REVO KP3
HMI
Operative Display for REVO C and REVEX Series

M-RKP3

Important warnings for safety

The unit are integral part of industrial equipments.
When it is supply, the unit is subject to dangerous tensions. Don't remove the plastic cover.
Don't use this unit in aerospace and nuclear application.

Electric Shock Hazard (Rischi di scosse elettriche, Risque de choque électrique)
When thyristor unit has been connected to main supply voltage and is switched off, before to touch it be secure that the unit is isolated and wait at least one minute to allow discharging internal capacitors. Thus be secure that:
  · access to thyristor unit is only permitted to specialised personnel;
  · the authorised personnel must read this manual before to have access to the unit;
  · the access to the unit must be denied to unauthorised personnel.

Important warnings (Avvertenze importanti, attention)
During the operations with units under tension, local regulations regarding electrical installation should be rigidly observed:
  · Respect the internal safety rules.
  · Don't bend components to maintain insulation distances.
  · Protect the units from high temperature humidity and vibrations.
  · Don't touch components to prevent electrostatic discharges on them.
  · Verify that the size is in line with real needs.
  · To measure voltage current etc. on unit, remove rings and other jewels from fingers and hands; also make sure that the instruments are in good condition.
  · Authorized personnel that work on thyristor unit under power supply voltage must be on insulated board
This listing does not represent a complete enumeration of all necessary safety cautions

Protection (Protezione, Protection)
The protection of the REVO series units complies with international specifications with IP20 protection degree. To assess whether the IP20 protection is sufficient, consider the place where the units are installed.

Earth (Messa a terra, Terre)
For safety, the Thyristor unit with isolated heat-sink must be connected to earth.
Earth impedance should be correspondent to local earth regulation. Periodically the earth efficiency should be inspected.

Electromagnetic compatibility (Compatibilità elettromagnetica, Compatibilité électromagnétique)
Our thyristor units have an excellent immunity to electromagnetic interferences if all suggestions contained in this manual are respected. In respect to a good Engineering practice, all inductive loads like solenoids contactor coils should have a filter in parallel

Emissions (Emissioni, Emission)
All solid-state power controllers emit a certain amount of radio-frequency energy because of the fast switching of the power devices. The Thyristor unit are in accord with the EMC norms, CE mark.
In most installations, near by electronic systems will experience no difficulty with interference. If very sensitive electronic measuring equipment or low-frequency radio receivers are to be used near the unit, some special precautions may be required. These may include the installation of a line supply filter and the use of screened (shielded) output cable to the load.

Warranty condition

Producer gives a 12 months warranty to its products.

The warranty is limited to repairing and parts substitution in our factory and does exclude products not properly used and fuses.

Warranty does not include products with serial numbers deleted. The faulty product should be shipped to Producer at customer's cost and our Service will evaluate if product is under warranty terms.

Substituted parts remain of Producer property.

$\mathsf{C}\mathsf{E}$

Return Material Authorization (RMA)

Customers wishing to return any items, whether they are incorrectly supplied, faulty or damaged in transit, must first complete a Return Material Authorisation (RMA) form to obtain an RMA number from the Service Department.
A full repair service is available for customers. Prior to submitting the RMA form and returning products, customers are recommended to contact the technical support team to determine whether the issue can be resolved with telephone support.

How the RMA service works

The RMA form and details are available on our web sites:

https://www.cdautomation.com/returns-material-authorisation/

When completing the RMA form, please be as specific as possible about the problem, including any pertinent application details. The more information given, the more quickly and more thoroughly the problem can be solved. The minimum information required is:

1. The Full Model Number

2. Quantity of units being returned

3. The units Serial Number(s)

4. A description of the problem ("faulty" or "unknown" is not sufficient)

Summary

1   Characteristics

- Construction: Housing plastic molding
- Display: 4.3", 7" TFT LCD 65.536 color
- Supply: 24 ± 20% V, 250 mA a 24 V cc

1.1 Environment features

- Operating Temperature: 0° to 50° C (32° to 122° F)
- Storage Temperature   -20° to 60° C (-4° to 140° F)
- Relative humidity: 10% to 90% at 40° C, no condensation
- Front panel meets: NEMA 4 / IP65

2   Order Code

Order Code									
1	2	3	4	5	6	7	8	9	10
R	K	P	3	- _	_	- _	- _	-	_ _

Version	4
description	code
Version **3** for Revo C and Revex	3

Screen dimension	5	6
description	code	
4.3"	0	4
7.0"	0	7
10.0"	1	0

Communication	7	8
description	code	
MODBUS RTU + Ethernet	M	ETH

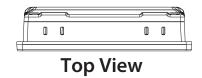| Approvals	9	10
description	code	
CE	0	0
CE + UL	U	L

