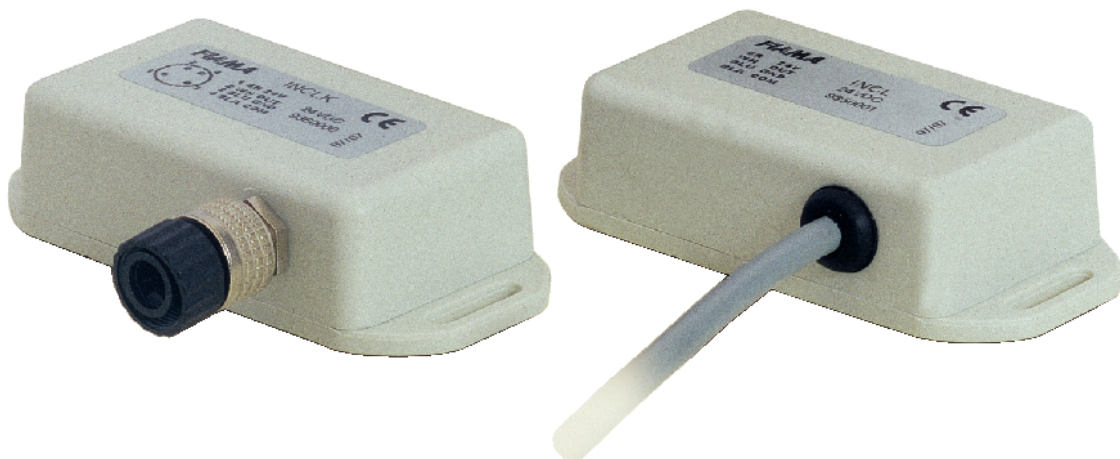




COMPANY WITH  
QUALITY SYSTEM  
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= ISO 9001:2015 =



## USER MANUAL

MONOAXES INCLINOMETER IM60\_  
WITH ANALOGUE OUTPUT 0÷10V, 4÷20mA

**Manual purpose**

This manual has been designed by the Manufacturer to provide the necessary information regarding the instrument to those who are authorized to carry out safely its installation, maintenance, dismantling and disposal. All the necessary information for the buyers and planners can be found in the Sales catalogue. Other than adopting good technical construction methods, the information should be read carefully and strictly applied. Inobservance of this information could cause risks for the health and safety of people and economical damage. This information, provided by the Manufacturer in the original language (Italian) is also available in other languages to satisfy legislative and/or commercial needs.

This manual must be kept in a good condition by a responsible person in an ideal place so that it is always available for consultation. In case this manual is lost or deteriorates, a replacement should be requested directly from the manufacturer quoting the manual's code. This manual reflects the state of skill of the instrument at the time of input on the market: however the manufacturer reserves the right to make changes, add or improve the manual without giving any reason to hold the present manual inadequate.

**Identification of the equipment**

The identification plate represented is applied to the instrument.

To find the identification code of the instrument, consult the sales catalogue.

**Environmental conditions**

Temperature setting: min. -10°C, max. + 70°C.

It is forbidden to use the instrument other than its specific use and in potentially explosive conditions or where anti-explosive elements are used.

**Storage**

Here below are some references to be followed for the storage of the instrument.

Avoid environments with excessive humidity and those exposed to bad weather (avoid open areas). Avoid putting the instrument directly on the ground. Store the instrument in its original packing.

**Conformity declaration and CEE marking**

The instrument answers to the following Communitarian Directives:

2014/30/EU Electromagnetic compatibility, 2011/65/EU RoHS.

**Maintenance**

The instrument does not need a particular maintenance except cleaning to do only with a soft cloth dampen with ethylic alcohol or water. Do not use hydrocarbon solvents (petrol, diluants, etc.): the using of these products could affect the proper functioning of the instrument.

Reparations should be done only and exclusively at the FIAMA technical assistance centre.

**Calibrations and tests**

It is advisable to calibrate the instrument periodically, once every working year.

To do the calibration, follow the calibration procedure indicated in the present manual.

**Assistance request procedure**

For any kind of technical assistance request, contact the sales department of the Manufacturer directly indicating the information given on the identification plate, the number of hours used and the type of defect.

**Manufacturer's responsibility**

The manufacturer declines any responsibility in case of :

- Using the instrument contrary to the national safety and accident-prevention laws.
- Wrong installation, inobservance or wrong procedures of the instructions provided in the present manual.
- Defective electrical power supply.
- Modifications or tampering.
- Operations carried out by untrained or unqualified staff.

