CAREL

16/02/2012

FLSTDmAHUE

12:33

24.3°C

65%

21.0°C

54%

18.5°C

pGD touch

much more than a simple terminal

carel.com

Design, connectivity and customization, all in one touch

pGD Touch terminals are the new line of graphic touch screen displays designed to make the interaction between man and machine simple and intuitive, making navigation easier between the various screens.

- Advanced HMI interface
- vector graphics
- intuitive navigation
- application development simplicity
- versatility

The new pGD Touch line was designed with high level applications in mind, where touch screen technology needs to be combined with a sophisticated design and high connectivity.

pGDTouch offers a wide range of versions that differ in terms of display size and connectivity, satisfying all solutions for applications in the HVAC/R world.
The series comes in four different models:
- 4.3" 480x272 (WVGA);
- 7.0" 800x480 (WVGA);
- 10.4" 800x600 (VGA);
- 13.3" 1280x800 (WVGA).

In serial communication, pGD Touch uses the most widespread protocols on the HVAC/R market (Modbus® and BACnet™) and so, not only can it connect to and manage CAREL products, but it can also interact with third party devices. Remote connection is also ensured by the ethernet port to quickly and easily manage service for the system.

Customization of the user interface is quick and intuitive thanks to the new Editor, 1tool Touch Editor, which contains a library of standard graphic objects, a library that is constanty updated with the components used in the HVAC/R industry and a kit of templates that can be used as a starting point for developing new applications.

Managing transparencies
To obtain graphic effects with high aesthetic standards.

Connectivity
Controlling an entire HVAC/R both locally and remotely.

Ease of use
The touch screen makes navigation simple and intuitive for the user.

Great usability and customization with high aesthetic standards.

In-depth knowledge of HVAC/R applications and years of experience have allowed CAREL to develop an innovative object for applications for both machines and systems, combining technology and aesthetics.

Advanced graphics

1tool Touch Editor uses the QT library as a graphics engine. QT is a multi-platform library for the development of programs with a graphic interface through the use of widgets (graphic elements or devices). QT is one of the most widespread standards in the world.

The graphic potential offered by the QT engine allows the use of objects such as numeric fields, real time graphs, buttons, meters, sliders and so on.

The Windows CE operating system and QT libraries also make it possible to manage advanced functions like alpha blending systems.

In fact, alpha blending is a technique used in advanced operating systems (like Windows XP, Vista, W8, etc.) which allows control of the transparency of graphic objects.

Connectivity

In terms of connectivity with the device to be controlled, pGD touch allows you to choose between models with RS485 serial communication or with RS485 serial communication and Ethernet. The protocols available are the more common and widespread in the world of HVAC/R systems: BACnet™ MSTP and TCP/IP, and Modbus and TCP/IP. This makes pGDTouch a global area controller for monitoring and managing a network of CAREL controllers and third party devices.

pGDTouch's connectivity with the outside world offers remote access solutions based on Web technology for both desktops and mobile devices as well as gateway functionality to share the managed variables with BMS systems, using the Modbus® and BACnet™ protocols.

With its ethernet connectivity and ActiveX technology you can display and interact with the same interface in the pGD through your web browser, such as Internet Explorer, significantly simplifying service.

Scheduler

Scheduling on a daily, weekly and monthly basis to automatically manage the device ON/OFF times or change the set points.

Graphic library

Wide range of objects for HVAC/R applications to enrich and simplify project creation.

Service

USB Host 2.0 interface for maintenance operations such as software updates or downloading logs and alarms.
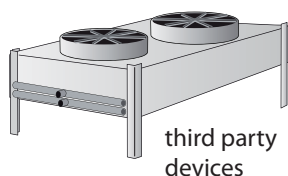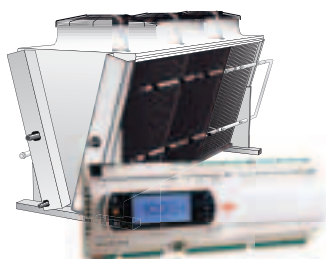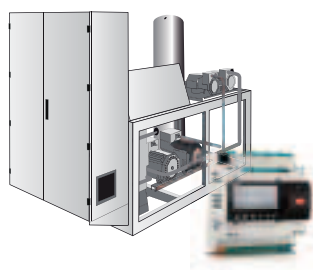
Application examples

Not only a machine terminal but also a device that allows all the system information to be displayed, both locally and remotely.

Machine Terminal

With the functions offered by the pGD, managing and monitoring HVAC/R units is easy and intuitive.
Among the features of the terminal is the ability to view the main units managed by the machine on the graph in real time or in a log and export it in file format using a USB key to create analyze and control the performance, work method, etc. over time.

third party devices

Modbus®

BACnet™

16/02/2012

30

24.3°C

24.

Area/Gateway Controller

The family of graphic terminals offers scheduling functions on a daily, weekly and monthly basis to automatically control, for example, contemporary start-up and shut-down of several units or changing their set points.

Also, in terms of connectivity, the protocols available are the most common and widespread in the HVAC/R system industry. This makes pGDTouch a global area controller for monitoring and managing a network of CAREL controllers and third party devices.

