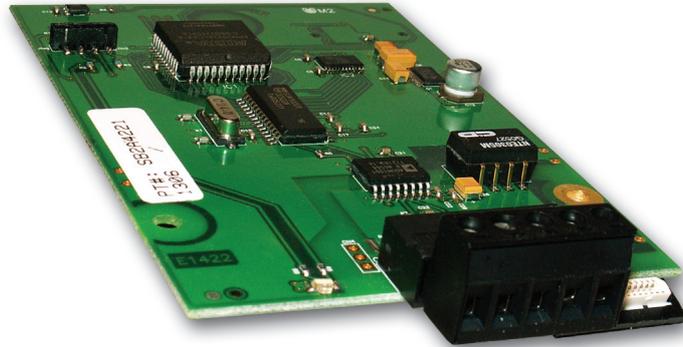


PGX-RS

PenGUIn™ machine-HMI

MODEL

invenys
Eurotherm



RS232/485 Option Card for PG Operator Interface Terminals

Specification Sheet

- Configured using GUIcon software
- Isolated RS232 and RS485 multiplexed ports capable of communicating with RS232, RS422, RS485 and DH485 devices at up to 115,200 baud
- Powered and configured from a PG operator interface terminal
- Installation and connection hardware included with card

General Description

The PG proprietary expansion slot provides a high speed, parallel architecture that extends the functionality and flexibility of the PG series HMI. This approach allows the PG series to evolve concurrently with the latest advances in communications and standards, without sacrificing performance. This high bandwidth channel has significantly greater throughput when compared to the traditional (external) serial gateway approach.

The PGX-RS option card is easily installed by removing the rear cover of your PG operator interface, attaching the card using three screws and connecting a single cable. Adding this card gives the operator interface another RS232 port and RS422/485 port. It is built with isolation to protect equipment from potentially harmful ground loops, and provides high speed RS232, RS422, RS485, and DH485 communications for many different types of hardware.

Contents of Package

- PGX-RS Option Card
- Cable already attached to PGX-RS option card
- Hardware pack consisting of three screws

imagine communication without limitation

Specification

Power Requirements

Power is supplied to the option card from the main board of your PG operator interface.

Communications

Serial ports: Format and Baud Rates for each port are individually software programmable up to 115,200 baud and are isolated to help prevent ground loops.

The RS422/485 and DH485 port via RJ45 and the RS232 port via RJ12 share the same hardware. The PGX-RS option card multiplexes the ports to communicate via two protocols. These ports may be used to configure different master protocols, but only one port may be used if configuring a slave protocol or AB DH485.

DH485 TXEN: Transmit enable; open collector, VOH = 15VDC, VOL = 0.5

Isolation from PGX-RS communication ports to PG operator interface:

1000 VDC for 1 minute.

Environmental Conditions

Operating Temperature Range: 0 to 50°C
 Storage Temperature Range: -20 to 80°C
 Operating & Storage Humidity: 80% maximum relative humidity (non-condensing) from 0 to 50°C
 Altitude: Up to 2000 meters

Certifications and Compliances

Safety: For safety summary see page 4
 Electromagnetic Compatibility: Emissions and Immunity to EN 61326: Electrical Equipment for Measurement, Control and Laboratory use

Immunity to Industrial Locations

Reference PG unit for immunity specifications

Emissions

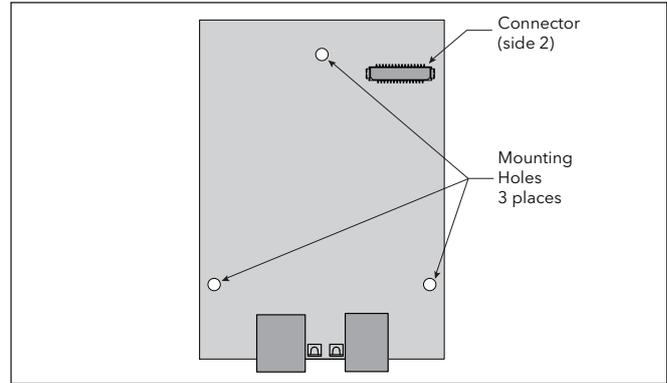
Emissions: EN 55011 Class A

Construction

Installation Category I, Pollution Degree 2.

Installation Requirements

Card must be installed inside the rear cover of a PG operator interface with the hardware provided. See "Installing the PGX-RS Option Card" for more details.



