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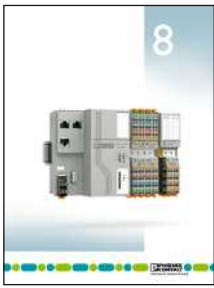
# Control Technology, I/O Systems and Automation Infrastructure

2015/2016

8







# Control technology, I/O systems, and automation infrastructure



## Terminal blocks

- Terminal blocks



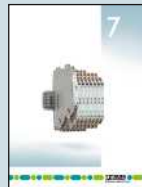
## Surge protection and power supplies

- Surge protection and interference suppression filters
- Power supplies and UPS
- Protective devices



## Sensor/actuator cabling and industrial connectors

- Sensor/actuator cabling
- Cables and lines
- Connectors



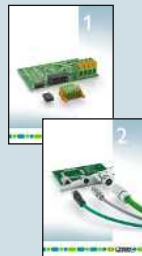
## Interface technology and switching devices

- Electronic switching devices and motor control
- Measurement and control technology
- Monitoring
- Relay modules
- System cabling for controllers



## Marking systems, tools, and mounting material

- Marking and labeling
- Tools
- Installation and mounting material



## PCB connection technology and electronics housing 2013/14

- PCB terminal blocks and PCB connectors
- Electronics housing

## Connection technology for field devices 2013/14

- Connectors
- Cables and lines

Information on these products can be found in the electronic product catalogs for 2013/14.

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# Lighting and signaling

The LED control cabinet lights, LED machine lights, and LED signal towers from Phoenix Contact are the perfect solution for optimally illuminating control cabinets and machinery and clearly signaling machine states.

## LED control cabinet lights

Optimum illumination of the control cabinet ensures fast troubleshooting and wiring errors can be avoided. The LED control cabinet lights in the PLD (Phoenix Contact Lighting Devices) product range provide optimum illumination inside your control cabinets right down to the bottom. Thanks to tool-free mounting, the lights can be mounted in no time at all.

With two performance classes and a particularly flexible portfolio, you can choose lights that are tailored to your specific requirements.

## LED machine lights

The LED machine lights in the PLD (Phoenix Contact Lighting Devices) product range from Phoenix Contact provide efficient, homogenous, and glare-free illumination of your machinery during startup, maintenance, and interference suppression, as well as during the production process thanks to LED technology and integrated optics. You can easily adjust the brightness to the relevant conditions inside your machine (e.g., reflections) and to the machine states by means of dimming.

Would you like to integrate machine lighting directly in your machine control system? No problem with the communication modules which can be connected upstream.

## Signal towers

Early detection of problems affecting machinery and systems is key to reducing downtimes and avoiding any resulting unnecessary costs.

Thanks to the considerable signal diversity of the modular signal towers in the PSD (Phoenix Contact Signaling Devices) product range from Phoenix Contact, you can implement unambiguous signaling of your machine and system states.

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# Lighting and signaling

## Product overview

### PLD control cabinet lights



Class 400 LED control cabinet lights  
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Class 600 LED control cabinet lights  
- With motion detector  
Page 8



Class 600 LED control cabinet lights  
- With motion detector and socket  
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### PLD machine lights



Communication modules  
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LED machine lights  
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LED machine lights  
Length: 365 mm  
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LED machine lights  
Length: 695 mm  
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### PSD signal towers



Optical signal element, multicolor  
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Optical signal elements, single-color  
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Audible signal elements  
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Voice output element  
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Connection elements  
for surface and tube mounting  
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Mounting elements  
for surface and tube mounting  
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Foldaway base  
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Accessories: marking field for towers with  
tube mounting  
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## Class 400 LED control cabinet lights

new

These LED lights are intended for use inside a control cabinet and provide optimum and efficient illumination right down to the bottom of the cabinet.

Thanks to the various lengths and swivelable light emission window, the lights can be adapted to different control cabinet widths and heights as well as to the depth of the control cabinet plate.

### Features:

- Supply voltage: 24 V DC
- Light lengths of 250 mm, 375 mm or 500 mm
- Tool-free mounting using click system
- Optional: magnet or screw fixing as accessories
- Can be connected and controlled in series with M8 cabling with snap-in technology
- Permanent light or automatic mode via upstream door switch
- Mode indicated via status LEDs
- Can be swiveled ( $\pm 90^\circ$ )
- Highly efficient thanks to LED technology
- LED service life of 50,000 hours (L70 value)
- High color rendering index



Length: 250 mm / 375 mm / 500 mm

Power supply for module electronics	
Supply voltage	24 V DC
Power consumption	2 W
Light properties	
Source of light type	LED
Service life, lighting appliance	50,000 h (L70)
Number of LEDs	5
Color temperature	5000 K
Color rendering index	75
Net luminous flux	140 lm
General data	
Connection method	M8 connector (snap-in)
Weight	120 g
Protection class	III
Degree of protection	IP20
Width	23 mm
Height	38 mm
Length	250 mm
Mounting position	any
Ambient temperature (operation)	-25 °C ... 60 °C