Modbus®

BACnet™

Remote Access

With ethernet connectivity, the pGD Touch can by installed inside any IP type LAN. The use of standard communication protocols (http, FTP, etc.) and a client/server architecture allows the use of widespread standard tools to remotely connect with devices such as:

Mobile Devices

The final user or assistance personnel can easily manage the main functions of the machine/system by remote.

Laptops / Desktops

For complete programming and monitoring of all functions of the machine or system by the manufacturer or service personnel such as:
- software updates;
- log downloads;
- interaction with the configuration/maintenance screens.

WWW

Quick and easy development thanks to the 1tool Touch Editor

With 1Tool Touch Editor, the HMI interface can be quickly and intuitively created, positioning graphic and animated elements along with active elements to display setting the system information, easily and intuitively.

Templates

For quick creation of new projects using pre-compiled modules.

Javascript

For creating complex system regulation algorithms.

Graphs/Schedulers

For viewing, managing and logging the main machine parameters in order to perform system diagnostics and adjustments.

For customization of the user interface, CAREL has created a new tool, 1Tool Touch Editor, part of the CAREL 1Tool suite. The 1Tool TE editor is an IDE (Integrated Development Environment) that allows for the creation of an HMI interface, organizing the project in several screens.
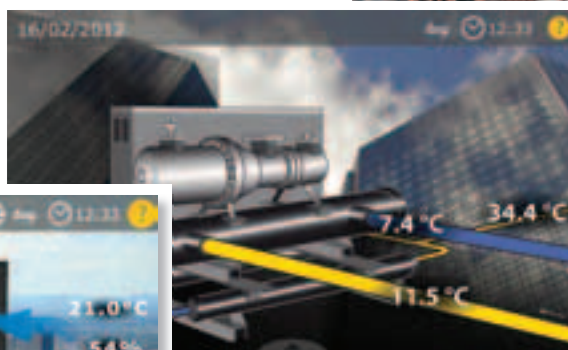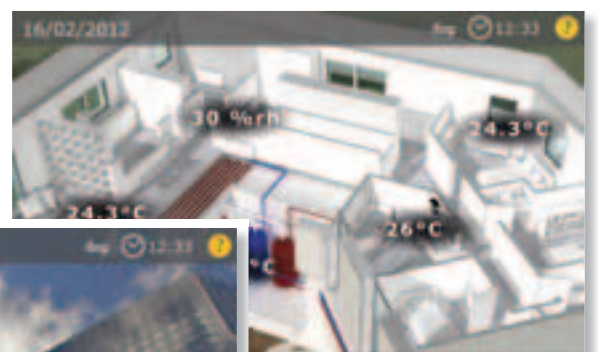
With a simple drag and drop, objects can be selected from a vast graphic library, inserting them in the screen. Number fields, real time graphs, buttons, meters and sliders, choice lists and combo boxes are some examples of the objects already integrated and ready to use.
The functionalities offered by the tool are the possibility of using customized images in the more common formats such as jpg, gif, tiff, etc., display of three-dimensional objects and management of SVG (Scalable Vector Graphics).

The modular structure allows the library of graphic objects and pre-existing templates (graphs, schedulers, alarm tables, ...) to be easily expanded to create solutions that are more complete and quick to use. With the inclusion of Javascript, control algorithms and regulations can be implemented, enhancing the terminal intelligence.

Further characteristics of the tool are:
• the simulator: the development tool has a simulator included for quick viewing of the graphic results of the project and the interactive elements;
• Windows client: the Windows client is a tool that allows for connection with a remote terminal in the IP network, allowing not only viewing but also interaction with the application, as if you are in front of the terminal.