Installing the PGX-DNET Option Card

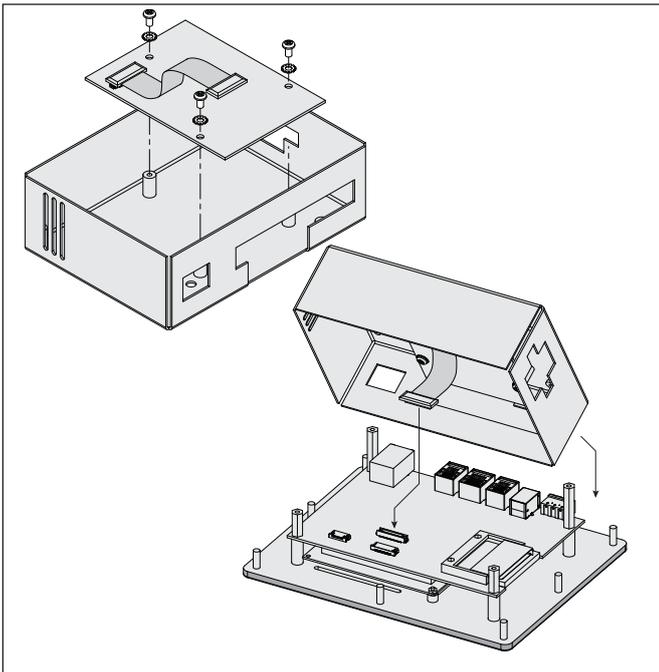
Mounting Instructions

Each PGX-RS option card comes with a cable for communications and three screws for attaching the option card (either to the inside of the PG operator interface's rear cover or to its main board). To install the option card, remove all power and I/O communications cables from the unit. The PG operator interface literature contains instructions for removing the rear cover; refer to the "Battery & Time Keeping" section.

Using the three screws provided, connect the option card to the rear cover as shown in the figure below.

Connect the cable from the option card to CN11 on the main board of the PG operator interface as shown below. Be sure both ends of the cable are firmly seated into their appropriate connector housings.

Carefully replace the rear cover by reversing the instructions for removing the rear cover.



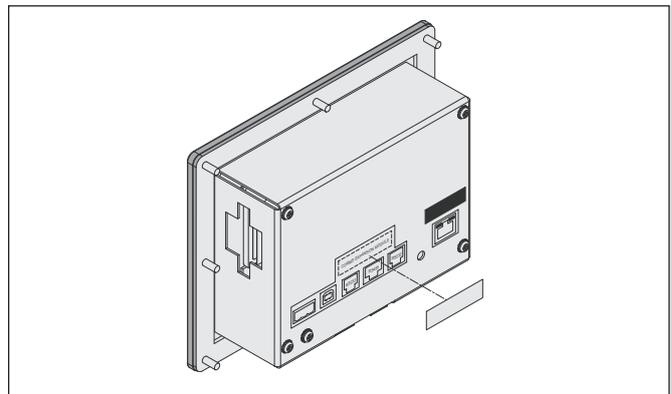
CAUTION - THE OPTION AND MAIN CIRCUIT BOARDS CONTAIN STATIC SENSITIVE COMPONENTS. BEFORE HANDLING THE CARDS, DISCHARGE STATIC CHARGES FROM YOUR BODY BY TOUCHING A GROUNDED BARE METAL OBJECT. IDEALLY, HANDLE THE CARDS AT A STATIC CONTROLLED CLEAN WORKSTATION. ALSO, HANDLE THE CARDS BY THE EDGES ONLY. DIRT, OIL, OR OTHER CONTAMINANTS THAT MAY CONTACT THE CARDS CAN ADVERSELY AFFECT CIRCUIT OPERATION.



WARNING - DEPENDING UPON THE PG OPERATOR INTERFACE, HIGH VOLTAGE MAY BE PRESENT INSIDE THE OPERATOR INTERFACE. BE SURE TO REMOVE ALL POWER BEFORE REMOVING THE REAR COVER OF THE OPERATOR INTERFACE. EMISSIONS EN 55011 CLASS A.

The Option Card Label

Place the option card label on your rear cover in the space indicated by the dashed lines and labeled "COMMS EXPANSION MODULE."



Power Supply Requirements

New and existing installations

The PGX-RS option card draws all of its power from the main board of your PG operator interface. The specifications of your PG operator interface account for the power needs of an option card.

