PGX-GSM

PenGUIn™ machine-HMI

MODEL

Eurotherm

- Configured using GUIcon software
- Installs inside a PG Operator Interface Terminal
- Installation and connection hardware included with card
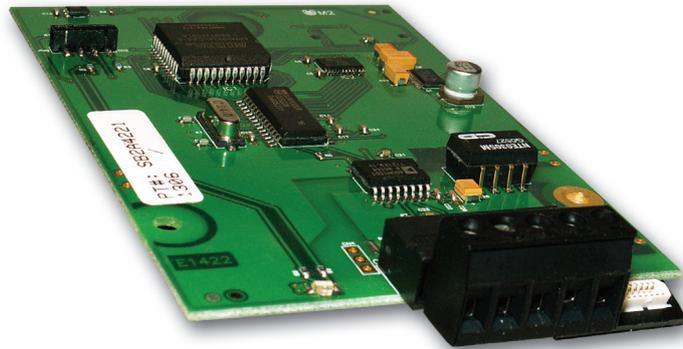
GSM/GPRS celluar Modem Option Card for PG Operator Interface Terminals
Specification Sheet

General Description

The PGX-GSM option card allows the user to add GSM/GPRS cellular modem capability to their PG operator interface terminal. GSM/GPRS is the most prevalent cellular technology in today's markets. GPRS can be used for services such as Wireless Application Protocol (WAP) access, Short Message Service (SMS), and for Internet communication services such as email and World Wide Web access. The PGX-GSM modem option card is quad-band, allowing it to work in frequencies across Americas, Europe and Asia. US and Canada work in the 850/1900 MHz bands, while Europe, Middle East, Africa and most of Asia work in the 900/1800 MHz GSM/GPRS frequencies.

The PGX-GSM requires the addition of a SIM (Subscriber Identity Module) card, which is inserted into the holder prior to installation of the PGX-GSM card. The SIM card securely stores the service-subscriber key (IMSI) used to identify a subscriber, and is used to connect to the network to obtain an IP address from the provider.

Contents of Package

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

imagine communication without limitation

Specification

Power Requirements

24VDC ± 20%; 0.25A max; 0.25A typical (independent from the host PG power connection). Must use Class 2 or SELV rated power supply.

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

Antenna Connector:

SMA Female connector requires:	50 Ohm antenna with SMA male connector
	Quad-band antenna (850/900/1800/1900 MHz) for global support.
	Dual-band (850/1900 MHz) antenna for US and Canada only
	Dual band (900/1800 MHz) for Europe only

The antenna cable should be 50Ω impedance, RG178/U or RG174/U type and be able to connect to the RSMA (Male) jack bulkhead. The antenna could be horizontal, vertical or right angled. Longer antenna cable would equate to signal loss.

Certifications and Compliances

Safety:	IEC 61010-1, EN 61010-1: Safety requirements for electrical equipment for measurement, control and laboratory use, Part 1.
	For safety summary see below
Electrimagnetic 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

Note: The PGX-GSM option card has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC rules.

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-GSM Option Card" for more details.

Physical

Weight:	3.0 oz (85.41g)
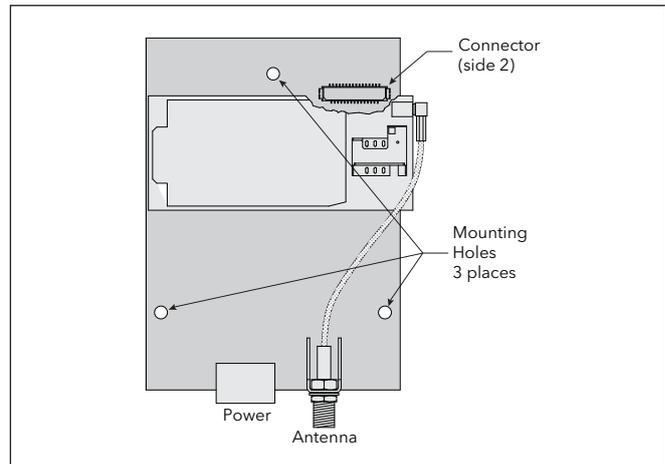
Safety Summary

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** - TEXPLOSION 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.

# Installing the PGX-GSM Option Card

Mounting Instructions

Each PGX-GSM option card comes with a cable for communications from the main PG operator interface PC board. It also comes with three screws for attaching the option card to the inside of the PG operator interface's rear cover.

