BENDER
The Power in Electrical Safety©

Product overview

Alarm indicator, operator and display panels

Stay on top of things

Increasing complexity

In nurses' stations, operating theatres or intensive care units, nurses and physicians now have to handle a wide range of equipment and controls:
Lighting, air conditioning, blinds, operating tables, communication systems and much more.
It is almost impossible to keep track of everything.

However, all devices and systems should be easy and intuitive to operate. And, of course, everything must work trouble-free, because otherwise impairments or even hazardous situations could arise, for example if an electrical device is defective or any other electrical fault occurs.

Everything at a glance

What if there was a control and information centre and medical staff no longer had to worry about complicated operation? All relevant information would be shown on a display in a clear way. In addition, all important devices could be controlled centrally from that point in a completely intuitive way.
And what if, in case of a malfunction somewhere in the system, the medical staff knew immediately where the problem was and got clear and understandable instructions on what to do? What if, at the same time, a technician was automatically informed without having to be called first? And the technician could already see where the fault lies and react remotely, if necessary?

Table of contents


BENDER
COMTRAXX®
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Do 24.09.2020
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18°c
System OK

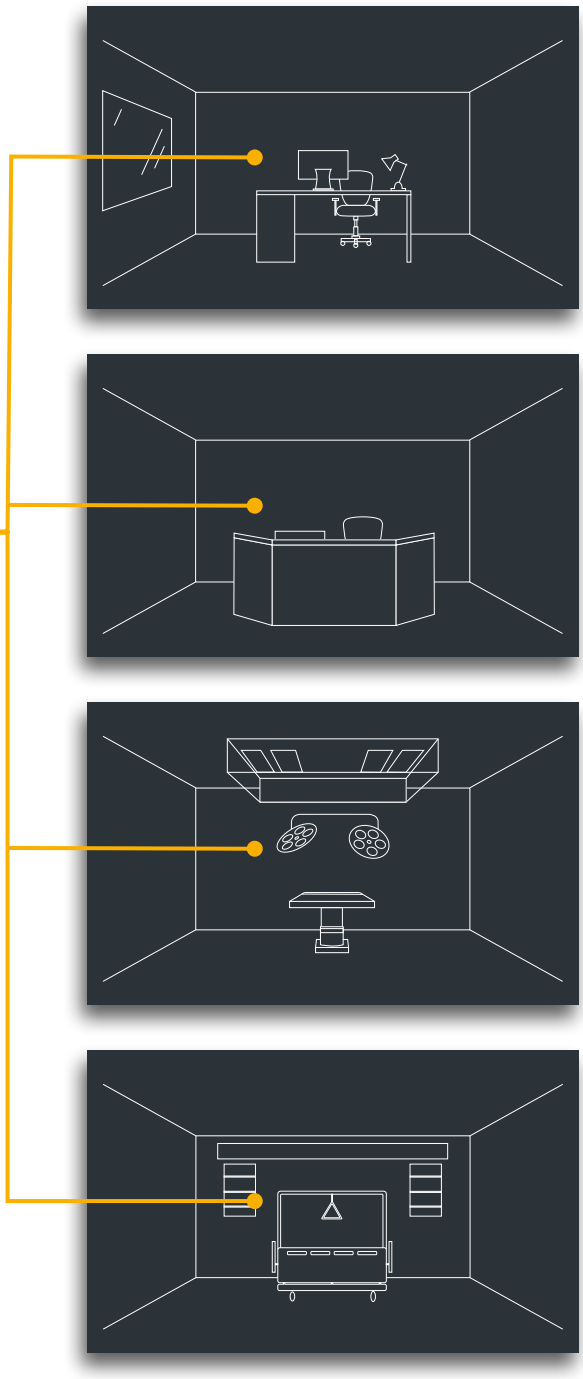
The turnkey solution from Bender

The COMTRAXX® CP9xx is more than just an alarm indicator and operator panel. It is a control and information centre in hospitals. It allows users to switch devices on and off centrally, regulate the room climate, adjust the light with precision, switch luminous door warning signs on or off, check the level of medical gases among many other things.

In combination with the measuring devices and applications from Bender, the COMTRAXX® CP9xx can also indicate whether and where there is a fault in the electrical system and inform the staff what to do. Thanks to consistent and intelligent networking, the hospital's technical control centre is informed simultaneously in the event of a fault. This also means that the COMTRAXX® CP9xx is an important step in digitalisation towards Hospital 4.

