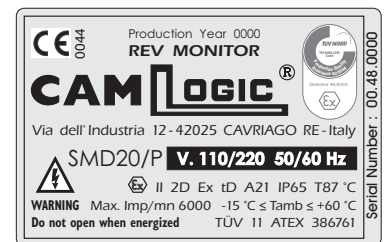


Installation and Maintenance Rules for: Inductive motion detector SMD 20/P

STANDARD FEATURES

The inductive motion detector SMD 20/P is made in compliance with the regulations in force in the European Union and specifically with:

- Die-cast aluminium casing UNI5076. IP65 protection. SMD20, in regards to the classification of zones according to the danger of combustible dust explosion (EC Directive 94/9 EC), can be used in zone 21 or zone 22.
- Installation with carrier bracket.
- Motion detection by induction sensor without mechanical coupling.
- Electrical construction in compliance with EC Directives 73/23, 93/68 on low-voltage electrical material, EC Directives 89/336, 92/31 on electromagnetic compatibility with Test Report No. 04-09-97-C87 issued by Laboratorio Universitario di Compatibilità Elettromagnetica "Leopoldo Nobili" via Paterlini 10, Reggio Emilia, Italy.
- Noise level measured in open field: zero
- Envisaged power supplies: 110/220 V 50/60 Hz - 24/48 V 50/60 Hz - 24 V DC
- Use contact capacity: 5 A at 250 V AC
- Operating temperature: from -15 to +70 °C
- Field of use: 30 - 6000 pulses/minute



SAFETY RULES

All the appropriate safety precautions must be taken when electrically operated equipment is used, in order to reduce the risk of fire outbreaks, electric shock and injuries to persons.

- Keep the work zone clean and orderly. Accidents are more likely to occur in untidy areas and environments.
- Before beginning work, make sure that the motion detector is in a perfect condition. Damaged or broken parts must be repaired or replaced by competent personnel authorized by the Manufacturer.
- All verifications, inspections, cleaning and maintenance operations, part changes and replacements must be carried out with the motion detector disconnected and the plug removed from the power socket.
- It is absolutely forbidden for children, unauthorized and/or inexperienced persons to touch or use the motion detector.
- Make sure that the electricity system complies with the laws in force. Make sure that the earthing is efficiently connected when the instrument is installed. Check to be sure that the power socket is suitable, that it complies with the laws in force and that it has a build in automatic protection circuit-breaker.
- The motion detector must never be stopped by detaching the plug from the power socket. Moreover, never use the cable to pull the plug from the socket.
- Periodically check to be sure that the cable is in a perfect condition and replace it if damage is discovered. This operation must only be carried out by competent and authorized persons. Only use extensions cables of the permitted type and marked. Protect the cable against high temperatures, lubricants and sharp edges. Do not twist or knot the cable.
- Do not allow children or unauthorized persons to touch the cable when the instrument is plugged in.

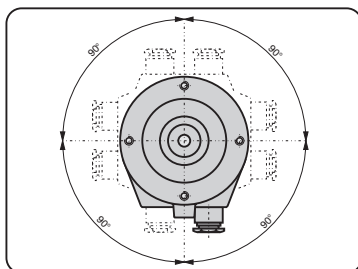


Fig.1

INSTALLATION

Before proceeding with the installation operations, visually inspect SMD 20/P in order to be sure that it has not been damaged during transport or the storage period. If this check reveals anything irregular, the motion detector must be sent to CAMLOGIC Snc to be restored to efficiency.

CAMLOGIC inductive motion detectors can be installed in any position.

The constructional characteristics of the unit that

detections the motions can be installed so that the cable input is turned at 90° intervals, allowing the power cable to be fixed in the most favourable position (Fig.1).

Installation can be done in two ways: by radial signal reading (Fig.2) or by off-centre in-line reading (Fig.3). Whatever the method sensor head must not be more than 10 mm. from actuator revolving surface. Sensor axis must be at the middle line of actuator side surface for a radial read out. If signal reading is axial, sensor axis must coincide with insert mid-point as show in the "REFERENCE FIGURES".

