CAREL AX3000 MPXone User Terminal and Remote Display Instructions

Contents

CAREL

AX3000 MPXone User Terminal and Remote Display

Product Information

The AX3000 is a user terminal and remote display for MPXone. It comes in three different models: AX3000PS2002 with NFC connection, 4 buttons, and buzzer; AX3000PS2003 with NFC+BLE connection, 4 buttons, and buzzer; and AX3000PS20X1, which is a remote display without keypad and read-only data. The product also comes with accessories such as user interface cables of different lengths.

The dimensions of the product are 46.6mm x 36.5mm with frame and 88.6mm x 78.5mm without frame. The drilling template is 71mm x 29mm. The product can be mounted on a panel with the cable from the electrical panel inserted into the designated point and secured with the cable gland and side tabs.

Product Usage Instructions

To mount the terminal on a panel, follow these steps:

1. Open the electrical panel and insert the cable from the panel into point A.
2. Run the cable through the cable gland H.
3. Place the controller in the opening and press lightly on the side tabs to secure it to the panel.

To remove the frame, gently press upwards at point A until you hear a click and repeat the operation at points B, C, D. To re-assemble the frame, repeat these steps in reverse order.

Note that the thickness of the sheet metal or other material used for the electrical panel must be suitable to ensure safe and stable installation of the terminal.

User terminal and remote display for MPXone

P/N Model

- AX3000PS2002(0/1)(*) User terminal, NFC conn., 4 buttons, buzzer
- AX3000PS2003(0/1)(*) User terminal, NFC+BLE conn., 4 buttons, buzzer
- AX3000PS20X1(0/1)(*) Remote display without keypad, read-only data

(*)(0/1): single/multiple pack (20 pieces)

Model Type

- With NFC AX
- With BTLE AXB

Accessories

- **P/N Model**
- **ACS00CB000020:** User interface cable, 1.5m
- **ACS00CB000010:** User interface cable, 3m
- **ACS00CB000022:** User interface cable, 1.5m, multiple pack of 10
- **ACS00CB000012:** User interface cable, 3m, multiple pack of 10

Dimensions – mm (in)

