

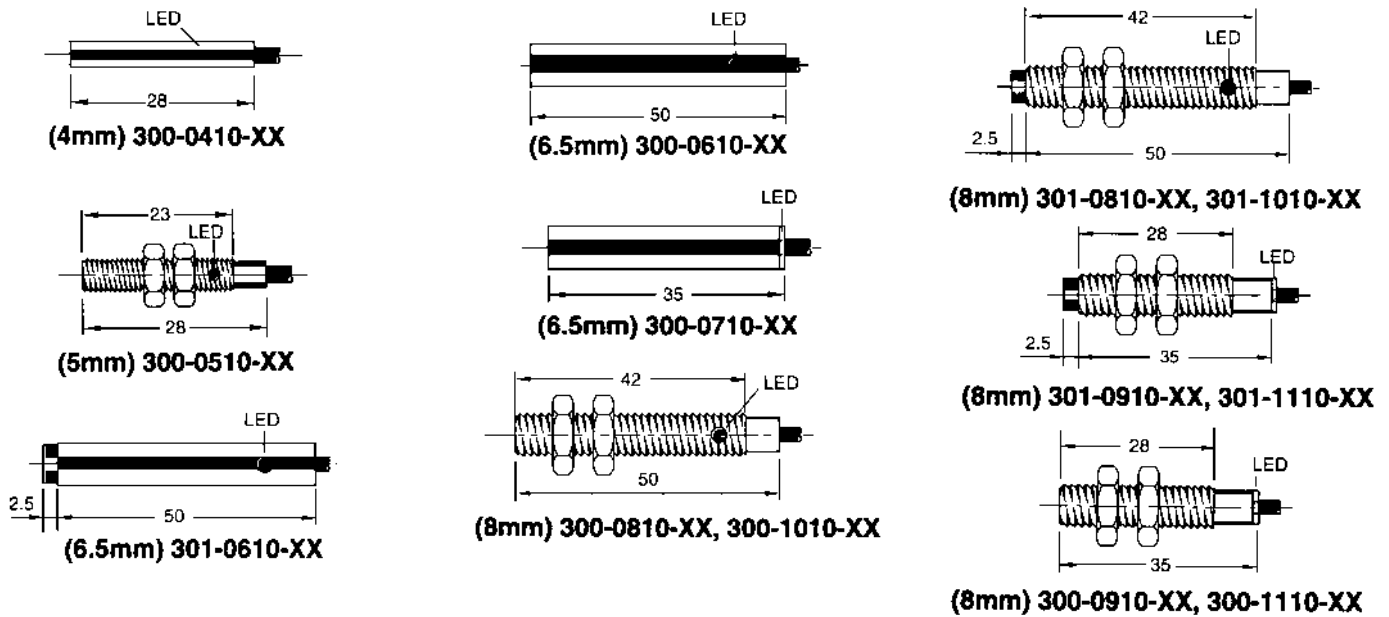
4mm, 5mm, 6.5mm & 8mm



Tubular Inductive Proximity

SPECIFICATIONS	
SWITCHING POINT HYSTERESIS	<10% of Max. Sensing Distance
SWITCHING FREQUENCY	2000 Hz.
REPEATABILITY	<0.01mm
SHORT CIRCUIT PROTECTION	Yes
LED INDICATOR	Yes
OPERATING TEMPERATURE	-25° to 70°C
STANDARD TERMINATION	2 Meter Cable or Connector (6.5 & 8mm only)
DEGREE OF PROTECTION	NEMA 1, 4, 6, 12, 13 (IP67)

DIMENSIONS (MILLIMETERS)



SIZE	4mm	5mm	6.5mm		8mm	
TYPE	3 Wire DC	3 Wire DC	3 Wire DC		3 Wire DC	
SHIELDING	N - Non-Shielded	S	S	N	S	N
	S - Shielded	S	S	N	S	N
MAXIMUM SENSING DISTANCE (SN)MM	0.8		1.5	2	1.5	2
DC SUPPLY VOLTAGE (RESIDUAL RIPPLE <10%)	6-35 VDC		10-30 VDC		10-30 VDC	
MAXIMUM OUTPUT CURRENT mA	150		200		200	
NO LOAD CURRENT AT 24 VDC mA	<10		<15		<15	
VOLTAGE DROP (ON STATE)	<1.4 VDC		<1.8 VDC		<1.8 VDC	
OUTPUTS	NPN-N.O. or N.C.	NPN-N.O. or N.C.	NPN-N.O. or N.C.		NPN-N.O. or N.C.	
	PNP-N.O. or N.C.	PNP-N.O. or N.C.	PNP-N.O. or N.C.		NPN-N.O. or N.C.	
HOUSING MATERIAL	Stainless Steel		Stainless Steel		Nicked Brass or Stainless Steel	

