

OEM

Original Equipment Manufacturers (OEM) require individual solutions to suit the needs of their customers. ROTRONIC has been producing customised humidity measurement products to suit the OEM market for many years, and has a wide breadth of experience in satisfying this specialist need. Today, our OEM capability is greater than ever, from the simplest sensor supply, right through to complex transmitters for the industrial process market.

The HygroClip probes in particular are sought for by OEM customers. Thanks to their compact dimensions and accuracy at a very reasonable price they are very often the product of choice.



OEM customer requirements and final applications vary widely, so the need for an experienced and flexible supplier is key. As each project is different, our experienced sales team will discuss project objectives, technical requirements and target costs at an early stage. We will then formulate an initial proposal based on these discussions and submit this to the customer.

After agreeing a final specification, samples can then be submitted for technical approval and testing. During this phase, ROTRONIC is able to participate in the customer assessment of product suitability, and if required, provide secondary testing of the completed assembly in our own accredited test facilities. We are also able to advise on the final assembly and calibration process. Wherever possible, we will utilise existing products or sub-assemblies in the creation of an OEM solution. This can provide significant advantages in design and development costs, as well as reducing the production start up time.



ROTRONIC OEM Product Capability

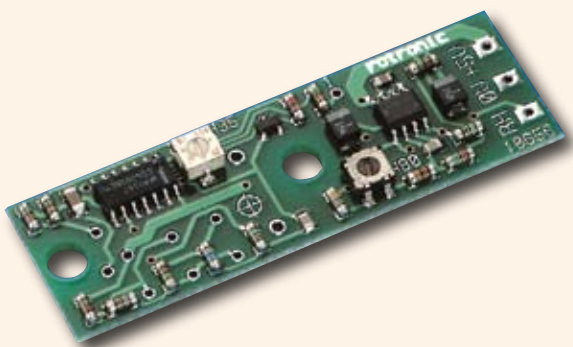
- HygroClip probes
- % rh sensors
- Calibrated sensor modules
- Transmitter or probe sub-assemblies
- Standard ROTRONIC products with customer's own branding

OEM Applications and Advantages

The availability of digital and analogue output signals and the wide supply voltage range of 3.5 to 24 VDC makes the HygroClip suitable for a wide variety of applications. The application range of 0...100 %rh and -40 to 85 °C is unique. ROTRONIC is capable of manufacturing customized types according to your requirements. The HygroClip is ideally suited as an integral part of complete humidity and temperature measurement systems, such as: display and handheld instruments, incubators and environmental chambers, process control applications, multi channel data loggers, high precision climate control, electronic cabinets, EDP applications, fermentation chambers, gas detection systems and portable instrumentation, air conditioned containers and many others.

ROTRONIC OEM Support Capability

- Custom design
- Custom packaging
- Labelling and barcodes
- Documentation, including manuals
- CAD drawings for manufacturing records
- Calibration materials and systems
- On-site calibration service (UK, Switzerland, Germany, France, Italy only)
- Calibration seminars for OEM customers
- Training of customer technical and sales staff



Humidity Sensors

In many high volume applications, the supply of only the %rh sensor is a cost effective option. In these circumstances the OEM should carefully consider the process of calibrating the final measurement circuit to obtain the required performance. When calculating the actual cost of the implementation of humidity measurement, the sensor cost must include provision of the calibration process, circuit design and final assembly. In many cases, the specification of a pre-calibrated measurement module can be equally cost effective, and can reduce the ongoing costs of production. ROTRONIC can supply a range of %rh sensors based on capacitive technology. Various standard products are available with pre-defined specifications, dimensions and characteristics. We are also able to offer customised sensor production to suit specific project requirements.

Calibrated %rh Sensor Modules

The advantage of implementing a pre-calibrated sensor module is that the OEM does not have to develop a measurement circuit or an in-house calibration system.

The appropriate product can be specified to be compatible with existing interface and power supply requirements, and with simple connection to the final application prior to delivery. The whole specification, design and supply of the humidity measurement element of the OEM need can be handled by ROTRONIC, leaving the customer to focus on their core product development and support.

ROTRONIC in-house calibration procedures have been developed over many years, and proven in many thousands of instances. The end result for the OEM customer is a well developed production process that assures best possible measurement performance with zero investment.

