

# Inductive Sensors



Housing Style - Rectangular	Part Number	ID Number	Features	Embeddable	Sensing Range (mm)	Output
	Bi15-CP40-VN4X2/S109	M1526900	Time Delay	•	15	4-Wire NPN
	Ni20-CP40-VN4X2/S109	M1527100	Time Delay		20	
	Bi15-CP40-VP4X2/S109	M1504721	Time Delay	•	15	4-Wire PNP
	Ni30-CP40-VP4X2/S109	M1512521	Time Delay		30	
	Bi15-CP40-VN4X2/S110	M1527000	Time Delay	•	15	4-Wire NPN
	Ni20-CP40-VN4X2/S110	M1527300	Time Delay		20	
	Bi15-CP40-VP4X2/S110	M1509821	Time Delay	•	15	4-Wire PNP
	Ni20-CP40-VP4X2/S110	M1509921	Time Delay		20	
	Bi15-CP40-FDZ30X2	M4224100	Prog. Outputs	•	15	2-Wire AC/DC
	Bi15-CP40-FDZ30X2/S34	M4226100	WFI	•	15	
	Bi15-CP40-FDZ30X2/S97	M4226600	Low Temp. -40°C	•	15	
	Bi15U-CP40-FDZ30X2	M4280601	Uprox	•	15	
	Ni20-CP40-FDZ30X2	M4224200	Prog. Outputs		20	
	Ni35-CP40-FDZ30X2	M4224500	Prog. Outputs		35	
	Ni40U-CP40-FDZ30X2	M4280801	Uprox		40	
	Bi15-CP40-FZ3X2	M1341000	Prog. Outputs	•	15	2-Wire AC/DC
	Bi15-CP40-FZ3X2/S97	M1341010	Low Temp. -40°C	•	15	
	Bi15-CP40-FZ3X2/S100	M1377600	High Temp. 100°C	•	15	
	Ni20-CP40-FZ3X2	M1341100	Prog. Outputs		20	
	Ni20-CP40-FZ3X2/S100	M1377500	High Temp. 100°C		20	
	Ni20NF-CP40-FZ3X2	M1378200	Prog. Outputs		20	
	Ni35-CP40-FZ3X2	M1341300	Prog. Outputs		35	
	Ni40-CP40-FZ3X2/S100	M1374802	High Temp. 100°C			
	Bi15-CP40-FZ3X2/S109	M1373700	Time Delay	•	15	2-Wire AC
	Bi15-CP40-FZ3X2/S110	M1373500	Time Delay	•	15	
	Ni20-CP40-FZ3X2/S109	M1374500	Time Delay		20	
	Ni20-CP40-FZ3X2/S110	M1374600	Time Delay		20	
	Ni30-CP40-FZ3X2/S109	M1374700	Time Delay		30	
Ni30-CP40-FZ3X2/S110	M1374400	Time Delay		30		
Bi15-CP40-VDZ3X2	M4222700	Comp. Outputs	•	15	4-Wire AC/DC	
Bi15-CP40-Y1X	M1012000		•	15	NAMUR	
Ni20-CP40-Y1X	M1012100			20		

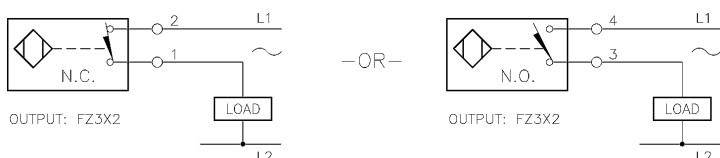
WFI = Weld-Field Immune Sensors.  
 "/S109" Designates on Delay.  
 "/S110" Designates off Delay.



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	<b>Diagram 1</b> 
	- -	≤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	<b>Diagram 2</b> 
	- -	≤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	<b>Diagram 3</b> <p>-OR-</p>
	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	-30 to +85	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	<b>Diagram 4</b> 
	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	<b>Diagram 5</b> 
	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	

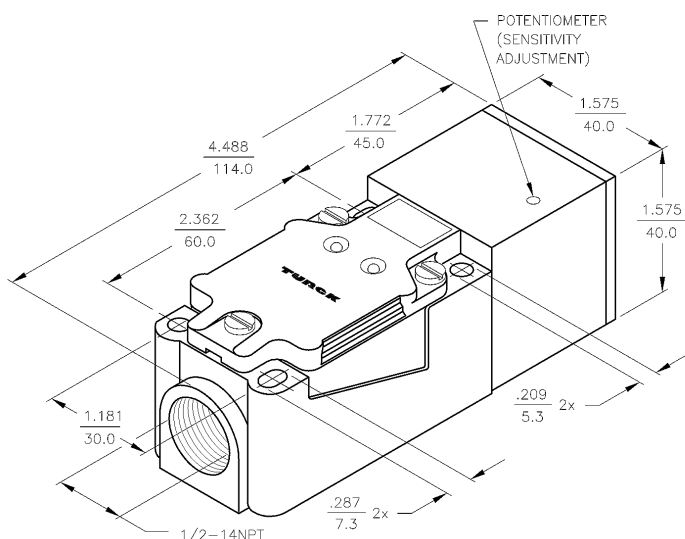
Rectangular

WIRING DIAGRAMS



SPECIFICATIONS

OPERATING VOLTAGE	20-250 VAC/VDC
LINE FREQUENCY	40-60 Hz
DIFFERENTIAL TRAVEL (HYSTERESIS)	3-15% (5% TYPICAL)
VOLTAGE DROP ACROSS CONDUCTING SENSOR	≤ 7.0 V at 500 mA
OUTPUT FUNCTION	CONNECTION PROGRAMMABLE NORMALLY OPEN OR NORMALLY CLOSED
SHORT-CIRCUIT PROTECTED	NO
CONTINUOUS LOAD CURRENT	≤ 500 mA
OFF-STATE (LEAKAGE) CURRENT	≤ 1.7 mA
MINIMUM LOAD CURRENT	≥ 5.0 mA
INRUSH CURRENT	≤ 8.0 mA (≤ 10 ms/5 Hz)
TIME DELAY BEFORE AVAILABILITY	≤ 80 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	RED: OUTPUT ENERGIZED GREEN: POWER ON
RATED OPERATING DISTANCE(Sn)	35 mm = 1.378" (NOMINAL)
SWITCHING FREQUENCY	20 Hz
REPEATABILITY	≤ 2% of RATED OPERATING DISTANCE
EMBEDDABLE (SHIELDED)	NO



NOTES:

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

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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 GMB DSGN	DATE 7/11/88 SCALE NONE	DESCRIPTION Ni35-CP40-FZ3X2
FINISH	UNIT OF MEASUREMENT <b>INCH [ MILLIMETER ]</b>	IDENTIFICATION NO. M1341300		REV D
D UPDATE VOLTAGE SPEC FROM VAC	TR 07/12/07 18321	DO NOT SCALE THIS DRAWING		FILE: M1341300
REV DESCRIPTION	BY DATE ECO NO.			SHEET 1 OF 1