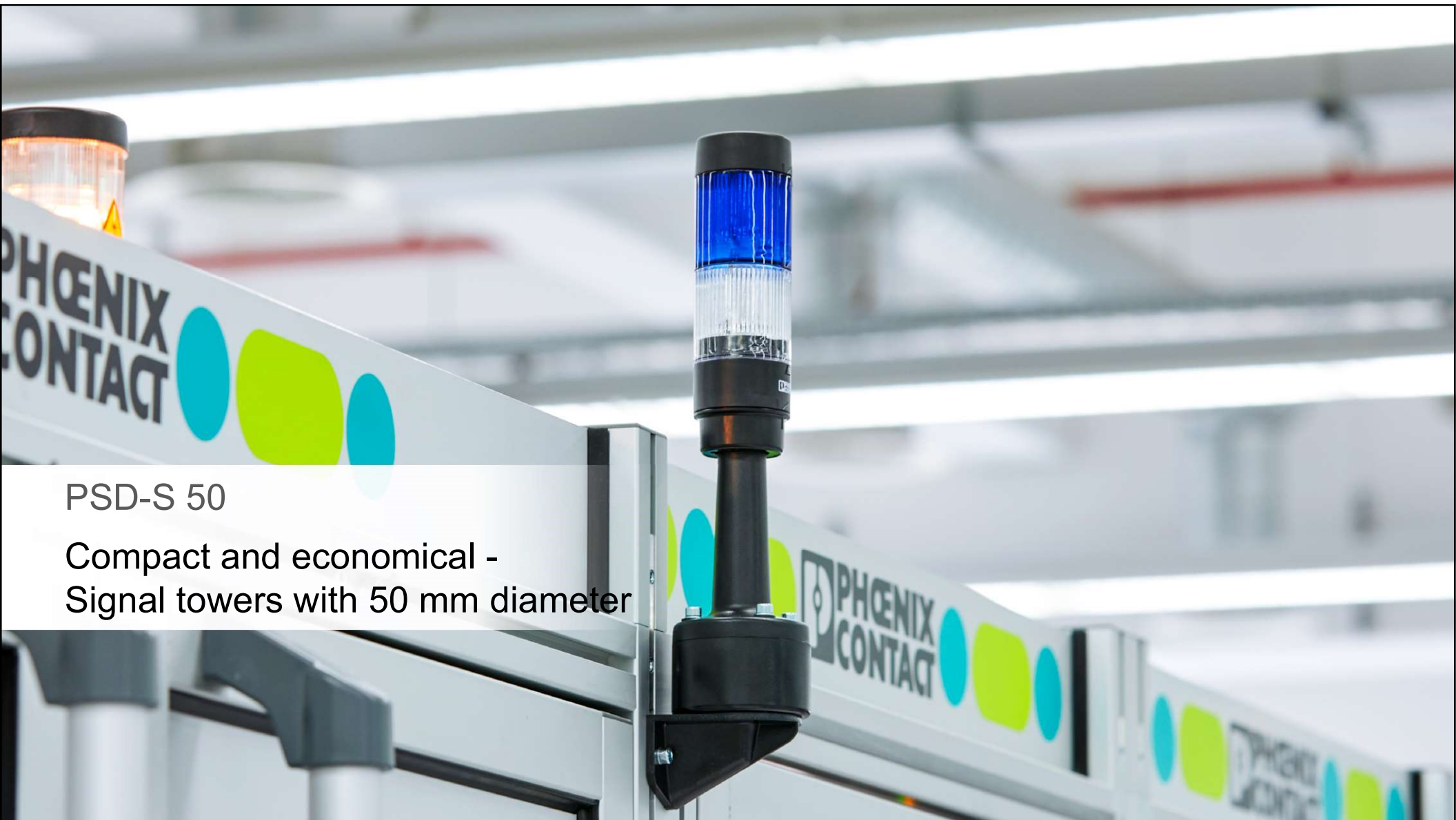
- 0 – L -
- 1 – L +
- 2 – (NC)
- 3 – 2 L + / +24V
- 4 – C/Q
- 5 – (NC)



PSD-S

Mounting options PSD-S - overview





PSD-S 50

Compact and economical -
Signal towers with 50 mm diameter

PSD-S 50

Advantages

“ The cost-optimized LED signal towers provides an appealing industrial design. And is ideally suitable for compact machines. Thanks to the innovative wiring concept the individual calottes can be arranged in any desired order. ”

- ✓ Reliable in harsh industrial environment due to high protection class
- ✓ Fast installation due to bajonet connection



