MODULOC® Control Systems

SERIES 2000 LONG RANGE INDUCTIVE PROXIMITY SENSORS

Installation, Operation and Instruction Manual

Product Description

The Series 2000 Inductive Proximity Sensors are built specifically for installation in the harshest of industrial environments. They are ideal for mounting flush or slightly below the floor-pan of roller tables and other conveyor systems.

The combination of large sensing distances with base mounting onto or embedded in steel surround allows their installation with complete physical protection. Available in a wide variety of configurations, these sensors offer a very practical solution to the detection of metal product, regardless of its shape and size.

The Integral sensors are available with a variety of base plates or fixing bolts to ensure straightforward installation and allow replacement of old line equipment. The Flat pack detectors allow the user to specify the required length of detector to suit the roller bed width while remote controllers facilitate safe access.

Available in AC and DC formats for direct feedback to PC systems, while at the same time capable of switching contactors or relays.

NON-FLUSH 2100 SERIES, SEMI-FLUSH 2300 SERIES and SEMI-FLUSH FLAT PACK 24/25/2600 SERIES

Mounting Instructions

1. Locate a mounting position to suit the format of the sensor selected. A non-flush unit requires a metal free area of at least twice the configuration of the sensor. A semi-flush unit requires the metal work preferably 50 mms away from the edge of the sensor coil.
2. Firmly bolt down the sensor onto a rigid mounting point.

Adjustment Instructions

1. Remove covering screw and slowly adjust clockwise until sensor sensitivity potentiometer self activates.
2 . Slowly adjust sensitivity potentiometer counter-clockwise until sensor un-latches.
3. The sensor is now set to its maximum range. For repeatable operation the sensitivity of the sensor should be further reduced by at least another half turn counter-clockwise adjustment of the potentiometer. Each additional turn will increase its stability.
4. The sensors effective range now needs to be established. Slowly lower down target/product (smallest metal mass) towards face of sensor until it latches. This distance should be at least 20% greater than the normal pass line of the product.
5. Where the effective range is insufficient to detect product at the intended pass line the sensor should be raised closer to the pass line. Repeat steps 4 onwards until such time the datum is achieved as stated in step (4.).

FLUSH STYLE 2200 SERIES - CLOSELY SURROUNDING METALWORK

Mounting Instructions

1. Firmly mount the sensor ensuring that "closely" surrounding metalwork is no higher than the top face of the flush sensor.
2. Should the metalwork in (1) "closely" surround all four sides of the sensor then a short slot should be cut in one edge. Ensure all surrounding metalwork is firmly secured. Metalwork above the face of the sensor should be preferably 50 mm away from the edge of the sensor coil.
3. **Special Notice** - Where the sensor is mounted close to a steel roller or other moving metalwork the sensor should be calibrated with these items in motion.

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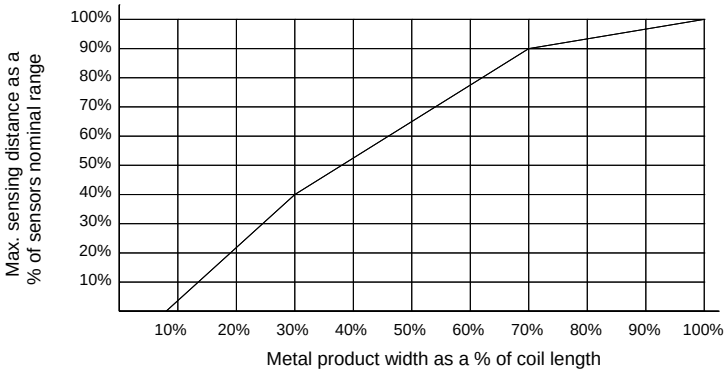
Sensing Range Performance



Establishing sensing range relative to product

As a general guideline, to detect the product as it passes by the sensor, the product should cover at least 20% of the sensor length as well as be within 70% of the affective sensor range.

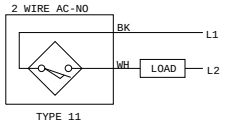
Sensing distance correction factors for various materials:

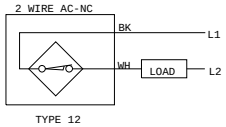
Fe: 1.0	CrNi: 0.85	Brass: .54
Al: 0.5	Cu: .46	

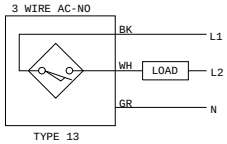
Where the product is expected to be above 100°C , ceramic insulation should be placed across the top face of the sensor. With guidance, it is practical to protect the sensor with steel straps across the top of the sensor. Sensors mounted end to end will necessitate the utilization of alternate frequency units.

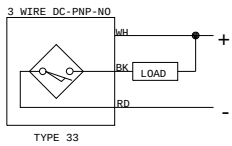
Technical Specifications

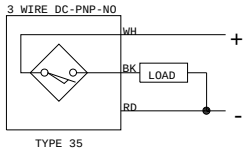
Mechanical		
Temperature Range	-10°C to +70°C	Self-contained Sensor and Remote Controller
	-40°C to +93°C	Remote Sensor
Enclosure Material	ABS or Marine Glass Fiber	
Encapsulation Material	Polyurethane Resin	Sensors are fully encapsulated.
Enclosure Rating	IP66	
Vibration & Shock Rating	Better than DIN 89011 Cat 2	
Electrical	***AC Models***	***DC Models***
Operating Voltage	80 - 250VAC, 50/60 Hz	24VDC +/- 15%
Short Circuit Protection	350 mA	450 mA
Minimum Load 2 Wire Models	21/22/2300 Series: 7 mA	-
	24/25/2600 Series: 7 mA	-
Leakage Current at 110 VAC 2 Wire Models	21/22/2300 Series: 1 mA	-
	24/25/2600 Series: 5 mA	-
Voltage Drop at 110 VAC 2 Wire Models	21/22/2300 Series: 16V for 30 mA load 21V for 220 mA load	-
	24/25/2600 Series: 16V for 30 mA load 21V for 220 mA load	-
Supply Connection Cable	Brad Harrison Connector with mating Plug provided on self-contained sensors. Oilflex cable , 1.5-meter length provided on remote sensors. Optional armored cable is also available.	

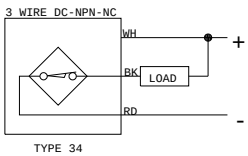


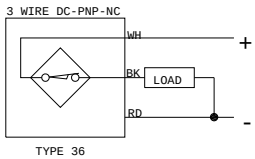












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