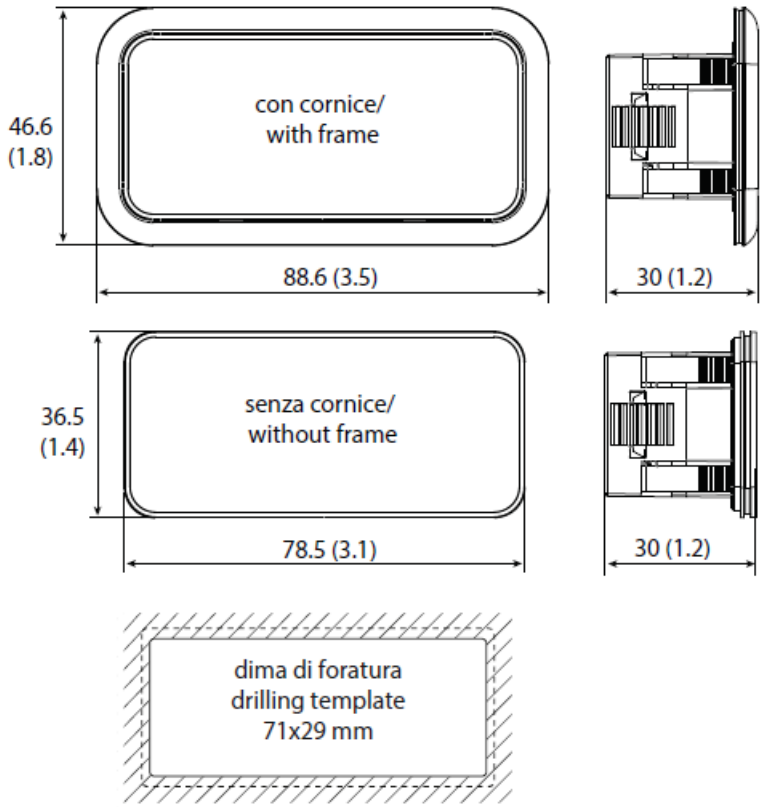


Fig. 1

Frame dismantling

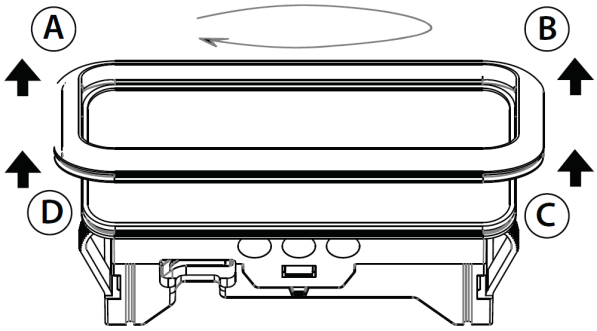


Fig. 2

Panel mounting

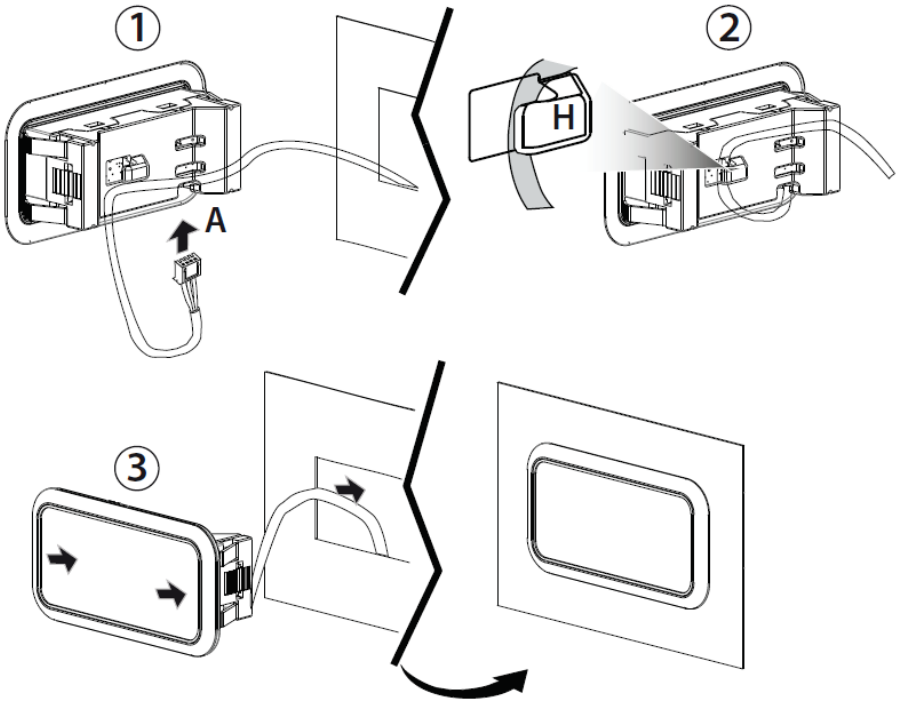
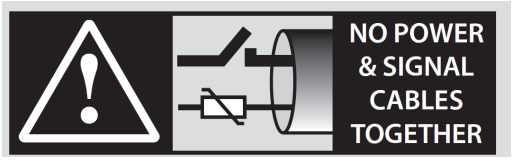


Fig. 3



READ CAREFULLY IN THE TEXT

Always keep the signal cables and power cable in separate conduits

WARNINGS
This product is to be integrated and/or incorporated into the final apparatus or equipment. Verification of conformity to the laws and technical standards in force in the country where the final apparatus or equipment will be operated is the manufacturer's responsibility. Before delivering the product, Carel has already completed the checks and tests required by the relevant European directives and harmonized standards, using a typical test setup, which however cannot be considered as representing all possible conditions of the final installation.

The AX3000* compact terminals, when connected to a CAREL MPXone controller, are used as user interfaces for centralized commercial refrigeration applications. They come with a three-digit display showing values from -999 to 999. Wireless connectivity via the NFC interface (Near Field Communication) e BLE (Bluetooth Low Energy), allows interaction with mobile devices (after having installed the CAREL "APPLICA" app, available on Google Play (on request) for the Android operating system). The four-button keypad allows users to modify the controller settings. Compact dimensions, simple design and connection to mobile devices all simplify parameter configuration and unit commissioning in the field. For further information, see the MPXone system manual +0300086EN, also available prior to purchase, on the **www.carel.com** website under "Documentation".

Preliminary operations
The user terminal is supplied with the frame already fi tted. Nonetheless, this can be easily removed without aff ecting the IP protection rating.

- **Removing the frame**

  Procedure: press the frame gently upwards at point A (Fig.2) until hearing a click and repeat the operation at the other points B, C, D so as to detach the frame

- **Assembling the frame**

  Repeat the removal operations in reverse order

Mounting the terminal on the panel
Important: front IP65 protection is only guaranteed if the following conditions are met:

Note: the thickness of the sheet metal (or other material) used to make the electrical panel must be suitable to ensure safe and stable installation of the terminal.

