COMTRAXX® CP9xx – Control Panel

Remote alarm indicator and operator panel
for medical locations and other areas

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BENDER

COMTRAXX® CP9xx – Control Panel

Remote alarm indicator and operator panel for medical locations and other areas

Device features

- Display sizes 7", 15" and 24" with tempered and anti-reflective glass
- Easy to clean and disinfect, degree of protection IP54
- Screwless mounted front plate
- User-friendly touch-sensitive monitoring system for medical locations and other applications
- Particularly simple operation
- Additional information for medical and technical personnel
- Visual and acoustic notification in the event of an alarm
- Clear menu structure with intuitive interactive images
- Clearly labelled safety functions
- Silent due to operation without fan
- High-quality display with excellent contrast, high resolution and wide viewing angle
- Possibility of graphical integration of building plans or status displays in photo quality
- Easy integration of external equipment like charging stations for operating theatre table controls and intercom systems with front foil
- Simple conversion and expansion with minimal service interruptions

Intended use

Remote alarm indicator and operator panels CP9xx display alarms, measured values and states of devices. These include, for example:

- All Bender devices with BMS bus or BCOM interface
- Bender devices (PEM, energy meters,…) with Modbus RTU or Modbus TCP interface
- Other devices with Modbus RTU or Modbus TCP interface

In addition, the data is available via Modbus TCP, Modbus RTU, SNMP, MQTT and PROFINET protocols. This allows coupling to a higher-level building control system as well as visualisation and evaluation using standard web browsers.

Operation and settings are made via the COMTRAXX® user interface integrated in the device.

Any other use than that described in this manual is regarded as improper.

Applications

- Optimal visualisation on the display tailored to the user
- Integration of all compatible Bender products (ISOMETER®, ATICS®, RCMS, EDS, LINETRAXX® and MEDICS® systems, universal measuring devices and energy meters)
- Individual instructions in case of alarms
- Selective notification to various users in case of alarms
- Control and regulation of systems such as air conditioning or blinds control.

Optional accessories

- The remote I/O system offers numerous options for integrating digital and analogue I/Os with different operating voltages, capacities, measurement signals or special functions into the alarm indicator and operator panel.
- Communication with building management systems via common interfaces such as Modbus TCP, Modbus RTU, PROFIBUS, KNX, LonWorks, Sercos interface, InterBus, Dali, CANopen, EtherNet/IP, CC-Link, DeviceNet, BACnet, PROFINET.

The result is an all-round system that is both modular and flexible and can thus be adapted, expanded or connected to new technologies.