Technical data		
PLD...250	PLD...375	PLD...500
Supply voltage		
24 V DC		
Power consumption		
2 W	4.2 W	7 W
Light properties		
Source of light type		
LED		
Service life, lighting appliance		
50,000 h (L70)		
Number of LEDs		
5	12	20
Color temperature		
5000 K		
Color rendering index		
75		
Net luminous flux		
140 lm	350 lm	560 lm
General data		
Connection method		
M8 connector (snap-in)		
Weight		
120 g	170 g	220 g
Protection class		
III		
Degree of protection		
IP20		
Width		
23 mm		
Height		
38 mm		
Length		
250 mm	375 mm	500 mm
Mounting position		
any		
Ambient temperature (operation)		
-25 °C ... 60 °C		

Description
<b>LED control cabinet light</b>
- Length: 250 mm
- Length: 375 mm
- Length: 500 mm

Ordering data		
Type	Order No.	Pcs. / Pkt.
PLD E 400 W 250	2702221	1
PLD E 400 W 375	2702222	1
PLD E 400 W 500	2702223	1



### Class 600 LED control cabinet lights

These LED lights are intended for use inside a control cabinet and provide optimum and efficient illumination right down to the bottom of the cabinet.

Thanks to the integrated motion detector and integrated socket, you can save cabling material and cabling time.

#### Features:

- AC wide range input
- Tool-free mounting using the integrated snap-in hook system
- Optional: magnet or screw fixing as accessories
- Can be switched in series
- Permanent light or automatic mode via integrated motion detector
- Mode indicated via status LEDs
- Integrated country-specific socket
- Highly efficient thanks to LED technology
- LED service life of 50,000 hours (L70 value)
- High color rendering index



Length: 265 mm

Technical data	
Power supply for module electronics	
Supply voltage range	85 V AC ... 265 V AC (50/60 Hz)
Power consumption	9.8 W
Light properties	
Source of light type	LED
Service life, lighting appliance	50,000 h (L70)
Number of LEDs	23
Color temperature	4000 K
Color rendering index	85
Net luminous flux	685 lm
General data	
Connection method	Installation coupler
Weight	650 g
Protection class	I
Degree of protection	IP20
Width	91 mm
Height	44 mm
Length	265 mm
Mounting position	any
Ambient temperature (operation)	-25 °C ... 60 °C

Description
<b>LED control cabinet light</b> , with motion detector
- Length: 265 mm
<b>LED control cabinet light</b> , with motion detector and socket
- Length: 315 mm, with type F socket (CEE 7/4)
- Length: 315 mm, with type E socket (CEE 7/5)
- Length: 315 mm, with type B socket (NEMA 5-15 )

Ordering data		
Type	Order No.	Pcs. / Pkt.
<b>PLD E 608 W 265</b>	<b>2702224</b>	1



new



Length: 315 mm,  
type F socket (CEE 7/4)



new



Length: 315 mm,  
type E socket (CEE 7/5)



new



Length: 315 mm,  
type B socket (NEMA 5-15)

Technical data
85 V AC ... 265 V AC (50/60 Hz) 9.8 W
LED 50,000 h (L70) 23 4000 K 85 685 lm
Installation coupler 770 g I IP20 91 mm 44 mm 315.4 mm any -25 °C ... 60 °C

Technical data
85 V AC ... 265 V AC (50/60 Hz) 9.8 W
LED 50,000 h (L70) 23 4000 K 85 685 lm
Installation coupler 770 g I IP20 91 mm 44 mm 315.4 mm any -25 °C ... 60 °C

Technical data
85 V AC ... 265 V AC (50/60 Hz) 9.8 W
LED 50,000 h (L70) 23 4000 K 85 685 lm
Installation coupler 770 g I IP20 91 mm 44 mm 315.4 mm any -25 °C ... 60 °C

Ordering data		
Type	Order No.	Pcs. / Pkt.
PLD E 608 W 315/F	2702226	1

Ordering data		
Type	Order No.	Pcs. / Pkt.
PLD E 608 W 315/E	2702228	1

Ordering data		
Type	Order No.	Pcs. / Pkt.
PLD E 608 W 315/B	2702227	1

### Communication modules

The communication modules enable the direct integration of machine lighting in the machine control system.

This PROFIBUS communication module enables PLD machine lights to be parameterized and controlled directly via a PROFIBUS DP network.

