



907037 Series Intrinsically safe humidity and temperature transmitters

For operation in up to Zone 0 / 20



Features

- Measures RH and T and outputs also dew point temperature, wet-bulb temperature, absolute humidity, mixing ratio, water concentration, water mass fraction, water vapor pressure, and enthalpy
- Intrinsically safe (Ex i)
- Designed for harsh conditions
- Temperature range between -70 to +180 °C (-94 to +356 °F) depending on the probe option
- Sensor features high accuracy, excellent long-term stability, and negligible hysteresis
- Graphical LCD display
- Traceable calibration (certificate included)

JUMO 907037 Series Humidity and Temperature Transmitters are the ideal solution for measuring humidity in hazardous areas. The intrinsically safe and robust transmitter operates safely and reliably even in the most hazardous classifications, such as Zone 0. The next-generation 907037 transmitters can be used as a replacement of the long-running 907025 transmitter series.

Interchangeable probes and detachable probe module

907037 offers several probe options for different applications:

- 907037/1 - wall mount
- 907037/3 - confined spaces
- 907037/4 - pressurized spaces
- 907037/5 - high temperature
- 907037/7 - high humidity
- 907037/8 - pressurized pipelines

Thanks to the detachable probe module, probes can be easily replaced and removed for calibration outside the hazardous area without removing the

entire transmitter. Attaching new probes involves minimal reconfiguration, as up-to-date settings can be restored from the transmitter.

Intrinsically safe and robust

The entire 907037 transmitter can be installed directly in hazardous areas. It can withstand continuous exposure to potentially explosive environments that contain flammable gases or dust. Operation in either gas or dust environments requires no additional protective enclosures. A rugged design, combined with trouble-free operation,

ensures a long-term solution for monitoring humidity and dew point in potentially explosive environments.

Easy configuration access with local display and optional PC software

Output configuration and measurement calibration and adjustment can be carried out directly on the local display interface. For additional configuration and monitoring options, you can connect the transmitter to optional PC software with an accessory USB cable. The probe and transmitter body can be connected to PC software for configuration either together as one unit or separately.

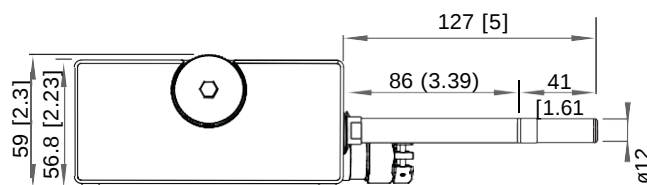
Interchangeable probes for 907037 intrinsically safe humidity and temperature transmitter

907037/1 for wall mounting

Temperature range	-40 to +60 °C (-40 to +140 °F)
Probe diameter	12 mm (0.47 in)



907037/1 probe shown with a stainless steel netting filter



Dimensions in mm (inches)

907037/3 for confined spaces

Temperature range with teflon cable	-40 to +120 °C (-40 to +248 °F)
Temperature range with rubber cable	-40 to +80 °C (-40 to +176 °F)
Probe cable length	2, 5 or 10 meters (6 ft 7 in, 16 ft 5 in, 32 ft 10 in)
Probe diameter	12 mm (0.47 in)

Installation

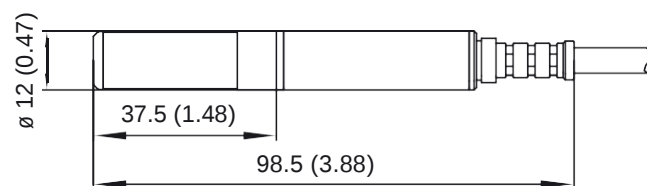
Duct installation kit (210697)

Cable gland M20 x 1.5 mm with splitting seal (HMP247CG)

