

MICRO-AIDE

VDL S7 - 300 DATA LOGGER

Would you like to add state-of-the-art Event Recording capabilities to your
Siemens S7 - 300 processor?



www.micro-aide.com

FEATURES

CAPABILITIES

- ▶ Designed specifically for use with a Siemens S7 - 300
- ▶ Connects to serial port of CP 340 using 3964R protocol
- ▶ Provides Event Record data for 999 processor bits, time stamped to the nearest .1 sec.
- ▶ Samples bit transitions 3 times per sec.
- ▶ 4 Analog Inputs
- ▶ 8 Virtual and 16 Timer Inputs, all programmable
- ▶ Relay Output, programmable
- ▶ Memory capacity of 284,785 records (expandable to 1,182,769)
- ▶ Records stored for up to 128 days
- ▶ Non-volatile flash memory, no internal batteries required
- ▶ Selectable time zone and automatic Daylight Saving Time adjustment
- ▶ Real-time clock drift of less than ± 8 sec. per month
- ▶ Zero clock drift with GPS Receiver and Ethernet Port options
- ▶ Internal temperature reporting
- ▶ User interface via RS-232 and USB Device Ports
- ▶ USB Host Port for copying records directly to a flash drive
- ▶ Front panel control via 20-position keypad and 80-character LCD
- ▶ Minimum 3800 Vdc and 2000 Vac of isolation
- ▶ Options include: GPS Receiver, Ethernet Port, internal modem and expanded memory

SPECIFICATIONS

Physical

Size (without mounting brackets)
L: 9.5" H: 7.2" D: 2.6"

Weight
2.5 lb.

Operating Environment

Temperature: -40 °C to 72 °C

Humidity: 0 to 95 %, non-condensing

Mounting

Shelf or backboard, includes mounting brackets

Construction

Fully enclosed, anodized aluminum with externally accessible keypad, LEDs and connectors

All components mounted on conformal coated, internal PCBs

Power

Voltage

Range: 9 to 36 Vdc

Consumption

Maximum: 4 W (with GPS Receiver, Ethernet and Modem options)

Isolation

Power Terminals, Analog Inputs, USB Ports, GPS Rcvr and Ethernet Ports

Minimum: 3800 Vdc to chassis and any terminal

Internal Modem (optional)

Designed to meet FCC part 68 standards

Capacities

Inputs

Digital: 999 as available from Siemens S7-300

Analog: 4 total, voltage or current (optional)

Virtual: 8, user assigned

Timer: 16, user assigned

Outputs

Relay: 1, form C

Event Storage

284,785 records, expandable to 1,182,769 records

Liquid Crystal Display

Characters: 80 total on 4 lines

Viewing Area: 2.8" by .8"

Front Panel Keypad

Quantity: 20 keys

Inputs

Input Impedance

Analog: minimum 10M Ohms

Range

Analog DC Voltage: 3 scales, ± 25.5 , $+51.1$, ± 255

Analog AC Voltage: 2 scales, 25.5, 255

Event Validation Times

Digital: not applicable, Siemens S7-300 transmits 999 bit states 3 times per second using 3964R protocol

Analog: fast and slow filter settings

Analog Limit Values

Voltage

High and Low limits: in multiples of .1 V or 1 V

Internal Temperature

High and Low Limits: -67 °F to 257 °F

Analog Input Accuracy

Typical Vdc: ± 1 % full scale

Typical Vac: ± 1.5 % full scale

Virtual Inputs

Any logical association shared by 1 to 4 variables (i.e., Digital, Analog, Timer or Virtual Inputs)

Assigned by defining the state of the Virtual Input for each combination of variable states

Creates standard Event Records

Relay can be controlled by each Virtual Input

Modem (optional) can be enabled to dial out Event Records

Timer Inputs

Programming

Any input can be assigned as a trigger or terminating source

Limit Values

High and Low limits: in multiples of .1 seconds

Range: 0.0 to 999.9 seconds

Reporting

Measured Time is reported in each Timer Input Event Record

Violation of Limit Values are also reported

Memory

Type

Non-volatile, Event Records and Setup Database are stored in flash memory chip, newest data overwrites oldest data, 129th day over-writes first day

Storage Longevity

Infinite with power off, rated for 100,000 write operations

Ports

RS-232 Terminal Port

Quantity: 1, for use with a PC

Baud Rates: 300 to 115,200

Vital-Processor Port

Quantity: 1, connects to CP 340 of Siemens S7-300

Bit messaging: Siemens S7-300 transmits 999 bit states 3 times per second

Protocol: Siemens 3964R

Baud Rates: 300 to 115,200; default is 9600

USB Host

Compatible with FAT-32 flash drives, can create a text file of Event Record data from any time span

USB Device

Eliminates need for serial comm port, data transfer rates of 960 Kbps

Ethernet (optional)