Proximity Sensors // 300/301 Series

MODEL NUMBER >>>>>>	30				1
Type					
Shielded	0				
Non-Shielded	1				
Housing					
4mm Stainless Steel Unthreaded	04				
5mm Stainless Steel	05				
6.5mm Stainless Steel Unthreaded	06				
6.5mm Stainless Steel, Short Barrel Unthreaded	07				
8mm Nickel Brass	08				
8mm Nickel Brass, Short Barrel	09				
8mm Stainless Steel	10				
8mm Stainless Steel, Short Barrel	11				
Termination					
2 Meter Cable	10				
K Connector	30				
H (Micro) Connector	40				
H1 Connector	50				
Output					
DC, 3 Wire, NPN, NO	21				
DC, 3 Wire, NPN, NC	22				
DC, 3 Wire, PNP, NO	24				
DC, 3 Wire, PNP, NC	25				
Extended Sensing Range					
Extended Ranges 6.5mm-2mm 8mm-2mm					1

AVAILABILITY GUIDE- For Short Barrel Housing, Extended Sensing Ranges and Connectors		
	Shielded	Non-Shielded
Standard Length Sensor With H1 Connector	6.5mm 8mm	6.5mm 8mm
Standard Length Sensor With H (Micro) Connector	8mm	8mm
Short Barrel Housing With H (Micro) Connector	8mm	8mm
Short Barrel Housing With H (Micro) Connector & Extended Sensing Range	8mm	
Short Barrel Housing With 2 Meter Cable & Extended Sensing Range	6.5mm 8mm	
Short Barrel Housing With 2 Meter Cable	6.5mm 8mm	6.5mm 8mm
Short Barrel Housing With H1 Connector	6.5mm 8mm	6.5mm 8mm
Short Barrel Housing With H1 Connector and Extended Sensing Range	6.5mm 8mm	
With Standard Length Housing w/K Connector	8mm	8mm

NOTE: Extended Sensing Range Is Not Available In Standard Length Housing Sensors.

SPECIFICATIONS

SWITCHING POINT HYSTERESIS	<10% of Max. Sensing Distance
SHORT CIRCUIT PROTECTION	Yes, all DC Models
REVERSE POLARITY PROTECTION	Yes, all DC Models
LED INDICATOR	Yes
OPERATING TEMPERATURE	-25° to 70°C
STANDARD TERMINATION	2 Meter Cable or Connector
DEGREE OF PROTECTION	NEMA 1, 4, 6, 12, 13 (IP67)
HOUSING	Nickel Brass, Stainless Steel



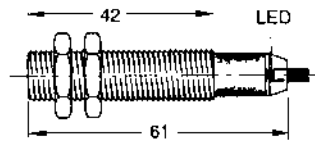
12mm, 18mm & 30mm



Tubular Inductive Proximity

SIZE		12mm						18mm						30mm					
TYPE		2 wire DC		3/4 wire DC		2 wire DC		2 wire DC		3/4 wire DC		2 wire DC		2 wire DC		3/4 wire DC		2 wire DC	
SHIELDING	N - Non-Shielded	S	N	S	N	S	N	S	N	S	N	S	N	S	N	S	N	S	N
	S - Shielded																		
MAXIMUM SENSING DISTANCE (SN)mm		2	4	2	4	2	4	5	8	5	8	5	8	10	15	10	15	10	15
SUPPLY VOLTAGE (RESIDUAL RIPPLE <10%, DC MODELS)		10-30 VDC				20-250 VAC		10-30 VDC		10-30 VDC		20-250 VAC		10-30 VDC		10-30 VDC		20-250 VAC	
MAXIMUM OUTPUT CURRENT mA		100		200		300		100		200		300		100		200		300	
NO LOAD CURRENT AT 24 VDC mA		—		<18		—		—		<18		—		—		<18		—	
VOLTAGE DROP (ON STATE)		<7 VDC		<1.8 VDC		<6 VAC		<7 VDC		<1.8 VDC		<6 VAC		<6.5 VDC		<1.8 VDC		<6 VAC	
OUTPUTS		N.O. or N.C.		NPN-N.O.-N.C. PNP-N.O.-N.C. NPN-N.O. & N.C. PNP-N.O. & N.C.		N.O. or N.C.		N.O. or N.C.		NPN-N.O.-N.C. PNP-N.O.-N.C. NPN-N.O. & N.C. PNP-N.O. & N.C.		N.O. or N.C.		N.O. or N.C.		NPN-N.O.-N.C. PNP-N.O.-N.C. NPN-N.O. & N.C. PNP-N.O. & N.C.		N.O. or N.C.	
SWITCHING FREQUENCY		1000		1000		12		600		600		12		300		300		12	
REPEATABILITY MM		<0.01		<0.01		<0.2		<0.02		<0.02		<0.2		<0.05		<0.05		<0.3	
MINIMUM OUTPUT CURRENT		5		—		5		5		—		5		<1.5		—		5	
MAX. PEAK CURRENT FOR 20mS		—		—		1.5		—		—		1.5		—		—		1.5	
HOUSING MATERIAL		<3		—		<2.5		<3		—		<2.5		<0.6		—		<2.5	

