

Product catalogus



Product Catalog 2025-2

Software

Integration into InSight

Through the InSight platform developed by Quantified, you can visualize and/or download sensor data, create sensor groups, and set up push notifications. There are 3 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 available on request)

API-only

- up to 500 FireFlies
- 2 weeks of data storage (extension available upon request)

Quantified Mobile App

The Quantified App allows you to visualize sensor data on your phone or tablet. Using the links below, you can download the app for your Apple or Android device for free.

[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 link your Quantified sensors to a data platform developed by one of our collaboration partners. To this end, you can use the Application Programming Interface (API). We can provide this connection for you: please feel free to contact us to discuss the possibilities.

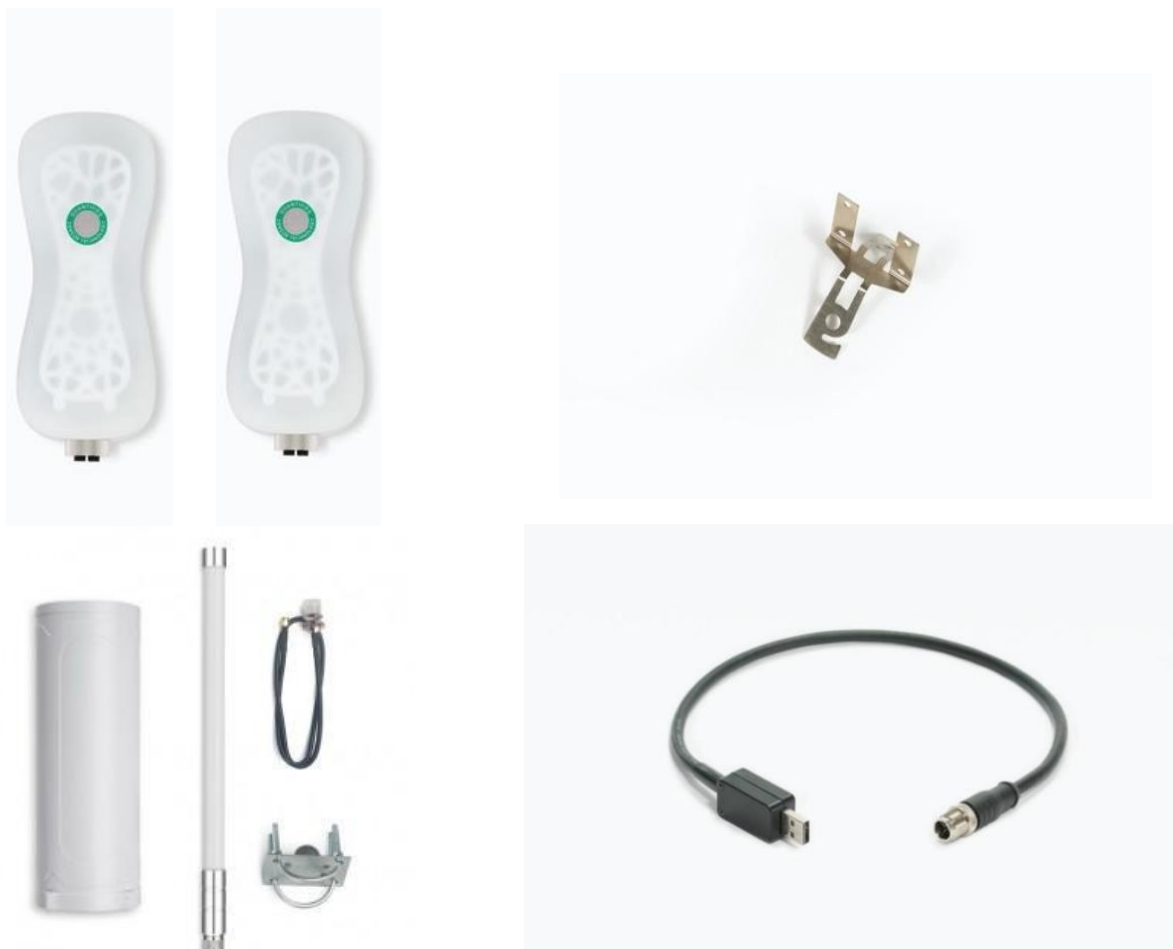


Hardware

Starter kit

Article number

FF02SK



The Starter kit includes a complete wireless sensor system, and is an inexpensive introduction to Quantified. The kit includes:

- 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 access to Insight data platform (Incl. API link)
- 1 year data plan for connectivity (Incl. 4G SIM)

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

FireFly sensor node	Article number FF02
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The FireFly sensor is a wireless sensor module with rechargeable battery in a rugged housing. The sensor configuration can be assembled as desired. A variety of external sensors and actuators can be connected via the connector.