The first step is to buy a SIM Card from one of the GSM/GPRS providers and insert into the option card SIM Card slot. The SIM Card slot is the rectangular slot on top of the GSM/GPRS Cellular Modem in PGX-GSM option card as shown in the figure below. See SIM Card details in the Software/Unit Operation section for more details.
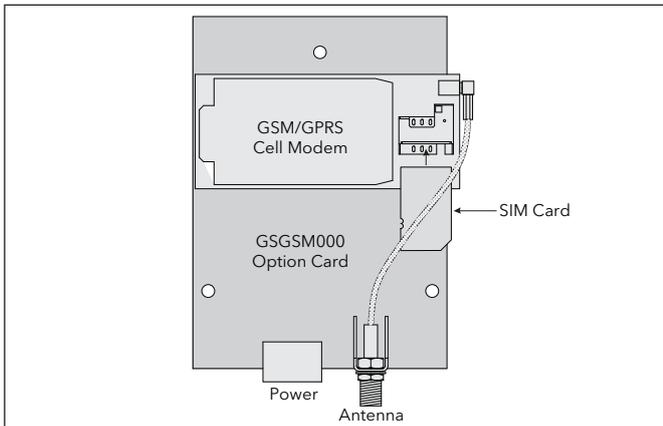
To install the option card remove all power and communication cables from the unit. The chassis ground connection to the rear cover may be left connected. The PG operator interface literature contains instructions for removing the rear cover, refer to the "Battery & Time Keeping" section.

Using the three screws provided connect the option card to the rear cover as shown in the figure below.
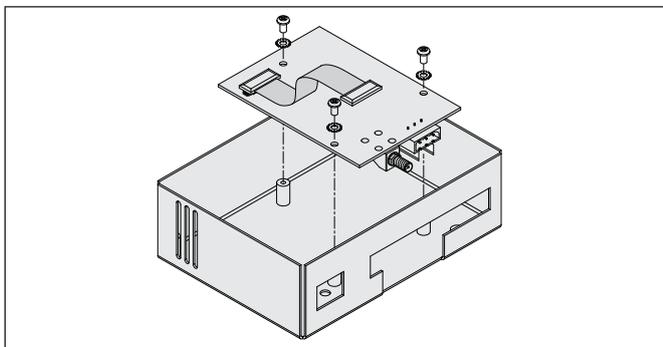
Connect the cable from the option card to CN11 on the main board of the PG operator interface as shown in Figure 3. Be sure both ends of the cables are firmly seated into their appropriate connector housing.
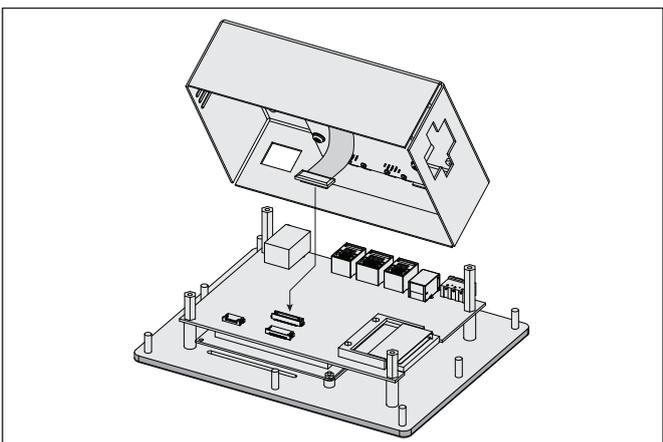
Carefully replace the rear cover by reversing the previous instructions for removing the rear cover. An external antenna must be attached to the bracket on the option card as shown below. See Antenna Connector in the Specifications section for more information.
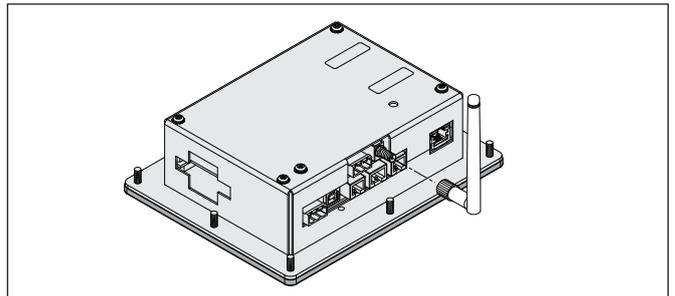

