

Ant One

Moisture & Temperature Sensor

INTEC



Application

Monitoring of moisture and temperature inside mineral materials. The sensor can be completely or partially embedded in the host material or used in air. In combination with the Intect platform and App, the sensor can be used to:

- Monitor moisture/rel. humidity and temperature
- Optimize mineral material drying behavior
- Project material readiness

Sensor specifications

Temperature Range	-30 to +90°C
T. Accuracy	±0.25°C
T. Measurement Principal	silicon bandgap
Relative humidity (R.H.) Range	0 - 95% (ANT1-NF) ; 0 - 100% (ANT1-F)
R.H. Accuracy	±3%
R.H. Measurement Principal	capacitive polymer

Operational specifications

Expected lifetime	10 years (depending on measurement frequency)
Measurement interval	5min to 72h (above 4h using an anti-passivation pulse)
Power source	Battery powered UN 38.3 tested Lithium battery mark is not required (below 1g Li)
Connectivity	Wireless - Low Power Wide Area Network (868 MHz) TX Power < 14dbm Duty Cycle <1% MIOTY or LORA (with gateway)
Range (submerged in water/concrete)	max. 25m
Range (antenna in air)	max. 10km in remote areas max. 2km in urban areas
On/Off switch	Magnetic (hall sensor)
Compliance	CE pending

Protection specifications

Protection class	IP 68 (tested submersion up to 28 days)
Water uptake (23°C, 24 hours)	0.14%
Pore solution* uptake (23°C, 24 hours)	0.17%
PH range	6 - 13.5
Tested material compatibility	Cementitious and calcium sulfate screeds, concrete, masonry, and mineral plasters/renders.

*The pore solution is simulating wet conditions in concrete at high ph=13.5. Saturated Ca(OH)₂ DI water solution with KOH.

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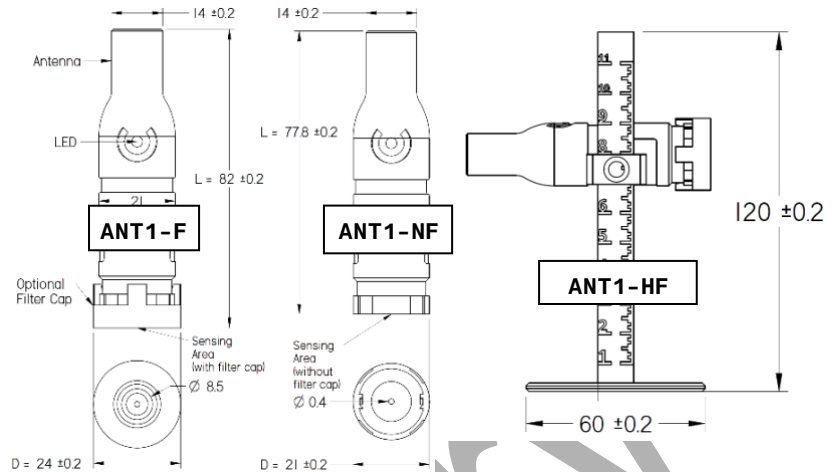
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Product code:

Physical Specifications:

ANT1-NF	Without protective filter cap Recommended use: - in air/gases
ANT1-F	With protective filter cap Recommended use: - in drill holes - in concrete - in cementitious screed - in liquids
ANT1-HF	With protective filter cap and sensor holder Recommended use: - in anhydrite screed



Installation guidance

Screed Drying (without holder)	Screed Drying (with holder)	Concrete Monitoring or Post installed screed drying
Screed surface Sensor Level Screed T + D/2	Screed surface Holder Screed	Existing concrete Mortar Ø 24 T L - T
For cementitious screed: - While laying screed make a screed base at sensor level - Put in the sensor - Cover the sensor up to the screed surface level	In materials where the sensor floats: - Attach the base of the holder to the base using the preinstalled tape - Set the holder to the distance of the sensor surface from the base = H. T b = S - H (Where S is the total screed height.) - Lay screed, if necessary, clip the top of the holder at the screed surface	In existing concrete or after - Use a 24mm hammer drill bitt (Hilti example) to drill a hole (approx. 0.5-1cm longer than intended sensing surface distance T). - Fill the hole with mortar - Press the sensor into the wet mortar and confirm T

T = distance of measurement point from the material surface

Setup guidance

On/Off Switch (Hall Sensor)	Onboarding
Trigger: Magnet States: Device turns OFF = 2 consecutive LED blinks Device turns ON = 1 LED blink, measures immediately & sends data after approx. 10s State change lock: after each state change, a further state change is refused for 4s.	App: Add Sensor by scanning QR Code Identifier on label/QR Code in EUI format (HEX): Intect OUI: Device Type: Serial: 8C-1F-64-EE-9 0-0 X-XX-XX Note: Sensors ship with a default 1h measurement interval. Confirm correct activation by changing states with the magnet twice (first off, then on), a measurement should appear in the app.