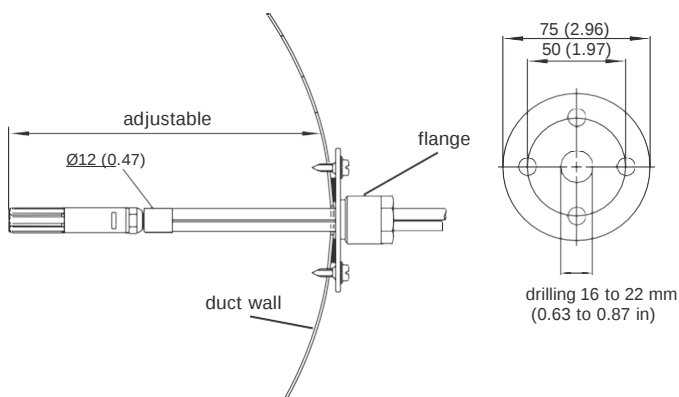
Swagelok for 12 mm probe, 1/2" NPT thread (SWG12NPT12)



The small-sized 907037/3 probe fits into tight spaces: shown connected with a teflon cable



Dimensions in mm (inches)



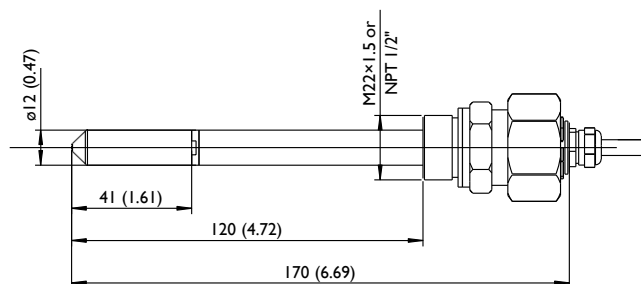
Left: Installation kit for duct mounting. Right: Installation flange. Aluminum or stainless steel.

907037/4 for high pressure

Temperature range	-70 to +180 °C (-94 to +356 °F)
Pressure range	0 to 10 MPa
Probe cable length	2, 5 or 10 meters (6 ft 7 in, 16 ft 5 in, 32 ft 10 in)
Probe diameter	12 mm (0.47 in)
Fitting body M22 x 1.5 mm	17223
Fitting body NPT1/2	17225



907037/4 is designed for measurement in pressurized spaces or vacuum chambers



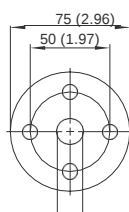
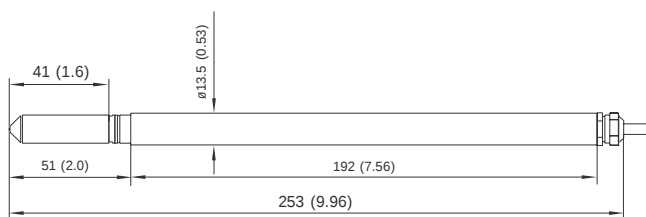
Dimensions in mm (inches)

907037/5 for high temperature

Temperature range	-70 to +180 °C (-94 to +356 °F)
Probe cable length	2, 5 or 10 meters (6 ft 7 in, 16 ft 5 in, 32 ft 10 in)
Probe diameter	13.5 mm (0.53 in)
Installation	
Mounting flange (210696)	
Cable gland M20 x 1.5 mm with splitting seal (HMP247CG)	



907037/5 is designed for high temperature environments



drilling 16 to 22 mm (0.63 to 0.87)

907037/5 probe and stainless steel installation flange. Dimensions in mm (inches).

907037/7 for high humidities

Temperature range	-70 to +180 °C (-94 to +356 °F)
Probe cable length	2, 5 or 10 meters (6 ft 7 in, 16 ft 5 in,
Probe diameter	12 mm (0.47 in)

Installation

Duct installation kit (210697)