FF02 sensor node		
dimensions and weight	protection type	measuring interval
I x w x h= 35 x 40 x 110 mm ³ ; weight 127 g	IP67 connector with cap	5 minutes
LoRa frequencies	battery charging interval	
868 MHz (EU, Africa) 915 MHz (Australia, America) 869.0 - 869.4 MHz (Morocco) 915MHz (South Korea)	>12 months (depending, among other things, on measurement frequency)	
FF02 selection options		
air temperature	relative humidity	
operating range: -15..+65 °C	working range: 20..90% RH	accuracy: ±1.5% RH
accuracy: ±0.5 °C	working range: 90..100% RH	accuracy: ±2.5% RH
resolution: 0.01 °C	resolution: 0.01%	
GPS	PAR light	barometric pressure
accuracy: ±5 meters	±5% (calibrated for sunlight)	operating range: 0 ... 500 kPa
		accuracy: ±0.5 kPa
		resolution: 0.01 kPa

Infrared Thermometer

linking to FireFly

Article number

FFIRT



The infrared thermometer allows non-contact measurements of the surface temperature of, for example, plant leaves. The thermometer has a wide measuring range and a high accuracy of up to 0.3 °C. The device is used to detect plant stress.

FFIRT		
IR temperature		
accuracy	object temperature	note
±0.3 °C	+22 .. +40 °C	At operating temperature 0 ... +50 °C
±0.5 °C	0 .. +60 °C	
±2.0 °C	-70 .. +200 °C	
measuring range: -70 ... +200 °C		-
resolution: 0.02 °C		-
viewing angle: 35°		at 50% signal
distance per spot diameter: 1 : 1.59		
object emissivity: 1.00		-
spectral response: 550 ... 1400 nm		-
working temperature		
-15 .. +60 °C		
dimensions & weight	protection type	
l x D= 350 mm x 20 mm bending radius: ≥ 25 mm weight: 65 g	IP51	

Poseidon WET sensor

linking to FireFly

Article number

FFWETPos

1-, 2- or 3-gang



The Poseidon WET sensor measures permittivity*, electro-conductivity (EC), and temperature of soil or substrate. Single, dual, and triple versions are available. This makes it possible to monitor transport of water and nutrients through the soil. The (multi-) Poseidon should be connected to a FireFly.

*The relationship between permittivity and Volumetric Water Content (VWC) depends greatly on soil type. We recommend irrigation based on the measured permittivity. If desired, the Poseidon can be calibrated for your substrate.

relative permittivity (-)	EC	temperature
working area: 0..82	working range: 0..20 dS/m	operating range: -40..+80 °C
accuracy: < 3%	accuracy: ±3%	accuracy: ±0.5 °C
resolution: 1%	resolution: 10 dS/m	resolution: 0.1 °C
probe	measuring principle	protection type
Stainless steel; length: 7 cm; width: 2.5 cm	Time Domain Reflectometry (TDR), 50 MHz	IP67
A: gnaw protection cable		cable length
length 0.5 m, flexible and removable		2 m per probe

Smart Gutter

linking to FireFly

Article number

FFSG

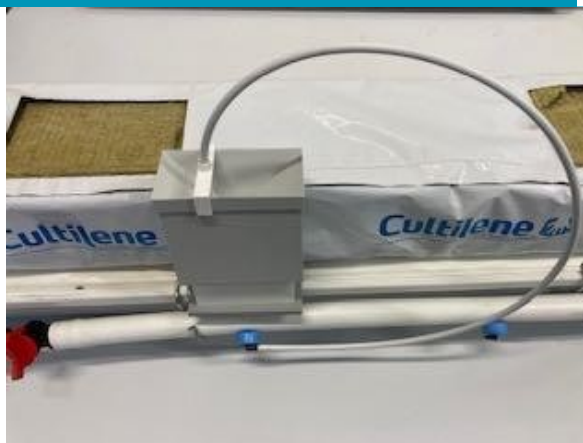


The Smart Gutter was to optimize fertigation for substrate slabs. By measuring substrate weight, drain volume, drain EC and drain temperature every five minutes, the grower gains insight into plant evaporation and root climate. The Smart Gutter can be combined with hanging scales for (co-)weighing the crop wires. This creates a very accurate weight picture and the picking weight can also be tracked.

