

pCO sistema

Programmable graphic displays

**CAREL**



**pGD**

T e c h n o l o g y   &   E v o l u t i o n



Customisation, reliability  
and innovative technology

# pGD user interface



# pGD

## Programmable graphic display

The structure and the modularity of the pGD family displays always ensure the right solution for different requirements in terms of performance, cost and appearance.

The pGD<sup>2</sup>-pGD<sup>3</sup> series is designed for high level applications that require touch screen technology combined with an elegant design.

The pGD<sup>0</sup>-pGD<sup>1</sup> series is focused on applications that require a good compromise between performance, competitiveness and appearance.

The pGD-i series is designed for users who have pCOI interfaces and want to integrate the innovative pGD display without having to modify the general layout of the terminal.

The pLD series (programmable LED display) is ideal for applications where the main requirements of the user interface are reductions in costs and the space required for installation.



256  
colours



front panel  
protection



EasyTools  
System



pLAN  
connec.



oriental  
languages



zoom



## pGD<sup>2</sup>- pGD<sup>3</sup>



### design and technology

The pGD<sup>2</sup>-pGD<sup>3</sup> series interfaces represent the most high-tech CAREL product offering in this area. The 5.7" touch screen display with 1/4 VGA resolution, and the 32-bit microprocessor allow the management of graphic objects measuring up to 320x240 pixels, animated icons, non-proportional fonts in Unicode format, alarm logs, graphs showing the trend of the values in the application, with 256 colour definition.

The touch screen function with a user friendly navigation scheme helps the end user move easily around more complex system diagrams.

The interface system is completed by a keypad on the side of the display. pGD<sup>2</sup> and pGD<sup>3</sup> also provide the more demanding manufacturers in the HVAC/R market various possibilities for product customisation and differentiation.

The attractive and modern design mean it can also be used in residential applications.



