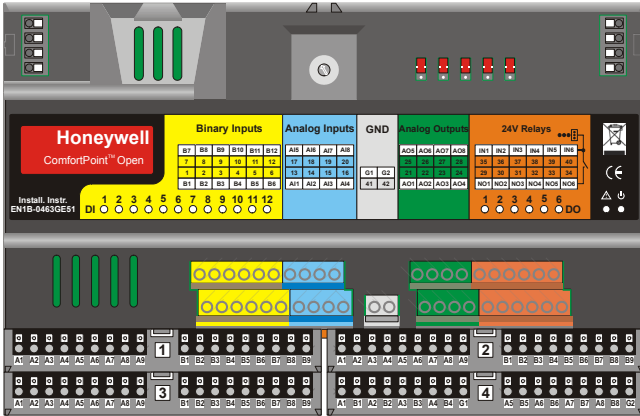


ComfortPoint Open MIXED I/O MODULE CPO-IO830A

DATA SHEET



GENERAL

The ComfortPoint™ Open Mixed I/O Module CPO-IO830A is an independently mounted electronic module which is designed for use in home (residential, commercial, and light-industrial) environments.

Specifically, it conforms with DIN 43880, with a max. slot height of 45 mm, and is thus suitable for mounting in fuse boxes. But it is also suitable for mounting on 35 mm standard panel rails (both vertical and horizontal mounting possible).

The CPO-IO830A features a large complement of different inputs and outputs which are automatically commissioned (with firmware download) by the ComfortPoint™ Open Plant Controller CPO-PC-6A.

The CPO-IO830A communicated via the Panel Bus, and thus employs the Panel Bus communication protocol. It can be stationed up to 1,000 meters away from the controller (provided it is then supplied with power by a separate, nearby transformer).

The CPO-IO830A also features 20 inputs, 14 outputs, and 18 status LEDs. Up to 16 Mixed I/O Modules can communicate with the controller.

The CPO-IO830A features both push-in terminals (for connection of other modules using the XS816 Bridge Connector) and screw-type terminals.

Clearly visible LED control lamps convey important status and alarm information.

The CPO-IO830A has a durable, anthracite-colored plastic housing conforming with DIN 43880. It is thus suitable for mounting in fuse boxes, but can also be mounted on 35 mm standard panel rails (both vertical and horizontal mounting possible).

FEATURES

- 24 Vac (+/- 20%) or 21...30 Vdc power supply (from external transformer).
- **Overtoltage protection:** All inputs and outputs are protected against overvoltages (24 Vac \pm 20%; 30 Vdc) as well as against short-circuiting.
- In the event of communication problems, the relay outputs move to safety positions configured in ComfortPoint™ Open Studio.
- Push-in terminals for quick and convenient connection to neighboring modules using the XS816 Bridge Connector (regular cabling also possible).
- Status LED, service LED, power LED.
- Hex switch for setting Panel Bus address.

INTERFACES AND TERMINALS

The CPO-IO830A features an RS485 interface via which it can communicate with other system components. This interface employs the Panel Bus communication protocol. Troubleshooting can be performed using the LEDs.

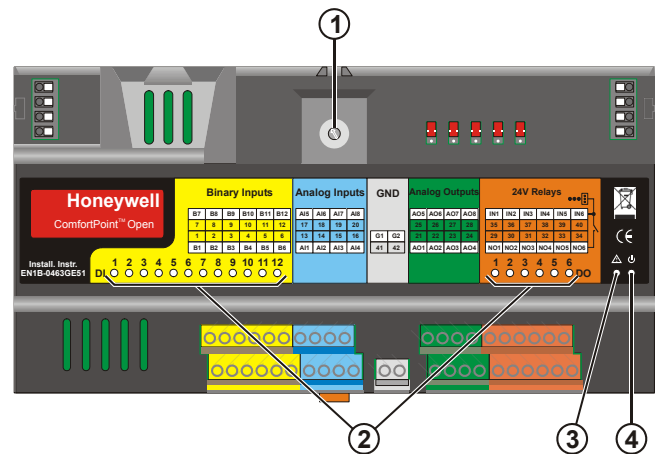


Fig. 1. Interfaces and terminals

Legend

- 1 Hex switch S2
- 2 Status LEDs
- 3 Service LED
- 4 Power LED

DESCRIPTION

The ComfortPoint™ Open System consists of the CPO-PC-6A Plant Controller, the CPO-IO830A, and other field-level devices as well as management-level systems connected via the controller's various interfaces and bus connections. See also Fig. 2.

