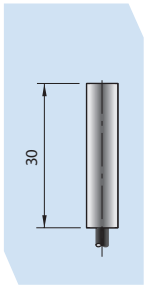
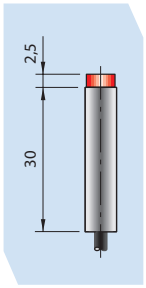
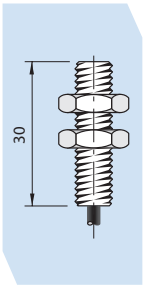
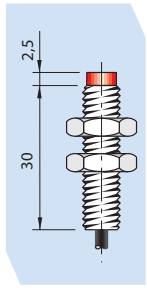
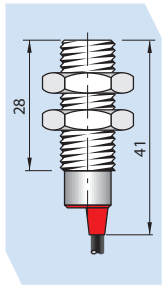
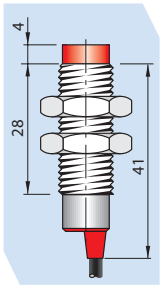
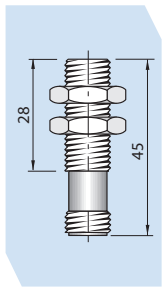
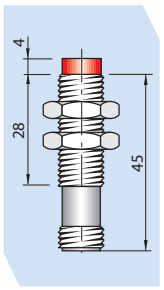
NAMUR INDUCTIVE SENSORS ATEX SERIES

CYLINDRICAL HOUSING Ø 6.5 - M8-M12-M14-M18-M30
2 WIRES D.C. - VERSION-N

▲ EMBEDDABLE (FLUSH MOUNTING)
● NOT EMBEDDABLE
(NON FLUSH MOUNTING)

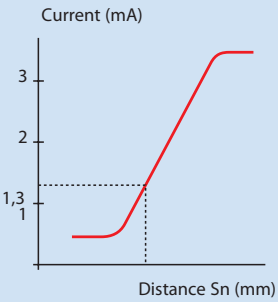
TECHNICAL CHARACTERISTICS

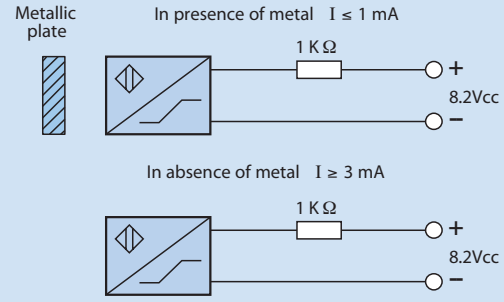
Dimensions mm

	▲ Ø 6,5	● Ø 6,5	▲ M8 x 1	● M8 x 1	▲ M12 x 1	● M12 x 1
						
MODELS WITH CABLE	SI 6.5 - N1 AG1 EX	SI 6.5 - NE2 AG1 EX	SI 8 - N1 AG1 EX	SI 8 - NE2 AG1 EX	SI 12 - N2 AG1 EX	SI 12 - NE4 AG1 EX
						
MODELS WITH CONNECTOR	-	-	-	-	SI 12 - N2 H AG1 EX	SI 12 - NE4 H AG1 EX

Switching distance (Sn)	mm	1	2	1	2	2	4
Continuous voltage (residual ripple ≤10%)	V	8,2					
Absorption current at 8.2V	mA	In presence of metal ≤ 1 mA - In absence of metal ≥ 3 mA					
Switching frequency	Hz	2000		2000		2000	
Repeatability	% of Sn	≤ 3					
Temperature limits	°C	-20 ÷ +70					
IP rating	IP	67 (With H depending on connector)					
Housing		Nickelled brass					
Cable PVC blue	3 m	2 x 0.25 mm²		2 x 0.25 mm²		2 x 0.25 mm²	
Connector plug		-		-		H	
MARKING		Ex II 1G EEx ia IIC T6				Ex II 1G EEx ia IIC T5	