3   Wiring and dimensions
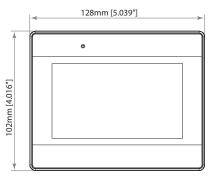
3.1 REVO-KP 4.3" (CE Version)

Pin serial Port
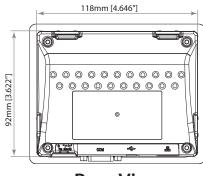
CN1 (D-sub 9pin, female)	Pin	Signal Name	Description
	1	Tx/Rx -	Data – (Blue)
	2	Tx/Rx +	Data + (Brown)

3.1.2 Dimensions and fixing holes

Top View

128mm [5.039"]

102mm [4.016"]

Front View

Side View

119mm [4.685"]

93mm [3.661"]

R2mm [R0.079"]

119mm [4.685"]W x 93mm[3.661"]H

Cutout dimensions

118mm [4.646"]

92mm [3.622"]

Rear View

32mm [1.260"]

Bottom View
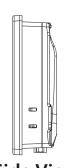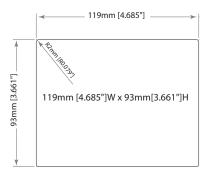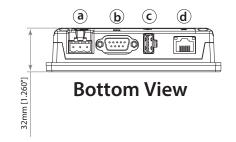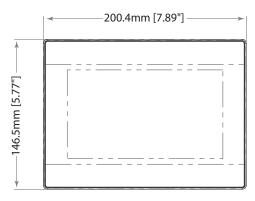
a	Power connector
b	COM1 RS-232, RS-485 2W/4W COM3 RS-485 2W
c	USB Host
d	Ethernet

3.2 REVO-KP 7'' (CE Version)
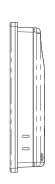
Pin serial Port

CN1 (D-sub 9pin, female)	Pin	Signal Name	Description
	1	Tx/Rx -	Data – (Blue)
	2	Tx/Rx +	Data + (Brown)

3.2.1 Dimensions and fixing holes

200.4mm [7.89"]

146.5mm [5.77"]

Front View

Side View

192mm [7.56"]

138mm [5.43"]

192mm [7.559"]W x 130mm [5.433"] H

Cutout dimensions

189.5mm [7.46"]

135.6mm [5.34"]

Rear View

34mm [1.34"]

Bottom View
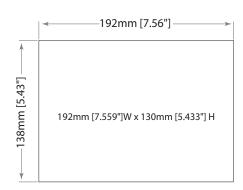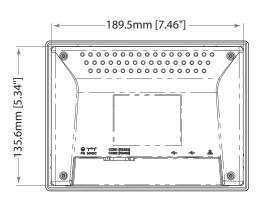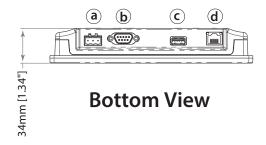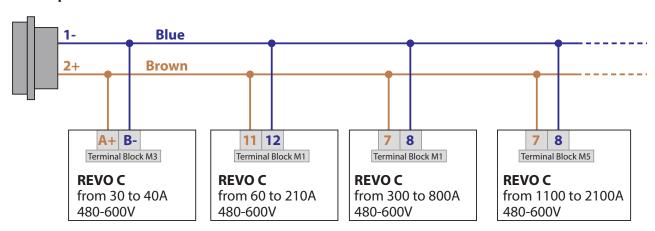
a	Power connector
b	COM1 RS-232 COM2 RS-485 2W/4W
c	USB Host
d	Ethernet

3.3 Wirings
Wiring with REVO C series
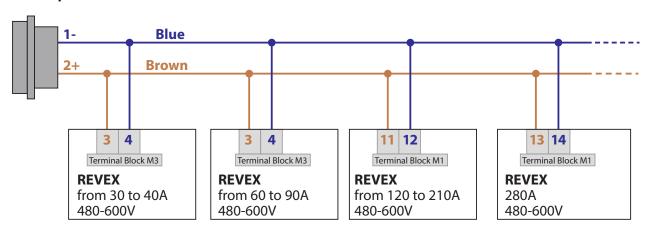
D-sub 9 pin

1-	**Blue**	
2+	**Brown**	

A+ B-	11 12	7 8	7 8
Terminal Block M3	Terminal Block M1	Terminal Block M1	Terminal Block M5
REVO C from 30 to 40A 480-600V	**REVO C** from 60 to 210A 480-600V	**REVO C** from 300 to 800A 480-600V	**REVO C** from 1100 to 2100A 480-600V