What are the functions of the COMTRAXX® CP9xx?

- Switch and control devices centrally
- Monitor individual devices and controls
- Monitor and switch the power supply
- Report faults
- Request support



Where can the COMTRAXX® CP9xx be used?

- **Nurses' station:** Air conditioning, medical gases, luminous door warning signs, timer, alarm function (acoustic and visual), power supply, etc.
- **Operating theatre:** Lighting, operating table controls, climate/room air, luminous door warning signs, blinds, timer, system monitoring, alarm function (acoustic and visual), etc.
- **Intensive care unit:** Lighting, climate, device functions, medical gases, luminous door warning signs, blinds, timer, alarm function (acoustic and visual), etc.
- **Operating theatre coordination, recovery room, etc:** Monitoring incl. alarm function (acoustic and visual), etc.
- **Technical control centre:** System monitoring, common alarm, remote access, etc.

The next generation of technical monitoring centres

What are the advantages of the COMTRAXX® CP9xx?

- **Control centre and information terminal rolled into one**
- Quick **overview** of all important functions
- Easy and intuitive **operation via touch screen**
- Workflows can be "programmed"
- Hygienic, elegant, modern
- 3 sizes 7", 15", 24" with glass surface (foil surface available on request)
- Easy to clean and disinfect
- **Intelligent display** shows all relevant information thanks to the numerous integrated interfaces
- Fault messages are displayed in plain text, no cryptic codes
- Recommendations for action can be displayed (optional)
- Technician is informed immediately of failures, problems or faults, either by e-mail or mobile device
- In-house technician has direct access to the data and can intervene if necessary. As a result:
  - Less time passes from the detection to the elimination of a malfunction
  - Clear instructions for medical staff in the event of a fault
  - Medical staff can spend more time with their patients
- First-level support directly from Bender via LTE or LAN over secure VPN connection
- Modernisation of existing installation (retrofitting) possible

What makes the COMTRAXX® CP9xx better than the existing devices?

- Exchange of data with building management systems through extensive networking
- Clearer display of all important information
- Information reduced to the essential
- Plain text display in case of a fault, including recommended action
- Elegant, modern, flexible, future-proof
- More convenient
- Various sizes
- Software can be updated and is easy to install

Conclusion:

- The COMTRAXX® CP9xx makes things easier
- The COMTRAXX® CP9xx supports medical staff
- The COMTRAXX® CP9xx supports technicians
- The COMTRAXX® CP9xx helps to reduce or prevent downtime
- The COMTRAXX® CP9xx leaves medical staff more time for patients

Flexible and individual solutions with the COMTRAXX® CP9xx

Not every hospital is the same. Bender has many years of experience with alarm indicator and operator panels in medical locations. Based on the feedback and wishes of the customers, the COMTRAXX® CP9xx is a device with which a wide variety of customer solutions are possible.

Instead of switches and small displays for one room, we offer a turnkey solution for operating theatres, intensive care units or nurses' stations as well as for the technical control centre. The modern design and innovative operating concept of the COMTRAXX® CP9xx makes it even more suited for use as a control and information centre.

The COMTRAXX® CP9xx can be configured individually for each application. The glass surface and design can also be tailored to the customer's wishes.

Examples:

- Printing of an individual logo
- Adapting the appearance to the interior design of the hospital

Variants

CP907-G
The little helper

The compact design of the CP907 makes it ideal for use as an information terminal which includes light control at nurses' stations or intensive care beds. It can be connected to the building management system by means of an RJ45 cable.

CP915-G & CP924-G
The hygienic and elegant one

Ideal for group-2 rooms. All necessary functions for room control can be integrated and are displayed in a clear way for the user. The uniform glass surface has no edges, which basically prevents dirt from adhering to it.

CP921-F
The flexible friend

Used wherever there are special installation requirements, for example when installation size and depth are predefined. The CP921-F is the best option for retrofitting/modernisation measures.

CP915H & CP924-H
The big all-rounder

This hybrid solution combines all features of the COMTRAXX® CP9xx with necessary third-party devices, such as operating table controls. All important functions and controls are in one place. This central, clearly arranged information and operating unit enables medical staff to keep track of everything.