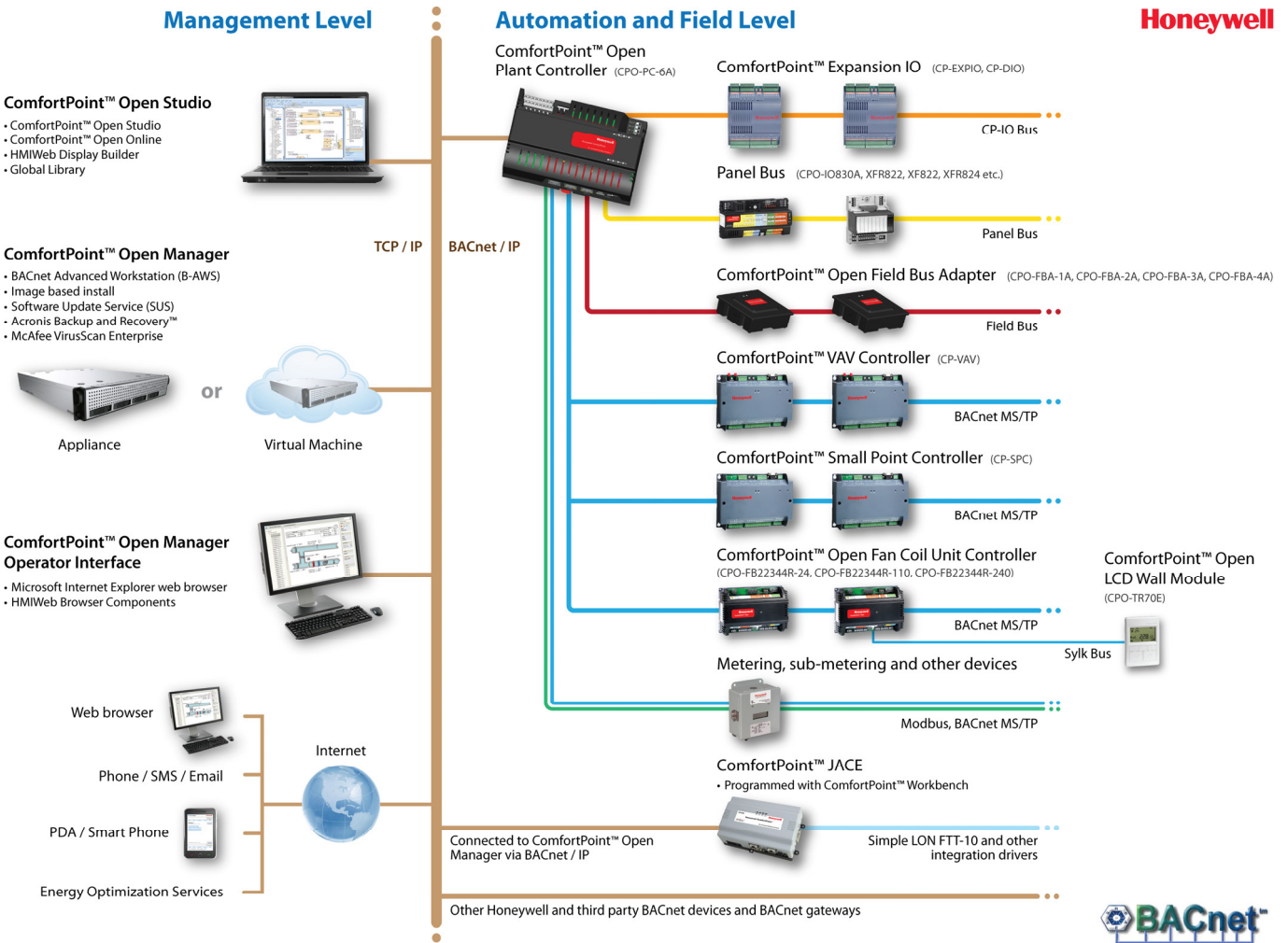


Fig. 2. ComfortPoint™ Open System architecture

GENERAL SAFETY INFORMATION

- ▶ When performing any work (installation, mounting, start-up), all manufacturer instructions and in particular the Installation and Commissioning Instructions (EN1B-0462GE51) are to be observed.
- ▶ The ComfortPoint™ Open System (including the CPO-PC-6A Plant Controller, the CPO-IO830A Mixed I/O Panel Bus module, pluggable Panel Bus I/O modules, manual disconnect modules, and the auxiliary terminal packages) may be installed and mounted only by authorized and trained personnel.
- ▶ Rules regarding electrostatic discharge should be followed.
- ▶ If the ComfortPoint™ Open System is modified in any way, except by the manufacturer, all warranties concerning operation and safety are invalidated.
- ▶ FCC-CERTIFIED: This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.
- ▶ Make sure that the local standards and regulations are observed at all times. Examples of such regulations are VDE 0800 and VDE 0100 or EN 60204-1 for earth grounding.
- ▶ Use only accessory equipment which comes from or has been approved by Honeywell.
- ▶ It is recommended that devices be kept at room temperature for at least 24 hours before applying power. This is to allow any condensation resulting from low shipping/storage temperatures to evaporate.
- ▶ The ComfortPoint Open System must be installed in a manner (e.g., in a lockable cabinet) ensuring that uncertified persons have no access to the terminals.
- ▶ Investigated according to United States Standard UL-60730.
- ▶ Investigated according to Canadian National Standard(s) C22.2, No. 205-M1983 (CNL-listed).
- ▶ Do not open the CPO-IO830A, as it contains no user-serviceable parts inside!
- ▶ CE declarations according to LVD Directive 2006/95/EC and EMC Directive 2004/108/EC.
- ▶ Product standards are EN 60730-1 and EN 60730-2-9.

Safety Information as per EN60730-1

