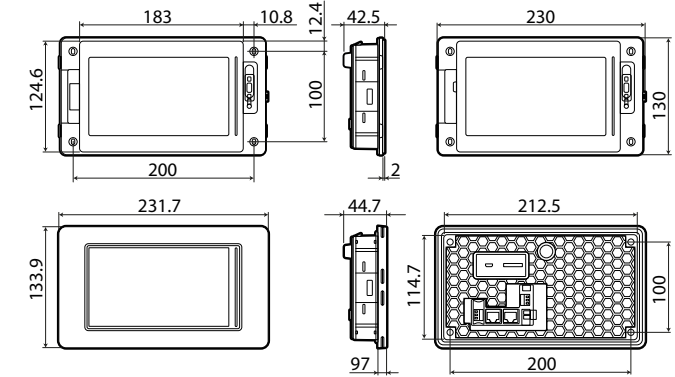
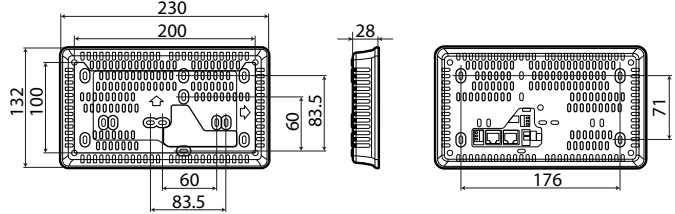




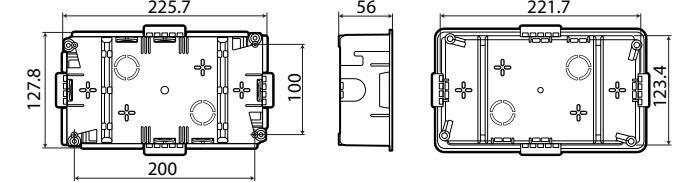
尺寸 / Dimensions (mm)



墙面安装配件 (如图1c) - 产品代码: PGTA00SM70
Accessory for wall surface installation (ref. Figure 1c) - P/N: PGTA00SM70

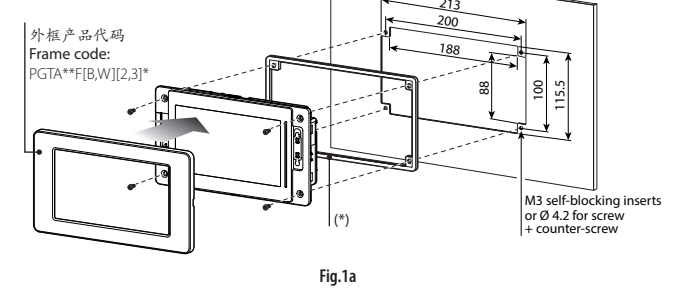


嵌入式安装配件 (如图1d) - 产品代码: PGTA00RM70
Accessory for flush-mounted wall installation (ref. Figure 1d) - P/N: PGTA00RM70



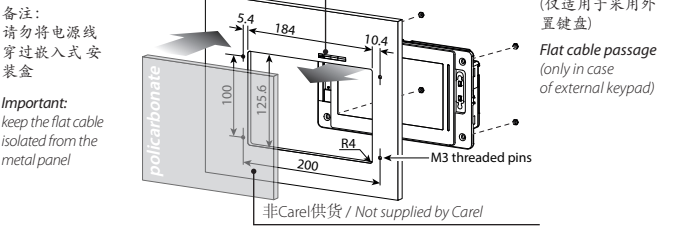
组装和安装 / Assembly and installation (mm)

