

Cellular Connectivity

For GSM/GPRS/EDGE/HSPA+ networks



Overview

The LS300G is a cellular gateway for use on GSM/GPRS/EDGE/HSPA+ networks^a such as AT&T, Rogers, Bell, and Telus. The LS300G comes standard with Ethernet, USB, and serial interfaces, making it easy for you to configure, deploy, and connect it to

Campbell Scientific dataloggers, cameras, radios, and more. The LS300G can be used with any of our dataloggers. The LS300G requires a cellular data account for operation. Please contact your cellular network provider for data service.

Benefits and Features

Be confident in your choice

The LS300G is compatible with all Campbell Scientific dataloggers, which allows datalogger and/or software initiated M2M communications through a variety of protocols. The LS300G has a rugged design that adheres to military-specifications for extreme and hazardous conditions (MIL-STD 810). This makes it ideal for industrial deployments, and allows you to be confident that it'll work for your application.

Convenient and easy

Take advantage of the wide coverage of cellular networks to provide an internet connection to your remote data acquisition system. Collect data or control and manage devices through independent IP serial server and Ethernet host connections. You can even configure and troubleshoot your remote LS300G without leaving the office.

What You Will Need

- › SIM card activated with data plan from your cellular provider
- › Web browser access to the LS300G for configuration using the browser based AceManager utility
- › Serial or Ethernet cable for connecting the LS300G to your device
- › SW12 or control port with relay for controlling power
- › A plan for how you wish to have your data reported or collected

^aCompatible with virtually all 2G GSM networks; compatible with some 3G GSM networks outside the U.S. and Canada; see your local provider for more information.



Ordering Information

Digital Cellular Modem

LS300G Airlink 3G GSM Digital Modem

Communication Cables and Interfaces

- 18663** Null Modem Cable 9-Pin Male to Male connects the LS300G directly to the datalogger's RS-232 port.
- SC105** CS I/O to 9-Pin RS-232 DCE Synchronous Interface. Includes SC12 cable for connecting the LS300G to the datalogger's CS I/O port.
- 28899** CAT6 Cable, Unshielded with RJ45 Connectors for connecting the LS300G to an NL120 or NL201.

Temperature Ranges for SC105

- ST** -25° to +50°C
- XT** -55° to +85°C

Antennas (choose one)

- 21831** 800 MHz, 0 dBd 1/2 Wave Whip Dipole Cellular Antenna with SMA connector that attaches directly to the LS300G. It can transmit short distances.
- 18285** 1 dBd, Omnidirectional Antenna that covers both the 800 MHz and 1.9 GHz bands. It includes a mounting bracket. Connection to the modem requires an antenna cable (see right column).
- 20679** 800 MHz/0 dBd and 1.9 GHz/3 dBd Omnidirectional Antenna. It includes a mounting bracket. Connection to the modem requires an antenna cable (see right column).
- 31128** Wideband 9 dBd, Yagi Antenna with mounting hardware. Connection to the modem requires an antenna cable (see right column).

Cables/Surge Suppressors for 18285, 20679, or 31128 Antenna

- 21847** Type N Male-to-SMA Antenna Cable with 12 ft length. If surge suppression is required, use the COAXNTN-L cable and 31317 Surge Suppressor Kit instead of this cable.
- COAXSMA-L** Type N Male-to-SMA Antenna Cable with user-specified length; enter length, in feet, after the -L. Length should not exceed 6 m (20 ft). If surge suppression is required, use the COAXNTN-L cable and 31317 Surge Suppressor Kit instead of this cable.
- COAXNTN-L** Type N Male-to-Type N Male Antenna Cable with user-specified length; enter length, in feet, after the -L. Cable lengths longer than 6 m (20 ft) will weaken the signal strength. This cable is used with the 31317 surge suppressor (see below) and is recommended for environments susceptible to lightning or electrostatic buildup.
- 31317** Antenna Surge Protector Kit that includes one COAXSMA-L1.5 cable. A COAXNTN-L cable is required (see above). This surge suppressor is used with the COAXNTN cable (see above) and is recommended for environments susceptible to lightning or electrostatic buildup.

Adjustable Angle Mounting Kits

- CM230** Adjustable Angle Mounting Kit allows the 31128 Yagi or 20679 antenna to be aimed at the service provider's antenna. It attaches to a mast or pipe with a 1.3 to 2.1 in. OD.
- CM230XL** Adjustable Angle Mounting Kit with Extended Length. Provides the same functionality as the CM230, but the CM230XL places the antenna further from the pole or crossarm.

Specifications

- Carrier Approval: AT&T, Rogers, Bell, and Telus
- Network: 3G HSPA+ with fallback to GSM/GPRS/EDGE

Host Interfaces

- 10/100 Base-T RJ45 Ethernet
- RS-232 serial port, DB9 Female
- USB version 2.0 with micro-B connector
- 2 SMA antenna connectors (primary, GPS/diversity)
- Active antenna support

Power

- Input Voltage: 7 to 28 Vdc
- Typical Current Drain (@12 Vdc):
Dormant (idle for 10 to 20 s): 185 mA
Transmit/Receive: 255 mA

Frequency^b

- GSM/GPRS/EDGE: 1900/850/900/1800 MHz
- WCDMA: 1900/2100/850 MHz

Size

- Dimensions: 76 mm x 90 mm x 25 mm (3.0 in x 3.5 in x 1.0 in)
- Weight: 190 g (6.7 oz)

Environmental

- Operating Temperature Range: -30° to +70°C (-22° to +158°F)
- Storage Temperature: -40° to +85°C (-40° to +185°F)
- Humidity: 90% RH @ 60°C
- Military Specification: MIL-STD-810 conformance to thermal, mechanical shock, and humidity

Industry Certifications

- PTCRB, R&TTE, FCC, Industry Canada, CE, RoHS Compliant, Class 1 Div 2

^b This product uses the LS300G Sierra Wireless SL8090 radio module. Contact Campbell Scientific if you require WCDMA operation at 900/2100 MHz (SL8092 radio module).

