

SHW

INSTRUMENTAÇÃO

ANGLE TRANSMITTER



TRAG-7.3

INSTRUCTIONS AND OPERATING MANUAL

Angle Transmitter

Model TRAG-7.3

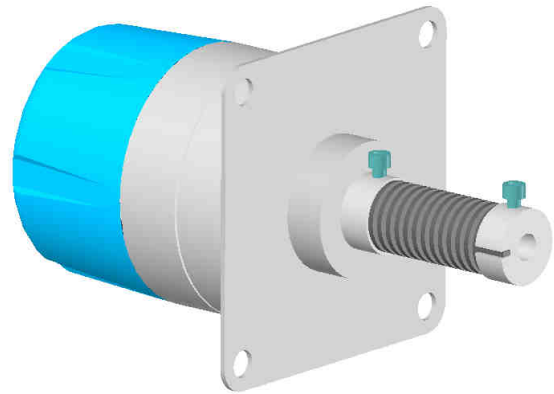
The TRAG-7.3 belongs to the family of instruments manufactured by SHW Industrial Automation. Is an angle transmitter developed for solutions in measurement indirect of level. Designed for adaptation in level indicators working with rotating motion.

Application area

Level measurement and position in equipment processing granulates, liquids, and numerous applications using the angular variation of the shaft. Often used in level control for Conditioners, Dryers, Coolers, Desolventizer-Toaster, etc; or any other application that needs to measure the angular position.

Advantages

- Lifetime of element sensor in approximately 10 million cycles;
- Easy installation and low maintenance;
- Don't exercises considerable resistance to shaft rotation;
- Maximum utilization of small variations of angle;
- Excellent linearity of the output signal;



Technical data

- Pre-calibrated operating angle 0° to -90° and 0° to +90°.

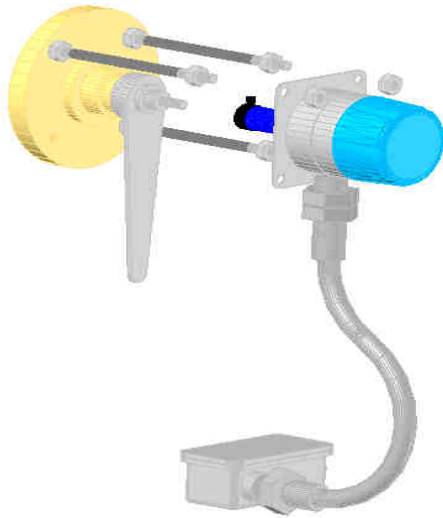
Transmitter 4-20 mA

- Electronic model: 5333D
- Power supply: 8 ... 30 VDC
- Output signal: 4-20 mA
- Environment temp.: -40 ... +85°C
- Protection rating: IP68

Transmitter Profibus PA

- Electronic model: 5350B
- Power supply: 9 ... 30 VDC
- Output signal: Profibus PA
- Environment temp.: -40 ... +85°C
- Protection rating: IP68

The process connection



Installation

The figure above illustrates a typical installation of the Angular Transmitter TRAG 7.3. The assembly of the same depends on the type of equipment to which you want to apply. To measure the angle of the rotary element of the equipment is needed:

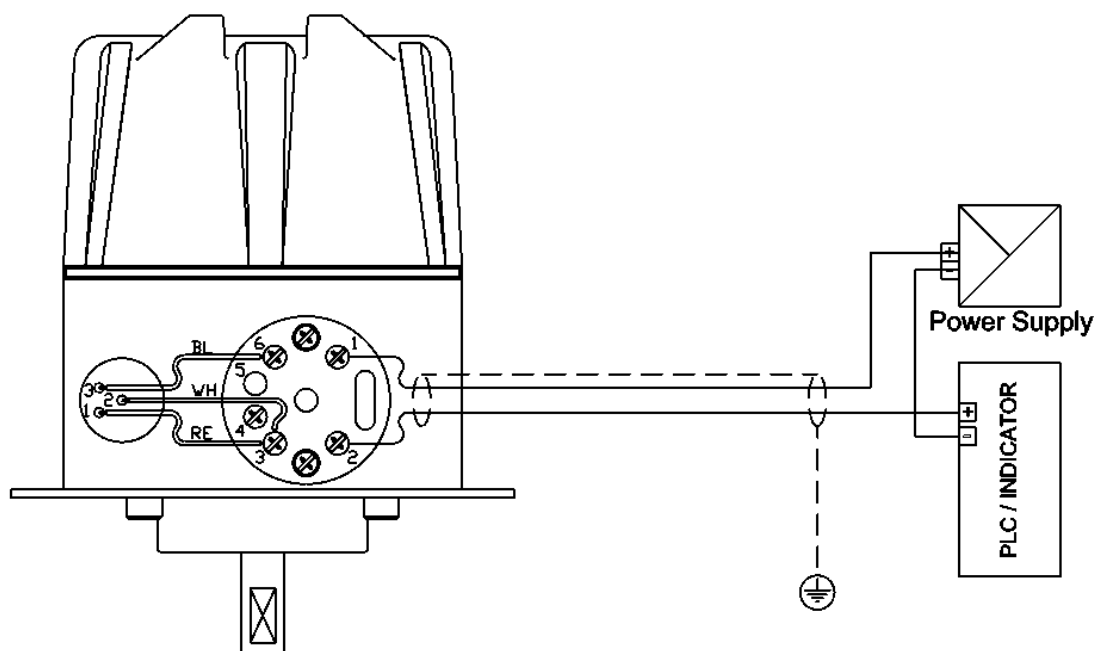
- Secure the coupling of the TRAG-7.3 in the tip of the axis set by the customer with $\varnothing 10 \times 25 \text{mm}$.
- Observe the alignment of the TRAG 7.3 on the threaded supports of sustaining, previously fixed in the equipment by the client.
- Use the level indicator position as reference for zero of the instrument.

