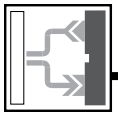
SU19 Series
Fiber Optic Sensors

- Illuminated 4-digit percentage display
- Five selectable detection modes
- Four teach modes
- Adjustable timer functions
- Gang mounting for up to 18 amplifiers

FOUR OUTPUTS™ 4-IN-1 ONE SENSOR

4 output options from 1 sensor:
NPN normally open, NPN normally closed,
PNP normally open, or PNP normally closed



Fiber Optic Diffuse and Thru-Beam Mode

See page 2

Features:

- Cross-talk protection in standard, high resolution, auto, and glass modes
- Fast 16 kHz switching frequency

Sensing Range: Determined by fiber optic cable

Output: 4-in-1

See pages 2-6 for SU19 Series specifications, wiring and dimensions.

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PEPPERL+FUCHS
SENSING YOUR NEEDS

Fiber Optic Diffuse and Thru-Beam Mode

Specifications		Main Unit	Expansion Unit
SENSING RANGE		**Determined by cable***	**Determined by cable***
SENSITIVITY ADJUSTMENT		Yes (Pushbutton)	Yes (Pushbutton)
MODEL NUMBER(S)		**SU19/110/115/123**	**SU19.1/110/115**
OUTPUT 4 IN 1 FOUR OUTPUTS ONE SENSOR	*/110*	4-in-1*	4-in-1*
LOAD CURRENT		100 mA max.	100 mA max.
VOLTAGE DROP		≤ 2.0 VDC	≤ 2.0 VDC
SHORT CIRCUIT AND OVERLOAD PROTECTION		Yes	Yes
REVERSE POLARITY PROTECTION		Yes	Yes
SUPPLY VOLTAGE		10-30 VDC	10-30 VDC
VOLTAGE RIPPLE		10%	10%
LED(s)		Yes (2)	Yes (2)
CURRENT CONSUMPTION		≤ 30 mA	≤ 30 mA
OPERATING MODE		Light on/dark on	Light on/dark on
RESPONSE TIME (by Sensing Type)	*Standard*	160 µs	160 µs
	High Speed	30 µs	30 µs
	Automatic	160 µs to 2 ms	160 µs to 2 ms
	High Resolution	2 ms	2 ms
	Glass	2 ms	2 ms
READINESS DELAY		≤ 300 ms	≤ 300 ms
TIMER FUNCTION		On Delay, Off Delay, One Shot	On Delay, Off Delay, One Shot
SWITCHING FREQUENCY (by Sensing Type)	*Standard*	3 kHz	3 kHz
	High Speed	16 kHz	16 kHz
	Automatic	250 Hz to 3 kHz	250 Hz to 3 kHz
	High Resolution	250 Hz	250 Hz
	Glass	250 Hz	250 Hz
STANDARDS		EN 60947-5-2	EN 60947-5-2
PROTECTION (IEC)		IP50	IP50
LIGHT SOURCE		Visible Red LED 660 nm	Visible Red LED 660 nm
AMBIENT LIGHT RESISTANCE		≤ 10,000 lux (sunlight) ≤ 5,000 lux (incandescent)	≤ 10,000 lux (sunlight) ≤ 5,000 lux (incandescent)
TEMPERATURE RANGE	*WORKING*	+14 ºF to +131 ºF	+14 ºF to +131 ºF
	STORAGE	-4 ºF to +158 ºF	-4 ºF to +158 ºF
HOUSING MATERIAL		PC	PC
WEIGHT		1.6 oz	1.6 oz
APPROVALS			
ELECTRICAL CONNECTION		 2-meter cable, PVC covered 4-conductor, #26 AWG	 2-meter cable, PVC covered 1-conductor, #24 AWG
ADDITIONAL DATA		***See pages 3-6***	

*NPN normally open, NPN normally closed, PNP normally open, or PNP normally closed

⚡ Stocked item
● Typical delivery 4 weeks or less
Consult factory for all other models

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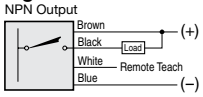
Wiring Diagrams

