

Specification - M3001V10AI

Supply: 24-240v ac/dc.
 Supply Rating 2VA.
 Output FET
 Switching Capacity: .. 200mA max.
 Saturation Voltage: ... 5 volts max (output on).
 Ambient Temp: -15°C to +50°C.
 Output State: Normally closed (Volt drop 5 volts max) above set speed. Normally open (leakage current 1.5mA max).
 Calibration: Automatic. Initiated by magnet supplied.
 Sensing Range: Nominally 12mm on ferrous metal & 5mm on non-ferrous metal at 25°C.
 Input Pulse Range: ... 10 to 3600 p.p.m.
 Repeat Accuracy: 1%.
 Start Up Delay: Adjustable to 0 - 60 seconds.
 Operation Setting..... Automatic calibration by applying magnet to 'Cal' point. Relay de-energises at 20% under set speed .
 Enclosure: Moulded Nylon. DIN threaded 30mm by 1.5mm pitch.
 Protection: IP65.
 Relative Humidity: 90% RH.
 LED Indication Target Detected & Output.
 Cable Supplied with 5 metres 2 core 600/1000V flame retardant to EN60332-1.

Specification - M3005V10AI

Supply: 12-240V dc or 24-240V ac.
 Supply Rating 2VA.
 Output S.P.C.O. Relay
 Switching Capacity: ... 3A 240V non-inductive maximum.
 Ambeint Temp: -15°C to +50°C.
 Output State: Normally open. Closed above set speed.
 Calibration: Automatic. Initiated by magnet supplied.
 Sensing Range: Nominally 12mm on ferrous metal & 5mm on non-ferrous metal at 25°C.
 Input Pulse Range: ... 10 to 3600 p.p.m.
 Repeat Accuracy: 1%.
 Start Up Delay: Adjustable to 0 - 30 seconds.
 Operation Setting Automatic calibration by applying magnet to 'Cal' point. Relay de-energises at 20% under set speed .
 Enclosure: Moulded Nylon. DIN threaded 30mm by 1.5mm pitch.
 Protection: IP65.
 Relative Humidity: 90% RH.
 LED Indication Target Detected & Output.
 Cable Supplied with 5 metres 5 core 600/1000V flame retardant to EN60332-1.

Guarantee

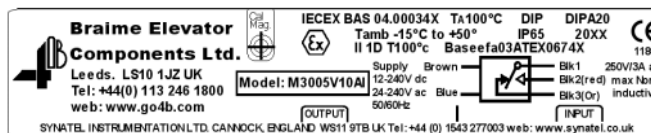
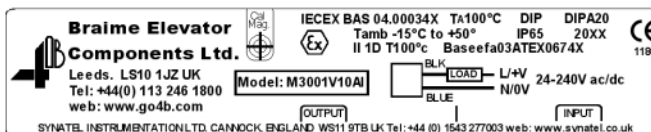
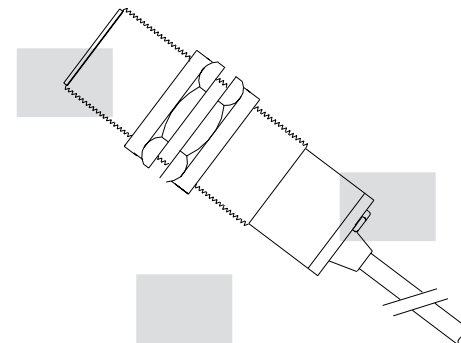
The equipment is covered by a 12 months guarantee from the date of shipment. Any faults arising due to faulty materials or workmanship, within the guarantee period, will be corrected free of charge providing the equipment is returned to us carriage paid.

Certificate of Conformity

The equipment covered by these instructions has been manufactured and tested in accordance with our quality assurance procedures and conforms fully with our published specification.

Health and Safety

Provided that the equipment covered by these instructions is installed and operated as directed, it presents no hazard and conforms fully to health and safety regulations.



When this product is incorporated into other machinery or apparatus, that apparatus must not then be put into service (in the E.C) until it has been declared in conformity with the appropriate E.C Directive/s.



BRAIME ELEVATOR COMPONENTS LTD.
 England, LS10 1JZ
 Telephone: (0113)2457491
 Fax: (0113)2435021
 Web: www.go4b.com



SETEM
 9, route de Corbie
 80800 LAMOTTE WARFUSEE
 Tél : (33) 03 22 42 32 26
 Fax : (33) 03 22 42 37 33
 Web: www.go4b.com

SLIPSWITCH
Type M3001V10AI & M3005V10AI
IECEX & ATEX APPROVED,
SELF CONTAINED
UNDERSPEED MONITOR
Manual No: M2476

INSTALLATION
INSTRUCTIONS

TECHNICAL INFORMATION
UNDERSPEED MONITOR - M300 Series

Introduction

The **SLIPSWITCH** series is designed to detect slippage or stoppage on elevators, conveyors, fans etc. The units require no connection with the shaft, have no moving parts and a virtually unlimited life. They incorporate microcontroller circuitry which automatically calibrates to 20% under normal speed and provides a programmable 0-30 second start up delay.

Installation

The Inductive sensor section detects a metal target on the shaft. The target can be an existing bolt head or similar.

Ideally, the target should be of ferrous metal but non ferrous metal will be detected at short range. Maximum range ferrous/non-ferrous materials is 12/5mm with a 30mm diameter circular target. Smaller targets may be used but operating distance will be reduced.

