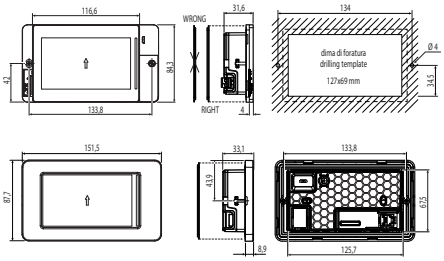
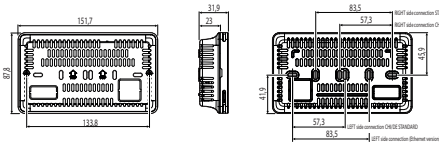
pGDx 用户手操器pGDx Touch 4.3" - *User terminal pGD Touch 4.3"*

CAREL

尺寸 (mm) / *Dimensions (mm)*



墙面安装配件 (如图3d) - 产品代码： PGTA00SM40
*Accessory for wall surface installation (ref. Figure 3d) - P/N: **PGTA00SM40***



嵌入式安装配件 (如图3c) - 产品代码： PGTA00RM40
*Accessory for flush-mounted wall installation (ref. Figure 3c) - P/N: **PGTA00RM40***

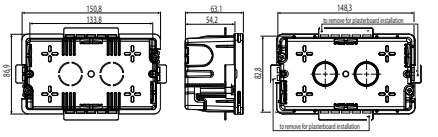


Fig. 1

组装和安装 (mm) / *Assembly and installation (mm)*

正面 / Frontal

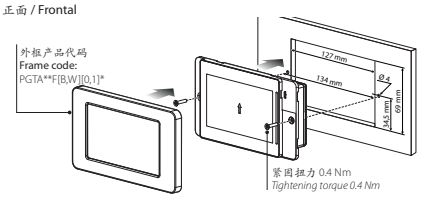


Fig.3a

背面 / Back

重要提示：
请将扁平线缆与金属面板分开

Important:
keep the flat cable isolated from the metal panel

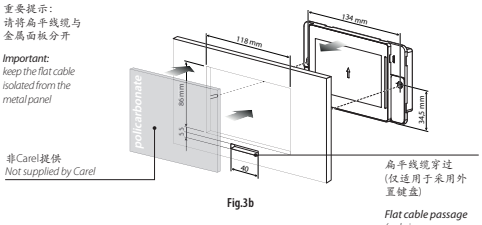


Fig.3b

墙面安装/*Wall mounting*

备注：
请勿将电源线穿过嵌入式安装盒

Note:
Do not run power cables inside the flush-mount box

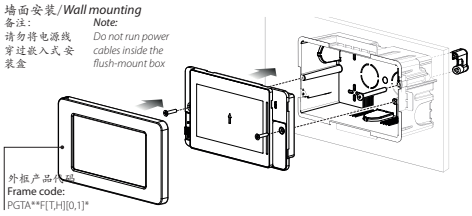


Fig.3c

墙面 *Wall surface*

备注：
仅适用于型号
PG******[B,E,W,H]***

Note:
*can only be used with models PG******[B,E,W,H]****

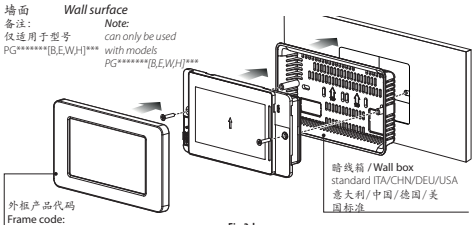


Fig.3d

产品介绍

pGDx 4.3寸图形终端是触摸式显示屏产品系列中的一部分，专为简化与pCO sistema系列控制器的对接而设计。此图形终端采用的电子技术及新型的65K色彩显示，可提供高品质图像和先进的功能，图形界面更加出众。触摸式面板简化了不同界面之间的导航，使用户和机组之间的互动更加简单。有多种安装类型的不同产品可提供：正面或背板、墙面安装或嵌入式安装。但不管采用哪种型号，此终端均可以水平安装或垂直安装。