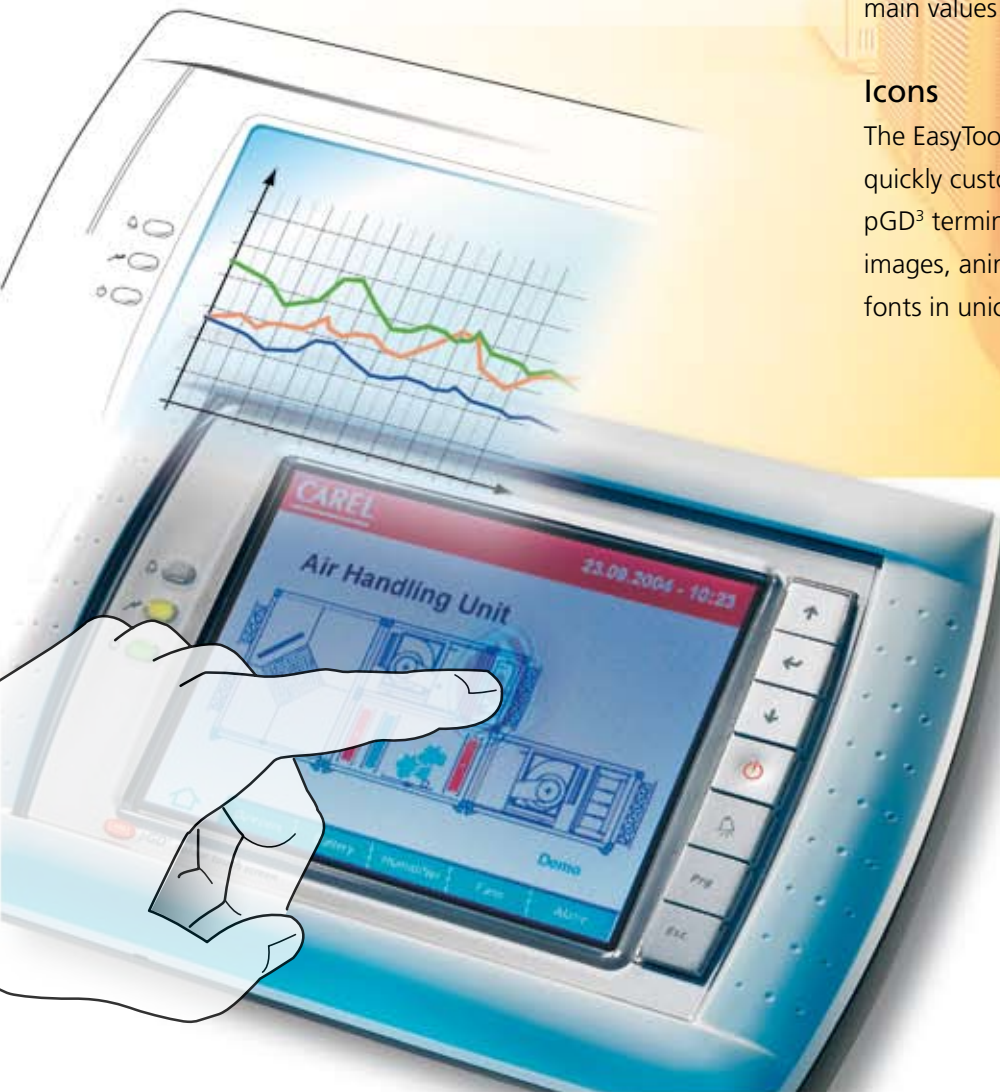
## Graphs

Using the pLAN network connection, pGD<sup>2</sup>-pGD<sup>3</sup> can acquire the parameters, the important information and the status of the devices fitted.

This data can then be processed and represented as graphs, for greater clarity in reading the trend of the main values in the application.

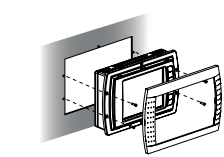
## Icons

The EasyTools programming system can be used to quickly customise the user interface of the pGD<sup>2</sup> and pGD<sup>3</sup> terminals and introduce the management of images, animated icons and texts with non-proportional fonts in unicode format.

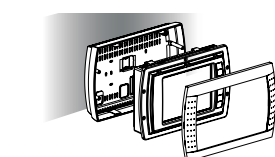


## Touch screen

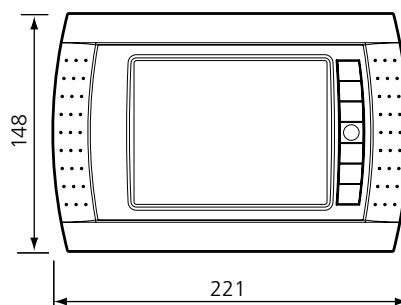
The touch screen function offers a user-friendly and simple method for moving between the different functions, making it easier to have an overall view of the unit or the area managed by the pCO sistema family programmable controllers.



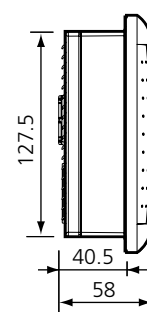
Panel  
mounting



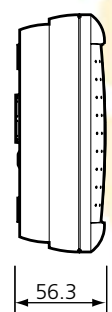
Wall  
mounting



Panel  
mounting



Wall  
mounting





## pGD<sup>0</sup> - pGD<sup>1</sup>

温度



## performance at competitive costs

The pGD<sup>0</sup> and pGD<sup>1</sup> series is the first family of interfaces with graphic LCD to be designed for the pCO sistema controllers.

The interfaces offer great versatility and extensive customisation opportunities, while maintaining a high aesthetic standard.

When designing these instruments, CAREL focused special attention on the simplicity of programming and the quality of performance.

pGD<sup>0</sup> and pGD<sup>1</sup> are graphic displays with 120x32 pixel and 132x64 pixel resolution respectively, and can display graphic symbols of different sizes and in the main international alphabets, such as Greek, Chinese, Cyrillic and Scandinavian languages.

pGD<sup>0</sup> is completely compatible with the software developed for the CAREL 4x20 displays.





### International alphabets

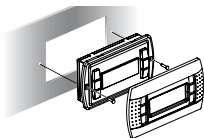
The graphic LCD and EasyTools programming environment allow management of the main international alphabets (Russian, Greek, Scandinavian languages and Chinese) and the display of simple graphic objects.



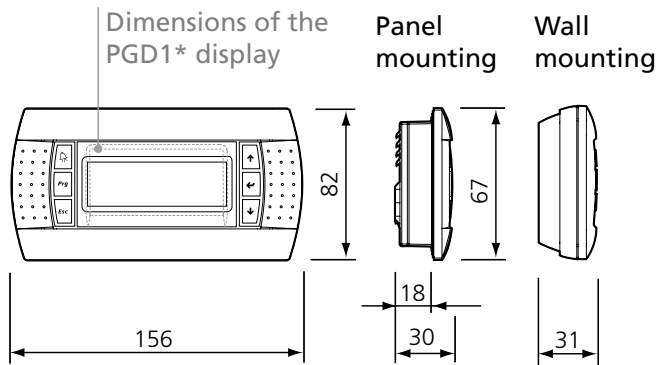
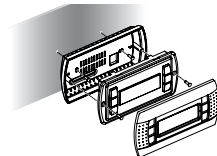
The exceptional index of protection (IP65) and the wide range of operating temperatures (-10T60°C) ensure a high standard of safety against the elements.

