



DW Series 18mm Triple Sensing Proximity Sensors

M18 (18mm) Chrome Plated Brass – DC



- 18mm threaded triple distance proximity sensor
- 12mm and 20mm sensing
- Complete overload protection
- IP67 rated
- Two M18 lock nuts included
- Chrome plated brass construction
- LED status indicator
- Lifetime warranty



DW Series 18mm Triple Distance Inductive Proximity Selection Chart

Part Number	Price	Size	Sensing Range	Mounting	Output State	Logic	Connection	Wiring	Dimensions
Triple Distance Semi-flush									
<u>DW-AD-501-M18</u>	\$66.00	M18	12mm [0.472 in]	Semi-flush	N.O.	NPN	2m [6.5 ft] axial cable	Diagram 1	Figure 1
<u>DW-AD-503-M18</u>	\$66.00				N.O.	PNP	2m [6.5 ft] axial cable	Diagram 2	Figure 1
<u>DW-AS-501-M18-002</u>	\$66.00				N.O.	NPN	M12 quick-disconnect	Diagram 3	Figure 3
<u>DW-AS-503-M18-002</u>	\$66.00				N.O.	PNP	M12 quick-disconnect	Diagram 4	Figure 3
<u>DW-AD-504-M18</u>	\$66.00				N.C.	PNP	2m [6.5 ft] axial cable	Diagram 2	Figure 1
<u>DW-AS-502-M18-002</u>	\$66.00				N.C.	NPN	M12 quick-disconnect	Diagram 3	Figure 3
<u>DW-AS-504-M18-002</u>	\$66.00				N.C.	PNP	M12 quick-disconnect	Diagram 4	Figure 3
Triple Distance Non-flush									
<u>DW-AD-511-M18</u>	\$71.00	M18	20mm [0.787 in]	Non-flush	N.O.	NPN	2m [6.5 ft] axial cable	Diagram 1	Figure 2
<u>DW-AD-513-M18</u>	\$71.00				N.O.	PNP	2m [6.5 ft] axial cable	Diagram 2	Figure 2
<u>DW-AS-511-M18-002</u>	\$71.00				N.O.	NPN	M12 quick-disconnect	Diagram 3	Figure 4
<u>DW-AS-513-M18-002</u>	\$71.00				N.O.	PNP	M12 quick-disconnect	Diagram 4	Figure 4
<u>DW-AD-514-M18</u>	\$71.00				N.C.	PNP	2m [6.5 ft] axial cable	Diagram 2	Figure 2
<u>DW-AS-512-M18-002</u>	\$71.00				N.C.	NPN	M12 quick-disconnect	Diagram 3	Figure 4
<u>DW-AS-514-M18-002</u>	\$71.00				N.C.	PNP	M12 quick-disconnect	Diagram 4	Figure 4

Wiring Diagrams

Diagram 1

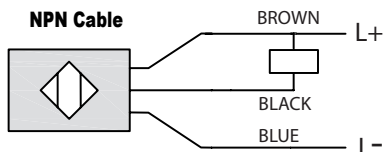
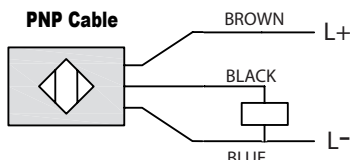


Diagram 2



Connectors

M12 connector

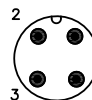


Diagram 3

NPN Connector

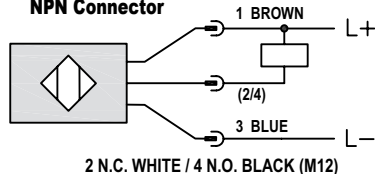
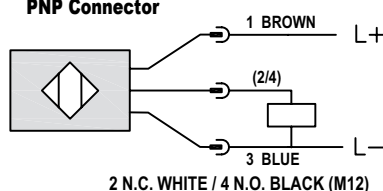


