Product catalogus

Product Catalog 2025-7

Software

Integration in InSight

The InSight platform developed by Quantified allows you to visualize and/or download sensor data, create sensor groups, and set up push notifications. There are three subscription types: Green, Silver, and API-only:

Q-Insight Green

- up to 100 FireFlies
- up to 10 users
- 9 months of data storage

Q-Insight Silver

- up to 500 FireFlies
- up to 25 users
- up to 500 alarm events or notifications per day
- 24 months of data storage (extension possible on request)

API-only

- up to 500 FireFlies
- 2 weeks of data storage (extension possible on request)

Quantified Mobile App

With the Quantified App, you can visualize sensor data on your phone or tablet. Download the free Quantified App for iPhone or Android:

Download the Quantified App in the App Store (iPhone) Download the Quantified app on Google Play (Android)

Integration with other platforms

It is also possible to connect your Quantified sensors to a data platform developed by one of our partners. To do so, you can use the Application Programming Interface (API). We can take care of this connection for you: feel free to contact us to discuss the possibilities.

Hardware

Starter kit	Item number
	FFSK

The Starter Kit includes a complete wireless sensor system and is an affordable introduction to Quantified. The package contains:

- 2 FireFly sensors with Temperature, Relative Humidity, and PAR (FF02)
- 1 gateway with Ethernet and 4G
- 2 Smart Clips of your choice: FFSCang, FFSCMagnetic, or FFSCMSC
- 1 USB charger (FFCh) + 1 reset magnet (with cord)
- 1 year of access to the Insight data platform (including API link)
- 1 year data subscription for connectivity (Incl. 4G SIM)

You can add external sensors from the catalog to the starter kit as desired.

FireFly sensor node	Item number FF

The FireFly sensor is a wireless sensor module with a rechargeable battery in a robust housing. The sensor configuration can be customized as desired. A range of external sensors and actuators can be connected via the connector.

FF02 sensor node		
Dimensions and weight	**Protection type**	**measurement interval**
L x W x H = 3.5 x 4.0 x 11.0 cm (1.4 x 1.6 x 4.3 in); weight 127 g (4.5 oz)	IP67 connector with cap	Minimum 1 measurement per minute
LoRa frequencies		**Battery charging interval**
868 MHz (EU, Africa) 915 MHz (Australia, Americas) 869.0–869.4 MHz (Morocco)	915 MHz (South Korea)	>12 months (depending on measurement frequency)

FF02 options		
air temperature	**relative humidity**	
operating range: -15° to 65°C (+5° to +149°F)	operating range: 20..90% rH	accuracy: ±1.5% rH
Accuracy: ±0.5 °C / (0.5°F)	Operating range: 90..100% rH	Accuracy: ±2.5% rH
Resolution: 0.01 °C / (0.018°F)		
GPS	**PAR light**	**Barometric pressure**
accuracy: radius of ±5 meters / (± 16.5 ft)	±5% (calibrated for sunlight)	working range: 0 .. 500 kPa (0 to 147.65 in Hg)
		Accuracy: ±0.5 kPa (0.15 inHg)
		Resolution: 0.01 kPa (0.003 inHg)

Poseidon WET sensor to connect to FireFly	**Item number** FFWETPos 1-, 2-, or 3-fold

The Poseidon WET sensor measures the permittivity*, electrical conductivity (EC), and temperature of soil or substrate. Three versions are available: with a single, double, or triple measuring head. The (multi-) Poseidon must be connected to a FireFly.

* The relationship between permittivity and Volumetric Water Content (VWC) depends greatly on the soil type. We recommend irrigating or fertigation based on the measured permittivity. The Poseidon can be calibrated by Quantified for VWC in combination with a specific substrate or soil type.

relative permittivity (-)	**EC**	**temperature**
working range: 0 .. 80	working range: 0 .. 20 dS/m	operating range: -40 ..+80 °C / -40 .. +176 °F
accuracy: < 3%	Accuracy: ±3%	Accuracy: ±0.5 °C / °F
Resolution: 1%	Resolution: 10 dS/m	Resolution: 0.1 °C / °F
measuring probes	**Measuring principle**	**Protection type**
Stainless steel; length: 7 cm; width: 2.5 cm	Time Domain Reflectometry (TDR), 50 MHz	IP67
		cable length
		2 m / 79 inches per measuring head