ELECTRICAL WIRING

The conductors forming the power supply and signal carrying cable must have an adequate cross-section so that the current density, in each conductor, is no higher than 4A/mm². One of these is used only for the earthing of the motion detector.

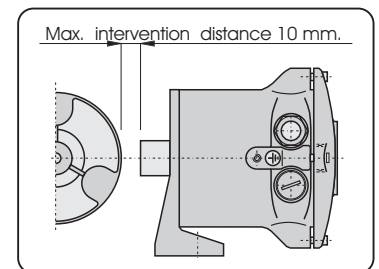


Fig.2

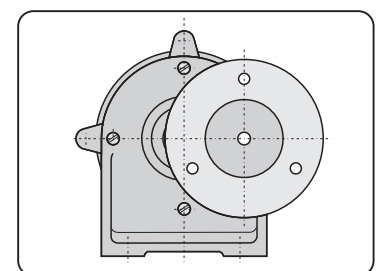


Fig.3

The cross-section of the conductors must also be adequate in relation to the length of the cable used to avoid a drop in voltage along the cable over the values prescribed by the regulations on the subject. It is likewise recommended to use flexible cables with an adequate outside diameter for the fair-leads used (not supplied) to ensure a perfect seal of the cable clamp on the power supply and signal carrying cable.

Use exclusively cable entries certified according to standards EN 61241-0 EN 61241-1.

By the terminal box there is the wiring plate (Fig.4) which has printed on it the wiring diagram for the power supply and use of the inductive motion detector.

CAUTION: There is a screw in the terminal board compartment which is used for the earthing of the motion detector. This screw must be connected to the yellow-green conductor (only green for the USA) of the power cable. The ground connection of the inductive motion detector, through the yellow-green conductor is compulsory.

- The external earthing has to be carried out by the installer.
- The equipment has to be protected against impact and electrostatic.
- The user has to protect the equipment circuits with fuses against short circuit.
- The max. surface temperature considered is without dust and not safety distance.
- Potential differences among instrument earthing and machine earthing must not exist.

Always check that the mains voltage and frequency correspond to those given up on the plate of the motion detector before powering up. For connections to the terminal boards use fork cable terminals; for the ground connection use an eyelet cable terminal.

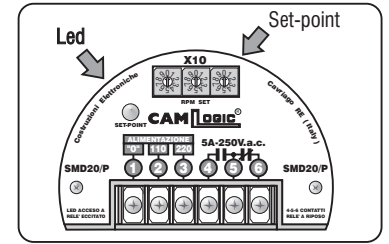
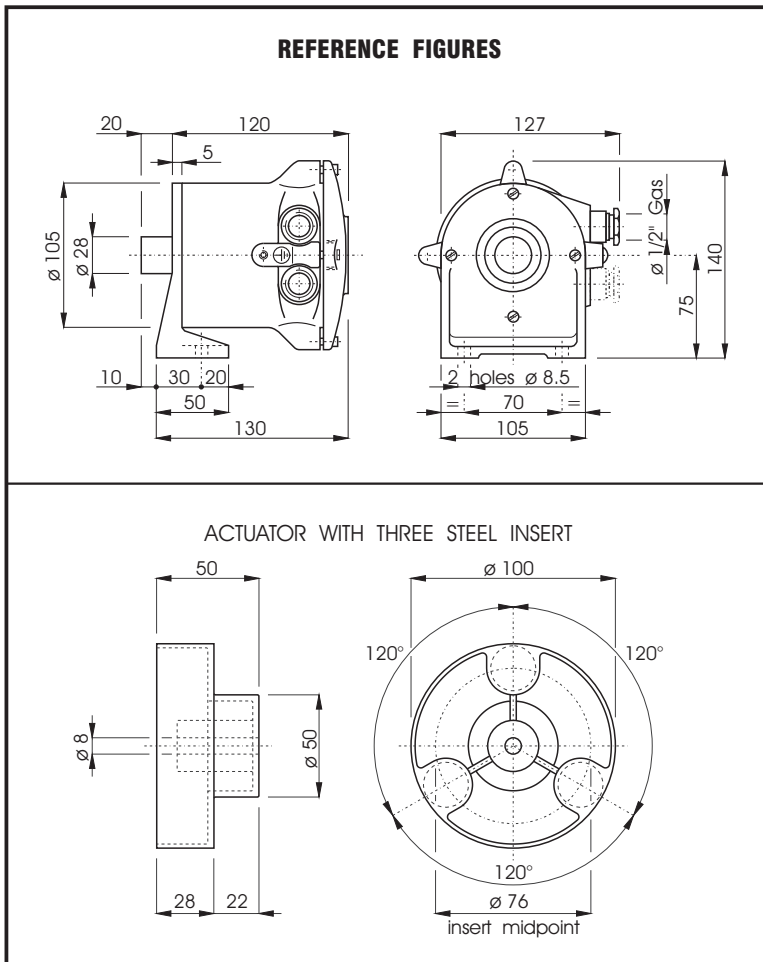