WORKING PRINCIPLE



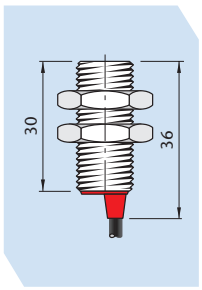
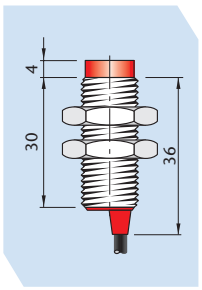
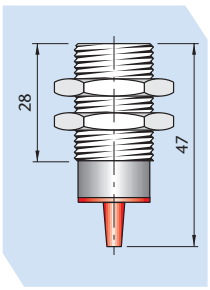
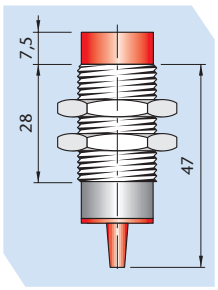
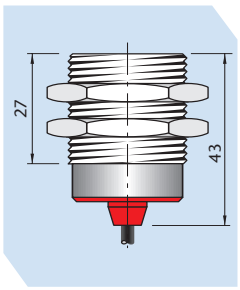
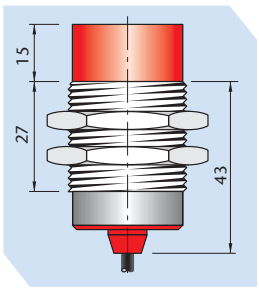
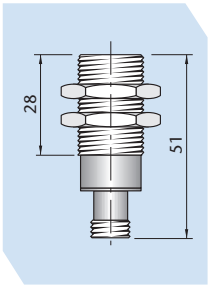
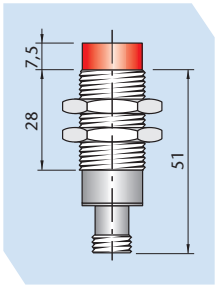
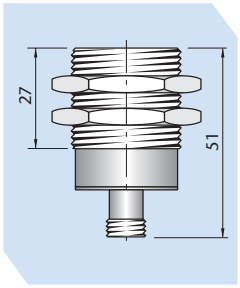
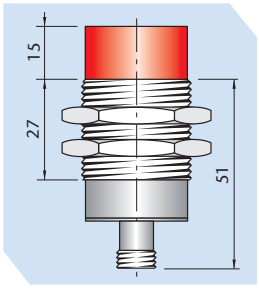


N.B.: upon request cable for sensors with different lengths 5, 10 metres is available.

sales@z-trauq.com 877-798-7287 www.z-trauq.com

NAMUR INDUCTIVE SENSORS ATEX SERIES

CONFORMITY:
- 94/9 EC ATEX Directive
- EC Type Examination: CESI 04 ATEX 131
- Production Quality Assurance Notification: CESI 04 ATEX 132Q
- 89/336 EC Electromagnetic Compatibility Directive
- EN60947-5-6 Namur Standard

▲ M14 x 1	● M14 x 1	▲ M18 x 1	● M18 x 1	▲ M30 x 1.5	● M30 x 1.5
					
SI 14 - N3 AG1 EX	**SI 14 - NE5 AG1 EX**	**SI 18 - N5 AG1 EX**	**SI 18 - NE8 AG1 EX**	**SI 30 - N10 AG1 EX**	**SI 30 - NE15 AG1 EX**
					
-	-	**SI 18 - N5 H AG1 EX***	**SI 18 - NE8 H AG1 EX**	**SI 30 - N10 H AG1 EX**	**SI 30 - NE15 H AG1 EX**
3	5	5	8	10	15
8,2					
In presence of metal ≤ 1 mA - In absence of metal ≥ 3 mA					
2000		1000		500	
≤ 3					
-20 ÷ +70					
67 (With H depending on connector)					
Nickelled brass					
2 x 0.25 mm²		2 x 0.50 mm²		2 x 0.50 mm²	
-		H		H	
Ex II 1G EEx ia IIC T5		**Ex II 1G EEx ia IIB T5**		**Ex II 1G EEx ia IIB T6**	

