SENSE WITH SIMPLICITY AND CONFIDENCE

SU18-16 POTENTIOMETER

POTENTIOMETER SENSITIVITY ADJUSTMENT
- Mechanical teach

LED INDICATOR
- Bright and large LEDs

DETECTION MODE SELECTION
- Normal, high speed, high resolution

TIMER MODE SELECTION
- Timer off, on delay, off delay

LO/DO SELECTION
- Light on, dark on

DIN RAIL LOCK
- Easy installation and quick release on the DIN rail

SU18 PUSHBUTTON

FIBER LOCK KEY
- Lock fibers to the amplifier

PUSHBUTTON PROGRAMMING
- Auto teach

SU19 MAIN AND EXPANSION

LED INDICATOR
- Status green and yellow LEDs

DIAGNOSTIC DISPLAY
- 4-digit display

SET KEY
- Make selection, teach-in

UP AND DOWN KEY
- Browse menu, fine-tuning of sensitivity and time delay

MODE KEY
- Enter or exit maintenance mode (for menu selection)



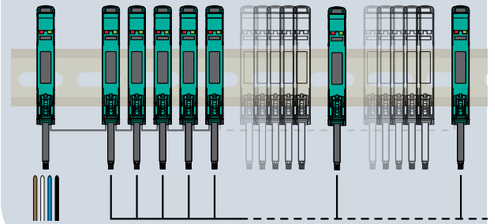
4 FOUR OUTPUTS™ IN 1 ONE SENSOR

ADVANTAGE OF GANG-MOUNTING METHOD

UP TO **70%** LESS WIRES

Traditional wiring: **18** Main Units x **4** Wires per Unit = **72** Total Wires

Main and expansion wiring: **4** Wires (1 main unit) + **17** 17 Expansion Units (1 wire each) = **21** Total Wires



For expansion unit amplifier, JUST connect one wire!



MAIN UNIT–EXPANSION UNIT INTERFACE
- Gang-mounting of up to 18 amplifiers
- Cross-talk protection
- Lower installation costs

Percentage display

The percentage display is easily interpreted. A single decimal point gives it the added resolution. Interpretation is easy, and set-up time is minimized.

100.0% = Switching threshold

300.0% = Triple the light needed to switch the output

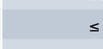
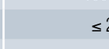
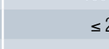
999.9% = Saturation

COMPARISON

	SU18-16 Potentiometer	SU18 Pushbutton	SU19 Main and Expansion
Indication	Green and yellow LEDs	Green and yellow LEDs	Green and yellow LEDs
4–Digit Display	No	No	Yes
Potentiometer Adjustment	■		
Pushbutton Programming		■	■
Clear Object Detection			■
Remote-Teach Input		■	■
Quick Disconnect Models	■	■	
Switching Frequency	6 kHz	6 kHz	16 kHz
Gang-Mounting			■

TECHNICAL DATA

SPECIFICATIONS

	Potentiometer Adjustable		Pushbutton Programming	
Model Number(s)	**SU18-16/40a/110/115/126a**	**SU18-16/40a/110/115a/126a**	**SU18-40a/110/115/123**	**SU18-40a/110/115a/123**
Sensing Range	Determined by cable	Determined by cable	Determined by cable	Determined by cable
Sensitivity Adjustment	Yes	Yes	Yes	Yes
Output 4-in-1 FOUR OUTPUTS™ ONE SENSOR **/110**	4-in-1*	4-in-1*	4-in-1*	4-in-1*
Load Current	100 mA max.	100 mA max.	100 mA max.	100 mA max.
Voltage Drop	≤ 2.0 VDC	≤ 2.0 VDC	≤ 2.0 VDC	≤ 2.0 VDC
Short Circuit and Overload Protection	Yes	Yes	Yes	Yes
Reverse Polarity Protection	Yes	Yes	Yes	Yes
Supply Voltage	10-30 VDC	10-30 VDC	10-30 VDC	10-30 VDC
Voltage Ripple	10%	10%	10%	10%
LED(s)	Yes (2)	Yes (2)	Yes (2)	Yes (2)
Current Consumption	≤ 30 mA	≤ 30 mA	≤ 30 mA	≤ 30 mA
Operating Mode	Light on/dark on	Light on/dark on	Light on/dark on	Light on/dark on
Response Time *high resolution*	2 ms	2 ms	2 ms	2 ms
Response Time *standard*	160 µs	160 µs	160 µs	160 µs
Response Time *high speed*	80 µs	80 µs	80 µs	80 µs
Readiness Delay	≤ 300 ms	≤ 300 ms	≤ 300 ms	≤ 300 ms
Timer Function	On delay, off delay	On delay, off delay	On delay, off delay	On delay, off delay
Switching Frequency	6 kHz	6 kHz	6 kHz	6 kHz
Protection (IEC)	IP50	IP50	IP50	IP50
Light Source	Visible red LED 660 nm	Visible red LED 660 nm	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)	≤ 10,000 lux (sunlight) ≤ 5,000 lux (incandescent)	≤ 10,000 lux (sunlight) ≤ 5,000 lux (incandescent)
Temp. Range *working*	14 °F to 131 °F	14 °F to 131 °F	14 °F to 131 °F	14 °F to 131 °F
Temp. Range *storage*	-4 °F to +158 °F	-4 °F to +158 °F	-4 °F to +158 °F	-4 °F to +158 °F
Housing Material	Polycarbonate	Polycarbonate	Polycarbonate	Polycarbonate
Weight	1.6 oz	0.9 oz	1.6 oz	0.9 oz
Standards	EN 60947-5-2	EN 60947-5-2	EN 60947-5-2	EN 60947-5-2
Approvals	CE cULus	CE cULus	CE cULus	CE cULus
Electrical Connection	 2 m cable, PVC covered 4-conductor, #26 AWG	 200 mm pigtail, PVC covered, quick disconnect	 2 m cable, PVC covered 4-conductor, #26 AWG	 200 mm pigtail, PVC covered, quick disconnect