Smart Gutter Can be connected to FireFly	**Item number** FFSG




The Smart Gutter makes it possible to optimize fertigation for cultivation in substrate mats or multiple small pots. By measuring substrate weight, drain volume, drain EC, and drain temperature every five minutes, the grower gains insight into plant evaporation and root climate. The EC is measured in the last 5 ml of drain, eliminating any delaying dilution curve and ensuring a very fast EC response. For high-wire cultivation, the Smart Gutter can be combined with hanging scales (see: crop weight monitor) to weigh the crop wires. This
improves accuracy and also makes it possible to monitor the picking weight.

FFSG		
drain volume	**drain EC**	**drain temperature**
maximum flow rate: 2 ml/s	working range: 0..6 dS/m	operating range: -40 .. +80 °C / -40 ..+176 °F
accuracy: ±5%	Accuracy: 0 .. 2 dS/m ±3% 2 .. 6 dS/m ±5%	Accuracy: ±0.5 °C / °F
Resolution: 5 ml / 0.17 oz	Resolution: 0.1 dS/m	Resolution: 0.1 °C / °F
Weight measurement range	**Temperature range weight**	**Standard dimensions and weight**
max. load: 40 kg / 88 lbs	accurate range: -10..+40 °C -14 .. +104 °F	inner gutter dimensions: L x W x H: 1350 × 200 × 42 mm^3
Accuracy: ±0.04% of max. load + ±0.02% of max. load per 10°C / °F	Operating range: -20..+60 °C -4 .. +140 °F	inner dimension of foot brackets: 218 mm
resolution: 1 g / 0.035 ounce		Weight: 8 kg / 17.6 lbs
	material	**Protection type**
	Stainless steel and polypropylene	IP 61

Crop weight monitor Can be connected to FireFly	**Item number** FFCropMon

The crop weight monitor accurately measures the weight of high-wire plants such as tomatoes, peppers, and cucumbers. This provides growers with insight into daily growth, long-term growth patterns, and the development of harvest weight, among other things. There are options for weighing: 1 to 8 wires per mat. The sensor is connected to a FireFly.

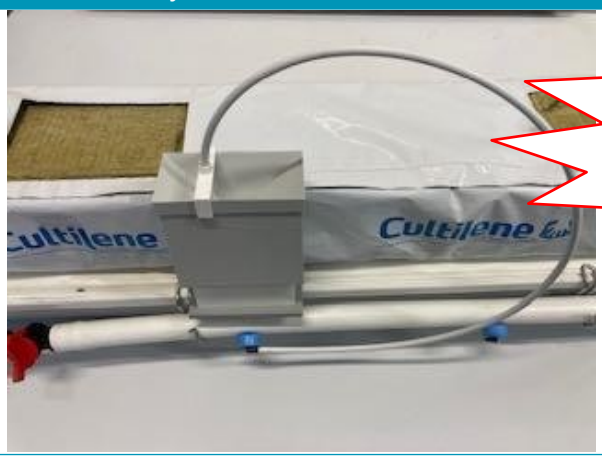
FFCropMon		
Weight	**dimensions**	**protection type**
Max. load: 40 kg / 88 lbs	L: 1.35m	IP61
accuracy: ±0.04% of max. load + ±0.02% of max. load per 10°C / °F		
Resolution: 1 g / 0.035 ounce		
connector cable		
length 2 m / 79 inches		

Smart Gutter single pot can be connected to FireFly	**Item number** FFSGSP

The Smart Gutter single pot makes it possible to optimize fertigation. By measuring substrate weight, drain volume, EC, and temperature every five minutes, the grower gains insight into plant evaporation and root climate. The EC is measured per 5 ml of drain, which means there is no delaying dilution curve and the EC response is very fast.