Variant matrix	CP907-G	CP915-x		CP921-F	CP924-x	
Surface version	G	G*	H	F	G*	H
Colour: white/grey	W	W/G	W/G	W/G	W/G	W/G
Foil: matt / highly transparent	anti-reflective (= matt finish)	anti-reflective (= matt finish)	matt**	highly transparent***	anti-reflective (= matt finish)	matt**
Bezel frame (flush-mounted enclosure)	–	✓	✓	✓	✓	✓
Mounting frame (flush-mounted enclosure)	–	✓	✓	✓	✓	✓
Surface-mounted enclosure (no frame)	–	–	–	✓	–	–
Projecting glass plate / frameless	✓	✓	–	–	✓	–

G = Glass
F = Foil
H = Hybrid (Glass and foil combination)

* Glass variant with individual enclosure available
** Highly transparent foil available
***Foil with matt finish available

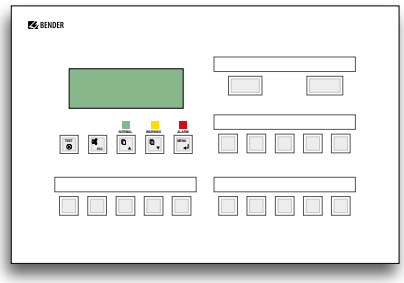
What does your solution look like with the COMTRAXX® CP9xx?

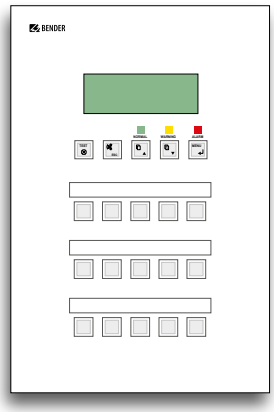
Example of a 42" display with glass surface and customised enclosure
Whether it is the range of functions or the design – almost anything is possible when it comes to displaying and controlling devices and systems. Therefore, the COMTRAXX® CP9xx is the solution of the future for your hospital.

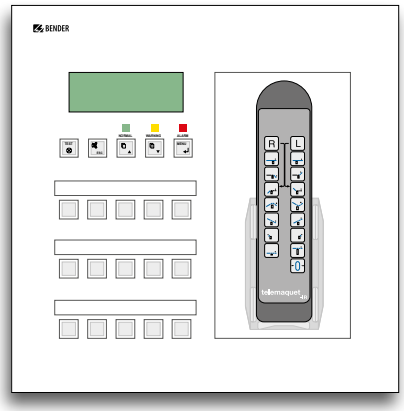
TM panels
individual plain text messages

TM panels offer significant support to medical staff during their work in hospitals

Alarm indicator and operator panel TM800







TM series alarm indicator and operator panels issue operating and alarm messages in plain text format with individual, multiline texts via an LC display. In principle, every alarm can be linked to an individual text message via the digital inputs/outputs or the interfaces.

The text display consists of four lines of 20 characters (8 mm high), whereby the first three lines are used to indicate the alarm texts and the fourth line is used to display status messages (e.g. date, time, number of alarm messages). Via the freely accessible PC software TMK-Set an individual function can be assigned to each element of a backlit key pad, like

- Switch
- Button
- LED
- Acoustic message
- Text message

The link between the element and the appropriate input, output or interface is also carried out via the PC software TMK-Set. Thereby, an essential advantage of the TM panels becomes clear: In case of subsequent modifications of the functions, the hardware does not need to be changed.

Your advantages

- Clear messages due to big text display with selectable additional text for staff support
- Connection of other equipment via digital inputs/outputs with LED status display, relay outputs, optocoupler outputs, connection to bus systems
- Up to 120 freely configurable backlit push-buttons
- History memory for 1000 alarm and error messages
- Programming of panels via internal USB interface
- Sealed, easy-to-clean foil surface
- Protection class up to max. IP 54
- Highly transparent or matt antibacterial foil surface
- Labelling and colour of lamp caps exchangeable on site

The right enclosure choice

Enclosure type UPE

Enclosure type UPB

Enclosure type AP

Panels must be fixed and installed, and form a harmonious appearance with the wall surface. It is essential to choose a suited enclosure in order to achieve this.

The enclosures are not only available with bezel frames (UPB type). They can also be delivered with a frame that is flush with the wall (UPE type) or as surface-mounted enclosure (AP type). The flush-mounted enclosure of the UPE series (mounting frames) and UPB (bezel frames) are made of natural/silver-coloured aluminium. The standard mounting depth is 120 mm. Designs with more or less mounting depth are available on request.