PSD-S 50

Features

50mm diameter
small and compact

Push-In connection
directly in the base unit

Basic element with various mounting options

- Floor mounting
- Pipe assembly
- Magnetic base
- NPT thread



Acoustic element

- 8 sounds

Optical elements

Up to 5 optical elements or
4 optical elements + one acoustic element

Signal elements

- red
- orange
- green
- clear
- blue

PSD-S 50

Simple control

- Signal towers elements are driven via parallel wiring and are connected at the connection element
 - Up to five optical elements or four optical elements plus one acoustic element
- Electrical connection via push-in connection
- Max wire cross section up to 1,5 mm²
- Open the connection element to connect the conductors



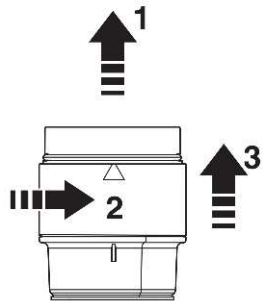
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Max. 5 signal elements
per signal tower!

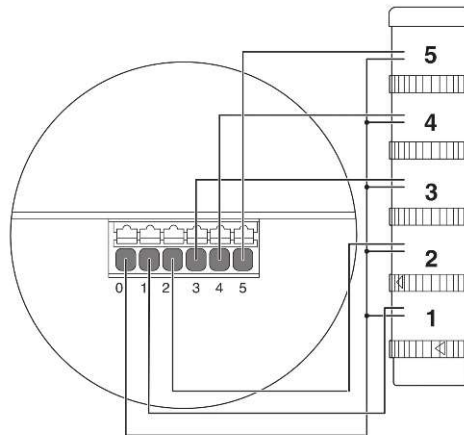
PSD-S 50

Opening and closing the connection element

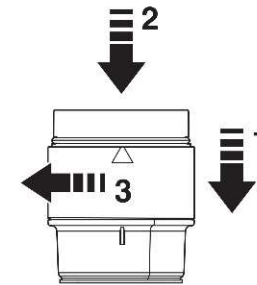
Open the connection element



Connect the conductors



Close the connection element



PSD-S 50

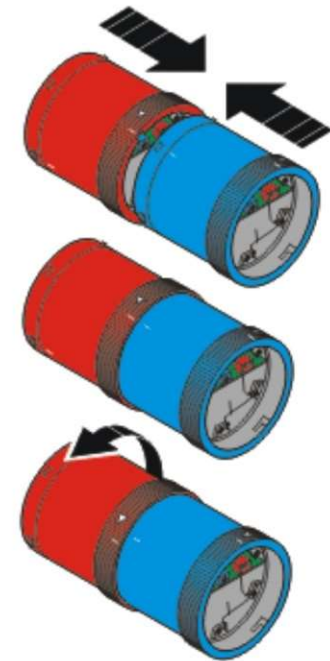
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 - Elemente are mechanically and electrically connected within seconds with each other.



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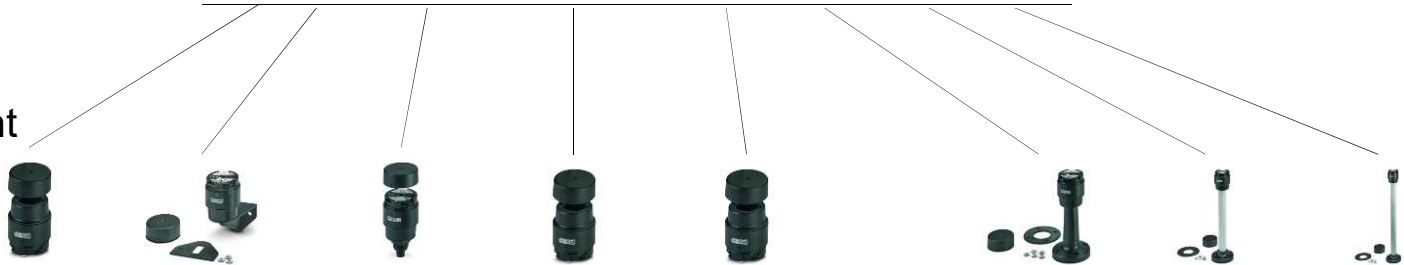
PSD-S 50

Portfolio PSD S-50

Signal element



Connection element




Mounting options



PSD-S 50

Portfolio


OPTICAL SIGNAL ELEMENTS

	Specification (color)	Order no.	Description
	ORANGE	1018262	PSD-S 50 OE LED AM
	RED	1018261	PSD-S 50 OE LED RD
	CLEAR	1017888	PSD-S 50 OE LED CL
	BLUE	1018737	PSD-S 50 OE LED BL
	GREEN	1018264	PSD-S 50 OE LED GN

