



TX325

Satellite Transmitter for GOES V2



New Standard for Reliability in GOES Transmitters

Smaller form factor, easy to use, and rugged

Overview

The TX325 is a GOES satellite data transmitter and is the successor to the TX321. In the Western Hemisphere, it is compatible for use with NOAA’s GOES DCS with a coverage range including Canada, the United States of America, and Mexico—as well as most countries in Central America and many South American countries.

The TX325 is the telemetry backbone for many data collection platforms (DCP) that utilize GOES satellites. The satellite transmitter can be integrated with a number of Campbell Scientific data loggers and is an available communications option for many of our systems, serving a wide range of applications.

Benefits and Features

- › NESDIS HDR V2 certified
- › Compatible with GOES DCS system
- › Easy integration with Campbell Scientific data loggers
- › Field tested and proven track record of reliability

Detailed Description

The TX325 transmitter can transmit either self-timed or random GOES messages to the GOES West and GOES East satellites. In a typical configuration, the TX325 is connected to a data logger via an RS-232 serial connection. The data logger makes measurements, then formats those values to create a data packet which is then transferred to the TX325. The TX325 then buffers the message until its transmission window (or random

transmission time), when it will then transmit the data at either 300 or 1200 bps.

Extremely accurate timing is obtained from the integrated GPS receiver ($\pm 100 \mu s$), and the internal clock is capable of maintaining accurate time for a minimum of 20 days. If the TX325 finds itself without an accurate time, it suspends data transmissions until an accurate time is obtained.

Specifications

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|---|---|
| Transmissions Supported <ul style="list-style-type: none"> › Timed (Scheduled) › Random | Data Format <ul style="list-style-type: none"> › ASCII (SHEF) › Pseudo Binary |
|---|---|

Transmit RF Out Connector	Type N jack
Radio Module	OmniSat-3
Operating Temperature Range	-40° to +55°C
Storage Temperature Range	-55° to +75°C
Certifications	NOAA/NESDIS GOES High Data Rate Certification Standard V2 Certification #12142012
Case Dimensions	15.88 x 12.7 x 4.57 cm (6.25 x 5 x 1.8 in.) not including connectors
Maximum Dimensions	15.88 x 14.99 x 4.57 cm (6.25 x 5.9 x 1.8 in.) including connectors
Weight	0.77 kg (1.7 lb)

Supply Power

Supply Voltage Range	10.5 to 16 Vdc
Typical Current Drain	<ul style="list-style-type: none"> › < 50 mA during GPS acquisition (typical 25 mA at 12 Vdc) › < 5 mA standby (typical 2.8 mA at 12 Vdc) › < 2.5 A when transmitting (typical 1.8 A at 12 Vdc)
Connector	2-pin screw terminal, 0.2 in. pitch

Satellite GOES

Baud Rates	300 and 1200 bps
Transmit Power (300 baud)	<ul style="list-style-type: none"> › 31 dBm maximum › Typical EIRP is 37 to 41 dBm. › Maximum EIRP is 41 dBm (based on 11 dbm gain antenna and 1 dbm line loss)

Transmit Power (1200 baud)	<ul style="list-style-type: none"> › Maximum EIRP is 47 dBm (based on a 11 dbm gain antenna with 1 dbm line loss) › 37 dBm maximum › Typical EIRP is 43 to 47 dBm.
Frequency Range	401.701 to 402.09925 MHz
Initial Frequency Stability	±20 Hz disciplined to GPS (GPS fix occurs after power up and once per day thereafter.)
Channel Bandwidth	<ul style="list-style-type: none"> › 1200 Baud 2250 Hz › 300 Baud 1.5 KHz

GPS Receiver

Receiver Type	3.3 V active
Connector Type	SMA jack

Timekeeping

Initial Accuracy	±100 μs (synchronized to GPS)
Drift	±40 ms/day (without GPS)
GPS Schedule	1 fix at power up (updated at roughly an 11-hour rate)
Transmission Continuation without GPS Fix	6 days

Interface Connectors

RS-232	DB9, DB9 F, DCE, 3-wire RS-232
Satellite RF Transmit Out	Type N jack
GPS	SMA jack
Power	2-pin screw terminal, 0.2 in. pitch

For comprehensive details, visit: www.campbellsci.com/tx325 



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