产品代码

代码	RS485端口数量	ETH端口数量	Wi-Fi连接	RJ12 端口数量	电源口
PGR04****A***	-	-	-	1	-
PGR04****B***	1	-	-	-	1
PGR04****C***	1	1	-	-	1
PGR04****R***	1	1	✓	-	1
PGR04****W***	1	-	✓	-	1
PG[B,R]04****E***	-	1	-	-	1
PG[B,R]04****H***	-	1	✓	-	1

包装明细

pGDx终端，电源和RS485连接头(仅适用带此接头的型号)；紧固螺丝；技术文档，Wi-Fi天线(仅适用带此接头的型号PG*04***D[H,R,W]***)。不包括：塑料外框，PGTA00TRX0电源和暗线盒。

安装注意事项

为确保安装正确，请联络有资质的安装工。
请勿将终端安装在具有下列特点的环境中：
- 相对湿度高于技术规格中规定的值；
- 具有强烈震动或冲击；
- 暴露于侵蚀和污染中的环境(例如：硫和氨的气体、盐雾、烟雾)，以防止腐蚀和/或氧化；
- 存在强烈磁性和/或无线电频率干扰的环境(因此切勿安装在发射天线附近)；
- 暴露在阳光直射的环境中。
- 房间温度波动大且急速；
- 存在爆炸物或可燃气体混合物。

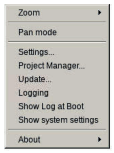
以下要求必须满足：
- 如果内置温度/湿度传感器，建议：
  - 只使用配置通风口的面板
  - 将显示屏安装在远离制冷制热系统气流外
  - 如果是垂直安装，请将传感器定位在显示屏下方
- 仅使用屏蔽线，用于Ethernet和RS485通讯网络；
- 如使用标定以外的电压可能会严重损坏系统；
- 使用适合于相应终端的线缆头。松开每个螺丝并插入线缆头，然后紧固螺丝。操作完成后，轻轻拉动线缆，检查线缆是否已固定好；
- 如触摸屏使用外置WiFi天线，确保至少基本的隔离 (500 Vac，根据IEC 60730-1) 在RP-SMA接头和保护接地之间；
- 请勿在上电时打开本终端；
- 低温运行可能导致显示屏反应速度的显著下降。此种现象被视为正常现象，而不会标识为故障；
- 对于防护等级为IP65的型号，正确安装方式为螺丝紧固扭力为0.4 Nm；
- 避免接触终端上任何带电的部件；
- 确保线缆固定准确，避免接触带电部件，以防终端发生意外断开。

通知栏上的颜色含义

上电时，通知栏短时显示一个蓝色信号，表示boot阶段启动。随后的信号将由c.touch开发的应用程序进行管理。

HMI运行时间和/或程序更新

1. 根据用c.touch生成("Update package")"更新包"时选择的选项，将包含运行时间或程序或两个都有的的更新包(.ZIP file)，复制到一个USB驱动器，然后再将USB驱动器插到pGDx，按住pGDx终端显示屏持续几秒钟，直到显示快捷菜单，可使程序侧失效(参考右侧图)：

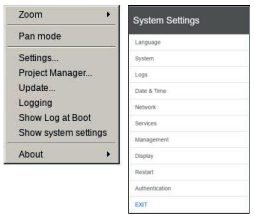


2. 选择("Update…")更新运行时间和/或程序更新。启动更新，然后将显示下面这个窗口：

3. 然后按照引导的步骤，选择保存在USB驱动器上的文件，并且点击下一个按钮以确认。

系统设定

触动并按住pGDx终端界面持续几秒钟，直到显示快捷菜单(如下图)，选择"显示系统设定"("Show system settings")；主要配置程序界面将显示(如侧面图)：