The ComfortPoint Open System is intended for home (residential, commercial, and light-industrial) environments. The ComfortPoint Open System is an independently mounted electronic control system with fixed wiring.

The CPO-IO830A is suitable for mounting in fuse boxes conforming with standard DIN43880, and having a slot height of max. 45 mm.

It is suitable for panel rail mounting on 35 mm standard panel rail (both horizontal and vertical rail mounting possible).

The CPO-IO830A is used for the purpose of building HVAC control and is suitable for use only in non-safety controls for installation on or in appliances.

Table 1. Safety information as per EN60730-1

Shock protection	24 V-powered controls: Class III mains-powered controls: Class II
Pollution degree	Pollution Degree 2, suitable for use in home and industrial environments.
Installation	Class 3
Overvoltage category	24 V-powered controls: Category I mains-powered controls: Category II
Rated impulse voltage	330 Vac for Category I 2500 Vac for Category II
Automatic action	Type 1.C (micro-interruption for the relay outputs)
Software class	Class A
Enclosure	IP20 according to EN-60529
Ball-pressure test temperature	75 °C for all housing and plastic parts 125 °C in the case of devices applied with voltage-carrying parts and connectors
Electromagnetic interference	Tested at 230 Vac, with the modules in normal condition.
System transformer	Europe: safety isolating transformers according to IEC61558-2-6 U.S.A. and Canada: NEC Class-2 transformers

WARNING

Risk of electric shock or equipment damage!
It is not permitted to wire the relays of the mixed Panel Bus I/O modules for anything other than low voltage.

TECHNICAL DATA

System Data

Table 2. System data

operating voltage	24 Vac, ± 20% (50/60 Hz), 21 ... 30 Vdc
power consumption	200 mA (24 Vac) or 95 mA (24 Vdc)
push-in terminals	1.5 mm ²
screw-type terminals	2.5 mm ²
overvoltage protection	All screw / push-in terminals not having a dedicated connector are protected against overvoltages of max. 28 Vac or 40 Vdc. All screw / push-in output terminals are protected against short-circuiting.