PSD-S 50

Portfolio


ACUSTIC SIGNAL ELEMENTS

	Specification	Order no.	Description
	8-tone siren	1018874	PSD-S 50 AE SM8-1 95DB/1

PSD-S 50 signal tower

Portfolio


CONNECTION ELEMENTS

	Specification (color)	Order no.	Description
	UNIVERSAL	1018740	PSD-S 50 CE
	Base with integrated M12 5-pin connector	1018853	PSD-S 50 CE M12-5P
	base for NPT 1/2" conduit mounting	1018850	PSD-S 50 CE A-NPT 1/2
	Base for vertical mounting	1018742	PSD-S 50 CE BR-SM/HCR
	Pole connection on pole with integrated foot	1018760 1018801 1018845	PSD-S 50 CE BT 100 PSD-S 50 CE BT 250-M PSD-S 50 CE BT 400-M

PSD-S 50

Portfolio

VISIBLE MOUNTING ELEMENTS

	Specification (color)	Order no.	Description
	metal bracket for exterior cable entry	1018868	PSD-S 50 ME BR-SM-M
	bracket for vertical mounting of poles with plastic foot	1018870	PSD-S 50 ME BR-BM/HCR
	pole connection box for magnet mounting, M20	1018873	PSD-S 50 ME OB/MB-BM

PSD-S in comparison to PSD-S 50

PSD system comparison

FEATURES	PSD-S	PSD-S 50
OPERATING VOLTAGE	 24 V DC	 24 V DC
MAX. INRUSH CURRENT	500 mA	500 mA
OPERATING TEMPERATURE	-30 °C... 50 °C	-30 °C... 60 °C
DIAMETER	70 mm	50 mm

