

StreamLine

4670 StreamLine Maxima industrial



See indication of scale below

The 4670 StreamLine Maxima is a full featured highly customisable module with maximal connectivity and integration options. The module is made to be the best choice for a wide range of IoT applications due to its versatility, event based customisable functionality, small size, great positioning performance and low power consumption.

Key features

General

- Very small, only 45 x 28 mm
- Lightweight: 8,4 grams for a fully equipped PCB
- Wide operating range: -30°C ... +85°C
- 1 LED for user interaction
- Multiple watchdog levels for maximum stability
- Event based free configurable module to fit any job
- Remote configurable to fit any job (both firmware and configuration files can be updated/patched over-the-air)
- Supports integration into third party networks
- RC1, Europe and Middle East, 868 MHz

Optional

- eSIM
- Sigfox
- Accelerometer (up to 16 g)
- Distance sensor (up to 4 m)
- Temperature sensor (accurate up to 0,5°C)
- Wireless charger

Connectivity

- LTE Cat M1/NB-2, GPRS fallback
- LoRa technology, EU-868 MHz
- Compatible lora based solutions such as: private LoRa networks or Helium
- NFC
- Proprietary RF
- Nano SIM socket
- BLE beacon technology

Positioning

- GPS
- GNSS
- WiFi sniffing
- Where available LoRa localization

Electrical

- +5 VDC power supply
- Compatible with wireless charging

Connectors

- 5 external micro coax antenna connectors
- Extension connector

Interfacing

- I2C interfacing

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Product summary

The 4670 StreamLine Maxima is a full featured next generation LTE-M/NB-IoT/LoRa-based track and trace module with fully customisable functionality.

The module is equipped with several transceivers that enable connectivity with a wide range of networks (e.g. 2G, LTE Cat-M1 and NB-IoT, optional GNSS, LoRa, WiFi sniffing, Bluetooth Smart (BLE) and proprietary RF). The module has several on-board coax antenna options enabling the user to pick and choose connectivity options. Hardware not in use will not drain the battery.

On and off board sensors are available namely: acceleration-, temperature- and distance sensor and external connectivity (using I2C interfacing). The module can be fully customised dependent of the application. The functionality of the module can be remotely altered to fit any job. From basic/general functionality to advanced/low-level application specific detailed changes.

The module can be customised to specification when ordered in large volumes. Ask your StreamLine products supplier for more details.

Connectivity specifications

- Mobile data modem
 - Quectel BG95-M3 LTE cat M1/NB-2, GSM module, all global certifications and R&TTE directives.
 - Frequency bands: GSM/GPRS: 850/900/1800/1900 MHz
LTE: B1 ... 5, 8, 12, 13, 18, 19, 20, 25, 28
 - GNSS navigation (GPS + (Glonass or Galileo))
 - LoRa
 - Semtech LR1110 transceiver
 - Frequency: EU 868 MHz
 - Protocol: LoRaWAN 1.0.2 and custom LoRa protocol
 - Transmitting power: up to +15 dBm
 - Sensitivity: -141 dBm (LoRa, Rx boosted BWL=125kHz, SF=12)
 - -94 dBm (WiFi 802,11 b, DSSS)
 - BLE (RF 2.4 GHz)
 - Nordic nRF52832
 - Protocol: BLE 5.3 and custom 2.4 GHz protocol
 - Transmitting power: up to +4 dBm
 - Sensitivity: -96 dBm (BLE)
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Operating temperature

- Standard
 - -30°C ... +85°C
- Rechargeable LiPo cell
 - -20°C ... +60°C (discharging)
 - 0°C ... +45°C (charging)

Electrical

- External power supply
 - +5 VDC, no more than 5% variance
- Charging current
 - Max 530 mA observing 0°C ... +45°C safety range for LiPolymer
- Peak current
 - 2A

Battery connector



Pin	Description
• 1	• Temperature sensor
• 2	• Ground
• 3	• +3,4 ... +4,5 VDC Battery connection

External power connector



Pin	Description
• 1	• Power +5 VDC
• 2	• Ground
• 3	• Internal use only
• 4	• Internal use only

Qi-connector



Do not use other devices or Qi coils.

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Extension connector



Pin	Description
• 1	• +4,5 ... +5,5 VDC charge input, max 600 mA
• 2	• +2,8 VDC power output for external I2C sensors
• 3	• Serial input or digital input (+2 ... +31 VDC for active high) 50 k pulldown
• 4	• Serial or digital output, open collector (max +31 VDC/10 mA/100 mW)
• 5	• DI I/O (0 ... +3 VDC)
• 6	• SCL, I2C clock
• 7	• SDA, I2C data
• 8	• GND for charge and I/O

Optional extras

- | | |
|--------------------------|---|
| • Accelerometer | • Sensitivity: light vibrations of 0,016 g up to movements of 16 g
• Sensitivity can be adjusted over-the-air |
| • Temperature sensor | • Set alarm thresholds at specified temperatures
• Accuracy up to 0,5 °C |
| • Wireless charging coil | • Charges at up to 300 mA
• Standby power requirement 12 uA |
| • Laser distance sensor | • A highly accurate Infra Red laser distance sensor (VL53L1x)
• Up to 4 metres
• Field of view 15 to 27 degrees
• Optional IR lens for ambient light |

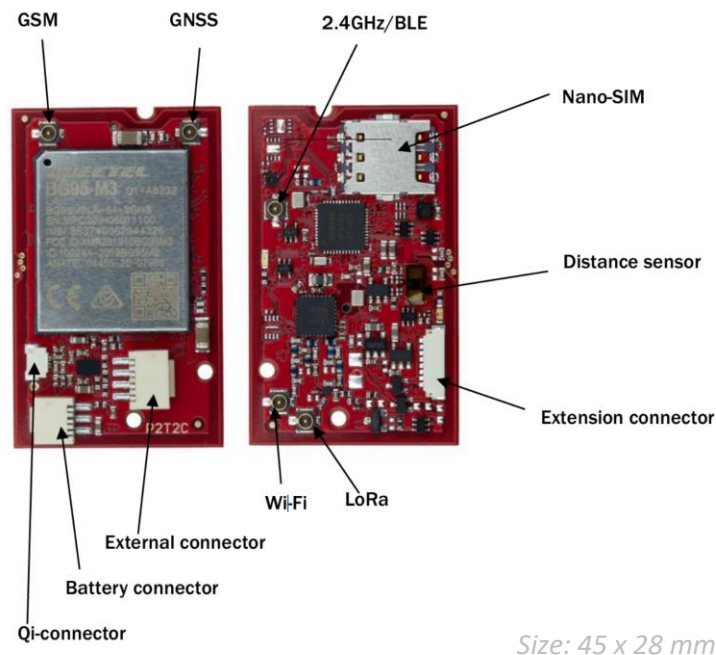
Optional enclosures

- | | | |
|--------------|---|--------------------|
| • Short Tube |  | • 116 x 38 x 25 mm |
| • Long Tube |  | • 170 X 38 x 25 mm |

Other enclosures may be available when ordering in large volumes. Ask your supplier for more details.

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About StreamLine IoT BV

StreamLine IoT BV is part of a group of companies active in the industry of track & trace modules, IoT solutions and internet portal services since 1995.

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