



# Micro Detectors

Italian Sensors Technology



Application:  
**Detection of objects  
exiting kilns**

Special model FAI2 version 5I (Optical  
head temperature resistant up to 110°C)



**Photoelectric Sensors**

Application note

CAT3EFA1256901

Application note - FAI2 5I model - english - Ed.01/2012



## MARKET SECTORS

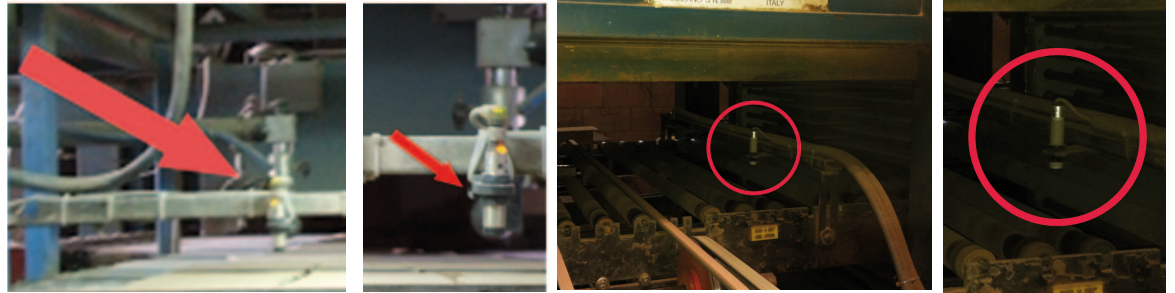
### DESCRIPTION OF THE MARKET SECTOR AND ITS TYPICAL ACTIVITY

Ceramic, desiccators.

Tiles production, panels for metal production industry and metal products industry.

In environments characterized by high temperatures, as kilns, it is necessary to operate with sensors withstanding extreme conditions.

Special model FAI2 version 5I is the best solution due to its optical head unit, suitable to work with temperatures up to 110 °C, and to the fact that it is filled with resin (avoiding electrical damages).

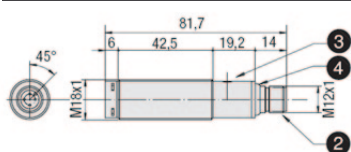


Pics.1 - 4: Example of installations of M.D.'s photoelectric sensors in kilns.

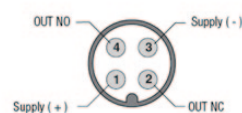
- Optical head temperature up to 110°C
- IP67 protection degree
- Resin filled
- Complete protection against electrical damages
- Power Supply: 10-30 Vdc

Model	FAI2/*P-1E5I
Type	Direct diffuse
Nominale sensing distance(Sn)	100 mm
Tolerance	+ 15 / - 5% Sn
Type of light	Infrared (880 nm)
Repeatability	≤ 10%
Operating voltage	10..30 Vdc
Ripple	≤ 10%
Current consumption	30 mA
Load current	100 mA
Leakage current	≤ 10 µA (Vdc max.)
Output voltage drop	2 V max. (100 mA)
Output type	PNP; L+D (complementary output or Lon)
Switching frequency	250 Hz
Response time	200 ms
Protection of electrical output	Polarity reversal, transient
Protection of electrical output	Short circuit (auto reset)
Immunity to external light	5,000 lux (Incandescent lamp) 10,000 lux (sunlight)
Operative temperature range	-25°C...+70°C (without freeze)
Optical operative temperature range	-25°C...+110°C (without freeze)
Termical drift	10% Sr
LED Indicators	Yellow light status
IP protection degree	IP67 (EN60529)
LED indicators	Yellow (output energized)
Housing material	Nickel-plated brass
Optical material	PC

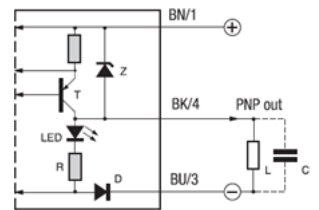
#### Axial optic and axial plug



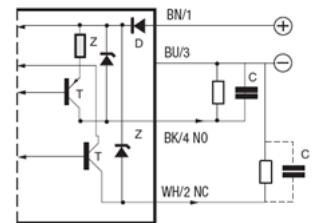
#### M12 - Connector



#### Electrical diagram of connections FAI2/LP-1E5I (3 wires; Light ON)

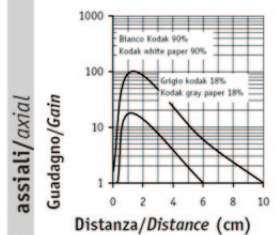


#### Electrical diagram of connections FAI2/BP-1E5I (4 wires PNP / Complementary outputs)

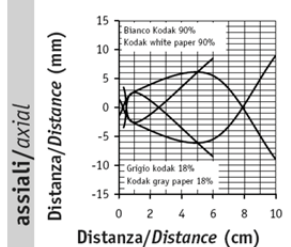


#### Response diagram

- Eccesso di Guadagno
- Excess Gain



- Disassamento parallelo
- Parallel displacement



## TECHNICAL FEATURES

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