

ClimaCheck 1-wire Temperature Sensor

ClimaCheck 1-wire is a bus sensor, meaning that it has a chip in the sensor and the communication is digital. The advantage with this technology is that it does not require any analog inputs and cable resistance does not affect the measuring accuracy. To use bus technology, it is important that the "topology" of the bus wires are respected.

Specification

Sensor: 1-wire, DS18B20

Range: -55 to 125 °C (-67 to 257 °F)

Accuracy: ± 0.5 K from -10 to 85 °C

Sensor can be submerged and is protected against condensation.



Parts

Sensors

Part no.	Type	Sensor element	Cable length	Contact
300700	B "round"	1-wire	3 m (9.75 ft)	Free leads
300701	B "round"	1-wire	3 m (9.75 ft)	Tele plug

Accessories

Part no.	Product
300113	Cable extension with male/female tele plug, 3.5 m
300114	Cable extension with male/female tele plug, 7 m
300115	Cable extension with male/female tele plug, 10 m
300116	1-wire splitter
300117	1-wire splitter, 5-way

Topology

It is important to follow the topology of the 1-wire network, when connecting the sensors.

Total "weight" of network should be less than 65 m.

Weight = length of all cables + 0.5 m per sensor + 0.5 m per split

Total number of 1-wire sensors should be less than 16.

Stubs should be less than 3 m if possible. Longer stubs can be used but increase risk for unstable communication.

More information on topology: <https://www.maximintegrated.com/en/app-notes/index.mvp/id/148>

