

# PSG/2 PROGRAMMABLE SERIAL GATEWAY

## MODEL 73000-3

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### FEATURES

- EIA standard EIA-232C interface
- 1200 to 115,200bps serial bit rate
- Configurable for TP/FT-10, TP/XF-78, and TP/XF-1250 twisted pair channels
- Built-in power management and optional rechargeable battery
- Buffered 16550-compatible UART allows asynchronous processing between the external device and the Neuron Chip on the gateway using a 16-character FIFO in the UART
- Compatible with LonBuilder<sup>®</sup> and NodeBuilder<sup>®</sup> PSG access library

### DESCRIPTION

The PSG/2 Programmable Serial Gateway is a compact device used by OEMs to build gateways between LONWORKS<sup>®</sup> networks and devices or systems with serial EIA-232C (formerly RS-232C) interfaces.

Typical applications for the PSG/2 include LONWORKS gateways for programmable logic controllers, servo controllers, smart instruments, keypads, displays, and serial gateways to other networks.

The PSG/2 includes a motherboard with high-speed UART and EIA-232 drivers, regulator, battery holder, and a metal enclosure. An optional power supply is available to simplify installation. An optional battery is also available for using the PSG/2 in portable environments. Power management in the PSG/2 allows applications to shut down the PSG/2 during periods of inactivity to extend battery life. Battery not included.

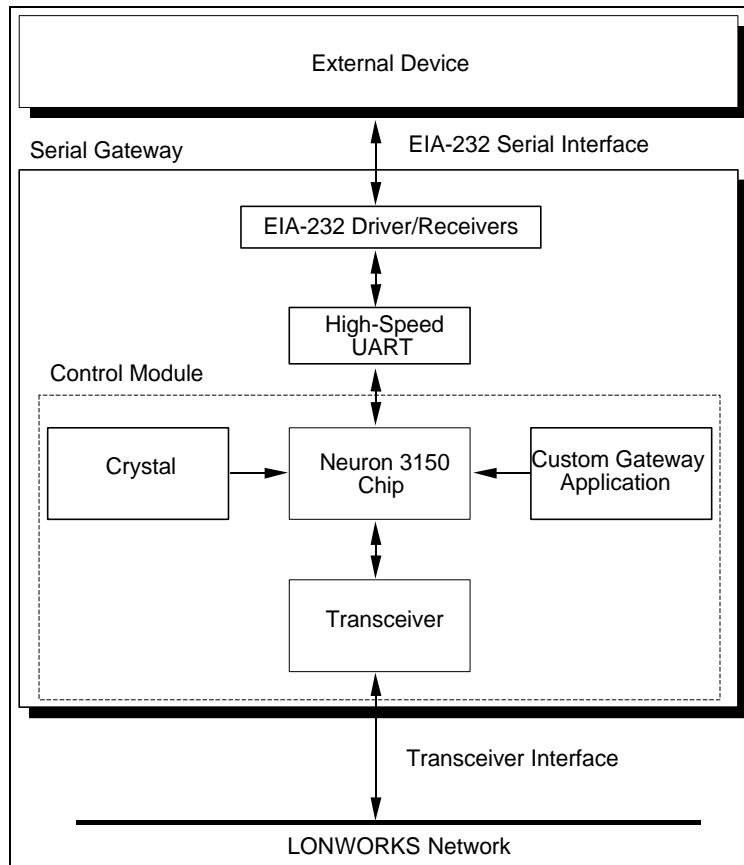
### WALL MOUNTING

The PSG/2 can be wall mounted using an easily constructed mounting bracket. A complete mechanical drawing for a PSG/2 mounting bracket is included in the PSG/2 documentation.

### USAGE

The gateway developer uses the PSG firmware library included with the LonBuilder and NodeBuilder Development Tools and the Connectivity Starter Kit to create a custom serial gateway application written in Neuron C. This library provides a set of Neuron<sup>®</sup> C functions for accessing the PSG/2 hardware from a Neuron C application. The LonBuilder or NodeBuilder Tool is used to create a ROM image that is programmed into a PROM and installed in an TP/FT-10, TP/XF-78, or TP/XF-1250 Control Module. The control module must be ordered separately for the PSG/2.