The different assembly solutions (wall-mounting or built-in), the plastic frame and the customisable window, ensure flexibility and reduced costs even for small quantities.

Panel mounting



Wall mounting

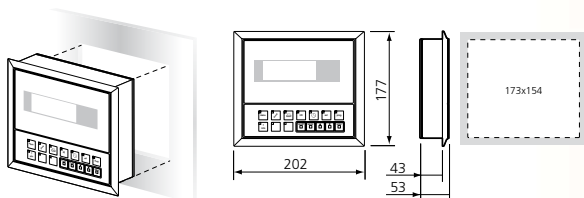


PGD - b



**pGD-i**

Panel mounting  
with front housing



## Guaranteed investment

During the development of the pGD family, CAREL paid special consideration to those customers who use the pCOI, one of the first pCO sistema interfaces fitted with 4x20 display and customisable polycarbonate.

pGD-i integrates the technology of the pGD graphic display inside the pCOI plastic case.

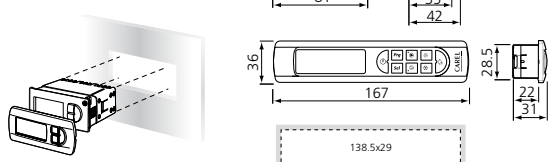
In this way, the previous layout can be used, while exploiting the technology and the performance of the pGD.

In addition, by simply modifying the polycarbonate, the pGD<sup>1</sup> display (slightly larger, 132x64 pixels) can be integrated in the pCOI plastic case.



**pLD**

Panel mounting  
with front housing



## The entry-level solution

For all those applications where cost and compact dimensions represent important criteria of the application, CAREL offers the pLD (programmable LED Display) terminal in two sizes, small and large, with 3 and 4 digit display respectively.

The ease of customisation of the pLD and the programmability using the EasyTools environment guarantees a competitive solution.

Furthermore, being the pLD terminal connected to the tLAN port, the use of another terminal of pGD range (e.g. remote terminal) on the pLAN port is not precluded (in this case the two terminals cannot work at the same time).



## Application examples

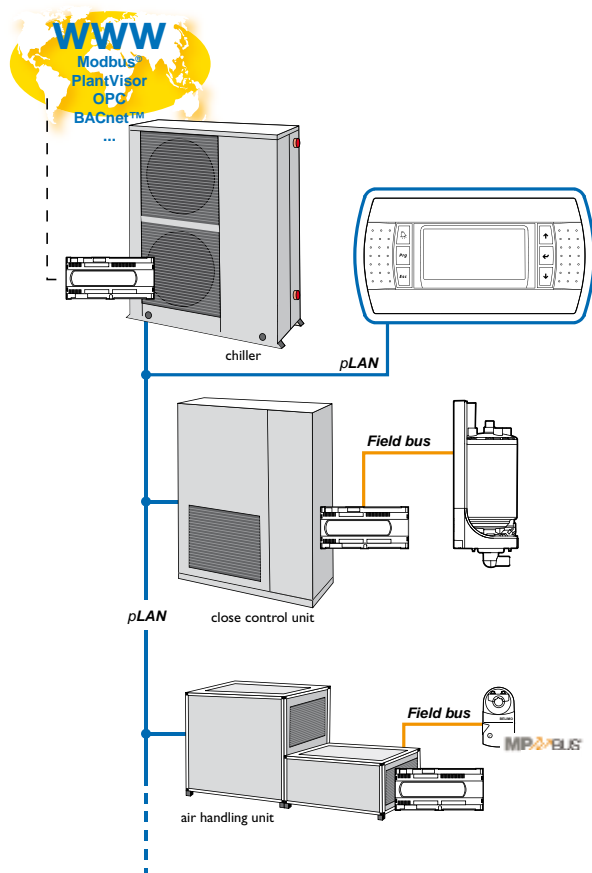
The pGD terminals are not simply displays that show data, but rather are an integral part of a complete solution: pCO sistema. This is the result of CAREL's extensive experience in the design and production of programmable controllers for HVAC/R units, and includes not only the programmable controllers, but also user interfaces, serial communication boards and a vast library of standard applications, as well as software tools for customising the applications.