Mounting on the panel
Front

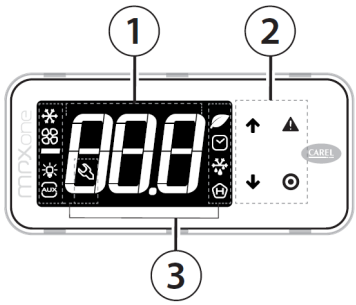
1. Insert the cable from the electrical panel into point A (Fig.3);
2. Run the cable through the cable gland H;
3. Place the controller in the opening, press lightly on the side tabs and then on the front until fully inserted (the side tabs will bend, and the catches will attach the controller to the panel).

Removal
Open the electrical panel and from the rear (Fig.4):

1. Press on the mounting tabs and then push the controller out.

Displays

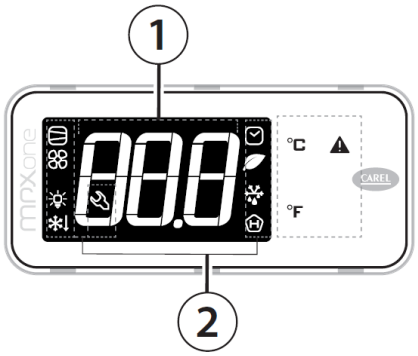
User terminal



Key

1. Main field
2. Keypad
3. Operating mode

Remote display



Key

1. Main field
2. Operating mode

Icons

Icona	Function	On	Flashing
	Solenoid/ compressor	Solenoid/compressor active	Compressor operationforced by timers
	Evaporator fan	Evaporator fan on	-
	Lights	Light on	-
	Auxiliary output	Auxiliary output active	-
	Clock	Scheduler active	-
	Energy saving	Smooth Lines active	-
	Defrost	Defrost active	Awaiting defrost
	Service	Maintenance request	
	HACCP	HACCP active	-

Keypad

UP / DOWN	• Increase/decrease value • Scroll functions with direct access • LED on: scroll menu, parameters, direct access functions • LED flashing: modify parameter values
Prg	Pressed briefly: • save value and return to parameter code • enter direct access functions menu (from main screen) and activate/deactivate functions Pressed and held (3 s): • enter programming mode or return to previous level without saving • LED on: standard display/programming mode
Alarm	• Pressed briefly: display alarms • Pressed and held (3s): reset alarms • LED on/flashing: acknowledged/active alarm

Alarm table
When an alarm occurs, the LED on the controller turns red and the user terminal displays the code corresponding to the alarm

- rE Control probe
- E1 Probe S1
- E2 Probe S2
- E3 Probe S3
- E4 Probe S4
- E5 Probe S5
- E6 Probe S6
- E11 Serial probe S11 not updated
- E12 Serial probe S12 not updated
- E13 Serial probe S13 not updated
- E14 Serial probe S14 not updated
- LO Low temperature
- HI High temperature
- LO2 Low temperature
- HI2 High temperature
- IA Immediate alarm from external contact
- dA Delayed alarm from external contact
- dor Door open for too long
- Etc Real time clock not updated
- LSH Low superheat
- LSA Low suction temperature
- MOP Max evaporation pressure
- LOP Low evaporation pressure
- bLo Valve blocked
- Edc Communication error with stepper driver
- EFS Stepper motor broken/not connected
- HA HACCP type HA
- HF HACCP type HF
- MA Communication error with the Master (only on Slave)
- u1…u9 Communication error with the Slave (only on Master)
- n1…n9 Alarm on unit 1 … 9 in the network
- GPE Error in the custom gas parameters

Technical specifications

- Power supply: 13 Vdc ± 10% supplied by ACU controller; max current 250 mA. Power supply recommended for the connected controller: SELV or PELV
- Connector (built-in) : JST 4 pin ZH P/N S4B-ZR-SM4A-TF
- Controller connection cable: Max length: 10m. If of lengths longer than 2m and device not uilt-in, use shielded cable.

Size: AWG: 26

Connectors:

- Terminal side: JST ZH 4 pin; housing ZHR-4; terminal SZH-002T-P0.5
- Control side:

  User terminal: JST XH 4 way, housing XHP-4, terminal SXH-002T-P0.6

  Remote display: wires to wire

- Buzzer Available on all models
- Temperature sensor Built-in
- Casing Polycarbonate material