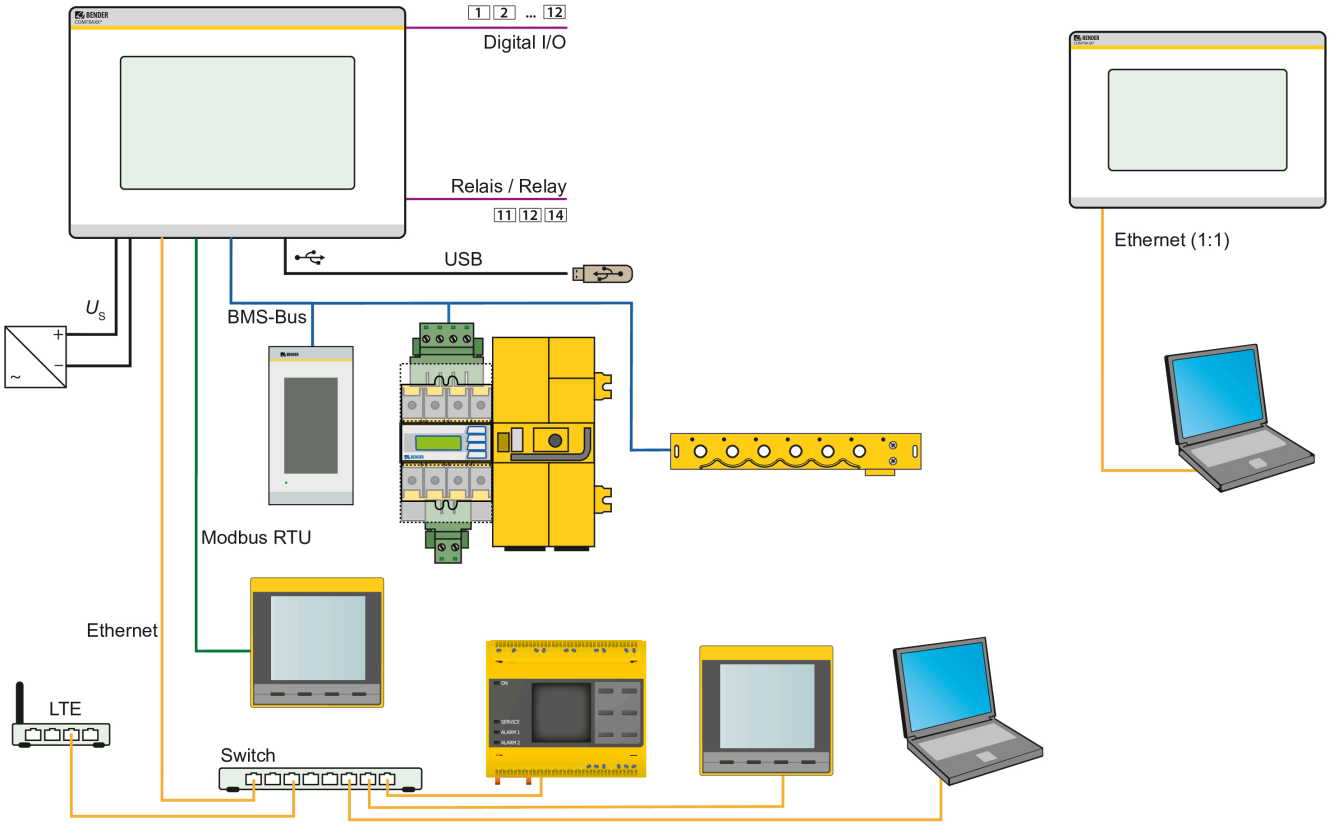
Other project-specific versions with foil front or with additional internal components available on request:

- Charging trays for operating theatre table remote controls
- Intercom systems
- Operating theatre light controls
- Programmable backlit keypads
- Digital/Analogue inputs/outputs for installation in panel enclosures or control cabinets
- Data coupling to third-party systems
- Project-specific installation enclosures
- Integration of third-party equipment
- Antibacterial or highly transparent foil options available
- Replacement of existing panels (retrofitting)

Interfaces

CP9xx communicate with the devices and systems assigned via various interfaces:

- Internal BMS bus (RS-485) for Bender systems such as EDS46…/49…, RCMS46…/49… and MEDICS®. CP9xx can be operated as a master or as a slave. When operated as a master, requests are answered more quickly. The devices can only be operated on the internal BMS bus.
- BCOM (Ethernet) for new and future Bender systems, such as ISOMETER® iso685-D.
- Modbus RTU (RS-485)
  CP9xx when operated as a master for Bender devices PEM… with restricted functionality (full functionality of PEM…**5** only via Modbus TCP).
- Modbus TCP (Ethernet) for Bender devices PEM…**5**



System overview interfaces CPxx

Technical data

Insulation coordination acc. to IEC 60664-1

CP907

Rated voltage	50 V
Overvoltage category	III
Pollution degree	2
Rated impulse voltage	800 V

CP915 / CP924

Rated voltage	AC 250 V
Overvoltage category	III
Overvoltage category for UL applications	II
Pollution degree	2
Rated impulse voltage	4 kV

Supply

CP907 via plug-in terminal (A1/+; A2/-)