### pLAN network

All the controllers can be connected without additional boards to the pLAN networks, thus allowing the data and information to be exchanged.

Consequently, a distributed control system for the optimised management of the installation can be created in a simple and reliable manner.

The pLAN network is used to manage a series of pCO controllers with just one shared terminal.

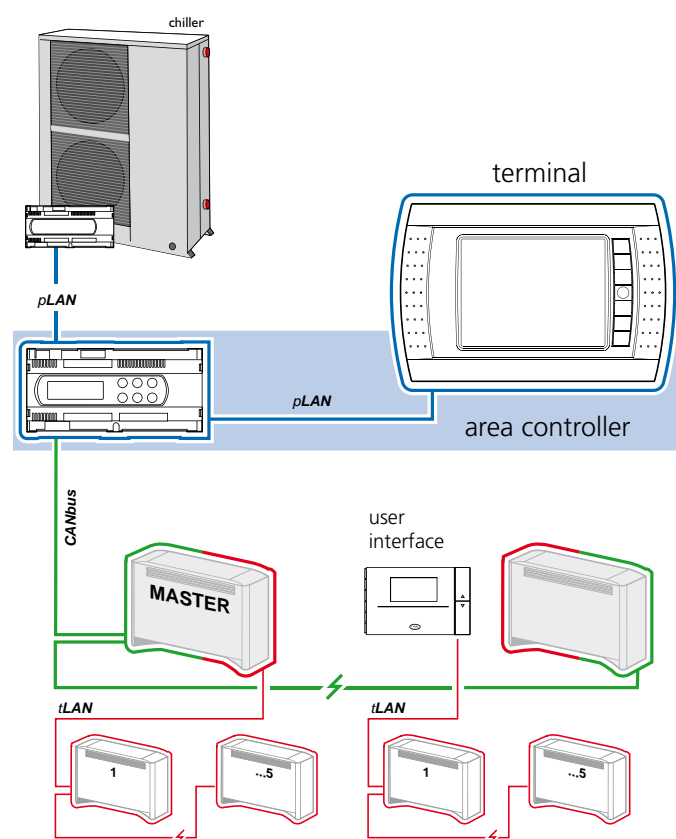


### Area controller

The first pCO controller manages the chiller/HP, while the second exclusively manages the fan coil (area controller).

The two controllers exchange data via the pLAN, while the fan coil is connected across the CANbus network.

The area controller, using the pGD<sup>2</sup> or pGD<sup>3</sup>, is designed for a user-friendly and elegant graphic interface.