DC

Cable Connection

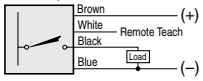
Light On/Dark On
NPN Output

/110/123



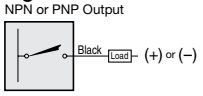
Light On/Dark On
PNP Output

/110/123



Expansion Unit:
Light On/Dark On
NPN or PNP Output

/110/123

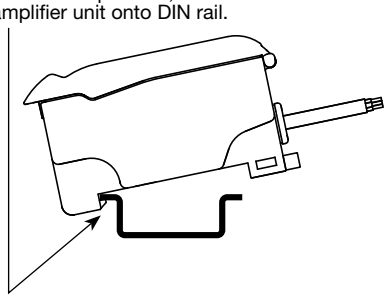


**See pages 761-796 for fiber optic lengths and specifications.*

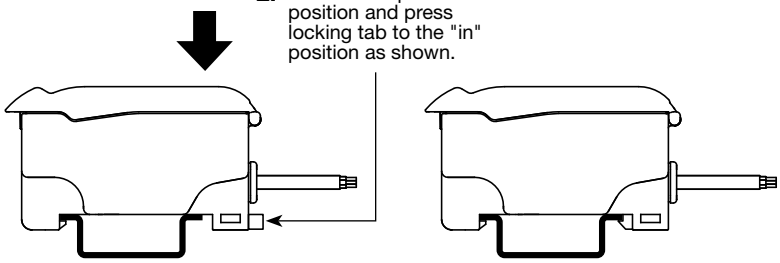
Mounting Instructions

The 35 mm DIN mounting track provides an easy method for mounting the SU19 Series. The track is available in 1-meter sections.

1. Making sure the locking tab is in the "out" position, latch the amplifier unit onto DIN rail.

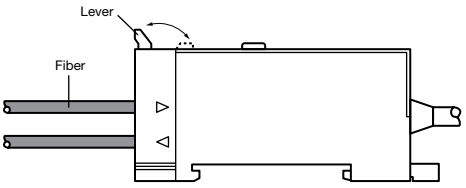


2. Hold the amplifier in position and press locking tab to the "in" position as shown.



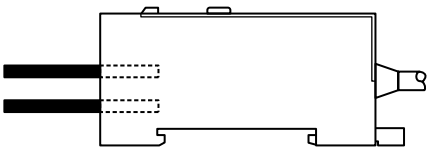
To remove the SU19 from the DIN mounting track, firmly push the amplifier forward until the locking tab releases.

Attaching Fiber Optic Cables to SU19 Series

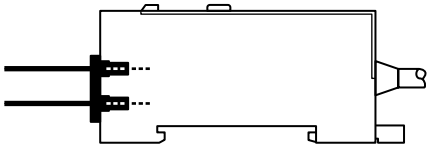


1. Unlock the lever on the top of the amplifier. The lever will spring open.
2. Insert a standard 2.2 mm diameter fiber optic cable into the housing until the cable goes no farther. For 1 mm diameter cables, insert fiber ends into the adapter and then slide the adapter into the sensor until it stops.
3. Turn the lever so that it locks. If the lever is not locked, the spring will push it open.

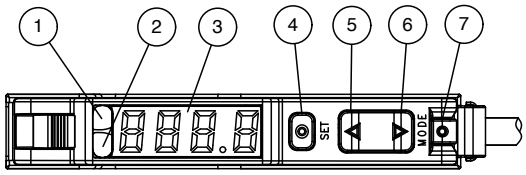
Standard Fiber (ø2.2 mm diameter)



Slim Fiber (ø1 mm diameter)



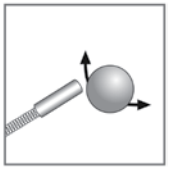
Programming



1	Operating display	green
2	Signal display	yellow
3	Display	
4	Button: Set	
5	Button: Up	
6	Button: Down	
7	Button: Mode	

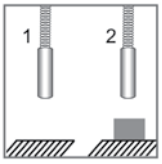
Teach Procedure

Dynamic Teach



1. Press and hold the Set button for > 2 seconds to enter Teach mode. Both LEDs will blink simultaneously.
2. Pass a moving target in front of the fiber.
3. Press and hold the Set button for < 2 seconds to end Teach mode. The display will indicate 100.0. Both LEDs will blink alternately to signal end of Teach mode.

2-Point Teach



1. Place target in front of fiber to teach first point.
2. Press and hold the Set button until '2 Pt' is displayed to enter 2-Point Teach mode. Both LEDs will blink simaltaneously.
3. Remove the target (to Teach background) or move the target further away.
4. Press and hold the Set button for < 2 seconds to Teach the second point and end Teach mode. The display will indicate 100.0. Both LEDs will blink alternately to signal end of Teach mode.

Maximum Teach:

1. Remove target from in front of fiber or cover the receiver (no light received).
2. Press and hold the Set button for > 2 seconds to enter Teach mode. Both LEDs will blink simultaneously.
3. Press and hold the Set button for > 2 seconds to end Teach mode. The display will indicate 100.0. Both LEDs will blink alternately to signal end of Teach mode.