FFSGSP		
drain volume	**drain EC**	**drain temperature**
maximum flow rate: 2 ml/s	working range: 0..6 dS/m	operating range: -40 .. +80 °C / -40 ..+176 °F
accuracy: ±5%	Accuracy: 0 .. 2 dS/m ±3% 2 .. 6 dS/m ±5%	accuracy: ±0.5 °C / °F
Resolution: 5 ml / 0.17 oz	Resolution: 0.1 dS/m	Resolution: 0.1 °C / °F
Weight measurement range	**Temperature range weight**	**standard dimensions and weight**
Max. load: 60 kg / 120 lbs	accurate range: -10..+40 °C, -14 .. +104 °F	Diameter: 310 mm Height: 450 mm
Accuracy: ±0.04% of max. load + ±0.02% of max. load per 10°C / °F	Working range: -20..+60 °C -4 .. +140 °F	
resolution: 1 g / 0.035 ounce		weight: 4.8 kg / 17.6 lbs
	material	**Protection type**
	PVC, acrylic, polypropylene	IP 61

Dripper sensor (flow/volume, EC, and temperature) Can be connected to FireFly	**Item number** FFDSECT



EC measurement every 5 ml:
No dilution curve!

The sensor uses a tipping bucket and measures dripper volume (flow rate), dripper EC, and dripper temperature. The sensor is connected to a FireFly.

FFDLab

flow rate	**dimensions**	**protection type**
max. flow rate: 2 ml/s	L x W x H = 40 x 100 x 140 mm^3	IP61
accuracy: ±5%	weight: 190 g / 6.7 ounces	
resolution: 5 ml / 0.17 oz		
EC	**Temperature**	**dimensions**
working range: 0..6 dS/m	Operating range: -40..+80 °C -40..+176 °F	L x W x H = 40 x 125 x 120 mm^3 1.6 x 4.9 x 4.7 $inches^3$
Accuracy: 0..2 dS/m ±3% 2..6 dS/m ±5%	Accuracy: ±0.5 °C / °F	Weight: 255 g / 9 ounces
Resolution: 0.1 dS/m	Resolution: 0.1 °C / °F	
connector cable		
length 0.5 m / 19.7 inches		

Dripper sensor (flow/volume) can be connected to FireFly	**Item number** FFDS

The sensor uses a tipping bucket and measures dripper volume (flow rate). The sensor is connected to a FireFly.

FFDF

flow rate	**dimensions**	**protection type**
max. flow rate: 2 ml/s / 0.031 oz/s	L x W x H = 40 x 100 x 100 mm^3 1.6 x 3.94 x 3.94 $inches^3$	IP61
accuracy: ±5%	Weight: 110 g / 3.9 oz	
Resolution: 5 ml / 0.17 ml		
connector cable		
Length 0.5 m / 19.7 inches		

Carbon dioxide (CO_2) sensor Can be connected to FireFly	**Item number** FFCO2



This sensor measures the concentration of CO_2 in the ambient air. The measured concentration is compensated for changes in temperature and air pressure. CO_2 sensors must be calibrated regularly, which can be done in two ways: automatically (standard) or manually. With standard automatic calibration, the sensor sets the lowest measured value equal to the CO_2 content of the outside air (420 ppm). In a greenhouse, lower concentrations of CO_2 can also occur due to CO_2 uptake during plant growth. For accurate absolute measurements in the greenhouse, we therefore recommend performing manual calibration on a regular basis. With the optional calibration kit, the user can easily calibrate the sensor themselves. The calibration kit includes an aluminum calibration sleeve and a bottle of 1000 ppm CO_2 calibration gas.

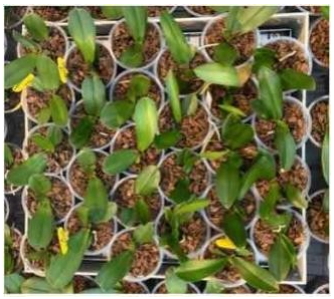
FFCO$_2$sensor (with automatic calibration or manual calibration mode)

dimensions and weight	**Protection type**
(ℓ x Ø): 63 mm x 20 mm, 40 g (ℓ x Ø): 2.48 inches x 0.79 inches, 0.14 ounces	IP44