APPLICATIONS

The NAMUR proximity switches ATEX SERIES are electronic sensors whose absorbed current varies in the presence of metallic objects.
The reduced dimensions, the low values of voltage, current and impedance, allows them to be used in various applications in explosive areas where an explosive mixture of AIR and GAS is present.

CONNECTION TO INTRINSICALLY SAFE CIRCUITS
See pag. 7

(*) Only for this model the MARKING is: **Ex II 1G EEx ia IIC T5**

NAMUR INDUCTIVE SENSORS ATEX SERIES

RECTANGULAR HOUSING SIPA8 - SIPC8 - SIP10 - SIP12 - SIP17 - SIP40 - SIQ80
2 WIRES D.C. - VERSION-N

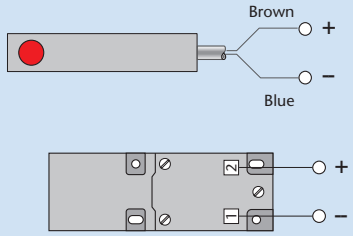
▲ **EMBEDDABLE** (FLUSH MOUNTING)
● **NOT EMBEDDABLE**
(NON FLUSH MOUNTING)

TECHNICAL CHARACTERISTICS

Dimensions mm

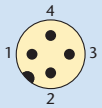
		▲	▲	▲
MODELS WITH CABLE		**SIP A8 - N1.5 AG1 EX**	**SIP C8 - N1.5 AG1 EX**	**SIP 10 - N2 AG1 EX**
MODELS WITH CONNECTOR		-	-	-
Switching distance (Sn)	mm	1.5	1.5	2
Continuous voltage (residual ripple ≤10%)	V	8,2		
Absorption current at 8.2V	mA	In presence of metal ≤ 1 mA - In absence of metal ≥ 3 mA		
Switching frequency	Hz	2000	2000	1000
Repeatability	% of Sn	≤ 3		
Temperature limits	°C	-20 ÷ +70		
IP rating	IP	67		
Housing			Nikelled Brass	Plastic
Cable PVC blue	3 m	2 x 0.25 mm²	2 x 0.25 mm²	2 x 0.25 mm²
Connector plug		-	-	-
MARKING		**II 1G EEx ia IIC T6**		**II 1G EEx ia IIB T6**

WIRING DIAGRAMS WITH CABLE OR TERMINAL BLOCK

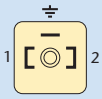


N.B.: Upon request cable for sensors with different lengths 5 - 10 metres is available.

CONNECTION WITH H - K PLUG

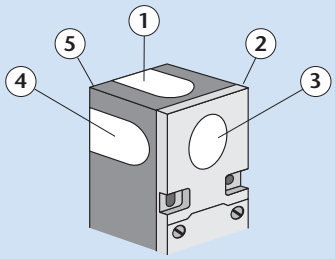


VIEW OF MALE CONNECTOR **H**
1 = Brown / **+**
2 = Blue / **–**



VIEW OF MALE CONNECTOR **K**
1 = Blue / **–**
2 = Brown / **+**

ADJUSTABLE SENSING SIDE

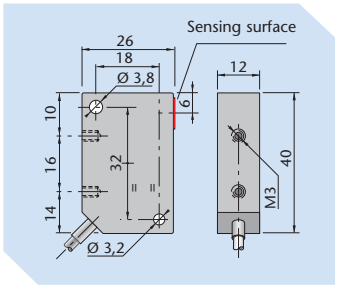


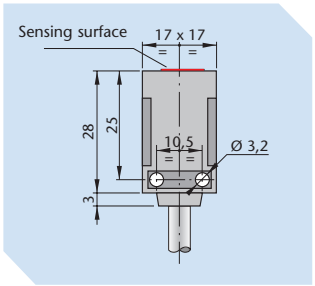
NOTE: In the SIP 40 sensor the oscillator is contained in a module which clips into the body whose surface can then be sensitive on five different positions. The surface chosen can be identified by applying the enclosed circular adhesive label.

