

Scout-S™ Station Controller

Substation Automation



Scout-S™ Station Controller

The Scout-S Station Controller is a SCADA enabled remote terminal unit (RTU) with a data concentrator, event reporter, and built-in communication protocols that allow the monitoring and communicating of data from multiple intelligent electronic devices (IEDs) to SCADA. The Scout-S modular I/O architecture combined with data concentration and the built-in client server protocols enables a scalable solution with communication flexibility for applications such as substation automation.



Scout-S™ RTU Controller (back)

Features / Benefits

- Monitor and communicate with up to 45 IEDs with scalable RTU I/O, up to 256 analog & digital I/O points per Scout-S module and a database size of up to 16,000 points
- · Data Concentrator converts data between multiple communication protocols
- Simple IED configurations and diagnostics with integrated Web Server
- · USB interface for easy software updates
- Powerful & fast processing power with 800MHz Dual Core microprocessor
- Designed for harsh outdoor environments with a wide operating temperature range between -40°C to +70°C and conformally coated boards

Applications

Substation & Industrial Control Automation	Remote monitoring and diagnostics for electrical distribution, pump stations, oil, gas, and transit
Data Concentrator	 Input data from multiple IEDs with different communication protocols to one concentrated output protocol interfacing with SCADA Converts data between multiple protocols
Powerful Web-based Server	 Quick and easy operation, maintenance, and configuration of RTU Simple configuration of IED mapping No special proprietary software needed
Diagnostics	 Convenient remote monitoring of statuses from multiple IEDs Download event reports to analyze historical data, event status, and analog data
Retrofits	Backwards compatible - upgrade legacy Scout™ RTU modules to improve processing power without impacting existing external wiring

Typical Specifications					
Processor	800MHz Dual Core Processor				
Memory	• 64MB Flash Memory				
RAM	• 1GB DDR3 RAM				
Ethernet	 1 - 10/100 Base TX (Optional 10/100 Base FX Fiber port) 2 - 10/100/1000 Base-T (Gigabit) 				
USB	2 USB Ports on front panel				
Serial	 11 - serial RS232/RS485 for master, IED, or terminal server 1 - serial RS232 for diagnostic and configuration 1 - serial RS485 for inter module LAN 				
Time Synchronization	1 - Demodulated IRIG-B Input Simple Network Time Protocol				
Digital Inputs	 Up to 256 opto-isolated inputs (alarm / status / accumulator), 16 inputs per I/O board Configurable for dry or 24VDC wetted field contacts @ 5mA (12, 48, and 125VDC) 				
Analog Inputs	 Up to 256 analog inputs, 16 inputs per I/O board Configurable inputs (+/-1mA, +/-20mA, +/-5VDC, +/-10VDC) Accuracy ±0.2%; Configurable dead band per point (protocol dependent) 				
Digital Outputs	 Up to 256 control outputs, 16 outputs per I/O board Select—Check—Operate sequence Momentary, pulsed or latched outputs supported Interposing Relays (single Form A or dual Form C) Form A - Potter & Brumfield Series KUP or KEUP; Form C - Potter & Brumfield Series KUL 				
Temperature	O°C to 60°C operating -40°C to 70°C operating (optional)				
Communication Protocols					
Client (SCADA Master)	DNP 3.0 Serial, DNP 3.0 TCP/IP, Modbus Serial, Modbus TCP/IP, IEC 60870-101, IEC 60870-104				
Server (IEDs)	DNP 3.0 Serial, DNP 3.0 TCP/IP, Modbus Serial, Modbus TCP/IP, SEL (Fast Meter), Cooper 2179, IEC 60870-101, IEC 60870-103				

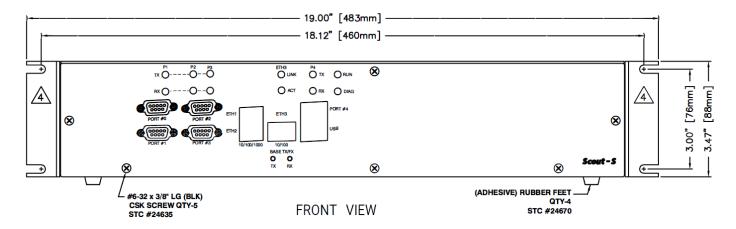
Scout-S Diagnostics (Communication Status)