CO_2concentration		
accuracy	**conditions**	**remarks**
±50 ppm + 2.5 %	400 .. 1000 ppm	—
±50 ppm + 3 %	1001 .. 2000 ppm	—
±50 ppm + 5 %	2001 .. 5000 ppm	—
measuring range: 0 .. 5000 ppm / resolution: 1 ppm		—
repeatability: ±10 ppm / time constant: 60 s		typical
working range		
Operating temperature: -10 to +60 °C		—
Humidity: 0 to 95% RH		without condensation
Air pressure: 700 .. 1200 hPa		—

Calibration tool option		
Calibration gas	**Calibration tool**	Dimensions
1000 ppm	Aluminum holder with pressure regulator and hose	Dimensions (ℓ x Ø): 63 mm x 20 mm

H-Frame scale (12, 40, 80, 160 kg) Can be connected to FireFly	**Item number** FFHFS

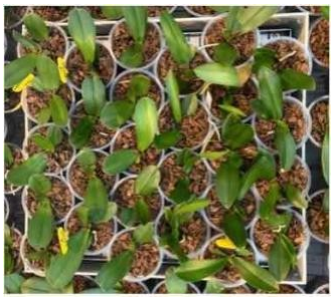


The H-frame weighing scale has been developed to optimize watering in trays and small to medium-sized pots. This robust stainless steel weighing scale can also be used as a heavy-duty (up to 160 kg) weighing scale on legs (without the weighing grid). The weighing scale is connected to a FireFly.
and can be periodically tared remotely or manually on the FireFly.

FFHFS

measuring range	**temperature range weight**	**standard dimensions**
Options: 12, 40, or 80 kg 26.5, 53, 88 lbs	Accurate range: -10..+40 °C / 14..104 °F	(L × W × H: 524 × 614 × 45 mm)
Accuracy: ±0.04% of measuring range	operating range: -20..+60 °C / -4..140 °F	*Other sizes available on request*
Resolution: 1 g / 0.035 oz		H-Frame: 4500 g / 8.8 lbs Frame + Grid: 2600 g /
		Protection type
		IP 65

T-Frame scale (10, 20 kg) can be connected to FireFly	**Item number** FFHFS



The T-frame scale has been developed to optimize watering in trays and small to medium-sized pots. The scale is connected to a FireFly and can be tared periodically remotely or manually on the FireFly.

FFHFS		
Measuring range	**temperature range weight**	**standard dimensions**
Options: 10, 20 kg 53, 88 lbs	Accurate range: -10..+40 °C / 14..104 °F	(L × W × H: 524 × 614 × 45 mm)
Accuracy: ±0.04% of measuring range	operating range: -20..+60 °C / -4..140 °F	*Other sizes available on request*
Resolution: 1 g / 0.035 oz		H-Frame: 4500 g / 8.8 lbs Frame + Grid: 2600g /
		Protection type
		IP 65

Standing scale (3, 6, 10, 20, 30, 60, 120 kg) Can be connected to FireFly	**Item number** FFSS 3 ..90

The standing scale can be used for weighing medium to large pots, to support irrigation and/or biomass determination. The scale is available in a square or round version. The scale is connected to a FireFly and can periodically
be calibrated remotely or manually on the FireFly.

FFSS		
options measuring range	**operating temperature**	**dimensions**
square: 3, 6, 10 kg round: 30, 60, 90 kg	accurate range: -10..+40 °C Temperature dependence of mass measurement within this range: 0.05% decrease per °C increase	square: L × W × H: 250 × 250 × 50 mm^3 weight: 1400 g round: h × d: 80 × 300 mm^2 Weight: 2100 g
accuracy: ±0.04% of measuring range	Operating range: -20..+60 °C	
resolution: 1 g		
connector cable		**Protection type**
length 0.5 m		IP65

Macro Solar Chimney (ventilated measurement with FireFly)	**Item number** FFMSC



The Macro Solar Chimney is a passively ventilated enclosure for the FireFly. In environments with high radiation (direct growth or sunlight), this enclosure ensures more accurate measurement of temperature and relative humidity. When using the Macro Solar Chimney, the PAR measurement is not usable because the light sensor is shielded.

The Smart Clip (FFSCMSC) can be used to mount the FireFly in the Macro Solar Chimney.