Position Teach:

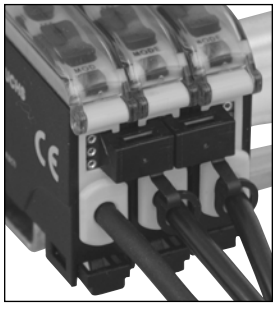
1. Place target in front of fiber.
2. Press and hold the Set button for > 2 seconds to enter Teach mode. Both LEDs will blink simultaneously.
3. Press and hold the Set button for > 2 seconds to end Teach mode. The display will indicate 100.0. Both LEDs will blink alternately to signal end of teach mode.

*Note: Please use 2-point teach for Glass detection mode.

Remote Teach (Dynamic and Position Teach):

1. Connect the remote teach wire (white) to V+ to activate remote Teach mode. Once in Teach mode, both LEDs will blink simultaneously fast followed by both LEDs blinking simultaneously slow.
2. Pass a moving target in front of the fiber.
3. Release or disconnect the remote teach wire (white) to end Teach mode. Both LEDs will blink alternately to signal end of Teach mode. Remote teach is complete.

Gang-mounting



1. Remove protective back cap of SU19 Main unit to expose rear expansion interface
2. Connect bridge connector to the rear interface on SU19.1 Expansion unit and SU19 Main unit
3. Set the Interference Function in the Menu to the setting that corresponds to the number of Main units + Expansion units connected

Programming

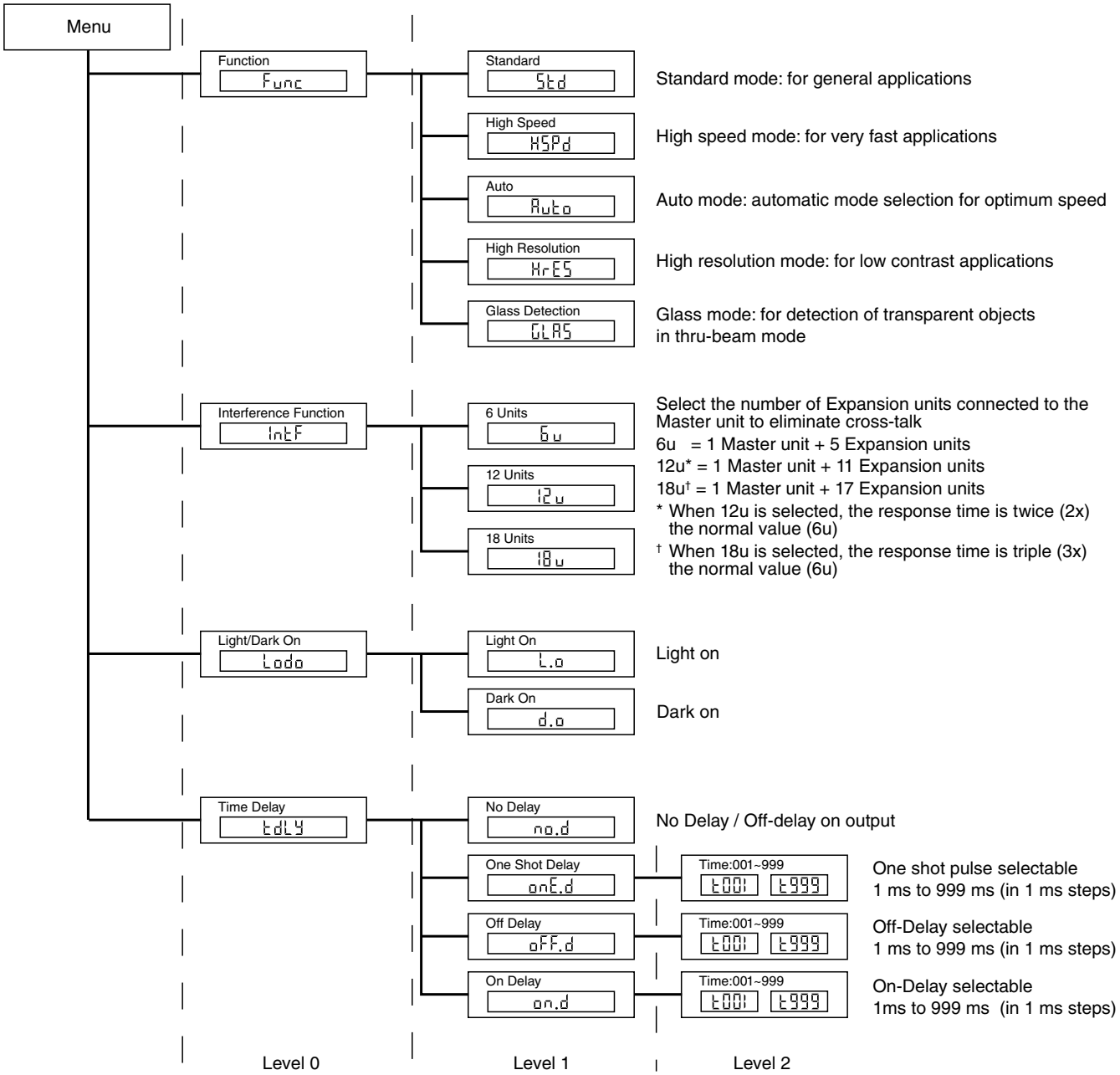
The menu structure has three levels:

Level 0: Press the "mode"-button. Select the required function via the "±" -button.
Press the "set"-button for confirmation.

Level 1: Select the required function via the "±" -button.
Press the "set"-button to confirm your selection.

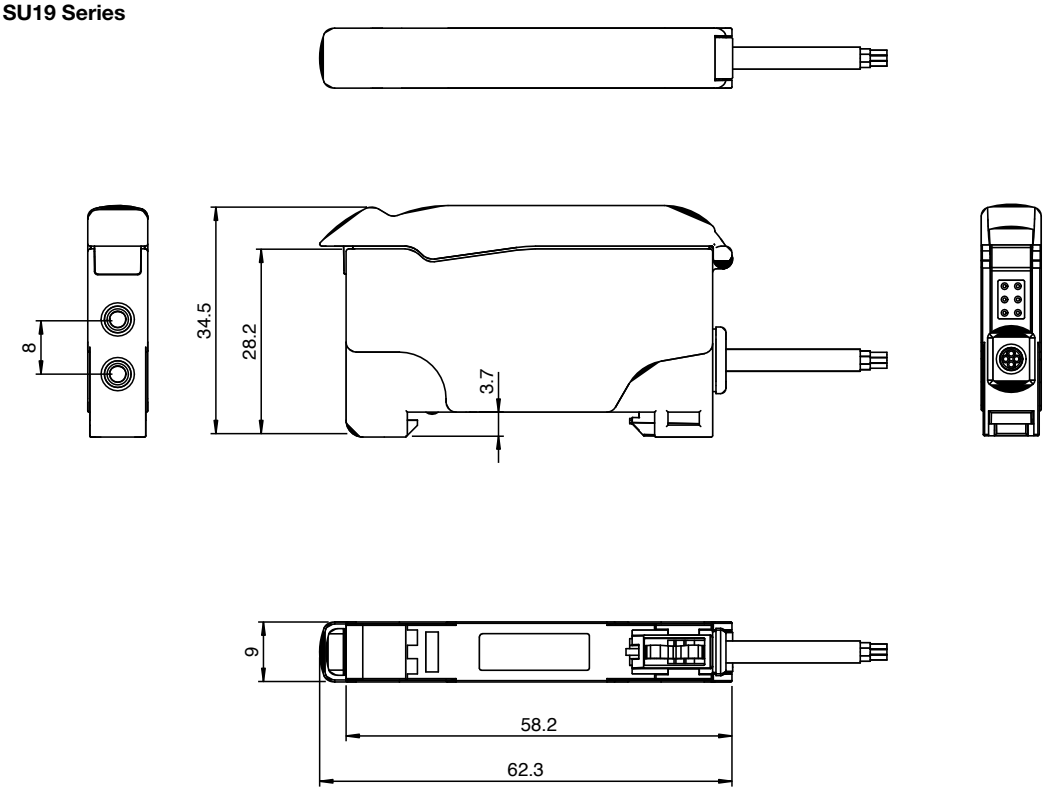
Level 2: Use the"±" - button to select the required time delay in 1ms steps.
Press the "set"-button to confirm your selection.

To exit the menu, press the "mode"-button.



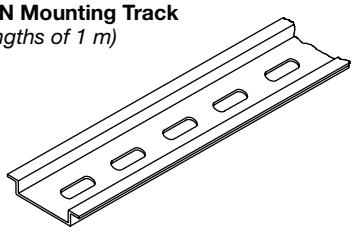
Dimensions (mm)

SU19 Series

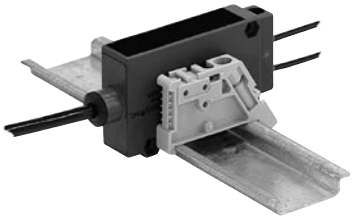


Accessories

35 mm DIN Mounting Track
(sold in lengths of 1 m)



DIN Track End Bracket Model EW35



See pages 761-796 for fiber optic lengths and specifications.

See pages 855-896 for additional accessories

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