The CDS HTN-210 is a temperature and relative humidity sensor with ISA100 Wireless communication capabilities. Designed for operation in an industrial environment, the device can be used with a standard ISA100 Wireless Gateway to report periodically the temperature, relative humidity and battery status. Additionally, all values can be read on demand through client-server interrogation commands by the Gateway.
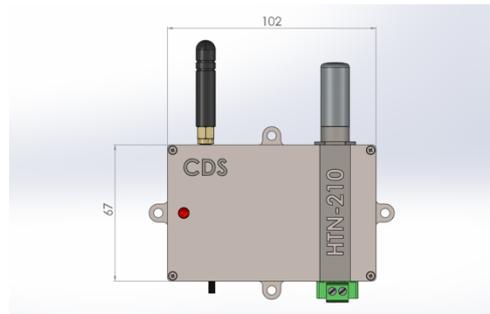
Electrical and mechanical data

Specifications	Details
Input Voltage	5V DC ±10%
	2xAA rechargeable batteries
Power consumption	~8.5-10W
Dimensions	102 mm x 67 mm x 28 mm (L x W x H)
Temperature Range	-40...+85 °C
Relative Humidity	Maximum 95% RH non condensing
Enclosure	Aluminum + ABS
Weight	100g

The HTN-210 can be powered by 2xAA rechargeable batteries or via a 5V DC line power. It features an LED visual indicator that provides information about line power availability, battery level as well as the network joining and communication status.

The sensing part is build around a reliable and accurate SHT-10 sensing element that is protected by a metal housing mounted via a circular connector, which allows for the sensor head removal, maintenance and replacement.

The wireless communication part is implemented with the robust and time proven VN210 radio modem from CDS, which has been tested with most ISA100 Wireless Gateways on the market. The 2.4 GHz antenna is mounted via an SMA connector on the top panel and can be extended with an optional RF cable.

An on-off switch protects the batteries in case DC power is disconnected and the device is not operational.

Radio data

Parameter	Value	Comment
Operating frequency	2.4GHz	
Number of channels	15	
Channel separation	5 MHz	
Occupied channel BW	2.65 MHz	
Frequency accuracy	+- 40 ppm	Determined by the 24MHz crystal
Modulation	O-QPSK	
Raw data rate	250 kbps	
Receiver sensitivity	-98 dBm	Using Non-coherent Differential Chip Detection (DCD), 50% PER
Output power	10 dBm typical	Conducted, at antenna port
Antenna gain	+2dBm max	

Certifications (pending)

Certification	Details
EMC: USA	FCC Part 15 Section 247
EMC: Canada	IC: RSS 210, must comply with FCC 15.247
EMC: EU	ETSI EN 300 328, ETSI EN 301 489-1, ETSI EN 310 489-17
EMC: Japan	MPHPT Chapter 3, Section 4.17, Article 49.20

Sensor data

Parameter	Value
Teperature	+- 0.5 C
Humidity	+- 4.5 C
Temperature range	-40 to +125 C
Humidity range	0 to 100 % RH
RH response time (tau 63 %)	8 sec