ı Controller	Station
CONTROLL	Station

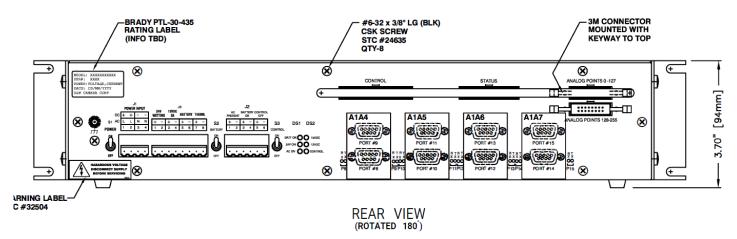
						_				
		Serial Ports		RTU		Network Ports		Eth 1	Eth 2	Eth 3
								192. 168. 75. 218	0. 0. 0. 0	0. 0. 0. 0
								255 255 0. 0	255 255 255 255	255 255 255 255
RS-232: 115200 8, N, 1	Maintenance Port	Stop	5M	0	16	TX	RX	Master 1: DNP	TCP Server Any: 20016	
RS-232: 9600 8, N, 1	IED: DNP SEL-3518	TX	RX	1	17	TX	RX	Master 2: DNP	TCP Server Any: 20017	
RS-232: 19200 8, N, 1	IED: SEL-FM SEL-3518	TX	RX	2	18	TX	RX	Master 3: DNP	TCP Server Any: 20018	
RS-232: 9600 8, N, 1	IED: Cooper F6 Recloser	TX	RX	3	19	TX	RX	Master 4: DNP	TCP Server Any: 20019	
RS-485: 9600 8, N, 1		TX	RX	4	20	TX	RX	IED: IBC101 Scout	TCP Server Any: 20020-	192.168.75.214:2001
				5	21	TX	RX		TCP Server Any: 0	
				6	22	TX	RX		TCP Server Any: 0	
				7	23	TX	RX		TCP Server Any: 0	
RS-485: 9600 8, N, 1		TX	RX	8	24	TX	RX		TCP Server Any: 0	
RS-485: 9600 8, N, 1		TX	RX	9	25	TX	RX		TCP Server Any: 0	
RS-485: 9600 8, N, 1		TX	RX	10	26	TX	RX		TCP Server Any: 0	
RS-485: 9600 8, N, 1	IED: MODBUS Cur.Mod.	TX	RX	11	27	TX	RX	IED: DNP 2	TCP Client Any: 20027-	192.168.75.218:2003
RS-485: 9600 8, N, 1		TX	RX	12	28	TX	RX	IED: DNP 3	TCP Client Any: 20028-	192.168.75.218:2001
RS-485: 9600 8, N, 1		TX	RX	13	29	TX	RX	IED: DNP 4	TCP Client Any: 20029-	192.168.75.218:2003
RS-485: 9600 8, N, 1		TX	RX	14	30	TX	RX		TCP Server Any: 0	
RS-485: 9600 8, N, 1		TX	RX	15	31	TX	RX		TCP Server Any: 0	

Dimensions

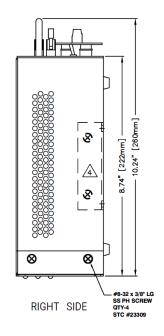
Dimensional View 1



Dimensional View 2



Dimensional View 3



	Type Tests					
Test	Standard / Level					
Conducted Emissions	EC 61000-6-4 or EN 61000-6-4 CISPR 11, EN 55011 Class A, Group 1					
Radiated Emissions	• IEC 61000-6-4 or EN 61000-6-4 CISPR 11, EN 55011 Class A, Group 1					
Electromagnetic Compatibility Immunity	 Tested in accordance with IEC/EN 61000-6-5: 2015 - Electromagnetic compatibility (EMC) - Part 6-5: Generic standards - Immunity for equipment used in power station and substation environment 					
Electrostatic Discharge	• IEC 61000-4-2, EN 61000-4-2, +6 kV Contact Discharge, +8 kV Air discharge					
Radiated RF Immunity	• EC 61000-4-3, EN 61000-4-3, ENV 50204, 10 V/m, 0.8-1 GHz, 3 V/m, 1-6 GHz					
Electrical Fast Transient	 IEC 61000-4-4, EN 61000-4-4, + 0.5kV + 1kV + 2kV on AC Lines, + 0.5kV + 1kV + 2kV on DC, I/O Lines 					
Surge Withstand Immunity	• IEC 61000-4-5, EN 61000-4-5, + 0.5kV + 1kV Differential Mode, + 0.5kV + 1kV + 2kV Common Mode					
Conducted Disturbances Immunity	 EC 61000-4-6, EN 61000-4-6, 10 V, 0.15-80 MHz, on AC, DC, 3V, 0.15-80 MHz, on I/O lines 					
Magnetic Field Immunity	• IEC 61000-4-8, EN 61000-4-8, 100 A/M-Continuous, 1kA/m for 1sec					
AC Voltage Dips /Short Interruption	• IEC 61000-4-11, EN 61000-4-11, 60% UT during 60 cycles, 30% UT during 1 cycle					
Conducted RF Immunity 15-150 KHz	 IEC 61000-4-16, EN 61000-4-16, 30 Vrms Continuous Disturbance on DC, I/O, 300 Vrms 1 sec Disturbance DC, I/O 					
Damped Oscillatory Wave Immunity	• IEC 61000-4-18, EN 61000-4-18, 2.5kV Common mode, 1 MHz on AC/DC/I/O lines, 1kV Differential mode 1 MHz on AC/DC/I/O lines					
Harmonic Current Emissions	• IEC 61000-3-2, EN 61000-3-2, Class A (Other), Class B (Portable Equipment), Class C (Lighting Equipment)					
Voltage Fluctuation and Flicker	• IEC 61000-3-3, EN 61000-3-3					
Environmental Cold	• IEC 60068-2-1, 18 hours at -40°C					
Damp Heat, Cyclic	• IEC 60068-2-30, 25°C to 55°C, 6 cycles, Relative Humidity: 95%					
Dry Heat	• IEC 60068-2-2, 18 hours at +70°C					



Contact us today 905.285.2000 or info@gwelec.com



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