下表为与不同菜单项目有关的功能清单：

语言	设定系统语言(非c.touch程序)
系统	包含在pGDx上的信息：BSP版本，存储器，定时器和温度/湿度传感器(如果已配置)
日志	下载系统日志文件
日期&时间	使用自动或手动步骤设定pGDx的日期和时间
网络	显示当前系统IP数据(地址、子网络、网关、DHCP、DNS)并访问以太网和WiFi界面
服务	启动/停止不同系统设备(Modbus服务器端口，pGDx网络地址…)
管理	更新不同pGDx BSP分区(ConfigOS, MainOS, Bootloader，开机图像，等等…)
显示	设定亮度，背光超时，界面方向和触控面板校准
重启	重启系统
授权	设定密码，用于访问
退出	退出菜单

Introduction

The pGDx 4.3 inch graphic terminal is part of the family of touchscreen terminals designed to simplify user interface with the pCO sistema family controllers. The electronic technology used and the new 65K colour display means high quality images and advanced functions are available for a superior appearance. The touchscreen panel moreover makes interaction between the user and the unit much easier by simplifying navigation between the various screens. Different types of installation are available, depending on the model: front or back panel, wall surface or flush-mount. In any case, the device can be mounted either horizontally or vertically.

Part numbers

Codice	No. RS485 ports	No. ETH ports	Wi-Fi connectivity	No. RJ12 ports	Power supply port
PGR04****A***	-	-	-	1	-
PGR04****B***	1	-	-	-	1
PGR04****C***	1	1	-	-	1
PGR04****R***	1	1	✓	-	1
PGR04****W***	1	-	✓	-	1
PG[B,R]04****E***	-	1	-	-	1
PG[B,R]04****H***	-	1	✓	-	1

Packaging contents

pGDx; power supply and RS485 connectors (only on models where featured); fastening screws; technical leaflet, Wi-Fi antenna (only for models where fitted, PG*04***D[H,R,W]***). Not included: frame, PGTA00TRX0 power supply and wall mounting boxes.

Installation warnings

For correct installation contact a qualified installer.
Do not install the terminals in environments with the following characteristics:
- relative humidity greater than the value specified in the technical specifications;
- strong vibrations or knocks;
- exposure to aggressive and polluting atmospheres (e.g.: sulphur and ammonia fumes, salt spray, smoke) so as to avoid corrosion and/or oxidation;
- strong magnetic and/or radio frequency interference (therefore avoid installing the units near transmitting antennae);
- exposure to direct sunlight or the elements in general;
- large and rapid fluctuations in the room temperature;
- environments where explosives or mixes of flammable gases are present.

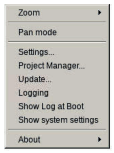
The following requirements shall be met:
- with built-in temperature/humidity sensor, it is recommended to:
  - only use faceplates fitted ventilation openings
  - install the display away from air streams coming from heating/cooling systems
  - if installed vertically, position the probe at the bottom of the display
- only use shielded cables for Ethernet and RS485 communication networks;
- power supply voltages other than those specified may seriously damage the system;
- use cable ends suitable for the corresponding terminals. Loosen each screw and insert the cable ends, then tighten the screws. When the operation is completed, slightly tug the cables to check they are sufficiently tight;
- in models with an external WiFi antenna, ensure at least basic insulation (500 Vac according to IEC 60730-1) between the RP-SMA connector and the protective earth;
- do not open the product when powered;
- operation at low temperatures may cause a noticeable decline in the response speed of the display. This should be considered normal and does not indicate a malfunction.
- for one correct installation of IP65 models be safe of a 0,4 Nm screws tightening and a correct assembly of the gasket.
- avoid any contact of the product with live parts.
- be sure that cables are accurately fixed in order to avoid contact with live parts in case of their accidentally disconnection.

Meaning of the colours on the notification bar

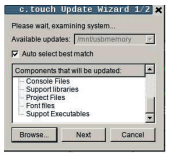
At power-on, the notification bar briefly shows a blue signal to indicate the start of the boot phase. The subsequent signals are then managed by the application program developed using c.touch.