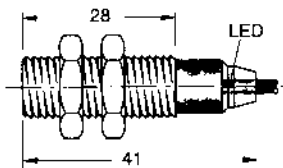
DIMENSIONS (INCHES/MILLIMETERS)



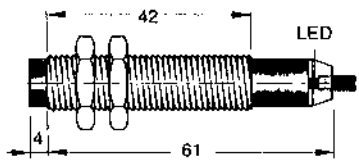
(12mm, 2 Wire DC) 300-3-1210-XX,
300-3-1410-XX, 300-3-1510-XX

(12mm, 3 & 4 Wire) 300-3-1210-XX,
300-3-1410-XX, 300-3-1510-XX

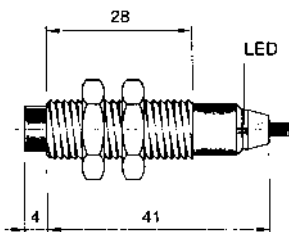
(12mm, 2 Wire AC) 300-3-1210-XX,
300-3-1510-XX



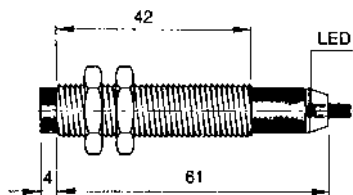
(12mm, 3 & 4 Wire) 300-3-1310-XX



(12mm, 3 & 4 Wire) 301-3-1210-XX,
301-3-1410-XX, 300-3-1510-XX

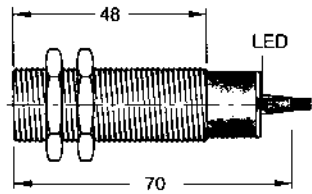


(12mm, 3 & 4 Wire) 301-3-1310-XX

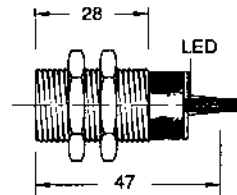


(12mm, 2 Wire AC)
301-3-1210-XX, 301-3-1510-XX

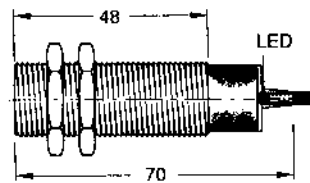
(12mm, 2 Wire DC)
301-3-1210-XX, 301-3-1410-XX,
301-3-1510-XX



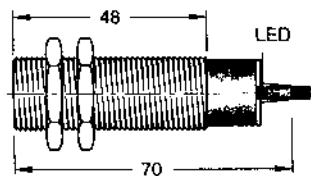
(18mm, 3 & 4 Wire DC)
300-3-1810-XX,
300-3-1910-XX, 300-3-2110-XX



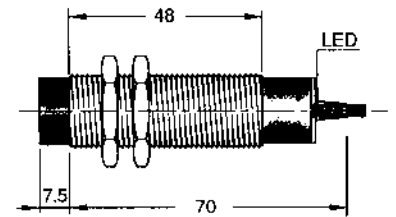
(18mm, 3 & 4 Wire DC)
300-3-2010-XX



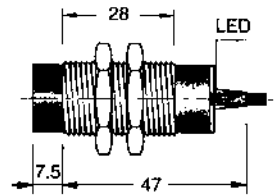
(18mm, 2 Wire DC)
300-3-1810-XX,
300-3-1910-XX,
300-3-2110-XX



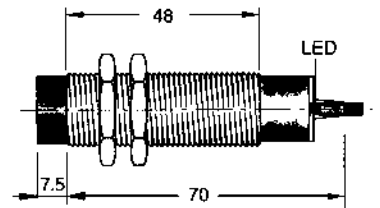
(18mm, 2 Wire AC)
300-3-1810-XX,
300-3-2110-XX



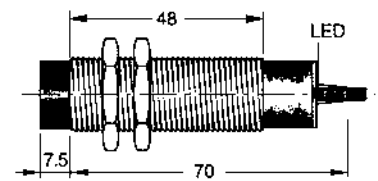
(18mm, 3 & 4 Wire DC)
301-3-1810-XX,
301-3-1910-XX, 301-3-2110-XX



