



Series XC660/XC670

Digital displays for work safety

Operating instructions (version 3.00)

1 Contact

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2 Legal note

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This operation manual has been prepared with the utmost care. However, we do not accept any liability for possible errors. We always appreciate your suggestions for improvement, corrections, comments and proposals. Please contact us: editing@siebert-group.com

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Table of contents

1 Contact	2
2 Legal note	3
3 Safety precautions	5
Important information	5
Safety	5
Intended use	5
Mounting and installation	5
Grounding	6
EMC measures	6
Cleaning	6
Disposal and return of old devices	6
Batteries and rechargeable batteries	7
4 Unit description	8
Model designation	8
Brightness control	8
Energy saving mode	8
Display accuracy	9
Battery	9
Unit construction	9
IR receiver	9
Opening the unit	10
5 Installation	11
Requirements to the installation site	11
Mounting kit	11
Mounting of the device	11
6 Connection to power and data lines	12
Power supply connection	12
Connecting the Ethernet data cable	13
Connecting the USB cable	13
Connection via the Bluetooth interface	14
7 Notes on commissioning	15
Interfaces	15
Displays with infrared remote control	15
Displays with Ethernet, USB, or Bluetooth interfaces	16
Start-up and testing	16
8 Service and support	17
9 Technical data	18

3 Safety precautions

Important information

Read these operating instructions before using the device. It contains important information on the use, safety and maintenance of the device. This helps you to protect yourself and prevent damage to the device.



Instructions that may lead to death, personal injury or considerable material damage if they are not followed or not followed correctly are highlighted by the warning triangle shown here.

The operating instructions are intended for trained professional electricians familiar with the safety standards of electrical technology and industrial electronics. The manufacturer is not liable if the information in these operating instructions is not complied with.

Store these operating instructions in an appropriate place.

Safety



Components inside the devices are energized with electricity during operation. For this reason, mounting and maintenance work may only be performed by qualified personnel in accordance with the relevant safety regulations.

The repair and replacement of components and modules may only be carried out by the manufacturer for safety reasons and due to the required compliance with the documented unit properties.

The devices do not have a power switch. They are in operation immediately after the operating voltage is applied.

Intended use

The devices are intended for use in industrial environments. They may only be operated within the limit values stipulated by the technical data.

When configuring, installing, maintaining and testing the devices, the safety and accident-prevention regulations relevant to use in each individual case must be complied with.

Trouble-free, safe operation of the units requires proper transport, storage, installation, mounting and careful operation and maintenance of the devices.

Mounting and installation

The attachment options for the units were conceived in such a way as to ensure safe, reliable mounting.



The user must ensure that the fastening material used, the device carrier and the anchoring at the unit device are sufficient for secure mounting under the given on-site conditions.

The devices are to be mounted in such a way that they can be opened up while mounted. Sufficient space for the cables must be available in the unit near the cable entries.

Sufficient space is to be kept clear around the devices to ensure air circulation and to prevent the build-up of heat resulting from use. The relevant information must be heeded in the case of units ventilated by other means.



When the housing fasteners are opened, the front frame of the housing hinges out upward or downward (depending on the unit version) automatically.

Grounding

All devices are equipped with a metal housing. They comply with safety class I and require a protective earth connection. The connecting cable for the operating voltage must contain a protective earth wire of a sufficient cross section (DIN VDE 0106 part 1, DIN VDE 0411 part 1).

EMC measures

The devices comply with the current EU Directive (EMC Directive) and provide the required interference immunity. Observe the following when connecting the operating voltage and data cables:

Use shielded data cables.