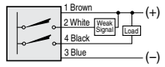
* NPN normally open, NPN normally closed, PNP normally open, PNP normally closed

	Main Unit	Expansion Unit
Model Number(s)	**SU19/110/115/123**	**SU19.1/110/115**
Sensing Range	Determined by cable	Determined by cable
Sensitivity Adjustment	Yes	Yes
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 *high resolution*	2 ms	2 ms
Response Time *standard*	160 µs	160 µs
Response Time *high speed*	30 µs	30 µs
Readiness Delay	≤ 300 ms	≤ 300 ms
Timer Function	On delay, off delay, one shot	On delay, off delay, one shot
Switching Frequency	16 kHz	16 kHz
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)
Temp. Range *working*	14 °F to 131 °F	14 °F to 131 °F
Temp. Range *storage*	-4 °F to +158 °F	-4 °F to +158 °F
Housing Material	Polycarbonate	Polycarbonate
Weight	1.6 oz	1.6 oz
Standards	EN 60947-5-2	EN 60947-5-2
Approvals	CE cULus	CE cULus
Electrical Connection	 2 m cable, PVC covered 4-conductor, #26 AWG	 2 m cable, PVC covered 1-conductor, #24 AWG

ELECTRICAL CONNECTION (SU18 SERIES)

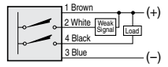
Cable Connection

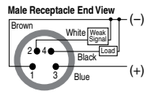
Light On/Dark On
NPN Output
/110/126a



Pigtail Connection

Light On/Dark On
NPN Output
/110/126a

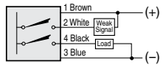




Weak Signal Output: Output is on for insufficient gain.

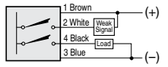
Cable Connection

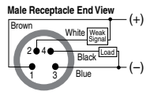
Light On/Dark On
PNP Output
/110/123



Pigtail Connection

Light On/Dark On
PNP Output
/110/123



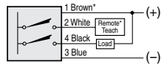


Weak Signal Output: Output is on for insufficient gain.

ELECTRICAL CONNECTION (SU19 SERIES)

Cable Connection

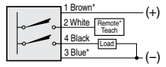
Light On/Dark On
NPN Output
/110/123



* Power to expansion unit is supplied through the main unit. Remote teach only availble on main unit

Cable Connection

Light On/Dark On
PNP Output
/110/123



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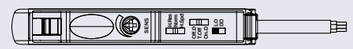
Potentiometer version

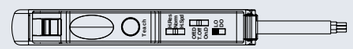
SU18-16/40a/110/115/126a
SU18-16/40a/110/115a/126a



Top view

Pushbutton version

SU18-40a/110/115/123
SU18-40a/110/115a/123



Top view

Diagnostic display version

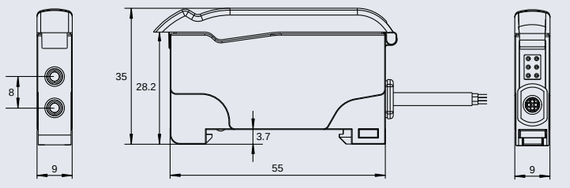
SU19/110/115/123
SU19.1/110/115

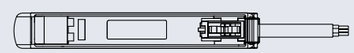


Top view

Dimensions (mm)

Front view **Side view** **Back view**





Bottom view