Standards

Table 3. Standards

protection class	IP20
product standards	EN 60730-1, EN 60730-2-9, UL6730-1, CAN/CSA-E60730-1:02
testing electrical components	IEC68
certification	CE, cUL 60730
system transformer	The system transformer(s) must be safety isolating transformers according to IEC 61558-2-6. In the U.S.A. and Canada, NEC Class 2 transformers must be used.

Operational Environment

Table 4. Operational environment

ambient operating temperature	0 ... 50 °C (32 ... 122 °F)
ambient operating humidity	5 ... 95% relative humidity (non-condensing)
vibration under operation	0.024" double amplitude (2 ... 30 Hz), 0.6 g (30 ... 300 Hz)
dust, vibration	According to EN60730-1
RFI, EMI	home (residential, commercial, and light-industrial) environments

NOTICE

Equipment damage!

► We recommend that the CPO-IO830A not be connected to earth ground.

Terminal Assignments

Table 5. CPO-IO830A terminal assignments

terminal	signal	LED	comment
71, 75	COM a	status	2-wire Panel Bus communication bus
72, 76	COM b	status	2-wire Panel Bus communication bus
73, 77	24 V~	power	Power supply
74, 78	24 V~0	power	Power supply
1...7	BI1...7	1...7	Binary inputs 1...7
8...12	BI8...12	24...28	Binary inputs 8...12
13...20	AI1...8	--	Analog inputs 1...8
41, 42	GND	--	Ground. Both grounds are internally connected to each other and to 24 VAC0.
21...28	AO1...AO8	--	Analog outputs 1...8
29...34	NO1...6	29...34	Relays 1...6, normally-open contacts
35...39	IN1...5	--	Common contacts of relays 1...5. May be set to common supply voltage via terminal 40 by inserting jumpers J1...J5 into their lower positions. When, in contrast, a jumper is in the upper position (the so-called "parking position" = default setting), the corresponding relay receives no supply voltage from terminal 40.
40	IN6	--	Common contact of relay 6, internally connected to the middle contact of jumpers J1...J5. May be used to connect common supply voltage.

Table 6. Description of CPO-IO830A inputs/outputs

Analog Inputs	Analog Outputs	Binary Inputs	Relay Outputs
<p>Number: 8</p> <p>Configurable types:</p> <ul style="list-style-type: none"> ▪ NTC20kΩ (-30...+110 °C) (default) ▪ Linear Graph ▪ 0..10 Vdc with pull-up ▪ 0(2)...10 Vdc without pull-up <p>Also configurable as:</p> <ul style="list-style-type: none"> ▪ binary inputs (static, dry contact, only) <p>Features:</p> <ul style="list-style-type: none"> ▪ 10-bit resolution ▪ configurable offset per input 	<p>Number: 8</p> <p>Configurable types:</p> <ul style="list-style-type: none"> ▪ 0...11 Vdc / ± 1 mA (default) <p>Also configurable as:</p> <ul style="list-style-type: none"> ▪ binary outputs (0 V / 10 V) <p>Features:</p> <ul style="list-style-type: none"> ▪ 10-bit resolution (default) ▪ Safety position (remain, 0%, 50%, 100%) 	<p>Number: 12</p> <p>Configurable types:</p> <ul style="list-style-type: none"> ▪ Static binary inputs (default: static, dry contact); ON: < 1.6 kΩ, OFF: > 90 kΩ <p>Also configurable as:</p> <ul style="list-style-type: none"> ▪ totalizers (15 Hz) <p>Features:</p> <ul style="list-style-type: none"> ▪ 1 yellow LED per input 	<p>Number: 6</p> <p>Configurable types:</p> <ul style="list-style-type: none"> ▪ Relay outputs (default) <p>Features:</p> <ul style="list-style-type: none"> ▪ Voltage: 24 Vac/dc, P>50 mW ▪ max. total current: 3 A (ac/dc) ▪ current per relay: 500 mA ▪ normally-open contacts: P > 50 mW, voltage: 24 V (ac/dc) ▪ 1 yellow LED per output