  Dimensions: see figures
- Assembly Panel mounting
- Display 3 digits, decimal point and multifunction icons
- Operating temperature -20T60°C
- Operating humidity <90% RH non-condensing
- Storage temperature -35T70°C
- Storage humidity <90% RH non-condensing
- NFC Max distance 10 mm, variable according to the mobile device used
- Bluetooth Low Energy Max length 10m, depend on the used mobile device
- Index protection IP65 at front, IP20 at rear
- Environmental pollution 3
- Ball pressure test 125°C
- Rated impulse voltage 0.8 kV
- Type of action and disconnection 1.Y
- Construction of the control device Device to be incorporated
- Classification according to protection against electric shock To be incorporated in class 1 or 2 appliances
- Serial interface Modbus over RS485
- Software class and structure Class A
- Cleaning the front side Only use a soft, non-abrasive cloth and neutral detergents or water

Conformity

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, EN61000-3-2
Radio	Red	EN301489-1/EN301489-17, EN300328
	FCC	Contains FCC ID: WAP2001
	IC	Contains IC: 7922A-2001
	ANATEL	*ID: 03780-21-05684* *Este equipamento não tem direito à proteção contra interferência prejudicial e não pode causar interferência em sistemas devidamente autorizados.*

Applications with flammable gas refrigerant (*)
About the use of this product with A3, A2 or A2L flammable refrigerants, it has been evaluated and judged compliant with the following requirements:

- Annex CC of IEC 60335-2-24:2010 referenced by clause 22.109 and Annex BB of IEC 60335-2-89:2019 referenced by clause 22.113; components that produce arcs or sparks during normal operation have been tested and found to comply with the requirements in UL/IEC 60079-15;
- IEC 60335-2-24:2010 (clauses 22.110)
- IEC 60335-2-40:2018 (clauses 22.116, 22.117)
- IEC 60335-2-89:2019 (clauses 22.114)

Surface temperatures of all components and parts have been measured and verifi ed during the tests required by IEC 60335 cl. 11 and 19, and found not exceeding 268 °C.
Acceptability of these controllers in end use application where flammable refrigerant is used shall be reviewed and judged in the end use application.(*) Applicable to the products with revision above 1.5xx.

Dismantling

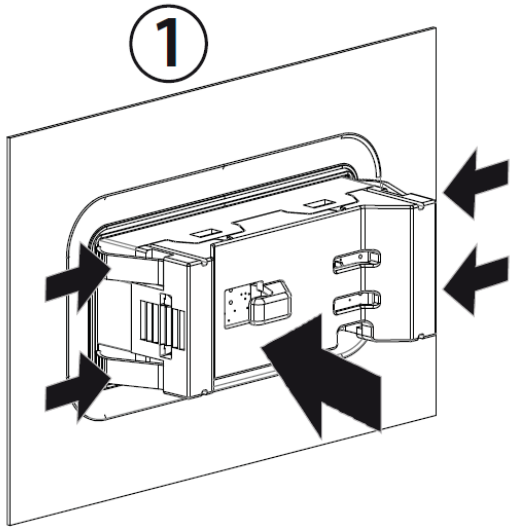


Fig. 4

Replacing
In case of replacing the user terminal, to avoid malfunctions:

1. Switch off (unplug) the unit;
2. Replace the user terminal;
3. Restart the unit.

NFC/BLE communication
NFC (Near Field Communication) is simple and fast and can be used when commissioning the controller. For further information, see the MPXone system manual +0300086EN.

