

Inductive Sensors

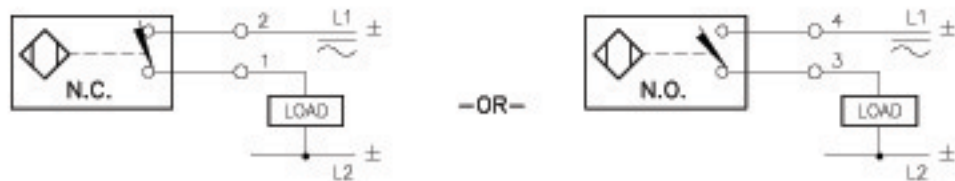


| Housing Style - Rectangular | Part Number | ID Number | Features | Embeddable | Sensing Range (mm) | Output |
|--|------------------------|------------------|------------------|------------|--------------------|--------------|
| CP40 - Embeddable/Nonembeddable, Terminal Chamber | Bi 15-CP40-VN4X2/S109 | M1526900 | Time Delay | • | 15 | 4-Wire NPN |
| | Ni 20-CP40-VN4X2/S109 | M1527100 | Time Delay | | 20 | |
| | Bi 15-CP40-VP4X2/S109 | M1504721 | Time Delay | • | 15 | 4-Wire PNP |
| | Ni 30-CP40-VP4X2/S109 | M1512521 | Time Delay | | 30 | |
| | Bi 15-CP40-VN4X2/S110 | M1527000 | Time Delay | • | 15 | 4-Wire NPN |
| | Ni 20-CP40-VN4X2/S110 | M1527300 | Time Delay | | 20 | |
| | Bi 15-CP40-VP4X2/S110 | M1509821 | Time Delay | • | 15 | 4-Wire PNP |
| | Ni 20-CP40-VP4X2/S110 | M1509921 | Time Delay | | 20 | |
| | Bi 15-CP40-FDZ30X2 | M4224100 | Prog. Outputs | • | 15 | 2-Wire AC/DC |
| | Bi 15-CP40-FDZ30X2/S34 | M4226100 | WFI | • | 15 | |
| | Bi 15-CP40-FDZ30X2/S97 | M4226600 | Low Temp. -40°C | • | 15 | |
| | Bi 15U-CP40-FDZ30X2 | M4280601 | Uprox | • | 15 | |
| | Ni 20-CP40-FDZ30X2 | M4224200 | Prog. Outputs | | 20 | |
| | Ni 35-CP40-FDZ30X2 | M4224500 | Prog. Outputs | | 35 | |
| | Ni 40U-CP40-FDZ30X2 | M4280801 | Uprox | | 40 | |
| | Bi 15-CP40-FZ3X2 | M1341000 | Prog. Outputs | • | 15 | 2-Wire AC/DC |
| | Bi 15-CP40-FZ3X2/S97 | M1341010 | Low Temp. -40°C | • | 15 | |
| | Bi 15-CP40-FZ3X2/S100 | M1377600 | High Temp. 100°C | • | 15 | |
| | Ni 20-CP40-FZ3X2 | M1341100 | Prog. Outputs | | 20 | |
| | Ni 20-CP40-FZ3X2/S100 | M1377500 | High Temp. 100°C | | 20 | |
| Ni 20NF-CP40-FZ3X2 | M1378200 | Prog. Outputs | | 20 | | |
| Ni 35-CP40-FZ3X2 | M1341300 | Prog. Outputs | | 35 | | |
| Ni 40-CP40-FZ3X2/S100 | M1374802 | High Temp. 100°C | | | | |
| Bi 15-CP40-FZ3X2/S109 | M1373700 | Time Delay | • | 15 | 2-Wire AC | |
| Bi 15-CP40-FZ3X2/S110 | M1373500 | Time Delay | • | 15 | | |
| Ni 20-CP40-FZ3X2/S109 | M1374500 | Time Delay | | 20 | | |
| Ni 20-CP40-FZ3X2/S110 | M1374600 | Time Delay | | 20 | | |
| Ni 30-CP40-FZ3X2/S109 | M1374700 | Time Delay | | 30 | | |
| Ni 30-CP40-FZ3X2/S110 | M1374400 | Time Delay | | 30 | | |
| Bi 15-CP40-VDZ3X2 | M4222700 | Comp. Outputs | • | 15 | 4-Wire AC/DC | |
| Bi 15-CP40-Y1X | M1012000 | | • | 15 | NAMUR | |
| Ni 20-CP40-Y1X | M1012100 | | | 20 | | |

WFI = Weld-Field Immune Sensors.
 "/S109" Designates on Delay.
 "/S110" Designates off Delay.

