

FS11

General

Dimensions	42,5 x 7,5 x 5 cm
Weight	190 grams
Power	Replaceable CR123A battery
Operating voltage	3.0 V
Battery life expectancy	1 year (using default measurement interval)
Default measurement interval	Once per hour
Internal memory	Last 2 weeks (using default measurement interval)
Operating temperature	-20°C to +60°C
Certification	CE
Product model	FS11
Housing material	Polyurethane epoxy resin

Air temperature

Sensor position	7,5 cm above ground level
Output	Degrees Celsius (°C)
Measurement range	-20°C to +60°C
Accuracy	±1°C

Air humidity

Sensor position	7,5 cm above ground level
Output	Relative Humidity (%RH)
Measurement range	0 - 99,9%RH
Accuracy	±2%RH (at 25°C and 20%RH to 80%RH)

Soil temperature

Sensor position	10cm below ground level
Output	Degrees Celsius (°C)
Measurement range	-20°C to +60°C
Accuracy	±1°C

Soil moisture

Sensing zones	0-10 cm, 10-20 cm, 20-30 cm below ground level
Output	Volumetric water content (%)
Measurement range	From 0% to field capacity (55% for clay, 40% for sand)
Accuracy	±3% With Farm21 soil calibration and correct installation

Connectivity

Network protocol	LoRaWan 1.0.3
Frequencies	EU: 863-870 MHz, NA: 902-928 MHz, ASIA/AUS: 920-925 MHz
Transmit power	NA and AUS up to 20 dBm, other regions up to 14 dBm
Transmission interval	1 Every hour (default)



FS21

General

Dimensions	10 x 6,5 x 6,5 cm (exc. antenna and add-on)
Weight	205 grams
Power	USB Rechargeable 26650 battery (20Wh)
Operating voltage	3.0 V
Battery full charge to empty	1 year (using default measurement interval)
Default measurement interval	Once per hour
Internal memory	Last 2 weeks (using default measurement interval)
Operating temperature	-20°C to +60°C
Certification	CE
Product model	FS21

Air temperature

Sensor position	7,5 cm above ground level
Output	Degrees Celsius (°C)
Measurement range	-20°C to +60°C
Accuracy	±1°C

Air humidity

Sensor position	7,5 cm above ground level
Output	Relative Humidity (%RH)
Measurement range	0 - 99,9%RH
Accuracy	±2%RH (at 25°C and 20%RH to 80%RH)

Connectivity

Network protocol	NB-IoT/ LTE-M/ EGPRS
Frequencies	NB-IoT Bands: B1/B3/B8/B5/B20/B28 @H-FDD
Transmission interval	1 Every hour (default)
Location	GNSS Positioning



Soil moisture add-on

General

Dimensions	35 x 6 x 6 cm
Weight	95 grams

Soil temperature

Sensor position	10 cm & 20 cm below ground level
Output	Degrees Celsius (°C)
Measurement range	-20°C to +60°C
Accuracy	±1°C

Soil moisture

Sensing zones	0-10 cm, 10-20 cm, 20-30 cm below ground level
Output	Volumetric water content (%)
Measurement range	From 0% to field capacity (55% for clay, 40% for sand)
Accuracy	±3% With Farm21 soil calibration and correct installation

