



**Automation  
Electronics**

## 604 SLCR Super Low Cost RTU

### Overview

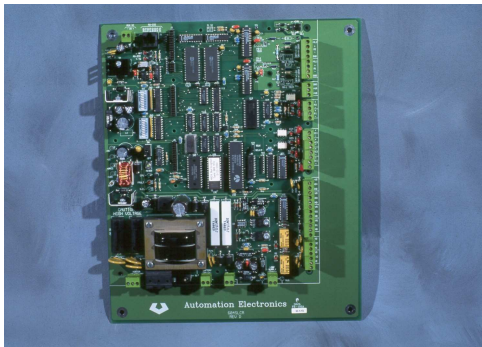


Figure 1: 604 SLCR Controller Board

The Automation & Electronics 604 SLCR is ideal for many Remote Terminal Unit (RTU) applications.

The 604 SLCR is designed to provide local and remote monitoring and control functions at a reasonable price. It has a built in power supply, serial port, and a compliment of useful inputs and outputs.

Used in conjunction with Automation & Electronics SST-9600™ radio or other types of communication equipment, the 604 SLCR can also be easily integrated into a wide variety of SCADA systems.

With the power of the Automation & Electronics LAD language, and the available expansion modules, the 604 SLCR can also be scaled up to perform more complex automation tasks.

### Features

#### General

- Two selectable 1-5 V<sub>DC</sub> or 4-20 mA 12-bit analog inputs
- Two optically isolated 12 V<sub>DC</sub> pulse inputs
- Four optically isolated 12 V<sub>DC</sub> digital inputs
- Four 12 V<sub>DC</sub> 100 mA digital outputs
- Two form C latching SPDT relay outputs
- Two expansion connectors for interfacing to added input and output devices
- Built in RS-232 serial communications port
- Expansion connector for added serial communications equipment
- Recognizes MODBUS communications protocol for integrating with SCADA systems.
- Built in power supply provides power for the 604 SLCR, 12 V<sub>DC</sub> backup battery charging, 24 V<sub>DC</sub> loop supply, 12 V<sub>DC</sub> external accessories, and 8.5-13.5 V<sub>DC</sub> (adjustable) external accessories.

- Backup battery operating mode allows the 604 SLCR to continue to run off of an external 12 V<sub>DC</sub> battery in the event of an AC power failure
- Eight option switches for programming flexibility
- Communication address switches allowing addresses from 0 to 255 to be configured.
- Status indicator LEDs for communications, pulse inputs, discrete inputs, and relay outputs.
- 120 V<sub>AC</sub> 0.5 A fused heater output connector.

#### Options

- MEB: Provides connections to expansion input/output modules (Max. 2)
- IMAD: Four 12-bit 1-5 V<sub>DC</sub> 4-20 mA analog input expansion modules\* (Max. 4)
- RACE: Two 12-bit 4-20 mA analog output expansion modules\* (Max. 8)

- DIF-8: Eight optically isolated 12 V<sub>DC</sub> digital inputs\* (Max. 4)
  - DIF-16: Sixteen optically isolated 12 V<sub>DC</sub> digital inputs\* (Max. 2)
  - FCTB: Sixteen 12 V<sub>DC</sub> 100 mA digital outputs\* (Max. 2)
  - PRO-8 Eight RH2B-U type relay outputs\* (Max. 4)
  - SSOT Simple RS-232 serial communication module
  - WRAT 1200 baud bell 202 wire line MODEM.
  - ROAM 1200 baud bell 202 MODEM.
  - SST-9600 9600 baud 928 MHz spread spectrum radio MODEM.
  - PTA 120 V<sub>AC</sub> power protection module
  - Battery backed RAM.
- \* REQUIRES A MEB CARD. SOME OPTIONS CANNOT COEXIST WITH OTHER OPTIONS. CONSULT THE FACTORY FOR DETAILS ON YOUR APPLICATION.

## Specifications

<b>Mechanical</b>	
<i>Size:</i>	12-7/8" x 10-7/8" PC board
<i>Enclosure:</i>	14" x 12" x 6-3/8" NEMA 4X standard typical
<b>Environmental</b>	
<i>Operating temperature:</i>	-31 to 140 °F (-35 to 60 °C)
<i>Relative humidity:</i>	5 to 90% non-condensing
<b>Power requirements</b>	1/4 A @ 110 V <sub>AC</sub> ; Less than 2 W @ 12 V <sub>DC</sub>
<b>CPU / Memory</b>	
<i>CPU:</i>	65C02, 8-bit
<i>Memory:</i>	48 kB
<b>Input/Output</b>	
<i>Digital inputs:</i>	Four on-board, 32 expansion: 10 mA sense current @ 12 V <sub>DC</sub> , 1500 V <sub>DC</sub> optical isolation
<i>Digital outputs:</i>	Four on-board, 32 expansion: 100 mA 30 V <sub>DC</sub> open collector type
<i>Relay outputs:</i>	Two on-board: SPDT form C latching, 0.6 A @ 125 V <sub>AC</sub> or 110 V <sub>DC</sub> , 2 A @ 30 V <sub>DC</sub>
<i>Pulse inputs:</i>	Two on-board: 0 to 3 kHz, 10 mA sense current @ 12 V <sub>DC</sub> , 1500 V <sub>DC</sub> optical isolation
<i>Surge Protection:</i>	Inputs and outputs designed to meet IEEE STD 472.1974 (SWC) Tests, (ANSI C37.90a-1974)
<b>Communications</b>	
<i>Serial Port</i>	One RJ-45 RS-232 300-19,200 baud port. Support for radio key-on and key-off delays.
<i>Protocols:</i>	MODBUS RTU protocol. Custom protocols can also be developed for your specific application
<b>Programming</b>	Automation & Electronics LAD ladder logic programming environment

**Automation and Electronics, Inc.**  
 111 Big Horn Road  
 PO Box 3319  
 Casper, Wyoming 82601

Changed May 23, 2007 - 12:04pm  
 Copyright ©Automation and Electronics, Inc.  
 All Rights Reserved  
 Specifications are subject to change without notice  
 or obligation on the part of Automation. For  
 current specifications, contact the factory.

**Contact Information**  
 Phone (307) 234-9311  
 FAX (307) 234-9438  
 or www.autoelect.com