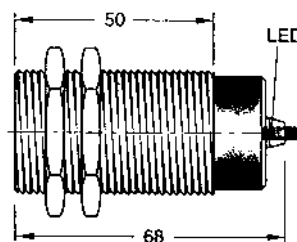
(18mm, 3 & 4 Wire DC)
301-3-2010-XX



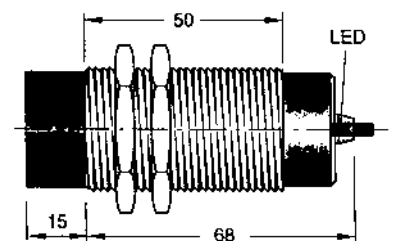
(18mm, 2 Wire DC)
301-3-1810-XX,
301-3-1910-XX,
301-3-2110-XX



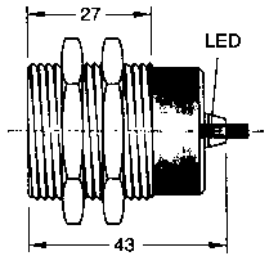
(18mm, 2 Wire AC)
301-3-1810-XX,
301-3-2110-XX



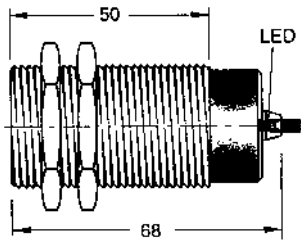
(30mm, 3 & 4 Wire DC)
300-3-3010-XX, 300-3-3310-XX



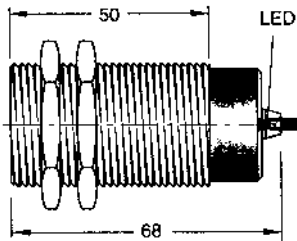
(30mm, 3 & 4 Wire DC)
301-3-3010-XX, 301-3-3310-XX



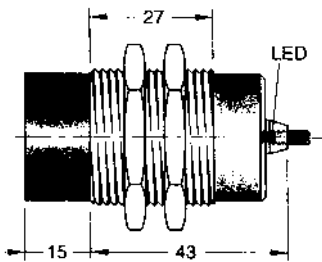
(30mm, 3 & 4 Wire DC)
300-3-3210-XX



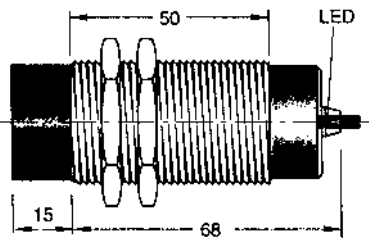
(30mm, 2 Wire AC)
300-3-3010-XX, 300-3-3310-XX



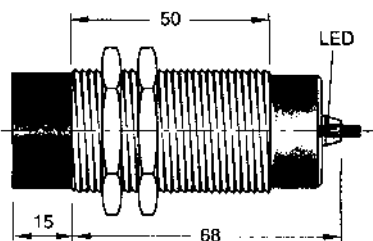
(30mm, 2 Wire DC)
300-3-3010-XX, 300-3-3310-XX



(30mm, 3 & 4 Wire DC)
301-3-3210-XX



(30mm, 2 Wire DC)
301-3-3010-XX, 301-3-3310-XX



(30mm, 2 Wire AC)
301-3-3010-XX, 301-3-3310-XX

MODEL NUMBER >>>>>>	30				1
Type					
Shielded	0				
Non-Shielded	1				
Housing					
12mm Nickel Brass	12				
12mm Nickel Brass, Short Barrel	13				
12mm Plastic	14				
12mm Stainless Steel	15				
18mm Nickel Brass	18				
18mm Plastic	19				
18mm Nickel Brass, Short Barrel	20				
18mm Stainless Steel	21				
30mm Nickel Brass	30				
30mm Round Plastic	31				
30mm Round Nickel Brass, Short Barrel	32				
30mm Round Stainless Steel	33				
Termination					
2 Meter Cable	10				
K Connector	30				
H (Micro) Connector	40				
H1 Connector	50				
Output					
AC, 2 Wire, N.O.	11				
AC, 2 Wire, N.C.	12				
DC, 3 Wire, NPN, NO	21				
DC, 3 Wire, NPN, NC	22				
DC, 4 Wire, NPN, NO & NC	23				
DC, 3 Wire, PNP, NO	24				
DC, 3 Wire, PNP, NC	25				
DC, 4 Wire, PNP, NO & NC	26				
DC, 2 Wire, NO	27				
DC, 2 Wire, NC	28				
Extended Sensing Range					
Extended Ranges—4mm for 12mm; 8mm for 18mm	1				