Electrical connections

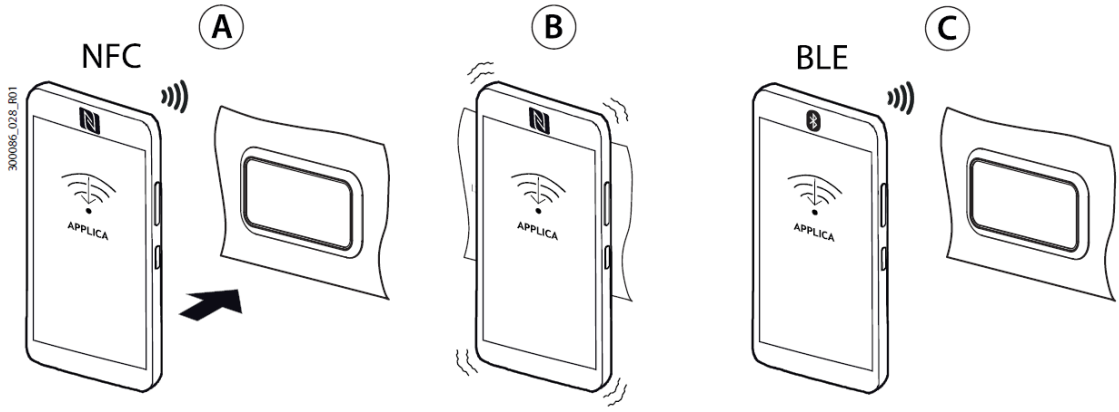
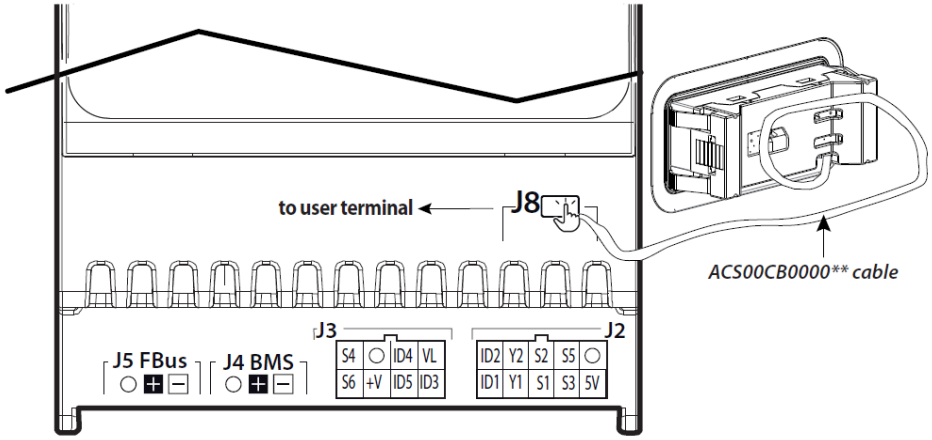


Fig. 5

User terminal



Remote display

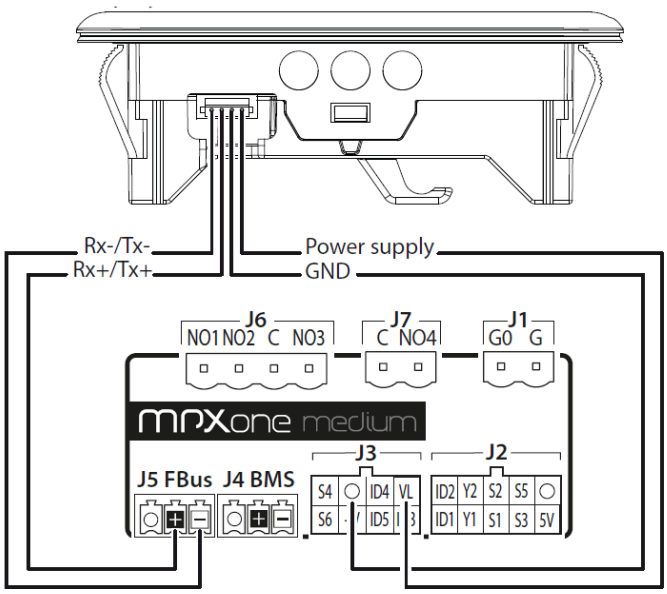


Fig. 6

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.

IMPORTANT WARNINGS

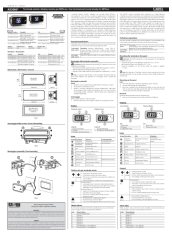
The CAREL product is a state-of-the-art product, whose operation is specified in the technical documentation

supplied with the product or can be downloaded, even prior to purchase, from the website www.carel.com. – The client (builder, developer or installer of the final equipment) assumes every responsibility and risk relating to the phase of configuration the product in order to reach the expected results in relation to the specific final installation and/or equipment. The lack of such phase of study, which is requested/indicated in the user manual, can cause the final product to malfunction of which CAREL can not be held responsible. The final client must use the product only in the manner described in the documentation related to the product itself. The liability of CAREL in relation to its own product is regulated by CAREL's general contract conditions edited on the website www.carel.com and/or by specific agreements with clients.

The complete user manual (+0300086EN) for the product can be downloaded at www.carel.com under the "Services / Documentation" section or via QR Code.

CAREL Industries HQs
Via dell'Industria, 11 – 35020 Brugine – Padova (Italy)
Tel. (+39) 0499716611 – Fax (+39) 0499716600 – www.carel.com – e-mail: carel@carel.com

Documents / Resources

	CAREL AX3000 MPXone User Terminal and Remote Display [pdf] Instructions AX3000PS2002 0-1, AX3000PS2003 0-1, AX3000PS20X1 0-1, AX3000 MPXone User Terminal and Remote Display, AX3000, AX3000 User Terminal and Remote Display, MPXone User Terminal and Remote Display, User Terminal and Remote Display, MPXone, MPXone User Terminal, MPXone Remote Display, User Terminal, Remote Display

References

- CAREL
- CAREL