



**Model Number**

**SU180-MD/40ab/115/170**

external amplifier  
with fixed cable

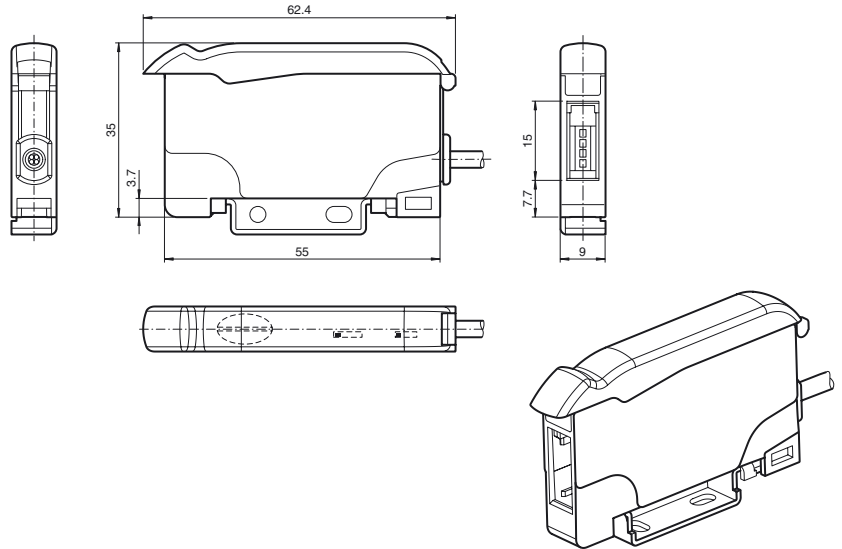
**Features**

- Control interface unit for ML10 series miniature sensors
- Master module
- No TEACH-IN required
- Gang mounting for easy wiring
- Ultra bright LEDs for power on and switching state
- NPN, PNP and push-pull output switch
- Light/dark switch
- Light/dark ON, programmable
- Alignable housing
- DIN rail mounting

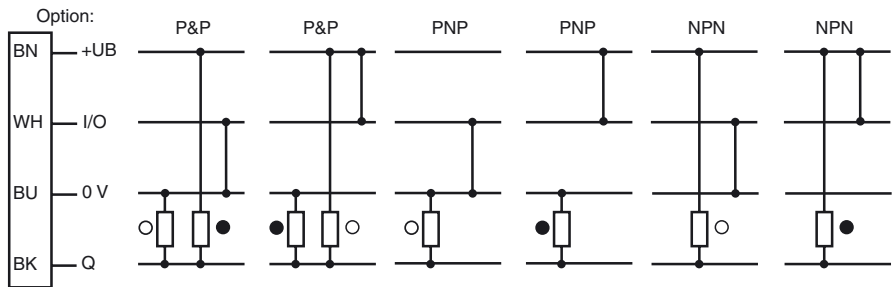
**Product information**

Signal transformers in the SU180 series are suitable for connecting miniature diffuse-mode photoelectric sensors with true background suppression (HGA). In order to keep wiring costs low, up to 20 slave modules can be connected via the supplied bridge connectors to one master. The signal transformers can be arranged directly next to each other on a DIN mounting rail. Individual devices have a light ON/dark ON switch and a switch for the output circuitry (NPN, PNP, push-pull). In a network, the light ON/dark ON switch can be applied simultaneously to all devices via the I/O pin. Both devices are available in tamper-proof versions. Installation becomes more efficient due to the lower wiring expense and the quick and easy snap-on mounting of the signal transformers.

**Dimensions**

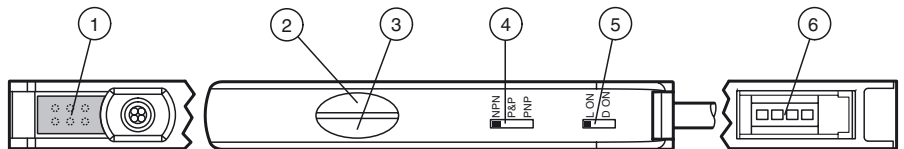


**Electrical connection**



External input I/O at UB+ or 0V:  
Mechanical L/D switch inactive  
External input I/O open:  
All mechanical switches active  
The circuitry for the external input applies to the master and all connected slave modules  
○ = Light on  
● = Dark on