Humidity Transmitter or Probe Sub-Assemblies

For OEM customers who offer their own branded range of %rh sensors, for end uses such as HVAC/BMS, process control or data acquisition, ROTRONIC can supply a completed and calibrated product to fit the customers own housings.

In these circumstances, the customer has two main advantages. The responsibility for product design, assembly and calibration is handled by ROTRONIC, which minimises production costs and component stock risk. The customer also benefits from an 'own brand' product which has the very best performance capability, and has access to ongoing development to keep the product at the leading edge of the humidity market.

Standard Products with Customers Own Branding

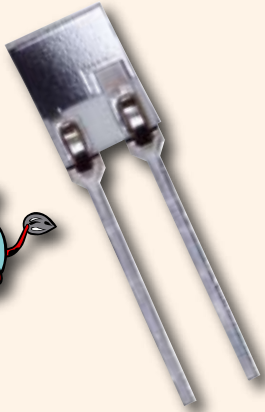
Throughout the pages of this catalogue you will find a range of humidity measurement products that are market leading in terms of performance, features and price. ROTRONIC is happy to effect a simple 're-brand' of the standard product range so that the OEM can offer a class leading product with no development cost and minimal stock risk.

Ancillary products such as calibration materials, replacement filter elements and software are of course already available. Support documentation such as manuals, software validation, type approvals and drawings can be easily re-branded on behalf of the OEM customer.



Example OEM Products

The products described are standard OEM products which are mass produced in different variants for many existing customers. They are available on very short delivery times, often from stock, and require no further development or documentation. Full technical datasheets are available in standard formats and show full technical and mechanical specifications. The range of products shown is by no means definitive. If you need a customised product, we shall be pleased to quote you, based on a requirement specification. Please do contact us for further information.



CS %rh sensor

The CS % rh sensor is a substrate based capacitive % rh sensor. It is designed specifically for applications where high quality is as important as cost. Two standard versions are available to suit most applications.

Features overview:

- Wide operating range
- Chemically resistant
- Good long term stability
- Fast response times
- Low hysteresis
- Compact dimension and high sensitivity (CS10)
- Fast response and solvent resistant (CS30)

Technical Data

	CS10	CS30
Humidity measuring range	0...100 %rh	0...100 %rh
Temperature operating range	-30...150 °C	-40...190 °C
Typical capacitance at 30 %rh and 23 °C	140 pF ±40 pF	300 pF ±40 pF
Typical sensitivity (15 ... 95 %rh)	0.4 pF / %rh	0.45 pF / %rh
Linearity at 23°C	± 1.5 %rh (20...90 % rh)	±2.0 %rh (20...95 %rh)
Hysteresis	< 1.5 %rh	< 2.0 %rh
Response time t90	<12 sec	<10 sec
Frequency range	1...70 kHz	1...100 kHz
Electrical range, signal form	AC ±12 V, no DC	
Connections	SIL	

HygroClip S / S3

- 100 % interchangeable
- 1 digital and 2 analogue outputs
- ROTRONIC Hygromer humidity sensor 0...100 %rh
- Accuracy ±1 %rh /0.3 K (at 23 ±5 °C)
- Long term stability better than 1 %rh/year
- High precision Pt100 1/3 DIN temperature sensor

Order code:

HygroClip S	Anthracite	-40...85°C = -0.4...0.85V
HygroClip S3	White	-40...60°C = 0...1V

HygroClip technical data and order information

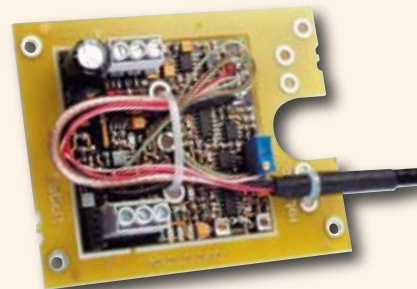
Voltage supply / current consumption	3.5...24 VDC / approx. 4 mA	
Operating range	Humidity / temperature 0...100 %rh / -40...85 °C	
Accuracy at 23 ± 5 °C	Humidity / temperature ±1 %rh / ±0.3 K	
Output signals	HygroClip S	Humidity / temperature 0...100 %rh = 0...1V / -40...85 °C = -0.4...0.85 V
	HygroClip S3	Humidity / temperature 0...100 %rh = 0...1V / -40...60 °C = 0...1 V
Digital output signal	One wire DIO	
Start up time	2.7 s first measurement; 0.7 s subsequent	
Resolution %rh / °C	100 %rh / 12 bit analogue, 16 bit digital / 250 °C/12 bit analogue, 16 bit digital	
Adjustment	By PC / software or handheld instrument (EE-Prom)	
Humidity sensor / temperature sensor	Hygromer® AC-1 / Pt100 1/3 DIN	
Output load	>10 kOhm	
Cable length for DIO signal	max. 5m	
Sensor protection	Wire mesh filter (max. 20m/s)	
Dimensions with MOC	100 x 15 mm	
Type of enclosure	IP65	
Colour	(HygroClip S)	Anthracite RAL 7016
	(HygroClip S3)	PC Novarex white 7022Nr. 312043; corresponds to RAL 9010