| Voltage | Switching Freq. (Hz) | Operating Current (mA) | Operating Temp. (°C) | Protection | Housing | Front Cap/Face | Power LED | Output LED | Mating Cord, Cable Length/Jacket | Wiring Diagram # | Wiring Diagrams |
|--------------------------|----------------------|------------------------|----------------------|------------|---------|----------------|-----------|------------|----------------------------------|------------------|----------------------|
| 10-65 VDC | - - | ≤200 | -25 to +70 | IP 67 | PBT | PBT | GN | YE | - - - - | 1 | Diagram 1 |
| | - - | ≤200 | -25 to +70 | IP 67 | PBT | PBT | GN | YE | - - - - | 1 | |
| 10-65 VDC | - - | ≤200 | -25 to +70 | IP 67 | PBT | PBT | GN | YE | - - - - | 2 | Diagram 2 |
| | - - | ≤200 | -25 to +70 | IP 67 | PBT | PBT | GN | YE | - - - - | 2 | |
| 10-65 VDC | - - | ≤200 | -25 to +70 | IP 67 | PBT | PBT | GN | YE | - - - - | 1 | Diagram 3 |
| | - - | ≤200 | -25 to +70 | IP 67 | PBT | PBT | GN | YE | - - - - | 1 | |
| 10-65 VDC | - - | ≤200 | -25 to +70 | IP 67 | PBT | PBT | GN | YE | - - - - | 2 | Diagram 4 |
| | - - | ≤200 | -25 to +70 | IP 67 | PBT | PBT | GN | YE | - - - - | 2 | |
| 10-300 VDC 20-250 VAC | 60 | ≤400/300 | -25 to +70 | IP 67 | PBT | PBT | GN | YE | - - - - | 3 | Diagram 5 |
| | 30 | ≤400/300 | -25 to +70 | IP 67 | PBT | PBT | GN | YE | - - - - | 3 | |
| | 60 | ≤400/300 | -40 to +70 | IP 67 | PBT | PBT | GN | YE | - - - - | 3 | |
| | 60 | ≤400/300 | -30 to +85 | IP 67 | PBT | PBT | GN | YE | - - - - | 3 | |
| | 60 | ≤400/300 | -25 to +70 | IP 67 | PBT | PBT | GN | YE | - - - - | 3 | |
| | 60 | ≤400/300 | -25 to +70 | IP 67 | PBT | PBT | GN | YE | - - - - | 3 | |
| 10-300 VDC 20-250 VAC | 20 | ≤400/300 | -25 to +70 | IP 67 | PBT | PBT | GN | YE | - - - - | 4 | Diagram 6 |
| | 20 | ≤400/300 | -40 to +70 | IP 67 | PBT | PBT | GN | YE | - - - - | 4 | |
| | 20 | ≤400/300 | -25 to +100 | IP 67 | PBT | PBT | GN | YE | - - - - | 4 | |
| | 20 | ≤400/300 | -25 to +70 | IP 67 | PBT | PBT | GN | YE | - - - - | 4 | |
| | 20 | ≤400/300 | -25 to +100 | IP 67 | PBT | PBT | GN | YE | - - - - | 4 | |
| | 20 | ≤400/300 | 0 to +60 | IP 67 | PBT | PBT | GN | YE | - - - - | 4 | |
| | 20 | ≤400/300 | -25 to +70 | IP 67 | PBT | PBT | GN | YE | - - - - | 4 | |
| | 20 | ≤400/300 | -25 to +100 | IP 67 | PBT | PBT | GN | YE | - - - - | 4 | |
| 20-250 VAC | 20 | ≤400/300 | -25 to +70 | IP 67 | PBT | PBT | GN | YE | - - - - | 4 | Diagram 7 |
| | 20 | ≤400/300 | -25 to +70 | IP 67 | PBT | PBT | GN | YE | - - - - | 4 | |
| | 20 | ≤400/300 | -25 to +70 | IP 67 | PBT | PBT | GN | YE | - - - - | 4 | |
| | 20 | ≤400/300 | -25 to +70 | IP 67 | PBT | PBT | GN | YE | - - - - | 4 | |
| | 20 | ≤400/300 | -25 to +70 | IP 67 | PBT | PBT | GN | YE | - - - - | 4 | |
| | 20 | ≤400/300 | -25 to +70 | IP 67 | PBT | PBT | GN | YE | - - - - | 4 | |
| 20-250 VAC 20-320 VDC | 30 | ≤400/300 | -25 to +70 | IP 67 | PBT | PBT | GN | YE | - - - - | 4 | |
| 5-30 VDC | 150 | Remote | -25 to +70 | IP 67 | PBT | PBT | N/A | YE | - - - - | 5 | |
| | 150 | Remote | -25 to +70 | IP 67 | PBT | PBT | N/A | YE | - - - - | 5 | |