HMI Runtime and/or application update

1. Copy the update package (.ZIP file) containing the runtime or application, or both, depending on the options selected when generating the "Update package" using c.touch, to a USB pendrive and then plug the pendrive into the pGDx and hold the pGDx terminal screen for a few seconds until the shortcut menu is displayed, disableable application side (see the figure on the side):



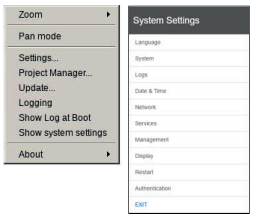
2. Select "Update…"to start the Runtime and/or application update procedure. The update utility will start and the following window will be displayed:



3. Then follow the guided procedure, selecting the file saved on the USB pen drive and clicking the next button to confirm.

System settings

Touch and hold the pGDx terminal screen for a few seconds until the shortcut menu is displayed (see the figure below). Select "Show system settings"; the main configuration program screen will be displayed (figure on the side):



Below is a list of the functions relating to the different menu items:

Language	Set the system language (not the c.touch application)
System	Contains information on the pGDx: BSP version, Memory, Timers and temperature / humidity sensor (if featured)
Logs	Download the system log files
Date & Time	Set pGDx date and time using the automatic or manual procedure
Network	Show current system IP data (address, subnet, Gateway, DHCP, DNS) and access the Ethernet and WiFi interface
Services	Start/stop various system services (Modbus server port, pGDx network address,…)
Management	Update the different pGDx BSP partitions (ConfigOS, MainOS, Bootloader, Splash image, etc.…)
Display	Set brightness, backlight timeout, screen orientation and touch panel calibration
Restart	Restart the system
Authentication	Set the password used to access
EXIT	Exit the menu

网络连接 / *Network connection:*

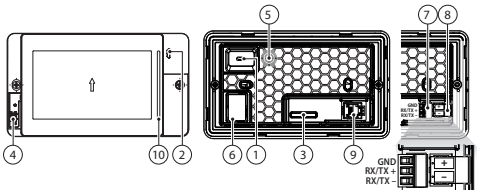


Fig.4

	Description 描述	Mounting/安装			Connectivity/通讯			
		PG*04***[F/T]**** Front Panel Mounting/ 前面板安装	PG*04***D*** Rear Panel Mounting 背板安装	PG*04***W*** Wall Mounting 墙面安装	PGR04****A***	PGR04****[B,W]***	PGR04****[C,R]***	PG04****[E/H]***
1	*MicroUSB rear/背面*	● (*)	●					
2	*MicroUSB front/正面*	●	●	●				
3	*external keypad connector/外置小键盘连接头*		●					
4	*temperature and humidity probe (6)/温度和湿度传感器(6)*			● (option)/ 可选				
5	*Wi-Fi antenna SMA connector (RP-SMA)/ Wi-Fi 天线SMA连接头(RP-SMA)*		●					
6	*Ethernet port/以太网口*						●	●
7	*RS485 port/RS485 端口*					●	●	
8	*power supply port/ 供电口*					●	●	●
9	*RJ12 connector (power/RS485)/RJ12 接口*				●			
10	*notification bar/通知栏*				●	●	●	●

Tab. 2

如果RS485端口被作用pLAN (Modbus通过pLAN协议)或显示端口：请勿在RS485网络中的第一个和最后一个设备上连接120欧姆电阻，因为RS485端口是HW从控类型。可连接到网络中的最大设备数量为32个，最长距离为500m。
(6)定期检查传感器通风孔是清洁的。
*(*) 除型号PGR04***FA***以外*

