



# DW Series Chip Immune Proximity Sensors



**DW-AS-711-M18-967**

## Overview

The Contrinex DW series Chip Immune proximity sensors are immune to the following metal chips:

- Steel
- Aluminum
- Copper
- Stainless steel
- Brass
- Titanium

## M12, M18 and M30 – DC

- Chip immune (will not switch due to the presence of metallic chips on the face)
- IP68 and IP69K-rated
- Includes mounting hardware
- 304 stainless steel construction
- 10-30 VDC
- LED status indicator
- One-piece housing for harsh duty applications
- Lifetime warranty
- IO-Link v1.1 PNP models
- Purchase cable separately



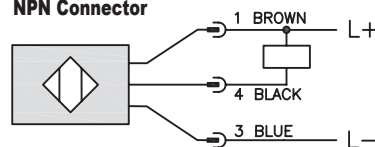
## DW Series Chip Immune Proximity Sensors

| Part Number                              | Price    | Size | Sensing Distance  | Mounting  | Output State | Logic | Connection                         | Wiring Diagram | Drawing Link               |
|------------------------------------------|----------|------|-------------------|-----------|--------------|-------|------------------------------------|----------------|----------------------------|
| <a href="#"><u>DW-AS-711-M12-967</u></a> | \$105.00 | M12  | 3mm<br>[0.11 in]  | Non-flush | N.O.         | NPN   | 3-wire, 4-pin M12 quick-disconnect | 1              | <a href="#"><u>PDF</u></a> |
| <a href="#"><u>DW-AS-713-M12-967</u></a> | \$105.00 |      |                   | Non-flush | N.O.         | PNP   | 3-wire, 4-pin M12 quick-disconnect | 2              | <a href="#"><u>PDF</u></a> |
| <a href="#"><u>DW-AS-711-M18-967</u></a> | \$119.00 | M18  | 5mm<br>[0.19 in]  | Non-flush | N.O.         | NPN   | 3-wire, 4-pin M12 quick-disconnect | 1              | <a href="#"><u>PDF</u></a> |
| <a href="#"><u>DW-AS-713-M18-967</u></a> | \$119.00 |      |                   | Non-flush | N.O.         | PNP   | 3-wire, 4-pin M12 quick-disconnect | 2              | <a href="#"><u>PDF</u></a> |
| <a href="#"><u>DW-AS-713-M30-967</u></a> | \$135.00 | M30  | 12mm<br>[0.47 in] | Non-flush | N.O.         | PNP   | 3-wire, 4-pin M12 quick-disconnect | 2              | <a href="#"><u>PDF</u></a> |

## Wiring Diagrams

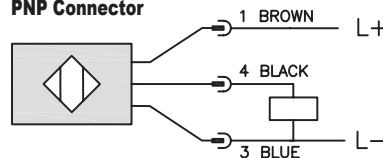
**Diagram 1**

**NPN Connector**



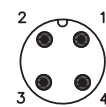
**Diagram 2**

**PNP Connector**



**Connector**

**M12 connector**





# DW Series Chip Immune Proximity Sensors Specifications

| DW Series Chip Immune Proximity Sensors Specifications |                                                  |                   |                   |
|--------------------------------------------------------|--------------------------------------------------|-------------------|-------------------|
| Sensor                                                 | DW-AS-71x-M12-967                                | DW-AS-71x-M18-967 | DW-AS-713-M30-967 |
| Assured Operating Distance                             | 2.43 mm [0.09 in]                                | 4.05 mm [0.15 in] | 9.72 mm [0.38 in] |
| Rated Operating Distance                               | 3mm [0.11 in]                                    | 5mm [0.19 in]     | 12mm [0.47 in]    |
| Material Correction Factors                            | See the <a href="#">Material influence table</a> |                   |                   |
| Output Type                                            | NPN or PNP, N.O.                                 |                   | PNP, N.O.         |
| Operating Voltage                                      | 10 to 30 VDC                                     |                   |                   |
| No-load Supply Current                                 | ≤ 10mA                                           |                   |                   |
| Operating (Load) Current                               | ≤ 200mA                                          |                   |                   |
| Off-state (Leakage) Current                            | ≤ 0.1 mA                                         |                   |                   |
| Voltage Drop                                           | ≤ 2.0 VDC                                        |                   |                   |
| Switching Frequency                                    | ≤ 400Hz                                          | ≤ 200Hz           | ≤ 90Hz            |
| Differential Travel<br>(% of Nominal Distance)         | 3% Sr ≤ Hyst ≤ 15% Sr                            |                   |                   |
| Repeat Accuracy                                        | ≤ 0.2 mm                                         | ≤ 0.35 mm         | ≤ 0.8 mm          |
| Ripple                                                 | ≤ 20%                                            |                   |                   |
| Reverse Polarity Protection                            | Yes                                              |                   |                   |
| Short-Circuit Protection                               | Yes                                              |                   |                   |
| Operating Temperature                                  | -25 to 85°C [-13 to 185°F]                       |                   |                   |
| Protection Degree (DIN 40050)                          | IP68, IP69K                                      |                   |                   |
| Indication/Switch Status                               | Yellow LED                                       |                   |                   |
| Housing Material                                       | 304 Stainless steel                              |                   |                   |
| Sensing Face Material                                  | 304 Stainless steel                              |                   |                   |
| Shock/Vibration                                        | IEC 60947-5-2/7.4                                |                   |                   |
| Tightening Torque                                      | 20 N•m max                                       | 50 N•m max        | 150 N•m max       |
| Weight                                                 | 25g [0.88 oz]                                    | 53g [1.86 oz]     | 137g [4.83 oz]    |
| Connection                                             | 3-wire, 4-pin M12 quick-disconnect               |                   |                   |
| IO-Link                                                | v1.1 PNP models                                  |                   |                   |
| Agency Approvals                                       | CE, cULus E239373                                |                   |                   |

