



THE STS4 CORE DATA LOGGER IS A RUGGEDIZED CUSTOM-BUILT INDUSTRIAL COMPUTER THAT IS DESIGNED TO FACILITATE DATA ACQUISITION IN THE HARSHTEST OF ENVIRONMENTS. THE CORE DATA LOGGERS ARE FIELD-PROVEN TO PROVIDE CONTINUOUS AND RELIABLE OPERATION FOR STRUCTURAL MONITORING APPLICATIONS. THE CORE DATA LOGGERS ARE PRECONFIGURED TO RUN THE STS-CORE APPLICATION THAT PROCESSES ALL RAW DATA FROM OUR DISTRIBUTED DATA ACQUISITION HARDWARE. AN STS4 CORE DATA LOGGER IS TYPICALLY DELIVERED ALONG WITH A TURN-KEY STRUCTURAL MONITORING SYSTEM.

FEATURES

- + STS-CORE OS controlling Windows 8 Embedded Standard™
- + Intel Atom processor with 2 GB RAM
- + 128 GB Solid State Drive (expandable)
- + Two Intel Gigabit Ethernet interface cards
- + 12v DC operation, 10w max operating power
- + STS-MONITOR application for system configuration
- + Ambient operation temperature -40° to +85°C
- + Convection cooling requires no internal or external cooling fans in operating temp range
- + Humidity 5 to 95% non-condensing
- + Vibration resistant
- + Custom device drivers for third party hardware

DATA PROCESSING MODES

TREND DATA: Captures statistical readings at a lower data rate for the purposes of viewing long-term trend data.

EVENT DATA: Captures higher-speed blocks of data based on a triggered threshold, typically from one or more sensors. Data is recorded pre- and post-trigger and customizable.

RAINFLOW: Captures stress cycle counts and binned into user defined stress ranges using ASTM E 1049-85

LIVE-LOAD: The system can be configured to run live-load tests, essentially a means to capture real-time data at the user-defined sample rate.

FREQUENCY: Raw data can be processed into the frequency domain and recorded. Frequency modes can be binned similar to RAINFLOW mode or used to calculate cable forces.

SPECIFICATIONS

| | |
|--|---|
| MODEL | STS4-CDL |
| CPU | Intel® Atom™ processor E3800 family |
| MEMORY¹ | 2 GB DDR3L 1066/1333 |
| STORAGE | 128 GB SATA Solid State Drive |
| OPERATING SYSTEM | STS-CORE control system over Windows® 8 Embedded |
| INPUTS/OUTPUTS | |
| DISPLAY | 1 x Display Port (2560x1600), 1 x VGA (1920 x 1200) |
| USB | 1 x USB 2.0 (Front), 2 x USB 3.0 (Rear) |
| SERIAL | One Selectable RS232/422/485 port |
| ETHERNET (LAN) INTERFACE | 2 x Gigabit Ethernet |
| POWER | |
| POWER INPUT | +12 V _{dc} |
| TYPICAL POWER CONSUMPTION² | 8.24 W |
| PHYSICAL | |
| ASSEMBLED SIZE (W X L X H) | 5.9 x 6.9 x 1.6 in (150 x 175 x 41 mm) |
| ASSEMBLED WEIGHT | 1.15 lb (0.52 kg) |
| TEMPERATURE | |
| OPERATING | -40 to 185 °F (-40 to +85 °C) |
| STORAGE | -40 to 185 °F (-40 to +85 °C) |
| RELATIVE HUMIDITY | 5 - 95% non-condensing |
| WARRANTY | 3 Years |

¹ Memory upgradeable to 8 GB.

² Typical power consumption is based on processor running at 50% capacity.

OPTIONS & ACCESSORIES

- + Nema 4X enclosures
- + Ethernet communication devices
- + Power distribution
- + Cabling
 - Power
 - Ethernet
 - Custom armored cables
- + Solar & AC battery backed power systems
- + Wireless options
- + External communications
 - Cellular
 - Land Line
 - Satellite

APPLICATIONS & DATA MANAGEMENT

STS-MONITOR: Desktop application for directly or remotely connecting to the Core Data Logger. Used to configure the Core Data Logger and view data real-time.

STS-SYNC: Desktop application for retrieving data files from the Core Data Logger.

PLATFORM INTERACTIVE: Web-based data hosting and visualization solution. All data is pushed to Microsoft Azure cloud service and securely managed and presented. Customizable interface with user defined alerts.

PUSHING DATA: Core Data Logger can be setup to push data to a user designated computer or server.

SUPPORT

BDI offers structural monitoring design services to help our clients develop the most efficient Structural Monitoring System for their project needs.