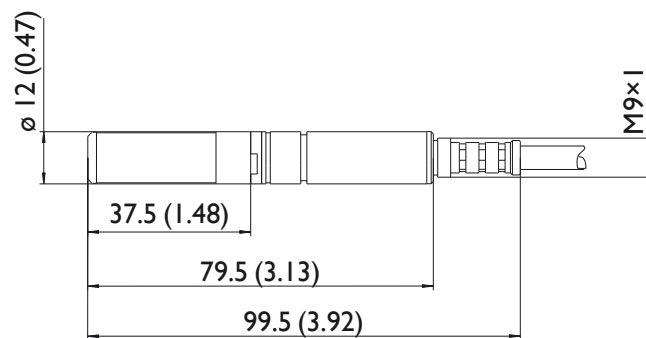
Cable gland M20 x 1.5 mm with splitting seal (HMP247CG)

Swagelok for 12 mm probe, 3/8" ISO thread (SWG12ISO38)

Swagelok for 12 mm probe, 1/2" NPT thread (SWG12NPT12)



907037/7 is constructed to be installed in environments with high humidities



Dimensions in mm (inches)

907037/8 for pressurized pipelines

Temperature range	-70 to +180 °C (-94 to +356 °F)
Pressure range	0 to 4 MPa
Probe cable length	2, 5 or 10 meters (6 ft 7 in, 16 ft 5 in, 32 ft 10 in)
Probe diameter	13.5 mm/12 mm (0.53 in/0.47 in)
Available probe lengths	226 mm/448 mm (8.90 in/17.6 in)

Installation

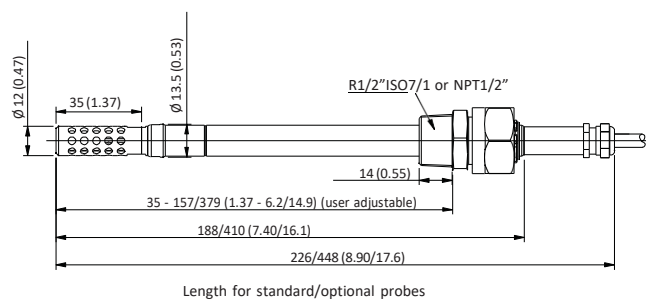
Fitting body ISO1/2 solid structure DRW212076SP

Fitting body NPT1/2 solid structure NPTFITBODASP

Ball valve ISO 1/2 with welding joint BALLVALVE-1



907037/8 enables flexible installation in pressurized pipelines



Dimensions in mm (inches)

Technical data

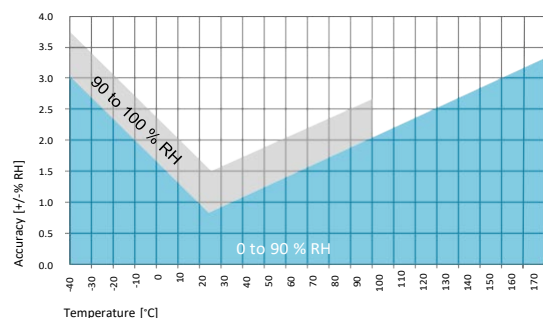
Measurement performance

Relative humidity	
Measurement range	0 to 100 % RH
Accuracy at +23 °C (+73.4 °F) ¹⁾	±0.8 % RH (0 to 90 % RH) ±0.5 % RH (0 to 40 % RH) ±0.8 % RH (40 to 95 % RH)
T ₆₃ response time	15 s
Sensor options	HUMICAP® R2 HUMICAP® L2
Temperature	
Measurement range	-70 to +180 °C (-94 to +356 °F)
Accuracy at +23 °C (+73.4 °F) ¹⁾	±0.1 °C (±0.18 °F)
Factory calibration uncertainty ²⁾	±0.1 °C (±0.18 °F) at +23 °C (+73.4 °F)
Sensor	Pt1000 RTD Class F0.1 IEC 60751

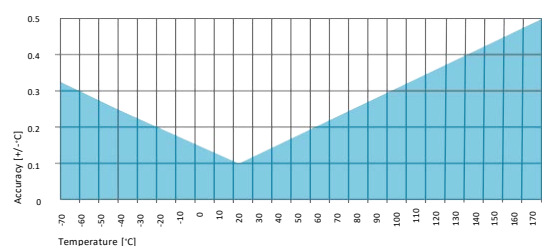
Other available measurement parameters

Dew point temperature, wet-bulb temperature, absolute humidity, mixing ratio, water concentration, water mass fraction, water vapor pressure, and enthalpy

- 1) Defined against calibration reference. Including non-linearity, hysteresis, and repeatability.
2) Defined as ±2 standard deviation limits. Small variations possible; see calibration certificate.



