



VIBRATION ANALYSIS HARDWARE



## **IN100**

Inductive Proximity Sensor  
for Shaft Rotational Speed Measurement  
Operational Guide





## SAFEGUARDS AND PRECAUTIONS



Read and follow all instructions in this manual carefully, and retain this manual for future reference.

Do not use this instrument in any manner inconsistent with these operating instructions or under any conditions that exceed the environmental specifications stated.

This instrument is not user serviceable. For technical assistance, please contact your CTC sales representative.



**In order to comply with EU Directive 2012/19/EU on Waste Electrical and Electronic Equipment (WEEE):** This product may contain material which could be hazardous to human

health and the environment. **DO NOT DISPOSE** of this product as unsorted municipal waste. This product needs to be **RECYCLED** in accordance with local regulations; contact your local authorities for more information. This product may be returnable to your distributor for recycling; contact the distributor for details.

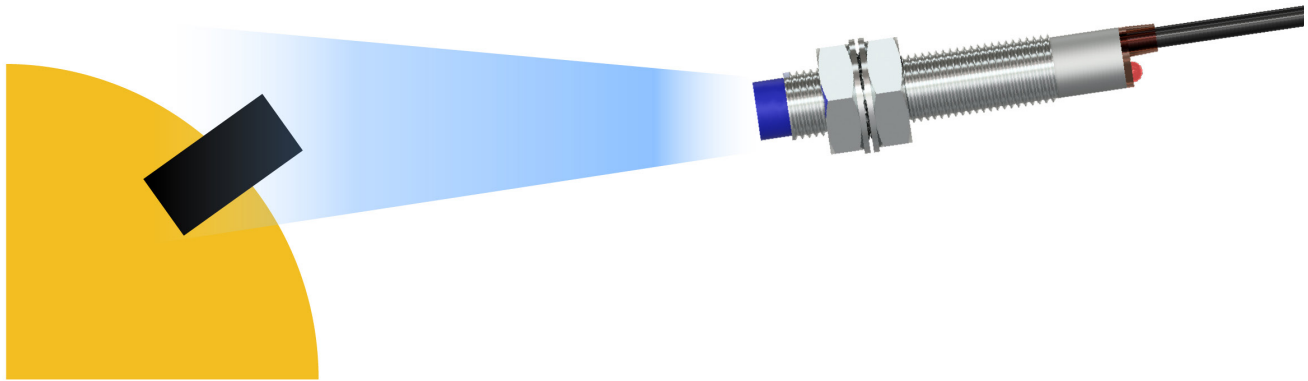
# TABLE OF CONTENTS

- Overview ..... 4
- Operating Principle..... 4
- Connection Details..... 4
- Setting Operating Distance ..... 5
- Specifications ..... 6
- Dimensions..... 6



## OVERVIEW

The IN100 is a three-wire Inductive Proximity Sensor Switch for shaft rotational speed measurement that outputs an open collector PNP pulse. The sensor operates at 0.15 in. [4 mm] gap with a 0.45 in. [12 mm] target and has a red LED on-target indicator. The IN100 is housed in a threaded metal IP67 shell and is supplied with M12 mounting hardware and a 6 ft. [1.8 m] shielded cable with tinned wires.



## OPERATING PRINCIPLE

The IN100 inductive proximity sensor uses an electromagnetic field to detect intentional metallic features such as a keyway, slot, gear tooth, bolt head, or nut to measure shaft rotational speed. Detection requires a discrete metal feature; smooth or continuous shaft surfaces are not suitable targets.

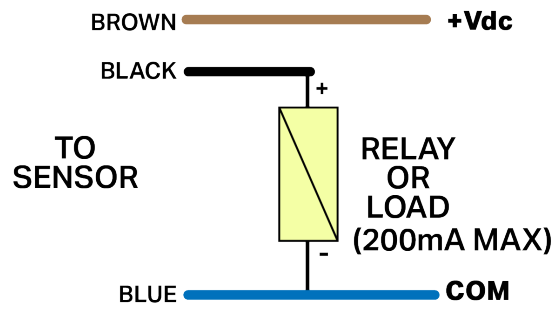
Because the sensor responds only to metal targets, the IN100 is well suited for dirty or harsh environments, including applications where dust, oil, or water may be present.

The output signal can be used with a switch or relay, or connected to an RPM display, panel tachometer, or control system to convert pulses into a speed or RPM reading.

## CONNECTION DETAILS

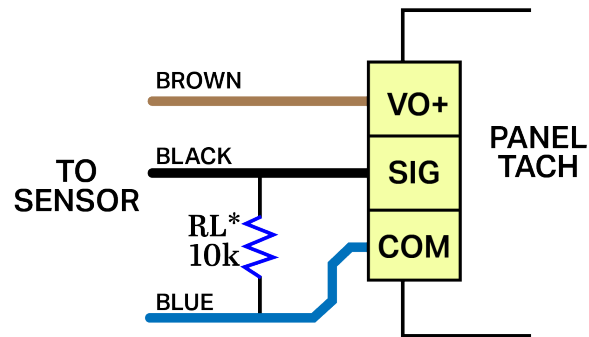


Connecting IN100 to switch a relay or electrical load (up to 200 mA):



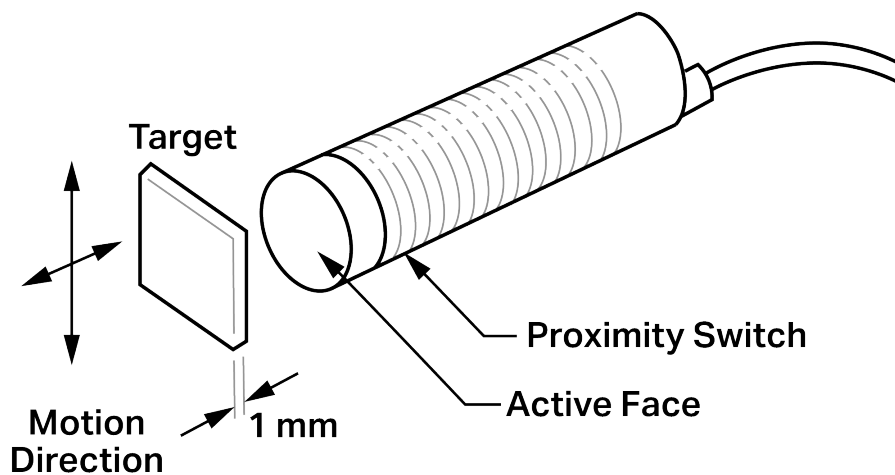
DRIVING A LOAD

Connecting IN100 to an RPM display meter / panel tachometer:



\*NOTE: RL IS OFTEN INSIDE METER  
DRIVING A METER

## SETTING OPERATING DISTANCE



# SPECIFICATIONS

Specifications*	IN100 Inductive Proximity Sensor
Power Required	6 - 36 Vdc @ 15 mA
Output Signal	Open collector PNP - normally open (NO)
Sensing Distance	0.15 in. [4 mm] Target should be at least = sensor diameter
Sense Indicator	LED indicates target present
Maximum Speed	24,000 RPM [400 Hz]
Operating Temperature	-13 to 167 °F [-25 to 75 °C]
Cable Length	6 ft. [1.8 m] including sensor
Material	Threaded metal
Housing Protection	IP67
Mechanical	Standard Size M12
Dimensions	2.36 in. x 0.48 in. [60 mm x 12 mm]

# DIMENSIONS