Diagram 4

PNP Connector



DW Series 18mm Triple Sensing Proximity Sensors

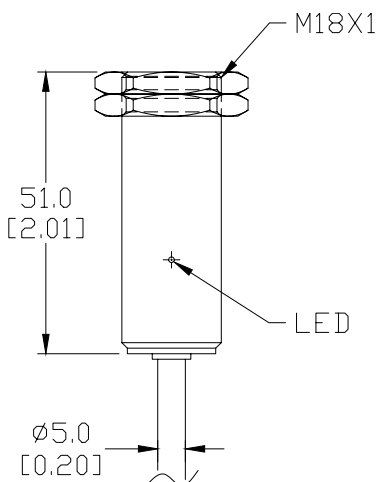
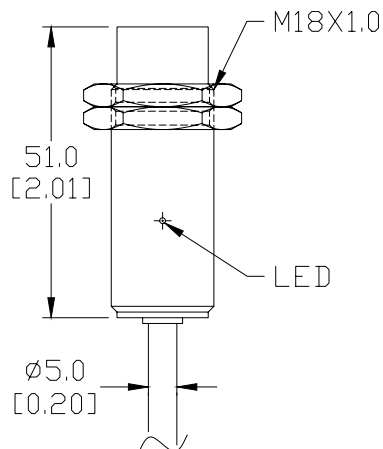
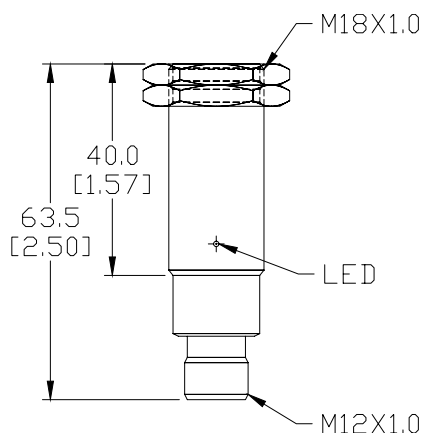
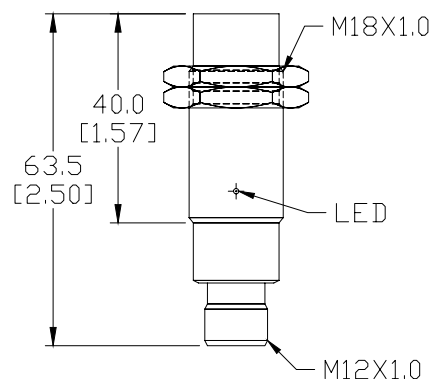
DW Series 18mm Triple Distance Inductive Proximity Specifications		
Specification	DW-Ax-50x-M18	DW-Ax-51x-M18
Mounting Type	Semi-flush	Non-flush
Nominal Sensing Distance	12mm [0.472 in]	20mm [0.787 in]
Operating Distance	NA	
Material Correction Factors	See the Material influence table	
Output Type	NPN or PNP, N.O. or N.C.	
Operating Voltage	10 to 30 VDC	
No-load Supply Current	≤ 10mA	
Operating (Load) Current	≤ 200mA	
Off-state (Leakage) Current	≤ 0.1 mA	
Voltage Drop	≤ 2 V	
Switching Frequency	≤ 600Hz	≤ 500Hz
Differential Travel (% of Nominal Distance)	≤ 10%	
Repeat Accuracy	0.60 mm	1.0 mm
Ripple	≤ 20%	
Time Delay Before Availability (tv)	≤ 40ms	≤ 50ms
Reverse Polarity Protection	Yes	
Short-Circuit Protection	Yes	
Operating Temperature	-25 to 70°C [-13 to 158°F]	
Protection Degree (DIN 40050)	IP67	
Indication/Switch Status	Yellow LED	
Housing Material	Chrome plated brass	
Sensing Face Material	PBT [Polybutylene terephthalate]	
Shock/Vibration	IEC 60947-5-2/7.4	
Tightening Torque	—	
Weight	130g [4.59 oz], 56g [1.98 oz]	95.2 g [3.36 oz], 31.8 g [1.12 oz]
Connection	2m [6.5 ft] cable, M12 connection	
IO-Link	—	
Agency Approvals	CE, cULus E239373	

Note: To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page.

DW Series 18mm Triple Sensing Proximity Sensors

Dimensions

mm [inches]

Figure 1**Figure 2****Figure 3****Figure 4**See our website www.AutomationDirect.com for complete engineering drawings.

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-adaptor sensors. Hexagonal nuts not included. For use with 18mm sensors.