AVAILABILITY GUIDE— For Short Barrel Housing, Extended Sensing Ranges and Connectors

	Shielded	Non-Shielded
Standard Length Sensor With H (Micro) Connector	All 12mm, 18mm & 30mm	All 12mm, 18mm & 30mm
Short Barrel Housing With H (Micro) Connector	12mm, 18mm & 30mm 3 or 4 wire	12mm, 18mm & 30mm 3 or 4 wire
Short Barrel Housing With H (Micro) Connector & Extended Sensing Range	12mm, 18mm & 30mm, 3 wire	
Short Barrel Housing With 2 Meter Cable & Extended Sensing Range	12mm, 18mm & 30mm 3 wire	
Short Barrel Housing With H1 Connector	12mm 3 wire	12mm 3 wire
Short Barrel Housing With H1 Connector and Extended (4mm) Sensing Range	12mm 3 wire	
Short Barrel housing With 2 Meter Cable	12mm, 18mm & 30mm 3 or 4 wire	12mm, 18mm & 30mm 3 or 4 wire
With Standard Length Housing w/K Connector	All 12mm, 18mm & 30mm	All 12mm, 18mm & 30mm

NOTE: Extended Sensing Range Is Not Available In Standard Length Housing Sensors.



5-100mm Ring



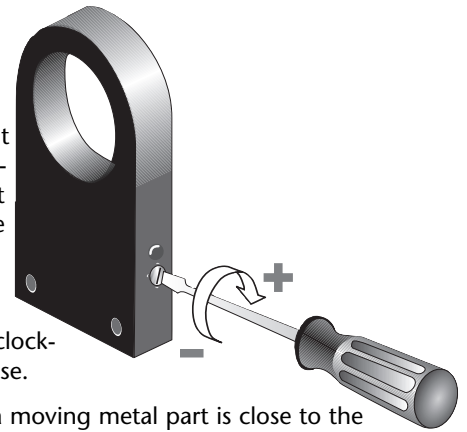
Inductive Proximity Sensor

In Ring Sensors, the sensing is carried out *inside* the ring. The sensor intervenes when a Metallic object is introduced.

They are particularly suitable for checking the presence and counting of small metal objects, screws, nuts, washers etc. or for any similar operation. They are available with internal diameters of 5, 12, 15, 22, 25, 30, 44, 63 & 100mm with LED and trimmer for the sensitivity adjustment.

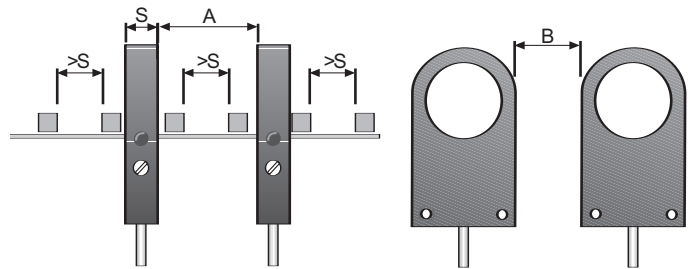
SENSITIVITY ADJUSTMENT:

After having followed the instructions regarding to the choice of the most suitable unit it is recommended that the sensitivity adjustment be carried out when the sensor is installed in the final position taking into account how much metal mass is close by which could alter its functioning. The sensitivity increases turning the trimmer clockwise and reduces by turning it anti-clockwise.



EFFECTS OF METAL IN THE CLOSE VICINITY: If a moving metal part is close to the sensing area the functioning can be disturbed. In order to avoid this, install the units some distance from metallic objects. Ensure that this does not interfere with the functioning.

SPECIFICATIONS	
SWITCHING POINT	<10% of max. switching distance.
HYSTERESIS	See Chart. Ring Sensors.
SHORT CIRCUIT PROTECTION	Yes, all DC Models
REVERSE POLARITY PROTECTION	Yes, all DC Models
LED INDICATOR	Yes
OPERATING TEMPERATURE	-25° to 70°C
STANDARD TERMINATION	2 Meter Cable or Connector
DEGREE OF PROTECTION	NEMA 1, 4, 12, 13 (IP65) - Ring
HOUSING	Plastic



USE OF SENSOR: A distance equal to the width of the sensor should be left between each object that passes through the sensor. If more than none sensor is to be installed in close vicinity, the minimum distance indicated between sensors should be observed.