#### Features:

- PROFIBUS DP slave
- Data transmission speed of 9.6 kbps to 12 Mbps
- PROFIBUS address can be set via two rotary coding switches
- Two PWM outputs for controlling the PLD machine lights
- Adjustable brightness, flashing frequency, and flashing duration
- Specification of the failsafe state for controlled lights
- A digital input for error messages from the controlled lights
- Diagnostic and status indicators
- Resistant to flying chips and sparks
- Resistant to cooling lubricants



**PROFIBUS DP**

Technical data	
<b>Interface</b>	
Fieldbus system	PROFIBUS DP
Connection method	M12 connector, B-coded
Transmission speed	9.6 kbps ... 12 Mbps
<b>Power supply for module electronics</b>	
Supply voltage	24 V DC
Supply voltage range	19.2 V DC ... 28.8 V DC
<b>Digital inputs</b>	
Number of inputs	1 (Error signal from the light(s))
Description of the inputs	EN 61131-2 type 1
Nominal input voltage $U_{IN}$	24 V DC
<b>Digital outputs</b>	
Number of outputs	2 (PWM signal)
Output voltage	24 V DC
Maximum output current per channel	500 mA
Type of protection	Short-circuit protection, overload protection of the outputs
<b>General data</b>	
Connection method	M12 connector
Weight	450 g
Degree of protection	IP67
Width	60 mm
Height	147 mm
Depth	35 mm
Note on dimensions	Height without M12 connector
Mounting position	any
Ambient temperature (operation)	-25 °C ... 60 °C

Ordering data			
Description	Type	Order No.	Pcs. / Pkt.
<b>Communication module</b> , for PLD machine lights			
- PROFIBUS DP interface	<b>PLD CM 360 PB</b>	<b>2701695</b>	1

## Communication modules

The communication modules enable the direct integration of machine lighting in the machine control system.

This PROFINET communication module enables PLD machine lights to be parameterized and controlled directly via a PROFINET network.

### Features:

- PROFINET I/O device
- PROFINET RT
- Two PROFINET ports with integrated switch
- Two PWM outputs for controlling the PLD machine lights
- Adjustable brightness, flashing frequency, and flashing duration
- Specification of the failsafe state for controlled lights
- A digital input for error messages from the controlled lights
- Diagnostic and status indicators
- Resistant to flying chips and sparks
- Resistant to cooling lubricants




PROFINET

Technical data		
<b>Interface</b>		
Fieldbus system	PROFINET	
Connection method	M12 connectors, D-coded	
Transmission speed	100 Mbps	
<b>Power supply for module electronics</b>		
Supply voltage	24 V DC	
Supply voltage range	19.2 V DC ... 28.8 V DC	
<b>Digital inputs</b>		
Number of inputs	1 (Error signal from the light(s))	
Description of the inputs	EN 61131-2 type 1	
Nominal input voltage $U_N$	24 V DC	
<b>Digital outputs</b>		
Number of outputs	2 (PWM signal)	
Output voltage	24 V DC	
Maximum output current per channel	500 mA	
Type of protection	Short-circuit protection, overload protection of the outputs	
<b>General data</b>		
Connection method	M12 connector	
Weight	450 g	
Degree of protection	IP67	
Width	60 mm	
Height	147 mm	
Depth	35 mm	
Note on dimensions	Height without M12 connector	
Mounting position	any	
Ambient temperature (operation)	-25 °C ... 60 °C	
<b>Description</b>		
<b>Communication module</b> , for PLD machine lights		
- PROFINET interface		
Ordering data		
Type	Order No.	Pcs. / Pkt.
PLD CM 360 PN	2701696	1



These LED lights are designed for use inside machinery. They provide surface illumination of the interior of the machine.

#### Features:

- 50° and 100° emission angle
- Light lengths of 200 mm, 365 mm or 695 mm
- Can be connected and controlled in series with M12-SPEEDCON cabling
- Optional control via communication module or I/O station
- Steady light or flashing light
- Can be switched on and off when under no load
- Can be continuously dimmed with PWM signal
- Flashing light control with PWM signal
- Protective functions against polarity reversal, excessively high supply voltage, and overtemperature
- Error indication via digital output
- Resistant to flying chips and sparks
- Resistant to cooling lubricants
- Glare suppression thanks to integrated optics
- Highly efficient thanks to LED technology
- LED service life of 65,000 hours (L70 value)
- High color rendering index



Length 200 mm



#### Technical data

PLD M 360 W-50 200	PLD M 360 W-100 200
Supply voltage	
24 V DC	
19.2 V DC ... 28.8 V DC	
typ. 0.23 A (at 24 V DC)	typ. 0.375 A (at 24 V DC)
typ. 5.5 W	typ. 9 W
Light properties	
Source of light type	
LED	
Service life, lighting appliance	
65,000 h	
Number of LEDs	
4	
Light color	
Neutral white	
5000 K ±5 %	
Ra ≥ 80	
Max. 2090 lx (50 cm distance)	Max. 865 lx (50 cm distance)
300 lx (1 m x 1 m measuring field with 50 cm distance)	
Glare suppression	
Thanks to integrated optics	
Can be dimmed	
Via PWM signal	
General data	
Connection method	
M12 connector (A-coded)	
Weight	
500 g	
Degree of protection	
IP67	
Width	
60 mm	
Height	
35 mm	
Length	
200 mm	
Note on dimensions	
Length without M12 flush-type connector	
any	
Ambient temperature (operation)	
-25 °C ... 60 °C	