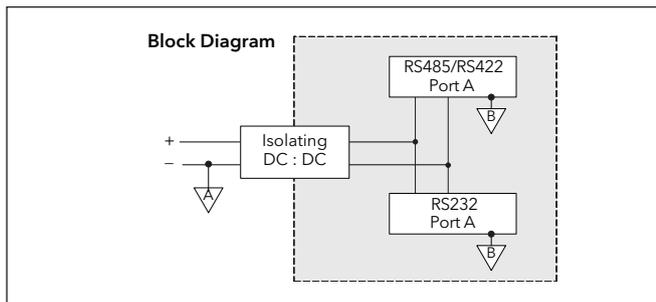
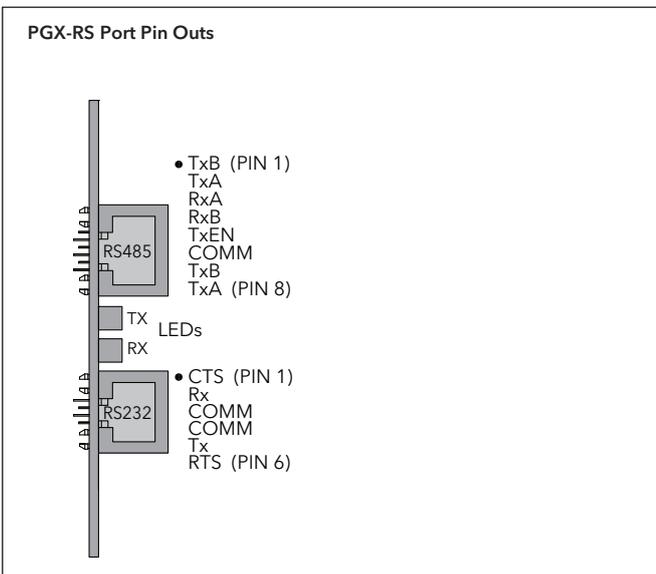
Communicating with the PGX-PBUS Option Card

Configuring a PGX-PBUS Option Card

The PGX-RS is configured using GULcon software. GULcon is available as a free download from www.eurotherm.com. Updates to GULcon for new features and drivers are posted on the website as they become available. By configuring the PGX-RS using the latest version of GULcon, you are assured that your unit has the most up-to-date feature set. GULcon software can configure the PGX-RS through the RS232 PGM port, USB port, Ethernet port, or CompactFlash socket on your PG operator interface. Additional information can be found in your PG hardware bulletin and the GULcon user manual.

Cables and Drivers

Eurotherm has a wide range of cables and drivers for use with many different communication types. A list of these drivers and cables along with pin outs is available from www.eurotherm.com. New cables and drivers are added on a regular basis. If making your own cable, refer to the "PGX-RS Port Pin Outs" for wiring information.



Software/Unit Operation

LEDs

The transmit LED(TX) will flash when information is transmitted from the PGX-RS card. The receive LED(RX) will flash when information is received.

GULcon Software

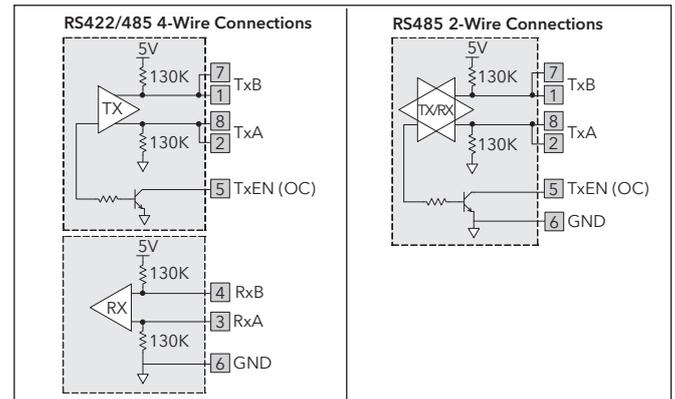
GULcon software is available as a free download from www.eurotherm.com. The latest version of the software is always available from the web site, and updating your copy is free.

RS232

The PGX-RS option card has one RS232 port. The port can be used for either master or slave protocols with any PG configuration. The RS232 port and RS422/485 port on the PGX-RS option card are multiplexed because they share the same hardware. Both ports can be used with master protocols. However, when the RS232 port is used with a slave protocol, the RS422/485 port is not available.

For examples of RS232 communications refer to your PG operator interface literature.

RS422/485 Comms Port



The PGX-RS option card has one RS422/485 port. This port can be configured to act as either RS422 or RS485.

The RS422/485 port and RS232 port are multiplexed because they share the same hardware. Both ports can be used with master protocols. However, when the RS422/485 port is used with a slave protocol, the RS232 port is not available.

DH485 Communications

The PGX-RS option card's RS422/485 port can also be used for Allen Bradley DH485 communications. When this port is configured to communicate DH485, the RS232 port can not be used because the ports share the same hardware and the PGX-RS option card multiplexes the ports to communicate via two protocols.

WARNING: The standard DH485 is not compatible with Allen Bradley equipment. A cable is available from Eurotherm.