Nominal voltage	DC 24 V SELV/PELV
Nominal voltage tolerance	±20 %
Typical power consumption at DC 24 V	< 15 W
Maximum cable length when supplied via B95061210 (24-V DC power supply unit 1.75 A):	
0.28 mm²	75 m
0.5 mm²	130 m
0.75 mm²	200 m
1.5 mm²	400 m
2.5 mm²	650 m

CP907 via Power-over-Ethernet (PoE)

Nominal voltage	DC 48 V SELV/PELV
Nominal voltage tolerance	-25…+15 %
Typical power consumption for PoE	< 15 W
Maximum cable length when supplied via AWG 26/7; 0.14 mm²	100 m

CP915 via terminal block (L1; N)

Nominal voltage via external power supply unit	AC 100… 240 V
Nominal voltage tolerance	-15…+10 %
Frequency range U_S	50…60 Hz
Typical power consumption at AC 230 V	< 30 W

CP924 via terminal block (L1; N)

Nominal voltage via external power supply unit	AC 100… 240 V
Nominal voltage tolerance	-15…+10 %
Frequency range U_S	50…60 Hz
Typical power consumption at AC 230 V	< 55 W

Stored energy time in the event of voltage failure

Time, date	min. 3 days

Displays, memory

Display CP907/Resolution	7“ TFT-Touch Display/800 x 480
Display CP915/Resolution	15,6“ TFT-Touch Display/1280 x 720
Display CP924/Resolution	24“ TFT-Touch Display/1280 x 720 or 1920 x1080
E-mail configuration and device failure monitoring	max. 250 entries
Individual texts	unlimited number of texts with 100 characters each
Number of data points for "third-party devices" to Modbus TCP and Modbus RTU	1600
Number of data loggers	30
Number of data points per data logger	10,000
Number of entries in the history memory	20,000

Visualisation

Number of pages	50
Background image size	max. 3 MB

Interfaces

Ethernet

Connection	RJ45
Cable	shielded, both ends of shield connected to PE
Cable length	< 100 m
Data rate	10/100 Mbit/s, autodetect
HTTP mode	HTTP/HTTPS (HTTP)*
DHCP	on/off (off)*
t_{off} (DHCP)	5…60 s (30 s)*
IP address	nnn.nnn.nnn.nnn (192.168.0.254)*, always reachable via: 169.254.0.1
Net mask	nnn.nnn.nnn.nnn (255.255.0.0)*
Protocols	TCP/IP, Modbus TCP, Modbus RTU, PROFINET, DHCP, SNMP, SMTP, NTP

BMS bus

Interface/protocol	RS-485/BMS internal
Operating mode	master/slave (master)*
Baud rate	9.6 kBit/s
Cable length	< 1200 m
Cable	shielded, one end of shield connected to PE
recommended	CAT6/CAT7 min. AWG23
alternative	twisted pair, J-Y (St) Y min. 2x0.8
Connection	"ABMS", "BBMS" (see plug-in terminal)
Terminating resistor	120 Ω (0.25 W), can be switched on internally (see plug-in terminal)
Device address	1…150 (1)*

BCOM

Interface/protocol	Ethernet/BCOM
Cable length	< 100 m
BCOM system name	(SYSTEM)*
BCOM subsystem address	1…255 (1)*
BCOM device address	0…255 (1)*

Modbus

Bender Modbus image	V1, V2 (V2)*

Modbus TCP

Interface/protocol	Ethernet/Modbus TCP
Cable length	< 100 m
Operating mode	client for Bender Modbus TCP devices and "third-party devices"
Operating mode	Server for access to process image and for Modbus control commands
Parallel data access from different clients	max. 25

Modbus RTU

Interface/protocol	RS-485/Modbus RTU
Cable length	< 1200 m
Cable	shielded, one end of shield connected to PE
recommended	CAT6/CAT7 min. AWG23
alternative	twisted pair, J-Y (St) Y min. 2x0.8
Connection	"AMB", "BMB" (see plug-in terminal)
Operating mode	master/slave (master)*
Baud rate	9.6…57.6 kBit/s
Terminating resistor	120 Ω (0.25 W), can be connected internally (see plug-in terminal)
Supported Modbus RTU slave addresses	2…247

