

## Transmit Limit Switch ON/OFF Signals without Making Contact

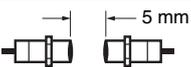
- By using the magnetic coupling between the F92A and Proximity Sensor coils, the ON/OFF signal can be transmitted without a cable. Signals can also be transmitted from rotating or moving objects that are difficult to use with conventional sensors.
- Operates without a power supply, making it easy to 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](#)

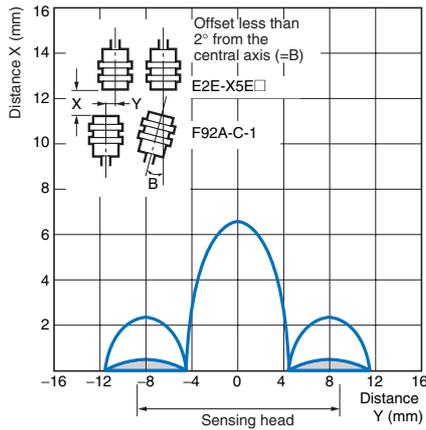
### Ratings and Specifications

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 <sup>2</sup> 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](http://www.ia.omron.com))

## Engineering Data (Typical)

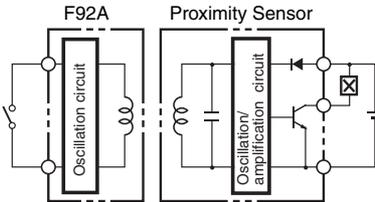
### Transmission Area Diagram



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

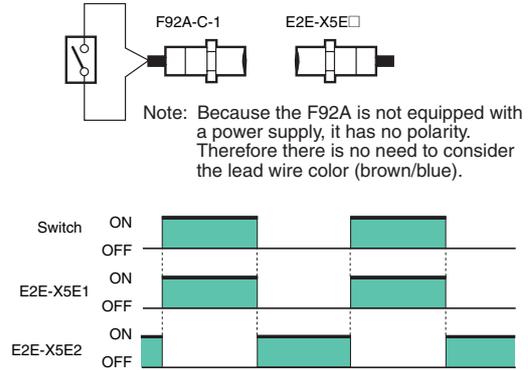
## Operating Principle

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

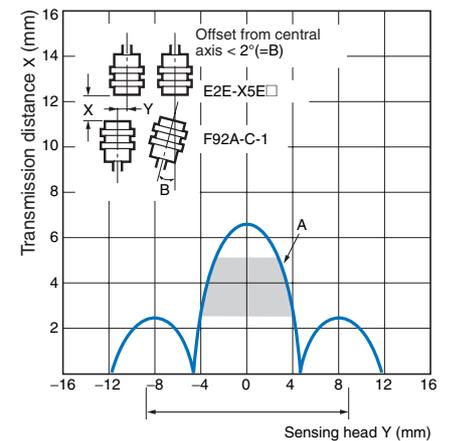
Use a D4C-42□□ or WL01□□□□-55.

#### ● Mounting

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

#### ● Others

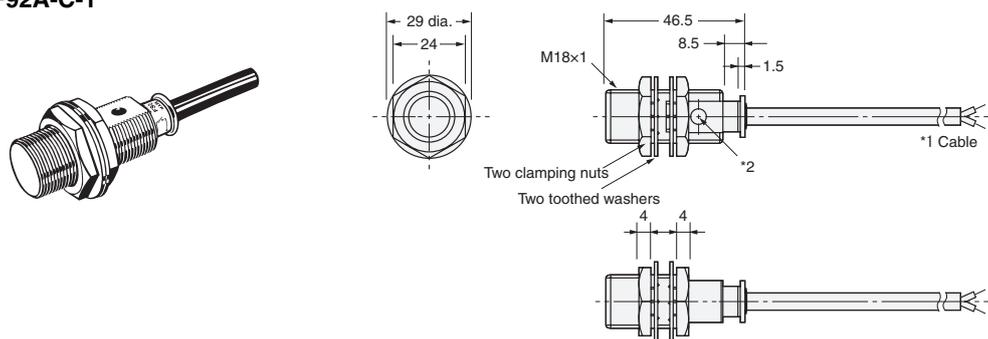
When installing on a rotating object, be sure to set within the A range according to the operating range diagram.



## 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 mm<sup>2</sup>, 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.

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