

Valquest Systems, Inc.

VQ-7 Pole Mounted RTU



The VQ-7 is a special Pole Mounted RTU which provides SCADA support for remote (non-substation) devices.

It is often used with remote breakers which are fed from a distribution metering point or tap.

The VQ-7 is particularly cost effective for automating older devices such as Cooper Type W, 3A, and 4C recloser controls.

Battery backup allows continued SCADA support during power outages.

Communications is implemented with short-haul radio modems or fiber optics.

Valquest provides a data concentrator RTU (VQ-9) for efficient channeling of data to the SCADA Master Station.

SCADA Functions

Analog Readings

- Three phase current & neutral measurement
- Phase angle measurement on all phases
- Fault current and duration measurement
- Voltage measurement

Digital

- Breaker Status
- Non-Reclose Status
- Ground-Fault Block Status
- Local / Remote Status

Control

- Trip / Close
- Non-Reclose
- Ground Fault Block



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Specifications

Voltage Measurement	+/- 0.5%
Current Measurement	+/- 1.0%
Peak Fault Current Measurement	+/- 2.0%
Fault Duration Measurement	+/- ½ Cycle
Fault Event Storage	50
Phase Angle Measurement	+/- 0.5°
kW Measurement	+/- 0.5%
kVAr Measurement	+/- 0.5%
kVA Measurement	+/- 0.5%
Power Factor Measurement	+/- 0.5%
Line Frequency Measurement	+/- 0.02 Hz
Temperature Range	-40°F to 165°F
Humidity (Non-Condensing)	0 to 100%
Operating Voltage	108 to 145 VAC
Battery Voltage	12 VDC
Relay Contact Rating	10 Amps
Power Usage (without radio)	1 Watt
Enclosure	Metal - Nema 4
Fiber Optic Termination	ST - Connector
Protocols - Available	PGE - 2179 Modbus - RTU DNP 3.0

Features

- VQ-7 is field programmable with Laptop and Valquest Windows software
- Calibration and functional verification is done with the same program
- Settings and calibration factors are stored in non-volatile EEPROM
- Power supply and battery will support Radio communications
- SCADA monitored Remote / Local switch provides safety for linemen
- Event storage allows user estimation of fault distances
- Unit can act as a stand-alone RTU or as an IED slave to a data concentrator
- All control operations are done using Select-Before-Operate philosophy

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