HVAC/R graphic library The true added value

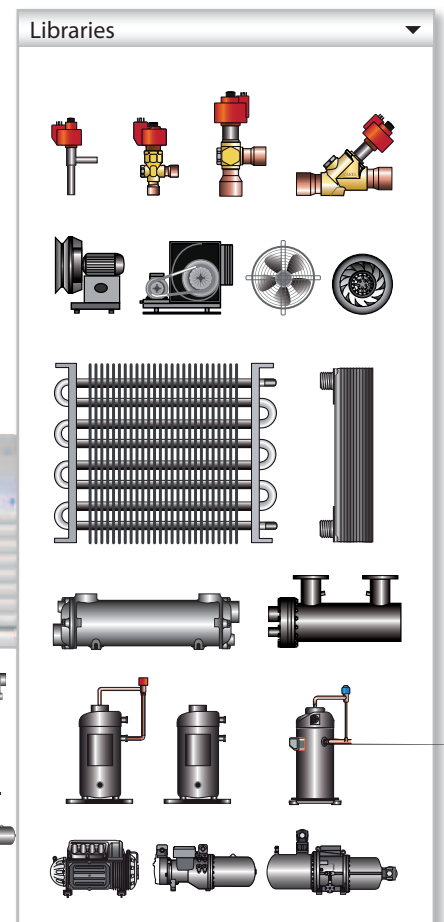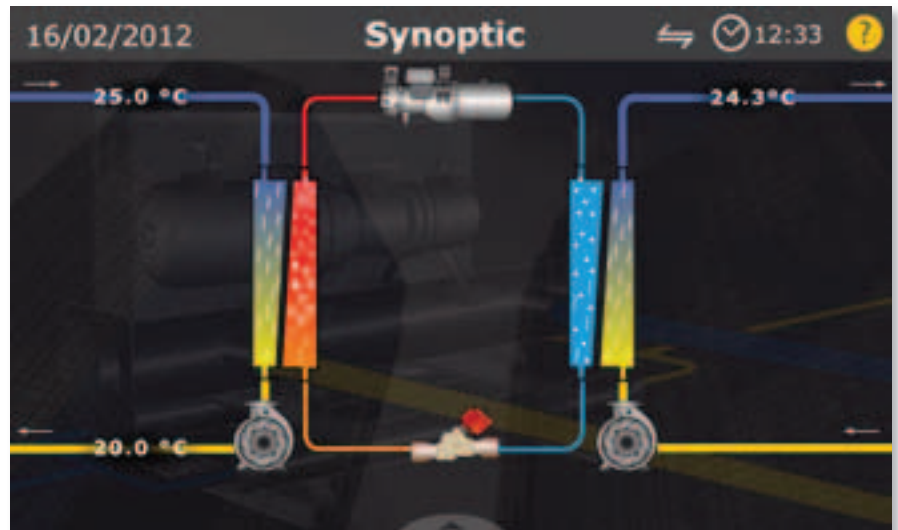With its experience in the market, CAREL is able to offer its customer a vast library of HVAC/R applications.

The HVAC/R library is a great added value that 1Tool TE offers compared to other HMI interface development environments capable of responding in a timely manner to the various requirements of the project.

The 1tool Touch Editor graphic library includes:
- CAREL products (sensors, controls, terminals, ...)
- operational machine elements (compressors, fans, pumps, ...);
- system elements (humidifiers, fan coils, heat sources, ...).

During development, the different elements in the library can be used at the same time. This allows the designer, according to the degree of complexity required by the application, to use the right mix of operational blocks to create the application itself, from simple modification to the development of more complex algorithms.

CAREL can also provide templates for the family of graphic terminals that give the developer a solid starting point for developing customized solutions.

Terminal table

Features	PGDT04*FS*	PGDT04*F0*	PGDT07*FS*	PGDT07*F0*	PGDT10*FR*	PGDT13*FR*
Hardware						
Flash Memory	128 MB	128 MB	128 MB	128 MB	256 MB	256 MB
RAM	256 MB	256 MB	256 MB	256 MB	256 MB	256 MB
Colours	65000	65000	65000	65000	65000	65000
Display dimensions	4.3"	4.3"	7.0"	7.0"	10.4"	13.3"
LCD type display	WVGA (16:9)	WVGA (16:9)	WVGA (16:9)	WVGA (16:9)	VGA (4:3)	WVGA (16:9)
Display resolution	480 x 272	480 x 272	800x480	800x480	800x600	1280 x 800
Display backlighting	LED	LED	LED	LED	LED	LED
Touch screen display type	resistive	Resistive	resistive	Resistive	Resistive	Resistive
Buzzer	●	●	●	●	●	●
Real Time Clock	lithium battery					
Connectivity						
RS485 serial ports	1 (not opto-isolated)	1 (opto-isolated)	2 (not opto-isolated)	1 (opto-isolated) 1 (not opto-isolated)	1 (not opto-isolated)	1 (not opto-isolated)
Ethernet Ports		2		2	2	2
Bacnet MS/TP® on the first serial port	● (RS485 connector)		● (RS485 connector)		● (DB9 connector)	
Modbus® on the first serial port	● (RS485 connector)		● (RS485 connector)		● (DB9 connector)	
pLAN on the first serial port	● (RS485 connector)		● (RS485 connector)		● (DB9 connector)	
Modbus® on the second serial port	-	-	● (RS485 connector)		-	
Web server		●		●	●	●
FTP server for software upgrade		●		●	●	●
Bacnet TCP/IP		●		●	●	●
Bacnet RS485	●	●	●	●	●	●
Modbus® TCP/IP		●		●	●	●
Porta USB Host 2.0	●	●	●	●	●	●
SD Card		●		●	●	●
Software						
Operating system	Windows CE 6.0					
Multilingual (including Chinese)	●	●	●	●	●	●
Programmable fonts	●	●	●	●	●	●
Alpha Blending	●	●	●	●	●	●
Bold, italics, underline	●	●	●	●	●	●
Vector objects	●	●	●	●	●	●
Object libraries (thermometers, cursors, ...)	●	●	●	●	●	●
Animated icons	●	●	●	●	●	●
Graphs	●	●	●	●	●	●
Alarms	●	●	●	●	●	●
Schedulers	●	●	●	●	●	●
Pre-configuration parameters	●	●	●	●	●	●
Users and password	●	●	●	●	●	●
Black box	●	●	●	●	●	●

● standard