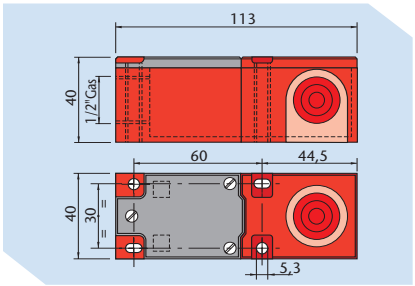
NAMUR INDUCTIVE SENSORS ATEX SERIES

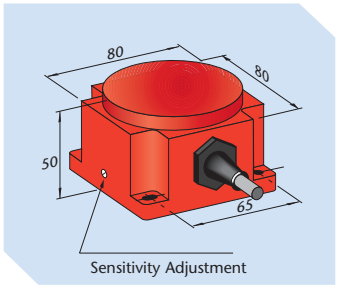
CONFORMITY:
- 94/9 EC ATEX Directive
- EC Type Examination: CESI 04 ATEX 131 (*)
- Production Quality Assurance Notification: CESI 04 ATEX 132Q (*)
- 89/336 EC Electromagnetic Compatibility Directive
- EN60947-5-6 Namur Standard

(*) For 1G and 2G Category Sensors only.

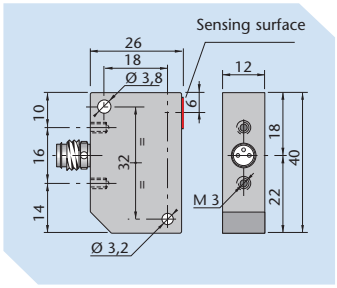


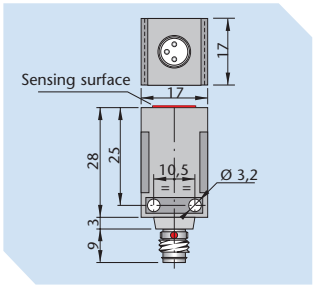


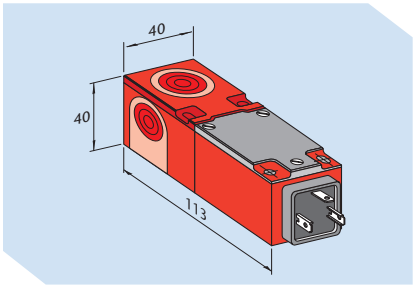


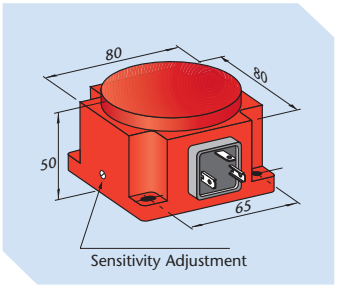


SIP 12 - N2 AG1 EX	SIP 12 - NE4 AG1 EX	SIP 17 - NE5 AG1 EX	SIP 40 - N15 AG3 EX	SIP 40 - NE20 AG3 EX	SIQ 80 - NE50 AG3 EX



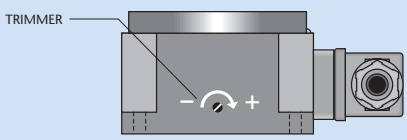






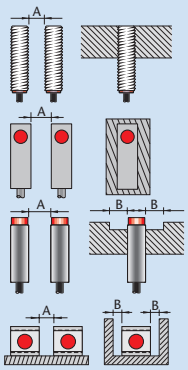
-	-	-	SIP 40 - N15 K AG3 EX	SIP 40 - NE20 K AG3 EX	SIQ 80 - NE50 K AG3 EX
2	4	5	15	20	10 ÷ 60 (Adjustable)
8,2					
In presence of metal ≤ 1 mA - In absence of metal ≥ 3 mA					
2000		2000	500		100
≤ 3					
-20 ÷ +70					
67			65 (IP67 with cable)		
Plastic					
2 x 0.25 mm²		2 x 0.25 mm²	Terminal block (On request with 3 mt cable)		2 x 0.50 mm²
-		-	K		K
II 1G EEx ia IIA T5		II 1G EEx ia IIB T5	II 3G EEx nL IIC T6		

SENSITIVITY ADJUSTMENT



This sensor is supplied with a trimmer for the sensitivity adjustment. The sensitivity increases when the trimmer is rotated in the clockwise direction and de-creases in the anti-clockwise direction. Avoid using for a sensing distance greater than 60 mm referred to a square piece of (FE 37) steel of 1 mm thickness the side of which is equal to 100 mm. When setting the sensor keep in consideration all other metallic objects nearby, in fact setting is suggested to be made when the sensor is installed in the normal working conditions.