A robust hinge (opening angle up to 120°) connects the frame and the front plate.

Enclosure dimensions

There are several dimensions for each of the four panels that have to be considered. The bezel frame version is the most commonly used. At least four dimensions are relevant:

- Dimensions of the bezel frame
- Dimensions of the mounting frame
- Dimensions of the enclosure
- Dimensions of the wall cut-out

The dimensions of the wall cut-out is the first thing to be asked on site. With the below-mentioned eight most important panel sizes, the necessary dimensions for the major part of the project can be determined in due time.

Table of enclosure dimensions

Type	Dimensions of UPB bezel frame (WxH) mm	Dimensions of UPE mounting frame (WxH) mm	Dimensions of the enclosure *) (WxH) mm	Dimensions of wall cut-out (WxH) mm
UPB-1	333x333	297x297	303x303	306x306
AP-1			300x300	
UPB-2	483x333	447x447	453x303	456x306
AP-2			450x450	
UPB-3	333x483	297x447	303x453	306x456
AP-3			300x450	
UPB-4	483x483	447x447	453x453	456x456
AP-4			450x450	
UPB-5	483x633	447x597	453x603	456x606
AP-5			450x600	
UPB-6	633x483	597x447	603x453	606x456
AP-6			600x450	
UPB-7	633x633	597x597	603x603	606x606
AP-7			600x600	
UPB-8	633x783	597x757	603x753	606x756
AP-8			600x750	

* Additional 10 mm peripheral flange

Alarm indicator and test combinations MK
Display, signal, operate

Alarm indicator and test combination MK2430

Alarm indicator and test combination MK800

Small panels are used in patient rooms

Small panels are mainly used in intensive care units, preparation rooms and recovery rooms. Simultaneously to the information at the nurses' station, the medical staff immediately receives a notification when there is a power supply failure. Thus, they can immediately respond to the disruption.

For indication of more information on the display, for example messages from a battery-supported safety power supply system, only much larger panels are available. The remote alarm indicators of the MK series can be included in the bus technology.

Your advantages

- Display of operating status, warning and alarm messages from Bender monitoring systems
- Backlit plain LC text display (4 x 20 characters)
- Additional text can be displayed
- LEDs in traffic light colours: 3 LEDs for additional differentiation of warning and alarm messages
- Standard texts for messages are available in more than 20 languages
- Up to 1000 freely programmable alarm texts
- Easy parameter setting with a PC (USB interface), via the device menu or the BMS interface
- History memory with real-time clock to store 1000 warning and alarm messages
- 12-16 digital inputs (option)
- 1 programmable relay (option)
- Five large operating buttons
- Vertical and horizontal versions for flush mounting and surface mounting as well as door mounting and cavity wall mounting
- Non-reflecting, multicoloured foil

Display panels AT series

Mounting versions

Flush-mounted enclosure with bezel frame

Enclosure:
WxHxD= 339 mm x 184 mm x 73 mm

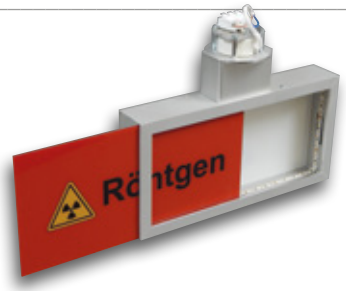
Bezel frame:
WxHxD= 350 mm x 195 mm, 3 mm thick

Surface-mounted enclosure

Enclosure:
WxHxD= 300 mm x 150 mm x 60 mm
WxHxD= 300 mm x 150 mm x 40 mm

Ceiling enclosure

Enclosure:
WxHxD= 300 mm x 205mm x 80 mm



Changing the coloured lenses on AT panels for surface mounting, surface mounting in cavity wall box and ceiling mounting.

These display panels are often located above doors where it is necessary to indicate whether, for example, a room is occupied or in use and access may not be desired. These panels are often used in hospitals as well as in industrial or public buildings.

The AT panels can be equipped with different coloured lenses and texts.
Various types of enclosures are available.