FFSG

drain volume	drain EC	drain temperature
maximum flow rate: 1 ml/s	working range: 0..20 dS/m	operating range: -40..+80 °C
accuracy: ±5%	accuracy: ±3%	accuracy: ±0.5 °C
resolution: 5 ml	resolution: 10 dS/m	resolution: 0.1 °C
measuring range weight	temperature range weight	standard dimensions and weight
maximum load: 40 kg	accurate range: -10..+40 °C	inner gutter size: l x w x h: 1350x 200x 42 mm ³
accuracy: ±0.04% of max load + ±0.02% of max load per 10°C	operating range: -20..+60 °C	inner size foot brackets: 218 mm
resolution: 1 g		weight: 8 kg
	material	protection type
	Stainless steel and Polypropylene	IP 61

Drain/Dripper Laboratory linking to FireFly	Article number FFDLab
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The sensor measures the combination of fluid volume (flow), -EC and -Temperature. The sensor is connected to a FireFly.

FFDLab		
flow rate	dimensions	protection type
max flow rate: 1 ml/s	l x w x h= 40 x 100 x 140 mm ³	IP61
accuracy: ±5%	weight: 190 g	
resolution: 5 ml		
EC	temperature	dimensions
drain / dripper EC	drain / dripper temperature	l x w x h= 40 x 125 x 120 mm ³
working range: 0..20 dS/m	operating range: -40..+80 °C	
accuracy: ±3%	accuracy: ±0.5 °C	weight: 200 g
resolution: 10 dS/m	resolution: 0.1 °C	
connector cable		
length 0.5 m		

Drain/Dripper sensor

linking to FireFly

Article number

FFDS



The drain/dripper sensor is a tipping-bucket sensor for measuring drain volume. The sensor is connected to a FireFly.

FFDF

flow rate	dimensions	protection type
max flow rate: 1 ml/s	l x w x h= 40 x 100 x 100 mm ³	IP61
accuracy: ±5%	weight: 110 g	
resolution: 5 ml		
connector cable		
length 0.5 m		

Carbon dioxide (CO₂) Sensor

linking to FireFly

Article number

FFCO2



This sensor measures the concentration of CO₂ in the ambient air. The measured concentration is compensated for changes in temperature and air pressure. There are 2 settings possible: periodic "automatic calibration" or manual calibration. In the automatic calibration option, the sensor sets the lowest measured value equal to the CO₂ content of the outside air is. However, outdoor air CO₂ levels vary by location and time of day, and greenhouse CO₂ levels can become much lower than outdoor air due to CO₂ uptake during plant growth.

With the optional calibration kit, the sensor can easily be self-calibrated by the user with a calibration gas. This provides highly accurate CO₂ readings.

FFCO₂ sensor (with automatic calibration or manual calibration mode)

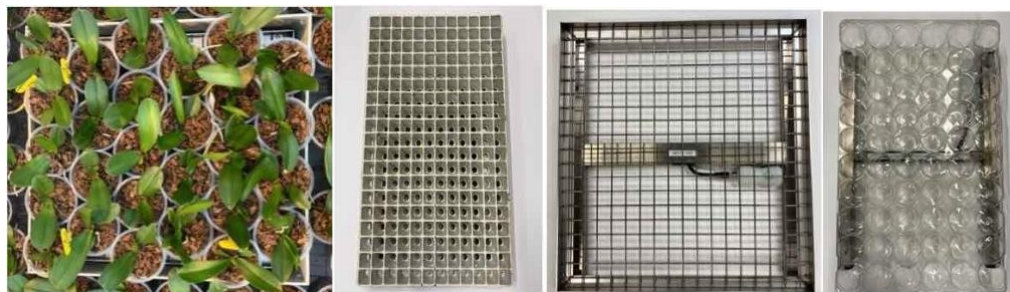
dimensions and weight		protection type
dimensions (ℓ x Ø): 63 mm x 20 mm		IP44
CO ₂ concentration		
accuracy	conditions	comments
±50 ppm+ 2.5	400 .. 1000 ppm	-
±50 ppm+ 3 %	1001 .. 2000 ppm	-
±50 ppm+ 5 %	2001 .. 5000 ppm	-
measuring range: 0 ... 5000 ppm / resolution: 1 ppm		-
repeatability: ±10 ppm / time constant: 60 s		typical
working range		
operating temperature: -10 ... +60 °C		-
humidity: 0 ... 95 % RH		without condensation
air pressure: 700 . 1200 hPa		-
Calibration tool option		
Calibration gas	Calibration tool	dimensions
1000ppm	Aluminum holder with reducing valve and hose	dimensions (ℓ x Ø): 63 mm x 20 mm

H-Frame scale (6, 8, 12, 24, 40, 80 kg)

linking to FireFly

Article number

FFHFS



The H-frame scale is a stainless steel scale developed to optimize watering in crops in trays and small to medium pots. The scale is available in various sizes and measuring ranges. The scale is connected to a FireFly and can be tared by the FireFly wirelessly.

