

INSTRUCTIONS MANUAL

Magnetic Pick UP Sensor PM-K1-N-J

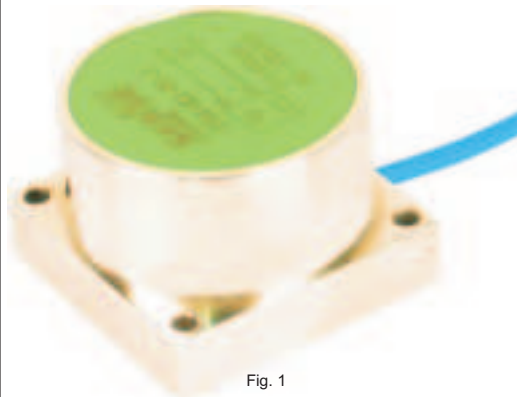
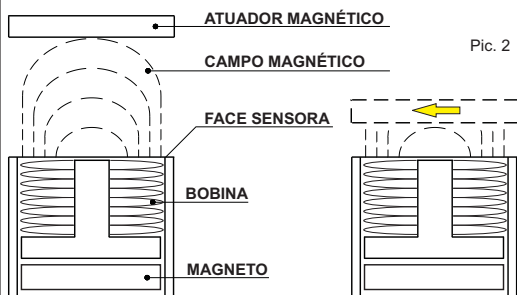


Fig. 1

The magnetic pick-up sensor PM-K1-NJ is designed for applications where it is necessary to detect metallic objects in motion behind the fixed metal parts. The sensor has a magnet and a coil with eight thousand turns which generates a magnetic field and when the metal object passes through the sensor face, this magnetic field is changed, causing the sensor to change state.

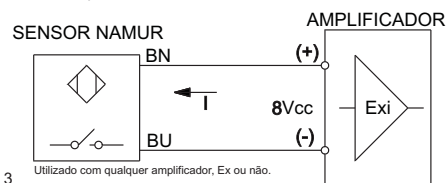


Pic. 2

Nota: O sensor detecta apenas objetos em movimento.

What is Namur Sensor?

Similar to conventional sensors differing only by not having the output stage with a switching transistor. Typically applied in potentially explosive atmospheres.

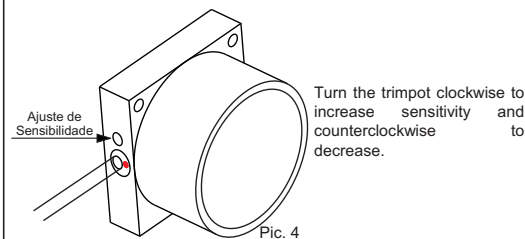


Pic. 3

Utilizado com qualquer amplificador, Ex ou não.

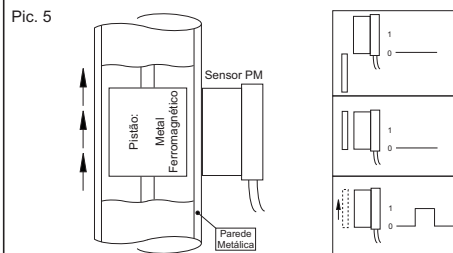
Sensitivity Adjustment:

The sensor has a sensitivity setting that enables the detection of objects with reduced dimensions. The adjustment is made via a trimpot located beside the sensor's signalling LED.



Turn the trimpot clockwise to increase sensitivity and counterclockwise decrease.

Example of use:



A espessura da parede metálica deve ser menor ou igual a 50% da distância máxima ajustada, ou seja, se a distância ajustada para a aplicação for de 10mm, a espessura recomendada para a parede metálica é de 5 mm.

Technical Characteristics

Series	K1
Sensor Distance	10 mm
Operating Distance	9,72 mm
Standard Target	50x50 mm
Hysteresis	5%
Repeatability	<0,01 mm
Max. Switching Frequency	100Hz
Assembly	built-in
Electric Configuration	CC - Namur
Type of contact	NA
Number of wires	2 wires
Supply Voltage	7 a 12 Vcc
Nominal Voltage	8 Vcc
Ripple	5%
Current with activated sensor	< 1 mA
Current with disactivated sensor	> 3 mA
Max. wiring resistance	100Ω
Signalling	red led
Casing	metallic
Connection	2 m cable
Cable Material	PUR
Cable length options	6 m
Protection rate	IP 67
Operating Temperatura	-25 to +70°C
Weight	220 g

Tab. 6

Mechanical Installation:

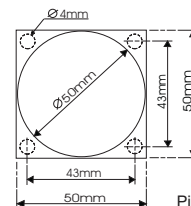
Before installing the sensor in its proper spot check the sensing distance, as if the object is outside the trigger sensitivity of the sensor it will not work and may cause failure of the process. After completing the installation check that the sensor is securely in order to avoid large vibrations that can influence the functioning of the sensor.