连接到**pCO/c.pCO**控制器
***Connection to* pCO/c.pCO**

带RJ12连接头的型号 / *Models with RJ12 connector*

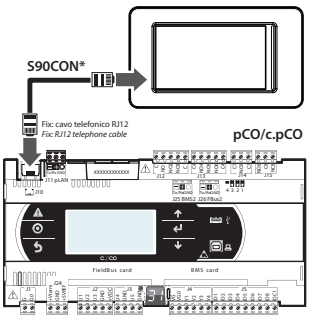


Fig. 5

带RS485/Wi Fi螺接头的型号 / *Models with RS485/Wi Fi screw terminal*

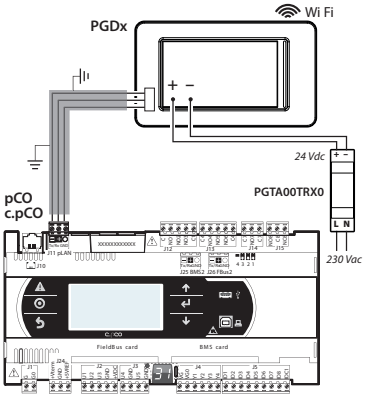


Fig. 6

废弃物处置规定 / *Disposal regulations*

- *请勿将此设备作为城市固废处理；请将其送至正确的处理中心。*
- *此装置中含有电池，在进行处置前，请先断开电源，再将后盖拆下。*
- *使用或处置不当可能对人体健康和环境都有不良影响。*
- *必须按照当地法规规定的公共或个人废弃物回收系统对此装置废弃物进行处置。*
- *如果出现电子和电气废弃物违法处置，则将依据当地现行法律对废弃物处置的规定进行处罚。*

- *Do not dispose of the product as solid municipal waste; take it to the proper collection centres.*
- *The product contains a battery, power down the device, remove the rear cover and must be removed, before proceeding with disposal.*
- *Improper use or disposal could have a negative effect on human health and the environment.*
- *Public or private waste collection systems defined by local legislation must be used for its disposal.*
- *in the event of illegal disposal of waste electrical and electronic equipment, penalties have been established by the current local laws regarding disposal.*

技术规格

显示屏	
类型	LCD TFT
分辨率	480x272
有效显示区域	4.3"
色彩	65 K
背光	LCD - 使用寿命 20 khrs @ 25 °C
亮度控制	是 - 自动关闭，默认为15分钟后
视角 (CR ≥10)	上 / 下 (40/50度) - 左/右(50/50度)
对比(典型)	350 (0=0°)
亮度(典型)	200 cd/m²
用户界面	
触摸屏	阻性
系统信号LED灯	8色通知栏
接口	
以太网口	自动极性识别 10/100 Mbit - RJ45内插口 STP CAT 5 线缆最长 = 100 m
Wi Fi	IEEE 802.11 b/g/n - 站/接入点模式 根据型号可分为内置/外置天线 最大传输功率 = 17dBm 外置天线远程安装最长距离 = 2 m 外置天线连接头RP-SMA内插口 (适用于型号PG*04***D[H,R,W]***)
USB端口 (1)	主机接口2.0 - 微型USB -B - 150 mA最大 (请勿使用充电设备) - 最长距离 = 1m
串行端口，RJ12接头	RS485，最大115.2 Kb/s 6芯电话线，最长 = 2m
串行端口，螺接头(2)	RS485，最大115.2 Kb/s 可拆卸螺接头3.81mm 插脚 屏蔽双绞线AWG 20-22 ± 最长= 500m - 紧固扭力0.25Nm (2.2lbf x)
温度/湿度传感器	0 ~ 50 °C / 20 ~ 80% rH 0 ~ 50 °C ±1 °C (静态空气) 20 ~ 80% ±5% (静态空气)

(1) ⚠ 仅用于服务操作。USB端口可能会被ESD(静电释放)。建议采用恰当的预防措施，以防止故障。
(2) 光电隔离，适用于PGR04****[C,R]***

功能	
向量图	是，包括支持SVG 1.0
动态对象	是，清晰度，位置，轮值
TrueType字体	是
多协议	是
日志和趋势	是，受限于闪存容量
多语言	是，运行时间语言设定，并且仅受限于可用的存储器
配方	是，受限于闪存容量
报警	是
事件清单	是
密码	是
实时钟(3)	是，带备用电池
屏保	是
蜂鸣器(3)	"Beep"，当按压触摸屏时(可设定)