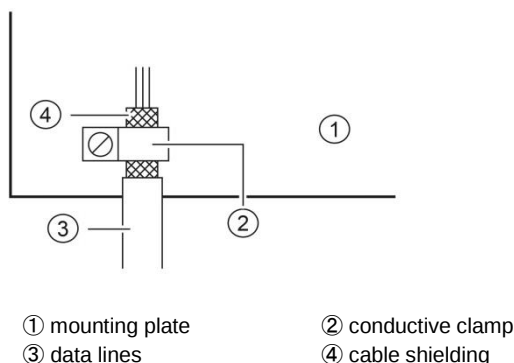
The data and operating voltage cables must be laid separately. They may not be laid together with heavy-current cables or other interference-producing cables.

The cable thickness must be properly assessed (DIN VDE 0100 Part 540).

The cable lengths inside the units are to be kept as short as possible to prevent interference. This applies especially to unshielded operating voltage cables. Shielded cables are also to be kept short due to any interference which might be emitted by the shielding.

Neither excessively long cables nor cable loops may be placed inside the units.

The connection of the cable shielding to the functional ground (PE) must be as short and low-impedance as possible. It should be made directly to the mounting plate over a large area with a conductive clip:



The cable shielding is to be connected at both cable ends. If equipotential bonding currents are expected due to the cable arrangement, electrical isolation is to be performed on one side. In this case, capacitive connection (approx. 0.1µF/600 V AC) of the shielding on the isolated side must occur.

Cleaning

Use a scratch-resistant cloth to clean the front panel. Do not clean the device with a steam cleaner or pressure washer.

Disposal and return of old devices



Dispose the packing in an environmentally friendly manner. This device is subject to the European directive on waste electrical and electronic equipment (WEEE). The directive provides the framework for the EU-wide take-back and recycling of old appliances.

Enquiries therefore should be sent by e-mail to the following e-mail address:
info@siebert-group.com

Units or unit parts which are no longer needed are to be disposed of in accordance with the regulations in effect in your country. Personal data on the old appliances to be disposed of must be deleted by the user.

Batteries and rechargeable batteries



As an end user, you are legally obliged (Battery Ordinance) to return all used batteries and rechargeable batteries. Disposal in household waste is prohibited!

Batteries/rechargeable batteries containing harmful substances are marked with the symbols shown here, which indicate that they must not be disposed of in household waste. The designations for the relevant heavy metal are: Cd = cadmium, Hg = mercury, Pb = lead (the designation is on the battery/accumulator, e.g. under the waste bin symbols shown on the left).



You can hand in your used batteries/accumulators free of charge at your local community collection point or wherever batteries/accumulators are sold.

In doing so, you are fulfilling your legal obligations and making your contribution to environmental protection.

4 Unit description

Model designation

This manual applies to devices of the XC660/XC670 series.

The devices are available for indoor or outdoor use:

Order-code	Application
XC6xx-xxx- N -xx	Units for indoor use, protection type IP40
XC6xx-xxx- A -xx	Units for outdoor use, protection type IP54

The scope of information consists of the following characteristic values which you assign to the various fields according to the specific front foil during the first start-up:

- Acciden-free days
- Number of accidents
- Accident-free days record
- Workdays lost
- Custom fields 1 to 6

For each characteristic you can enter a fixed number. Alternatively, you can activate the automatic function to ensure that the field is counted by one further at midnight. Therefore, the display must be switched on at midnight.

Furthermore, the following information can be displayed as required:

- Current time in HH:MM format
- Current date in DD.MM, DD.MM.YY or DD.MM.YYYY
- Air temperature and humidity with additional sensor

Brightness control

The brightness of the LEDs can be manually adjusted to the ambient brightness.

Alternatively, the automatic brightness control can be activated with the 'SafetyDisplayConfigurator' (does not apply for displays with infrared control (XC6xx-xxx-x-02)). The display automatically adjusts its luminosity to the ambient brightness. If the ambient brightness is lower, for example in cloudy sky or at night, the display dims down automatically to avoid glare effects e.g..

At high ambient brightness the display increases its brightness for better readability.

Energy saving mode

With the configuration program 'SafetyDisplayConfigurator' the energy-saving mode can be switched on (does not apply for displays with infrared control (XC6xx-xxx-x-02)).