Humidity measurement accuracy as function of temperature



Temperature measurement accuracy over full range

Operating environment

Operating temperature for electronics	-40 to +60 °C (-40 to +140 °F)
Operating temperature with display	-20 to +60 °C (-4 to +140 °F)
Storage temperature	-40 to +70 °C (-40 to +158 °F)
Pressure range	See probe specifications

Compliance

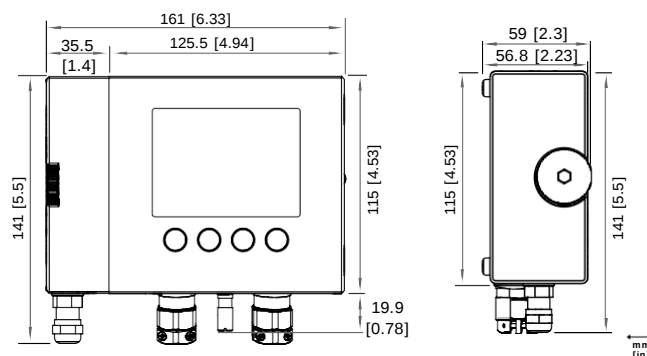
EMC compatibility	EN 61326-1, industrial environment
Compliance marks	RCM, CE, China RoHS

Inputs and outputs

Operating voltage	12 to 28 V
Analog outputs	2 outputs (two-wire, 4 to 20 mA) Connection via safety barriers
Typical accuracy of analog output at +20 °C	±0.0625 % full scale
Typical temperature dependence of analog outputs	0.005 %/°C (0.005 %/°F) full scale
Service port connection	USB cable 219690
Display options	- Graphical LCD display - Model without display

Mechanical specifications

Connections	Screw terminal, 0.33 to 2.0 mm ² wires (AWG 14-22)
Cable glands	M20 x 1.5 mm
Conduit fitting	NPT 1/2" and M16
Housing material	EN AW-6082
Housing weight	Transmitter: 1500 g (3.3 lb) Fixed probe: 320 g (0.7 lb)
IP rating	IP66 (NEMA4)



907037 dimensions in millimeters and [inches]

Ex classifications by region

Europe (ATEX) (EU (2014/34/EU))

Gas classification	II 1 G Ex ia IIC T4 Ga
Dust classification	II 1 D Ex ia IIIC T ₂₀₀ 85 °C Da
Safety data	U _i = 28 VDC, I _i = 100 mA, C _i = 12.1 nF, P _i = 700 mW, L _i = 16 µH
Environmental specifications	
T _{amb}	-40 to +60 °C (-40 to +140 °F)
P _{amb}	0.8 to 1.1 bar

International (IECEx)

Gas classification	Ex ia IIC T4 Ga
Dust classification	Ex ia IIIC T ₂₀₀ 85 °C Da
Safety data	U _i = 28 VDC, I _i = 100 mA, C _i = 12.1 nF, P _i = 700 mW, L _i = 16 µH
Environmental specifications	
T _{amb}	-40 to +60 °C (-40 to +140 °F)
P _{amb}	0.8 to 1.1 bar

Japan (CML)

Ex classification	Ex ia IIC T4 Ga Ex ia IIIC T ₂₀₀ 85 °C Da CML 21JPN2417X
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Region classifications planned for future releases

USA
Canada
China
Korea

Ex Transmitter for Wall Mounting

[illegible]

Ex Transmitter for Confined Spaces

[illegible]

Ex Transmitter for Pressurized Processes

[illegible]

Ex Transmitter for High Temperatures

[illegible]

Ex Transmitter for High Humidities

[illegible]

Ex Transmitter for Pressurized Pipelines

[illegible]



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