

Hygrotest 650 HP -20/120 for high humidity



The Industrial transmitter hygrotest 650

Optionally the transmitters of the hygrotest 650 series are available with a precision of ± 1 %RH. The very robust, easy-to-clean metal housing optimally protects the transmitter from environmental influences. The length of the cables and probes can be adapted to suit customer requirements. Probes and sensors are heat resistant up to temperatures of $+180$ °C. Various humidity variables such as dew point, absolute humidity, relative humidity or psychrometer humidity temperature can be calculated and displayed with the help of the integrated Mollier diagram.



Constant humidity and temperature in cleanrooms guarantee optimum product quality.

	Channel 1	Channel 2
Parameter	%RH	T
Range	°Ctd, g/kg, g/m ³ , FK	T
Output	% RH	°Ctd, g/kg, g/m ³ , FK
	0/4 to 20 mA	0/4 to 20 mA
	0 to 1/10 V	0 to 1/10 V
	Freely scalable	Freely scalable

The three possible combinations

Technical data hygrotest 650

Housing:	
Material/Colour:	Die-cast zinc, nickel-plated, burnished, varnished
Dimensions:	130 X 140 X 54 mm
Screw connections:	2 x M 16x1.5 stainless steel screw connection
Electrical connections:	2 x 4-pole screw connector in housing
Protection class:	IP 65
Operating temperature:	
Electronics (Housing):	-20 to +70 °C
Display:	-20 to +60 °C
Ambient conditions:	
Probe operating pressure range:	-1 to +10 bar
Storage temperature:	-40 to +80 °C
Probe flow resistance:	30 m/s, with sintered stainless steel filter
Sensor:	
Humidity:	Testo humidity sensor
Response time:	190 10 to 20 sec.
Temperature:	Pt 1000 Class A
Measuring range:	
Humidity:	0 to 100% RH
Humidity calibration points:	11.3 %RH, 75.3 %RH at 25 °C
Temperature:	hygrotest 650 WHT -40 to +80 °C hygrotest 650 DHT -40 to +120 °C hygrotest 650 PHT -40 to +180 °C hygrotest 650 HP -20 to +120 °C
Accuracy:	
Humidity:	± 2 % RH, optional ± 1 % RH (betw. 10 to 90 %RH in the range +15 to +30 °C) In 650 HP: ± 2.5 % RH
Temp. coefficient humidity:	± 0.03 %RH / K; (at temperatures deviating from 25 °C)
Temperature:	± 0.2 °C to DIN EN 60751 Class A
Resolution:	0.1 %RH and 0.1 °C
Outputs:	
Analog output:	4 to 20 mA (2-wire system) 0 to 20 mA, (4-wire system) 0 to 1 V, (4-wire system) 0 to 10 V, (4-wire system) 4 to 20 mA (4-wire system, only with HP)
Resolution:	5 μ A (0 to 20 mA; 4 to 20 mA) 250 μ V (0 to 1 V) 2.5 mV (0 to 10 V)
Drift (analog):	0.35 μ A / K (0 to 20 mA; 4 to 20 mA) 17.5 μ V / K (0 to 1 V) 75 μ V / K (0 to 10 V)
Zero shift:	30 μ A (0 to 20 mA) as well as HP versions (4 to 20 mA / 0 to 20 mA) (analog) 1.5 mV (0 to 1V) 15 mV (0 to 10V)
2 x 2 switch outputs:	Optional in combination with display H5 or H6
Digital output:	RS232 output RS485 output, optional in connection with display H3, H4 or H5
Power:	24 VDC (12 to 30 VDC)
Max. load without or with display H2/H4/H5/H6	500 Ohm (0 to 20 mA); 500 Ohm (4 to 20 mA)
Max. load with display	50 Ohm (0 to 20 mA); 50 Ohm (4 to 20 mA)
H1	Power supply min. 20 VDC
Power consumption:	Max. 2 x 21 mA (4 to 20 mA) Max. 2 x 22 mA (0 to 20 mA; 0 to 1 V; 0 to 10V)
EMC:	In accordance with guideline 89/336 EWG

All data relate to a nominal temperature of +25 °C.

Probes:				
Version	Material	Diameter	Length Incl.	Sensor protection cap
650 WHT -20/70	Stainless steel	12 mm	65 mm	Open stainless protective cap
650 DHT -20/120	Stainless steel	12 mm	200 mm	Sintered stainless steel filter
650 PHT -40/80	Stainless steel	12 mm	210 mm	Sintered stainless steel filter
650 PHT -40/120	Stainless steel	12 mm	210 mm	Sintered stainless steel filter
650 PHT -20/120	Stainless steel	12 mm	210 mm	Sintered stainless steel filter
650 HP -20/120	Stainless steel	12 mm	210 mm	Teflon filter
Temperature probe with hygrotest 650 HP: Stainless steel 1.4571 blank, 210 mm long, Ø 3 mm,				
Probe cable length, 2 m standard or special cable length, 0.8 to 10 m				