The sensor is supplied already pre-set to 50 mm sensitivity.

INSTRUCTIONS FOR CORRECT INSTALLATION



Embeddable Cylindrical models

Embeddable Rectangular models

Not embeddable Cylindrical models

Not embeddable Rectangular models

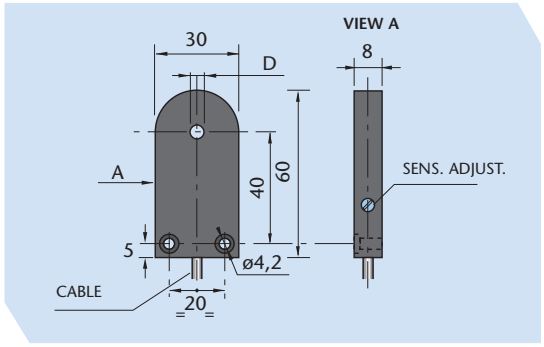
	▲ (A) mm	● (A) mm	● (B) mm
SI 6.5	≥ 4	≥ 16	≥ 8
SI 8	≥ 4	≥ 16	≥ 8
SI 12	≥ 6	≥ 24	≥ 12
SI 14	≥ 7	≥ 28	≥ 14
SI 18	≥ 9	≥ 36	≥ 18
SI 30	≥ 15	≥ 60	≥ 30
SIP A8	≥ 2	-	-
SIP C8	≥ 2	-	-
SIP 10	≥ 10	-	≥ 0
SIP 12	≥ 6	≥ 12	≥ 6
SIP 17	-	≥ 20	≥ 6
SIP 40	≥ 30	≥ 50	≥ 15
SIQ 80	-	≥ 450	≥ 70

N.B. A = Mutual interference - B = Interference with metallic part

NAMUR INDUCTIVE SENSORS ATEX SERIES

RING HOUSING SIA05 - SIA12 - SIA15 - SIA22 - SIA30 - SIA44 - SIA63 - SIA100
2 WIRES D.C. - VERSION-N

NOT EMBEDDABLE
(NON FLUSH MOUNTING)



TECHNICAL CHARACTERISTICS

Dimensions mm

MODELS WITH CABLE		**SIA 05 - NE AG1 EX**	**SIA 12 - NE AG1 EX**	**SIA 15 - NE AG1 EX**
MODELS WITH CONNECTOR		-	-	-
Hole diameter (D)	mm	5	12	15
Continuous voltage (residual ripple ≤10%)	V	8,2		
Absorption current at 8.2V	mA	In presence of metal ≤ 1 mA - In absence of metal ≥ 3 mA		
Switching frequency (min-max)	Hz	600 ÷ 1500	600 ÷ 1000	600 ÷ 1000
Repeatability	% of Sn	< 0.3		
Temperature limits	°C	-20 ÷ +70		
IP rating	IP	65 (H1 depending on connector)		
Housing		Plastic		
Cable PVC blue	3 m	2 x 0.25 mm²		
Connector plug		-	-	-
MARKING		**II 1G EEx ia IIA T6**		

