

CODES (COMPACT detector + mounting kit ⁽¹⁾)



PVC lead, 5 m long, 3 wires 0.14 mm ² , stripped ends			
zones	classification	type-examination certificate	ILS catalogue number
0-20/1-21/2-22	II 1GD EEx ia IIC T4 IP65 T125°C ⁽²⁾	INERIS 03 ATEX0131	88144225
20/21/22	II 1D IP65 T125°C	INERIS 03 ATEX0131	88144226
2-22	II 3GD EEx nA IIC T4 IP65 T125°C	INERIS 03 ATEX3016	88144227
22	II 3D IP65 TaX°C TX°C ⁽³⁾	-	88144214

(1) Detector supplied with mounting kit (special nut + screw) for direct fitting to cylinder grooves

(2) Compatible barriers and interfaces

Manufact.	Version	Module type
PEPPERL & FUCHS	1-way	KFD2-SR2-Ex1.W
		KFA5-SR2-Ex1.W
		KFA6-SR2-Ex1.W
	2-way	KFD2-SR2-Ex2.W
		KFA5-SR2-Ex2.W
		KFA6-SR2-Ex2.W

Manufact.	Version	Module type
MTL	1-way	MTL5011B Zener MTL7741 Zener MTL7787+
	2-way	MTL 5018 MTL5018ac Zener MTL7743 Zener MTL7789+

(3) Max. surface temperature classification :
of detector mounted on cylinder (PES-PEC)

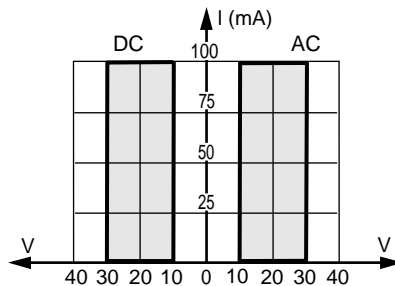
Ambient temperature TaX°C	20	40	60
Surface temperature TX°C (ILS)	85	85	100

of detector alone

Ambient temperature TaX°C	20	40	60	70
Surface temperature TX°C (ILS)	85	85	85	85

MAXIMUM ELECTRICAL CHARACTERISTICS AND PROTECTION OF MAGNETIC DETECTOR (REED SWITCH)

Note: The switching point must remain within the limits of the shaded area. Any excess voltage or power may damage the detector.



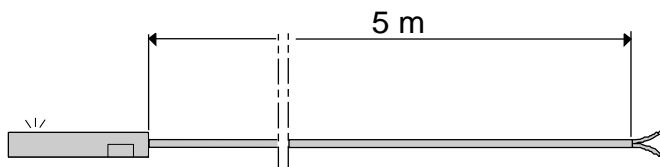
INDUCTIVE LOAD		100 Ω 4 W	100 Ω 4 W
		0,1 μF 250 V	0,1 μF 250 V
RESISTIVE LOAD		Protection not necessary	

PARTICULAR APPLICATIONS (valid for all models)

- Detectors used for direct control of incandescent lamps: The capacity specified on the lamp is based on its resistance when hot. When switched on, the resistance of the cold lamp is very low. Therefore, the current rises quickly and may exceed the reed switch rating. Allowance should therefore be made for the real power of the cold lamp.
- With leads longer than 10 m, a 1000 Ω resistor must be fitted in series with the detector to reduce the capacitive effect caused by the wiring.

R = 4 W resistor. Standard CCTU resistors code RP 59, C = paper, polycarbonate or metallized mylar capacitor. The user is responsible for supplying and assembling of components.