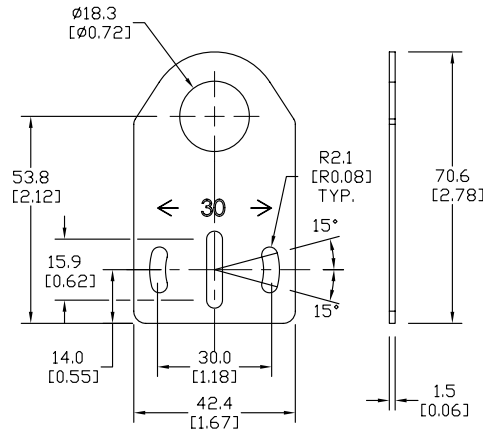
Accessories for 18mm Sensors			
Part Number	Price	Description	Weight lb [g]
<u>ST18A</u>	\$2.00	Micro Detectors mounting bracket, axial, zinc plated steel. For use with 18mm sensors.	0.06 [27.2]
<u>ST18A7W</u>	\$7.25	Micro Detectors mounting bracket, axial, 316L stainless steel. For use with 18mm sensors.	0.06 [27.2]



ST18A

Dimensions

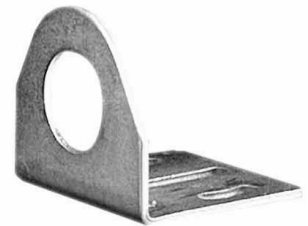
mm [inches]



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.

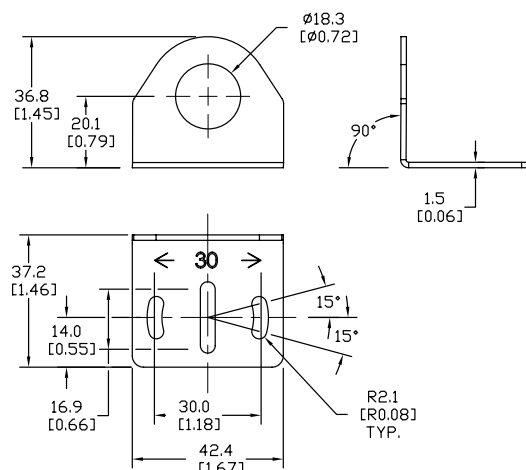
Accessories for 18mm Sensors			
Part Number	Price	Description	Weight lb [g]
<u>ST18C</u>	\$2.00	Micro Detectors mounting bracket, right-angle, zinc plated steel. For use with 18mm sensors.	0.06 [27.2]
<u>ST18C7W</u>	\$7.25	Micro Detectors mounting bracket, right-angle, 316L stainless steel. For use with 18mm sensors.	0.06 [27.2]



ST18C

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	\$10.50	Wenglor mounting bracket, right-angle, fixed insertion stop adjustment, plastic. For use with 18mm sensors.	PDF	0.06 [27.2]
OPT2105	\$10.50	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	\$11.50	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	\$21.00	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]



[OPT2116](#), [OPT2117](#)

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).

Mounting Rods and Brackets

Mounting Rods

304 Stainless steel rods for mounting swivel brackets [OPT2112](#) - [OPT2127](#). Available in three lengths: 200mm, 300mm, and 500mm. 12mm diameter.

Mounting Rods for OPT2112-2127 Swivel Mounting Brackets				
Part Number	Price	Description	Drawing Link	Weight lb (g)
OPT2109	\$13.00	Wenglor mounting rod, 12mm diameter, 200mm length, 304 stainless steel.	PDF	0.41 [185.97]
OPT2110	\$16.00	Wenglor mounting rod, 12mm diameter, 300mm length, 304 stainless steel.	PDF	0.60 [272.16]
OPT2111	\$21.00	Wenglor mounting rod, 12mm diameter, 500mm length, 304 stainless steel.	PDF	0.98 [444.52]



Right-angle Mounting Bracket

Mounting bracket, right-angle, nickel-plated brass. For use with 12mm mounting rods [OPT2109](#), [OPT2110](#) & [OPT2111](#).

Right-angle Mounting Brackets for 12mm Sensors				
Part Number	Price	Description	Drawing Link	Weight lb [g]
OPT2108	\$16.00	Wenglor mounting bracket, right-angle, nickel-plated brass. For use with 12mm mounting rods OPT2109, OPT2110 & OPT2111.	PDF	0.07 [31.8]