In this mode, all LEDs are automatically dimmed at a user-defined point of time and reactivated at another point of time. During the darkening mode only a decimal dot flashes briefly every 30 seconds.

Energy consumption can thus be significantly reduced during the time in which the display is not read, for example at night.

Display accuracy

Fields to which you have assigned the 'automatic counting' property during configuration with the 'SafetyDisplayConfigurator' will increment by one at approximately midnight each day. Typically, this refers to the counter for accident-free days.

This function requires that the display is in operation around the clock. In the event of a power outage, the time of the automatic increment will be delayed by the duration of the outage.

Every time you make a change using the 'SafetyDisplayConfigurator', the time is reset to midnight.

Battery

The battery (lithium battery, type CR2032) is responsible for the power reserve of the real-time clock. It is located in a battery holder and should be replaced after three years.

Unit construction

The following figure shows model type XC670 as example for all other versions.



① Friction lock ② Locking support ③ IR receiver

IR receiver

The IR receiver (only for devices with infrared remote control XC660/XC670-xxx-x-02) is located in a plastic housing on the bottom of the unit.



CAUTION!

If the display is placed upright without a spacer of at least 10 cm, the IR receiver will be damaged.

Opening the unit

To install the unit and connect the power supply, the display must be opened.



To do this, loosen the turn bolt fastener on the bottom of the unit using the supplied square socket wrench. After the front panel can then be folded upward and locked in place using the support on the right side.



DANGER!

Ensure that the housing is locked properly in place. If not locked properly, the front panel may suddenly fall down.

5 Installation

Requirements to the installation site

The display is designed for wall mounting. The wall surface has to be plane and free of irregularities. The wall must have a sufficient load-bearing capacity.



ATTENTION!

If the wall surface, where the device is to be mounted, is uneven the housing may warp and become damaged when mounted on the wall.

Mounting kit

All devices come with a kit containing the components needed for installation.

Mounting of the device

The power supply cable and the data cable (Ethernet or USB cable) are fed into the device through the feed-through holes in the rear or bottom of the housing.

If the power and data cables are fed through the feed-through holes in the bottom of the housing, use the PG cable glands included in delivery.

If, for devices intended for outdoor use, they are inserted through the feed-through holes in the rear panel of the housing, the cable grommets supplied in the mounting kit must be inserted into the feed-through holes.

All unused feed-through holes must be closed with the sealing plugs supplied in the mounting kit.

Mount the device to the wall using the mounting holes, screws, and anchors. You can mount the display either internally ① or externally by using the metal brackets included in the mounting kit ②.



Note that the metal brackets must first be screwed to the display, and then the unit must be fixed to the wall.

If the supplied screws and anchors are not suitable, use appropriate fastening materials instead.

6 Connection to power and data lines

Power supply connection



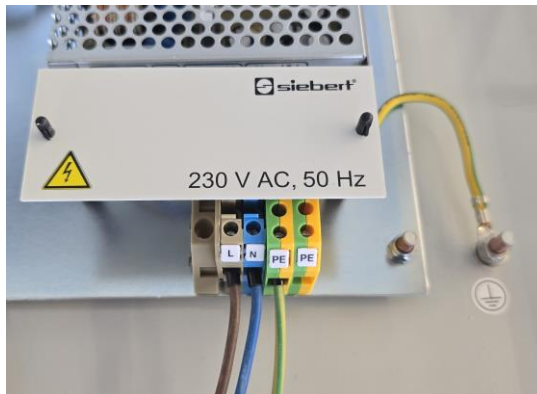
DANGER!

Risk of electric shock. The device contains dangerous voltages that can lead to death if handled improperly.

Installation must only be carried out by qualified personnel.

After mounting the device on the wall, connect the power cord to the terminal block. Ensure that the 230V cable has not been damaged at any point when inserting it into the device.

The device has a metal housing. It complies with Protection Class I and requires a protective earth connection. The connection cable for the operating voltage must include a protective earth conductor with sufficient cross-sectional area (DIN VDE 0106 Part 1, DIN VDE 0411 Part 1).