RED SWITCH CONNECTION



The detectors reed switch are not polarized

PVC lead outlet Ø 3 mm with stripped ends, 2 wires 0.14 mm²

ACCESSORIES

description	catalogue number
Cable cover and holder (sold by the metre - minimum length = 1 m)	88144212 ⁽¹⁾

(1) For your order please add the requested length (in metres) to the order code - example: 2 m = 881 44 212 2

"COMPACT" MAGNETIC POSITION DETECTOR MAGNETO-RESISTIVE TYPE (MR)

for pneumatic cylinders : PES with tie rods, PES 453
or PEC with profiled barrel and dovetail grooves



- Detectors intended for use in potentially explosive atmospheres zones 0-20, 1-21, 2-22 in accordance with **ATEX directive 94/9/EC**
- Compliance with the Essential Health and Safety Requirements has been assured by compliance with European Standards **EN 50014** and **EN 50281-1-1**.

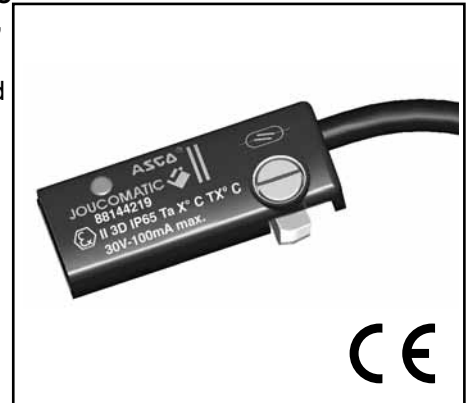
CLASSIFICATIONS : see following page

PRINCIPE


Static non-contact proximity switch on air cylinders equipped with built-in permanent magnets.

FUNCTIONAL DESCRIPTION

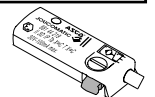
When the permanent magnet which is mounted on the piston approaches the detector the magnetic field it generates causes the semiconductors' resistors to change. This current variation increases the resistance and a switching signal is generated.



DETECTOR CHARACTERISTICS

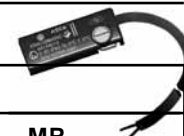
MAX. SWITCHING POWER	3 W			
SWITCHING VOLTAGE	10 to 30 VDC			
MAX. SWITCHING CURRENT	100 mA			
CONNECTION	PNP			
VOLTAGE DROP (EN 60.947-5-2)	< 1,1 volt (I = 50 mA)			
VOLTAGE DROP (EN 60.947-5-2)	< 1,2 volt (I = 100 mA)			
MAX: LEAKAGE CURRENT	10 µA			
MAX. ALLOWABLE OVERVOLTAGE	max. 40 volt (10 seconds)			
INSULATION RESISTANCE (500V)	20x10 ⁶ ohm			
SENSITIVITY	min. 2 mTesla (20 Gauss)			
RESPONSE TIME	opening	0,2 ms		
	closing	0,1 ms		
REPEATABILITY	± 0,1 mm			
LIFE	5x10 ⁷ operations			
WORKING TEMPERATURE	- 25°C , + 70°C			
ELECTRICAL PROTECTION	Polarized detector, protectec against short-circuits and overloads (see opposite)			
HOUSING	Thermoplastic housing (PA-FV) with polyamide resin encapsulated printed circuit			
DEGREE OF PROTECTION (CE I 529)	IP65			
SIGNAL INDICATION	Yellow diode (LED) which lights up during switching			
CONNECTION	 <p>PVC lead, 2 or 5 m long, 2 wires 0.14 mm², stripped ends</p>			
weight (g)	54			
compatible cylinders	description	catalogue number		
ATEX PEC, PES 453	Reed switch type COMPACT detector + mounting kit (1)	see catalogue numbers table on the following page		
ATEX PES cylinders with tie rods	Accessory : cylinder mounting kit (2)	25-32-40	50-63	80-100
		88100667	88100668	88100669

- (1) Detector supplied with mounting kit (special nut + screw) for direct fitting to ATEX PEC or PES 453 cylinder grooves
(2) **Accessory** : mounting kit for direct fitting to ATEX PES cylinders with the rods



ACCESSORIES AND OTHER ELECTRICAL CHARACTERISTICS: see following page

CODES (COMPACT detector + mounting kit ⁽¹⁾)