OVERVIEW

- The overall measurement accuracy and control depends on several variables. For a high level of performance with the TRAG 7.3, is required an adequate installation to take full advantage of the benefits offered.
- It's extremely important to keep power cords in good conditions of grounding and with proper electrical connections.
- After finish the electrical installations, the instrument must be sealed, close the head cover sufficiently to compress the o'ring sealing. The instrument must operate totally closed, with the head cover and electrical connection, providing appropriate sealing.
- Use teflon tape or similar in the electrical connections to prevent moisture penetration.

Electrical connection

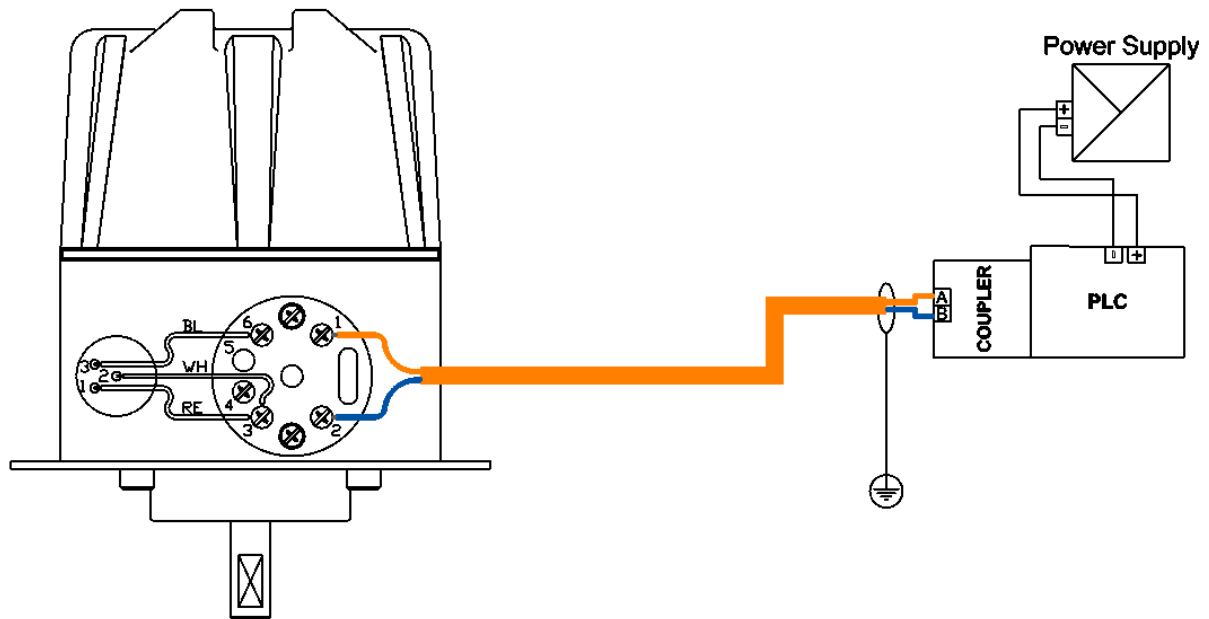
Example of connection with communication 4-20mA - TRAG 7.3



This is a connection example with the signal connected on the positive of the analog input, but this varies according to the model or the hardware manufacturer.

- The TRAG-7.3 (4-20 mA) is calibrated according to the form of transmitter operation. **Calibration details on pages 5 and 6.**
- The electronic system of the transmitter has certified to operate in Hazardous Areas (explosion risk – **see in Information's section, page 7, product approvals**).