Wiring with REVEX series

D-sub 9 pin

1-	**Blue**	
2+	**Brown**	

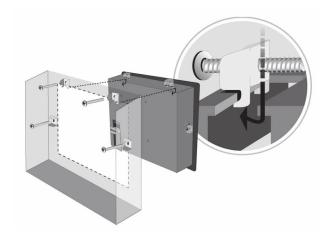| 3 4	3 4	11 12	13 14
Terminal Block M3	Terminal Block M3	Terminal Block M1	Terminal Block M1
REVEX from 30 to 40A 480-600V	**REVEX** from 60 to 90A 480-600V	**REVEX** from 120 to 210A 480-600V	**REVEX** 280A 480-600V

NOTE: Serial Communication Baudrate on Static Unit:
On "Communication Menu" set "Port 1 Baud" parameter to **19.2K**

4 Installation

Before installation, make sure that the product has not been damaged during transport.
In case of damage, notify the carrier immediately.
Verify that the product is indeed the one ordered.

For mounting use the supplied brackets.

To connect the 24Vdc power supply using the supplied clamp.

5 Operation

The panel is configured to communicate with the static relays CD Automation series REVO C and REVEX.

5.1 Functional description

5.1.1 Numeric fields

The BLUE values are read-only.

The BLACK values, if enabled, are read/write.

Ex: The reference parameter is read-only if it is set to "ANALOG", with read/write access if set to "REMOTE".

5.1.2 Virtual keyboards

Numeric   Alphanumeric

BS	=	Backspace
Clr	=	Clear all
ESC	=	Close the window without any operation
'_'	=	Minus sign
ENTER	=	Confirm and submit data
MAX	=	Maximum possible value
MIN	=	Minimum possible value

5.1.3 Messages

Making your login using the button on the menu

5.2 Menu

By pressing the [MENU] key the navigation Menu will appear.

Level 1   Level 2

Function keys

[6 zone]	6 lines display
[4 zone]	4 lines display
[Log in]	Calls up the page to log in at a different level
[Info]	Calls up the version information page
[Com status]	Calls up the Serial Communication Status page
[Conf]	REVO-KP3 configuration

5.3 Home page

The home page can be 4 or 6 lines
Each line can be configured on the configuration page depending of the connected device (REVO C or REVEX) or available service (diagnostic screens communication, or reading analog inputs).
Here there are some examples:
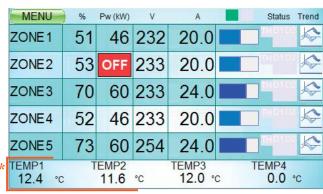
4 zones setting   6 zones setting

*Only with TU-E module

5.3.1 Function description

The pages are divided into columns

First column = Zone name
%   = Value of the percentage of control, which can be in analog input or panel
Pw   = Power to load
V   = Voltage to load
A   = Average current load, in the right graph with full scale = calibration current + 10%

REVO C/REVEX
D1   = State Digital Input 1
D2   = State Digital Input 2
SC   = If On, SCR short circuit
HB   = If On, Heater Break alarm active
OFF = If Off, SCR NOT enabled to work (Red background)
CL   = If On, Current limit alarm active
TH   = If On, Thermal Alarm active
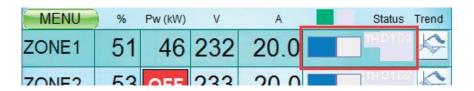
5.3.2 Actions on the main page

5.3.2.1 ZOOM on REVO C / REVEX zone

Tap the bar graph or the states and you will enter the Zoom area
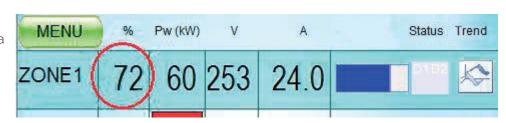
Here i'ts possible to
- Set input type (Level 1):
  - Digital: controlled by REVO KP3
  - Analog: controlled by analog input

- Set the percentage value if the Digital input type is set

- Enable and Disable the REVO Unit
  - ON: Enabled
  - OFF: Disabled

- The values
  - Reference: Percentage request
  - Power: Average power
  - Voltage: Load Voltage
  - Current: Average current on load
  - Curr.limit: Current limit in % (appears only if enabled)
    NOTE: The value is referred to the inner TA size
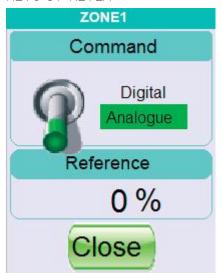
NOTE: The scale values are read directly from the unit and calculated with an abundance of 10%.