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

# Accessories for 12mm Sensors

## Right-angle Mounting Brackets

Mounting bracket, right-angle, fixed insertion stop adjustment, plastic. For use with 12mm sensors. Available with or without fixed insertion stop.

| Accessories for 12mm Sensors   |        |                                                                                                             |                            |               |
|--------------------------------|--------|-------------------------------------------------------------------------------------------------------------|----------------------------|---------------|
| Part Number                    | Price  | Description                                                                                                 | Drawing Link               | Weight lb [g] |
| <a href="#"><u>OPT2102</u></a> | \$8.00 | Wenglor mounting bracket, right-angle, fixed insertion stop adjustment, plastic. For use with 12mm sensors. | <a href="#"><u>PDF</u></a> | 0.05 [22.7]   |
| <a href="#"><u>OPT2103</u></a> | \$8.00 | Wenglor mounting bracket, right-angle, plastic. For use with 12mm sensors.                                  | <a href="#"><u>PDF</u></a> | 0.05 [22.7]   |



[OPT2102](#), [OPT2103](#)

## Right-angle Swivel Mounting Systems

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

| Accessories for 12mm Sensors   |         |                                                                                                                                                              |                     |                     |                            |               |
|--------------------------------|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|---------------------|----------------------------|---------------|
| Part Number                    | Price   | Description                                                                                                                                                  | Mounting Head       | Mounting Plate      | Drawing Link               | Weight lb [g] |
| <a href="#"><u>OPT2114</u></a> | \$11.50 | Wenglor mounting bracket, right-angle swivel, 360 degree vertical and horizontal adjustment, aluminum, 12mm rod mount. For use with 12mm sensors.            | Aluminum            | Stainless steel     | <a href="#"><u>PDF</u></a> | 0.14 [63.5]   |
| <a href="#"><u>OPT2115</u></a> | \$21.00 | Wenglor mounting bracket, right-angle swivel, 360 degree vertical and horizontal adjustment, 304 stainless steel, 12mm rod mount. For use with 12mm sensors. | 304 Stainless steel | 304 Stainless steel | <a href="#"><u>PDF</u></a> | 0.27 [122.5]  |



[OPT2114](#), [OPT2115](#)

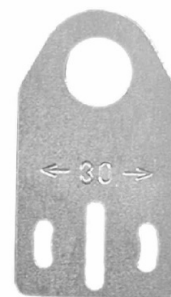
Note: 304 stainless steel mounting rods sold separately: [OPT2109](#) (200mm [7.87 in] length), [OPT2110](#) (300mm [11.81 in] length), and [OPT2111](#) (500mm [19.69 in] length).

# Accessories for 12mm Sensors

## Axial Mounting Bracket

Mounting bracket, axial, available in zinc-plated steel or 316L stainless steel. For use with 12mm sensors. Has two mounting holes (use 3mm screws) and allows the rotation of an optical axis for right-angle adapter sensors. Hexagonal nuts not included.

| Accessories for 12mm Sensors   |        |                                                                                              |                            |               |
|--------------------------------|--------|----------------------------------------------------------------------------------------------|----------------------------|---------------|
| Part Number                    | Price  | Description                                                                                  | Drawing Link               | Weight lb [g] |
| <a href="#"><u>ST12A</u></a>   | \$2.00 | Micro Detectors mounting bracket, axial, zinc plated steel.<br>For use with 12mm sensors.    | <a href="#"><u>PDF</u></a> | 0.03 [13.6]   |
| <a href="#"><u>ST12A7W</u></a> | \$7.25 | Micro Detectors mounting bracket, axial, 316L stainless steel.<br>For use with 12mm sensors. | <a href="#"><u>PDF</u></a> | 0.03 [13.6]   |



[ST12A](#)

## Right-angle Mounting Bracket

Mounting bracket, right-angle, zinc-plated steel or 316L stainless steel. For use with 12mm sensors. Has two mounting holes (use 3mm screws) and allows the rotation of an optical axis for axial sensors. Hexagonal screws not included.

| Accessories for 12mm Sensors   |        |                                                                                                    |                            |               |
|--------------------------------|--------|----------------------------------------------------------------------------------------------------|----------------------------|---------------|
| Part Number                    | Price  | Description                                                                                        | Drawing Link               | Weight lb [g] |
| <a href="#"><u>ST12C</u></a>   | \$2.00 | Micro Detectors mounting bracket, right-angle, zinc plated steel.<br>For use with 12mm sensors.    | <a href="#"><u>PDF</u></a> | 0.03 [13.6]   |
| <a href="#"><u>ST12C7W</u></a> | \$7.25 | Micro Detectors mounting bracket, right-angle, 316L stainless steel.<br>For use with 12mm sensors. | <a href="#"><u>PDF</u></a> | 0.03 [13.6]   |



[ST12C](#)

# 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] |
| <a href="#">OPT2104</a>      | \$10.50 | Wenglor mounting bracket, right-angle, fixed insertion stop adjustment, plastic. For use with 18mm sensors. | <a href="#">PDF</a> | 0.06 [27.2]   |
| <a href="#">OPT2105</a>      | \$10.50 | Wenglor mounting bracket, right-angle, plastic. For use with 18mm sensors.                                  | <a href="#">PDF</a> | 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] |
| <a href="#">OPT2116</a>      | \$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 | <a href="#">PDF</a> | 0.15 [68.0]   |
| <a href="#">OPT2117</a>      | \$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 | <a href="#">PDF</a> | 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).

