

Product Specifications

Manufacturer:	www.wavegrid.net
Part Number:	CMS-ECT-DAU
Hardware Line:	Molded, Watertight Connectors
Dimensions:	L8.5" x H1.5" x W3.5"
Operating Temperature:	-20 to 65°C
Humidity Range:	0 to 90% (Non-Condensing)
Power Supply:	125 VDC Supply (110 – 370 VDC)
Power Consumption:	5 Watts (Fully Loaded)
Power Connection:	1 Connector (Surge Protected Cable)
Clock Connection:	1 Connector (BNC, IRIG-B Monitoring)
Sensor Connections:	7 Connectors (AC/DC Currents and Voltages, Universal)
Sensor Input Types:	Differential or Single
Sensor Input Range:	-2.5 to +2.5 Volts
Sampling Rate:	2340 Samples/Second/Channel
A/D Resolution:	16 Bits (Simultaneous Scanning)
Communications:	1 Fiber TX/RX Connector (10/100 MB, TCP/IP Server Protocol)

Product Description

DAU: The Data Acquisition Unit (DAU) is a small, high-speed analog to digital converter that scans sensor inputs and transmits continuously to a data concentrator over Ethernet. The DAU can connect up to 7 sensors (for measuring currents, voltages, dry contacts, temperature, humidity, and so forth). Please refer to Figure-1.

The DAU is capable of simultaneous sampling and has programmable gains for supporting both metering and fault current applications.

Concentrator: The host computer is a hardened substation data concentrator running Wavewin (WDC). The WDC is a 19” rack mount, 3U platform with a monitor and keyboard drawer. The WDC is capable of receiving and processing data streams from multiple DAUs over TCPIP in real time. It provides user defined triggers for capturing fault and disturbance records in compliance with NERC PRC-002 requirements for disturbance monitoring equipment (DME).

Triggers: The provided triggers include over current, under voltage, and negative sequence. RMS and Instantaneous triggers are also provided (with persistence and upper/lower boundary levels). The captured data includes digital fault records (FR), sequence of events records (SER), disturbance records (DDR), metering logs, and health checks. The durations for the captured records are user settable including pre-fault and fault cycles. For FR data, the default duration is 1 second with 6 cycles of pre-fault data.

Sensors: The sensors are non intrusive, they can be safely connected to the DAU without circuit interruption or having to remove equipment from service. The available sensors include current transducers, voltage transformers, and dry contacts. Additional sensors for measuring other quantities such as temperature and humidity can be custom made. Sensors are epoxy molded with water tight connectors. Models and part numbers are provided in the Ordering Information section.

