

Short Operating Instructions



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Description

Connector, unshielded, female, angled, M 12 A-coded, 4-position. This connector is manufactured by Phoenix Contact.

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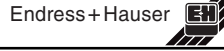
<p>FLOW</p> <ul style="list-style-type: none"> • Electromagnetic • Vortex Shedding • Coriolis Mass Flow • Ultrasonic 	<p>LEVEL</p> <ul style="list-style-type: none"> • Capacitance (RF) • Mechanical • Vibration • Ultrasonic • Radar • Guided Radar (TDR) • Hydrostatic
<p>ANALYSIS</p> <ul style="list-style-type: none"> • Conductivity • pH/ORP • Chlorine • Dissolved Oxygen • Turbidity • Chemical Analyzers • Nitrate Sensors • Sludge Level 	<p>PRESSURE</p> <ul style="list-style-type: none"> • Gauge/Absolute • Differential Pressure • Hydrostatic
<p>TEMPERATURE</p> <ul style="list-style-type: none"> • Temperature Transmitters • RTDs / Thermocouples 	<p>RECORDERS</p> <ul style="list-style-type: none"> • Paperless Recorders • Visual Data Managers • Safety Data Managers
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Important Notice



Warning!

Warning!
Electrical shock could cause death or serious injury. If the sensor is installed in a high voltage environment and a fault or installation error occurs, high voltage may be present on the TSM 470A-VN or the probe itself.

Safe and secure operation of the compact RTD transmitter can only be guaranteed if the operating instructions (BA 162R/24/ae) and all safety notes are read, understood and followed. Visit www.us.endress.com/temp.

Correct use

The manufacturer cannot be held responsible for damage caused by misuse of the unit.

The installation conditions and connection values indicated in the operating instructions must be followed!

Installation, commissioning and operation

The unit is constructed using the most up to date production equipment and complies to the safety requirements of the local guidelines. However, if it is installed incorrectly or misused, certain application dangers can occur. Installation, wiring and maintenance of the unit must only be done by trained skilled personnel who are authorized to do so by the plant operator. This skilled staff must have read and understood these instructions and must follow them to the letter. The plant operator must make sure that the measurement system has been correctly wired to the connection schematics.

Hazardous areas

Installation of the compact RTD transmitter in hazardous areas is prohibited!

Returns

Please follow the Return Authorization Policy in the operating instructions (BA 162R/24/ae). All Temperature Operating Instructions are available on CD-ROM, Part Number SONDTT-AG.

Safety pictograms and symbols



Note!

Notes draw attention to activities or procedures that can have a direct influence on operation or trigger an unforeseen device reaction if they are not carried out properly.



Caution!

Cautions draw attention to activities or procedures that can lead to persons being injured or to incorrect device operation if they are not carried out properly.



Warning!

Warnings draw attention to activities or procedures that can lead to persons being seriously injured, to safety risks or to the destruction of the device if they are not carried out properly.

Though the information provided herein is believed to be accurate, be advised that the information contained herein is NOT a guarantee of satisfactory results. Specifically, this information is neither a warranty nor guarantee, expressed or implied, regarding performance; merchantability, fitness, or other matter with respect to the products; and recommendation for the use of the product/process information in conflict with any patent. Please note that Endress+Hauser reserves the right to change and/or improve the product design and specifications without notice.

Installation

For installation, proceed as follows:

1. Seal the 1/2" NPT process connection with silicone tape (TSM 470G) before screwing in the device.
 2. Make sure that the hygienic process fitting (TSM 470F & TSM 470P) and the clamp assembly match the maximum specified process pressure.
 3. Install and tighten the compact temperature transmitter before applying process pressure.
 4. Plug in the TSM 470A-VN at the compact temperature transmitter and connect the cable cores from Spike 1 and 3 to a power supply.
- Note!**
The requirement to ensure NEMA 6P rating is that the female connector to plug the compact temperature transmitter to a power supply also has NEMA 6P rating or better.
- Caution!**
In order to avoid damaging the compact transmitter, do not over-tighten the nut on the TSM 470A-VN.

Technical Data

General Information

Rated Current I_N	4A
Rated Voltage U_N	150V DC (for/to DIN VDE 0110)
Rated Voltage U_N	125V AC (for/to DIN VDE 0110)
Number of Poles	4
Contact Resistance	8 mOhm
Environmental (Operating) Temperature	-40 to +185 °F (-40 to +85 °C)

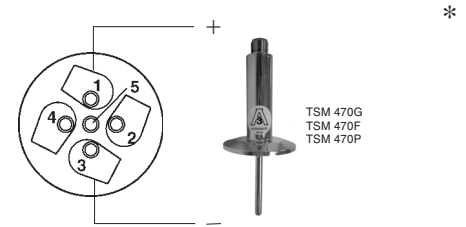
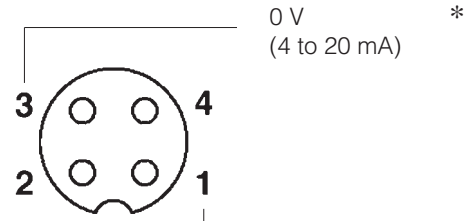
General Properties

Combustability Class according to UL 94	HB
Insulating Material	PBT/PA
Contact Surface Material	Ni
Contact Material	CuSnZn
Protection Class	NEMA 6P RATED (IP 67)
Conductor Cross Section Flexible Minimum	0.0098 in. (0.25 mm)
Conductor Cross Section Flexible Maximum	0.0295 in. (0.75 mm)
Connection Manner	Screw connection
Contact Resistance	8 mOhm
Insulation Resistance	1,000,000,000,000
Testing Voltage	1.25 kV AC

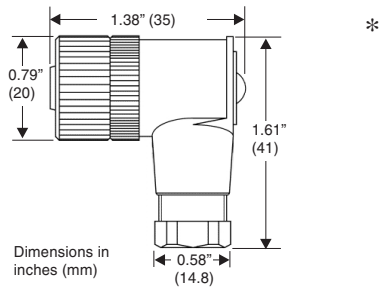
Conductor General Information

Conductor Cross Section*	24
Conductor Cross Section AWG/KCmil max.	18

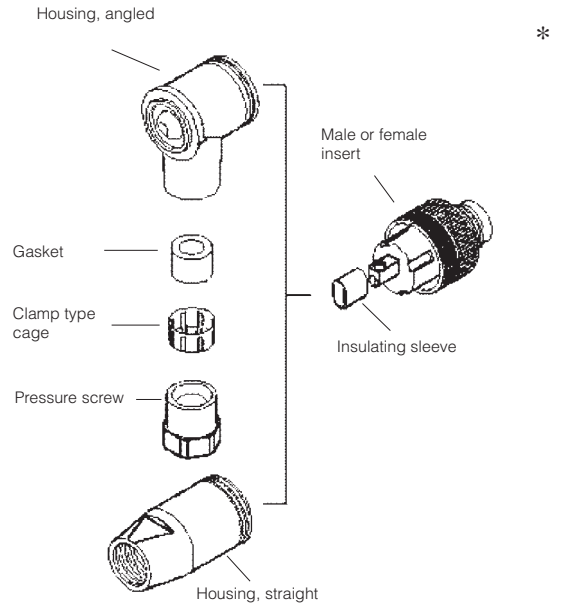
*AWG/KCmil min.



Dimensions



Schematic Diagram



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