1-800-633-0405

Achieve™

Inductive Proximity Sensors
PAK Series

Tubular M18 (18mm) – DC

PAK-AP-1A

PAK-AP-2H

Features

- Nickel-plated brass construction
- Axial cable or M12 quick-disconnect models
- Complete overload protection
- IP67 rated
- LED status indicator
- Mounting hardware included
- Lifetime warranty

NEED CABLES?
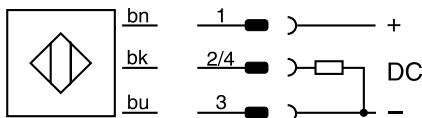
c(UL)us   CE   LIMITED LIFETIME WARRANTY

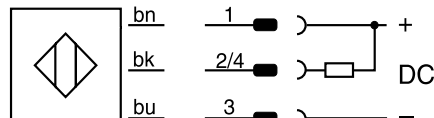| Tubular M18 DC Inductive Proximity Sensors PAK Series Selection Chart									
Part Number	Price	Sensing Distance mm [in]	Mounting	Output State	Logic	Connection	Weight g [oz]	Body Size mm [in]	Drawing Link
PAK-AP-1A	$63ee:	5mm [0.19]	Flush	N.O.	PNP	PVC, 3-wire pigtail 2m [6.5 ft], 22AWG	116 [4.09]	50 [1.96]	PDF
PAK-AP-1H	$;63ef:					4-pin M12 quick-disconnect [purchase cable separately]	51 [1.79]	63.5 [2.5]	PDF
PAK-AN-1H	$63eg:				NPN				PDF
PAK-AP-2A	$63eh:	8mm [0.31]	Non-flush	N.O.	PNP	PVC, 3-wire pigtail 2m [6.5 ft], 22AWG	112 [3.95]	50 [1.96]	PDF
PAK-AP-2H	$-63ei:			N.O.		4-pin M12 quick-disconnect [purchase cable separately]	49 [1.72]	63.5 [2.5]	PDF
PAK-AN-2H	$-63ej:			N.O.	NPN				PDF

Wiring Diagrams

PNP Cable

bn — 1 — +
bk — 2/4 — DC
bu — 3 — −

NPN Cable

bn — 1 — +
bk — 2/4 — DC
bu — 3 — −

M12 Connector

3
4   2
1
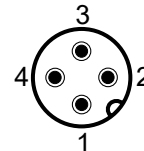
Achieve™ Inductive Proximity Sensors PAK Series Specifications

Tubular M18 DC Inductive Proximity Sensors PAK Series Specifications		
Mounting Type	Flush	Non-Flush
Rated Operating Distance	5mm [0.19 in]	8mm [0.31 in]
Assured Operating Distance	$\leq (0.81 \times S_n)$ mm	
Repeat Accuracy	0.25 mm	0.4 mm
Hysteresis	$\leq 20\%\ S_r$	
Temperature Drift	$\leq 10\%\ S_r$	
Material Correction Factors	See the Material Influence Table	
Output Type	PNP or NPN, N.O.	
Operating Voltage	10 to 30 VDC	
Residual Ripple	$\leq 20\%\ U_B$	
Output Current	≤ 200mA	
Output Voltage Drop	≤ 2.0 V @ 200mA	
Power Consumption (no-load)	≤ 10 mA	
Residual Current	≤ 0.1 mA	
Switching Frequency	2kHz	2kHz
Short-Circuit Protection	Yes	
Reverse Polarity Protection	Yes	
Operating Temperature	-25 to 70°C [-13 to 158°F]	
Protection Degree (DIN 40050)	IP67	
Indication/Switch Status	LED, Yellow Sensing state (0 ≤ s ≤ Sr)	
Mounting	Embeddable	Non-embeddable
Housing Material	Nickel-plated brass	
Sensing Face Material	PBTP (polybutylene terephthalate)	
Shock/Vibration	IEC 60947-5-2	
Agency Approvals	cULus File E328811, CE	

To obtain the most current agency approval information, see the Agency Compliance & Certifications section on the specific part number's web page.

Accessories for 18mm Sensors

Axial Mounting Bracket

Axial mounting bracket available in zinc plated steel or 316L stainless steel. Has two mounting holes (use 4mm screws) and allows for rotation of an optical axis for right-beam-angle-adapter sensors. Hexagonal nuts not included. For use with 18mm sensors.

ST18A

Accessories for 18mm Sensors			
Part Number	Price	Description	Weight lb [g]
ST18A	$;97,:	Micro Detectors mounting bracket, axial, zinc plated steel. For use with 18mm sensors.	0.06 [27.2]
ST18A7W	$980:	Micro Detectors mounting bracket, axial, 316L stainless steel. For use with 18mm sensors.	0.06 [27.2]

Dimensions

mm [inches]

Right-angle Mounting Bracket

Right-angle mounting bracket for use with 18mm sensors. Has two mounting holes (use 4mm screws) and allows the rotation of an optical axis for axial sensors. Hexagonal nuts not included.

ST18C

Accessories for 18mm Sensors			
Part Number	Price	Description	Weight lb [g]
ST18C	$981:	Micro Detectors mounting bracket, right-angle, zinc plated steel. For use with 18mm sensors.	0.06 [27.2]
ST18C7W	$982:	Micro Detectors mounting bracket, right-angle, 316L stainless steel. For use with 18mm sensors.	0.06 [27.2]

Dimensions

mm [inches]

Accessories for 18mm Sensors

Right-angle Mounting Brackets

Mounting bracket, right-angle, fixed insertion stop adjustment, plastic. For use with 18mm sensors. Available with or without fixed insertion stop.

Accessories for 18mm Sensors				
Part Number	Price	Description	Drawing Link	Weight lb [g]
OPT2104	$;-1nlt:	Wenglor mounting bracket, right-angle, fixed insertion stop adjustment, plastic. For use with 18mm sensors.	PDF	0.06 [27.2]
OPT2105	$-1nlu:	Wenglor mounting bracket, right-angle, plastic. For use with 18mm sensors.	PDF	0.06 [27.2]

OPT2104, OPT2105

Right-angle Swivel Mounting Systems

Mounting bracket, right-angle swivel, 360 degree vertical and horizontal adjustment, 12mm rod mount. For use with 18mm sensors. Available in all 304 stainless steel or with an aluminum head and a stainless steel mounting plate.

Accessories for 18mm Sensors						
Part Number	Price	Description	Mounting Head	Mounting Plate	Drawing Link	Weight lb [g]
OPT2116	$-1nl#:	Wenglor mounting bracket, right-angle swivel, 360 degree vertical and horizontal adjustment, aluminum, 12mm rod mount. For use with 18mm sensors.	Aluminum	304 Stainless steel	PDF	0.15 [68.0]
OPT2117	$;-1nl!:	Wenglor mounting bracket, right-angle swivel, 360 degree vertical and horizontal adjustment, 304 stainless steel, 12mm rod mount. For use with 18mm sensors.	304 Stainless steel	304 Stainless steel	PDF	0.28 [127.0]

Note: 304 Stainless steel mounting rods sold separately: OPT2109 (200mm [7.87 in] length), OPT2110 (300mm [11.81 in] length), and OPT2111 (500mm [19.69 in] length).

OPT2116, OPT2117