

Transmit Limit Switch ON/OFF Signals without Making Contact

- By using the magnetic coupling between the F92A and Proximity Sensor coils, the ON/OFF signal can be transmitted without a cable. Signals can also be transmitted from rotating or moving objects that are difficult to use with conventional sensors.
- Operates without a power supply, making it easy to use, and requires no maintenance.
- Excellent environmental resistance against oil and dust.
- Magnetic coupling is able to transmit even through resin, glass, or non-metal barriers.



Be sure to read *Safety Precautions* on page 2.

Ordering Information

F92A

| | |
|-----------------------|----------|
| Appearance | M18 |
| Transmission distance | 5 mm |
| Model | F92A-C-1 |

Accessories (Order Separately)

[Mounting Brackets](#)
[Protective Covers](#)

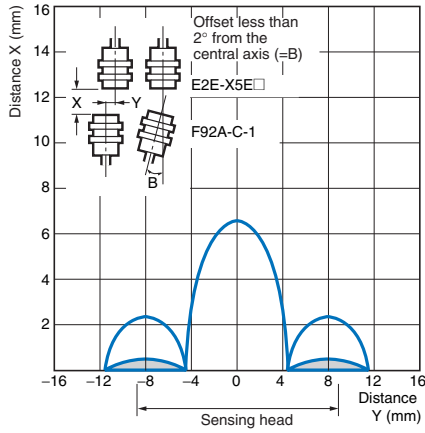
Ratings and Specifications

| Item | Model | F92A-C-1 |
|------------------------------------|-----------------|--|
| Transmission distance | | 5 mm (Refer to <i>Safety Precautions</i> on page 2.) |
| Set transmission distance | | 0 to 4.5 mm |
| Response time | | 1 ms max. |
| Ambient temperature | | Operating/Storage: -25 to 70°C (with no icing and condensation) |
| Ambient humidity | | Operating/Storage: 35% to 95% (with no condensation) |
| Insulation resistance | | 50 MΩ min. (at 500 VDC) between lead wires and case |
| Dielectric strength | | 1,000 VAC, 50/60 Hz for 1 minute between lead wires and case |
| Vibration resistance (destruction) | | 10 to 55 Hz, 1.5-mm double amplitude for 2 hours each in X, Y, and Z directions |
| Shock resistance (destruction) | | 1,000 m/s ² 10 times each in X, Y, and Z directions |
| Degree of protection | | IEC IP67, in-house standard for oil resistance |
| Connection method | | Pre-wired Models (Standard cable length: 2 m) |
| Transmittable Proximity Sensors * | | E2E-X5E1, -X5E2, -X5F1, -X5F2, -X5Y1, -X5Y2 E2E2-X5C1, -X5C2, -X5Y1, -X5Y2 E2F-X5E1, -X5E2, -X5F1, -X5F2, -X5Y1, -X5Y2 |
| Weight (packed state) | | Approx. 160 g |
| Materials | Case | Brass |
| | Sensing surface | ABS |

*Information on E2E2 is available on website only. (www.ia.omron.com)

Engineering Data (Reference Value)

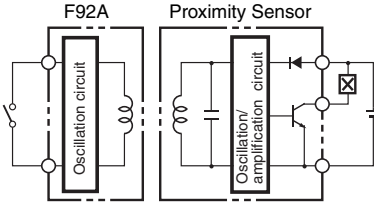
Transmission Area Diagram



Note: Shading indicates the range in which base bracket will be detected even if switch is open.

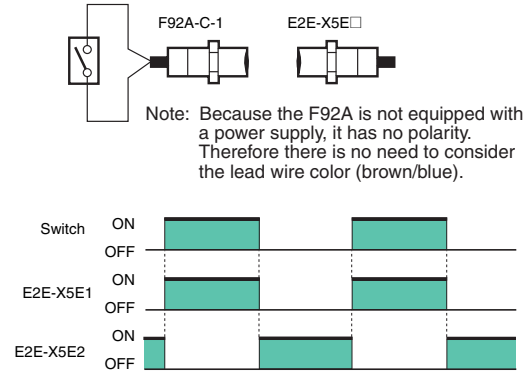
Operating Principle

The Coupler transmits ON/OFF signals by using magnetic coupling between coils. The F92A coil and proximity sensor coil are electromagnetically coupled. When the F92A coil forms a closed loop (when the detecting side limit switch is in the ON state), the effect of the magnetic field created on the proximity sensor coil causes a current to be induced in the F92A closed loop. This induced current causes the proximity sensors power loss to increase, and causes the sensor to enter detecting state.



Connection/Timing Charts

The following diagram is a representative example of an E2E-X5E1. Refer to the information on transmittable proximity sensors in the Ratings and Specifications table.



Safety Precautions

⚠ WARNING

This product is not designed or rated for ensuring safety of persons. Do not use it for such purpose.

Precautions for Correct Use

Do not use the product in atmospheres or environments that exceed product ratings.

● Designing

- Make sure to use a connecting switch suitable for microloads.
- Use a connecting switch that meets the following requirements.
Contact resistance: 1 Ω max.
Release resistance: 10 MΩ min.
Note: Must be capable of switching at 1 mA, 500 mV.

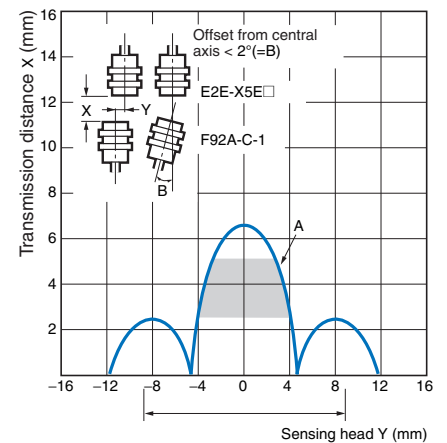
- Applicable Switches
Use a D4C-42□□ or WL01□□□□-55.

● Mounting

By sufficiently reducing the set distance, the Coupler can maintain a high contact reliability for an extended period of time.

● Others

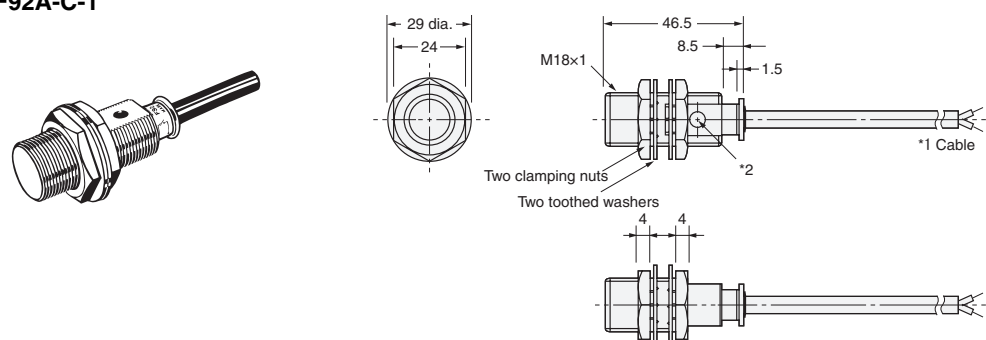
When installing on a rotating object, be sure to set within the A range according to the operating range diagram.



Dimensions

Unless otherwise specified, the tolerance class IT16 is used for dimensions in this data sheet.

F92A-C-1



- *1 6-dia. vinyl-insulated round cable with 2 conductors
(Conductor cross section: 0.5 mm², Insulator diameter: 1.9 mm),
Standard length: 2 m.
The cable can be extended up to 5 m
(using the same type of cable as the cable provided)
- *2 No indicator is provided.

In the interest of product improvement, specifications are subject to change without notice.

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