

HDR GOES Data Collection Platform

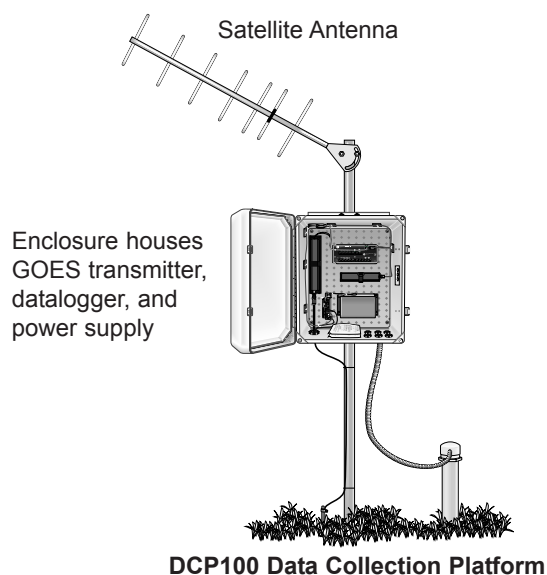
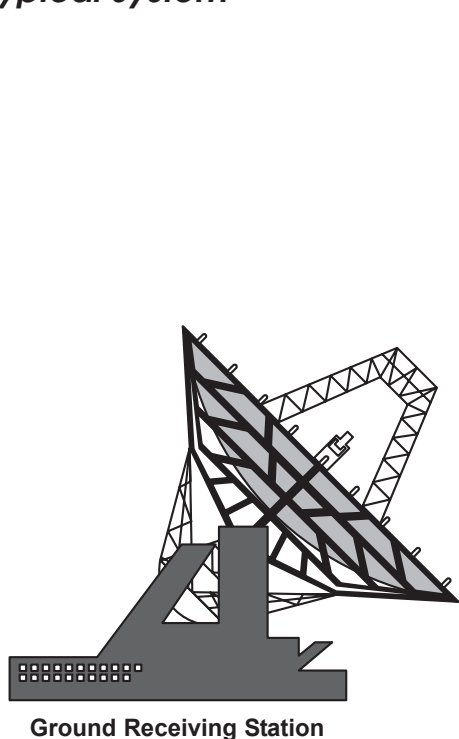
Model DCP100

Data Collection Platforms (DCPs) gather the measurements then transmit them, via GOES satellites, to a receiving station. In one package, the DCP100 provides the equipment required in a DCP, including a transmitter, antenna, enclosure, power supply, and a choice of datalogger (our CR510, CR10X, or CR23X). The DCP100 complies with the High Data Rate (HDR) specifications.

Features

- NESDIS-certified (certificate #1100-001, Nov. 3, 2000) for low and high data rates, including 100, 300, and 1200 bps
- Combines the measurement and control capabilities of our dataloggers with the broad coverage of GOES telemetry
- Uses the SAT HDR GOES transmitter that has independent 16 Kbytes self-timed and random data buffers
- Provides automatic GPS correction of clock and oscillator drift
- Operates in extreme, remote environments
- Supports transmission lengths from 1 to 120 seconds. Short transmission lengths enable multiple stations to use the same NESDIS-assigned window
- Allows diagnostic and status information to be sampled and output as part of the data stream
- Housed in one compact enclosure

Typical system

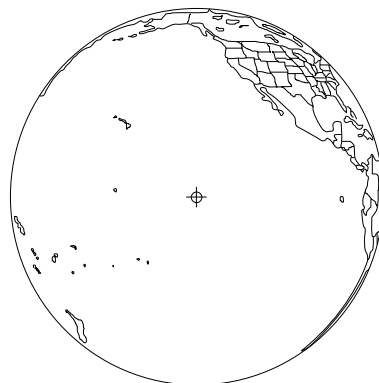


GOES, NESDIS, and Transmit-Windows

The DCP100's transmitter sends data via Geostationary Operational Environmental Satellites (GOES). GOES satellites have orbits that coincide with the Earth's rotation, allowing each satellite to remain above a specific region.

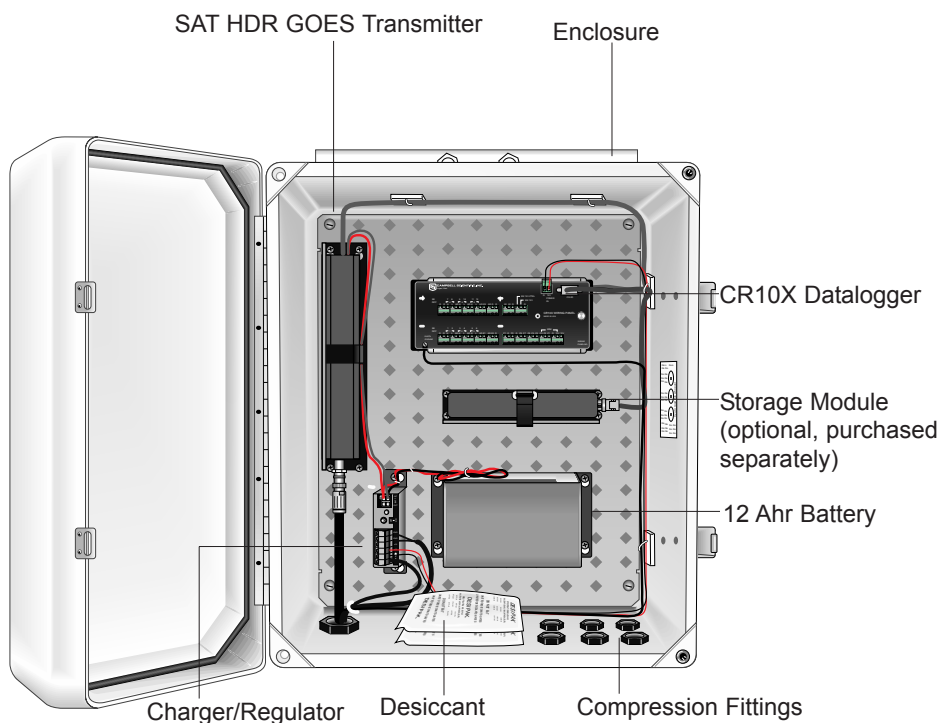
The GOES system is administered by the National Environmental Satellite Data Information Service (NESDIS). NESDIS assigns addresses, uplink channels, and self-timed/random transmit time windows. Self-timed windows allow data transmission only during a predetermined time frame. Random windows are for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