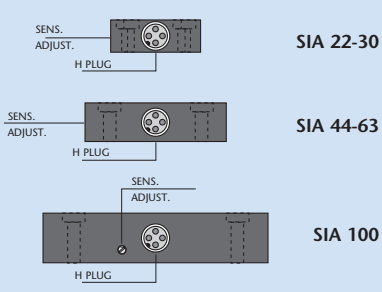
SPECIFICATIONS

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. Also useful in verifying breakage of metal wires that pass through the ring. The ring sensor's housing is in plastic and electrical attachments can be made by means of a cable or M8 and M12 connectors depending on the model type.

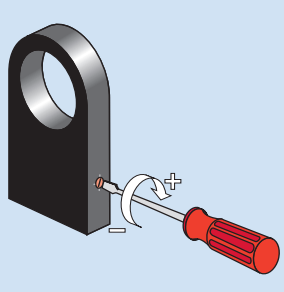
MIN. DIMENSIONS OF THE OBJECT (Fe37) TO DETECT

Model	Length mm	Diameter mm
SIA05	1	0.7
SIA12	2	1.2
SIA15	2	1.2
SIA22	6	3
SIA30	7	4
SIA44	9	5
SIA63	12	6
SIA100	20	12

PLUG H OUTPUT POSITION VIEW



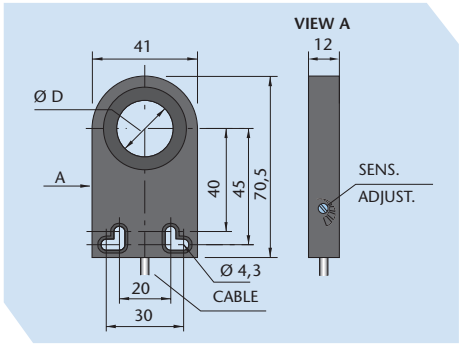
SENSITIVITY ADJUSTMENT

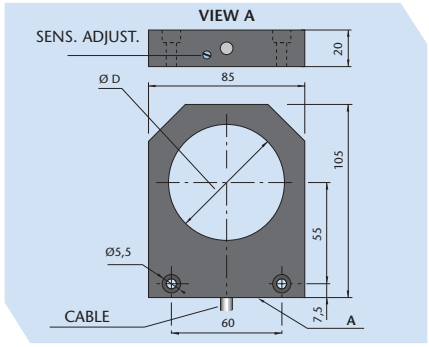


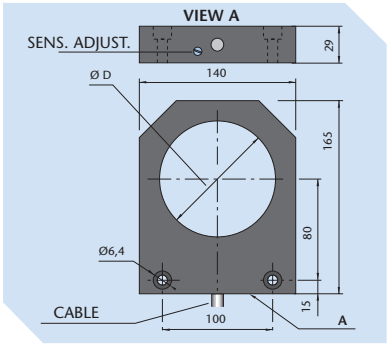
NAMUR INDUCTIVE SENSORS ATEX SERIES

CONFORMITY:
- 94/9 EC ATEX Directive
- EC Type Examination: CESI 04 ATEX 131 (*)
- Production Quality Assurance Notification: CESI 04 ATEX 132Q (*)
- 89/336 EC Electromagnetic Compatibility Directive
- EN60947-5-6 Namur Standard

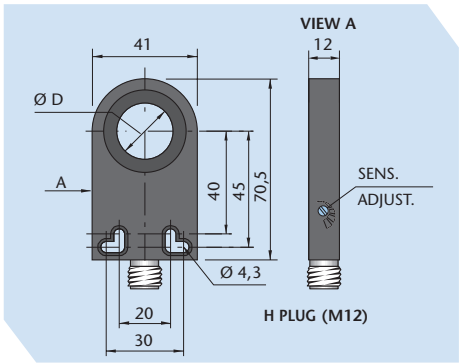
(*) For 1G and 2G Category Sensors only.