PVC lead, 5 m long, 3 wires 0.14 mm ² , stripped ends			
zones	classification	type-examination certificate	MR catalogue number
0-20/1-21/2-22	II 1GD EEx ia IIC T4 IP65 T125°C ⁽²⁾	INERIS 03 ATEX0131	88144228
20/21/22	II 1D IP65 T125°C	INERIS 03 ATEX0131	88144229
2-22	II 3GD EEx nA IIC T4 IP65 T125°C	INERIS 03 ATEX3016	88144230
22	II 3D IP65 TaX°C TX°C ⁽³⁾	-	88144219

(1) Detector supplied with mounting kit (special nut + screw) for direct fitting to cylinder grooves

(2) Compatible barriers and interfaces

Manufact.	Version	Module type
MTL	1 voie	Zener MTL7787+
PEPPERL & FUCHS	2 voies	Z787 (Zener)

(3) Max. surface temperature classification :
of detector mounted on cylinder (PES-PEC)

Ambient temperature TaX°C	20	40	60
Surface temperature TX°C (MR)	85	100	-

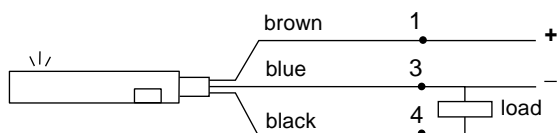
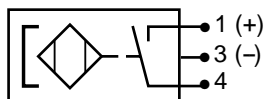
of detector alone

Ambient temperature TaX°C	20	40	60	70
Surface temperature TX°C (MR)	85	85	85	100

ELECTRICAL PROTECTION

- Output protected against short-circuit as long as the output current is restricted to 0.1 A.
- Improper wire connection may prevent the detector from operating or even destroy it.
- It is recommended to install a protection diode (mounted in parallel) on an inductive load in spite of the internal protection.

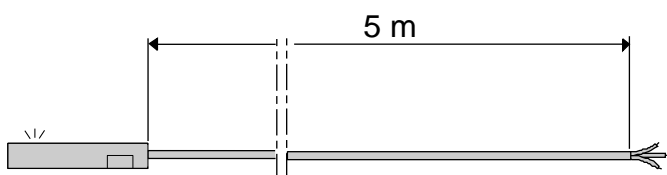
CONNECTION (PNP)



Polarities to be observed



CONNECTION OF MAGNETO-RESISTIVE DETECTORS




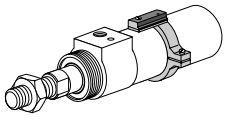

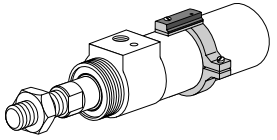
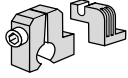
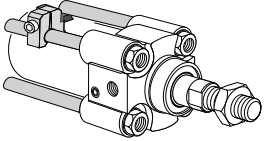


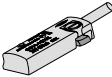
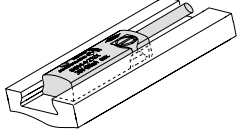
PVC lead outlet Ø 3 mm, stripped ends
3 wires 0.14 mm² - Brown wire : +
Blue wire : -
Black wire : load

ACCESSORIES

description	catalogue number
Cable cover and holder (sold by the metre - minimum length = 1 m)	88144212 ⁽¹⁾

(1) For your order please add the requested length (in metres) to the order code - example: 2 m = 881 44 212 2

