ORBCOMM®

WHERE DATA DRIVES DECISIONS

ST 8100

Solar-powered, fully programmable terminal for satellite-cellular IoT applications.

The ST 8100 dual-mode satellite-cellular terminal supports cost-effective IoT solutions that track and monitor mobile and fixed assets in industries such as maritime, transportation, oil & gas, agriculture, water management and more. It's ideal for applications without external power, such as tracking small vessels or monitoring fixed assets in remote locations, thanks to its solar-powered battery.

Optimized asset tracking
With dual-mode connectivity, the ST 8100 enables least-cost routing—using cellular when available and satellite via ORBCOMM's OGx or IDP networks when needed.

Easy to install
Simplify solution implementation with the ST 8100's small form factor, cableless installation and out-of-the-box support for ORBCOMM's suite of wireless sensors. Plus, it can power wired sensors with a 12V output and integrate with mobile apps for fishing reports, text messaging and email.

Customizable
The ST 8100 can run ORBCOMM's off-the-shelf terminal applications—or support custom applications that run directly on the device.

- **Solar powered**
- **Satellite and cellular connectivity**
- **Programmable**
- **Wireless or wired sensor support**
- **Rugged**

Specifications

Satellite communication
- Satellite service: IsatData Pro or OGx (two-way, global)
- Typical latency: <15 seconds, 100 bytes
- Elevation angle: +5° to +90°
- Frequencies:
  - *IsatData Pro: Rx 1525.0 to 1559.0 MHz; Tx 1626.5 to 1660.5 MHz*
  - *OGx: Rx 1525.0 to 1559.0 MHz; Tx 1626.5 to 1660.5 MHz*
  - *EIRP: <6.5 dBW*

Cellular communication
- LTE Cat M1/NB2 (B1, B2, B3, B4, B5, B8, B12, B13, B18, B19, B20, B25, B26, B28, B66, B85), 2G 4-band

Dimensions
- 285 x 93 x 35 mm

Memory
- Lua code: PSRAM 8MB, NVM: 16MB

Certifications
- CE, FCC/IC, FFA,PTCRB, Inmarsat type approval, IEC 60945, CID2, HERO
- Pending: RCM, ICASA, Anatel, IFT, Japan, FFA

Other interfaces
Bluetooth v5.0 low energy module

Solar power and battery
- Solar panel 0.5W (nominal)
- Lithium-ion battery 1,100 mAh
- Discharge temperature range: -30°C to +70°C
- Charge temperature range:
  - *No connector: -20°C to +50°C*
  - *With connector: -30°C to +70°C*

External interfaces (variants with connector only)
- 2 configurable inputs/outputs: Analog/digital/input/output
- 2 analog voltage inputs (0-17V)
- 2 analog current inputs (4-20mA)
- Serial: 1 RS-232; 1 RS-485/J1708; 1-Wire
- Power:
  - *Advanced: 2 outputs (24V; 100mA, total)*
  - *Advanced-CID2: 2 outputs (24V; 30mA, each)*

GPS/Glonass/Beidou/Galileo
- Acquisition time:
  - *Hot: 1 second*
  - *Cold: 29/30/34/45 seconds*
- Accuracy: 2.5 m CEP-horizontal
- Sensitivity:
  - *Acquisition: -148 dBm*
  - *Tracking: -166 dBm*
- Security: signal jamming detection

Accelerometer
- 3-axis accelerometer

Environmental
- Operating temperature:
  - *Transceiver and antenna: -30°C to +70°C*
- Dust and water ingress:
  - *IP67/IPX9K*
- Vibration: SAE J1455 (Sec 4.9.4.2 fig 6-8); MIL-STD-810G
- 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)
- Geofencing: 128 Polygons
- Data logger: 50,000 position reports
- Optional, configurable terminal apps

Order codes
- ST8100-110C-H – with connector
- ST8100-0100-H – no connector
- ST8100-010C-H – no connector, CID2 compliant
- ST101692-001 – ST 8100 Development Kit

Email: **sales@ORBCOMM.com** | Call: **1-800-ORBCOMM**

Visit our website **www.ORBCOMM.com**

ORBCOMM is a pioneer in IoT technology, empowering customers with insight to make data-driven decisions that help them optimize their operations, maximize profitability and build a more sustainable future. With 30 years of experience and the most comprehensive solution portfolio in the industry, ORBCOMM enables the management of over a million assets worldwide for a diverse customer base spanning transportation, supply chain, heavy equipment, maritime, natural resources and government. For more information about how ORBCOMM is driving the evolution of industry through the power of data, visit www.orbcomm.com.

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