FFHFS

measuring range	temperature range weight	standard dimensions
Options: 6, 8, 12, 24, 40 or 80 kg	accurate range: -10..+40 °C	l x w x h: 520 x 560 x 45 mm weight of the scale: +/- 4000 g
accuracy: ±0.04% of measuring range resolution: 1 g	operating range: -20..+60 °C	<i>Other sizes on request</i>
		protection type
		IP 65

Standing scale (3, 6, 10, 30, 60, 90 kg)

linking to FireFly

Article number

FFSS 3 ..90



The upright scale can be used for weighing medium to large pots, to support irrigation and/or biomass determination. The scale comes in a square or round design, with a measuring range of 3, 6, 10, 30, 60 or 90 kg. The scale is connected to a FireFly and can be tared by resetting the FireFly wirelessly.

FFSS

options measuring range	working temperature	dimensions
square: 10, 20 kg around: 30, 60, 90 kg	accurate range: -10..+40 °C Temperature dependence mass measurement within this range: 0.05% decrease per °C increase	<30kg: l× w× h: 250× 250× 50 mm ³ weight: 1400 g >30kg: h× d: 80× 300 mm ² weight: 2100 g
accuracy: ±0.04% of measuring range resolution: 1 g	operating range: -20..+60 °C	
connector cable		protection type
length 0.5 m		IP65

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

For mounting the FireFly in the Macro Solar Chimney, the Smart Clip (FFSCMSC) can be used.

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

Solar Chimney (ventilated TrH sensor)

linking to FireFly

Article 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 airflow through the chimney allowing ventilated air temperature and relative humidity. The FireFly platform sensor is connected via connector cable and provides data transmission. There are several mounting options to choose from. Use the Solar Chimney SubZero model for measurements under 0 °C (upon request).

FFSC

air temperature		relative humidity	
operating range: 0..65 °C	working area: 20..90%	accuracy: ±1.5%	
accuracy: ±0.4 °C	working area: 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; diam. 80 mm; 225 g	IP61	
mounting options			
FFSC A: string 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)	

Hanging scale (5, 10, 30 or 50 kg) linking to FireFly	Article number FFSH 5..to..50
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The hanging scale can be used for weighing hanging objects such as cultivation gutters or crop wires. The scale is available with various weight ranges. The scale connects to a FireFly and can be tared by resetting the FireFly wirelessly.

FFSH		
options measuring range	working temperature	dimensions
5, 10, 30, 50, 100 kg	accurate range: -10..+40 °C	height× diameter: 150 × 70 mm
accuracy: ±0.07% of measuring range	operating range: -20..+60 °C	
resolution: 1 g		
connector cable	protection type	
0.15 m	IP65	

Fluid pressure sensor (to be paired with the FireFly)

Article number

FFPS



The liquid pressure sensor measures line pressure in, for example, water supply and irrigation systems. The pressure sensor is mounted with a (straight) G 1/2 inch male thread. The pressure sensor is connected to a FireFly.

print	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	working range: 0..+80 °C (environment and fluid)	IP67

Drain/Dripper XXL sensor

linking to FireFly

Article number

FFDSXXL



The drain/dripper sensor is a tipping-bucket sensor for measuring large drain volumes. The sensor connects to a FireFly.

FFDS

drain / dripper volume	dimensions	protection type
max flow rate: 25 l/min	L*w*h= 400 x 200 x 360mm 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		

Weather Station	Article number FFWs
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The weather station includes a wind gauge, pluviometer, air temperature and relative humidity. Optional features include a GPS module and a stainless steel pole.


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

Pluviometer linking to FireFly	Article number FFPL
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The pluviometer consists of a funnel with anti-bird stings mounted on a "tipping bucket" sensor. The pluviometer 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		Article number
linking to FireFly		FFSendotEff
		
<p>The Sendot Photo Efficiency sensor can be linked to the FireFly. This allows the sensor data to be read digitally in the desired platform (including LetsGrow, Sendot and Ledgnd).</p>		
FFSendotEff		
output	dimensions	protection type
photosynthesis efficiency parameters: PAR; F_0 ; F_{max}	L*w*h 250*60*20 mm	IP61