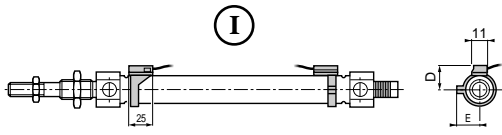
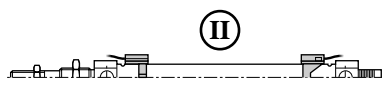
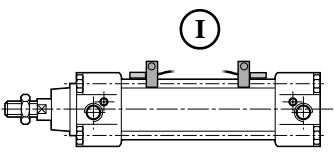
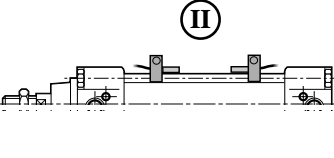
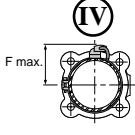
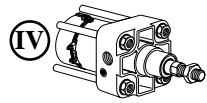
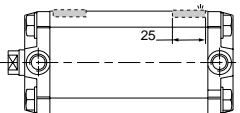
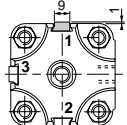
"COMPACT" DETECTOR MOUNTING KITS FOR ASCO/JOUCOMATIC CYLINDERS

cylinders		page	cylinder Ø	catalogue number fastening kit	illustration	
type	series				Fixation kit	Adaptation
ISOCLAIR - C.AS - CC.AS - CIB	435 435 447	P220 P220-11 P275-4	8	88100657		
			10	88100658		
			12	88100659		
			16	88100660		
			20	88100661		
25	88100662					
ISOCLAIR - CIS - CIB	438 447	P225 P275-4	32	88100663		
			40	88100664		
			50	88100665		
			63	88100666		
- PES 450 - PES Ω - PCN (CNOMO) (tie rods)	450 450 437	P232 P231 P245	(25) 32-40	88100667		
			50-63	88100668		
			80-100	88100669		
			125	88100671		
			160	88100672		
			200	88100673		
- K - KN - PEC - P2L - P2B - PES 453	441 442 449 447 453	P215 P216 P227 P275 P229	8 ... 16 20 ... 100 32 ... 100 16 ... 32 32 ... 100	(1)	(1) 	

(1) Fastening mini-kit (special nut + screw) supplied **with** detectors

PES 450 cylinders **with tie-rods**, **PES 453** and **PEC** cylinders exist in **double acting** versions intended for use in **potentially explosive atmospheres caused by gases, vapours, mists an/or dusts (ATEX directive 94/9/EC)**.