PROFINET

Interface/protocol	Ethernet/PROFINET
Operating mode	slave (IO device)

SNMP

Interface/protocol	Ethernet/SNMP
Versions	1, 2c, 3
Supported devices	query of all devices (channels) possible
Trap support	no

MQTT

Interface/protocol	Ethernet/MQTT
Operating mode	Publisher (provides data for brokers)

USB

Number	2
Operating mode	USB-2.0 host (5 V, 500 mA)
Data rate	480 Mbit/s
Cable length	< 3 m
Connection type	USB 2 Standard-A

Used ports

53	DNS (UDP/TCP)
67, 68	DHCP (UDP)
80	HTTP (TCP)
123	NTP (UDP)
161	SNMP (UDP)
443	HTTPS (TCP)
502	MODBUS (TCP)
4840	OPCUA (TCP)
5353	MDNS (UDP)
48862	BCOM (UDP)

Digital inputs (1…12)

Number	12
Galvanic separation	ja
Maximum cable length	< 1000 m
Operating mode	selectable for each input: active-high or active-low
Factory setting	active-high
Voltage range (high)	AC/DC 10…30 V
Voltage range (low)	AC/DC 0…2 V
Max. current per channel (at AC/DC 30 V)	8 mA
Connection push-in terminal	(1-1) (2-2) (3-3) … (12-12)

Switching elements

For UL applications
Type of load: General use
Voltage connected to relay: SELV

Number	1 relay
Operating mode	N/C operation or N/O operation
Function	programmable
Electrical endurance under rated operating conditions, number of cycles	10,000
Contact data acc. to IEC 60947-5-1	
Utilisation category	AC-13 / AC-14 / DC-12
Rated operational voltage	24 V / 24 V / 24 V
Rated operational current	2 A / 2 A / 2 A
Minimum contact load (relay manufacturer's reference)	10 µA / 10 mV DC
Connection	plug-in terminal (11;12;14)

Buzzer

Buzzer message	can be acknowledged, adoption of characteristics of new value
Buzzer interval	configurable
Buzzer frequency	configurable
Buzzer repetition	configurable

Audio

Line IN	not used
Line OUT	Output to a STEREO playback device via 3.5 mm jack plug
Cable length	< 3 m

Device connections

Terminal block (L1; N; PE) (for CP915 and CP924 only)

Conductor sizes	AWG 20…12
Stripping length	10…11 mm
rigid/flexible	0.5…4 mm²
flexible with ferrule with/without plastic sleeve	0.5…4 mm²
Multiple conductor, flexible with TWIN ferrule with plastic sleeve	0.5…4 mm²

Plug-in terminal (A1/+; A2/-) (11;12;14)
Plug-in terminal (A1/+; A2/-; PE) (11;12;14)

Conductor sizes	AWG 24…12
Stripping length	10 mm
rigid/flexible	0.2…2.5 mm²
flexible with ferrule with/without plastic sleeve	0.25…2.5 mm²
Multiple conductor, flexible with TWIN ferrule with plastic sleeve	0.5…1.5 mm²

Plug-in terminal (I1…12), (k1…k12), (…MB), (…BMS)

Conductor sizes	AWG 24-16
Stripping length	10 mm
rigid/flexible	0.2…1.5 mm²
flexible with ferrule without plastic sleeve	0.25…1.5 mm²
flexible with ferrule with plastic sleeve	0.25…0.75 mm²

For UL applications

Use copper lines only.	
Minimum temperature range of the cable to be connected to the plug-in terminals	75 °C
Minimum temperature range of the cable to be connected to the PoE plug	80 °C

Environment/EMC

EMV	IEC 61326-1

Operating temperature

CP907	-10…+55 °C
CP907 for UL applications	-10…+50 °C
CP915	-5…+40 °C
CP924	-5…+40 °C