(3) 仅适用于有此配置的型号

电气规格	
PGR04****A***电源	电源来自pCO控制器，通过RJ12电话接头(检查控制器提供的电源是否与PGDx的功耗兼容)
PG*04****[B,C,E,H,R,W]***电源	24Vdc，由PGTA00TRX0提供 最长 = 50 m(4-5-6)- 线缆截面AWG 12-20 紧固扭力0.8 Nm (7 lbf x)
最大功耗	7W，PGR04****A*** = 3W除外
熔丝	自动的
重量	大约250 g
电池	非充电锂电池，型号BR1225
软件等级和结构	A
控制方式	运行控制
控制器结构	独立安装控制 (PG*04***[F,T]****) 集成控制(PG*04***[R,D,W]****)
自动动作类型	类型1动作
耐热和防火类别	D类
过压类别	III类
绝缘类别	III类

(4) 对于型号PGR04***[F,T]****，根据接线图上的指导说明连接Vdc到接地点
(5) 对于嵌入式安装的型号，PGTA00TRX0必须安装到专用的接线盒
(6) 电源范围：24 Vdc ± 10%

环境条件	
运行温度	PG*04***[T,D]****: -20~60 °C PG*04***[F,R,W]****: 0~50 °C
储存温度	PG*04*******: -30~70 °C
最大运行和储存相对湿度	85% @ 40 °C无凝露
防护等级	PG*04***T****: IP65, NEMA类型1 (前面) 如果与PGTA**F [B,W][0,1]*结合(外框) PG*04***[D,F,R,W]****: IP20, NEMA类型1 (前面)
Pollution degree	3

Technical specifications

Display	
Type	LCD TFT
Resolution	480x272 Wide
Active display area	4.3" diagonal
Colours	65 K
Backlighting	LCD - Lifetime 20 khrs @ 25 °C
Brightness control	Yes - auto-off by default after 15 min
Visual angle (CR ≥10)	Up/Down (40/50 deg.) - Left/Right (50/50 deg.)
Contrast (typical)	350 (0=0°)
Brightness (typical)	200 cd/m²
User interface	
Touchscreen	Resistive
System signal LEDs	8-colour notification bar
Interfaces	
Ethernet port	Auto-MDIX 10/100 Mbit - RJ45 female STP CAT 5 cable Lmax = 100 m
Wi Fi	IEEE 802.11 b/g/n - STATION/ACCESS POINT mode Built-in/external antenna based on model Max Transmit Power = 17dBm External antenna remote mounting Lmax = 2 m External antenna connector RP-SMA female (for models PG*04***D[H,R,W]***)
USB port (1)	Host interface 2.0 - micro USB -B - 150 mA max (do not use to charge devices) - Lmax = 1m
Serial port with RJ12 connector	RS485 max 115.2 Kb/s 6-wire telephone cable Lmax = 2m
Serial port with screw terminal (2)	RS485 max 115,2 Kb/s Removable screw connector 3,81mm pitch Shielded twisted pair cable AWG 20-22 for ± Lmax = 500m - tightening torque 0.25Nm (2.2lbf x in)
Temperature / humidity probe	0 to 50 °C / 20 to 80% rH 0 to 50 °C ±1 °C (static air) 20 to 80% ±5% (static air)

(1) ⚠ only for service. The USB port can be damaged by ESD (Electro-Static Discharges). It's recommended to adopt appropriate precautions in order to avoid failures.
(2) opto-isolated for model PGR04****[C,R]***

Functions	
Vector graphics	Yes, includes SVG 1.0 support
Dynamic objects	Yes Visibility, position, rotation
TrueType fonts	Yes
Multi-protocol	Yes
Logs and trends	Yes, Limited to Flash memory capacity
Multilanguage	Yes, run-time language setting and limited only by available memory
Recipes	Yes, Limited to Flash memory capacity
Alarms	Yes
Event list	Yes
Passwords	Yes
Real Time Clock (3)	Yes, with backup battery
Screen saver	Yes
Buzzer (3)	"Beep" when pressing the touchscreen (settable)