Fig.4

OPERATION

After having been powered, the inductive motion detector starts by lighting the led and energizing the relay for ten seconds. This allow the controlled machine to reach operating rate and to keep the relay energized if the number of revolutions to check has been correctly entered. The relay switch contact is commutated (led on) for detected revolutions of the value entered (Set-point) on the selectors (Fig.4) or higher. If the revolutions are less than the Set-point, the relay is released with contact commutation to the hold position and led off. The detected number of revolutions is updated every two seconds, corresponding to the maximum energizing delay time of the relay when the Set-point is reached. When the revolutions drop below the entered value, the relay de-energizing delay is two seconds at most. Motion detection speed is set on the three digital switches (Fig.4). To get the real setting the number on digital setting should be multiplied by 10. For example if the outside right switch is set on 1 this means motion detection of 10 Rpm. This motion detector can be used for a speed range from 10 to 2000 Rpm (referred to the survey of 3 impulses per round). Though higher speed setting are possible, the functional performance of the device is not guaranteed at higher rates.



MAINTENANCE

CAMLOGIC inductive motion detector need no routine maintenance.

Possible extraordinary maintenance is restricted to replacing parts that are deteriorated by use.

WARRANTY

CAMLOGIC Snc, in addition to the terms of the supply contract, guarantees its products for a period of twenty-four (24) months from the date of shipment. This warranty is expressed only in the repair or replacement free of charge of parts that, after careful examination by the Manufacturer, turn out to be defective. Warranty, excluding all liability for direct or indirect damage, is considered to be restricted to only defects in materials and has no effect if the parts returned turn out to have been anyhow dismantled, tampered with or repaired by anyone other than the Manufacturer. Warranty likewise excludes damage deriving from negligence, carelessness, bad or improper use of the motion detector, or from bad handling by the operator and faulty installation. Warranty is moreover forfeit if non-genuine spare parts have been used. A returned motion detector, even if under warranty, must be shipped carriage free.

CE DECLARATION OF CONFORMITY

The manufacturer **CAMLOGIC Snc** declares, under its own responsibility, that the product **SMD 20/P** answers to the requisites of the international scheme IECEx in consideration of the standards : EN 61241-0 EN 61241-1.

Marking : Ⓢ II 2D Ex tD A21 IP65 T87 °C

The permitted range ambient temperature is $-15\text{ °C} \leq T_{amb} \leq +60\text{ °C}$.

Notified corporate body that releases the examination TÜV NORD. Certificate number TÜV 11 ATEX 386761.

Corporate body entrusted of the periodic overseeing TÜV NORD ALLEGATO IV.

Instructions Manual No. 00919 99.09 - Rev. 00 All the information contained in this manual is confidential and no part of it may be disclosed without written authorization from **CAMLOGIC Snc**.

This manual, even after the sale of the motion detector, is lent and remains the property of the Manufacturer.