



Field Data Collection Unit

S9990Z, S9993Z

The Field Data Collection Unit (FDCU) is the primary receptacle for sensor data collection and communication in the field. It collects and processes sensor data and communicates that data to the end-user display units. The FDCU consists of a ZENO® 3200 Datalogger, various communications links (optional), and power supply circuitry in an enclosure. The FDCU is sited at any sensor group location. The FDCU sends control and polling signals to the sensors and receives data signals from the sensors.

Components of the FDCU ZENO® 3200 Datalogger

The ZENO® 3200 Datalogger accepts and stores *analog, digital, and serial* sensor data. It also checks sensor function, alarms, and control functions (diagnostic inputs) including: ZENO® Datalogger power monitor, FDCU monitors, FDCU DC power monitor, and FDU AC power fail. The ZENO® 3200 processes sensor data with a 32-bit micro-controller. A real-time clock is also provided.



Power Supply (optional and scalable)

The power supply circuits convert AC input power to DC power for use by other FDCU circuits. You can specify 110 or 220 VAC

Communications Links (optional)

The FDCU communicates point-to-point with the end user display units via either a wireless or a land-line link. The wireless link can be UHF radio, VHF radio, spread spectrum radio, or even



Technical Specifications

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Specification Reason for Specification

Universal Serial Interface

Allows the user to configure the ZENO® to retrieve data and diagnostic information from any serial sensor (that is RS-232 or RS-485 compliant) as well as control the sensor.

32 Bit Processor with Full Floating Point Math

1. Lower power consumption to processing power ratio
2. Programmable processing speed for difficult equations
3. Capable of performing logarithms, FFT's, etc. very efficiently
4. Can run multiple sampling schemes simultaneously
5. Can send out multiple forms, formats, or types of data

5 Serial Ports (Expandable to 11 with the SSEM)

16 Analog Inputs, Expandable to 144 Inputs

15 Digital Inputs, 7 Configurable as Digital Outputs

Allows for additional sensors of any type to be attached and communication types added (serial ports allow telephone, leased line, cell phone, radio, microwave, satellite, etc.).

31 Independent Alarms or Built-in Tests

Allows you to test for sensor or system malfunctions, as well as adding alarms to certain conditions that occur in the data.

18 Bit Resolution in the Analog to Digital Conversion

1. Gives you more accuracy
2. Gives you more accuracy over a broader range
3. Will not degrade the accuracy of existing sensors
4. Can detect very small events

Fully Addressable The ZENO® is fully addressable for data recovery or system parameter changes/commands. Clock can be synchronized through the network and Command Set is usable over any two-way form of communication, or on an RS-485 multi-drop line. Includes global Command Set.

Serial Pass Through Mode Allows the user or the network to communicate directly with a serial sensor that is attached to a ZENO®, whether this is for the economy of a single phone line/cell phone connection, or to alter the settings of the serial sensor.

Hardware Watchdog Timer Automatically reboots the ZENO® in case of power failure, lightning disruption, or any other condition that causes malfunction of the ZENO® while operating.

EEPROM Program Parameters Storage Your program is saved - even in a power loss.

Real-Time Clock, Independently Powered Provides independent time keeping.

Four Layer Surface Mount Circuit Board Gives the unit a very long Mean-Time-To-Failure rate, and is