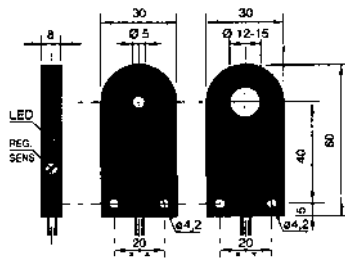
A (mm)	B (mm)
25	10
30	10
60	20
60	20
300	250
300	250
600	650

RING SENSORS — GENERAL CHARACTERISTICS

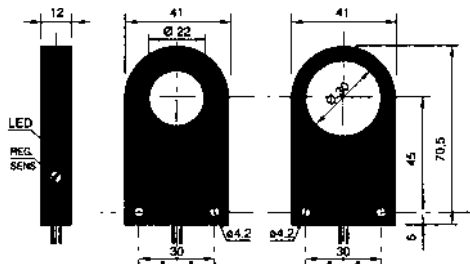
Selection of Ring Sensor: Selection should be made based on the minimum hole diameter required. In this way the sensitivity adjustment can be made with normal parameters and need not be pushed to the maximum risking the proper functioning of the unit

Internal Ring Diameter (mm)	Min. Object Size (Length x Diameter)	Switching Frequency
5	1mm x 0.7mm	600 to 1500 Hz
12	2mm x 1.2mm	600 to 1000 Hz
22	6mm x 3mm	600 to 1000 Hz
30	7mm x 4mm	600 to 800 Hz
44	9mm x 5mm	250 to 600 Hz
63	12mm x 6mm	100 to 200 Hz
100	20mm x 12mm	100 Hz

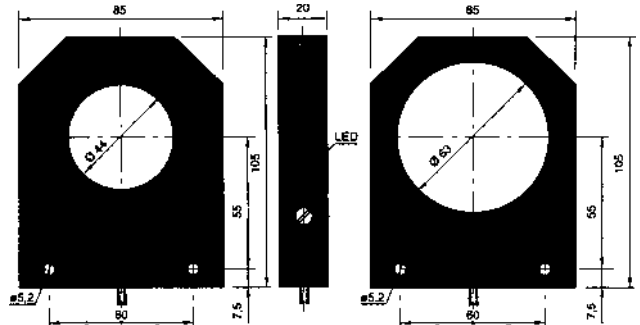
DIMENSIONS (MILLIMETERS)



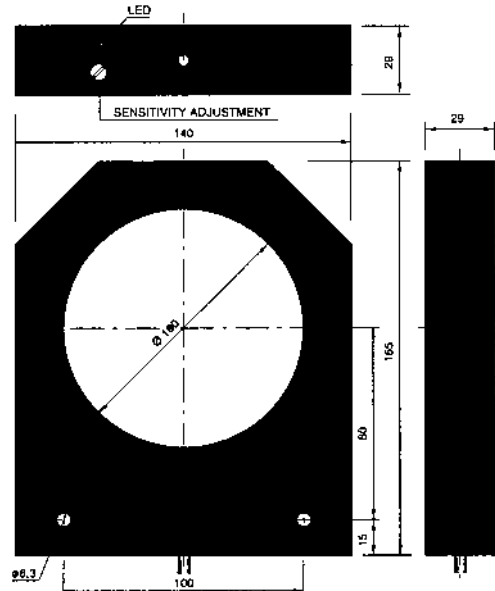
301-3-5010-XX (5mm Ring) 301-3-5110-XX (12mm Ring)



301-3-5210-XX (22mm Ring) 301-3-5310-XX (30mm Ring)



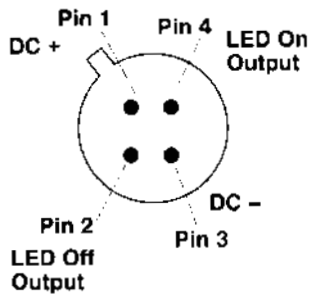
301-3-5410-XX (44mm Ring) 301-3-5510-XX (63mm Ring)



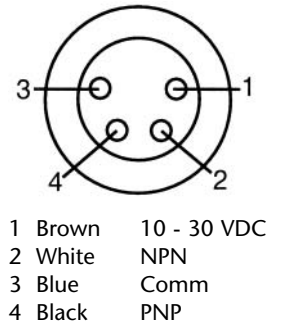
(100mm Ring) 301-3-5610-XX

MODEL NUMBER >>>>>	30	1		
Type				
Non-Shielded		1		
Housing				
5mm Plastic Ring			50	
12mm Plastic Ring			51	
22mm Plastic Ring			52	
30mm Plastic Ring			53	
44mm Plastic Ring			54	
63mm Plastic Ring			55	
100mm Plastic Ring			56	
Termination				
2 Meter Cable			10	
K Connector			30	
H (Micro) Connector*			40	
H1 Connector			50	
Output				
DC, 4 Wire, NPN, NO & NC			23	
DC, 4 Wire, PNP, NO & NC			26	

