HygroMer HT-1

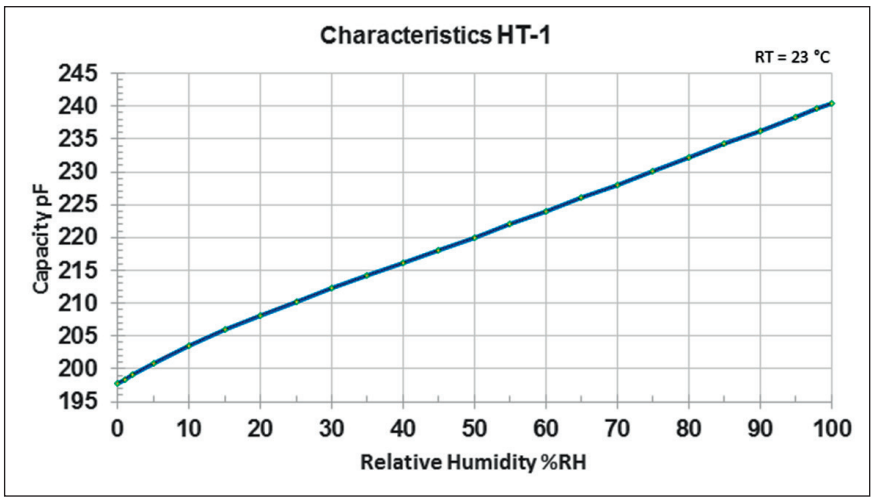
THE PERFECT SENSOR FOR INDUSTRIAL APPLICATIONS.

INNOVATION IN HUMIDITY MEASUREMENT

- Best long term stability
- Robust mechanical construction
- Response time ‹15 s
- 0...100 %RH
- -100...190 °C
- PTFE surface protection

rotronic
MEASUREMENT SOLUTIONS

HygroMer HT-1

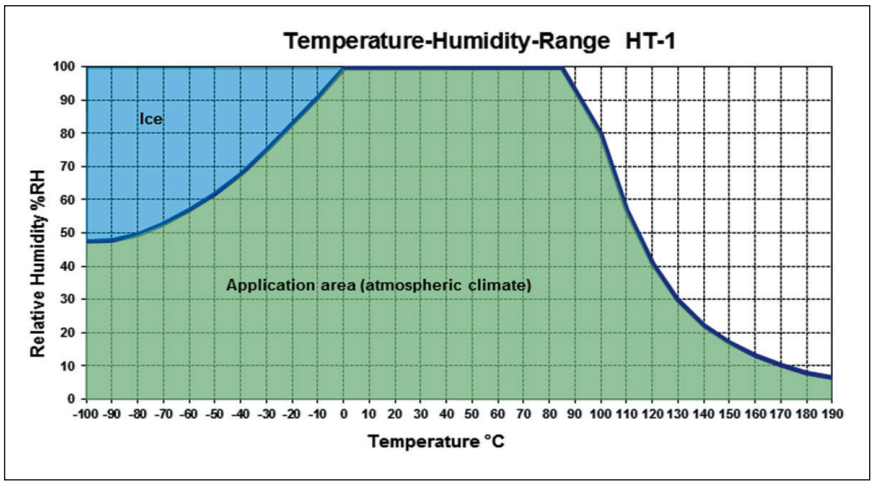


Characteristic polynomial

5th degree polynomial

$Y = A_0 + A_1*x + A_2*x^2 + A_3*x^3 + A_4*x^4 + A_5*x^5$

A0 = 1.97800E+02
A1 = 6.55390E-01
A2 = -9.47800E-03
A3 = 1.56000E-04
A4 = -1.18900E-06
A5 = 3.48430E-09



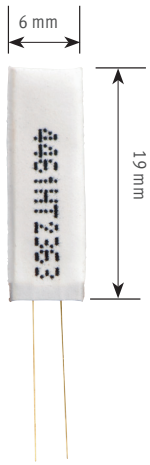
Specifications

Capacity:	220 pF ±50 pF
Humidity operating range:	0...100 %RH
Temperature operating range:	-100...190 °C
Accuracy at 23 °C:	±1.0 %RH
Hysteresis (4 hours each at 10 %RH - 90 %RH - 10 %RH):	‹0.5 %RH
Response time τ63:	‹15 s (at 23 °C and 1 m/s)
Long-term stability:	‹1 %RH / year
Uncompensated temperature deviation:	-0.15 %RH/°C (30...90 %RH)
Frequency range (without DC components):	10...100 kHz
Max. Voltage:	±35 VDC

The shown data are guide values. The resistance of the sensor strongly depends on the temperature and humidity conditions as well as on exposure duration to the pollutant. Allowed fault caused from the pollutant: ±2 %RH (10...90 %RH).

Pollutant	Formula	Max.Workplace Concentration (ppm)	Max.Workplace Concentration (mg/m^3)	Allowed Concentration Continuous Operation (ppm)	Allowed Concentration Continuous Operation (mg/m^3)
Acetic acid	CH_3COOH	10	25	800	2000
Acetone	CH_3COCH_3	1000	2400	3300	8000
Ammonia	NH_3	25	18	5500	4000
2-Butanone (MEK)	$C_2H_5COCH_3$	200	590	3300	8000
Chlorine	Cl_2	0.5	1.5	0.7	2
Ethanol	C_2H_5OH	1000	1900	3500	6000
Ethyl acetate	$CH_3COOC_2H_5$	400	1400	4000	15000
Ethylene glycol	$HOCH_2CH_2OH$	100	260	1200	3000
Ethylene oxide	C_2H_4O	3		3	
Formaldehyde	HCHO	1	1.2	2400	3000
Hydrochloric acid	HCl	5	7	300	500
Hydrogen sulfide	H_2S	10	15	350	500
Isopropanol	$(CH_3)_2CHOH$	400	980	4800	12000
Methanol	CH_3OH	200	260	3500	6000
Nitrogen oxides	NOx	5	9	5	9
Ozone	O_3	0.1	0.2	0.5	1
Petrol		300	1200		150000
Sulfur dioxide	SO_2	5	13	5	13
Toluene / Xylene	$C_6H_5CH_3$	100	380	1300	5000

Dimension



The data in this documentation result from experience and testing. Depending upon site conditions (temperature, dampness, pollutants etc.) the values can differ. A warranty claim cannot be derived from it.

rotronic
MEASUREMENT SOLUTIONS
ROTRONIC AG, Grindelstrasse 6, CH - 8303 Bassersdorf, Tel. +41 44 838 11 11, Fax +41 44 838 14 83, www.rotronic.ch
ROTRONIC Instruments (UK) Ltd, Crompton Fields, Crompton Way, Crawley, West Sussex, RH10 9EE, UK, Phone +44 (0)1293 571000, Fax +44 (0)1293 571008, www.rotronic.co.uk
ROTRONIC Instrument Corp, 135 Engineers Road, Hauppauge, NY 11788, USA , Phone, +1 631 427-3898, Fax, +1 631 427-3902, www.rotronic-usa.com
ROTRONIC Instruments Pte. Ltd., 1003 Bukit Merah Central, #06-31 Inno Centre, Singapore 159836, Phone +65 6376 2107, Fax +65 6376 4439, www.rotronic.sg

59043E/2014-12