#### Ordering data

Type	Order No.	Pcs. / Pkt.
PLD M 360 W-50 200	2701689	1
PLD M 360 W-100 200	2701692	1

Power supply for module electronics	
Supply voltage	
24 V DC	
Supply voltage range	
19.2 V DC ... 28.8 V DC	
Current consumption	
typ. 0.23 A (at 24 V DC)	
Power consumption	
typ. 5.5 W	
Light properties	
Source of light type	
LED	
Service life, lighting appliance	
65,000 h	
Number of LEDs	
4	
Light color	
Neutral white	
Color temperature	
5000 K ±5 %	
Color rendering index	
Ra ≥ 80	
Illumination	
Max. 2090 lx (50 cm distance)	
Max. 865 lx (50 cm distance)	
Average illumination	
300 lx (1 m x 1 m measuring field with 50 cm distance)	
Glare suppression	
Thanks to integrated optics	
Can be dimmed	
Via PWM signal	
General data	
Connection method	
M12 connector (A-coded)	
Weight	
500 g	
Degree of protection	
IP67	
Width	
60 mm	
Height	
35 mm	
Length	
200 mm	
Note on dimensions	
Length without M12 flush-type connector	
any	
Ambient temperature (operation)	
-25 °C ... 60 °C	

Description	
LED machine light	
- 50° emission angle	
- 100° emission angle	



Length 365 mm



Length 695 mm



**Technical data**

**Technical data**

PLD M 360 W-50 365	PLD M 360 W-100 365
24 V DC 19.2 V DC ... 28.8 V DC	
typ. 0.46 A (at 24 V DC)	typ. 0.75 A (at 24 V DC)
typ. 11 W	typ. 18 W
LED	
65,000 h	
8	
Neutral white	
5000 K ±5 %	
Ra ≥ 80	
Max. 3630 lx (50 cm distance)	Max. 1675 lx (50 cm distance)
605 lx (1 m x 1 m measuring field with 50 cm distance)	615 lx (1 m x 1 m measuring field with 50 cm distance)
Thanks to integrated optics	
Via PWM signal	
M12 connector (A-coded)	
875 g	
IP67	
60 mm	
35 mm	
365 mm	
Length without M12 flush-type connector	
any	
-25 °C ... 60 °C	

PLD M 360 W-50 695	PLD M 360 W-100 695
24 V DC 19.2 V DC ... 28.8 V DC	
typ. 0.92 A (at 24 V DC)	typ. 1.5 A (at 24 V DC)
typ. 22 W	typ. 36 W
LED	
65,000 h	
16	
Neutral white	
5000 K ±5 %	
Ra ≥ 80	
Max. 4830 lx (50 cm distance)	Max. 2660 lx (50 cm distance)
1160 lx (1 m x 1 m measuring field with 50 cm distance)	1145 lx (1 m x 1 m measuring field with 50 cm distance)
Thanks to integrated optics	
Via PWM signal	
M12 connector (A-coded)	
1630 g	
IP67	
60 mm	
35 mm	
695 mm	
Length without M12 flush-type connector	
any	
-25 °C ... 60 °C	

**Ordering data**

**Ordering data**

Type	Order No.	Pcs. / Pkt.
PLD M 360 W-50 365	2701690	1
PLD M 360 W-100 365	2701693	1

Type	Order No.	Pcs. / Pkt.
PLD M 360 W-50 695	2701691	1
PLD M 360 W-100 695	2701694	1

# Lighting and signaling

## PSD signal towers

### Erecting a tower

A signal tower can be erected or extended without using any tools in a matter of seconds by simply placing the individual signal elements on top of each other and turning the bayonet locking system.

This automatically establishes an electrical connection between the elements. The control lines are then connected to screw or spring-cage terminal blocks in the connection element (bottom element).

### Optical signal elements

The optical elements are available in a choice of five colors with various different signal types.

### Audible signal elements

Signaling can also be supported by an audible element.

### Mounting elements

The signal tower portfolio is completed by a wide range of mounting elements, which ensure optimum mounting of the signal towers according to the conditions.

### Assemble your signal towers individually as follows:

- ① Select the appropriate mounting method for your application: base or tube mounting.
- ② If applicable, select the mounting bracket or junction box.
- ③ If applicable, select the foot and the required tube length: 110 mm ... 1000 mm.
- ④ Select the appropriate connection element for the mounting type: screw or spring-cage connection.
- ⑤ Select the required optical signal elements and, if applicable, an audible signal element.



## Optical signal element – multicolor

With the multicolor element, up to seven colors can be displayed with just one optical element. You can therefore save costs when it comes to storing and controlling signal towers.

The seven colors (red, yellow, green, blue, white, violet, and turquoise) are selected via a maximum of three control lines.