Fixating Screw:

We recommend using M4 screws (not included) cylinder head only.

Installation with Nut:

choose the appropriate place in the structure of the machine or equipment and place the sensor in the proper position to detect trigger, mark the mounting holes using a 4 mm drill, insert the screws on the sensor and go into the holes of the plate, fit nuts and hold them tightening the screws (do not overdo it).



Pic. 7

Installation with Thread:

select the appropriate location on the machine frame or equipment observing a minimum thickness of 3.3 mm thread opening, place the sensor in the proper position to detect trigger mark the fixing holes and drill using a 3.3 mm drill, remove burrs and make the thread using a male M4, insert the screws on the sensor and screw the plate and do not overtighten

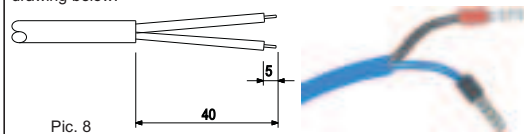
Installation with Support:

If the sensor is mounted in place of difficult access or require adjustment of sensing distance to the target drive, develop adequate support and use of the above methods for fixation.

Electric Installation:

Cable Preparation

The sensors are supplied with tinned ends now, but if the cable needs to be cut we recommend making the tips of the wires according to the drawing below:

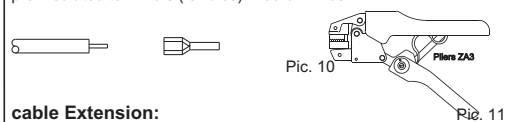


Pic. 8

Be careful when removing the protective cover for not making small cuts in the wires may cause a short circuit between the wires.

Terminals:

To avoid problems and bad contact shorting recommend using pre-insulated terminals (ferrules) fixed on wires.



Pic. 10

cable Extension:

In cases where an extension cable is required to advise the ends on the wires and amend them preferably by welding or force them, but always using heat shrinkable tubing or electrical tape to secure the amendment of the penetration of liquids that can cause problems of low insulation causing burns to the sensor.



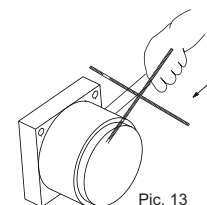
Fig. 12

Precautions:

The following are some precautions that should be taken when installing the sensor:

Connection Cable:

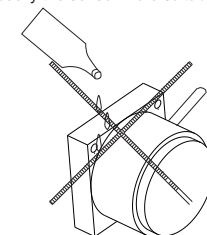
Avoid the cable connecting the sensor is subjected to any mechanical stress.



Pic. 13

Chemical Products:

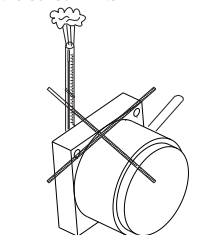
In installations in harsh environments we recommend contacting our technical dept, to specify the sensor more suitable for the application.



Pic. 14

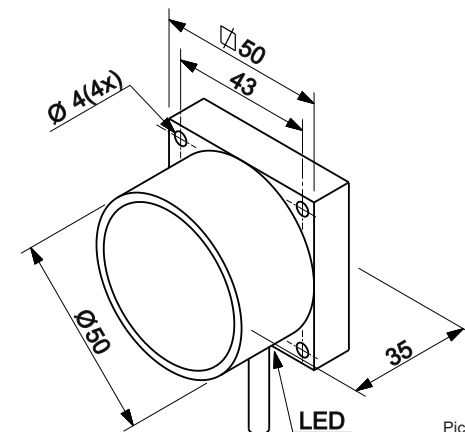
Environmental Conditions:

Avoid subjecting the sensor to environmental conditions with operating temperature above the sensor limits.



Pic. 15

Mechanical Dimension:



Pic. 16

Certification information:

The certification process is coordinated by Inmetro (National Institute of Metrology and Standardization Industrial) that uses the ABNT (Brazilian Technical Standards Association) for the development of technical standards for various types of protection.

The certification process is conducted by OCPs (Product Certification Body accredited by Inmetro), using approved laboratories for type tests on the products and issue the Certificate.

For intrinsically safe the only laboratory accredited to date, is the Labex in downtown Cepel laboratories in Rio de Janeiro, where there are specialized facilities and technicians to perform the various procedures as required by the rules, even to conduct controlled explosions with representative gases of each family.

Certificate of Conformity

The figure below illustrates a certificate of conformity issued by the OCP NCC after the tests and trials carried out in laboratory:



Certificate NCC 24.0089X

Marking:

On marking of **NAMUR INDUCTIVE AND CAPACITIVE PROXIMITY SENSORS**, Models **abc-def-Ng-h-i-j-k-Ex** and Models **PS3-Ma-b-c-d-e- f-g-h-i –Exj** with exceptions that do not fit the code key , the following information must be included:

