# Product Catalog

## Hardware

| Starter kit | Article number |
| --- | --- |
| | FF01SK |

The starter kit is an ideal introduction to the functionalities of the Quantified basic sensoring solutions at a discount. The kit includes:

- 3 FireFly sensors with full options (FF01)
- 1 Gateway indoor wifi/internet(GW868i)
- 3 Smart Clips (SCang or SCll or SCWm)
- 1 USB charger (FF01Ch)
- 1 year free access to our data platform “Insight”
- 1 year free data subscription for the 3 sensors

If you would like to try additional external sensors, you can easily add those to a starter kit order. Available external sensors are listed in this product catalog.

| FireFly platformnode (multi-parameter sensor with GPS) | article number<br>FF01 |
|---|---|

The FireFly sensor node is a wireless data-transmission platform in a rugged industrial-grade housing with a number of accurate sensors on-board. The device measures the most common climate parameters as well as its GPS-position. The FireFly on-board sensors palette can be configured to your needs. A high-capacity rechargeable battery ensures uninterrupted measurements. The temperature an relative humidity readings are effected by hifh radiation like direct sun light.

Through the connector a range of external sensors can be attached, see the available options in this product catalog.

| air temperature | relative air humidity | PAR |
|---|---|---|
| range: -40 … + 70 °C | range: 0 … 100% RH | ± 5% (Apogee SQ 500SS calibrated) |
| accuracy: ± 0,5 °C | accuracy: ± 3% RH | calibrated for sunlight |
| | | calibration for artificial light available on request |
| **barometric pressure** | **GPS** | **ingress Protection** |
| range: 300 … 1100 hPa | accuracy: 3 meters | IP 68 (with connector cap) |
| accuracy: ± 1 hPa | | |
| **dimensions & weight** | **sampling interval** | **battery charge interval** |
| l x w x h = 35 mm x 40mm x 110 mm<br>weight: 127 g | one measurement per 5 minutes<br>longer intervals on request | +/- 6 months (5 min. sample rate) |
| | | +/- 3 years (1 hour sample rate) |
| **wireless connectivity** | **wired connectivity** | **included accessories** |
| LoRa 868 MHz | M12 X-coded female with protective cap | protective cap |
| | | |

| Solar chimney TrH (ventilated high accuracy temperature and relative humidity measurements) (to be connected to FireFly) | Article number<br>FFSCTrH |
|---|---|

The solar chimney TrH is designed for extremely accurate temperature and relative humidity measurements in high radiance situations. The radiation generates a natural air flow over the chimney which makes reliable and accurate ventilated air temperature and relative air humidity measurements possible. The FireFly platform node is connected via the connector cable and takes care of the data transmission. On the connected FireFly platform node also the measurements for air temperature (non-ventilated), relative humidity (non-ventilated), PAR-light or GPS can be added (for details: see FireFly FF01 specifications).

| air temperature | relative air humidity | dimensions |
|---|---|---|
| range: -40 … +65 °C | range: 0 … 100% RH | height: 550mm, diameter 80mm |
| accuracy: ±0,1°C | accuracy: ±1,5% RH | |
| resolution: 0,1°C | | |
| **connector cable** | | **Ingress Protection** |
| 0,5 m | | IP 67 |


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| Probe for high accuracy temperature and relative humidity measurements (to be connected to FireFly) | Article number |
|---|---|
| | FFPrTrH |

The Probe TrH is designed for measuring temperature and humidity inside stacks of commodities (not to be used in fluids). The FireFly platform node is connected via the connector cable and takes care of the data transmission. On the connected FireFly platform sensornode also the measurements for air temperature (non-ventilated), relative humidity (non-ventilated), PAR-light or GPS can be added (for details: see FireFly FF01 specifications).

| air temperature | relative air humidity | |
|---|---|---|
| Range: -40 … +65 °C | Range: 0 … 100% RH | |
| Accuracy: ±0,1°C | Accuracy: ±1,5% RH | |
| Resolution: 0,1°C | | |
| **dimensions** | **connector cable** | **ingress protection** |
| Length: 105mm, Diameter 25mm | 0,5 m | IP 67 |

| Pluviometer (L) (to be connected to FireFly) | Article number |
|---|---|
| | FFPL |

The Pluviometer reports precipitation in mm. The FireFly platform node is connected via the connector cable and takes care of the data transmission. On the connected FireFly platform node also the measurements for air temperature (non-ventilated), relative humidity (non-ventilated), PAR-light or GPS can be added (for details: see FireFly FF01 specifications).

| precipitation | dimensions | |
|---|---|---|
| Range: 0 …. 100mm / hour | Funnel surface: 200 $mm^2$ | |
| Accuracy: ±2% | Height: 350 mm (including bird spikes), Diameter: 165 mm | |
| Resolution: 0.2 mm | | |
| **connector cable** | | **ingress Protection** |
| 0,5 m | | IP 68 |

| Pluviometer (small) (to be connected to FireFly) | Article number |
|---|---|
| | FFPS |

The Pluviometer reports precipitation in mm. The FireFly platform node is connected via the connector cable and takes care of the data transmission. On the connected FireFly platform sensornode also the measurements for air temperature (non-ventilated), relative humidity (non-ventilated), PAR-light or GPS can be added (for details: see FireFly FF01 specifications).

| Precipitation | Dimensions | |
|---|---|---|
| Range: 0 …. 100 mm/hour | Funnel surface: 50 $mm^2$ | |
| Accuracy: ±5% | Height: 100 mm | |
| Resolution: 1.0 mm | | |
| **Connector cable** | | **Ingress Protection** |
| 0,5 m | | IP 68 |

| Weather station (including 2 FireFly platformnodes) | Article number<br>FFWs |
|---|---|

The weather station combines a pluvio meter, windspeed meter, wind direction meter, ventilated air temperature, ventilated relative air humidity, PAR-light, barometric pressure and 2 (50cm and 250cmfrom ground) non-ventilated air temperature and non-ventilated air humidity. Optional a GPS module and a stainless-steel anti-theft pole.

| **air temperature** (ventilated) | **relative air humidity** (ventilated) | **PAR-light** |
|---|---|---|
| range: -40 … +65 °C | range: 0 … 100% RH | ± 5% (Apogee SQ 500SS calibrated) |
| accuracy: ±0,1°C | accuracy: ±1,5% RH | Standard calibration: Sunlight |
| resolution: 0,1°C | | Calibration other light sources on request |
| **air temperature** | **relative air humidity** | |

| | | |
|---|---|---|
| range: -40 … + 70 °C | range: 0 … 100% RH | ± 5% (Apogee SQ 500SS calibrated) |
| accuracy: ± 0,5 °C | accuracy: ± 3% RH | calibtated for sunlight |
| | | calibration for artificial light available on request |
| **barometric pressure** | **GPS** | **ingress protection** |
| Range: 300 … 1100 hPa | Accuracy: 3 m | IP 68 |
| Accuracy: ± 1 hPa | | |
| **sample rate** | **charge interval battery** | **pole** |
| Variable: per 5 minutes or less | +/- 6 months @ 5min sample rate | Stainless steel pole (3 m) |
| | +/- 3 years @ 1hour sample rate | |
| **precipitation** | **dimensions** | **windspeed & direction** |
| Range: 0 …. 100 mm / hour | Funnel surface: 200 mm2 | Range: 2 … 20 m/s |
| Accuracy: ±2% | Height: 350 mm (including bird spikes), Diameter: 165 mm | 8 separate directions indicated |
| Resolution: 0.2 mm | | |

| Hanging scale (5, 10, 30, 50 kg) (to be connected to FireFly) | Article number |
|---|---|
| | FFSh5..to..50 |

The hanging scale is housed in a PVC tube, well protected for the use in harsh environments. The scale can be tared by resetting the FireFly platform node. Various weight ranges can be chosen depending the task at hand. The FireFly platform node is connected via the connector cable and takes care of the data transmission. On the connected FireFly platform sensornode also the measurements for air temperature (non-ventilated), relative humidity (non-ventilated), PAR-light or GPS can be added (for details: see FireFly FF01 specifications).

| scale | temperature | dimensions |
|---|---|---|
| Capacity: 5, 10, 30, 50 kg | Accurate range: -10 … +40 °C | Height: 150mm, Diameter: 70mm |
| Accuracy: ±0.07% of capacity | Operating range: -20 … +60 °C | |
| Resolution: 1 gram | | |
| **connector cable** | | **ingress protection** |
| 0,5 m | | IP 68 |

| Standing scale (9, 18, 30, 60, 90 kg) (to be connected to FireFly) | Article number |
|---|---|
| | FFSs15..to..90 |


The standing scale is made from stainless steel and appropriate for the use in moist environments. The scale can be tared by resetting the FireFly platform node. Various weight ranges can be chosen depending the task at hand. The FireFly platform node is connected via the connector cable and takes care of the data transmission. On the connected FireFly platform sensornode also the measurements for air temperature (non-ventilated), relative humidity (non-ventilated), PAR-light or GPS can be added (for details: see FireFly FF01 specifications).

| scale | temperature | dimensions |
|---|---|---|
| Capacity: 9, 18, 30, 60, 90 kg | Accurate range: -10 … +40 °C | Height: 80mm, Diameter: 300mm |
| Accuracy: ±0.04% of capacity | Operating range: -20 … +60 °C | |
| Resolution: 1 gram | | |
| **connector cable** | | **ingress protection** |
| 0,5 m | | IP 68 |

| Potato guard (75 kg) (to be connected to FireFly) | Article number |
|---|---|
| | FFPG |

The Potato Guard will help you optimize the climate and ventilation settings to optimise quality during storage. The system consists of 2 wireless climate sensors and a wireless weighing system. 1 sensor is placed in the incoming ventilation air flow, the 2nd sensor measures on top of the storage. The weighing system is buried +/- 60cm at the top of the storage for a representative measurement.

The delivery consists of a double weighing basket, 2 wireless sensors and a gateway for transmitting the data. The whole is sent to you by parcel post and is operational within 5 minutes (excluding placing and filling of the weighing basket in the storage).

| air temperature | relative air humidity | radiation |
|---|---|---|
| Range: -40 … + 70 °C | Range: 0 … 100% RH | Lux: 0… 1000 |
| Accuracy: ± 0,5 °C | Accuracy: ± 3% RH | |
| **Sample weight** | **barometric pressure** | **sample rate** |
| Capacity: <75 kg | Range: 300 … 1100 hPa | Variable: per 5 minutes or less |
| Accuracy: ±40g (-10 … +40 °C) | Accuracy: ± 1 hPa | |

| Gateway (Indoor, ethernet, wifi) | Article number<br>G868i |
|---|---|


The gateway receives the Lora signals from the sensornodes and sends the data to the internet. This gateway has connection for ethernet and wifi. Each gateway can service +/- 100 sensornodes simultaneously.

| frequency | range | network connections |
|---|---|---|
| 868 MHz | 400m…1 km (indoor / obstacles)<br>2…5 km (urban)<br>5…15 km (open field) | Ethernet, wifi |
| **operating temperature** | **operating moisture** | **power supply** |
| Range: - 40 … + 80 °C | Extended < 80% rH | Standard USB |
| | Peaks < 95% rH | |
| | **accessories included** | **ingress protection** |
| | USB-C power cable | IP 30 |

| Gateway 868 MHz (Indoor, ethernet, wifi, 4G) | Article number<br>G868i4G |
|---|---|


The gateway receives the Lora signals from the sensornodes and sends the data to the internet. This gateway has connection for ethernet, wifi and 4G and is suited for indoor use where wifi or internet is not (always) active. Each gateway can service +/- 100 sensornodes simultaneously.

| frequency | range | network connections |
|---|---|---|
| 868 MHz | 400m…1 km (indoor / obstacles)<br>2…5 km (urban)<br>5…15 km (open field) | Ethernet, wifi |
| **operating temperature** | **operating moisture** | **power supply** |
| Range: - 40 … + 80 °C | Extended < 80% rH | Standard USB |
| | Peaks < 95% rH | |
| | **accessories included** | **ingress protection** |
| | USB-C power cable | IP 30 |

| Gateway 868 MHz (Outdoor, ethernet, wifi) | Article number<br>G868o |
|---|---|

The gateway receives the Lora signals from the sensornodes and sends the data to the internet. This gateway has connection for ethernet and wifi and is suited for outdoor use. Each gateway can service +/- 100 sensornodes simultaneously.

| frequency | range | network connections |
|---|---|---|
| 868 MHz | 0,4-1 km (indoor / obstacles)<br>2-5 km (urban)<br>5-15 km (open field) | Ethernet, wifi |
| Accuracy: +/- 0,5% | Accuracy: +/- 3% | |
| **operating temperature** | **operating moisture** | **power supply** |
| Range: - 40 … + 80 °C | Extended < 80% rH | 220V |
| | Peaks < 95% rH | |
| | **accessories included** | **ingress protection** |
| | 220V power adapter | IP 68 |

| Gateway 868 MHz (Outdoor, ethernet, wifi, 4G) | Article number<br>G868o4G |
|---|---|

The gateway receives the Lora signals from the sensornodes and sends the data to the internet. This gateway has connection for ethernet, wifi and 4G and is suited for outdoor use where wifi or internet is not (always) active. Each gateway can service +/- 100 sensornodes simultaneously.

| frequency | range | network connections |
|---|---|---|
| 868 MHz | 0,4-1 km (indoor / obstacles)<br>2-5 km (urban)<br>5-15 km (open field) | Ethernet, wifi, 4G |
| Accuracy: +/- 0,5% | Accuracy: +/- 3% | |
| **operating temperature** | **operating moisture** | **power supply** |
| Range: - 40 … + 80 Celsius | Extended < 80% rH | 220 V |
| | Peaks < 95% rH | |
| | **accessories included** | **ingress protection** |
| | 220V Power adapter | IP 68 |
| | Gateway mounting bracket | |

| Stainless steel auger pole (2m, 2,5m, 3m, 4m) | Article number<br>Auger Pole |
|---|---|

Stainless steel pole with auger. Length 1,65m..to ..3,5m. Diameter 40mm, wall thickness 4mm.

| Smart clip (angled) | Article number<br>FFSCang |
|---|---|

The smart clip can be used to mount the FireFly:
- wire or rod with a diameter of 2..to..3,5 mm
- stick with a diameter of 6..to..7mm

| Smart clip (Wall mount) | Article number<br>SCWm |
|---|---|

The smart clip can be used to mount the FireFly on a wall (maximum M6 screw)

| Smart clip (Leg less) | Article number<br>Scll |
|---|---|

The smart clip can be used to fix or mount all kinds of products to a rod or stick
- wire or rod with a diameter of 2..to..3,5 mm
- stick with a diameter of 6..to..7mm

| FireFly USB charger | Article number<br>FFCh001 |
|---|---|

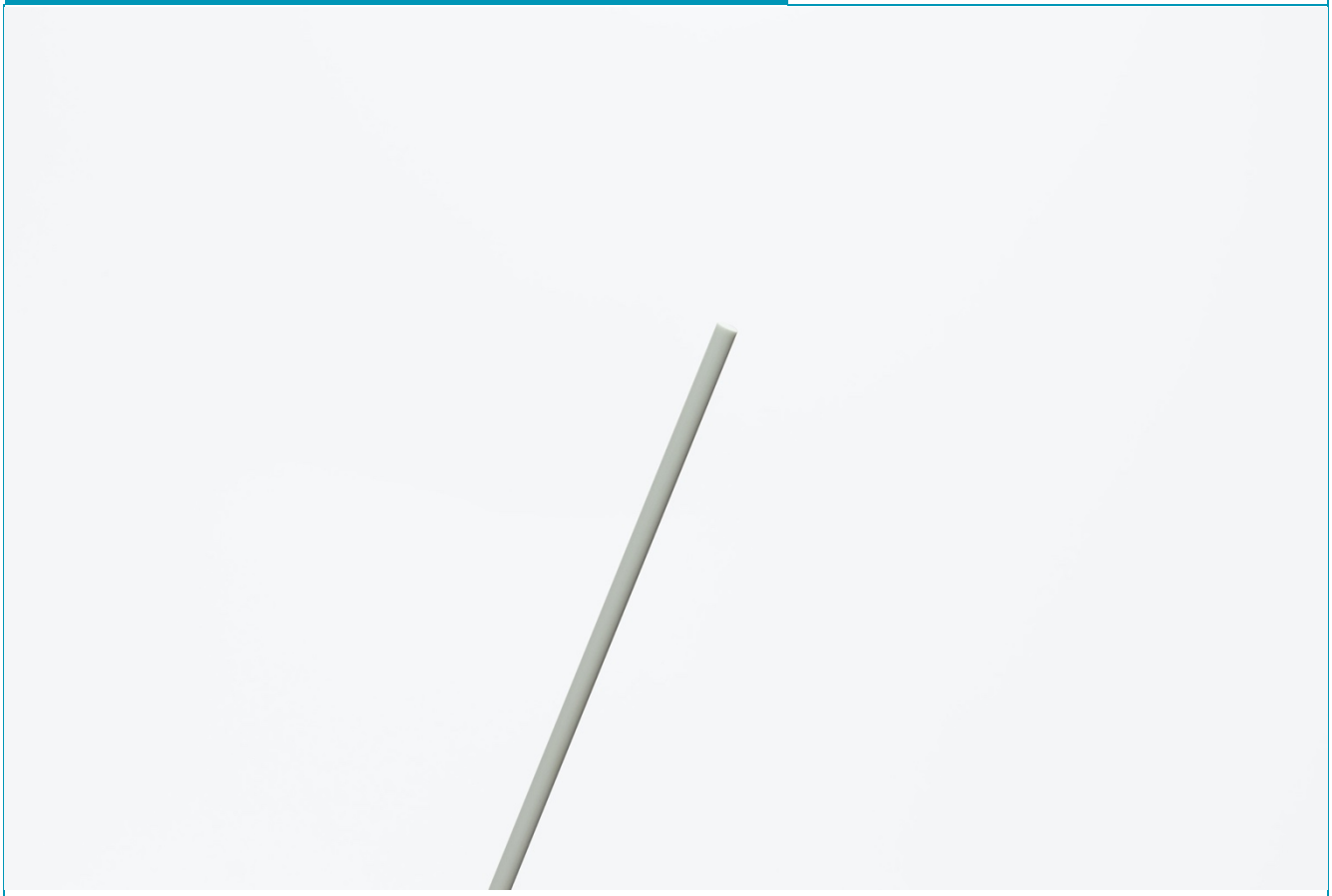
The FireFly has a battery life of around 6 months. The battery charger will charge the battery within 2 to 4 hours.

| operating temperature | charge current | ingress protection |
|---|---|---|
| Range: - 5 … + 40 °C | 0,5 A maximum | IP 50 |

| Magnetic Reset pin | article number<br>RP |
| --- | --- |

The Magnetic Reset pin resets the sensor and tares any connected external scale device

| Fiber glass rod (white, 75cm, 6mm diameter) | Article number<br>FGR75 |
|---|---|



The fiber glass rod can be used to mount the FireFly sensor using the Smart Clip angled.

## Warranty and service

For the CE declaration of conformity please go to our website. We are convinced of the quality and flawless operation of our products. Therefore, we offer a 1,5-year warranty provided products are handled with care. See also our fair-use policy and manuals. In case of faulty operation, we will support you in solving any issues. If it turns out that Quantified is liable for the faulty operation, 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 the time spend based on hourly rates.