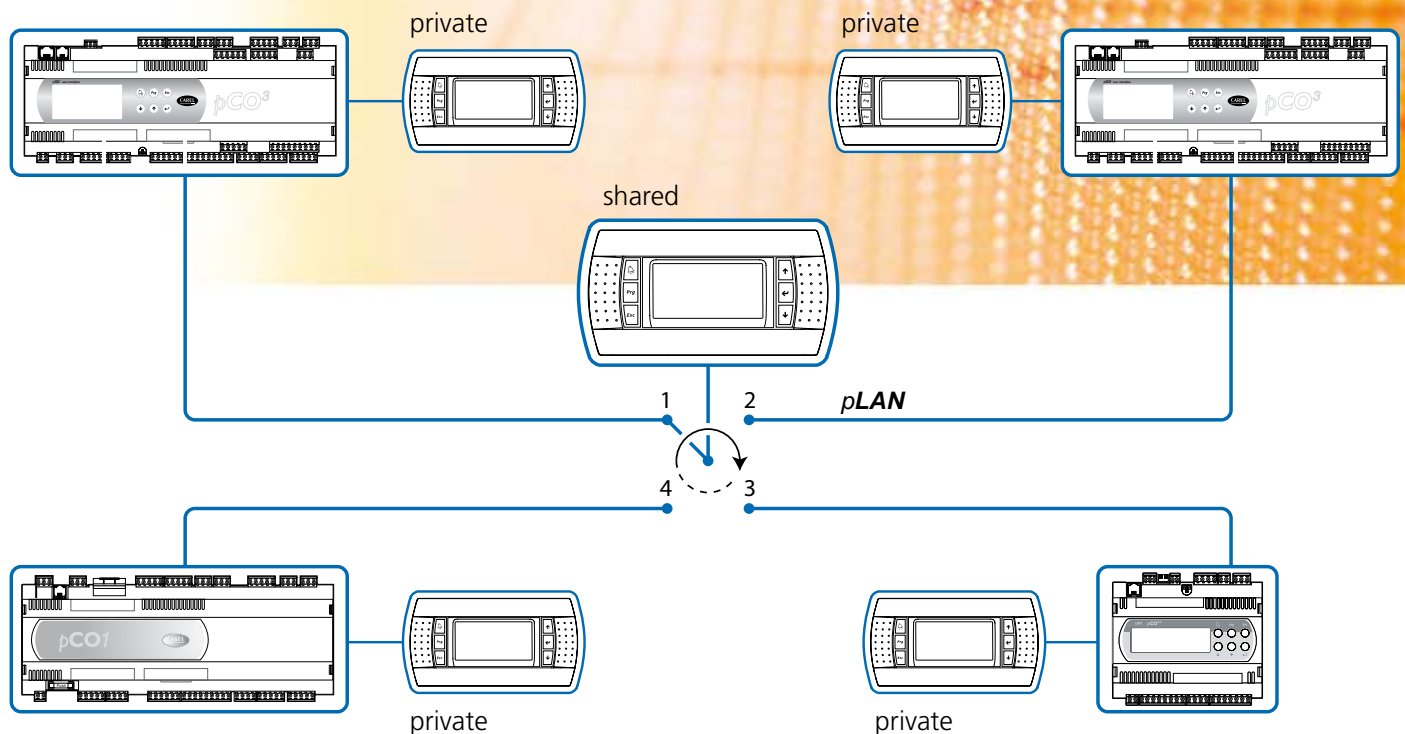
## Hardware architecture

Each pCO board connected to the network can manage a series of terminals at the same time (max. 3). The values are displayed on the terminals simultaneously.

Each terminal associated with a board can be defined as private or shared.

Private, if it exclusively displays the values from a specific pCO controller; shared if either automatically or from the keypad it can be switched between various pCO controllers.

Each controller constantly updates the display on the private terminals, while the shared terminals are only updated only if the pCO controller in question has control over the terminal at that moment.



In the example, the shared terminal is associated with 4 pCO controllers, however currently only controller 1 can display data and receive commands.

The terminal is switched between the different controllers cyclically either by pressing a predefined button, or automatically. In the latter case, in fact, a pCO controller can request control over the shared terminal to display new alarms or, vice-versa, give up control to the next pCO after a preset time.



Model	pGD <sup>3</sup>	pGD <sup>2</sup>	pGD <sup>1</sup>	pGD	pLD
Resolution	320x240	320x240	132x64	120x32	3-4 digits
LCD type	STN	STN	FSTN	FSTN	LED segments
Backlighting	fluorescent lamp	Blue LED	Green LED	Green LED	
Buzzer	●	●	■	■	●
Colours	256 colours	black & white			
Rows	depending on the size of the font	depending on the size of the font	8	4	
Columns	depending on the size of the font	depending on the size of the font	22	20	
Touch screen	●	●			
Index of protection	IP40*	IP40*	IP65	IP65	IP65
Built-in assembly	●	●	●	●	●
Wall-mounting	●	●	●	●	
Temperature range (°C)	0T45	0T50	-10T60	-10T60	-10T60
Accepts oriental languages	●	●	●	●	
Programmable fonts	●	●			
Bold, italic, underline	●	●			
Programmable icons	●	●	●	●	
Animated icons	●	●			
Graphs	●	●			
pLAN	●	●	●	●	
tLAN					●
External membrane keypad	●	●	●	●	
Available in pCOI plastic case			pGD <sup>1</sup> -i	pGD-i	
<b>Compatibility with:</b>					
pCO <sup>3</sup>	●	●	●	●	□
pCO <sup>2</sup>	●	●	●	●	
pCO <sup>1</sup>	○	○	●	●	□
pCO <sup>c</sup>			●	●	
pCO <sup>XS</sup>	○	○	●	●	●

● standard

○ 2 MB version

■ for versions PGD0000\*Z0, PGD1000\*Z0 only and pGD-I version

□ with the optional board, code PCO100TLN0

\* only for the panel mounting version

