

9215P01\_01

Desigo™ PX

## Automation stations, compact model

## PXC....D

**PXC12.D    PXC22.D    PXC36.D**  
**PXC12-E.D    PXC22-E.D    PXC36-E.D**

- Freely programmable compact automation stations for HVAC and building services.
- Native BACnet automation stations with communication via
  - BACnet over Ethernet / IP
  - BACnet over LONTALK
- BTL label (BACnet communication passed the BTL test)
- PPC processor for high performance and reliable operation
- Comprehensive management and system functions (alarm management, time scheduling, trends, remote management, access protection etc.)
- 12, 22, or 36 physical inputs / outputs per automation station
- For stand-alone applications or for use within a device or system network
- Supports the following methods of operation:
  - QAX... room units
  - Local or network-compatible operator units
  - system or web operation via system network

**Validity**

*This data sheet is valid for devices / firmware Desigo V5 and higher.  
 For older devices / firmware see data sheet CM1N9215en\_09*

## Functions

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These freely programmable automation stations provide the infrastructure for the provision and processing of system-specific and application-specific functions. Apart from the freely programmable control functions these units comprise integrated convenient management functions such as:

- Alarm management with alarm routing throughout the whole network. Three level alarm management (simple, basic and enhanced) with safety control transmission and automatic transmission monitoring
- Time schedulers
- Trend functions
- Access protection for the whole network with individually defined user profiles and categories

### I/O points

Each automation station has dedicated digital inputs and outputs along with a number of universal I/O points that are individually configurable as

- Digital input:
- Pulse counter (25Hz)
- Analog input: sensor, DC 0..10V
- Analog output: DC 0..10V
- In addition a limited number of the universal I/O can be configured as digital outputs for switching DC 24 V external relays.

### Programming language

The automation stations are freely programmable with the D-MAP programming language (follows closely CEN Standard 1131). All function blocks available in libraries are graphically linked with the plant operating programs.

### Communication

Communication is via Ethernet with the international standard BACnet protocol. Both peer-to-peer communications with other automation stations and connections to the PXM20 operator units are supported.

### Operation

There are various options for operation of the PXC...D automation stations:

- **QAX... room unit** connected to the PPS2 interface. A **maximum** of five room units QAX... (not QAX5...) can be connected. Details on the PPS2 communication are described in the Desigo Technical principles manual (chapter "I/O blocks", section "PPS2 addressing").
- **Local PXM10 operator unit** \*), connected via PXA-C1 cable
- The **PXM20 operator unit** \*) connected via PXA-C1 cable, can be used either locally or decentralized for all plant connected together in one BACnet / LONTALK network

Note \*) In the case of a PXC...D automation station, one PXM10 and one PXM20 operator unit may be connected, but not twice the same type.

- The **PXM20-E operator unit** can be used either locally or decentralized for all plant connected together in one BACnet / IP network (connect via a hub / switch)

## Types

Automation stations	PXC12.D 1) PXC12-E.D 2)	PXC22.D 1) PXC22-E.D 2)	PXC36.D 1) PXC36-E.D 2)
<b>Total number of inputs / outputs</b>	12	22	36
<b>Number of digital inputs (DI)</b>	2	-	4
<b>Number of universal inputs / outputs (UIO)</b>	8	16	24
<b>whereof UIO supporting Q250 (DC 0/24 V</b>	(4)	(4)	(6)
<b>Number of relay outputs (DO)</b>	2	6	8

1) Communications BACnet / LONTALK

2) Communications BACnet / IP

Accessories	Types
Connecting cable between PXM10 or PXM20operator unit and automation station	PXA-C1
Adapter for firmware download	PXA-C2

## Technology

### Universal inputs / outputs

The universal inputs / outputs (UIO) accept the following signal types:

#### Input

- Passive sensors      LG-Ni 1000, Ni 1000, Pt 1000, T1  
(Signal types R1K, Ni1K, P1K, T1)
- Active sensors      DC 0...10 V (U10)
- Binary inputs      Volt-free (D20, D20S)
- Counters      Volt-free up to 25 Hz (C)

**Output:** On the one hand, Universal inputs / outputs (UIO) can control modulating actuators and, on the other hand, can be programmed via the program structure for binary switching functions.

- Analogue      DC 0...10 V (Y10)
- Binary      0 or DC24 V, max. 22 mA (Q250, only UIO 1...4 or 1...6 respectively)

### Digital inputs

The digital inputs (DI) accept volt-free contacts:

### Relay outputs

The relay outputs (DO) are designed for max. AC 250 V, 2 A.