Operating altitude	≤ 2000 m AMSL
Rel. humidity	≤ 98 % at 25 °C

Classification of climatic conditions acc. to IEC 60721

Stationary use (IEC 60721-3-3)	3K22
Transport (IEC 60721-3-2)	2K11
Long-term storage (IEC 60721-3-1)	1K22

Classification of mechanical conditions acc. to IEC 60721

Stationary use (IEC 60721-3-3)	
CP907	3M11
CP915, CP924	3M10
Transport (IEC 60721-3-2)	2M4
Long-term storage (IEC 60721-3-1)	1M12

Other

Operating mode	continuous operation
Mounting	display-oriented
Degree of protection, front	IP54
Degree of protection, front, for UL applications	
CP907	IP50
CP915, CP924	IP54
Degree of protection, enclosure	IP20
Flammability class	UL 94V-0

Dimensions

CP907 (B x H x T)	226 x 144 x 78 mm
CP915 (B x H x T)	505 x 350 x 95 mm
CP924 (B x H x T)	654 x 441 x 100 mm

Weight

CP907	< 1.1 kg
CP915	< 7.1 kg
CP924	< 10.5 kg

( )* = factory setting

Standards, approvals and certifications

Ordering information CP9xx

Complete devices

Type	Display size	Supply	Device dimensions (W x H x D), mm	Weight	Display (glass tempered)	Art. No.
CP907	7" (17,6 cm)	DC 24 V, < 15 W alternatively PoE possible	226 x 144 x 78	1.1 kg	white	B95061080
CP907 without flush-mounting enclosure				0.9 kg	white	B95061093
CP915	15,6" (38,6 cm)	AC 100…240 V < 30 W	505 x 350 x 92	6.1 kg	white	B95061081
					grey	B95061085
CP924	24" (61 cm)	AC 100…240 V, < 55 W	654 x 441 x 100	9.1 kg	white	B95061083
					grey	B95061084

Scope of delivery:

- Display unit
- Flush-mounting enclosure incl. mounting plate with electronics
- CP9xx connecting cable
- Plug kit

Individual components

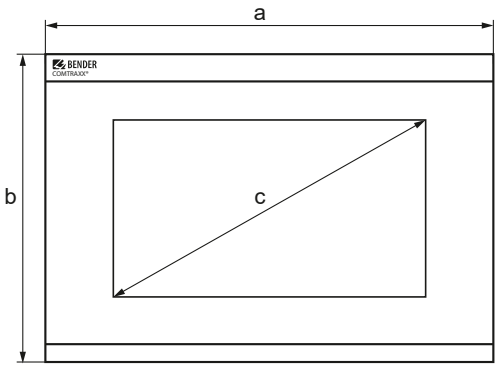
Device series	Type	Art. No.
CP907	Flush-mounting enclosure	B95100140
CP915	Display unit, white	B95061112
	Display unit, grey	B95061113
CP924	Display unit, white	B95061115
	Display unit, grey	B95061116

Accessories

Device series	Type	Art. No.
CP907	Surface-mounting enclosure	B95061915
CP915, CP924	CP9xx suction lifter[1)]	B95061911
All	CP9xx replacement plug kit	B95061910

1) The suction lifter is required to remove the display

Dimension diagram



Glass thickness: 3 mm

Device dimensions

Type	Dimensions (mm) ±1		
	a	b	c
CP907	226	144	176 (7")
CP915	505	350	386 (15.6")
CP924	654	441	610 (24")

Installation dimensions enclosure

Type	Enclosure	Dimensions (mm)		Required installation depth
		a	b	
CP907	Flush-mounting	212	124	75
	Surface-mounting	299	173	---
CP915	Flush-mounting	464	309	92
CP924	Flush-mounting	613	401	95

Mounting instruction for CP9xx attachment frame

COMTRAXX® CP9xx Attachment frame
Video instruction

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