正面 / Frontal

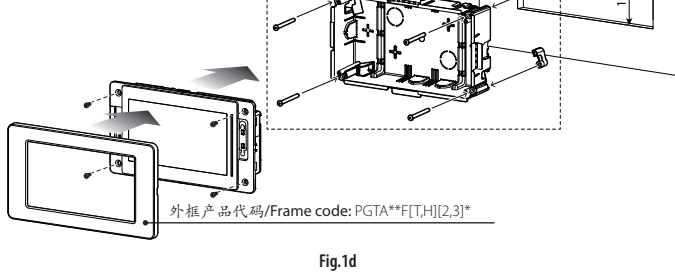
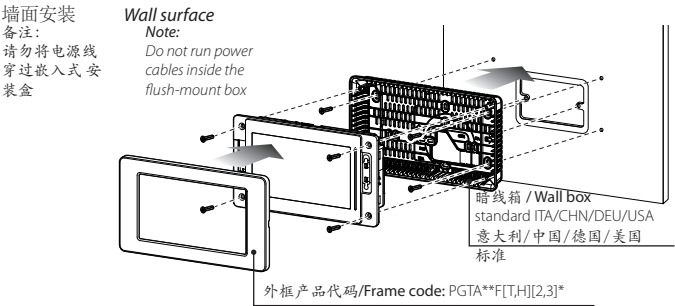


(*) IP66: 带垫圈且薄片厚度在1.2 - 6 mm之间 / with gasket and sheet thickness from 1.2 - 6 mm
IP20: 无垫圈且薄片厚度在0.8 - 6 mm之间 / without gasket and sheet thickness from 0.8 - 6 mm

背面 / Back



(*) IP20: 薄片厚度在0.8 - 2 mm之间 / sheet thickness from 0.8 - 2 mm



产品介绍

pGDx 7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16.7百万色彩显示，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 | WiFi连接 |
|---------------|-----------|---------|--------|
| PGR07****B*** | 1 | - | - |
| PGR07****W*** | 1 | - | ✓ |
| PGR07****D*** | 2 | - | - |
| PGR07****C*** | 1 | 1 | - |
| PGR07****R*** | 1 | 1 | ✓ |
| PGR07****G*** | 2 | 2 | - |
| PGR07****E*** | 2 | 2 | ✓ |
| PGB07****C*** | - | 1 | - |
| PGB07****M*** | - | 2 | - |
| PGB07****I*** | - | 2 | ✓ |

包装明细

pGDx终端，电源和RS485连接头(仅适用带此接头的型号)；安装组件；技术文档，Wi-Fi天线(仅适用带此接头的型号PG*07***D[G,I,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/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；
 - 正确安装方式为螺丝紧固扭力为0.4 Nm；此外，对于型号PG*07***[N,T]****，要确保标称的IP防护等级，面板粗糙度指数不能超过1.6µm，且垫圈必须配置合适；
 - 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更新包(.ZIP file)，复制到一个USB驱动器，然后再将USB驱动器插入pGDx，按住pGDx终端显示屏持续几秒钟，直到显示快捷菜单，可使程序倒失效(参考右侧图)：



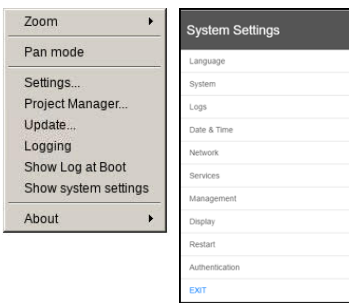
2. 选择("Update...")更新运行时间和/或程序更新。启动更新，然后将显示下面这个窗口：



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 7 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 16.7M 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

| Part number | No. RS485 ports | No. ETH ports | WiFi connectivity |
|---------------|-----------------|---------------|-------------------|
| PGR07****B*** | 1 | - | - |
| PGR07****W*** | 1 | - | ✓ |
| PGR07****D*** | 2 | - | - |
| PGR07****C*** | 1 | 1 | - |
| PGR07****R*** | 1 | 1 | ✓ |
| PGR07****G*** | 2 | 2 | - |
| PGR07****E*** | 2 | 2 | ✓ |
| PGB07****C*** | - | 1 | - |
| PGB07****M*** | - | 2 | - |
| PGB07****I*** | - | 2 | ✓ |

Packaging contents

pGDx; power supply and RS485 connectors; installation kit; technical leaflet, WiFi antenna (only for models where fitted, PG*07***D[G,I,R,W]***). Not included: frame, PGTA00TRX0 power supply and wall mounting boxes.