### Features:

- Supply voltage: 24 V DC
- 7 colors can be selected
- The colors red, yellow, and green can be selected via just two control lines
- Minimum LED service life of 50,000 h



Permanent light element, multicolor



#### PSD electrical data

Input voltage	24 V DC
Maximum inrush current	Max. 500 mA
Current consumption	120 mA

#### General data

Material	Polycarbonate PC
Weight	63 g
Height	65.5 mm
Diameter	70 mm
Degree of protection	IP65, when installed or with cover
Ambient temperature (operation)	-20 °C ... 50 °C
Mounting position	any

#### Description

**LED permanent light element, multicolor**  
The colors white, red, yellow, green, blue, violet or turquoise can be selected via control signal combination

**End cover, black** (replacement part)

**Marking field** for towers with tube mounting, complete with assembly material

#### Technical data

Input voltage	24 V DC
Maximum inrush current	Max. 500 mA
Current consumption	120 mA

Material	Polycarbonate PC
Weight	63 g
Height	65.5 mm
Diameter	70 mm
Degree of protection	IP65, when installed or with cover
Ambient temperature (operation)	-20 °C ... 50 °C
Mounting position	any

#### Ordering data

Type	Order No.	Pcs. / Pkt.
PSD-S OE LED MC	2702090	1

#### Accessories

PSD-S AS END COVER	2700148	1
PSD-S AS LABEL BOARD	2700147	1



### Optical signal elements

The optical signal elements enable clear optical indication of the machine or system state.

#### Features:

- 5 signal types to choose from
- Can be freely combined
- High light and color intensity
- Minimum LED service life of 50,000 h
- All elements for 24 V DC
- Random flashing beacon ensures display cannot be ignored



LED permanent light element



LED blinking light element



Technical data		
...GN / ...CL / ...BU	...RD / ...YE	
PSD electrical data	24 V AC/DC Max. 500 mA	
Input voltage		
Maximum inrush current	25 mA	30 mA
Current consumption		
General data	Polycarbonate PC	
Material	58 g	
Weight	65.5 mm	
Height	70 mm	
Diameter	IP65, when installed or with cover	
Degree of protection	-20 °C ... 50 °C	
Ambient temperature (operation)	any	
Mounting position		

Ordering data		
Type	Order No.	Pcs. / Pkt.
PSD-S OE LED GN	2700119	1
PSD-S OE LED CL	2700127	1
PSD-S OE LED BU	2700131	1
PSD-S OE LED RD	2700107	1
PSD-S OE LED YE	2700122	1

Accessories		
Type	Order No.	Pcs. / Pkt.
PSD-S AS END COVER	2700148	1
PSD-S AS LABEL BOARD	2700147	1



Technical data		
...GN / ...CL / ...BU	...RD / ...YE	
PSD electrical data	24 V AC/DC Max. 500 mA	
Input voltage		
Maximum inrush current	25 mA	30 mA
Current consumption		
General data	Polycarbonate PC	
Material	59 g	
Weight	65.5 mm	
Height	70 mm	
Diameter	IP65, when installed or with cover	
Degree of protection	-20 °C ... 50 °C	
Ambient temperature (operation)	any	
Mounting position		

Ordering data		
Type	Order No.	Pcs. / Pkt.
PSD-S OE LED BL GN	2700121	1
PSD-S OE LED BL CL	2700128	1
PSD-S OE LED BL BU	2700132	1
PSD-S OE LED BL RD	2700114	1
PSD-S OE LED BL YE	2700123	1

Accessories		
Type	Order No.	Pcs. / Pkt.
PSD-S AS END COVER	2700148	1
PSD-S AS LABEL BOARD	2700147	1

PSD electrical data
Input voltage
Maximum inrush current
Current consumption
General data
Material
Weight
Height
Diameter
Degree of protection
Ambient temperature (operation)
Mounting position
Description
Optical signal elements
Color: green
Color: white
Color: blue
Color: red
Color: yellow
End cover, black (replacement part)
Marking field for towers with tube mounting, complete with assembly material



LED random flashing light element



LED flashing light element



LED rotating light element



Technical data		
...CL / ...BU	...RD / ...YE	
24 V DC	24 V DC	
Max. 500 mA	Max. 200 mA	
250 mA	350 mA	
Polycarbonate PC		
78 g	72 g	
65.5 mm	65.5 mm	
70 mm	70 mm	
IP65, when installed or with cover		
-20 °C ... 50 °C		
any		

Technical data		
24 V DC	24 V DC	
Max. 200 mA	Max. 200 mA	
35 mA	35 mA	
Polycarbonate PC		
72 g	72 g	
65.5 mm	65.5 mm	
70 mm	70 mm	
IP65, when installed or with cover		
-20 °C ... 50 °C		
any		

Technical data		
24 V AC/DC	24 V AC/DC	
Max. 500 mA	Max. 500 mA	
≤ 40 mA	≤ 40 mA	
Polycarbonate PC		
65 g	65 g	
65.5 mm	65.5 mm	
70 mm	70 mm	
IP65, when installed or with cover		
-20 °C ... 50 °C		
any		

Ordering data		
Type	Order No.	Pcs. / Pkt.
PSD-S OE LED RFL CL	2700130	1
PSD-S OE LED RFL BU	2700135	1
PSD-S OE LED RFL RD	2700118	1
PSD-S OE LED RFL YE	2700126	1