DIMENSIONS

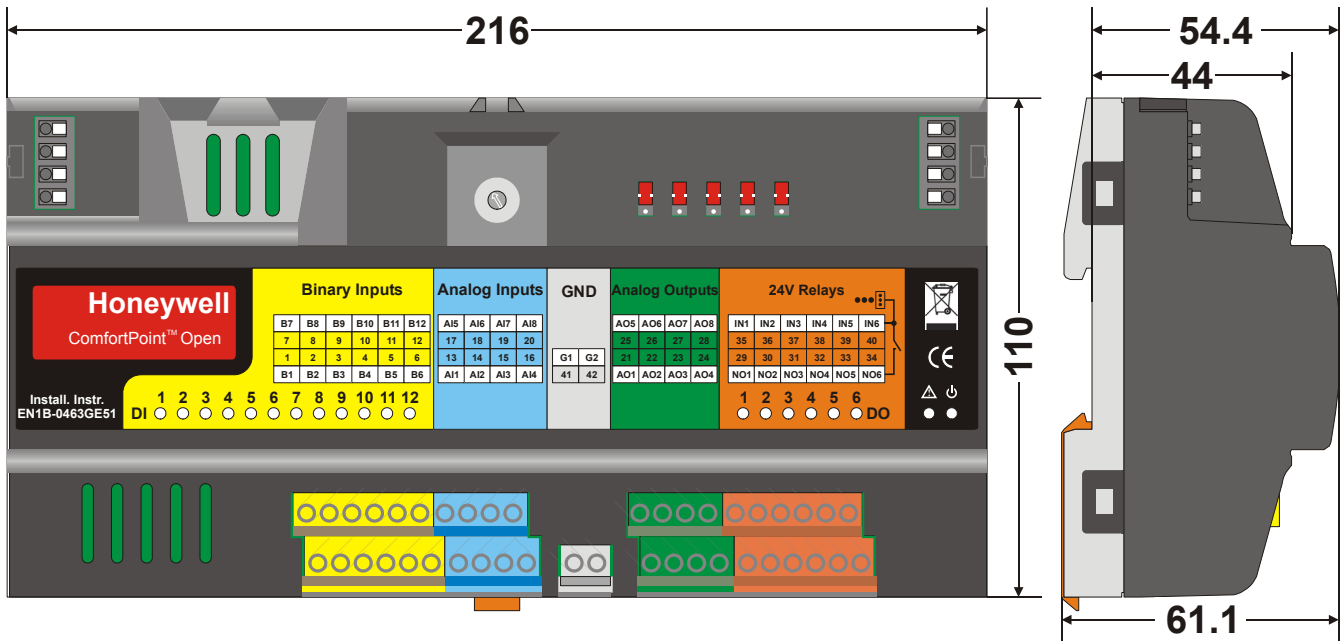


Fig. 3. CPO-IO830A dimensions (mm)

71	COM A	75	COM A
72	COM B	76	COM B
73	24 V~	77	24 V~
74	24 V~0	78	24 V~0

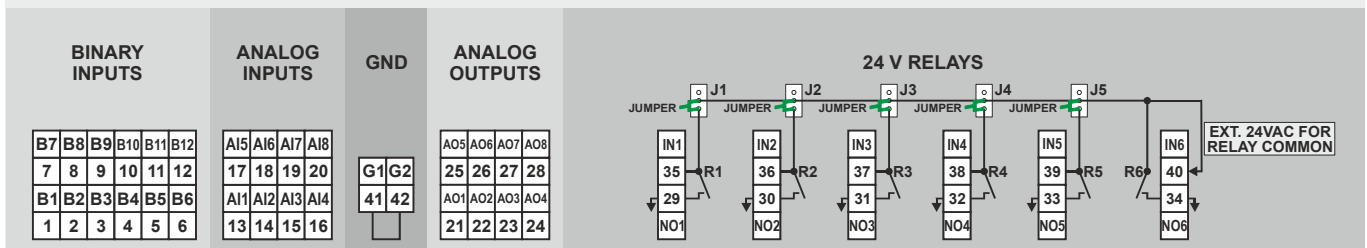


Fig. 4. CPO-IO830A terminal assignment

Honeywell

Manufactured for and on behalf of the Environmental and Combustion Controls Division of Honeywell Technologies Sàrl, Rolle, Z.A. La Pièce 16, Switzerland by its Authorized Representative:

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