Deployment Topology

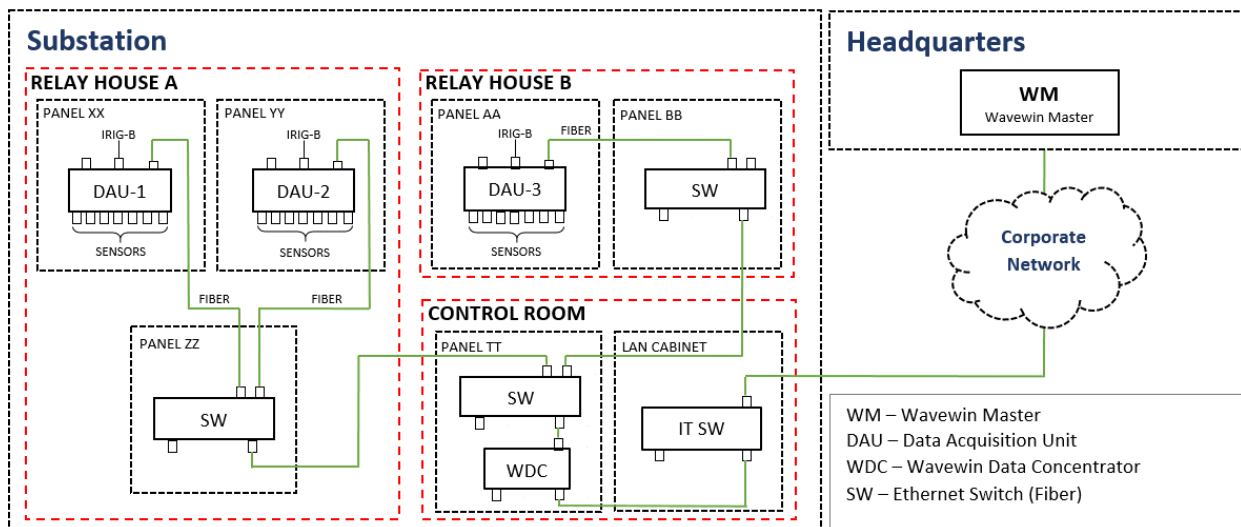


Figure – 1, DAU Installation and Communications

Current Sensor Specifications

Manufacturer:	www.wavegrid.net
Part Number:	CMS-ECT-SM-V
Hardware Line:	Molded, Watertight Connectors
Dimensions:	L4.25" x H1.5" x W1.0"
Operating Temperature:	-20 to 65°C
Humidity Range:	0 to 90% (Non-Condensing)
Monitored Conductor Size:	12 AWG
Monitoring Range:	1 to 150 Amps Secondary
Sensor Accuracy:	1% Magnitude, 1° Phase (/w Calibration, Multi Scale Capable)
Sensor Output Range:	- 2.5 to +2.5 Volts
Bandwidth:	0 to 100 KHz (Supports both DC and AC)
Response Time:	10 Microseconds (Supports Large Order Harmonics)
Power Consumption:	0.08 Watts
Sensor Cable Length:	10 ft /w Connectors on Both Ends
Connector Type:	4 Pin (Watertight)

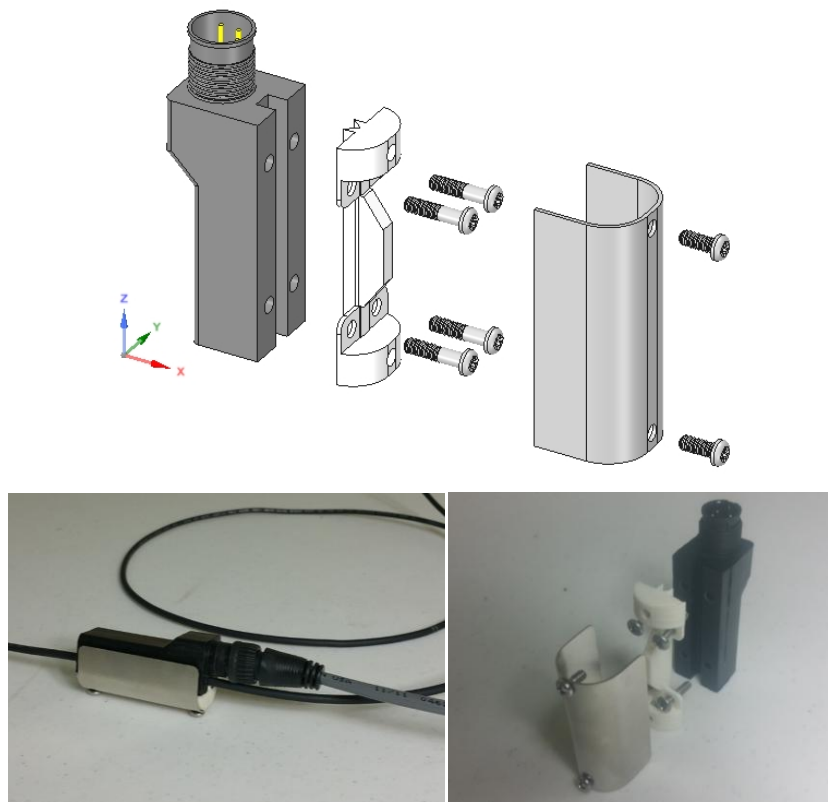


Figure – 5, Current Sensor (3D Views with Module, Stabilizer and Shield)