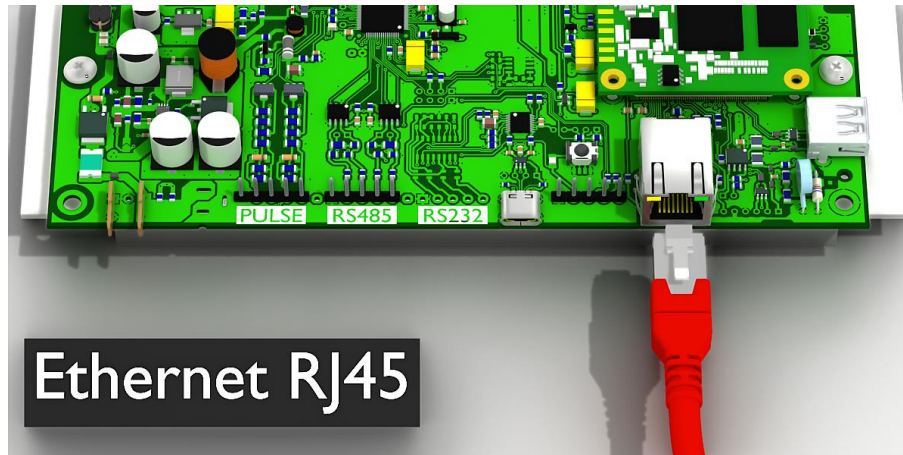
The connection terminals are protected against contact by a labeled cover plate. Remove this plate by loosening the two marked Torx T10 screws and connect the individual wires to the terminals marked PE, L, and N on the terminal block.

The protective conductor (yellow/green) can be connected to either of the two yellow/green terminals. Ensure that the power cord has sufficient strain relief.

Immediately after switching on the power supply, a red LED flashes on the control unit. It goes out after a few seconds. Numbers appear on all displays when the unit is first switched on. Depending on the device model, - after configuration has been completed - the decimal points light up when turned on later.

Connecting the Ethernet data cable

Only valid for displays with Ethernet interface (XC6xx-xxx-x-05).

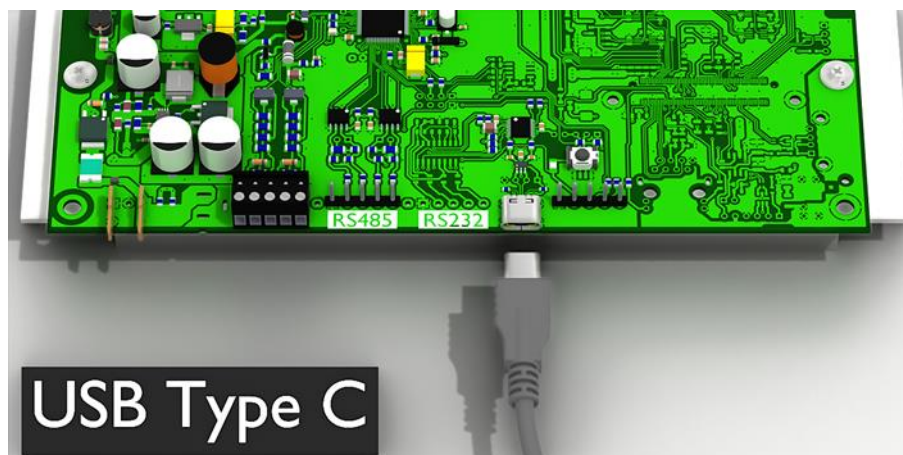


Displays with Ethernet interface are connected with an Ethernet cable cat. 5 or higher. Modern PCs or laptops recognize the cable type automatically.

If your display is operated with older network components, the following cables are required:

- a crosses Ethernet cable cat. 5 or higher for a direct connection to the PC or laptop with the display
- an Ethernet patch cable cat. 5 for the connection of the PC or laptop via a network switch or -hub with the display

Connecting the USB cable



A suitable USB cable (USB Type C to USB Type A) is included in delivery.