Installation warnings

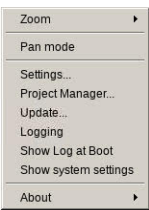
- For correct installation contact a qualified installer.
- Do not install the terminals in environments with the following characteristics:
- relative humidity greater than the value specified in the technical specifications;
 - strong vibrations or knocks;
 - exposure to aggressive and polluting atmospheres (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 must be met
- with built-in temperature/humidity sensor, it is recommended to:
 - only use frame fitted ventilation openings
 - install the terminal 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 correct installation, apply a tightening torque of 0.4 Nm. Furthermore, on PG*07***[N,T]**** models, to ensure the declared IP value, the panel roughness index must not exceed 1.6 µm and the gasket must be fitted correctly;
 - 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

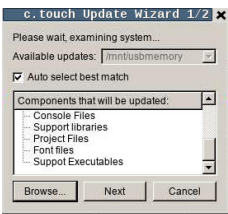
At power-on, the notification bar briefly shows a blue signal to indicate the start of the boot phase. The subsequent signals are then managed by the application program developed using c.touch.

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):

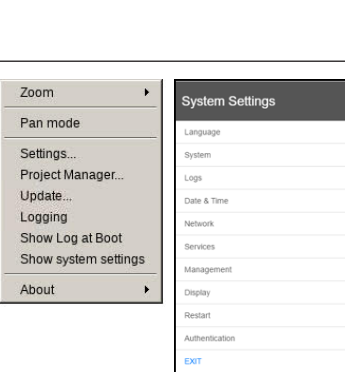


2. Select "Update..." to start the Runtime and/or application update procedure. The update utility will start and the following window will be displayed:



System settings

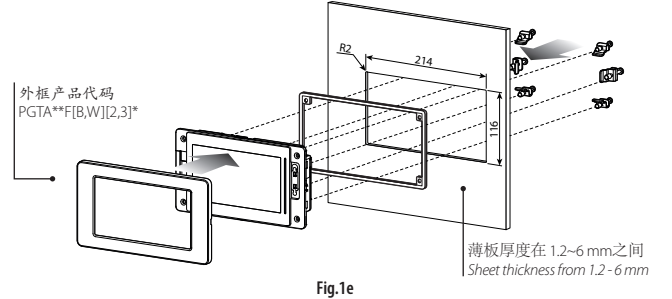
Touch and hold the pGDx terminal screen for a few seconds until the shortcut menu is displayed (see the figure below). Select "Show system settings"; the main configuration program screen will be displayed (figure on the side):



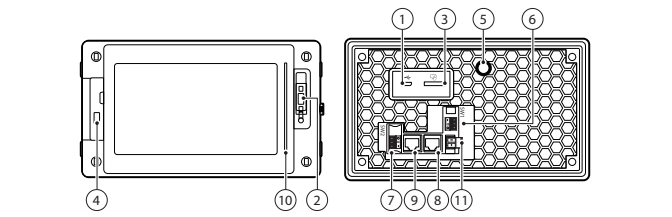
Below is a list of the functions relating to the different menu items:

| | |
|----------------|---|
| 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 |

NEMA 4X前面板 / NEMA 4X Frontal



网络连接 / Network connection:



| Description/描述 | Mounting/安装 | | | | Connectivity/通讯 | | | |
|--|--------------------------------------|---------------------------------------|---------------------------------|--|--|---|---|---|
| | PG*07***[F,T]**** Front Panel/前面板 | PG*07***N**** Front Panel / 前面板 | PG*07***D**** Rear Panel /背板 | PG*07***W**** Wall Mounting 墙面安装 | PGR07***[B,W]** PGR07***D**** PGR07***[C/R]** PGR07***[F/G]** PG*07***E**** PG*07***[I/M]** | | | |
| 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) | | | | |
| 5 Wi-Fi antenna SMA connector (RP-SMA) Wi-Fi 天线SMA连接头(RP-SMA) | | | ● | | | | | |
| 6 RS485 port COM1/RS485 端口 COM1 | | | | | ● | ● | ● | |
| 7 RS485 port COM2/RS485 端口 COM2 | | | | | | ● | | |
| 8 Ethernet port ETH0/以太网口 ETH0 | | | | | | | ● | ● |
| 9 Ethernet port ETH1/以太网口 ETH1 | | | | | | | ● | ● |
| 10 notification bar/通知栏 | | | | | ● | ● | ● | ● |
| 11 power supply/电源 | ● | ● | ● | ● | ● | ● | ● | ● |