- **Flush-mounted enclosure with projecting front plate**
  The silver-coloured anodized aluminium front plate (3 mm thick) extends the wall box by about 7 mm to cover the gap of the wall installation. The flush-mounted enclosure itself is made of galvanised sheet steel (1 mm thick).
- **Surface-mounted enclosure**
  Two different surface-mounted enclosures are available. The surface-mounted enclosure may be mounted directly onto the wall through the predrilled holes. The partially recessed surface-mounted enclosure may be installed using a standard flush-mounted/cavity wall box (D = 68 mm, D = 62 mm).
  The coloured lenses can be slid into the enclosure from the side and are secured by a short screw on top of the enclosure.
- **Ceiling enclosure**
  The enclosure may be mounted to the ceiling using a standard flush-mounted/ cavity wall box (D = 68 mm, D = 62 mm). The display panel has two luminous lenses which can be read from both sides when installed in a hallway. The coloured lenses can be slid into the enclosure from the side and are secured by a short screw on top of the enclosure.

Your advantages

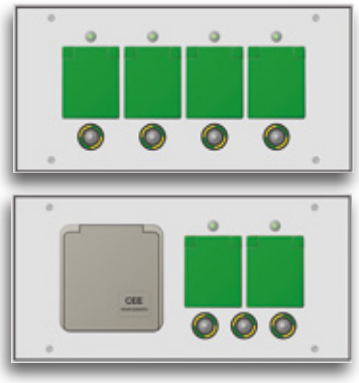
- Protection class depending on selected version, i.e. IP 2…IP 54
- Optional cable gland
- Front plate made of transparent or coloured acrylic glass without visible screws
- Individual texts available
- Various screen/lens colours available (yellow, red, white)
- Long-life LED technology

Standards

- IEC/EN 61439-1, VDE 0660-600 Part 1, Low-voltage switchgear and controlgear assemblies
- IEC/DIN EN 60598-1, General requirements for luminaires with electrical light source

Individual texts available on request

Socket-outlet panels ST series



The socket-outlet is a supply point for the electrical installation that has to provide information to the medical and technical staff

Socket-outlet panels ST series

Socket-outlet panels minimise the installation effort and support the work of the medical staff, since they provide important information to the medical and technical staff. For example, socket-outlets have to have contrasting colours for:

- Identification of the upstream group-2 distribution board
- Identification of the power circuit
- Identification of the power supply class

In locations where medical electrical devices/ME systems are used, the supplementary equipotential bonding has to be available and easy to use. This is not an issue if adequate plug connectors are available, since the panel of the ST series complies with the requirements.

The socket-outlet panel offers various solutions for a proper installation:

- The supply line cross section to the socket-outlet connection is always in the range between 4…6 mm^2, a cross section that cannot be connected to a standard socket-outlet: An adequate terminal board in the socket-outlet panel solves the problem.
- For reasons of availability, 2, 3 or 4 socket-outlets mounted close together are to be supplied from two separate circuits: The terminal board in the flush-mounted box makes it possible.
- In addition to socket-outlets for arbitrary medical electrical devices, socket-outlets for medical electrical systems are also to be installed and these are to be supplied from a separate final circuit: The proper terminal board in the flush-mounted box offers numerous options.
- The weakest current source only allows one (1) socket-outlet per final circuit: No problem, the flush-mounted box conveniently allows for various supply lines.
- Medical electrical devices with an output of more than 5 kVA require a coded, i.e. different plugging. The power supply for these devices can be switchable.

Bender. Making your world safe.

Our world is networked on a global scale; it is digital, mobile and highly automated. And no matter whether in hospitals, in industry, inside or outside buildings, in power stations, in trains, underwater or underground: it never stands still and it is more dependent than ever on a reliable and, above all, safe electrical power supply.

And exactly that is our mission: we make electricity safe. With our technologies, we ensure that electricity is permanently available and guarantee faultless protection against the hazards of electric shock. We protect buildings, plants and devices and therefore your investments and plans. But what we primarily protect are the lives of the people who are involved with electricity.

Mechanical and plant engineering

Oil, gas

Renewable energy

Healthcare

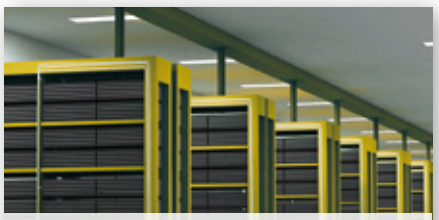
Public power supply network

Mobile power generation

Ships and ports

Railway

eMobility



Data centres

Mining

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BENDER Group

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