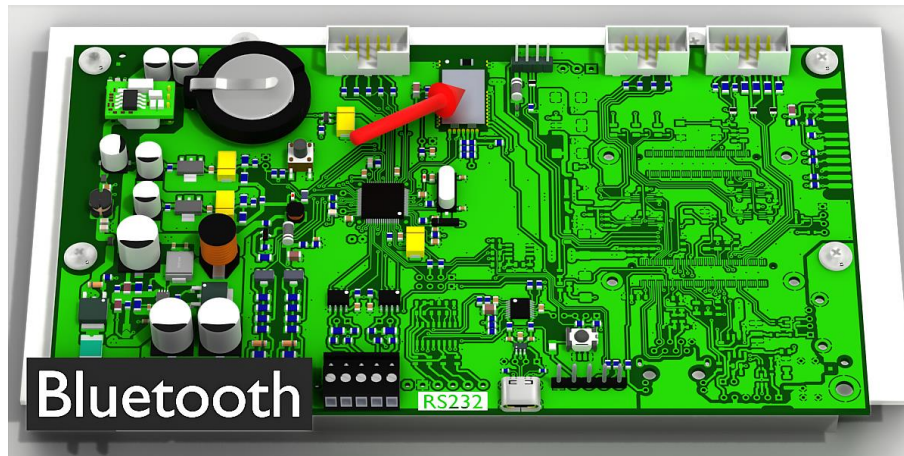
Connection via the Bluetooth interface

Applies only to displays with a Bluetooth module featuring the Serial Port Profile (XC6xx-xxx-x-04).

To access a display via Bluetooth it must first be paired with a laptop.

The displays log on with the name 'Siebert-nnnn', where 'nnnn' are the last four digits of the unique Bluetooth ID.

No pairing code is used.



Further notes see chapter 'Bluetooth connection'.

7 Notes on commissioning

The safety displays can be configured and operated via various interfaces. In addition to a PC or laptop, you will need additional tools for configuration and operation, depending on the display's interface (not for displays with infrared remote controls).

Interfaces

The following interface variants are distinguished:

Order no.	Interface
XC6xx-xxx-x-02	Infrared remote control
XC6xx-xxx-x-03	USB (socket type C)
XC6xx-xxx-x-04	USB (socket type C) or Bluetooth
XC6xx-xxx-x-05	Ethernet (RJ45)

The configuration and changing of values is carried out via the Windows program 'SafetyDisplayConfigurator' included in delivery (exception: display with infrared remote control).

Displays with infrared remote control

No PC software is required for displays with infrared remote control. The operation is carried out with the remote control included in delivery.

The complete operating concept is described in detail in the following user manuals:

- Devices with HAMA remote control



Series XC600 – Digital displays for safety at work with HAMA V2 remote control

Series XC600 – Digital displays for safety at work with HAMA V1 remote control (devices up to serial number 10100716)

- Devices with Thomson remote control



Series XC600 – Digital displays for safety at work with infrared remote control

These can be found on the following website:

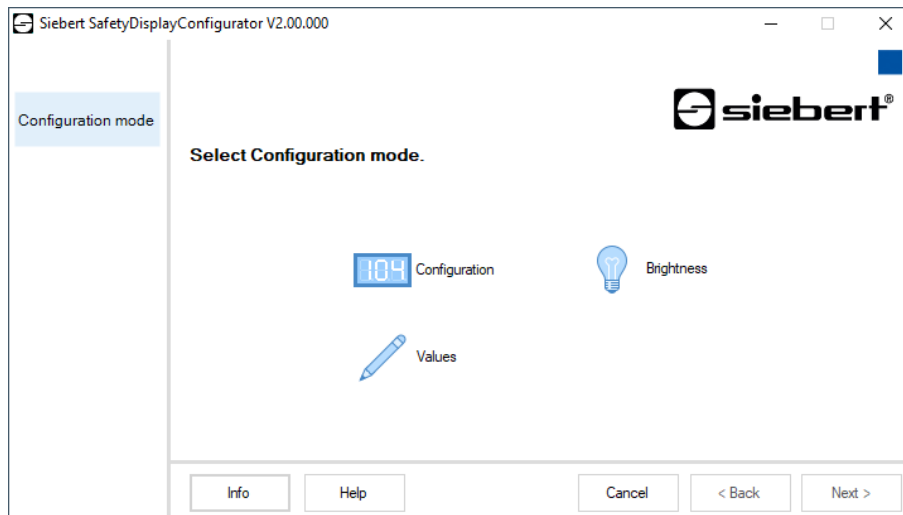


Series XC600

manuals.siebert-group.com/xc600

Displays with Ethernet, USB, or Bluetooth interfaces

The display is configured, and all network parameters (network addresses, protocols, etc.) are set, exclusively by using the Windows software 'SafetyDisplayConfigurator'.



The necessary steps are described in detail in documentation of the program 'SafetyDisplayConfigurator'.

You can find this documentation and the 'SafetyDisplayConfigurator' software on the following website:



Series XC600

manuals.siebert-group.com/xc600

Once you have successfully completed the configuration, the software is only needed to reset the accident-free days in the event of an accident.

Start-up and testing

It is advisable to perform a functional test before locking the device.

8 Service and support

If you have any questions or need help troubleshooting, we are happy to assist you. For this purpose, please contact one of the support addresses listed in chapter 1 by phone or email.

To ensure we can assist you quickly and efficiently, please have the following information ready when contacting us:

1. Information on the nameplate, particularly the model and serial number
2. A detailed description of the problem and the circumstances
3. A phone number and email address where you can be reached for follow-up questions

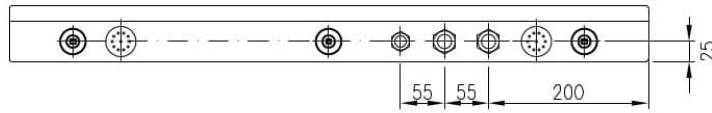
9 Technical data

	Series XC660	Series XC670
Dimensions (W x H x D)	800 x 500 x 70 mm	1000 x 800 x 70 mm
Weight	approx. 18 kg	approx. 32 kg
LED display digit height	25 mm	55 mm
Power consumption	25 W max.	50 W max.
Operating voltage	115/230 (85...264) V AC, 50/60 Hz ±20 %	
Protection type	IP40, optional IP54*	
Housing material	Steel sheet, powder-coated, optionally stainless steel 1.4301 (V2A) or 1.4571 (V4A) powder-coated	
Housing color	Light grey RAL 7035	
Operating temperaturer	0...40 °C, optionally -20...50 °C*	
Relative humidityt	< 90 %, non-condensing	
Storage temperature	-25...70 °C	

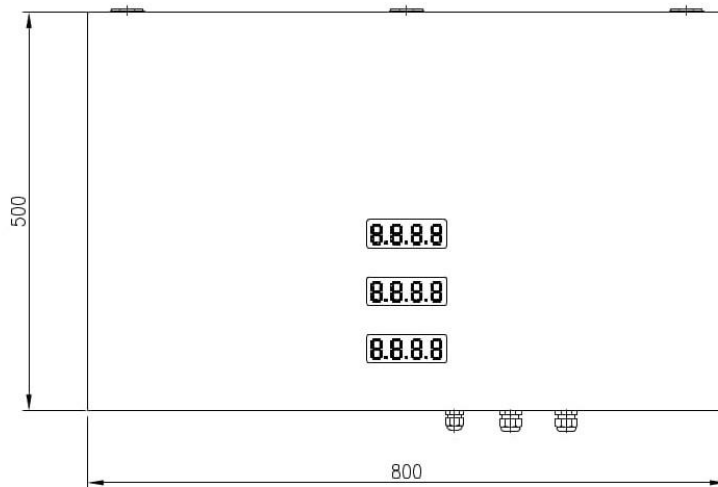
* Devices with equipment package for outdoor use