Tab. 2

如果COM1端口用作pLAN(Modbus通过pLAN协议)或显示端口: 请勿在网络中的第一个和最后一个设备上连接120欧姆电阻。可连接到网络中的最大设备数量为32个, 最长距离为500m。
⚠注意: 仅COM1端口可用作pLAN(Modbus通过pLAN协议)。
(6)定期检查传感器通风孔是清洁的。

If COM1 port is used as pLAN (Modbus over pLAN) or display port: DO NOT connect the resistors 120 ohm termination on the first and last device in the network. The maximum number of devices that can be connected in the network is 32 and the maximum length of the network is 500m.
⚠ **Attention:** only COM1 port can be used as a pLAN (Modbus over pLAN protocol).
(6) Periodically check that the probe ventilation holes are clean.

串行DIP开关配置 / Serial Dipswitch Configuration





| 端口电阻 terminator resistor 120 ohm - OFF | SLAVE/从控 | MASTER/主控 |
|--|--|---|
| | Pull-Up Pull-Down - OFF ON  1 2 3 (pLAN) | Pull-Up Pull-Down - ON ON  1 2 3 |
| 端口电阻 terminator resistor 120 ohm - ON | ON  1 2 3 | ON  1 2 3 |

Fig.3

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

以太网开关配置 / Ethernet switch configuration

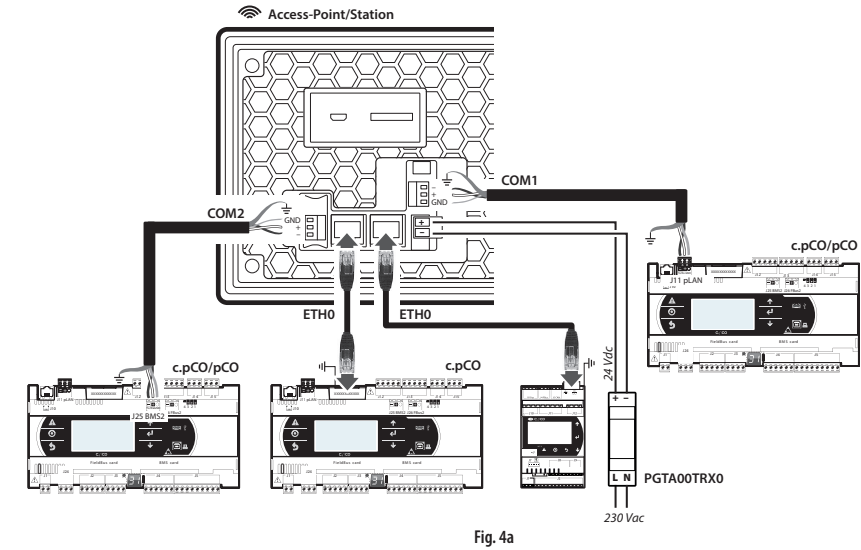


Fig. 4a

双MAC以太网配置 / Dual MAC Ethernet configuration

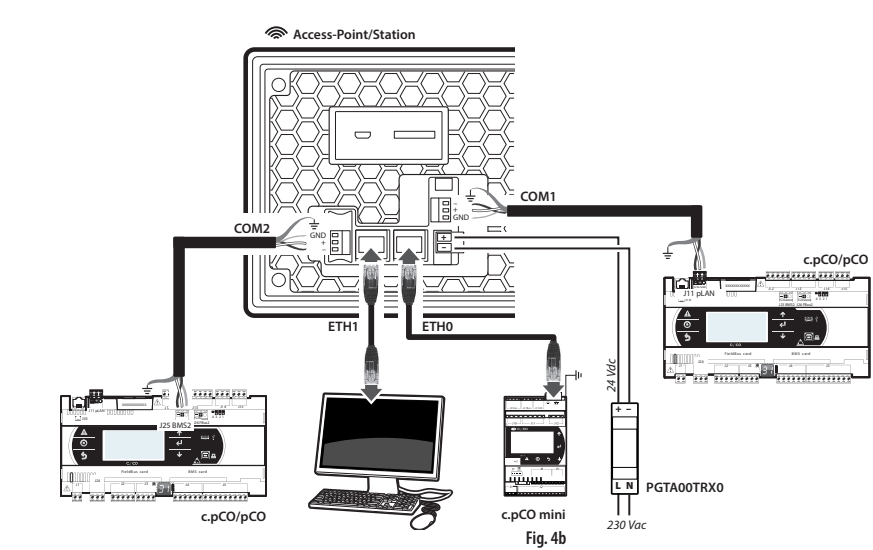


Fig. 4b

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, 再将其盖拆下。
 - 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.