⚠ **CAUTION** - THE OPTION AND MAIN CIRCUIT BOARDS CONTAIN STATIC SENSITIVE COMPONENTS. BEFORE HANDLING THE CARDS, DISCHARGE STATIC CHARGES FROM YOUR BODY BY TOUCHING A GROUNDED BARE METAL OBJECT. IDEALLY, HANDLE THE CARDS AT A STATIC CONTROLLED CLEAN WORKSTATION. ALSO, HANDLE THE CARDS BY THE EDGES 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." The label would also display the FCC ID of the particular modem being used.
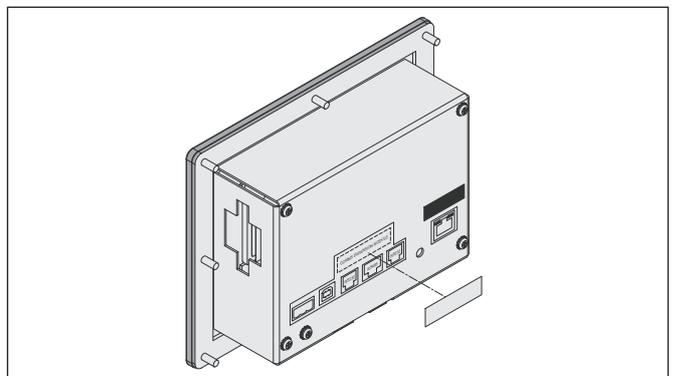
Power Supply Requirements

New and existing installations

The PGX-GSM option card needs 24 V power independently of the PG. Wires should be jumpered from the 24 V main supply of the PG to the option card. The power connections described above are absolutely essential to prevent any ground loops. The 24 V power terminal connector for the PGX-GSM option card is shown below.
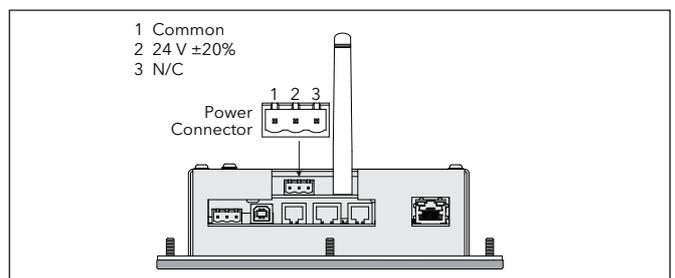
Software/Unit Operation

GUIcon Software

GUIcon 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.

LED

The PGX-GSM option card has an LED through the back cover once the option card is installed. The status of the LED is described in the table below.

LED Status		
Off	Modem in Off mode	
On	Permanent	Modem switched on, registered on the network
Slow Flash	LED On for 200 msec, Off for 2 sec	Modem switched on, registered on the network
Quick Flash	LED On for 200 msec, Off for 600 msec.	Modem switched on, registered on the network and communication is in progress

Configuring a PGX-GSM Option Card

The PGX-GSM is configured using GUIcon software. GUIcon is available as a free download from www.eurotherm.com. Updates to GUIcon for new features and drivers are posted on the website as they become available. By configuring the PGX-GSM using the latest version of GUIcon, you are assured that your unit has the most up to date feature set. GUIcon software can configure the PGX-GSM through the option card selection. After choosing the Cellular Modem option card, it is set up as a PPP Modem client, PPP Modem Server or SMS via GSM Modem. Find additional information in your PG operator interface hardware literature and the GUIcon user manual.

All PGX-GSM option cards are configured to US GSM/GPRS frequency band (850/1900 MHz) by default. During setup of the Cellular Modem option card, the appropriate GSM/GPRS frequency band must be chosen depending on the geographical location of the PG operator interface terminal. Once the option card is configured through GUIcon software, it needs to be downloaded to the PG terminal. The PG with the PGX-GSM option card needs to be power cycled for the configuration changes with respect to the GSM/GPRS frequency band to take effect.

SIM Card Installation and Details

A SIM Card has to be installed on the PGX-GSM option card before installing the option card in the PG operator interface.

Troubleshooting your PGX-GMS Option Card

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

Ordering Information

Model No	Description	Part Number
GSM/GPRS	Modem Option Card for PG operator interface[1]	PGX-GSM
	Quad-band, 6 inch, direct mount GSM/GPRS cellular antenna[2]	QANT0000

Notes:

1. Antenna (QANT0000) is NOT included with the card. Must be purchased separately if needed.
2. Contact your Eurotherm distributor or visit our website for complete selection of accessories.

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Operations Management