Direct Current String Monitor

DC Monitoring for Combiner Boxes

DESCRIPTION

The **EA10** DC monitoring system provides the perfect solution for string monitoring in combiner and sub-combiner boxes or other DC loads. The modular construction allows easy installation for monitoring 8 to 32 strings in a single system. Pulse Reset technology means no output drift and immunity to power spikes and surges up to 20kA.

This system includes a communications unit that supplies power and provides Modbus communication. Up to four current sensing modules can connect serially to one communications unit, each with eight DC current sensors, for a total of 32 monitoring nodes. Connect up to 63 communications units in a daisy chain for full system monitoring. All boards can be mounted on standard DIN rail for easy installation.

APPLICATIONS

- Renewable energy and string monitors
- Industrial monitoring
- Data centers

FEATURES

- Pulse Reset technology...high immunity to power surges...greater repeatability over time
- Modular construction...connect up to four current sensing modules to one communications unit...easy to install
- Fully encapsulated...robust design is resistant to the elements
- Monitors 2016 points total...minimize home run wiring
- Up to 1000VDC isolation for high voltage strings
- RS-485 Modbus communications...quick commissioning
- Wide range DC power requirements...versatility
- Fits onto standard 35 mm DIN rail...convenient installation
- Amp-hour calculation...read once per day for less network traffic
- LED indication of faults...quick visible troubleshooting
- May be installed in UL1741 systems...smart combiner capability

CURRENT SENSING THE ULTIMATE PROOF OF FLOW

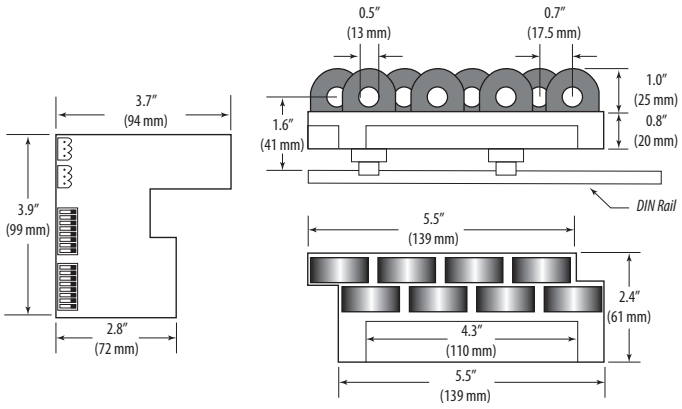
Maximize Reliability
Minimize Installed Cost

SPECIFICATIONS

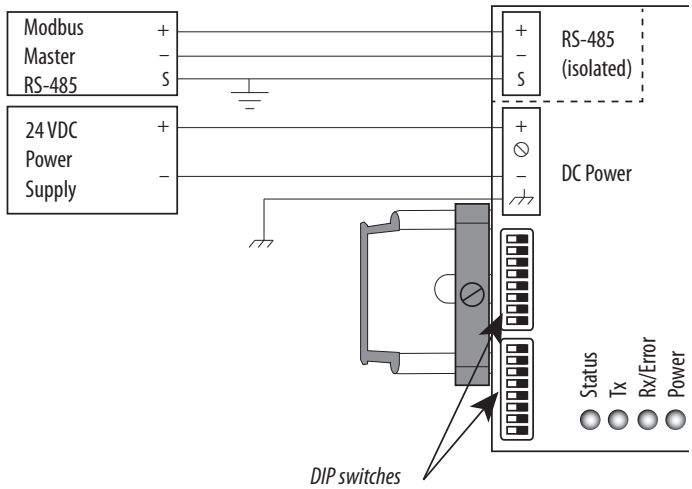
Inputs:	
Control Power	Class 2/SELV 24VDC to 42VDC
Maximum Power Consumption	7W at 32 channels
Maximum Current Input	Up to 20A per point
Accuracy:	
Current	0.5% full scale (combined linearity, hysteresis, and repeatability)
Outputs:	
Communication	2-wire RS-485, 1200 to 38400 baud, Modbus RTU
Available Information	Current per point, both instantaneous amps & cumulative amp-hours, events
Update Rate	2 sec
Maximum Measurement Points	8, 16, 24, or 32
Mechanical:	
Mounting	T35 (35 mm) DIN Rail per EN50022
Terminal Block Wire Size	24 to 12 AWG (0.21 to 3.31 mm^2)
Terminal Block Torque	0.37 ft-lb (0.5 N•m) nominal/0.44 ft-lb (0.6 N•m) max.
Insulation (from current sensor to control power or RS-485 interface)	Up to 1000 VDC (insulated conductor)
Dielectric Strength	10000 VDC
Environmental:	
Operating Temperature Range	-30° to 75°C (-22° to 167°F)
Storage Temperature Range	-40° to 85°C (-40° to 185°F)
Humidity Range	<95% RH noncondensing
Altitude of Operation	3 km
Agency Approvals:	
US and Canada Recognized (cRUus)	UL61010-1, Acceptable in UL1741 Combiner Box
Europe (CE)	EN61010-1
Installation Category	Cat. IV, pollution degree 3
EMC:	
Conducted and Radiated Emissions	FCC Part 15 Class B, EN55011 / EN61000 Class B (residential and light industrial)
Conducted and Radiated Immunity	EN61000 Class A (heavy industrial)

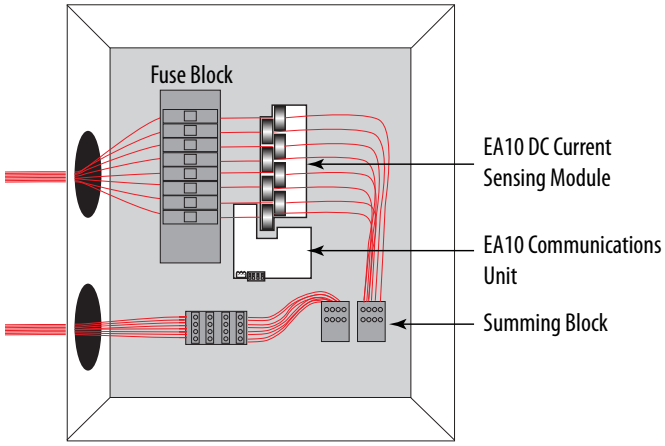
VERIS INDUSTRIES

DIMENSIONAL DRAWING



APPLICATION/WIRING DIAGRAM





CURRENT MONITORING

ORDERING INFORMATION

MODEL	NUMBER OF CTs	AMPERAGE RANGE	OUTPUT
EA10DD08B	DC current sensing module with 8 strings, encapsulated	Up to 20A per CT	
EA10HC1AB	Communications unit, Modbus RTU, encapsulated, 24 VDC, supports up to four EA10DD08B units (up to 32 strings per communications unit)		Modbus RTU

ACCESSORIES

DIN Rail (AV01) and DIN Stop Clip (AV02)