FFMSC		
	dimensions and weight	**mounting**
	h × d: 500 x 125 mm; 250 g	tie wrap

Solar Chimney (ventilated TrH sensor) Can be connected to FireFly	**Item number** FFSC

The Solar Chimney is designed for temperature and relative humidity measurements in the presence of high (solar) radiation. The radiation generates a natural air flow through the chimney, enabling ventilated air temperature and relative humidity measurements. The FireFly platform sensor is connected via the connector cable and provides data transfer. There are several mounting options to choose from. Use the Solar Chimney SubZero model for measurements below
0 °C (on request).

FFSC		
air temperature	**relative humidity**	
operating range: 0..65 °C	operating range: 20..90%	accuracy: ±1.5%
accuracy: ±0.4 °C	operating range: 90..100%	Accuracy: ±2.5%
Resolution: 0.01°C	Resolution: 0.01%	
connector cable	**dimensions and weight**	**Protection type**
0.5 m	height 550 mm; diameter 80 mm; 225 g	IP61
mounting options		
FFSC A: cord for hook mounting	FFSC B: block for pole mounting (40-75 mm)	FFSC C: clip for wire mounting (2 mm) or rod (5-7 mm)

Infrared Thermometer to be connected to FireFly	**Item number** FFIRT



The infrared thermometer measures the surface temperature of leaves or fruits, for example, without contact. The sensor is used to measure (LED) light stress and the actual plant VPD.

FFIRT		
IR temperature		
accuracy	**object temperature**	**Note**
±0.3 °C / °F	+22..+40 °C / 72.. 104 °F	At operating temperature 0.. +60 °C 32.. 140 °F
±0.5 °C / °F	0.. +60 °C / 32.. 140 °F	
±2.0 °C / °F	-70.. +200 °C / -94.. 392 °F	
Measuring range: -70 .. +200 °C / -94.. 392 °F		—
Resolution: 0.02 °C / °F		—
viewing angle: 35°		at 50% signal
distance per spot diameter: 1 : 1.59		
object emissivity: 1.00		—
Spectral response: 550–1400 nm		—
operating temperature		
-15 .. +60 °C / 32.. 140 °F		
dimensions & weight	**protection type**	
L x Ø = 350 mm x 20 mm / 13.8 inches x 0.8 inches Bending radius: ≥ 25 mm / 1 inch Weight: 85 g / 3 ounces	IP51	

Medusa (Microclimate T, rV sensor) Can be connected to FireFly	**Item number** FFMedusa

The Medusa T, rH is designed for microclimate temperature and relative humidity measurements between plants. The sensor head has a passively ventilated head that provides protection against direct light exposure.

FFMedusa		
air temperature	**relative humidity**	
Operating range: 0..65 °C	Operating range: 20 .. 90% rH	Accuracy: ±1.5% rH
Accuracy: ±0.4 °C	Operating range: 90 .. 100% rH	Accuracy: ±2.5% rH
Resolution: 0.01°C	Resolution: 0.01%	
Flexible section (Loc Line)	**dimensions and weight**	**Protection type**
length = 36 cm	Length = 48 cm (including head and connector); diameter 20-25 mm; 225 g	IP61

Hanging scale (5, 10, 30, or 50 kg) Can be connected to FireFly	**Item number** FFSH 5..to..50

The hanging scale can be used to weigh hanging objects such as growing gutters or crop wires. The scale is available for various measuring ranges. The scale is connected to a FireFly and can be tared by resetting the FireFly wirelessly

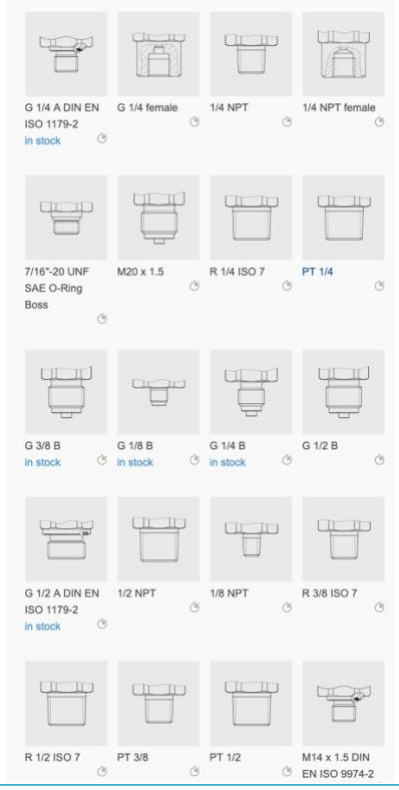
.

