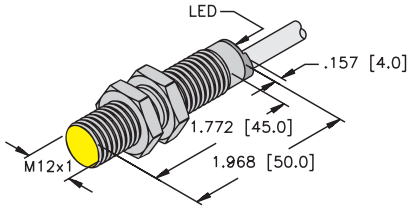
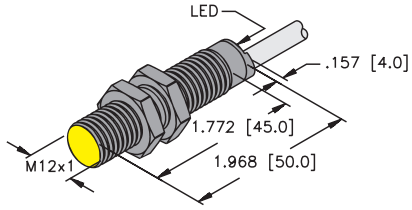
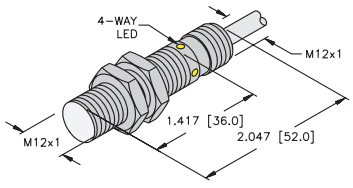
Inductive Sensors



Housing Style	Part Number	ID Number	Features	Sensing Range (mm)	Output
12 mm - Embeddable, Potted-In Cable 	Bi 2-M12-AD4X	T4405000		2	2-Wire DC
	Bi 3-M12-AD4X	T4405035	*Ext. Range*	3	
	Bi 2-M12-AN6X	T4606695		2	3-Wire DC NPN
	Bi 3U-EM12-AN6X	M1634320	*Uprox*	3	
	Bi 3U-M12-AN6X	M1634120	*Uprox*	3	
	Bi 4-M12-AN6X	T4607130	*Ext. Range*	4	
	Bi 2-M12-AP6X	T4605000		2	3-Wire DC PNP
	Bi 2-M12-AP6X/S100	M4605003	*High Temp. 100°C*	2	
	Bi 3U-EM12-AP6X	M1634300	*Uprox*	3	
	Bi 3U-M12-AP6X	M1634100	*Uprox*	3	
	Bi 4-M12-AP6X	T4607006	*Ext. Range*	4	
	Bi 2-M12-VN6X	T1640200	*Comp. Output*	2	4-Wire DC NPN
	Bi 4-M12-VN6X	T1643300	*Ext. Range, Comp. Output*	4	
	Bi 2-M12-VP6X	T1630200	*Comp. Output*	2	4-Wire DC PNP
	Bi 4-M12-VP6X	T1633300	*Ext. Range, Comp. Output*	4	
	Bi 2-EM12-ADZ32X	T4205092		2	2-Wire AC/DC Short-circuit Protected
12 mm - Embeddable, Potted-In Cable, Teflon Coated 	Bi 2U-MT12-ADZ32X	M4205100	*Uprox*	2	2-Wire AC/DC Short-circuit Protected
12 mm - Embeddable, Potted-In Cable 	Bi 3-EM12WD-AN6X	M1634333	*Washdown*	3	3-Wire DC NPN
	Bi 2-EM12WD-AP6/S929	M4614515	*Low Temp. -60°C*	2	3-Wire DC PNP
	Bi 3-EM12WD-AP6X	M1634330	*Washdown*	3	
	Bi 3-EM12WD-AP6X/S97	M1634336	*Low Temp. -40°C*	3	

Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	End Cap	Power LED	Output LED	Cable Length/ Cable Mat.	Wiring Diagram #
10-65 VDC	1000	≤100	-25 to +70	IP 67	CPB	PA 12	EPTR	N/A	YE	2M/PVC	1
	1000	≤100	-25 to +70	IP 67	CPB	PA 12	EPTR	N/A	YE	2M/PVC	1
10-30 VDC	2000	≤200	-25 to +70	IP 67	CPB	PA 12	EPTR	N/A	YE	2M/PVC	2
	3000	≤200	-30 to +85	IP 68	SS	PA 12	EPTR	N/A	YE	2M/PVC	2
	3000	≤200	-30 to +85	IP 67	CPB	PA 12	EPTR	N/A	YE	2M/PVC	2
	2000	≤200	-25 to +70	IP 67	CPB	PA 12	EPTR	N/A	YE	2M/PVC	2
10-30 VDC	2000	≤200	-25 to +70	IP 67	CPB	PA 12	EPTR	N/A	YE	2M/PVC	3
	2000	≤200	-25 to +100	IP 67	CPB	PA 12	EPTR	N/A	YE	2M/PVC	3
	3000	≤200	-30 to +85	IP 68	SS	PA 12	EPTR	N/A	YE	2M/PVC	3
	3000	≤200	-30 to +85	IP 67	CPB	PA 12	EPTR	N/A	YE	2M/PVC	3
	2000	≤200	-25 to +70	IP 67	CPB	PA 12	EPTR	N/A	YE	2M/PVC	3
10-30 VDC	2000	≤200	-25 to +70	IP 67	CPB	PA 12	EPTR	N/A	YE	2M/PVC	4
	2000	≤200	-25 to +70	IP 67	CPB	PA 12	EPTR	N/A	YE	2M/PVC	4
10-30 VDC	2000	≤200	-25 to +70	IP 67	CPB	PA 12	EPTR	N/A	YE	2M/PVC	5
	2000	≤200	-25 to +70	IP 67	CPB	PA 12	EPTR	N/A	YE	2M/PVC	5
20-250 VAC 10-300 VDC	20	≤100	-25 to +70	IP 67	SS	PA 12	EPTR	N/A	YE	2M/PVC	6
20-250 VAC 10-300 VDC	20	≤100	-25 to +70	IP 67	TC	TC	EPTR	N/A	YE	2M/PVC	6
10-30 VDC	2000	≤200	-25 to +85	IP 68, 69K	SS	PVDF	EPTR	N/A	YE	2M/PUR	2
10-30 VDC	1000	≤200	-60 to +60	IP 68, 69K	SS	PVDF	EPTR	N/A	YE	2M/PUR	3
	2000	≤200	-25 to +85	IP 68, 69K	SS	PVDF	EPTR	N/A	YE	2M/PUR	3
	2000	≤200	-40 to +70	IP 68, 69K	SS	PVDF	EPTR	N/A	YE	2M/PUR	3