"COMPACT" DETECTOR MOUNTING KITS FOR ASCO/JOUCOMATIC CYLINDERS

dimensions		mounting recommendations																																													
<p>It is possible to mount magnetic detectors for intermediate position indication :</p> <p>ISOCLAIR cylinders Ø 8 - 63 mm : mounting by collar</p>  <table border="1" data-bbox="207 537 837 649"> <thead> <tr> <th>Ø vérin</th> <th>8</th> <th>10</th> <th>12</th> <th>16</th> <th>20</th> <th>25</th> <th>32</th> <th>40</th> <th>50</th> <th>63</th> </tr> </thead> <tbody> <tr> <td>D</td> <td>11.3</td> <td>12.3</td> <td>13.3</td> <td>15.3</td> <td>17.3</td> <td>19.8</td> <td>23.3</td> <td>27.3</td> <td>32.3</td> <td>38.8</td> </tr> <tr> <td>E</td> <td>12</td> <td>13.2</td> <td>14.4</td> <td>16.5</td> <td>18.7</td> <td>21.4</td> <td>26.1</td> <td>30.7</td> <td>35.8</td> <td>42.2</td> </tr> </tbody> </table>		Ø vérin	8	10	12	16	20	25	32	40	50	63	D	11.3	12.3	13.3	15.3	17.3	19.8	23.3	27.3	32.3	38.8	E	12	13.2	14.4	16.5	18.7	21.4	26.1	30.7	35.8	42.2	<p>I On all diameters, it is possible to mount the detector with its electrical outlet facing towards the cylinder barrel (in order to be able to control the max. end of travel of the cylinder).</p> <p>II In order to fasten the detector on cylinder diameters 25 to 63 with its electrical outlet facing towards the cylinder ends, rotate the detector + collar unit by 180°.</p> <p>ISOCLAIR cylinder: Ø8-20: any position. Ø25-63: cable oriented towards the cylinder ends.</p> 												
Ø vérin	8	10	12	16	20	25	32	40	50	63																																					
D	11.3	12.3	13.3	15.3	17.3	19.8	23.3	27.3	32.3	38.8																																					
E	12	13.2	14.4	16.5	18.7	21.4	26.1	30.7	35.8	42.2																																					
<p>Ø 25 to 100 mm</p> <p>The detectors can be mounted on any one of the 4 bosses.</p>   <table border="1" data-bbox="103 952 742 1086"> <thead> <tr> <th>Ø cylinder</th> <th>25</th> <th>32</th> <th>40</th> <th>50</th> <th>63</th> <th>80</th> <th>100</th> <th>125</th> <th>160</th> <th>200</th> </tr> </thead> <tbody> <tr> <td>D</td> <td>26</td> <td>29</td> <td>32</td> <td>40</td> <td>45</td> <td>52</td> <td>61</td> <td>-</td> <td>-</td> <td>-</td> </tr> <tr> <td>E</td> <td>29</td> <td>32</td> <td>34</td> <td>42</td> <td>47</td> <td>51</td> <td>60</td> <td>-</td> <td>-</td> <td>-</td> </tr> <tr> <td>F</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>73</td> <td>90,5</td> <td>112</td> </tr> </tbody> </table> 		Ø cylinder	25	32	40	50	63	80	100	125	160	200	D	26	29	32	40	45	52	61	-	-	-	E	29	32	34	42	47	51	60	-	-	-	F	-	-	-	-	-	-	-	73	90,5	112	<p>I It is possible to fasten the detector with its electric outlet to the centre of the cylinder (in order to be able to control the max. end of travel of the cylinder)</p> <p>II In order to fasten the detector with its electric outlet to the rear, rotate the unit detector + collar by 180°</p> <p>IV Ø 125 to 200 mm (collar mounting)</p> <p>In order to fasten the detector on cylinder diameters 100 to 200 mm with its electrical outlet to the rear, rotate the support + detector by 180° after having loosened the collar (do not remove it).</p> 	
Ø cylinder	25	32	40	50	63	80	100	125	160	200																																					
D	26	29	32	40	45	52	61	-	-	-																																					
E	29	32	34	42	47	51	60	-	-	-																																					
F	-	-	-	-	-	-	-	73	90,5	112																																					
  <p>The magnetic detector fits directly into the grooves in the cylinder body. Detection of very small movements or very short strokes means that more than one groove will have to be used.</p> <p>NOTE: PEC cylinders Ø 32 - 100 mm: 3 grooves in 1,2 and 3 KN cylinders Ø 20 - 25 mm : 3 grooves in 1,2 and 3 Ø 32 - 100 mm: 6 grooves in 1,2 and 3 K cylinders Ø 8 - 12 mm : 2 grooves in 1 and 2 Ø 16 - 100 mm: 3 grooves in 1,2 and 3 PES 453 cylinders Ø 32 mm : 1 «T» grooves - 3 dovetail grooves Ø 40 - 63 mm : 2 «T» grooves - 3 dovetail grooves Ø 80 - 100 mm: 2 «T» grooves - 7 dovetail grooves</p>		<p>In order to control the max. end of cylinder stroke, the detectors must be mounted in the following direction:</p> <p>K cylinder: Ø8-10-12: cable oriented towards the middle of the cylinder Ø16 front cover: any position Ø16 rear cover: cable oriented towards the middle of the cylinder</p> <p>KN-P2B/P2L cylinders: any position</p> <p>PEC cylinder: Ø32-40: cable oriented towards the middle of the cylinder Ø50-100: any position</p> <p>PES 453 cylinder: Ø32-40: cable oriented towards the middle of the cylinder Ø50-100: any position</p>																																													

ASCO/JOUCOMATIC reserves the right to alter the availability and specifications without notice.