(3) only on models where featured

Electrical	
PGR04****A*** power supply	Power supply from pCO via RJ12 telephone connector (check that the power supplied by the controller is compatible with PGDx power consumption)
PG*04****[B,C,E,H,R,W]***power supply	24Vdc supplied by PGTA00TRX0 accessory Lmax = 50 m(4-5-6)- cable cross section AWG 12-20 tightening torque 0.8 Nm (7 lbf x in)
Max Power Absorption	7W, exception PGR04****A*** = 3W
Fuse	Automatic
Weight	Approx. 250 g
Battery	Non-rechargeable lithium model BR1225
Software class and structure	A
Purpose of control	operation control
Controller construction	independently mounted control (PG*04***[F,T]****) incorporated control (PG*04***[R,D,W]****)
Type of automatic action	type 1 action
Heat and fire resistance	Cat. D
Overvoltage category	Cat. III
Insulation class	Class III

(4) For models PGR04***[F,T]****. To connect -Vdc to earth follow the instructions on the connection diagrams
(5) For models– for flush mounting the PGTA00TRX0 accessory must be installed in a dedicated box
(6) Power supply range: 24 Vdc ± 10%

Environmental conditions	
Operating temperature	PG*04***[T,D]****: -20T60 °C PG*04***[F,R,W]****: 0T50 °C
Storage temperature	PG*04*******: -30T70 °C
Maximum operating and storage relative humidity	85% @ 40 °C non-condensing
Ingress protection	PG*04***T****: IP65, Type NEMA 1 (front) if coupled with PGTA**F [B,W][0,1]* (frame) PG*04***[D,F,R,W]****: IP20, NEMA Type 1 (front)
Pollution degree	3

带Ethernet/Wi Fi连接头的型号 / *Models with Ethernet/Wi Fi connector*

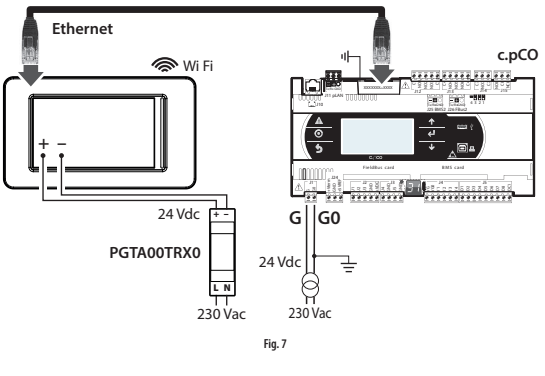


Fig. 7

带Ethernet连接头和RS485/Wi Fi螺接头的型号
Models with Ethernet connector and RS485/Wi Fi screw terminal

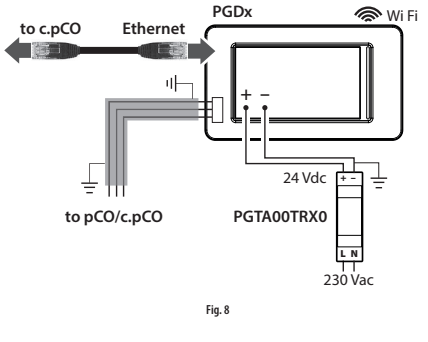


Fig. 8

请将电源线和信号线放在不同导线管内。

合规性

安全	UL	UL60730-1
	sch. CB	IEC60730-1
EMC	CE	EN61000-6-1 / EN61000-6-2 EN61000-6-3 / EN61000-6-4 EN55014-1 / EN55014-2
Radio	Red	EN301489-1/EN301489-17 EN300328
	FCC	Part.15 Subpart.B

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Always keep the signal cables and power cable in separate conduits.

Standards

Safety	UL	UL60730-1
	sch. CB	IEC60730-1
EMC	CE	EN61000-6-1 / EN61000-6-2 EN61000-6-3 / EN61000-6-4 EN55014-1 / EN55014-2
Radio	Red	EN301489-1/EN301489-17 EN300328
	FCC	Part.15 Subpart.B

Disposal of the product
The appliance (or the product) must be disposed of separately in compliance with the local standards in force on waste disposal.

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