Ordering data		
Type	Order No.	Pcs. / Pkt.
PSD-S OE LED FL CL	2700129	1
PSD-S OE LED FL BU	2700134	1
PSD-S OE LED FL RD	2700115	1
PSD-S OE LED FL YE	2700124	1

Ordering data		
Type	Order No.	Pcs. / Pkt.
PSD-S OE LED RL RD	2700116	1
PSD-S OE LED RL YE	2700125	1

Accessories		
PSD-S AS END COVER	2700148	1
PSD-S AS LABEL BOARD	2700147	1

Accessories		
PSD-S AS END COVER	2700148	1
PSD-S AS LABEL BOARD	2700147	1

Accessories		
PSD-S AS END COVER	2700148	1
PSD-S AS LABEL BOARD	2700147	1

### Audible signal elements

The audible signal elements enable clear audible indication of the machine or system state.

#### Features:

- Buzzer and siren elements
- Minimum volume of 80 dB(A)
- Adjustable volume
- Multi-tone siren signaling depending on the situation
- Multilingual signaling thanks to voice output



Buzzer element, continuous/pulse tone



Siren element, alternating



#### Technical data

#### Technical data

PSD electrical data	
Input voltage	-
Nominal input voltage range	12 V AC/DC ... 30 V AC/DC
Maximum inrush current	Max. 200 mA
Current consumption	25 mA
Signaling	
Type of acoustic signal	Continuous/pulse tone
Signal frequency	approx. 1 Hz
Tone frequency	approx. 1.75 kHz
Volume	85 dB(A)
General data	
Material	Polycarbonate PC
Weight	73 g
Height	72 mm
Diameter	70 mm
Degree of protection	IP65, when installed
Ambient temperature (operation)	-20 °C ... 50 °C
Electromagnetic compatibility	Conformance with EMC Directive 2004/108/EC
Mounting position	any

PSD electrical data	
Input voltage	24 V DC
Nominal input voltage range	-
Maximum inrush current	Max. 500 mA
Current consumption	150 mA
Signaling	
Type of acoustic signal	Continuous tone, alternating
Signal frequency	-
Tone frequency	approx. 2.5 kHz
Volume	105 dB(A)
General data	
Material	Polycarbonate PC
Weight	106 g
Height	79 mm
Diameter	70 mm
Degree of protection	IP40, when installed
Ambient temperature (operation)	-20 °C ... 50 °C
Electromagnetic compatibility	Conformance with EMC Directive 2004/108/EC
Mounting position	any

PSD electrical data	
Input voltage	24 V DC
Nominal input voltage range	-
Maximum inrush current	Max. 500 mA
Current consumption	150 mA
Signaling	
Type of acoustic signal	Continuous tone, alternating
Signal frequency	-
Tone frequency	approx. 2.5 kHz
Volume	105 dB(A)
General data	
Material	Polycarbonate PC
Weight	106 g
Height	79 mm
Diameter	70 mm
Degree of protection	IP40, when installed
Ambient temperature (operation)	-20 °C ... 50 °C
Electromagnetic compatibility	Conformance with EMC Directive 2004/108/EC
Mounting position	any

#### Ordering data

#### Ordering data

Description
<b>Buzzer element</b> , continuous/pulse tone
<b>Siren element</b>
- Alternating
- Pulse tone, automatic volume control
- 8 tones, tone selection via DIP switches
- 7 tones, tone selection via 3 signal cables
<b>Voice output element</b> , up to 15 sound sequences, maximum play time of 60 minutes

Type	Order No.	Pcs. / Pkt.
<b>PSD-S AE BM2-1 85DB</b>	<b>2700136</b>	1

Type	Order No.	Pcs. / Pkt.
<b>PSD-S AE SC1-2 105DB</b>	<b>2700139</b>	1



Siren element, pulse tone



Siren element, tones can be selected



Voice output element



## Technical data

24 V DC  
-  
Max. 500 mA  
150 mA

Pulse tone, automatic volume control  
approx. 1 Hz  
approx. 2.5 kHz  
-

Polycarbonate PC  
122 g  
110 mm  
71.5 mm  
IP65, when installed  
-20 °C ... 50 °C  
Conformance with EMC Directive 2004/108/EC  
any

## Ordering data

Type	Order No.	Pcs. / Pkt.
PSD-S AE SP1-3 100DB/2	2700137	1



## Technical data

PSD-S AE SM8-5 100DB/1 PSD-S AE SM7-4 100DB/3

24 V AC/DC  
-  
Max. 500 mA  
80 mA

8 tones, adjustable volume 7 tones, remotely controlled  
approx. 1 Hz (Pulse tone)  
approx. 1.6 kHz  
Max. 100 dB(A) (for continuous and pulse tone of 3.4 kHz)

Polycarbonate PC  
81 g 80 g  
72 mm 70 mm  
IP65, when installed  
-20 °C ... 50 °C  
Conformance with EMC Directive 2004/108/EC  
any