**Indicators/operating means**



1 Bridge contacts	3 Operating indicator, green	5 Light/dark changeover switch
2 Function display, yellow	4 Changeover switch output	6 Sensor connection

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**Technical data****General specifications**

Detection range	depends on the sensor being used
Gang mounting	maximum 20 units

**Functional safety related parameters**

MTTF <sub>d</sub>	1540 a
Mission Time (T <sub>M</sub> )	20 a
Diagnostic Coverage (DC)	0 %

**Indicators/operating means**

Operating display	LED green, statically lit Power on
Function display	LED yellow: lights when object is detected
Controls	output function setting : PNP , NPN or Push-pull (4 in 1) output
Controls	Light/Dark switch

**Electrical specifications**

Operating voltage	U <sub>B</sub>	10 ... 30 V DC
Ripple		10 %
No-load supply current	I <sub>0</sub>	20 mA

**Input**

Number/Type	Connection 1 Sensor head: Series ML10
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**Output**

Switching type	light/dark on, switchable	
Signal output	Either 1 PNP, short-circuit protected, reverse polarity protected, open collector or 1 NPN short-circuit protected, reverse polarity protected, open collector or 1 push-pull (4 in 1) output, short-circuit protected, reverse polarity protected	
Switching voltage	max. 30 V DC	
Switching current	max. 100 mA	
Voltage drop	U <sub>d</sub>	< 2.5 V
Switching frequency	f	1000 Hz
Response time		500 μs

**Ambient conditions**

Ambient temperature	-10 ... 55 °C (14 ... 131 °F)
Storage temperature	-20 ... 70 °C (-4 ... 158 °F)

**Mechanical specifications**

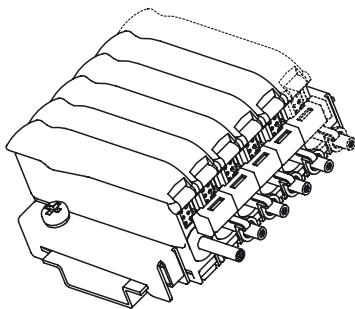
Core cross-section	4 x 0.14 mm <sup>2</sup>
Protection degree	IP50 , for installation in a control cabinet or a housing with a degree of protection of at least IP54
Connection	2 m fixed cable , 4 x 0.14 mm <sup>2</sup>
Material	
Housing	PC
Cable	PVC
Installation	Standard rail acc. to DIN EN 60715 , 35 mm DIN rail
Mass	50 g

**Compliance with standards and directives**

Standard conformity	
Product standard	EN 60947-5-2:2007 IEC 60947-5-2:2007
Shock and impact resistance	IEC / EN 60068. half-sine, 40 g in each X, Y and Z directions
Vibration resistance	IEC / EN 60068-2-6. Sinus. 10 -2000 Hz, 10 g in each X, Y and Z directions

**Approvals and certificates**

UL approval	cULus Listed, Class 2 Power Source, Type 1 enclosure
CCC approval	Products with a maximum operating voltage of ≤36 V do not bear a CCC marking because they do not require approval.

**Modular construction**

The slave modules can be connected to the master module using the bridge contacts supplied on the slave modules.

When connecting several modules using bridge contacts, please ensure that the black blind bridge on the bridge contacts are cut off. The outer blind pins must be retained only on the two outer bridge contacts; this is to seal off the pins that are not in use.

Master modules must not be connected to one another via the bridge contacts.

The power applied to the external input on the master module supplies the master module and all connected slave modules.

A master module is required to operate a slave module.

**Information regarding current consumption:**

- a) Maximum of 20 units (19 slaves per master); maximum current consumption = 20 mA per

**Accessories****ML10-8-H-3,2-IR/115e****Bracket SU**

Mounting bracket for DIN rail

Other suitable accessories can be found at [www.pepperl-fuchs.com](http://www.pepperl-fuchs.com)



unit.

- b) Maximum of 10 units (9 slaves per master); maximum current consumption = 70 mA per unit.
- c) Maximum of 8 units (7 slaves per master); maximum current consumption = 110 mA per unit.

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Subject to modifications without notice

Pepperl+Fuchs Group  
www.pepperl-fuchs.com

USA: +1 330 486 0001  
fa-info@us.pepperl-fuchs.com

Germany: +49 621 776-4411  
fa-info@pepperl-fuchs.com

Copyright Pepperl+Fuchs  
Singapore: +65 6779 9091  
fa-info@sg.pepperl-fuchs.com