Voltage Sensor Specifications

Manufacturer:	www.wavegrid.net
Part Number:	CMS-EVT-SM (or CMS-EDC-SM)
Hardware Line:	Molded, Watertight Connectors
Dimensions:	L4.25" x H1.5" x W1.0"
Operating Temperature:	-20 to 65°C
Humidity Range:	0 to 90% (Non-Condensing)
Monitoring Range:	1 to 600 Volts Secondary
Sensor Accuracy:	1% Magnitude, 1° Phase (/w Calibration, Multi Scale Capable)
Sensor Output Range:	- 2.5 to +2.5 Volts
Bandwidth:	0 to 100 KHz (Supports both DC and AC)
Response Time:	10 Microseconds (Supports High Order Harmonics)
Power Consumption:	0.15 Watts
Absolute Isolation:	750 VRMS, 375 Milliamps
Input Impedance:	1 MOHM / 10 pF
Sensor Cable Length:	10 ft (/w Connectors on Both Ends)
Connector Type:	4 Pins (Watertight) to DAU, 2 Lugs Fan Out to Source

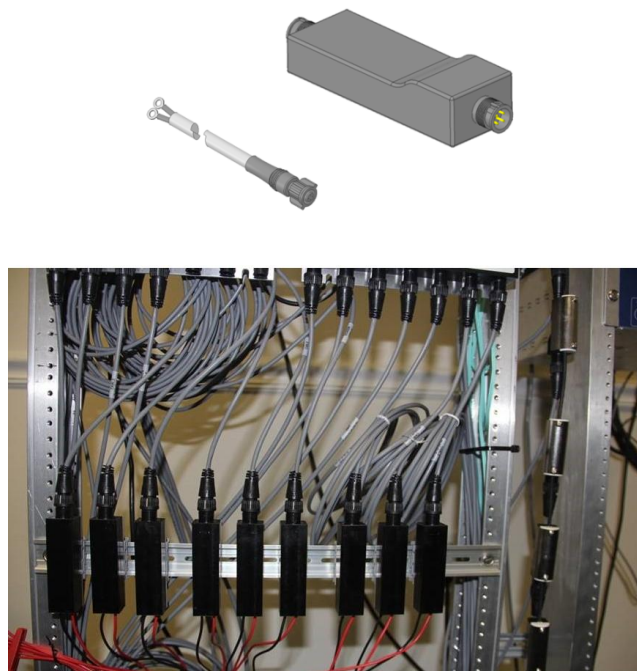


Figure – 6, Voltage Sensor (3D Views with Module and 2 Lugs Connector)

Ordering Information

<i>Item</i>	<i>Part Number</i>	<i>Description</i>
1	CMS-ECT-DAU	1 DAU Module (/w 19" Din Rail) 1 Power Cable (10' Surge Protected Cable, 5W)
2	CMS-SDC-50	Wavewin Data Concentrator (19" Rack Mount, 3U) Monitor and Keyboard Drawer (19" Rack Mount, 1U)
3	CMS-ECT-SMV	Current Sensor Module (Voltage Output, AC/DC) Sensor to DAU Cable (10' Cable, Connectors on Both Ends)
4	CMS-EVT-SMV	Voltage Sensor Module (Voltage Output, AC/DC) Sensor to DAU Cable (10' Cable, Connectors on Both Ends) Sensor to Source Cable (10' Cable, Connector to 2 lugs fan out)
5	CMS-EDC-SMV	Trip Contact Sensor Module (2 Connectors for DAU and Contact) Sensor to DAU Cable (10' Cable, Connectors on Both Ends) Sensor to Contact Cable (1' Cable, Connector to 2 lugs fan out)

Contact Us

Links: sales@wavegrid.net and support@wavegrid.net

Phone: 800.818.3463

Hours: Monday thru Friday, 9:00 am to 5:00 pm EST