



APPLICATIONS

Research and Meteorology

Agriculture

Ice warning systems

Snow-making systems

Installation in:

Meteorological stations

Snow guns

Air-conditioning systems



Meteorology Probe

for humidity and temperature - HygroClip module and additional separate temperature measuring probe

HYGROCLIP

MP100H / MP400H

MAIN FEATURES

- Exchangeable sensor module
- Separate precision temperature measurement with Pt100, directly wired or available as voltage / current output signal.
- Humidity sensor resistant to air pollution and moisture condensation
- Linear voltage or current output and digital signal
- Operating range 0...100 %rh and -40...+60 °C
- SWISS MADE



ROTRONIC - Your
SCS Calibration Laboratory
for Relative Humidity
Accred. Reg N°. 065

rotronic ag

MP100H / MP400H



Meteorology probe with integrated electronics for two active outputs (current or voltage). Humidity and temperature are measured with the plug-in HygroClip sensor module. In addition the MP100H / MP400H can be equipped with a Pt100 temperature probe in different accuracy classes.

The MP100H is available with voltage outputs. Its cable length compensation permits connecting cable lengths up to 100 m without measuring errors.

The MP400H is available with impressed current output 0...20 mA or 4...20 mA.

Pt100 additional probe



The Pt100 additional temperature probe consists of stainless steel and is available in three accuracy classes.

$\frac{1}{3}$ DIN guarantees at 0 °C a maximum inaccuracy of ± 0.1 K,

$\frac{1}{5}$ DIN of ± 0.06 K and $\frac{1}{10}$ DIN of ± 0.03 K.

The electronics installed in the MP100H / MP400H permit signal adaptation to the relevant application; that means active output for the temperature measurement with HygroClip or with additional Pt100 probe.

Alternatively the Pt100 signal can be used directly wired in a 2, 3 or 4 wire circuit.

HygroClip



The HygroClip is an exchangeable sensor module with two analog outputs for humidity and temperature. Equipped with the ROTRONIC HYGROMER humidity sensor and a temperature sensor in the 1/3 DIN accuracy class, the operating range is 0...100 %rh and -40...+85 °C, with an accuracy of ± 1.5 %rh and ± 0.3 K at 23 °C.

You lose no time calibrating the HygroClip. You receive on exchange basis at an extremely favourable price a spare HygroClip R3 prepared by ROTRONIC AG. This always contains a new humidity sensor, a new filter and is perfectly adjusted.

Radiation shield



Radiation shield TYPE AC1003. Optimum protection against rainfall and sunshine with natural ventilation. Suitable for horizontally incident rain up to 68 km/h.

Compact, ventilated radiation shield of the type VHTS1 with built-in fan. Supply voltage 10...16 VDC or 24 VDC.

Optimum protection of the meteorology probe at all weather conditions (mountains, sea, desert, etc.) Available in the versions with white or Ematal coating.

Measuring station



Ventilated measuring station type VUS for modular construction. Suitable for horizontally incident rain at wind strength of 140 km/h.

Can be expanded with temperature probe module T5 for temperature measurement above the ground, with barometer module B1 for atmospheric pressure, with pyranometer sensor module type SO1 or the rainfall sensor R1. Ask us for detailed documents. The range of our weather stations will be constantly extended.



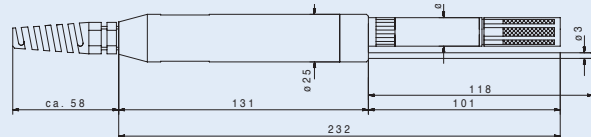
Technical data

	MP100H	MP400H
Supply	3,6...35 VDC	5 V + (0,02 x load)
Current consumption incl. HygroClip	10 mA	max. 45 mA
Output signal	Humidity Temperature T1	0...1 V = 0...100 %rh Voltage output see code list Current output see code list
Cable length compensation	effective up to 100 m	none, because impressed current
Load	> 1000 Ohm	< 500 Ohm
Degree of protection	IP 65	
Operating range	-40...+60 °C, 0...100 %rh	
Accuracy at 23°C	±0,1 %rh/±0,1 K + HygroClip (±1,5 %rh/±0,3 K)	
Accuracy of add. Pt100		
with active signal, at 23°C	According to spec. 1/3, 1/5, 1/10 DIN, plus converter ±0,15 K	
Humidity and temperature measurement	HygroClip S3 (order separately)	
Additional temperature probe T2 (optional)	Pt100 1/3 DIN (standard) 118 x 3 mm	
Output signal	active	Voltage or current (see code list)
	passive	2, 3 oder 4 wire

Dimensions drawings



MP100H / MP400H / -0



MP100H / MP400H / 1...4

Electrical connection

Connection cable

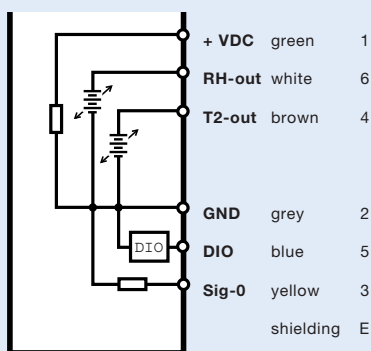
A PUR cable, white with 7 cores and shield is delivered as standard. A 10-core connection cable is used for the passive version with additional temperature probe version.