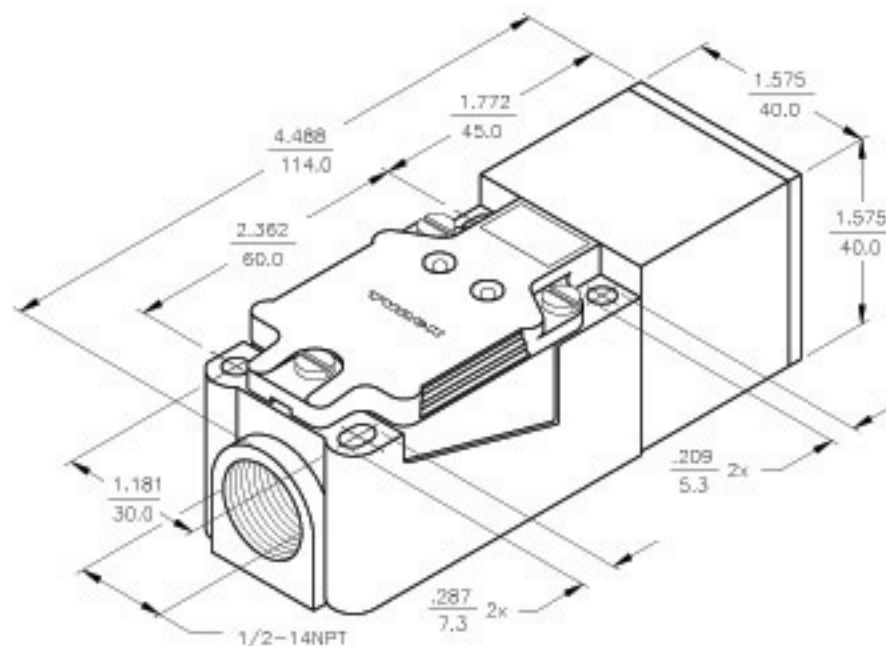
WIRING DIAGRAM



SHORT-CIRCUIT AND OVERLOAD PROTECTED

SPECIFICATIONS

| | |
|---|---|
| OPERATING VOLTAGE | 20-250 VAC/DC |
| LINE FREQUENCY | 40-60 Hz |
| HYSTERESIS (DIFFERENTIAL TRAVEL) | 3-15% (5% TYPICAL) |
| VOLTAGE DROP ACROSS CONDUCTING SENSOR | ≤ 5.0 V at 400 mA |
| OUTPUT FUNCTION | CONNECTION PROGRAMMABLE NORMALLY OPEN OR NORMALLY CLOSED |
| SHORT-CIRCUIT PROTECTED | YES |
| TRIGGER CURRENT FOR OVERLOAD PROTECTION | ≥ 500 mA |
| CONTINUOUS LOAD CURRENT | ≤ 400 mA |
| LEAKAGE (OFF-STATE) CURRENT | ≤ 1.7 mA |
| MINIMUM LOAD CURRENT | ≥ 3.0 mA |
| INRUSH CURRENT | ≤ 3.0 A (≤ 20 ms/5 Hz) |
| TIME DELAY BEFORE AVAILABILITY | ≤ 30 ms |
| POWER-ON EFFECT PROTECTION | INCORPORATED |
| PROTECTION AGAINST TRANSIENTS | 5 kV, 10 ms, 10 kΩ |
| OPERATING TEMPERATURE | -25°C to +70°C (-13°F to +158°F) |
| ENCLOSURE | MEETS NEMA 1, 3, 4, 6, 13 AND IEC IP67 |
| SHOCK | 30 g, 11 ms |
| VIBRATION | 55 Hz, 1 mm AMPLITUDE (IN ALL 3 PLANES) |
| LED FUNCTION | GREEN: STEADY = POWER ON FLASHING = SHORT-CIRCUIT WARNING RED: OUTPUT ENERGIZED |
| SENSING RANGE | 15 mm = .591" (NOMINAL) |
| SWITCHING FREQUENCY | 150 Hz |
| REPEATABILITY | ≤ 2% of NOMINAL SENSING RANGE |
| SHIELDED | YES |



NOTE:

1. SENSING HEAD TURNS TO ACCOMMODATE 9 DIFFERENT SENSING POSITIONS.

| | | | | | |
|---|--|---|------------------|---|--------------------------------|
| RELATED DOCUMENTS 1. 2. 3. 4. | 3RD ANGLE PROJECTION | THIS DRAWING IS PROPERTY OF TURCK INC. USE OF THIS DOCUMENT WITHOUT WRITTEN PERMISSION IS PROHIBITED. | | High Technology Sensors and Automation Controls | |
| | MATERIAL PBT-GF30-VO PLASTIC | TOLERANCES UNLESS OTHERWISE SPECIFIED .X ±0.02 .XX ±0.01 .XXX ±0.005 ANGLES ±1° ALL MILLIMETER DIMENSIONS ARE REFERENCE ONLY | DRFT SNW | | |
| FINISH | | USDR | SCALE NONE | UNIT OF MEASUREMENT INCH [MILLIMETER] | IDENTIFICATION NO. M4224100 |
| B REV | UPDATE TO CURRENT TITLE BLOCK DESCRIPTION | RDS BY | 09/12/03 DATE | 5504 EDD NO. | FILE: M4224100 |
| | | | | | REV B |
| | | | | | SHEET 1 OF 1 |