



# HygroVUE10 DIGITAL TEMP. & REL- ATIVE HUMIDITY SENSOR WITH M12 CONNECTOR

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## Product Description

The HygroVUE10 offers a combined temp. and relative humidity element in an advanced digital sensor that is ideal for weather networks. The electronics within the sensor provide accurate measurements, & the sensor is easy to use. The digital SDI-12 output allows a simple connection and measurement by many data logging systems. Another benefit is that this digital output avoids the extra errors associated with measuring analog sensors. A hydrophobic sintered filter prevents dirt and water from entering the cap. The filter is designed to be resistant to wind-driven rain. A secondary PTFE membrane filter is bonded to the surface of the sensor element to prevent

finer dust & mold from directly influencing the measurements. Because the sensor housing is designed to withstand permanent exposure to various weather conditions and to fit inside a range of radiation shields (including compact shields), the HygroVUE10 is truly suitable for a wide range of monitoring applications. The HygroVUE10 utilizes a latest-generation, Swiss-made, combined relative humidity and temperature element based on CMOSens technology that offers good measurements, accuracy, and stability. Each element of the HygroVUE10 is individually calibrated with the calibration corrections stored on the chip. You can easily change the sensor element in the field, which reduces your downtime and calibration costs.

## Benefits and Features:

- Uses a combined, pre-calibrated digital humidity and temperature element
- Field-changeable element for fast, on-site recalibration
- Digital SDI-12 output, allowing long cables with no added errors
- Simple data logger programming
- Low power consumption
- Wide operating voltage
- Rugged design with potted electronics Standard
- M12 connector with IP67 sealing rating.

## HygroVUE10

## Technical Specifications

<b>Sensor Element</b>	SHT35 modified by MUNRO
<b>Communication Standard</b>	SDI-12 V1.4 (responds to a subset of commands)
<b>Supply Voltage</b>	7 to 28 Vdc
<b>EMC Compliance</b>	Tested and conforms to IEC61326:2013.
<b>Standard Operating Temp. Range</b>	-40° to +70°C
<b>Main Housing Material</b>	UV stable, white PET-P
<b>Electronics Sealing Classification</b>	IP67
<b>Sensor Protection</b>	Outer glass-filled polypropylene cap fitted with a stainless-steel mesh dust filter with nominal pore size of < 30 µm. The sensor element has a PTFE protective film with a filtration efficiency of > 99.99% for particles of 200nm or larger size
<b>Sensor Connector</b>	M12, male, 4-pole, A-coded
<b>Cable</b>	Polyurethane sheathed, screened cable, nominal diameter 4.8 mm
<b>Field-Replaceable Chip or Recalibrate</b>	Field-replaceable chip
<b>Sensor Cap Diameter</b>	12.5 mm
<b>Body Diameter at Connector</b>	18 mm
<b>Length</b>	180 mm without cable fitted
<b>Sensor Body Weight</b>	50 g
<b>Weight</b>	250 g with 5 m cable
<b>RELATIVE HUMIDITY</b>	
<b>Measurement Range</b>	0 to 100% RH
<b>Accuracy</b>	±2% (at 25°C, over the range 80 to 100% RH) -NOTE- The accuracy figures quoted are the 95% confidence limits relative to factory standards. ±1.5% (at 25°C, over the range 0 to 80% RH)
<b>Short-Term Hysteresis</b>	< ±1% RH
<b>Additional Errors at Other Temp.</b>	< ±1% RH (over -40° to +60°C)
<b>Long-Term Stability</b>	±0.5% per year (maximum drift in clean air conditions)
<b>Reported Resolution</b>	0.001% RH
<b>Repeatability</b>	0.05% RH (3σ noise level)
<b>Response Time with Filter</b>	< 20 s (63% response time in still air)
<b>AIR TEMPERATURE</b>	
<b>Measurement Range</b>	-40°C to +70°C
<b>Note</b>	The accuracy figures quoted are the 95% confidence limits relative to factory standards.
<b>Accuracy</b>	±0.1°C (over the range 20 to 60°C) ±0.2°C (over the range -40 to +70°C)
<b>Long-Term Drift</b>	< 0.03°C per year
<b>Reported Resolution</b>	0.001°C
<b>Repeatability</b>	0.04°C (3σ noise level)
<b>Response Time with Filter</b>	< 130 s (63% response time in air moving at 1 m/s)
<b>Calibration Traceability</b>	NIST and NPL standards
<b>Quiescent / During Measurement</b>	50 µA / 0.6 mA (takes 0.5 s)