Currently, the GOES system has two satellites in the Americas. The transmitter supports US channels. The coverage of each satellite is shown on the maps (right). The crosshairs indicate a projection of their geostationary positions.



DCP100 Package and Options

- SAT HDR GOES satellite transmitter (includes SC12 ribbon cable, power cable, mounting kit, GPS antenna, and DCP communication software)
- Datalogger options: CR510, CR10X, or 12248 (CR23X with low-profile, no battery base)
- Optional CR10KD Keyboard Display for CR510 or CR10X
- RHCP (crossed) Yagi Antenna, mounting bracket, and cable
- 16" x 18" enclosure that includes water-tight compression fittings and desiccant
- Sealed rechargeable battery options: BP12 12-Ahr or BP24 24-Ahr battery
- CH100 Charger/Regulator
- MSX10 10-watt Solar Panel



The DCP100 includes all of the equipment required for a Data Collection Platform. The solar panel is not shown.

Computer Base Station

- Phone modem with MNP level 4 error correction (most Hayes-compatible modems contain this error-checking protocol; check the operator's manual for your modem) and user-supplied communication software (e.g., Procomm Plus, Crosstalk)
- Internet: See NESDIS for requirements

GOES System Authorization Procedure

U.S. Federal, State, or local government agencies or users sponsored by one of those agencies may use GOES. Potential GOES users MUST receive formal permission from NESDIS. The following four steps are required:

1. The user contacts NESDIS at the following address and submits a formal request to transmit data via GOES. Non-U.S. or private users must also submit a written statement indicating that their sponsor requires all or part of the transmitted data. NESDIS will fax or mail the user a question form to complete and submit for approval.

DCS Coordinator
NOAA/NESDIS
E/SP3, Room 3320
4700 Silver Hill Road
Stop 9909
Washington, D.C. 20233-9909

Phone (301) 457-5681
FAX (301) 457-5620
Web <http://dcs.noaa.gov/contact.htm>

2. Following approval, NESDIS sends a Memorandum of Agreement (MOA). The MOA must be signed and returned to NESDIS.
3. After the MOA is approved, NESDIS will issue a channel assignment and an ID address code. The user must then submit Application Form 442 and Form 159/159-C to the Federal Communications Commission (FCC) to acquire an FCC license. To order these forms, call (800) 418-3676, or access their web site, <http://www.fcc.gov>.
4. After an FCC license is acquired, NESDIS must be contacted to coordinate a "start-up" date.

Specifications

Transmitter

Model:	SAT HDR GOES (manufactured by Seimac Ltd., Dartmouth, Nova Scotia, Canada)
On-board memory:	Non-volatile flash for setup parameters. 16 kbytes for self-timed data and 16 kbytes for random data
Power requirements:	9.6 to 16 Vdc, <1 mA quiescent, <350 mA during GPS fix, 2.8 A @ 300 baud transmit, 3.5 A @ 1200 baud transmit
Transmit power:	15.9 W maximum
Environmental:	-40° to 50°C; 0 to 99% RH, non-condensing
Dimensions:	8.2" x 5.5" x 1.5" (20.8 x 14.0 x 3.8 cm); 9.0" x 5.5" x 1.5" (22.9 x 14.0 x 3.8 cm) with connectors
Weight:	< 2 lbs (< 1 kg)

Antenna

Model: 12261 GOES RHCP Antenna
Cable: RG8 cable w/type N male connectors

Enclosure

Internal dimensions: 16" x 18" x 19" (41 x 46 x 48 cm)
Weight: 19 lb (9 kg)

Notes:

- (1) For applications outside GOES coverage area or users who don't qualify for the GOES system, transmitters that support INMARSAT-C and Argos are available; contact Campbell Scientific for more information.
- (2) Information on analyzing your system's power requirements is provided in Campbell Scientific's Power Supply brochure. For a more thorough explanation, request the Power Supplies Application Note 5-F. The brochure and application note can be downloaded from our Website: www.campbellsci.com
- (3) For alternate methods of data retrieval from the NESDIS ground station, please contact NESDIS.



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