FFSH		
options measuring range	**operating temperature**	**dimensions**
5, 10, 30, 50, 100 kg lbs	accurate range: -10..+40 °C	height: 135 mm / 5.3 inches (including hook and eye)
accuracy: ±0.07% of measuring range	operating range: -20..+60 °C	
resolution: 1 g /		
connector cable		**protection type**
2.5 m / 8.5 feet		IP65

Liquid gas pressure sensor (to be connected to the FireFly)

Item number

FFPS



The pressure sensor measures the pipe pressure in, for example, CO_2 -, air, or water pipes. The pressure sensor is mounted with a straight external thread. The pressure sensor is connected to a FireFly.

pressure	**mechanical connection**	**dimensions**
measuring range: 0 .. 10 bar	process connection: G ½ B	height: 68 mm
accuracy: ±2%	material: stainless steel	Diameter: 29 mm
overpressure limit: 20 bar		aperture: 3.5 mm
connector cable	**Temperature**	**Protection type**
Length 0.5 m	Operating range: 0 to +80 °C (environment and medium)	IP67

Drain XXL volume/flow sensor can be connected to FireFly	**Item number** FFDSXXL

The XXL drain/dripper sensor is a tipping bucket for measuring discharge volumes between 0.5 and 25 liters/min. The sensor is connected to a FireFly.

FFDS		
drain/dripper volume	**dimensions**	**protection type**
max. flow rate: 25 l/min	L*W*H = 400 x 200 x 360 mm^3	IP61
Accuracy: 0.5 l/min: -2% 1 l/min: -6% 5 l/min: -10% 10 l/min: -14% 15 l/min: -18% 20 l/min: -20% 25 l/min: -22%	weight: 3100 g	
resolution: 1000 ml		
connector cable		
length +/- 3 m		

Pulse counter (excl. flow meter)

Can be connected to FireFly

Item number

FFPuls

Suitable for any pulse flow/flow meter

This image is for illustrative purposes only: flow meter is not included!

The pulse counter is connected to the FireFly on one side and to the pulse output of a flow meter on the other. The pulse counter is suitable for any flow meter with a pulse output. The photo with the flow meter is for illustrative purposes only and is not part of this product.

FF-Pulse		
connector cable	**working range**	**protection type**
length 0.5 m	0 – 50 C / 0 – 122 F	IP67

Flow meter Can be connected to Pulse counter (FFPuls) and FireFly	**Item number** Flow meter

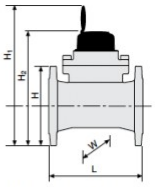
The flow meter is connected to the FireFly via the pulse counter (FFPuls). The flow meter also has a readout option via the display on the top. The correct connection size and the desired flow range can be selected using the tables below.

Flow meter

Specifications

Dimensions and Weights

Nominal Size	mm	40	50	65	80	100	125	150	200	250	300	400	500
	Inch	1½"	2"	2½"	3"	4"	5"	6"	8"	10"	12"	16"	20"
L, length (mm)		260	200	200	225	250	250	300	350	450	500	500	500
H, height (mm)		170.5	180.5	190.5	200.5	215	245	277.5	335	398	452	647	784.5
H1, height (mm)		408	347.3	357.3	367.3	377.3	392.3	436.6	466.6	584.5	611.5	731.5	846.5
H2, height (mm)		336	275.3	285.3	295.3	305.3	320.3	364.6	394.6	512.5	539.5	659.5	774.5
W, flange type (mm)		160	170	190	200	230	250	285	340	395	445	600	700
Weight (kg)		13	12	14	16	19	20	39	52	105	120	187	256