PG6 to AB SLC 500 (CBLAB003) Connections			
RJ45: PG	Name	RJ45: A-B	Name
1	TxB	1	A
2	TxA	2	B
3, 8	RxA	-	24V
4, 7	RxB	-	COMM
5	TxEN	5	TxEN
6	COMM	4	SHIELD
4, 7	TxB	-	COMM
3, 8	TxA	-	24V

Troubleshooting your PGX-DNET Option Card

If for any reason you have trouble operating, connecting, or simply have questions concerning your new PGX-RS option card, contact the Eurotherm™ technical support

Ordering Information

Model No	Description	Part Number
RS232/485	option card for PG operator interfaces with isolated high speed communications ports	PGX-RS
	Communications cables ¹	CBLxxxxx

Note:

- Contact your Eurotherm distributor or visit our website for complete selection.

Safety Summary

All safety related regulations, local codes and instructions that appear in the literature or on equipment must be observed to ensure personal safety and to prevent damage to either the instrument or equipment connected to it. If equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.

Do not use the controller to directly command motors, valves, or other actuators not equipped with safeguards. To do so can be potentially harmful to persons or equipment in the event of a fault to the controller.



WARNING - THIS EQUIPMENT IS SUITABLE FOR USE IN CLASS I, DIVISION 2, GROUPS A, B, C, D, HAZARDOUS LOCATIONS, OR NON-HAZARDOUS LOCATIONS ONLY.



WARNING - EXPLOSION HAZARD - DO NOT DISCONNECT EQUIPMENT WHILE THE CIRCUIT IS LIVE OR UNLESS THE AREA IS KNOWN TO BE FREE OF IGNITABLE CONCENTRATIONS.



WARNING - EXPLOSION HAZARD - SUBSTITUTION OF ANY COMPONENT MAY IMPAIR SUITABILITY FOR CLASS I, DIVISION 2.



CAUTION: Risk Of Danger.
Read complete instructions prior to installation and operation of the unit.

Eurotherm: International sales and service

www.eurotherm.com

AUSTRALIA Melbourne
T (+61 0) 8562 9800
E info.eurotherm.au@invensys.com
AUSTRIA Vienna
T (+43 1) 7987601
E info.eurotherm.at@invensys.com
BELGIUM & LUXEMBOURG Moha
T (+32) 85 274080
E info.eurotherm.be@invensys.com
BRAZIL Campinas-SP
T (+5519) 3707 5333
E info.eurotherm.br@invensys.com
CHINA
T (+86 21) 61451188
E info.eurotherm.cn@invensys.com

Beijing Office
T (+86 10) 5909 5700
E info.eurotherm.cn@invensys.com
FRANCE Lyon
T (+33 478) 664500
E info.eurotherm.fr@invensys.com
GERMANY Limburg
T (+49 6431) 2980
E info.eurotherm.de@invensys.com
INDIA Mumbai
T (+91 22) 67579800
E info.eurotherm.in@invensys.com
IRELAND Dublin
T (+353 1) 4691800
E info.eurotherm.ie@invensys.com

ITALY Como
T (+39 031) 975111
E info.eurotherm.it@invensys.com
KOREA Seoul
T (+82 2) 2090 0900
E info.eurotherm.kr@invensys.com
NETHERLANDS Alphen a/d Rijn
T (+31 172) 411752
E info.eurotherm.nl@invensys.com
POLAND Katowice
T (+48 32) 78395000
E info.eurotherm.pl@invensys.com
SPAIN Madrid
T (+34 91) 6616001
E info.eurotherm.es@invensys.com

SWEDEN Malmo
T (+46 40) 384500
E info.eurotherm.se@invensys.com
SWITZERLAND Wollerau
T (+41 44) 7871040
E info.eurotherm.ch@invensys.com
UNITED KINGDOM Worthing
T (+44 1903) 268500
E info.eurotherm.uk@invensys.com
U.S.A. Ashburn VA
T (+1 703) 724 7300
E info.eurotherm.us@invensys.com

ED63

© Copyright Eurotherm Limited 2011

Invensys, Eurotherm, the Eurotherm logo, Chessell, EurothermSuite, Mini8, Eycon, Eyris, EPower nanodac and Wonderware are trademarks of Invensys plc, its subsidiaries and affiliates. CompactFlash is a registered trademark of CompactFlash Association. All other brands may be trademarks of their respective owners.

All rights are strictly reserved. No part of this document may be reproduced, modified, or transmitted in any form by any means, nor may it be stored in a retrieval system other than for the purpose to act as an aid in operating the equipment to which the document relates, without the prior written permission of Eurotherm Limited.

Eurotherm Limited pursues a policy of continuous development and product improvement. The specifications in this document may therefore be changed without notice. The information in this document is given in good faith, but is intended for guidance only.

Eurotherm Limited will accept no responsibility for any losses arising from errors in this document.

inven'sys
Operations Management