Example of connection with Profibus PA - TRAG-7.3



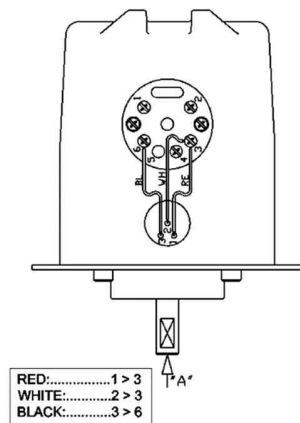
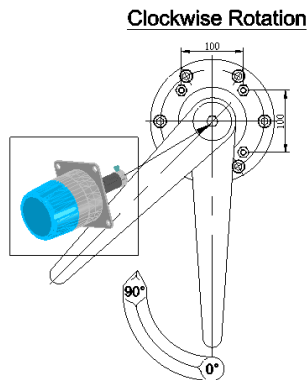
This is a connect example that simulates the use of a Coupler as interface between the transmitter and the network Profibus PA

- The TRAG-7.3 (4-20 mA) is calibrated according to the form of transmitter operation and addressed according the customer's request. **Calibration details on pages 5 and 6.**
- The electronic system of the transmitter has certified to operate in Hazardous Areas (explosion risk – **see in Information's section, page 7, product approvals**).

Technical notes

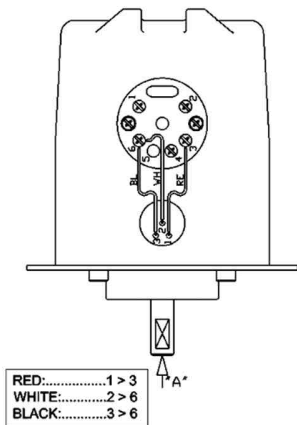
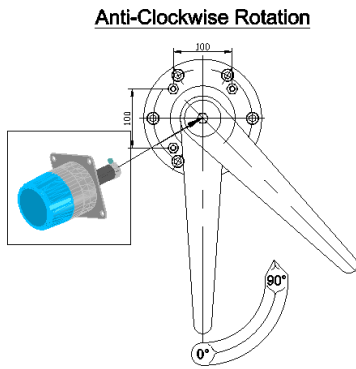
- Avoid passing the signal cables by routes they have power cables or electrical switches.
- If the cable is shielded, it's recommended to ground the shield at only one end, and the end not used should be carefully isolated.
- The access of the cables to the connection terminals is made by a passage in the housing where is possible insert a conduit pipe or cable gland. The conduit pipe threads should be sealed in according with the required sealing method by the area.

Calibration and configuration of rotation direction



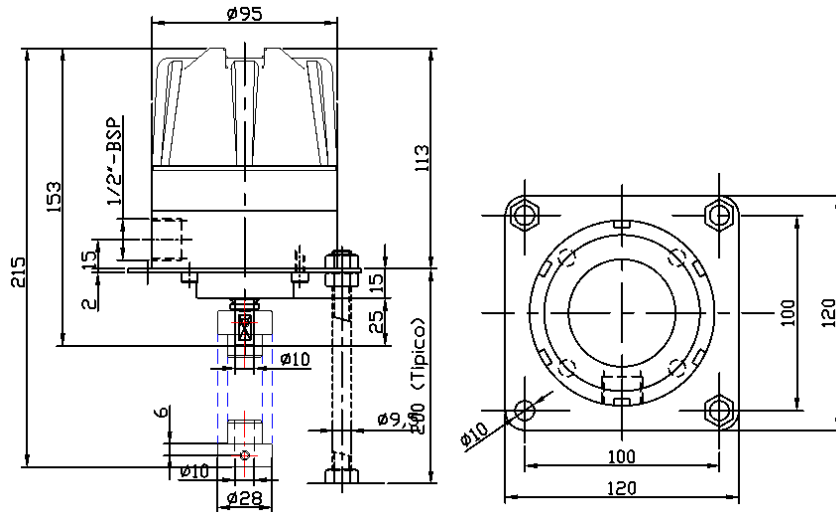
- This example shows the transmitter operation mode with equipment axis in clockwise rotation. Thus, the axis of the transmitter is rotated in the opposite direction, **ANTI-CLOCKWISE ROTATION**.

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- This example shows the transmitter operation mode with equipment axis in anti-clockwise rotation. Thus, the axis of the transmitter is rotated in the opposite direction, **CLOCKWISE ROTATION**.

Dimensions



Technical Information

Electronic module



- Electronic model 5333D
- Output signal: 4-20 mA
- Classification: II 1 G Ex ia IIC T4...T6 Ga
II 1 D Ex ia IIIC Da
II 1 M Ex ia I Ma



- Electronic model 5350B
- Output signal: Profibus PA
- Classification: II 1 G Ex ia IIC T6..T4 or
II 2 (1) G Ex ib [ia] IIC T6..T4
II 1 D Ex iaD