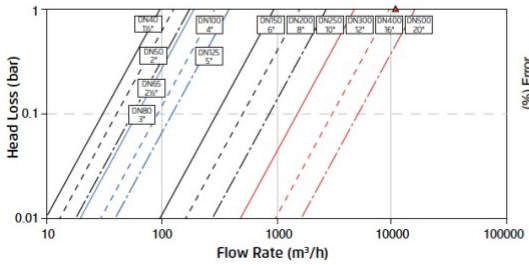


* images are for illustration purpose only

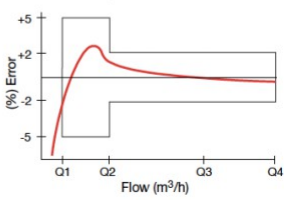
Metrological Data

	Accuracy	mm	40	50	65	80	100	125	150	200	250	300	400	500
		Inch	1½"	2"	2½"	3"	4"	5"	6"	8"	10"	12"	16"	20"
Qmin (Minimum flow), m³/h	±5%		0.5	0.5	0.8	1.3	1.3	2	3.1	5	8	12.5	32	50
Qt (Transitional flow), m³/h	±2%		0.8	0.8	1.3	2	2	3.2	5.0	8.0	12.6	20	51	80
Qn (Permanent flow), m³/h	±2%		25	40	63	63	100	160	250	400	630	1000	1600	2500
Qmax (Peak flow,short time), m³/h	±2%		31	50	79	79	125	200	313	500	788	1250	2000	3125
Q2/Q1			1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
Q3/Q1			50	80	80	50	50	80	80	80	80	80	50	50
Kv=Q/√Δp			95	125	170	190	280	380	950	1580	2688	4700	9500	15000
Max. reading, m³			999,999						9,999,999		99,999,999			
Min. reading, liter			1						10		100			
Pressure loss Δp, bar			according to chart											

Flow Curve



Accuracy Curve



Connector cable	working range	Protection type
none	1 – 50 C / 0 – 122 F	IP67

Weather station	Item number FFWs

The weather station consists of an anemometer, rain gauge, air temperature, and relative humidity sensors. A GPS module and stainless steel pole are optional.

Air temperature	Relative humidity	wind gauge
see FireFly (FF) specifications	see FireFly (FF) specifications	wind speed up to 300 km/hr wind direction in 8 quadrants
rain gauge	**dimensions**	**protection type**
see specifications rain gauge (FFPL)	Depending on pole length. Total diameter of setup +/- 30cm	IP67

Pluviometer Can be connected to FireFly	**Item number** FFPL

The rain gauge consists of a funnel with anti-bird spikes mounted on a tipping bucket sensor. The rain gauge measures precipitation in mm and can be connected to a FireFly.

precipitation	**dimensions**	
working range: 0..100 mm/hour	surface area: 200 mm^2	
accuracy: ±2%	height: 350 mm (including anti-bird spikes) diameter: 165 mm	
Resolution: 0.2 mm	Weight: 550 g	
connector cable		**Protection type**
length 0.5 m		IP67

Sendot Photo efficiency sensor can be connected to FireFly	**Item number** FFSendotEff

The Sendot Photosynthesis Efficiency sensor can be connected to FireFly. This allows the sensor data to be read digitally in the desired platform (including LetsGrow, Sendot, and Ledgnd).

FFSendotEff		
output	**dimensions**	**protection type**
photosynthesis efficiency parameters: PAR; F_0 ; F_{max}	L*W*H 250*60*20 mm	IP61

Gateway (4G, Ethernet)	Item number Gout

The outdoor 4G gateway receives LoRa messages from the FireFly sensors and sends the data to the database via the internet. A single gateway is sufficient for processing data from up to 100 FireFlies. This Gout4G gateway is suitable for outdoor use and connects via a 4G connection and/or an Ethernet cable.

frequency	Distance	Network options
868 MHz (EU, Africa) 915 MHz (Australia, Americas) 869.0 – 869.4 MHz (Morocco) 915 MHz (South Korea)	Depending on obstacles: • High wire: +/-100 meters • Tables/floor: +/-250 meters • Open field: +/- 1500 meters	4G, Ethernet
Operating range temperature	**Operating range humidity**	**Power supply**
-40..+80 °C	IP67	230 V
network	**included accessories**	**protection type**
LTE cat. 4 (4G) and HSPA+ (3G)	LoRa antenna, 230 V adapter, materials for pole mounting	IP67