5.3.2.2 Reference Set

Tap the % value and a window will appear with

REVO C / REVEX

Here it's possible to set the input type (Level 1)

- Digital: Controlled by REVO-KP3

- Analog: Controlled by Analog Input

Set the % value when Digital

5.3.2.3 Enabling and disabling a zone

Tap the PW value and a window will appear with

REVO C / REVEX
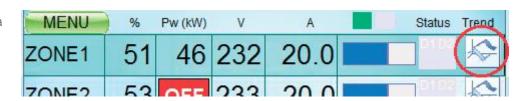
Enable and Disable

- ON: Enabled

- OFF: Disabled

set the maximum percentage value

5.3.2.4 Trend

Tap the Trend icon a
window will appear with

REVO C / REVEX

Reference: 0-100%
Voltage: 0-operative voltage + 10%
Power: 0-100%
Average current: 0-load current + 10%
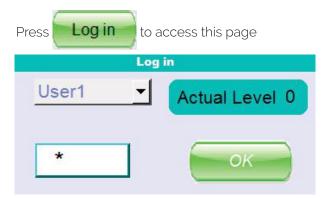
the trend has a 10 minute window, data out of the window can no longer be seen

5.4 Log In

Press   **Log in**   to access this page

Select the user and insert the password
If the password is right the level will change to the selected ones otherwise it will go to Level 0.

5.4.1 Access levels

Level 0 (generic user - No password)

It's possible to:
- Navigate on allowed pages
- Set the % reference
- Set zone On / Off
- See the trend

Level 1 (advanced user - Standard password: 1111)

It's possible to:
- As level 0
- Switch the input type

Level 2 (installer user - Standard password: 2222)
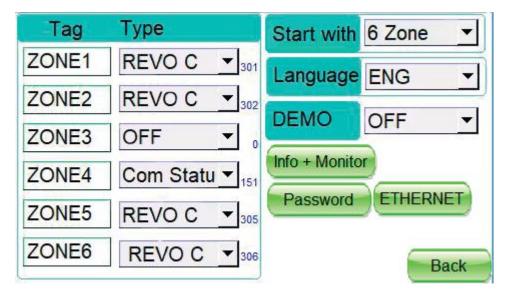
It's possible to:
- As level 1
- Configure the REVO-KP3
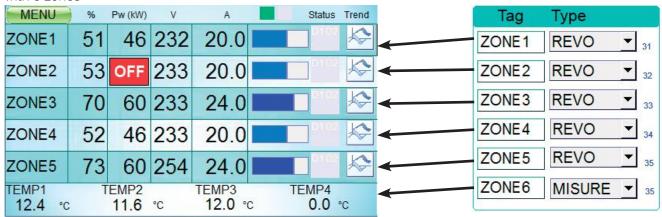
5.5 Configuration/Reset Level

5.5.1 Zones configuration
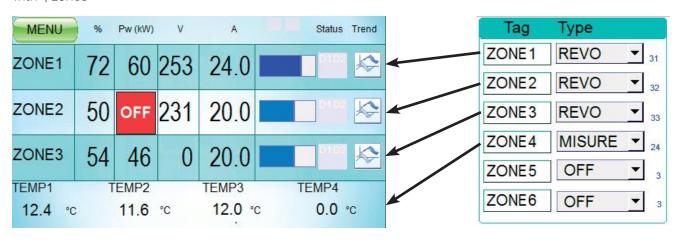
Press **Conf** to access this page
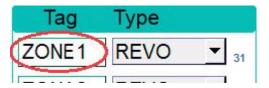

with 6 zones
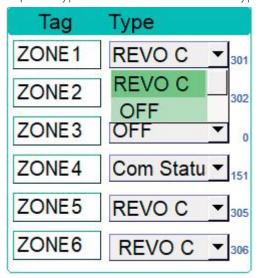

with 4 zones

5.5.1.1 Zone names

Tap the Name to customize the 6 characters text with an alphanumeric keypad
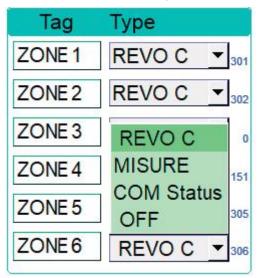

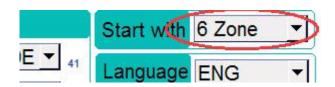### 5.5.1.2 Type

Tap the Type to select the instrument type

For the 6th and 3d zone is possible to set them as measures from analog input boards or serial state
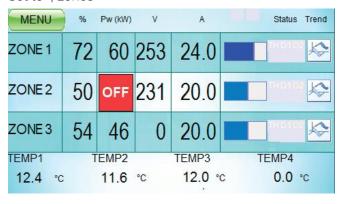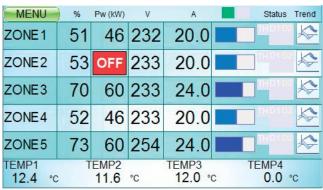
5.5.1.3 Starting page

Tap "Start with" to set the starting page

Set to 4 zones

Set to 6 zones

5.5.1.4 Language

Tap "Language" to set the language