## Ordering data

Type	Order No.	Pcs. / Pkt.
PSD-S AE SM8-5 100DB/1	2700138	1
PSD-S AE SM7-4 100DB/3	2700141	1



## Technical data

24 V DC  
-  
Max. 3 A (for approximately 2 ms)  
< 50 mA (in standby mode)

Voice, max. 15 texts  
-  
-  
approx. 88 dB(A)

Polycarbonate PC  
184 g  
110 mm  
71.5 mm  
IP65, when installed  
-20 °C ... 50 °C  
Conformance with EMC Directive 2004/108/EC  
any

## Ordering data

Type	Order No.	Pcs. / Pkt.
PSD-S AE V15/1	2700140	1



# Lighting and signaling

## PSD signal towers

### Connection elements

The cables for controlling the optical and/or audible elements are connected to the connection element. They can either be mounted directly on a surface or on a tube.

**The following connection technologies are available:**

- Screw terminal blocks
- Spring-cage terminal blocks



For surface mounting



For tube mounting

PSD electrical data	
Nominal input voltage range	12 V AC/DC ... 240 V AC/DC
General data	
Material	PA-GF
Weight	83 g
Height	27 mm
Diameter	69 mm
Degree of protection	IP65, when installed
Ambient temperature (operation)	-20 °C ... 50 °C

Technical data		
12 V AC/DC ... 240 V AC/DC		
PA-GF		
83 g		
27 mm		
69 mm		
IP65, when installed		
-20 °C ... 50 °C		

Technical data		
12 V AC/DC ... 240 V AC/DC		
PA-GF		
84 g		
27 mm		
69 mm		
IP65, when installed		
-20 °C ... 50 °C		

Description	
<b>Connection element</b>	
- With screw connection terminal blocks	
- With spring-cage terminal blocks	

Ordering data		
Type	Order No.	Pcs. / Pkt.
PSD-S CE-SM SCREW	2700093	1
PSD-S CE-SM SPRING	2700091	1

Ordering data		
Type	Order No.	Pcs. / Pkt.
PSD-S CE-TM SCREW	2700095	1
PSD-S CE-TM SPRING	2700092	1

<b>Cable gland</b> , M16 x 1.5 mm, black
--

Accessories		
PSD-S AS CABLE GLAND M16X1,5	2700145	1

Accessories		

### Mounting elements for base mounting

For base mounting, the mounting foot of the connection element can be mounted on an outlet box or an angled connector as an option.

**The options are as follows:**

- Without concealed cable routing
- With concealed cable routing
- Two-sided mounting for up to 10 signal elements



Junction box and bracket



Bracket with concealed cable routing

General data	
Material	PA-GF
Weight	73 g
Ambient temperature (operation)	-30 °C ... 60 °C
Mounting type	Base mounting

Technical data	
PSD-S ME OB	PSD-S ME BR-SM
PA-GF	PA A3 x 2G5
73 g	40 g
-30 °C ... 60 °C	-20 °C ... 50 °C
Base mounting	Base mounting

Technical data	
PSD-S ME BR-SM/1S	PSD-S ME BR-SM/2S
PA A3 x 2G5	PA A3 x 2G5
78 g	71 g
-20 °C ... 60 °C	-20 °C ... 60 °C
Base mounting	Base mounting

Description	
<b>Outlet box</b> with lateral cable entry	
- For base mounting	
<b>Angled connector</b>	
- With visible cable routing	
<b>Angled connector</b> with concealed cable routing	
- For single-sided base mounting	
- For two-sided base mounting	

Ordering data		
Type	Order No.	Pcs. / Pkt.
PSD-S ME OB	2700153	1
PSD-S ME BR-SM	2700144	1

Ordering data		
Type	Order No.	Pcs. / Pkt.
PSD-S ME BR-SM/1S	2700160	1
PSD-S ME BR-SM/2S	2700161	1

## Mounting feet and tubes

For tube mounting, the connection element is mounted directly on a tube.

### The options are as follows:

- Plastic foot for short tubes
- Metal foot for long tubes
- Foot with integrated tube
- Foldaway base for vertical alignment with angled surfaces
- Adapter for single hole mounting



Adapter and mounting foot with tube



Mounting feet and tubes

Description	Ordering data			Ordering data		
	Type	Order No.	Pcs. / Pkt.	Type	Order No.	Pcs. / Pkt.
<b>Adapter</b> for single hole mounting	PSD-S ME A-SH M18	2700150	1			
<b>Foot with integrated tube</b> - 110 mm long	PSD-S ME BT 110	2700156	1			
<b>Foot for tube, Ø 25 mm</b> - Plastic - Metal				PSD-S ME B-P PSD-S ME B-M	2700163 2700164	1 1
<b>Tube, Ø 25 mm</b> - 250 mm long - 400 mm long - 1000 mm long				PSD-S ME T-M 250 PSD-S ME T-M 400 PSD-S ME T-M 1000	2700157 2700158 2700154	1 1 1
<b>Foldaway base</b> - 7.5° pitch				PSD-S ME FB	2700151	1
<b>Tube, for direct mounting on the foldaway base</b> - 45 mm long				PSD-S ME T-P 45	2700152	1

## Mounting elements for tube mounting

For tube mounting, the mounting foot can be mounted on an outlet box or an angled connector as an option.

