



Overview

Campbell Scientific's TX320 is a high data rate (HDR) transmitter that provides communications, via GOES satellites, from a Data Collection Platform (DCP) to a

receiving station. It is compatible with most Campbell Scientific dataloggers and offers a convenient telemetry option for remote DCPs in the Western Hemisphere.

Benefits and Features

- ▶ Transmission rates of 300 and 1200 bps
- ▶ Transmitter certified as High Data Rate version 2 compliant
- ▶ NESDIS-certified transmitter
- ▶ Automatic GPS correction of clock and oscillator drift
- ▶ Very stable clock that provides up to 28 days of operation between GPS fixes for more reliable operation in areas with poor GPS reception
- ▶ Diagnostics and status information can be sampled by the data logger and transmitted as part of the data stream
- ▶ Readily added or retrofitted to existing Campbell Scientific systems
- ▶ Non-volatile setups configured with Windows-based software
- ▶ USB port for connecting PCs to setup and perform diagnostics
- ▶ Independent self-timed and random data buffers

Technical Description

The TX320 supports data transmission rates of 300 and 1200 bps. Because clock accuracy is critically important for GOES satellite telemetry, the TX320 includes a robust, temperature-compensated-oscillator (TCXO) based clock and a GPS receiver. The real-time clock's precision allows independent operation for up to 28 days without GPS correction.

GOES System

GOES satellites have orbits that coincide with the Earth's rotation, allowing each satellite to remain above a specific region. GOES satellites cover the western hemisphere.

The GOES system is administered by the National Environmental Satellite Data Information Service (NESDIS). NESDIS assigns addresses, uplink channels, and self-timed/random transmit time windows. Self-timed windows allow data transmission only during a predetermined time frame. Random windows are for applications of a critical nature (e.g., flood reporting) and allow transmission immediately after a threshold has been exceeded.

Data Collection Platform (DCP) Equipment

- ▶ TX320 GOES satellite transmitter (includes an SC12 cable)

- ▶ 17992 GPS antenna and the 18017-L cable. The GPS antenna mounts to the end of a crossarm via the 7623 ¾-in. threaded pipe and a 1049 NU-RAIL fitting or CM220 Mount.
- ▶ Data logger
- ▶ 25316 11-dBi Right-Hand Circular Polarized (RHCP) Yagi antenna with mounting hardware.
- ▶ COAXNTN-L RG8 antenna cable
- ▶ ENC16/18 or larger enclosure

- ▶ Power supply consisting of Campbell Scientific's BP12 12-Ahr, BP24 24-Ahr, or BP84 84-Ahr battery pack, CH200 or CH150 regulator, and SP10 10-W or SP20 20-W solar panel
- ▶ 31320 Surge Protection Kit (optional)

Retrieving Data from the Ground Receiving Station

Choose one of the following methods:

- ▶ Internet (see NESDIS for requirements)
- ▶ Domsat
- ▶ LRGS
- ▶ DRGS (Direct Readout Ground Station)

For comprehensive details, visit: www.campbellsci.eu/tx320 



80 Hathern Road, Shepshed, LE12 9GX UK | +(0)1509 828888 | sale@campbellsci.co.uk | www.campbellsci.eu
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