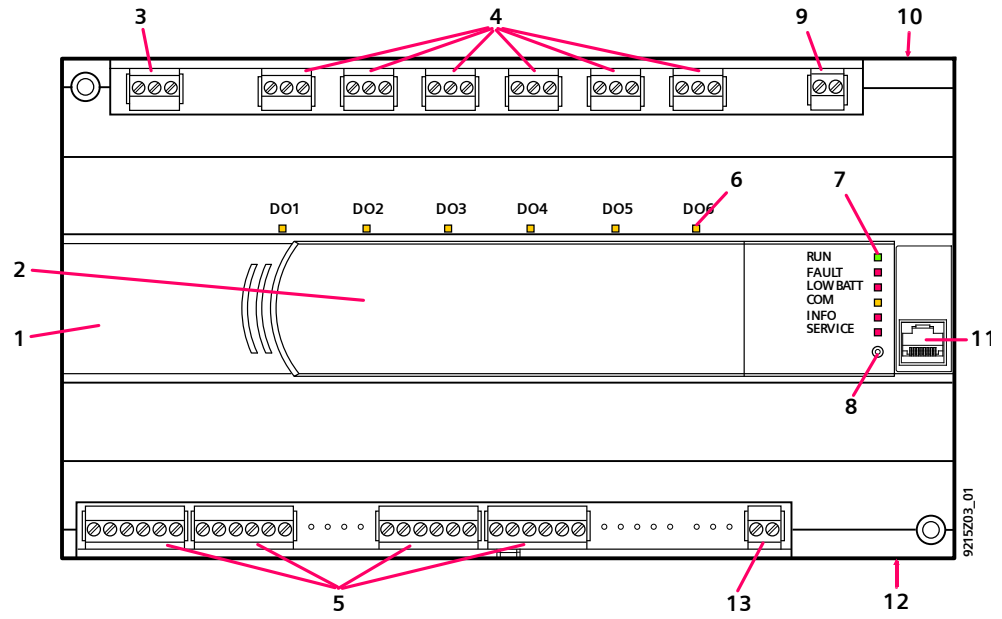
### Power Supply

The power supply provides regulated power to the inputs / outputs and active sensors. It is internal to the automation station housing, simplifying installation and troubleshooting.

The power supply works with the processor to ensure smooth power up and power down sequences for the equipment controlled by the I/O points, even through brownout conditions.

Brownout protection and power recovery circuitry protect the automation station from power fluctuations.

The compact construction enables the automation stations to be used in highly confined spaces and makes them especially suitable for compact control panels or technical equipment with integrated control panels.



1	Plastic housing
2	Front cover
3	Plug-in screw terminal block (operating voltage)
4	Plug-in screw terminal block (relays)
5	Plug-in screw terminal block (inputs, outputs)
6	LED indicators for relay outputs
7	LED indicators for device and system status
8	Service pin (Network identification)
9	Plug-in screw terminal block (LONWORKS bus, PXC....D only)
10	Network interface RJ45 (BACnet / IP, PXC...-E.D only)
11	RJ45 Interface for operator unit and tool (RJ45, PXC....D only)
12	RJ45 interface for operator unit
13	Plug-in screw terminal block (room units)

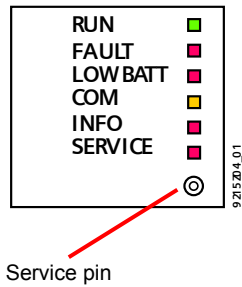
**Terminal blocks**

The terminal blocks are removable for easy termination of field wiring.

## LED indicators

Each **relay output** has a yellow status LED

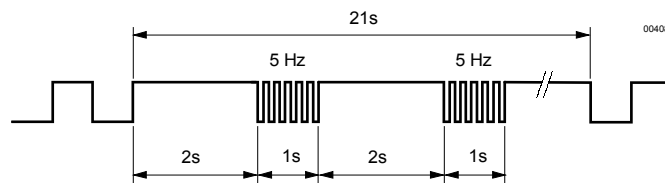
The **other LEDs** have the follow meanings:



Service pin

LED	Color	Activity	Function
RUN	Green	Continuously off Continuously on	No supply Supply OK
FAULT	Red	Continuously off Continuously on Quick flashes	OK Fault Missing / Corrupt Firmware
LOW BATT	Red	Continuously off Continuously on	Battery ok Battery low - replace
COMM	Yellow	Continuously off Continuously on Flashing	No Link to switch Link to switch Communication
INFO	Red		Freely programmable
SERVICE (Ethernet)	Red	Continuously off Continuously on Flashing Flashing acc. to wink command pattern *)	OK No Link to switch No IP Address configured Physical identification of automation station after receiving wink command
SERVICE (LONWORKS bus)	Red	Continuously off Continuously on Flashing Flashing acc. to wink command pattern *)	LONWORKS node is configured LONWORKS chip defective or service key was pressed again LONWORKS node is not configured Physical identification of automation station after receiving wink command

\*) Wink command rhythm pattern:



## Service pin

Identification of the automation station in the IP network or LONWORKS network: see "Commissioning".

## Disposal



The devices are classified as waste electronic equipment in terms of the European Directive 2012/19/EU (WEEE) and should not be disposed of as unsorted municipal waste.