Cable compensation MP100H

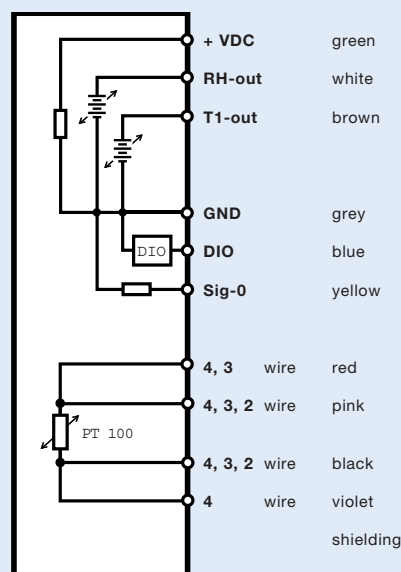
The cable compensation is designated with SIG 0 and must be connected together with the GND wire at the connection cable end.

Digital output

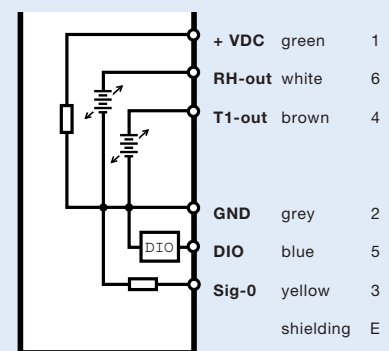
The DIO output contains only the measuring signal of the HygroClip. This digital signal is well suited for further handling in a central unit. The maximum cable length for the DIO signal is 5 m.



with additional active temperature probe



with additional passive temperature probe



without additional temperature probe

Ordering data for MP100H / MP400H and accessories

Voltage output basic version	MP100H-	
Current output basic version	MP400H-	
Additional temperature probe		
without		0
with active output signal		1
with passive output signal	2 wire	2
	3 wire	3
	4 wire	4
Signal output for MP100H		
ROV 0...100 %rh = 0...1 V, -40...+60 °C = -0.4...+0.6 V		1
0...1 V = 0...100 %rh, -30...+70 °C		2
0...1 V = 0...100 %rh, -40...+60 °C		3
Output signal for MP400H		
0...20 mA = 0...100 %rh, 0...100 °C (max 60 °C)		4
0...20 mA = 0...100 %rh, -40...+60 °C		5
0...20 mA = 0...100 %rh, -30...+70 °C		6
4...20 mA = 0...100 %rh, 0...100 °C (max 60 °C)		7
4...20 mA = 0...100 %rh, -40...+60 °C		8
4...20 mA = 0...100 %rh, -30...+70 °C		9
Connection cable PUR, standard 3 m		03
maximum 99 m		99
open cable ends		00
Tuchel connector 7pin (not for additional temperature probe in 3 or 4 wire connection)		T7
Additional temperature probe	Pt100 1/3 DIN	-03DIN
	Pt100 1/5 DIN	-05DIN
	Pt100 1/10 DIN	-10DIN

Ordering data for additional devices

HygroClip S3	Sensor module for humidity and temperature
HygroClip R3	Replacement sensor module
AC1003	Radiation shield
AC1012	Probe protection tube for AC1003
VHTS1-W-00	Ventilated radiation shield with white coating
VHTS1-EM-00	ditto, with Ematal coating
VUS	Ventilated measuring station for modular construction
T5	Temperature module
B1	Barometer module
SO1	Pyranometer module
R1	Rainfall detector
ET-234	Tuchel 7pin mating plug
ET-7008/xx	PUR cable 7 core white (xx = number of meters)
ET-7012/xx	PUR cable 10 core white (xx = number of meters)
WD1-H	Measuring unit for wind direction, heated
WD1	Measuring unit for wind direction, unheated
WS1-H	Measuring unit for wind velocity, heated
WS1	Measuring unit for wind velocity, unheated
ER-15	Calibration device suitable for HygroClip
EAXx-SCS	Humidity standards SCS certified
	in box of 5 pieces
	(xx = 0, 5, 10, 20, 35, 50, 65, 80, 95 %rh)