Type: 10/100 Base-T

Protocols: TCP/IP, Telnet, SNTP-Multicast

Usage: Provides remote or local access via TCP/IP

Data transfer rates of 850 Kbps

User assignable IP Address, Telnet port, sub-net mask

GPS Receiver (optional)

Used to provide precise, real-time clock control, latitude and longitude coordinates

Modem (optional)

Provides remote access, auto-answer

Connectors

Power, Relay and Analog Inputs

Detachable, tension clamp, 12 to 22 AWG

Terminal and Vital-Processor Ports

DE-9 male, configured as DCE

USB Host Port

USB Type A female

USB Device Port

USB Type B female

Telephone Line

RJ-11 female

Connectors (continued)

GPS Receiver (optional)

MCX female

Ethernet Port (optional)

RJ-45 female

Indicators

LCD Panel

Includes LED back lighting for enhanced visibility

Displays numerous command menus for configuring the Data Logger and retrieving data

LEDs (3)

Power: green

Terminal: green, flashes with send/rcv data

Modem: green, flashes with send/rcv data and ring

Controls

Keypad

Located on front panel, below LCD

Keys: 0-9, Browse, Alpha, Setup, Esc, Enter, Save/., left, right, up, down/-

LCD Contrast Adjust

Single-turn pot., accessible from front panel

Internal Clock

Accuracy

Typical: ± 8 seconds per month (3 ppm)

Resolution

.1 seconds for all Event Records

Siemens S7-300 transmits 999 bit states 3 times per second

Sync

SNTP-Multicast (with Ethernet option)

GPS (with GPS Receiver option)

Operation

Full calendar, auto-adjusted for leap year, non-volatile for 30 days with loss of power

Enable or disable of automatic Daylight Saving Time adjustment

Non-drift, precise control with SNTP and/or GPS Receiver options

GPS Receiver (optional)

Includes PCB and external antenna

PCB

Plugs into mating connector inside Data Logger

Antenna

Size: Dia 1.8" H .6" (not including mounting screw)

Weight: 2 oz. (less cable)

Operating Temperature: -40 °C to 85 °C

Mounting: bulkhead mountable to surface less than 3/8" thick

Location: unobstructed skyward orientation, for use outdoors

Password Protection

Administrative Level

Access to all functions, limit 8 characters

Restricted Level

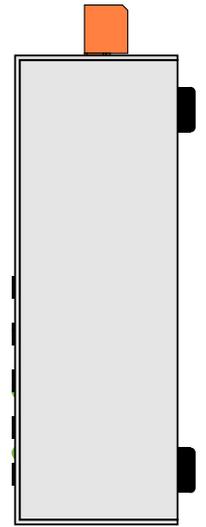
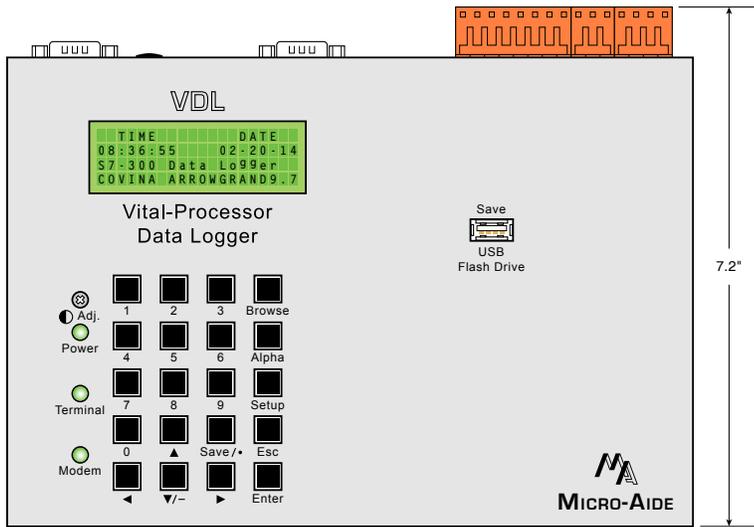
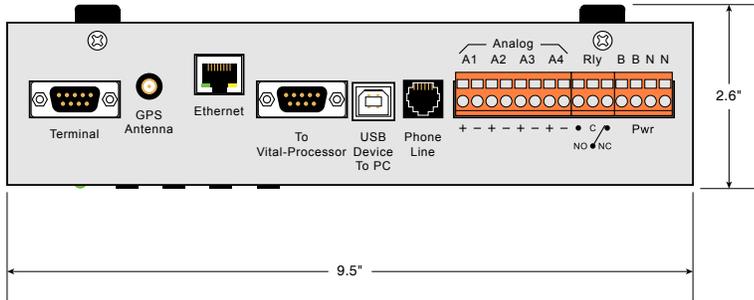
Access to Event Record and Setup Database viewing, limit 8 characters

Passcode

Provides limited alterations to Setup Database via front panel, limit 8 digits

MICRO-AIDE reserves the right to make changes, at its sole discretion, to any specification listed herein.

DIMENSIONAL DRAWING



MOUNTING DIMENSIONS

With mounting brackets installed