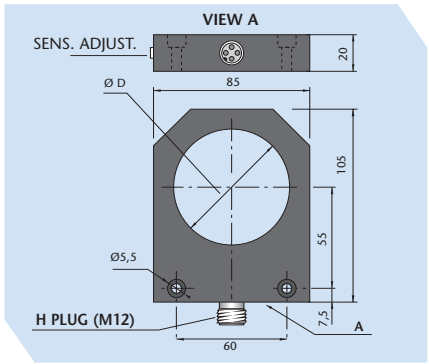


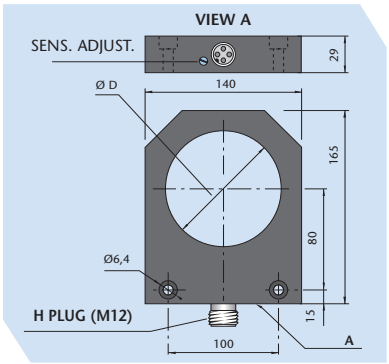




SIA 22 - NE AG2 EX	SIA 30 - NE AG2 EX	SIA 44 - NE AG3 EX	SIA 63 - NE AG3 EX	SIA 100 - NE AG3 EX







SIA 22 - NE H AG2 EX	SIA 30 - NE H AG2 EX	SIA 44 - NE H AG3 EX	SIA 63 - NE H AG3 EX	SIA 100 - NE H AG3 EX
22	30	44	63	100
8,2				
In presence of metal ≤ 1 mA - In absence of metal ≥ 3 mA				
600 ÷ 1000	600 ÷ 800	250 ÷ 600	100 ÷ 200	100
< 0.3				
-20 ÷ +70				
65 (H depending on connector)				
Plastic				
2 x 0.25 mm²	2 x 0.50 mm²			
H	H	H	H	H
II 2G EEx ia IIB T6		II 3G EEx nL IIC T6		

SELECTION OF RING SENSOR
Selection should be made based on the minimum hole diameter required. In this way the sensitivity adjustment can be made within normal parameters and need not be pushed to the maximum risking the proper functioning of the unit.

CONNECTION TO INTRINSICALLY SAFE CIRCUIT
See pag. 7

CONNECTION TO ENERGY LIMITED CIRCUIT
See pag. 7

SENSITIVITY ADJUSTMENT
After having followed the instructions regarding 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 it' s functioning. The sensitivity increases turning the trimmer 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. When applying to a metal surface make sure not to apply too close to ring hole otherwise sensor may not-function correctly.

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 one sensor is to be installed in close vicinity, the minimum distance indicated between sensors should be maintained as per chart indications.

INSTRUCTIONS FOR CORRECT INSTALLATION

Fig. 1

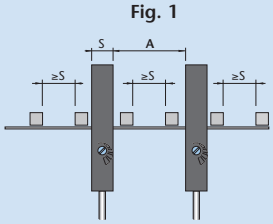
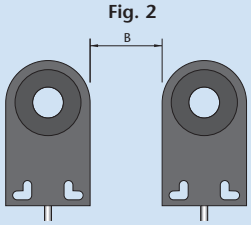


Fig. 2



Model	SIA05	SIA12	SIA15	SIA22	SIA30	SIA44	SIA63	SIA100
A (Fig. 1) mm	25	30	30	60	60	300	300	600
B (Fig. 2) mm	10	10	10	20	20	250	250	650