Solar-powered gateway with battery (4G, Ethernet)	Item number GoutSolar

The solar outdoor 4G gateway receives LoRa messages from the FireFly sensors and sends the data to the database via the internet. A single gateway is sufficient for processing data from up to 100 FireFlies. This GoutSolar gateway is suitable for outdoor use and connects via a 4G connection and/or an Ethernet cable. The gateway can be connected to the mains power supply but also has a solar panel and battery so that it can function without a power connection.
The solar panel and battery provide enough energy for a seasonal to year-round connection.
to be provided depending on the latitude at which the gateway is installed.

frequency	**Distance**	**Network options**
868 MHz (EU, Africa) 915 MHz (Australia, America)	Indoor setup: 0.4..1 km Outdoor in built-up areas: 1..3 km outdoors in open field: 2..10 km	4G
Operating range temperature	**Operating range humidity**	**power supply**
-20 to +50 °C	IP67	230 V
network	**included accessories**	**Protection type**
4G LTE (CAT 1)/GSM Nano SIM-4FF	LoRa antenna, 230 V adapter, materials for pole mounting	IP67
solar panel	**battery**	
45W	25000 mAh	

Smart clip with integrated magnet	Article number FFScMagnetic

Smart clip for attaching the Firefly to steel or iron objects

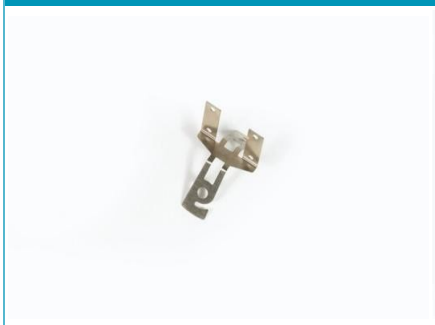
Base for fiber optic stick	Article number Footrest

Plastic foot (15 x 10 cm) for vertical mounting of a fiber optic rod (6 mm diameter). To be used in combination with FFSCang Smart clip. Options for rod position: center of the foot or on the end of the foot.

Smart clip for wire or stick mounting

Item number

FFSCang



The clip can be used to mount the FireFly to a wire with a diameter of 2–3.5 mm or a stick with a diameter of 6–7 mm.

Smart clip for vertical hanging mounting

Item number

FFSCMSC

The clip allows the FireFly to be installed vertically on a wire with a diameter of up to 6 mm. This clip is used, among other things, for mounting in the Macro Solar Chimney (L x D: 500 x 70 mm, L x D: 19.7 x 2.75 inches).

Tripod with spirit level for FireFly	Item number FFSTripod

For level positioning of the FireFly for more accurate derived PAR light measurements.

Smart clip for wall mounting	Item number SCWm

This clip allows the FireFly to be mounted on a vertical wall. Screw hole diameter 6 mm.

FireFly USB charger

Item number

FFCh

The battery charger charges the FireFly battery in ~7 hours via a USB adapter.

Operating temperature range	Charging current	Protection type
+10..+30 °C	< 0.5 A	IP50

Reset magnet

Item number

RP

Magnet on a Quantified key cord for resetting the FireFly sensor.

White fiberglass stick	Item number
	FGR75

Fiber optic rod for mounting the FireFly sensor using a (FFSCang) Smart Clip. Length 0.75 m, diameter 6 mm.

Extension cable	Item number
	EC8m

Extension cable (length 8 m) for gateway antenna.

Warranty and service

For the CE declaration, please visit our website. We are confident in the quality and flawless operation of our products. That is why we offer a 1.5-year warranty on the hardware, provided that the products are handled with care. Please also refer to our fair use policy and manuals. In the event of a malfunction, we will assist you in resolving any issues. If Quantified is found to be liable for the malfunction, no costs will be charged and the product in question will be replaced free of charge within the warranty period. In all other cases, we will charge for the time spent based on hourly rates.