

G301 RIO

for Industrial & Commercial OEM Applications

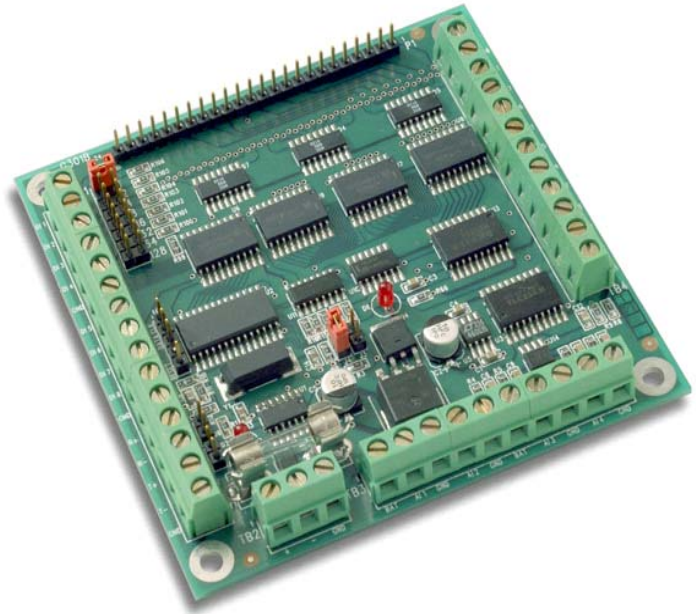


The Model G301 RIO (Remote I/O) board is a low cost and robust solution for serial data access to Analog & Digital process signals.

The G301 communicates through an RS485 serial port using standard **MODBUS** Slave RTU protocol.

Whether in-plant or out-doors, embedded or stand-alone, the G301 is a solid choice for remote control and monitoring in virtually any industrial or commercial environment.

Wireless I/O can be achieved by pairing the G301 with a model G306C RioLink Wireless Modem. (For integrated Wireless I/O, see other Models from G3 Technologies.)



FEATURES

- MODBUS Slave RTU protocol, 8 bit Address
- RS485 multi-drop data communications, 4 wire or 2 wire.
- I/O count: 24 DI, 8 DO, 4 AI plus Batt. monitor (see below).
- Power Input: 10-30Vdc, approx. 20mA (DO source voltage 15Vdc max)
- Operating temperature: -40 to 85 degrees C.
- IEC 1000-4 surge protection on all connections
- Compact single-board unit for convenient mounting
- 12Vdc, 24Vdc or Solar power source

APPLICATIONS

- Embedded monitoring/control for OEM applications.
- Remote and expanded I/O for PLC based systems
- Discrete I/O for stand-alone PC based controllers
- Remote Monitoring & Control including:
 - Bulk storage tanks
 - Valve actuators
 - Pumps & pump stations
 - Motor/Engine performance
 - Vending machines
 - Motorized Valve Operators
 - VAREC Tank Gauge series 1650/1750
 - Fixed and mobile machinery
 - Assembly line
 - Asset management
 - Security

G301 RIO – SPECS

PHYSICAL:	
PC BOARD	3.8" x 3.8" x 0.6" overall, multi-layer PCB, SMT components
MOUNTING	Panel mount: #6 screw holes 4 corners, 3.4" x 3.4" pattern
FIELD WIRE CONNECTIONS	Power, Serial Data port, Analog Inputs, Digital Outputs, and 8 ea. Digital Inputs are terminated using fixed screw terminals, 0.2" spacing. Remaining Digital Inputs (16 ea.) are on a single row 24 position pin header.
POWER:	
POWER SOURCE	<ul style="list-style-type: none"> Solar/battery or DC power supply 5x20mm Fuse on-board, 2 amp fast-blow.
INPUT VOLTAGE	10-30 volts DC normal operation (12V typical)
INPUT CURRENT	Approx. 20 mA w/o Digital Outputs active
DISCRETE I/O:	
DIGITAL INPUTS (DI)	<ul style="list-style-type: none"> 24 Digital Inputs total. 16 on pin header (for Varec gray code, or general use) 8 ea. on screw terminals. Active with contact closure to Power Common (Gnd), non-latching. Active input draws 0.5mA.
DIGITAL OUTPUTS (DO)	<ul style="list-style-type: none"> 8 ea. FET sink (open Drain) drivers. Rated for use with 12Vdc source. (Note that if the units power input is >15Vdc, the DO's must be sourced from a separate supply 15Vdc max, not the "Batt" screw that accompanies the DO's). Rated for 1 amp continuous per channel. Total current drain limited by 2 amp on-board fuse.
ANALOG INPUTS (AI)	<ul style="list-style-type: none"> 5 ea. single-ended 0-5 volt inputs. 12 bit resolution. Overall accuracy 0.25% FS. Over-voltage tolerance of +/-30VDC. AI 1-4 are on screw terminals along with power supply voltage for transducer excitation. AI 5 is used internally to monitor DC power input, 0-30 volt range
SERIAL COMMUNICATIONS:	
DATA COMM PORT	<ul style="list-style-type: none"> RS485 (multi-drop) 2 wire or 4 wire. Async 8N1. Baud rate selection with two hardware jumpers (9600 baud standard)
CORE SYSTEM:	
MICROPROCESSOR	MicroChip PIC18F876 processor, 18MHz, memory internal
FLASH MEMORY	8KB internal, in-circuit programmable (1x5 pin header)
DIAGNOSTICS	<ul style="list-style-type: none"> Power Input LED Transmit Data (Tx) LED Self-test Mode (see User Documentation) Watchdog timer implemented in software.
SOFTWARE	<ul style="list-style-type: none"> Standard firmware supports MODBUS read and write commands for supporting the raw I/O data described above. See software definition in G301 User's Guide
MISCELLANEOUS:	
RTU ADDRESSING	8 bit, hardware strapped
OPERATING TEMPERATURE	-40 to 85 degrees C. with 5% to 95% non-condensing humidity
TRANSIENT PROTECTION	All power, serial port and I/O connections meet or exceed minimum standards for ESD, EFT, and Surge withstand per the international IEC 1000-4 standards
CERTIFICATIONS	FCC Part 15, Class A

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