| 合规性 | | |
|--|------------|---|
| 安全 | UL sch. CB | UL60730-1 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 |
| 其他获得批准的认证, 请联系Carel代表以获取其他详细信息 | | |
| 产品处置 | | |
| 本装置(或产品)必须依照当地关于废弃物处理的有效法规单独进行处理。 | | |
| 重要说明 | | |
| CAREL 产品是一种先进的装置, 其操作在产品随附的技术文件中有详细说明, 也可在购买之前从www.carel.com网站下载。对于为达到与最终安装和/或设备相关的特定预期结果相关的产品配置上的一切责任和风险, 均由客户(最终设备的制造商, 开发商或安装供应商)承担。如果在所述阶段未完成用户手册中要求/指示的内容, 就可能导致最终产品故障; 在这种情况下, CAREL 不承担任何责任。客户必须通过与产品相关的文档所描述的方式使用产品。在CAREL 一般合约条件中, 对CAREL在产品方面的责任进行了规定, 详情可从www.carel.com网站和/或与客户签订的特定协议进行了解。 | | |

Technical specifications

| | |
|------------------------------|---|
| Display | LCD TFT |
| Type | 800x480 Wide |
| Resolution | 7" diagonal |
| Active display area | 16.7M |
| Colours | LED - Lifetime 20 khrs @ 25 °C |
| Backlighting | Yes - auto-off by default after 15 min |
| Brightness control | Up/Down (50/70 deg.) - Left/Right (70/70 deg.) |
| Visual angle (CR ≥10) | 400 (Φ=0°) |
| Contrast (typical) | 500 cd/m² |
| Brightness (typical) | |
| User interface | Resistive |
| Touchscreen | 8-colour notification bar |
| System signal LEDs | |
| Interfaces | |
| ETH0, ETH1 Ethernet ports | 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*07***[D,G,I,R,W]***) |
| USB port (1) | Host interface 2.0 - micro USB -B - 150 mA max (do not use to charge devices) - Lmax = 1 m |
| COM1 (2), COM2 Serial ports | 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) Master/Slave set via dipswitch (Fig.3) |
| 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 PGR07***[C,D,F,G,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 | |
| Power supply | 24Vdc Class 2/SELV supplied by PGTA00TRX0 accessory Lmax = 50 m (4-5)- cable cross section AWG 12-20 tightening torque 0.8 Nm (7 lbf x in) |
| Max Power Absorption | 9 W |
| Fuse | Automatic |
| Weight | Approx. 600 g |
| Battery | Non-rechargeable lithium model BR1225 |
| Software class and structure | A |
| Purpose of control | operation control |
| Controller construction | incorporated control (PG*07***[D,F,N,T,W]***) |
| Type of automatic action | type 1 action |
| Heat and fire resistance | Cat. D |
| Overvoltage category | Cat. III |
| Insulation class | Class III |
| (4) For PG*07***W**** models with flush mounting, accessory PGTA00TRX0 must be installed in a dedicated box - (5) Power supply range: 24 Vdc ± 10% | |
| Environmental conditions | |
| Operating temperature | PG*07***[D,N,T]***: -20 to 60 °C PG*07***[F,W]***: 0 to 50 °C PG*07*****: -30 to 70 °C |
| Storage temperature | PG*07*****: -30 to 70 °C |
| Maximum operating and storage relative humidity | 85% @ 40 °C non-condensing |
| Ingress protection | PG*07***T****: IP66, NEMA Type 1 (front) PG*07***N****: IP66, NEMA Type 4X indoor (front) if coupled with PGTA**F [B,W][2,3]* (frame) PG*07***[D,F,W]***: IP20, NEMA Type 1 (front) |
| Pollution degree | 3 |