### The options are as follows:

- Without concealed cable routing
- With concealed cable routing
- Magnetic base for tool-free mounting on metal surfaces



Junction boxes



Brackets

General data	Technical data		Technical data	
	PSD-S ME OB	PSD-S ME OB/MB	PSD-S ME BR-BM/HCR	PSD-S ME BR-BM
Material	PA-GF	PA-GF	ABS-PC	PA A3 x 2G5
Weight	73 g	299 g	80 g	60 g
Ambient temperature (operation)	-30 °C ... 60 °C	-30 °C ... 60 °C	-20 °C ... 60 °C	-20 °C ... 50 °C
Mounting type	Base mounting	Base mounting	Base mounting, concealed cable routing	Base mounting

Description	Ordering data			Ordering data		
	Type	Order No.	Pcs. / Pkt.	Type	Order No.	Pcs. / Pkt.
<b>Outlet box</b> with lateral cable entry  - For base mounting - With magnetic base	PSD-S ME OB PSD-S ME OB/MB	2700153 2700155	1 1			
<b>Angled connector</b> - With concealed cable routing - With visible cable routing				PSD-S ME BR-BM/HCR PSD-S ME BR-BM	2700149 2700143	1 1



# Functional Safety

## Safety devices

- Modules for all common applications such as emergency stop, safety doors, light grids, etc.
- Modules for monitoring various speeds during operation and downtime
- Modules for coupling digital output signals from failsafe controllers to I/O devices

## Configurable safety modules

- Multifunctional evaluation module with 20 safe inputs and 4 safe outputs
- Multifunctional extendable safety module
- Monitoring of all the safety-related functions of a machine, such as emergency stop, safety doors, light grids, etc.
- Flexible extension with safe digital I/O modules
- Easy configuration using the SAFECONF software

## Network safety solutions

- SafetyBridge I/O modules exchange safe signals via an automation network
- Flexible use: compatible with all common bus systems
- Easy configuration using the SAFECONF software

## Safe control technology

With high-performance safety controllers, proxies, and gateways, you can also reliably integrate Functional Safety into your PROFIsafe networks.

- Controls even large numbers of I/Os reliably, thanks to high-performance technology
- Reduced wiring effort, thanks to the joint transmission of control and safety protocols via a single Ethernet cable
- Uniform configuration worldwide, thanks to standardized programming according to IEC 61131

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### Safety switching devices for machine building – safety relays



**PSRmini** – highly compact safety relays for all common applications  
Page 31



**PSRclassic** – safety relays for all common applications, with time function, extension modules  
Page 40



**PSRmodular** – modular safety relay system with DIN rail connector  
Page 50



**PSRmultifunction** – safety relay for three safety functions in a single device  
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### Speed and downtime monitors



**PSRmotion** – speed and downtime monitors that can be parameterized via software  
Page 62

### Positively driven coupling relays



**PSRclassic** – forcibly guided coupling relays  
Page 63

### Safety switching devices for the process industry – safe coupling relays



**PSRmini** – highly compact, safe coupling relays for failsafe controllers and F&G applications  
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**PSRclassic** – safe coupling relays for failsafe controllers  
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**PSRclassic** – termination carriers for the alignment and easy mounting of coupling relays  
Page 75



**PSRmini** – termination carriers for the alignment and easy mounting of highly compact coupling relays  
Further information:  
[phoenixcontact.net/products](http://phoenixcontact.net/products)

### Configurable safety modules



**TRISAFE-S** – master module, cannot be extended  
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**TRISAFE-M** – master module that can be safely extended  
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**TRISAFE** – extension modules  
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### Network safety solutions



Logic modules for safe signal exchange using a SafetyBridge system

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Safe I/O modules for safe signal exchange in popular networks

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Safe I/O modules – output module with relay outputs

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Safe I/O modules for safe signal exchange in popular networks

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### Software



SAFECONF – configuration software for TRISAFE and SafetyBridge modules

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PSR-CONF-WIN – configuration software for PSR-RSM4 with connecting cable

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SafetyProg – programming software for INTERBUS-Safety systems and PROFIsafe controllers

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SafetyProg – function blocks for safe analog value processing

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### Safe control technology



Safe PROFINET gateway

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Safe PROFIsafe controller

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### Safe signal conditioners



• See Catalog 7 – Interface technology and switching devices

### Services for Functional Safety



Consultation and presentation

Individual consultation and on-site process assistance

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Engineering

Support with the implementation of safety requirements

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Product support

Free 24-hour safety hotline, on-site service, workshops, concept support

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Seminars and workshops

Theoretical and practical know-how for machine safety

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