The safety of the instrument also depends on the strict observance of the procedures indicated in the manual: always operate the instrument in its functioning capacity and carry out a careful routine maintenance.

- All phases of inspection and maintenance should be done by qualified staff.
- The configurations provided in the manual are the only ones permitted.
- Do not try to use it anyway contrary to the indications provided.
- The instructions in this manual do not substitute but accomplish the obligations of the current legislation regarding the safety laws.

**Description**

The transducer IM60 is an inclinometer employed for the survey of angle, with reference to earth's axis, with measure range is  $\pm 60^\circ$  and analogue output 4+20mA or 0-10V, linear according to the angle measured. The inclinometer employs a solid state sensor, vibration and shock-proof without parts in motion, therefore is more reliable without losing accuracy. Compact size and easy to mount, housing is in water-proof plastic, with connector or cable output.

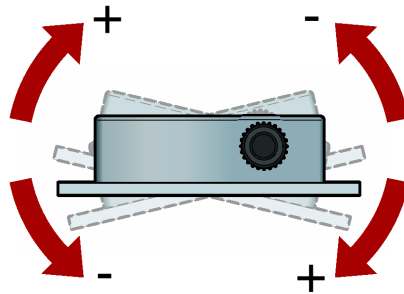
Main applications are: measure of inclination angle of cutting-blade, crane, level control of platforms, etc.

**Installation**

Before installing the instrument, read the following warnings:

- Connect the instrument strictly following the instructions of the manual.
- It is the responsibility of the user to check, before using, the correct settings of the parameters of the instrument to avoid damage to persons or things.
- The instrument CANNOT function in a dangerous environment (inflammable or explosive).
- The unit has sensible parts to electrostatic charge, therefore the handling of the inner electronic cards has to be carried out with appropriate care to avoid permanent damages.

The transducer has to be fixed with suitable flanges, considering the measure axis as in the following drawing.



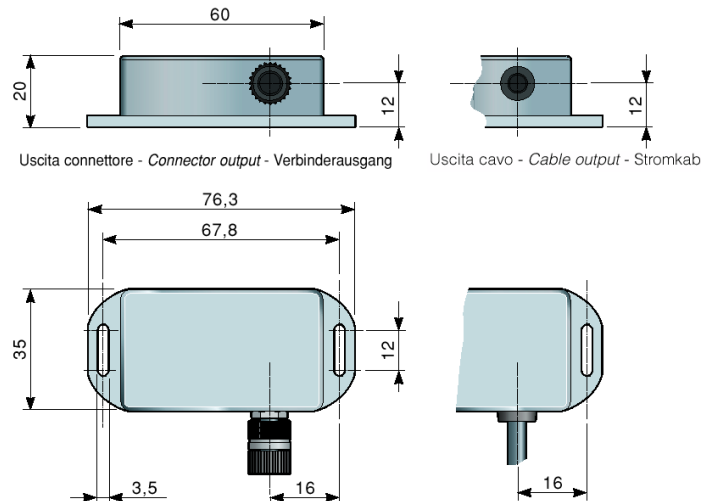
It is not necessary that the center of rotation of movable part is aligned with sensor axis.

With inclination  $0^\circ$  the out of sensor is 5V with tension output ; 12mA with current output.

To obtain the maximum accuracy it is recommended to limit to  $\pm 10^\circ$  inclination on the horizontal plane of the axis orthogonal to that measuring.

**Connections:****Cable output**

Marrone Brown Braun	+24Vdc
Bianco White Weiss	Uscita – Output - Ausgang
Verde Green Grō	GND
Giallo Yellow Gelb	GND OUT

**Connector output**

1	Marrone – Brown – Braun	+24Vdc
2	Bianco – White – Weiss	OUT
3	Blu – Blue – Blau	GND
4	Nero – Black – Schwarz	GND OUT



Vista frontale connettore maschio  
Male connector frontal view  
Fontal Ansicht Verbinder

**Technical features**

Power supply	24VDC +/-20%, max 150mA
Measure angle	+/- 60°
Linearity	±0,5° from -45° to +45° ±1° from -60° to +60°
Repeatability	±0,05°
Analogue ouput	4-20mA or 0-10V
Wiring	Cable length 2m, other values on request, connector 4 pin M8
Housing	ABS
Working temperature	-10-70°C
Relaive humidity	10-90%
Protection degree	IP66
Electromagnetic compatibility	2014/30/EU
RoHS	2011/65/EU

**Manufacturer**

All communications to the manufacturer should be addressed to:  
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**FIAMA srl is not responsible for any damage to persons or things caused by tampering and wrong use and in any case that are not consistent with the features of the instrument.**