The **SLIPSWITCH** should be mounted adjacent to the target, ensuring that the distance to the target does not exceed the stated maximum. When mounted against a solid steel shaft, the target or bolt head should protrude from the shaft at least 15mm, otherwise the sensor will not be able to distinguish the target from the shaft and red input light would stay on permanently.

Wiring to the **SLIPSWITCH** can be any length as required, using ordinary unscreened cable. However, if long cable runs are to be used, the wiring should **not** be positioned adjacent to cables carrying high voltage or current.

Two locknuts are provided to mount the units in position. Mount securely to withstand vibration. Ensure that the unit and target are adequately guarded.

Two types of **SLIPSWITCH** are available.

M3001V10AI is a two wire, FET output type sensor.

The **M3001V10AI** must be wired through a load/resistor (see diagram) and not directly to the supply voltage. The supply polarity is not important and the load can be connected in either wire. The cable on the unit can be extended to virtually any length in ordinary 2 wire, cable.

M3005V10AI is a 5 wire, relay output type sensor rated at 3A 240V ac non-inductive.

When installing the **SLIPSWITCH** unit in an exterior location, a suitable UV shield must be fitted over the unit. If located in an area with a high risk of impact additional guarding/protection **MUST** be fitted.

Cabling

Connect the unit as shown in the connections diagram. The **M3001V10AI** is a two wire device. **Do not** connect directly across the supply without a load present.

The **M3001V10AI** is designed to operate into any type of PLC input and as such it only requires approximately 5 milli-watts to operate correctly eg 5 volts at 1 milliamp. Therefore the cabling **MUST** be arranged in such a way as to prevent even the smallest amount of induced voltage from adjacent ac cables being present at the sensor. Failure to do so will cause the sensor to be continually powered and the start-up timer will not operate at true power-on.

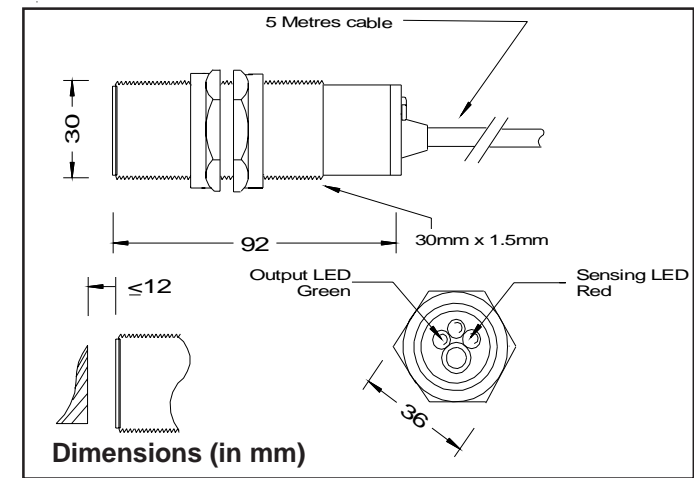
Commissioning & Auto-calibration

Two LED's are provided for information purposes, on the **SLIPSWITCH**. The input LED is red and flashes everytime a target passes the face of the sensor. The output LED is green. With normal running, the output LED is a static green and the output is on (energised). With an underspeed condition both the LED and output will be off (de-energised). The **SLIPSWITCH** is factory set to a speed of 10PPM and a start up time of 5 seconds. If the time delay required is greater than 5 seconds, see 'Recalibration for a Different Setting', otherwise, proceed as follows-

Apply power to the machine and **SLIPSWITCH**. Ensure that the machine has reached normal running speed and then place the magnet on the 'Cal' point, Count flashes of the green LED to set the start delay required in seconds, then remove magnet. The output LED will echo the setting in seconds, during which time, automatic calibration to 20% below normal speed will be carried out.

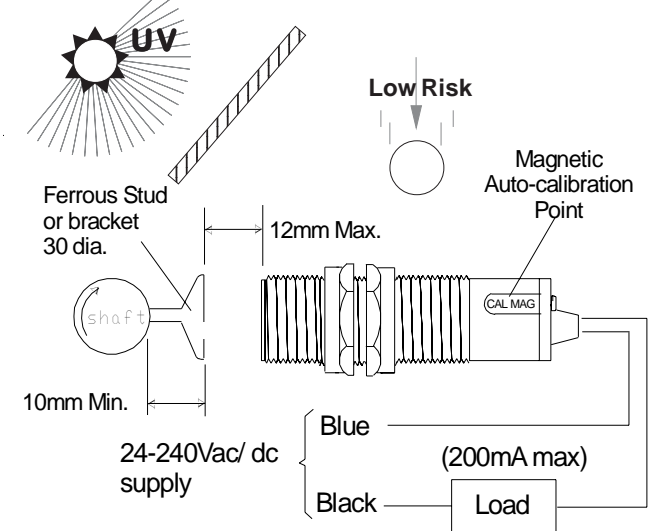
Recalibration for a Different Setting

If the unit is to be used for a slower speed or with longer time delay than previously set, the unit may trip out before it can be calibrated. This can be avoided by applying power while holding the magnet on the Cal point and removing the magnet only when the machine has reached normal speed. Wait for the green LED to illuminate permanently and then recalibrate as above.



Dimensions (in mm)

Connections - M3001V10AI



Note: The load must have the same voltage rating as supply being used.

Connections - M3005V10AI

Operating distances and calibration point etc. as M3001V10AI above, connections shown below.

