

Tempatron Tel: +44(0)1621 859500 Fax: +44(0)1621 855335

FSRST Shaft Rotation Sensors

Models Available

FSRST Shaft Rotation Sensor

Product Features

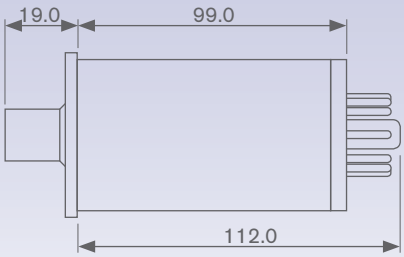
- Prevents access to rotating machinery
- NPN sensor or voltage free input
- Supply voltage 110Vac or 230Vac
- 1 to 30 second adjustable time delay
- Standard DIN48 square size
- Plug-in socket or panel mounting
- Matching timers available
- Matching temp. controllers available
- Plug-in sockets also available

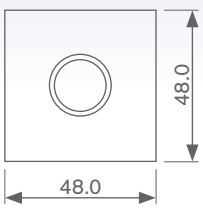
The Tempatron FSRST shaft rotation sensor is designed to prevent access to a rotating machine until it has slowed to a safe speed. If the sensor does not receive a pulse within the adjustable time setting, the output relay will energise which can then disable a machine guard to enable safe access by the machine operator.

The shaft rotation sensor is housed in a compact DIN48 square enclosure which can either panel mount or surface/DIN rail mount to a socket and is auxiliary powered from either 110Vac or 230Vac. The 5 Amp rated single pole changeover relay output contact is isolated from the supply voltage, and use of the normally open contacts enables failsafe operation in the event of power failure. The FSRST has two LEDs to indicate both power and relay status.

For prevention of access to rotating machinery or equipment

Dimensions

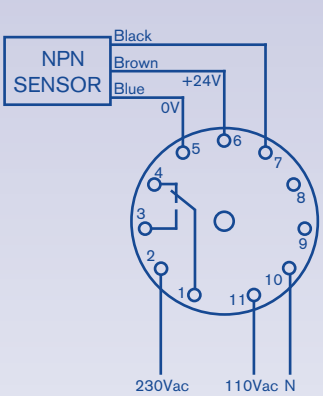


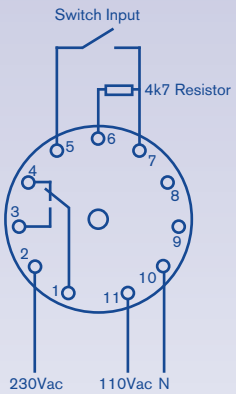


Panel cutout 45mm square (-0.0/+0.5)

All dimensions in mm

Connections





Note:
A switch input (relay contact, reed switch or open collector transistor etc.) may be used across terminals 5 and 7 as an alternative input to the unit instead of the NPN proximity sensor. When using a switch input, a resistor (approximate value 4.7k ohm) must be connected between terminals 6 and 7.

Ordering information

Model	Code	Description
	FSRST	Shaft Rotation Sensor

TIme Range	Code	Description
	30S	1 to 30 seconds

Potentiometer	Code	Description
	LP	Local Potentiometer

Auxiliary Power	Code	Description
	110/230VAC	110Vac and 230Vac

Plug-in Bases	Code	Description
	C1004	Panel Fixing Clamps
	CDSR11	11 Pin Rear Screw Panel Socket
	AZ611	11 Pin DIN Rail/Panel Mount Socket
	S11P	11 Pin DIN Rail/Panel Mount Socket

Example **FSRST30SLP-110/230VAC**

Specification

Time Delay:
- 1 to 30 seconds

Power Supply Voltage:
- 110Vac and 230Vac (±15%)

Burden:
- <4VA

Frequency:
- 50/60Hz

Input Sensor:
- Voltage free contact (no bounce)
- 3 wire active sensor with power consumption <25mA at 24Vdc

Sensing Speed:
- Calculated by $S_{min} = 60/nT$ rpm where n = No. of pulses per revolution and T = time delay setting in seconds

Minimum Pulse Width:
- 3ms (for 50% duty cycle)
- Minimum 'flag' width (W_f) = r/10 mm where r = radius of shaft in mm

Relay Output:
- Single pole changeover contact

Contact Rating:
- 5A at 240Vac/30Vdc (resistive)

Electrical Contact Life:
- 100,000 operations at 5A

Operating Temperature:
- -10°C to 50°C

Enclosure Code:
- Case IP40

Weight:
- 200g

Markings:
- CE marked (meets EN61010-1 low voltage and EN50081-1/50082-1 EMC directives)

Specification subject to change without notice.

Tempatron: Eltime House, Hall Road, Maldon, Essex, CM9 4NF UK.

TEMPATRON

Tempatron Industrial Controls is a division of Eltime Ltd.

© Eltime Ltd. Tempatron FSRST Shaft Rotation Sensors 04/2011