CABLE CONNECTOR (MICRO)



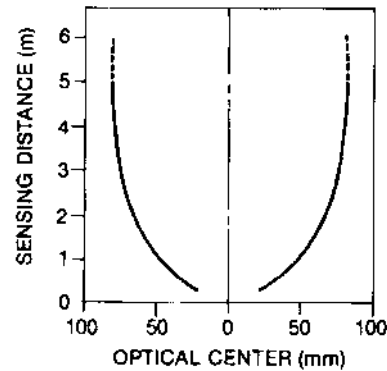
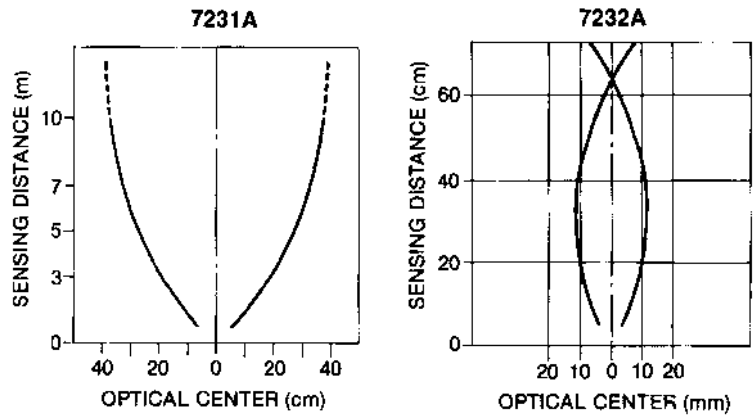
HOUSING CONNECTOR (PICO)





40mm RECTANGULAR
80mm SQUARE

Inductive Proximity Sensor



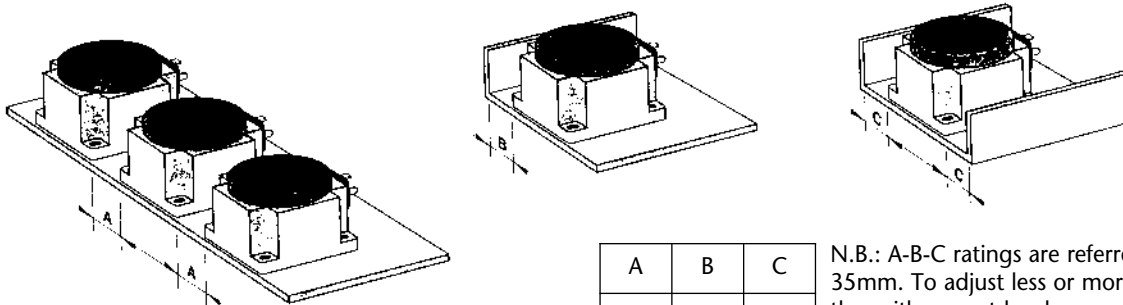
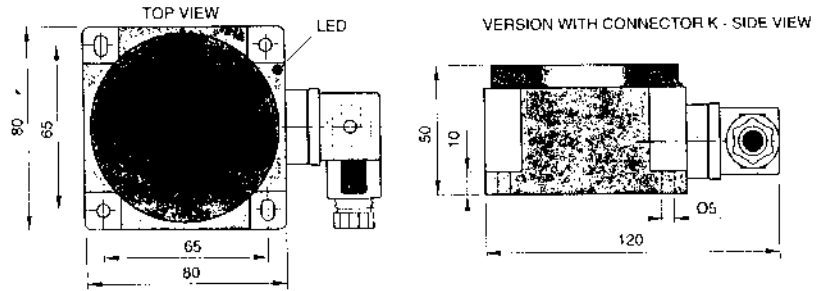
MODEL NUMBER >>>>>>	30	3		
Type				
Shielded	0			
Non-Shielded	1			
Housing				
40mm Rectangular Plastic	42			
80mm Square Plastic	82			
Termination				
Terminal Block	20			
K Connector	30			
Output				
AC, 2 Wire, NO or NC	13			
DC, 4 Wire, NPN, NO & NC	23			
DC, 4 Wire, PNP, NO & NC	26			
DC, 2 Wire, NO	27			
DC, 2 Wire, NC	28			

SPECIFICATIONS

SWITCHING POINT HYSTERESIS	<10% of max. switching distance. See Chart. Ring Sensors.
SHORT CIRCUIT PROTECTION	Yes, all DC Models
REVERSE POLARITY PROTECTION	Yes, all DC Models
LED INDICATOR	Yes
OPERATING TEMPERATURE	-25° to 70°C
DEGREE OF PROTECTION	NEMA 1, 4, 12, 13 (IP65) - Ring
HOUSING	Plastic

