

StreamLine

4681 StreamLine TM LA LTE-M/2G



See indication of scale below

The 4681 StreamLine TM LA LTE-M/2G is a Track & Trace module designed for use with powered equipment (eg. Vehicles, reefers, machinery). The module is fitted with ports for I/O, serial data, temperature sensors, peripheral power supply and multiple antennas for optimal positioning and communication.

Key features

General

- Robust aluminium enclosure
- Corrosion and scratch resistant anodised finish
- Size: 90 x 67 x 20 mm (excluding SMA-connectors)
- Wide operating range: -40 °C ... +85 °C
- Multiple watchdog levels for maximum stability
- Event based free configurable module to fit any job with over 300 different events
- Define up to 4000 geozones
- Remote configurable to fit any job (both firmware and configuration files can be updated/patched over-the-air)
- Supports integration into third party networks
- User definable SMS commands

Optional extras

- eSIM
- Barometer

Connectivity

- LTE Cat M1/NB-2/EGPRS
- Quad-band GSM
- Micro SIM socket
- External antenna

Positioning

- GNSS, external antenna

Sensors

- 3D accelerometer (up to 16 g)

Electrical

- Input range +6 ... +31 VDC power
- Output power for peripherals +5 VDC/1 A
- Ultra low stand by power consumption

Connectors

- Molex (4 pin)
- Molex (24 pin)

Interfacing

- Digital and analog
- iButton/1-Wire compatible

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Product summary

The 4681 StreamLine TM LA LTE-M/2G is a highly accurate tracking module in a robust aluminium enclosure. Its compatibility with a wide range of external antennas, makes it easy to optimise signal strength for your application (antennas sold separately).

This versatile module empowers users to track assets across any location using GNSS satellite positioning, including GPS, A-GPS, Galileo, and Glonass. In addition to location tracking, it offers asset monitoring capabilities through a temperature and acceleration sensor. Seamlessly connect with external sensors thanks to its multifunctional interfacing features. The 4681 StreamLine TM LA LTE-M/2G comes equipped with connectors for serial data, analog/digital inputs and outputs, and 1-Wire data interfacing. This feature-rich module allows high-speed data collection from numerous points without requiring a host computer.

Users have the flexibility to power the device either with external power or the backup battery in case of power loss. When external power is restored, the internal battery automatically recharges. In scenarios where the module loses contact with the LTE-M/NB-IoT network, it can seamlessly switch to 2G coverage. And in areas with no network coverage at all it can store up to 50,000 positions in its internal memory to transmit them once connection is re-established.

When ordered in large volumes, the device can be customised to specifications, e.g. adding or removing features. From only the PCBA up to a full solution (with enclosure, setting, special firmware, etc.), please contact your StreamLine products supplier for your project.

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

Navigation

- GPS Receiver
- Quectel L76 GNSS module: GPS + A-GPS + Galileo + Glonass
 - Frequency: L1 1575,42 MHz C/A Code
 - 33 tracking/99 acquisition channels
 - Sensitivity: Acquisition -148 dBm (typical)
 - Reacquisition -160 dBm (typical)
 - Tracking -165 dBm (typical)
 - Position accuracy: <2,5 m CEP
 - Antenna: Supports active and passive antennas

Operating temperature

- Standard
- -30 °C ... +85 °C
- When charging LiPo cell
- 0 °C ... +45 °C

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Electrical

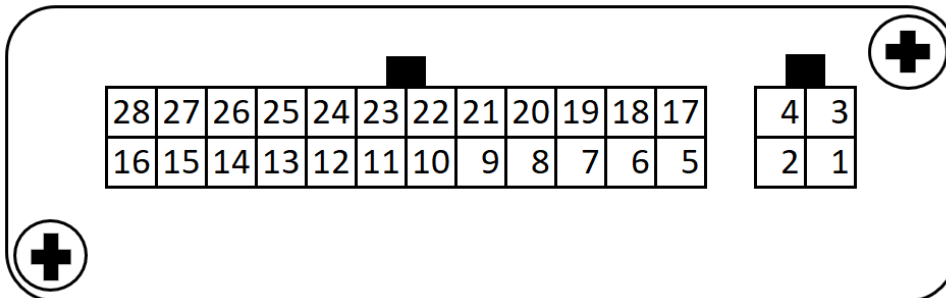
- Rated voltage
- LiPo cell battery charging current
- Peak transmission current
- Typical power consumption
- External power supply +6 ... +31 VDC
- 450 mA
- 2 A
 - 20 mA, GPS tracking
 - 100 uA, modem and sensors power down, 4 inputs and 1 timer active

External antenna connectors



SMA connectors for the mobile data and GPS/GNSS suited for passive, active and helix antennas. Antennas sold separately, ask your StreamLine products supplier for more details.

External peripheral connectors



Molex (4 pins)

Pin	Description
• 1	• Ground for VCC
• 2	• +6 ... +31 VDC or VCC Charge input
• 3	• Ground for I/O
• 4	• Digital/Analog Input 5 (0 ... +31 VDC)

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Molex (24 pins)

Pin	Description
• 5	• Out, +3 VDC serial transmit port 1
• 6	• In, +3 VDC serial receive port 1, hardware pulse counter
• 7	• Out, RS232 serial transmit port 2
• 8	• Out, +3 VDC serial transmit port 2
• 9	• Ground for I/O
• 10	• I/O: I/O 1 (+3 VDC) - or RXD4 (e.g. Camera1) - or 1-Wire - or analog input (ADC6) range 0 ... +2,5 VDC
• 11	• Out: I/O 2 (+3 VDC) - or TXD4 (e.g. Camera 1) Note: Connect pins 10 and 11 for 1-Wire operation
• 12	• Out, Open Collector max +31 VDC/160 mA, protected via polyswitch fuse
• 13	• Out, Open Collector 3 max +31 VDC/160 mA, protected via polyswitch fuse
• 14	• Ground for I/O
• 15	• Out, Open Collector max +31 VDC/160 mA, protected via polyswitch fuse
• 16	• Out, Open Collector max +31 VDC/160 mA, protected via polyswitch fuse
• 17	• Out, RS232 serial transmit port 3
• 18	• Out, +3 VDC serial transmit output 3
• 19	• In, RS232 receive input 3
• 20	• In, RS232 receive input 2
• 21	• VCC, External Supply +3,3 VDC switchable by module
• 22	• Reserved
• 23	• Reserved
• 24	• In, Digital/Analog Input 1 (0 ... +31 VDC)
• 25	• In, Digital/Analog Input 2 (0 ... +31 VDC)
• 26	• Reserved
• 27	• In, Digital/Analog Input 3 (0 ... +31 VDC)
• 28	• In, Digital/Analog Input 4 (0 ... +31 VDC)

Optional on-board sensors

- | | |
|-----------------|--|
| • Accelerometer | • Sensitivity: light vibrations of 0,016 g up to movements of 16 g |
| | • Sensitivity can be adjusted over-the-air |

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Indication of scale



*Enclosure size: 90 x 67 x 20 mm
(excluding SMA-connectors)*

About StreamLine IoT BV

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

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StreamLine IoT BV
The Netherlands
www.streamline-iot.com
Version 1.0

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