A block diagram of a gateway based on the PSG/2 is shown below.



#### 8-PIN RJ-45 NETWORK CONNECTOR

Function	Pin Number
Network Connection	1, 2

#### DC POWER PLUG

Function	Pin Number
Power Input	Outer Barrel
Ground	Tip

#### SUPPLIERS

Connector	Supplier	Part Number
Network Connector: RJ-45, 8 position, 8 contact	Stewart Connectors	940-SP-3088
Power Plug: 2.1mm inside diameter, 5.5mm outside diameter	LZR Electronics	HP-114A

## SPECIFICATIONS

PSG/2 Firmware Library	Initialize UART Read Configuration Inputs Transmit a Character Transmit a String Test for Input Character Receive a Character
Processor <sup>1</sup>	Neuron 3150 Chip
Transceiver Type <sup>1</sup>	Configurable for TP/FT-10, TP/XF-1250, and TP/XF-78 channels. For channel specifications, see pertinent transceiver data sheets.
Processor Input Clock <sup>1</sup> TP/XF-1250 TP/FT-10 & TP/XF-78	10MHz @ 200ppm 5MHz @ 200ppm
Operating Input Voltage	+9 to 15VDC
Operating Input Current <sup>1</sup>	120mA typical
Power Supplies USA/Canada Continental Europe U.K. Japan	120VAC, 60Hz 220VAC, 50Hz 240VAC, 50Hz 100VAC, 50/60Hz
Sleep Current <sup>1</sup>	35mA typical
Service Interface	Service button and LED
Serial Communications Type	EIA-232C
Serial Bit Rate	1200, 2400, 9600, 14.4k, 19.2k, 38.4k, 57.6k, and 115.2kbps (115.2kbps only available with the TP/XF-1250 PSG/2)
Serial Modem Control	Optional RTS, CTS, DSR, DCD, DI, and DTR
Serial Connector Type	DB-9
Network Connector	RJ-45 modular socket
Temperature Operating without battery Non-operating without battery	-40 to +85°C (Revision C or higher) -40 to +85°C (Revision C or higher)
Humidity (non-condensing) Operating Non-operating (12 hour)	25 to 95% RH @ 40°C 90% RH max @ 65°C
Altitude Operating Non-operating	4,500 m (15,000') max 8,000 m (25,000') max
Dimensions	168 mm x 99 mm x 30 mm (6.6" x 3.9" x 1.2")
EMI Compliance FCC VDE	Part 15 Level B Level B
Safety Compliance	UL, CSA, TÜV

## DOCUMENTATION

The *Serial LonTalk Adapter and Serial Gateway User's Guide* is included with the Connectivity Starter Kit. It describes how to create a PSG/2 application and use the PSG/2 as a serial gateway. The *Building a LonTalk-to-PLC Gateway* engineering bulletin describes a sample gateway application for an Omron PLC; the sample can be adapted to other PLCs and devices.

Document & Echelon Model Number

Serial LonTalk Adapter and Serial Gateway User's Guide	79300/078-0108-01
Building a LonTalk-to-PLC Gateway engineering bulletin	005-0044-01A

## ORDERING INFORMATION

The Connectivity Starter Kit should be ordered with the initial PSG/2. This kit also includes the PSG/2 firmware library. The PSG/2 is available in an OEM version without the control module, software, and documentation. The control module, power supply, and battery are not included in the OEM version and must be purchased separately.

Product & Echelon Model Number

<b>OEM PSG/2</b>	<b>73000-3</b>
<b>TP/FT-10 Control Module</b>	<b>55020-01</b>
<b>TP/XF-78 Control Module</b>	<b>55010-00</b>
<b>TP/XF-1250 Control Module</b>	<b>55030-00</b>
<b>U.S. Power Supply</b>	<b>78010</b>
<b>Continental Europe Power Supply</b>	<b>78020</b>
<b>U.K. Power Supply</b>	<b>78030</b>
<b>Japan Power Supply</b>	<b>78040</b>

1. Specifications include the control module, which is sold separately from the OEM PSG/2.

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