ORBCOMM®

WHERE IoT POWERS ASSET INTELLIGENCE™

Datasheet



ST 6100

Track, monitor and control in isolated regions.

The ST 6100 satellite terminal delivers complete visibility and control of industrial assets operating in remote areas. The versatile, environmentally sealed ST 6100 can be installed on mobile assets such as light-and heavy-duty commercial vehicles, railcars, fishing vessels, heavy equipment and more. With two-way satellite connectivity, it's ideal for remotely monitoring and controlling SCADA applications including pipelines, flow meters, pumps, generators and tanks.

Easy integration

The fully programmable ST 6100 includes comprehensive resources to facilitate integration into a wide range of solutions. These include development, testing and production environments, documentation, code samples, device-level configurable applications and free technical support.

Global satellite connectivity

The ST 6100 communicates over the OGx and IDP satellite services for uninterrupted visibility of operations and field data virtually anywhere.

Comprehensive feature set

The ST 6100 offers enhanced functionality at great value. The internal antenna features exceptional low elevation angle performance, allowing one device to support both terrestrial and maritime applications. The ST 6100 also features a built-in accelerometer, expanded memory capacity and enhanced support for GPS, Glonass and Beidou.

- **Fully programmable**
- **Comprehensive integration resources for quick deployment**
- **Two-way satellite communications**
- **Ruggedized and versatile**

Specifications

Satellite communication

- Satellite service: two-way, Global, OGx or IsatData Pro
- Maximum message size:
  - *OGx: From-mobile 1 MB, to-mobile 1 MB*
  - *IsatData Pro: From-mobile 6.4 kB, to-mobile 10 kB*
- Typical latency: <15 sec, 100 bytes
- Elevation angle: 0° to +90°
- Frequencies:
  - *OGx: Rx 1525.0 to 1559.0 MHz; Tx 1626.5 to 1660.5 MHz*
  - *IsatData Pro: Rx 1525.0 to 1559.0 MHz; Tx 1626.5 to 1660.5 MHz*
- EIRP: <7.0 dBW

Dimensions

- 12.6 cm x 12.6 cm x 4.9 cm

Accelerometer

- 3-axis accelerometer

GPS/Glonass/Beidou/Galileo

- Acquisition time: Hot: 1 second; Cold: 29/30/36/29 seconds
- Accuracy: 2.0m CEP
- Sensitivity:
  - *Acquisition: -148 dBm*
  - *Tracking: -163 dBm*

Certification

- ST 6100 Regulatory: CE, FCC, IC, Anatel, RCM Mark, IEC 60945, C1D2, SRRC, IFT, ICASA, FFA
- ST 6101 Regulatory: CE; Pending: FCC, IC, Anatel, RCM Mark, IEC 60945, C1D2, SRRC, IFT, ICASA, FFA
- Others: Inmarsat Type Approval, IP67

Electrical

- Input voltage: 9 to 32V; Load dump protection: +150V; SAE J1455 (Sec. 4.13)
- Power consumption (typical average @12V DC, 22°C):
  - *IDP Receive: 65 mA;*
  - *GPS/Glonass/Beidou Receive: 22 mA;*
  - *Transmit: 0.65 A;*
  - *Sleep: 100 µA*

External interfaces

- Inputs/outputs: 4 analog or digital in/out
- Serial: RS-232; RS-485

Environmental

- Operating temperature: -40°C to +85°C
- Dust and water ingress: IP67
- Vibration: SAE J1455 (Sec 4.9.4.2 fig 6-8); MIL-STD-810G (Sec 514.6)
- Shock: MIL-STD-810G (Sec 516.6)

Programming

- Lua scripting engine with core services. SDK with GUI development tools available. Lua software application and firmware upgradable over the air (SOTA, FOTA)
- Core services: Geofence, data logger, position reporting, accelerometer events, serial communications
- AES 256 encryption-capable
- Optional, configurable terminal apps:
  - ***Analytics:*** *Notifications and reports for driver behaviour and vehicle/ asset performance.*
  - ***Garmin FMI:*** *Support for text messaging, stops, driver ID, hours of service, file-transfer, custom forms, and speeding alerts.*
  - ***AVL:*** *Supports ST 6100 integration into fleet management solutions.*
  - ***Garmin Dispatch app:*** *Tracking, navigation, driver communication and dispatch using Garmin devices.*
  - ***Sensors:*** *Generates reports, alarms and histograms from connected sensors and devices.*
  - ***Modbus:*** *Enables data processing and alarms from Modbus device data.*
  - ***Vessel Monitoring System:*** *Location tracking, status monitoring and behavior monitoring.*

Memory

- Lua Code RAM: 4MB
- Lua Code NVM: 8MB

Options

- Side or bottom connector variants

Order codes

- **ST6100-SXX** ST 6100 Terminal, Side Connector
- **ST6100-BXX** ST 6100 Terminal, Bottom Connector
- **ST6100-BXXC** ST 6100 Terminal, Bottom Connector, C1D2
- **ST6101-SXX** ST 6101 Terminal, Side Connector
- **ST6101-BXX** ST 6101 Terminal, Bottom Connector
- **ST100968-001** ST 6100 Development Kit
- **ST100030-001** Mating Cable Connector Kit with Solder Cups
- **ST301005-001** ST 6100 Blunt cut cable, 5m
- **ST101192-001** ST 6100 Starter Kit
- **ST101193-001** ST 6100 Field cable

Although we strive to ensure accuracy in all of our published specifications, actual field performance can vary depending on a variety of environmental, installation and usage factors, as well as third-party factors such as cellular providers. The specifications listed are approximations, and do not constitute binding statements or modify the terms and conditions of purchase or lease including, but not limited to, product operational limitations and warranties. All specifications are subject to change without notice. Please check www.orbcomm.com to ensure you have the latest version of these specifications.

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ORBCOMM is a global leader in industrial IoT, delivering visibility, intelligence and efficiency to the world's most critical operations. With 30 years of innovation and more than 2.4 million connected devices, we transform data into actionable insights, driving greater efficiency, safety, resilience and sustainability. Serving customers that include the world's largest shipping lines, over-the-road trucking fleets, cold-chain transportation fleets and a global network of IoT solution provider partners, ORBCOMM is where IoT powers asset intelligence.

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