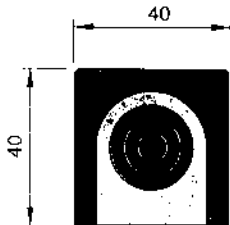
SIZE	40mm Rectangular						80mm Square				
	TYPE		2 wire DC		4 wire DC		2 wire AC		2 wire DC	4 wire DC	2 wire AC
SHIELDING	N - Non-Shielded		S	N	S	N	S	N	N	N	N
	S - Shielded										
MAXIMUM SENSING DISTANCE (SN)mm			10	20	15	20	15	20	50	50	50
SUPPLY VOLTAGE (RESIDUAL RIPPLE <10%)			10-30 VDC		10-55 VDC		20-250 VAC		10-30 VDC	10-55 VDC	20-250 VAC
MAXIMUM OUTPUT CURRENT mA			100		200		300		100	200	300
NO LOAD CURRENT AT 24 VDC mA			—		<10		—		—	<10	—
LEAKAGE CURRENT mA			<0.6		—		<2.5		<0.6	—	<2.5
VOLTAGE DROP (ON STATE)			<7 VDC		<1.8 VDC		<6 VAC		<7 VDC	<1.8 VDC	<6 VAC
OUTPUTS			N.O. or N.C. Programmable		PNP-N.O.-N.C. NPN-N.O.& N.C.		N.O. or N.C. Programmable		N.O. or N.C. Programmable	PNP-N.O.-N.C. NPN-N.O.& N.C.	N.O. or N.C. Programmable
SWITCHING FREQUENCY			300		300		12		50	50	12
REPEATABILITY mm					<0.3				<0.5		
MINIMUM OUTPUT CURRENT			<1.5		—		<5		<1.5	—	5
MAX. PEAK CURRENT FOR 20mS			—		—		1.5		—	—	1.5
STANDARD TERMINATION			Terminal Block						Terminal Block		

DIMENSIONS (MILLIMETERS)

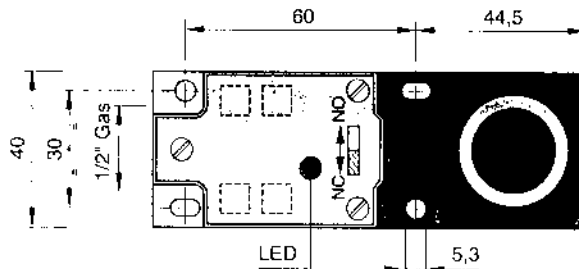


A	B	C
>450	>45	>70

N.B.: A-B-C ratings are referred to Sn = 35mm. To adjust less or more sensitivity they either must be decreased or increased.

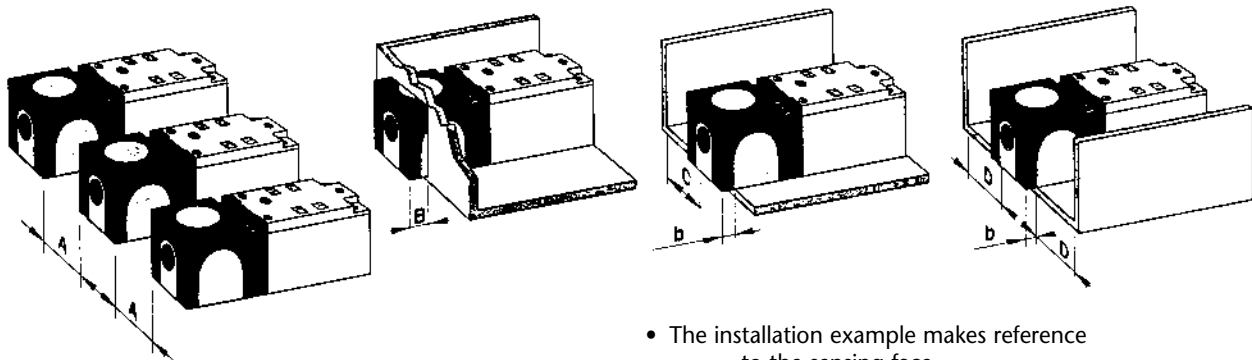


Frontal view



Version with terminal block - top view

300-3-4220-XX



- The installation example makes reference to the sensing face.

DIMENSIONS mm	A	B	b	C	D
SHIELDED	>30	>6	>0	>0	>0
NON-SHIELDED	>40	>40	>15	>10	>15