Wiring Diagrams

Diagram 1

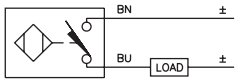


Diagram 2

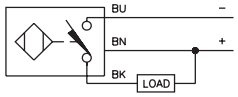


Diagram 3

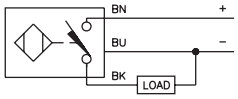


Diagram 4

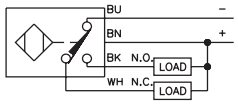


Diagram 5

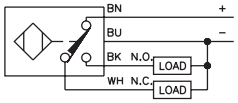
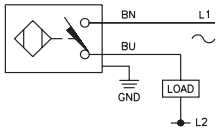
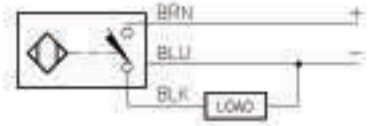


Diagram 6



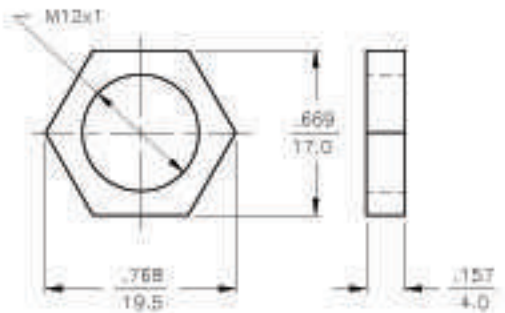
WIRING DIAGRAM



OUTPUT: AP6X

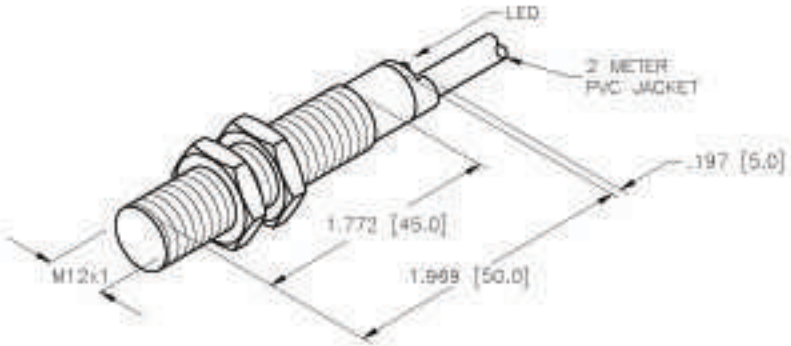
SHORT-CIRCUIT AND OVERLOAD PROTECTED

LOCKNUT LN-M12



SPECIFICATIONS

OPERATING VOLTAGE	10–30 VDC
RIPPLE	≤ 10%
HYSTERESIS (DIFFERENTIAL TRAVEL)	3–15% (5% TYPICAL)
VOLTAGE DROP ACROSS CONDUCTING SENSOR	≤ 1.8 V at 200 mA
OUTPUT FUNCTION	NORMALLY OPEN 3-WIRE DC SELF-CONTAINED
TTL COMPATIBLE	NO
SHORT-CIRCUIT PROTECTED	YES
TRIGGER CURRENT FOR OVERLOAD PROTECTION	≥ 220 mA
CONTINUOUS LOAD CURRENT	≤ 200 mA
NO LOAD CURRENT	5.5–8.5 mA
LEAKAGE (OFF-STATE) CURRENT	<10 μA
TIME DELAY BEFORE AVAILABILITY	≤ 8 ms
POWER-ON EFFECT PROTECTION	PER IEC 947-5-2
PROTECTION AGAINST TRANSIENTS	PER EN 60947-5-2
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	YELLOW; OUTPUT ENERGIZED
SENSING RANGE	4 mm = .157" (NOMINAL)
SWITCHING FREQUENCY	2000 Hz
REPEATABILITY	≤ 2% of NOMINAL SENSING RANGE
SHIELDED	YES



SOURCE DRAWING - FOR REFERENCE ONLY

NOTES: 1. MATERIALS:
BARREL – CHROME PLATED BRASS
LOCKNUTS – CHROME PLATED BRASS
SENSING FACE – PA12-GF30 PLASTIC
END CAP – TPE-O ELASTOMER

2. ALL TOLERANCES ±1.0 mm.

REV.	DESCRIPTION	BY	DATE	ECO NO.
A	DRAWING RELEASE	JBJ	11/13/02	

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.

TURCK INC
High Technology Sensors and Automation Controls

MATERIAL: SEE NOTES

FINISH: SEE NOTES

TOLERANCES UNLESS OTHERWISE SPECIFIED
.X ±0.0"
.XX ±0.01
.XXX ±0.005
ANGLES ±1°
ALL MILLIMETER DIMENSIONS ARE REFERENCE ONLY

DRFT: JBJ
DSGN:
DATE: 11/12/02
SCALE: NONE

UNIT OF MEASUREMENT
INCH [MILLIMETER]
DO NOT SCALE THIS DRAWING

DESCRIPTION: Bi 4-M12-AP6X

IDENTIFICATION NO.: T4607006

REV: A

FILE: T4607006

SHEET 1 OF 1