



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									
DW-AD-501-M18	\$66.00	M18	12mm [0.472 in]	Semi-flush	N.O.	NPN	2m [6.5 ft] axial cable	Diagram 1	Figure 1
DW-AD-503-M18	\$66.00				N.O.	PNP	2m [6.5 ft] axial cable	Diagram 2	Figure 1
DW-AS-501-M18-002	\$66.00				N.O.	NPN	M12 quick-disconnect	Diagram 3	Figure 3
DW-AS-503-M18-002	\$66.00				N.O.	PNP	M12 quick-disconnect	Diagram 4	Figure 3
DW-AD-504-M18	\$66.00				N.C.	PNP	2m [6.5 ft] axial cable	Diagram 2	Figure 1
DW-AS-502-M18-002	\$66.00				N.C.	NPN	M12 quick-disconnect	Diagram 3	Figure 3
DW-AS-504-M18-002	\$66.00				N.C.	PNP	M12 quick-disconnect	Diagram 4	Figure 3
Triple Distance Non-flush									
DW-AD-511-M18	\$71.00	M18	20mm [0.787 in]	Non-flush	N.O.	NPN	2m [6.5 ft] axial cable	Diagram 1	Figure 2
DW-AD-513-M18	\$71.00				N.O.	PNP	2m [6.5 ft] axial cable	Diagram 2	Figure 2
DW-AS-511-M18-002	\$71.00				N.O.	NPN	M12 quick-disconnect	Diagram 3	Figure 4
DW-AS-513-M18-002	\$71.00				N.O.	PNP	M12 quick-disconnect	Diagram 4	Figure 4
DW-AD-514-M18	\$71.00				N.C.	PNP	2m [6.5 ft] axial cable	Diagram 2	Figure 2
DW-AS-512-M18-002	\$71.00				N.C.	NPN	M12 quick-disconnect	Diagram 3	Figure 4
DW-AS-514-M18-002	\$71.00				N.C.	PNP	M12 quick-disconnect	Diagram 4	Figure 4

Wiring Diagrams

Diagram 1

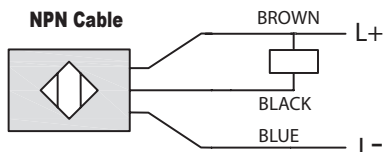
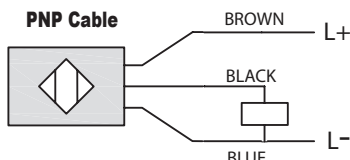


Diagram 2



Connectors

M12 connector

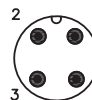


Diagram 3

NPN Connector

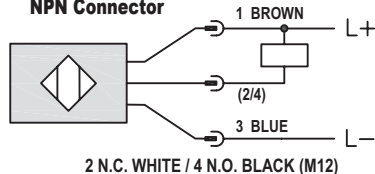
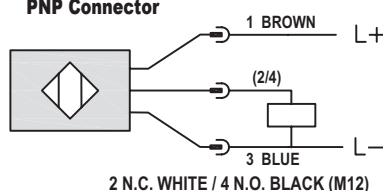


Diagram 4

PNP Connector



DW Series 18mm Triple Sensing Proximity Sensors

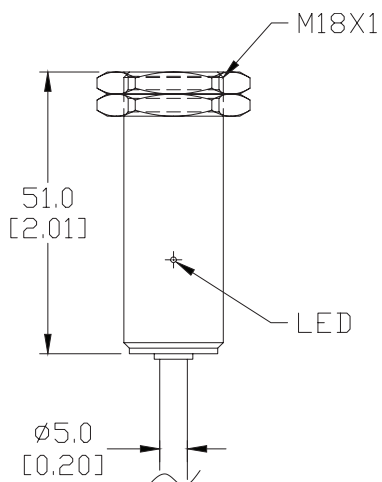
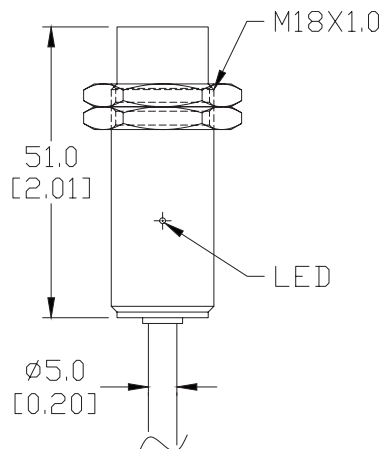
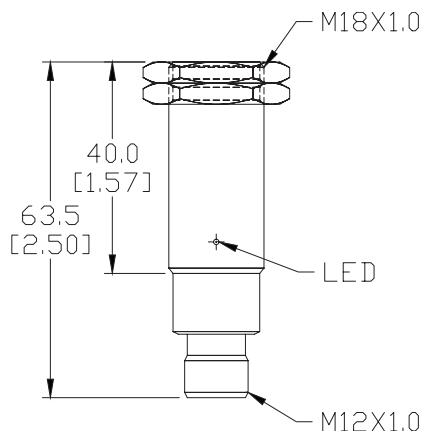
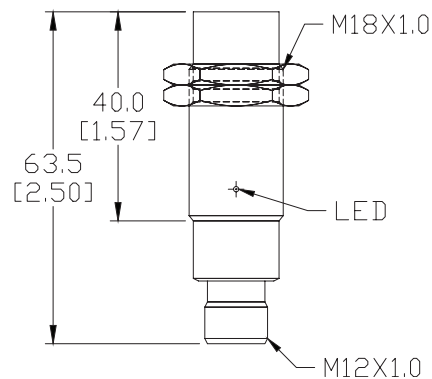
DW Series 18mm Triple Distance Inductive Proximity Specifications		
Specification	DW-Ax-50x-M18	DW-Ax-51x-M18
Mounting Type	Semi-flush	Non-flush
Nominal Sensing Distance	12mm [0.472 in]	20mm [0.787 in]
Operating Distance	NA	
Material Correction Factors	See the Material influence table	
Output Type	NPN 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.

Axial Mounting Bracket

ST18A

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]

Dimensions

Technical drawing of a mechanical part, likely a valve or actuator component, showing a cross-section and a side view. The cross-section features a central vertical shaft with a diameter of 30.0 [1.18] and a top flange with a diameter of 18.3 [0.72]. The shaft is surrounded by a housing with a top radius of R2.08 [R0.08] TYP. The side view shows a total height of 70.6 [2.78] and a base width of 42.4 [1.67]. Dimensions are given in millimeters with tolerances in brackets.

Right-angle Mounting Bracket

ST18C

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]

Dimensions

Technical drawing of a mechanical part, showing three views: front, top, and side.

Front View:

- Total height: 36.8 [1.45]
- Base height: 20.1 [0.79]
- Hole diameter: Ø18.3 [Ø0.72]

Top View:

- Total width: 42.4 [1.67]
- Central slot width: 30.0 [1.18]
- Side slot width: 16.9 [0.66]
- Slot depth: 14.0 [0.55]
- Slot radius: R2.1 [R0.08] TYP.
- Slot angle: 15°

Side View:

- Corner angle: 90°
- Thickness: 1.5 [0.06]

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]