Signaling

Outdoor and Indoor Signaling



CSD

PLD-T

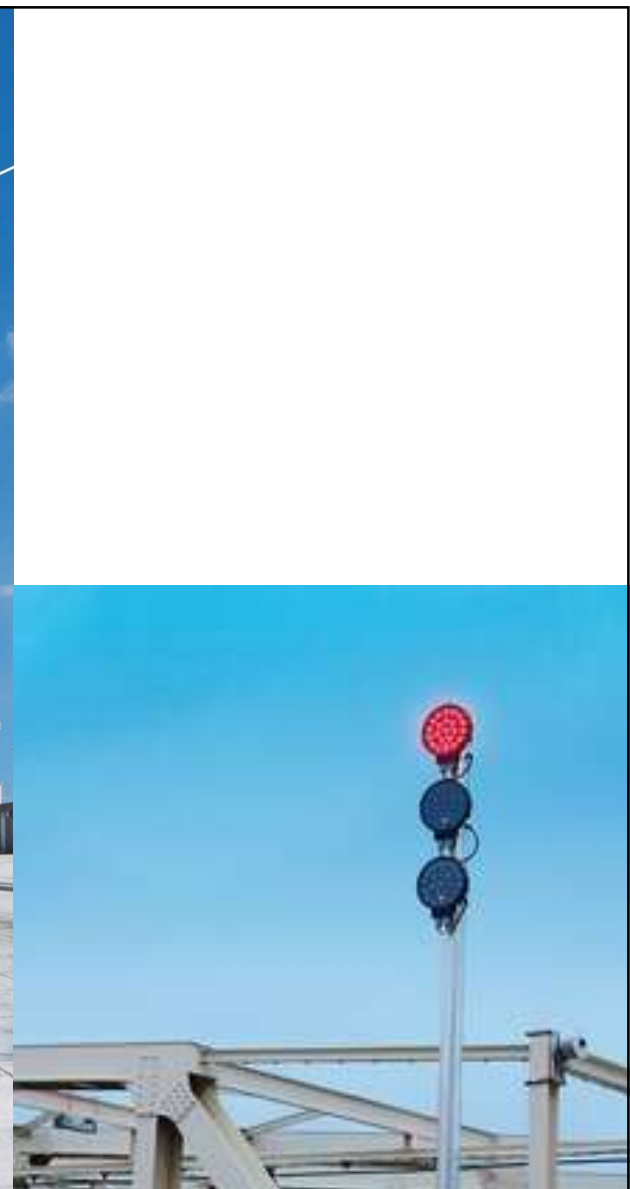
- Signaling

Outdoor Signaling



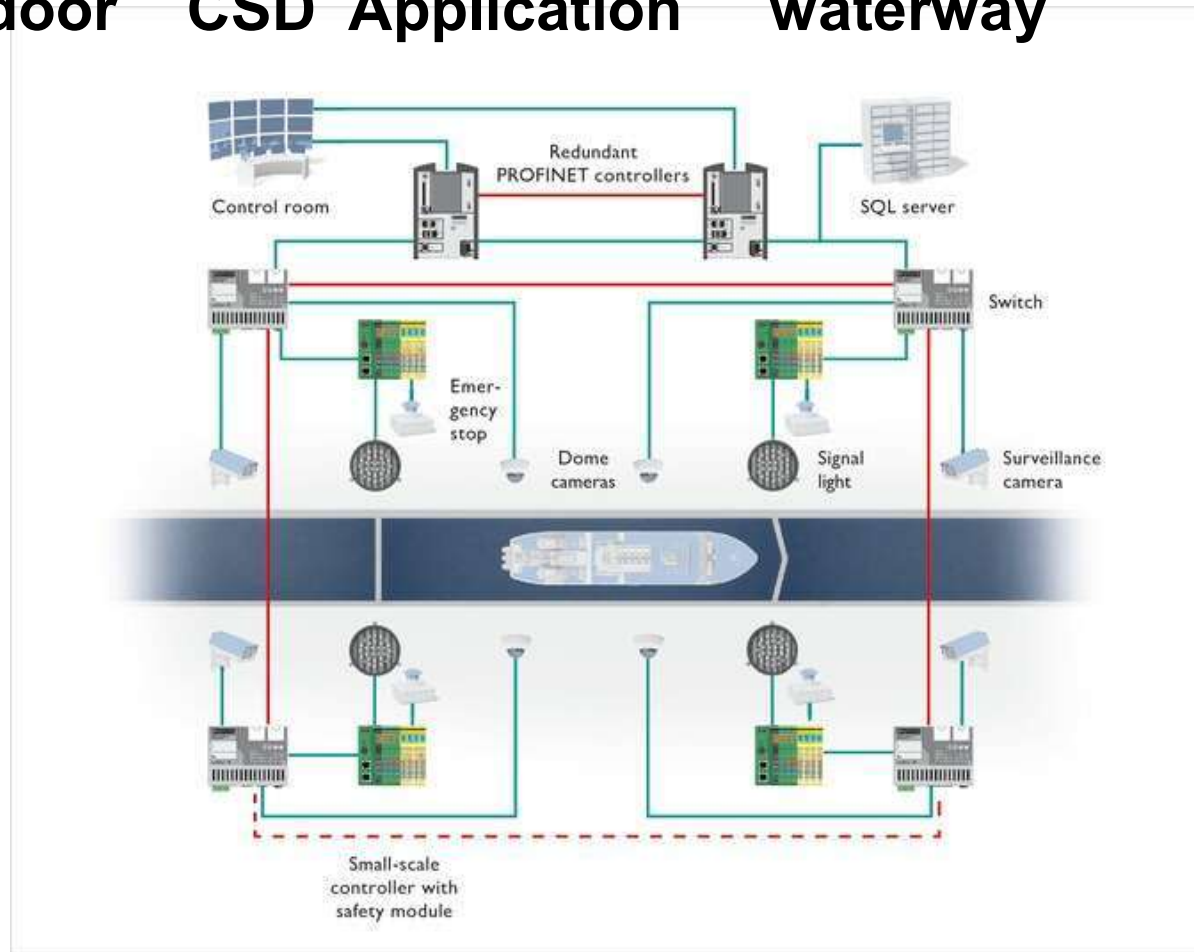
CSD-SL 200

CSD-SL 300



Signaling

Outdoor CSD Application waterway

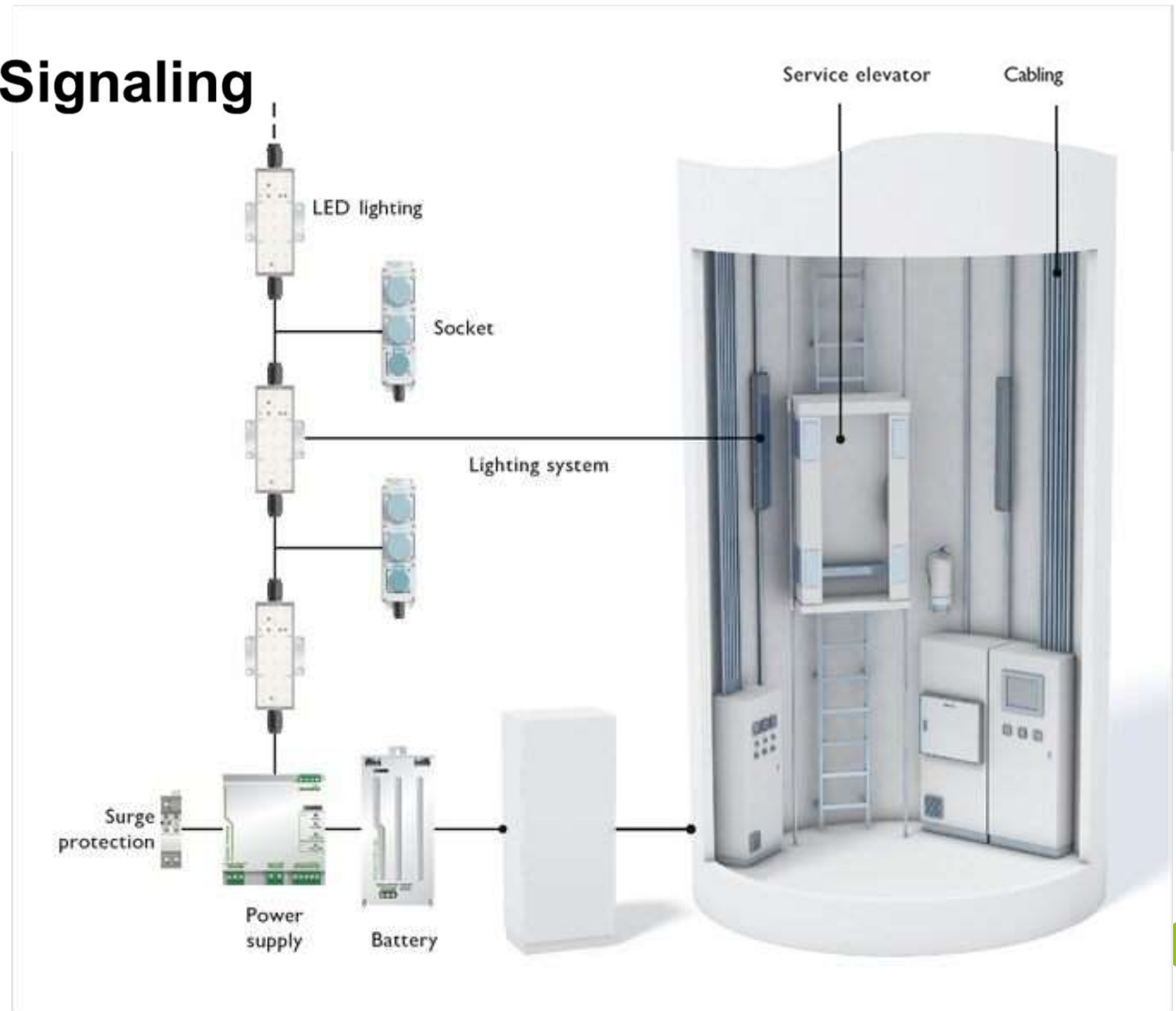


Signaling

Outdoor and Indoor Signaling



PLD-T



Signaling

Indoor Signaling LED Lamp PLD-T

PLD T/1AC/AS/2CON

LED light, 230 V AC, IP67 protection, 5000 K color temperature, wide distribution optic

Data sheet
107015_en_03

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1 Description

This LED light is specifically designed for lighting the interior of towers or shafts.

The light is designed for continuous operation for work spaces or conductors.

Features

- Supply voltage: 230 V AC (supply voltage range: 110 V AC ... 250 V AC)
- Color temperature 5000 K
- Wide distribution optic
- IP67 degree of protection
- Suitable for series connection of several lights

Webinar IMA 2020

Mayor información



PHOENIX CONTACT

Phoenix Contact, S.A. de C.V.
Lago Alberto 319 Piso 9,
Locales 902 y 903-A,
Col. Granada Del. Miguel Hidalgo,
Ciudad de México. 11520
Tel.: +52 55 1101 1380 Ext. 393
Cel.: +52 55 3233 6518
agordillo@phoenixcontact.com.mx
www.phoenixcontact.com.mx

Ing. Antonio Gordillo
Infrastructure and Systems Automation
Product Marketing Manager



www.phoenixcontact.com.mx

ventas@phoenixcontact.com.mx

55 1101 1380

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