

SEM110C I2C temperature and humidity sensor

FEATURES

- Fully calibrated, linearized, and temperature compensated digital output
- Wide supply voltage range, from 2.4 to 5.5 V
- I2C Interface with communication speeds up to 1 MHz and two user selectable addresses
- Typical accuracy of 2%RH and 0.3°C
- Very fast start-up and measurement time
- Tiny 8-Pin DFN package



FEATURES

SEM110C High-precision temperature and humidity sensor, real-time detection of temperature and humidity changes. The product adopts imported RHT chip, which has high sensitivity and accurate measurement. High performance, strong anti-interference performance. The probe shell is made of 316 stainless steel, and the chip is coated with waterproof paint to effectively protect the PCB module from damage.

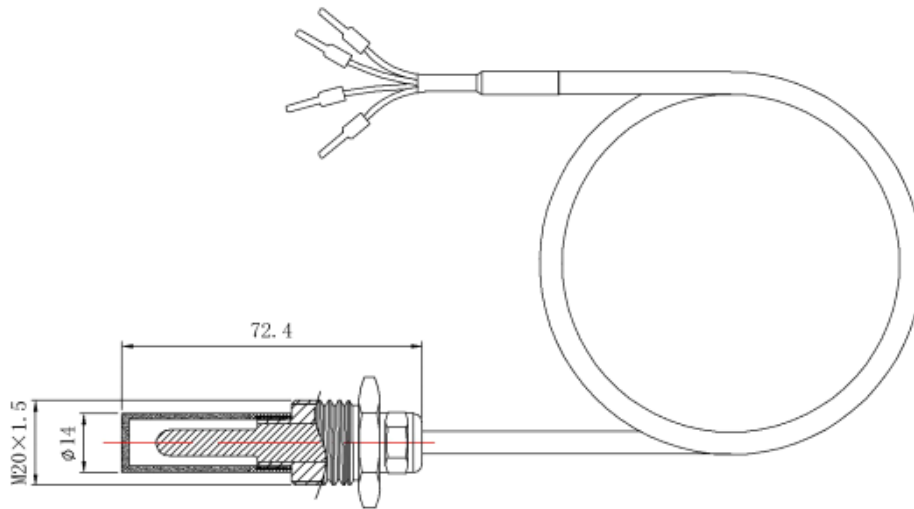
Water proof, Dustproof, anti-corrosion, can be used in harsh environments such as narrow spaces, pipes, high temperature, high humidity areas, dust, rain and snow.

For museums, galleries and other exhibition venues, the use of temperature and humidity probes is ideal.

SPECIFICATION

Model	Humidity - Max. Accuracy Range (%RH)	Temperature - Max. Accuracy Range (%RH)	Operating voltage range (V)	Output signal	Relative Humidity Range (RH)	Temperature range
SEM110C-1	±1.8@0-100%RH	±0.2@0-65°C	1.08~3.6	I2C	0~100%	-40~125°C
SEM110C-2	±2.0@10-90%RH	±0.2@0-65°C	2.15~5.5	I2C	0~100%	-40~125°C
SEM110C-3	±2.0@0-100%RH	±0.2@0-90°C	2.15~5.5	I2C	0~100%	-40~125°C
SEM110C-4	±1.5@0-80%RH	±0.1@20-60°C	2.15~5.5	I2C	0~100%	-40~125°C
SEM110C-5	±3.0@20-80%RH	±0.3@5-60°C	2.1~3.6	I2C	0~100%	-40~125°C
SEM110C-6	±2.0@20-80%RH	±0.3@5-60°C	2.1~3.6	I2C	0~100%	-40~125°C
SEM110C-7	±1.8@10-90%RH	±0.2@5-60°C	2.1~3.6	I2C	0~100%	-40~125°C
SEM110C-8	±1.5@0-80%RH	±0.1@20-50°C	2.15~5.5	I2C	0~100%	-40~125°C

TYPICAL DIMENSION



SENSOR PERFORMANCE

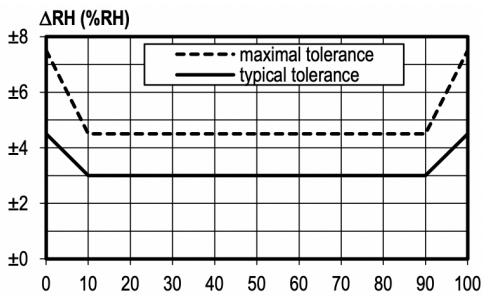


Figure 1 Tolerance of RH at 25°C

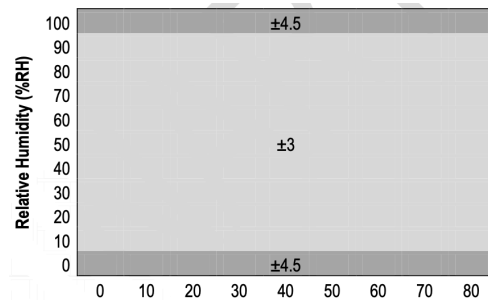


Figure 2 Typical tolerance of RH over T

Parameter	Condition	Value	Units
Accuracy tolerance ¹	Typ. 10 to +55	±0.3	°C
Repeatability ²		0.06	°C
Resolution	Typ.	0.05	°C
Specified Range	-	-40 to 125	°C
Response time ⁸	$\tau_{63\%}$	>2	s
Long Term Drift	-	<0.03	°C/yr

Figure 3 Temperature sensor specification

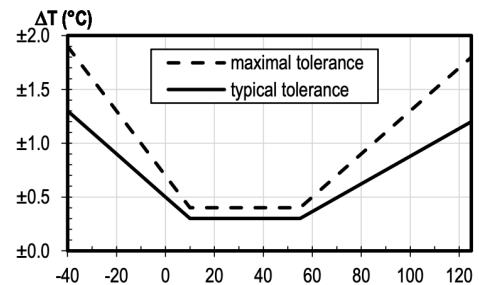


Figure 4 Tolerance of the temperature sensor in °C