Gateway (4G, Ethernet)	Article number Gout
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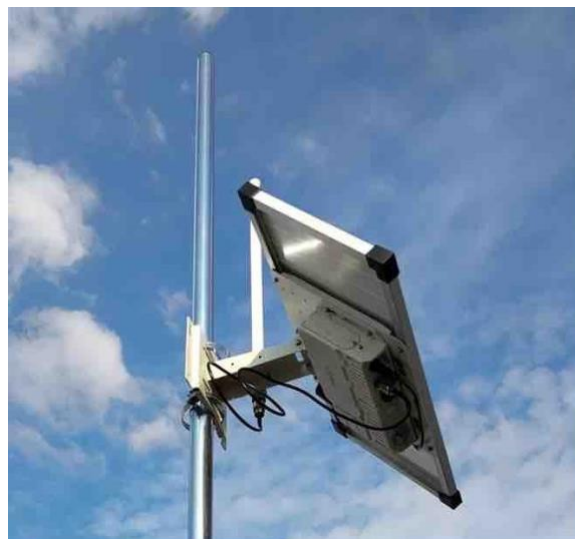
The outdoor 4G gateway receives LoRa messages from the FireFly sensors and sends the data over the Internet to the database. A single gateway is sufficient to process data coming from up to 100 FireFlies. Suitable for outdoor use, this Gout4G gateway connects via a 4G connection and/or an Ethernet cable.

frequency	distance	network options
868 MHz (EU, Africa) 915 MHz (Australia, America)	set-up inside: 0.4..1 km outside in built-up area: 1..3 km outside open : 2..10 km	4G, Ethernet
working range temperature	working range moisture	electrical power
-40..+80 °C	IP67	230 V
network	supplied accessories	protection type
LTE cat. 4 (4G) and HSPA+ (3G)	LoRa antenna, adapter 230 V, pole mount materials	IP67

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

Article number

GoutSolar



The solar outdoor 4G gateway receives LoRa messages from the FireFly sensors and sends the over the Internet to the database. A single gateway is sufficient to process data coming from up to 100 FireFlies. Suitable for outdoor use, this GoutSolar gateway connects via a 4G connection and/or an Ethernet cable. The gateway can be connected to the power grid but also has a solar panel and battery to without a power connection.

The solar panel and battery provide enough energy to provide a season to year-round connection to be provided depending on the latitude at which the gateway is set up.

frequency	distance	network options
868 MHz (EU, Africa) 915 MHz (Australia, America)	set-up inside: 0.4..1 km outside in built-up area: 1..3 km outside open : 2..10 km	4G
working range temperature	working range moisture	electrical power
-20..+50 °C	IP67	230 V
network	supplied accessories	protection type
4G LTE (CAT 1)/GSM Nano SIM-4FF	LoRa antenna, adapter 230 V, pole mount materials	IP67
solar panel	battery	
45W	25000mAh	

Smart clip with integrated magnet

Article number
FFScMagnetic




Smart clip for attaching the Firefly against steel or iron objects


Foot for fiberglass stick

Article number
FFScMagnetic



Plastic base (15 x 10 cm) for vertical fixation of a fiberglass stick (6mm diameter). To be used in combination with FFSCang Smart clip. Options for stick position: center on foot or on end of foot.

Smart clip for wire or stick mounting		Article number FFSCang
		
<p>The clip can be used to the FireFly to a 2..3.5 mm diameter wire or a 6..7 mm diameter stick.</p>		

Smart clip for vertical hanging mounting		Article number FFSCMSC
		
<p>The clip allows the FireFly to be installed with a hook hanging vertically on a wire up to 6 mm in diameter. This clip is used for mounting in the Macro Solar Chimney.</p>		

Tripod with dragonfly for FireFly

Article number

FFSTripod



To level the FireFly for more accurate derived PAR light measurements.


Smart clip for wall mounting

Article number


SCWm



This clip allows the FireFly to be attached to a vertical wall. Diameter screw hole 6 mm.

FireFly USB charger		Article number
		FFCh
		<p>The battery charger charges the FireFly battery in ~7 hours via a USB adapter.</p>
work area temperature	charging current	protection type
+10..+30 °C	< 0.5 A	IP50

Reset magnet		Article number
		RP
		<p>Magnet attached to a Quantified key cord for resetting the FireFly sensor.</p>

Fiberglass cane white	Article number FGR75
	
<p>Fiberglass stick to mount the FireFly sensor using a (FFSCang) Smart Clip. Length 0.75 m, diameter 6 mm.</p>	

Warranty and service

For the CE declaration, please visit our website. We are convinced of the quality and flawless operation of our products. Therefore, we offer 1.5 years warranty on the hardware, provided the products are handled carefully. See also our fair-use policy and manuals. In the event of a malfunction, we will support you in resolving any issues. If it is found that Quantified is liable for the faulty operation, no charge will be made and the product in question will be replaced free of charge within the warranty period. In all other cases, we charge for time spent based on hourly rates.