



REMOTE DATA COLLECTION SOLUTION

Secure, self-contained hydro-meteorological data collection for remote sites and restricted networks.

Description

HydroDCS is a purpose-built appliance that runs the LRGS and DECODES modules of the OpenDCS software package, providing on-site, resilient hydro-meteorological data collection in near real-time. It gives any remote site reliable, self-contained access to hydrologic data.

The Local Readout Ground Station (LRGS) receives data via satellite (GOES) links and network connections and distributes it efficiently to client processes such as DECODES. The Device Conversion and Delivery System (DECODES) decodes data from remote transmitting sites and reformats it into a wide range of standard formats.

Collected data is stored on the device and can be viewed, charted, and retrieved through a secure, browser-based interface. The appliance runs on a hardened operating system making it suited for secure network environments.

Key Features

- OpenDCS LRGS for retrieving hydro-meteorological data on a near-real-time basis from satellite (GOES) and network sources.
- OpenDCS DECODES for decoding received data and reformatting it into a large number of standard formats.
- Browser-based dashboard for viewing, charting, configuring, and retrieving data, with role-based user access.
- On-device time-series for storage and trending of collected data.
- Automated alerting for configurable conditions and system health.
- Continuous health monitoring with automatic service recovery.
- Hardened OS, host firewall, mandatory access control, system audit logging.
- Fanless, compact, low-power design for unattended operation at remote sites.

Applications

- Reservoir data collection and monitoring.
- River, stream, and water-resources data collection.
- Remote, unattended, and hard-to-reach field sites.
- Secure, online or offline government and agency networks.

Specifications

HARDWARE

Processor	Intel Atom X7405C, 2.2 GHz quad-core
Memory	16 GB DDR5 4800 MT/s (SODIMM)
Storage	2 TB M.2 2280 SATA III SSD
Networking	1 x 2.5 GbE + 4 x GbE (RJ45)
I/O	1 x USB 3.1 (for RTL-SDR receiver), 1 x RJ45 console, reset button
Security (hardware)	Onboard TPM (hardware root of trust)
Dimensions	7.2" × 1.26" × 6.6" (183 × 32 × 168 mm)
Weight	1.94 lbs (0.88 kg)
Power	AC 100-240V @ 50-60 Hz, 40W power adapter (PoE+ optional)
Operating temperature	0°C to 40°C
Cooling	Fanless (no moving parts)
Certifications	CE, FCC Class B, UL, VCCI, UKCA, RoHS
Hardware platform	Lanner NCA-1050B
Version	2.0

SOFTWARE

Operating system	HydroDCS Secure OS - hardened enterprise Linux platform
Applications	OpenDCS (LRGS + DECODES), web dashboard, time-series historian, alerting and health monitoring

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