Series XC660

Bottom view



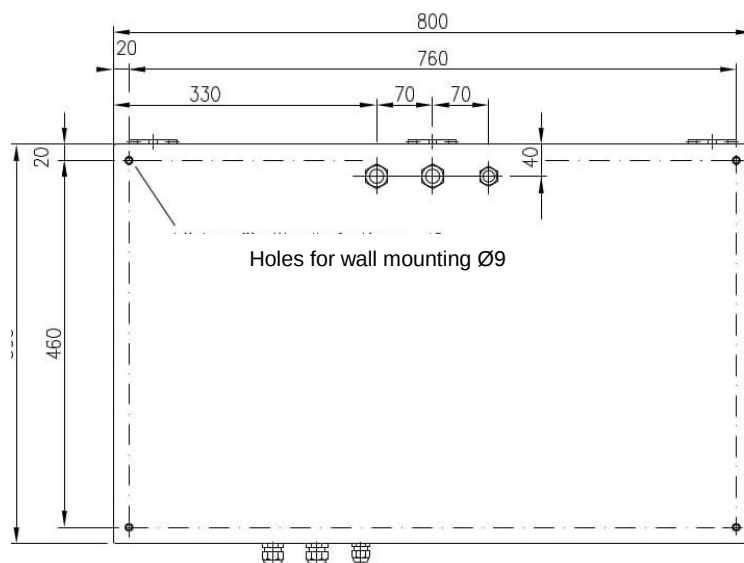
Front view



Side view

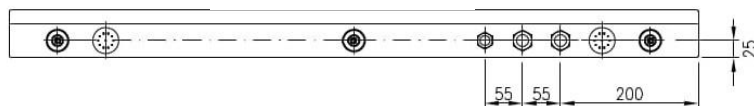


Rear view

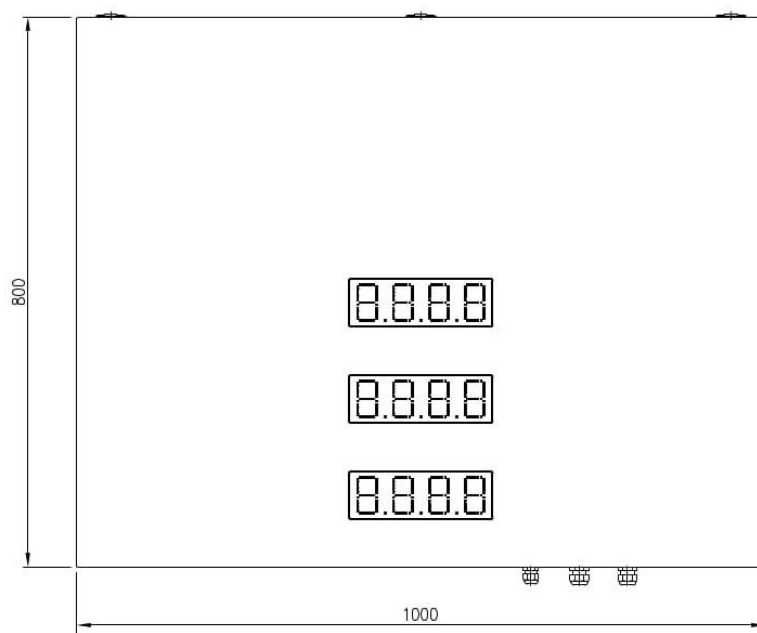


Series XC670

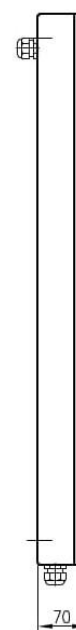
Bottom view



Front view



Side view



Rear view