Example OEM Products

H290 Transmitter sub-assembly

H290 is an OEM humidity and temperature product with an impressive specification. It is particularly well suited to applications such as climatic chambers and drying systems. It is available either as a pcb and probe combination for fitting into the customer's own enclosures or housings, and can also be supplied in an industry standard IP65 case.

H290 provides a linear analogue output of 4...20 mA or 0...10 V from a power supply of 10...35 VDC or 12...24 VAC. In addition, it can be produced with the digital DIO signal. Temperature measurement is by direct connection to a Pt100 or thermistor, depending on the customer's requirements. Also featured on the H290 is a compensation system for operation over a wide -50...200 °C range, with integrated cable length compensation. This means that whatever the measurement temperature, or the differential in temperature between sensors and electronics, optimum results will be obtained.



THT Series

A range of humidity transmitters with excellent stability and very cost effective pricing. The THT series offers a range of analogue outputs such as 4...20 mA and 0...10 Volt, for both humidity and temperature. There is also as the option to connect directly a temperature sensor such as Pt100 or thermistor. THT is highly suitable for close control applications such as air conditioning or building monitoring where steady state conditions are usual.



OEM-HUM-2W-2

This low cost 2-wire loop powered transmitter features a 4...20 mA output signal for 20...100 %rh, with measurement accuracy of $\pm 5\%$ rh. It accepts supply voltages between 9...28 VDC and can operate over a temperature range of -10...60 °C;



Roline L-Series

Our standard low cost transmitter is particularly well suited to OEM application thanks to its excellent combination of performance and price. It has a wide choice of measurement ranges and output signals, and its compact printed circuit board dimensions means that it can be easily integrated or reconfigured into existing housings. It may also be customer branded.

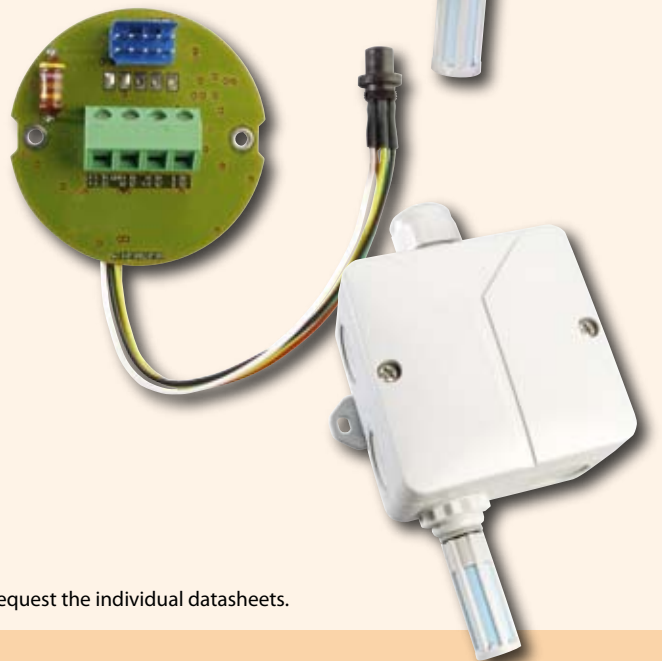
Further details see pages 60...62

10786 Series

A 2 x 2-wire transmitter for 4...20 mA signals, operating in combination with a connected HygroClip probe. The 10786 and HygroClip probe must be adjusted at the same time using the on-board digital interface to provide optimum accuracy of the output signal.

10797 Series

The 10797-Series is available either as humidity transmitter only, or as combined humidity / temperature device with an operating range of -30...70 °C. 0...20 or 4...20 mA output signals can be chosen.



For full technical specifications, dimensions, and specific product features, please request the individual datasheets.