The relevant national legal rules are to be adhered to.

Regarding disposal, use the systems setup for collecting electronic waste.

Observe all local and applicable laws.

**Lithium batteries:** May catch fire, explode or leak. Do not short circuit, charge, disassemble, dispose of in fire, heat above 100 °C, or expose to water.

Disposal: Seal battery terminals with tape.

## Mounting instructions

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The automation stations can be snap-mounted on DIN rails or directly screwed to a mounting plate or a building wall.

The connections for field devices and power supply are via plug-in screw terminals. The other interfaces are quick connecting jacks.

## Commissioning

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In order to prevent equipment damage and/or personal injuries always follow local safety regulations and the required safety standards.

### Loading plant operating program

Download the plant operating program to the automation station with the PX Design tool in the Desigo TOOLSET, locally via the RJ45 interface of the AS or via the Network (BACnet/IP or BACnet/LonTalk).

### Setting parameters and configurations

Use the PX Design tool in Xworks Plus for setting the control parameters and the configuration data.

Data visible in the network can also be changed with a PXM20 / PXM20-E operator unit (BACnet / LonTalk or BACnet / IP).

Certain data can also be changed with a PXM10 operator unit.

### Wiring test

It is possible to test field devices and the wiring as soon as the power supply is connected, without first downloading the plant operating program.

- BACnet / LonTalk for PXC...D: with PXM20 operator unit.
- BACnet / IP for PXC...E.D: with PXM20-E operator unit.  
**Prerequisite:** PX and PXM20-E are on Default-IP and alone in the IP segment.
- Signal type when no application loaded:  
UIO 1...4 / 1...6 = Y10S, other UIO = R1K

### Network connection

The network addresses are configured with Xworks Plus. In order to provide a unique identification in the network (BACnet/IP or BACnet/LonTalk), press the **service pin** with a thin, long instrument or send a wink command to the relevant automation station (service LED flashes).

### Force Firmware Download

- **Variant via V24:**

If the **Force Firmware Download key** is pressed during a restart (reset) the current D-MAP program is deleted from the FLASH.

The automation station waits a short while for the signal to activate the FWLoader and then starts the automation station.

- **Variant via IP:** (for PXC...E.D, faster than via V24)

Press the **Force Firmware Download key** for 5 seconds (without hitting the reset button).

**Prerequisite:** the automation station has conducted a node setup and no application is loaded, or it has been removed previously by "clear/ reset" in the CFC (communication settings remain – which would not be the case when restart erasing by pressing the reset key).

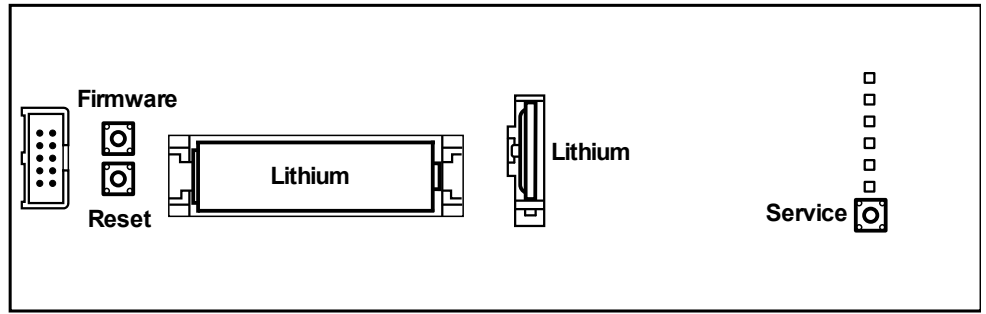
For details see the Firmware Download Tool User's guide, CM110626.

### Reset

Pressing the **reset key** forces a restart.

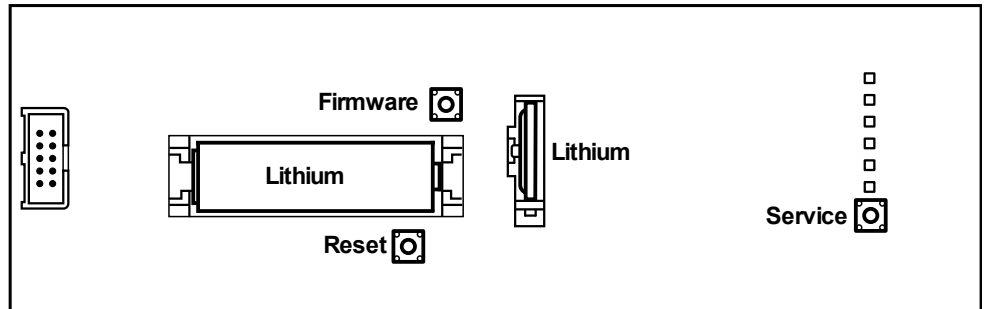
**Positions of pins and batteries**

**PXC12-E.D und PXC22-E.D**



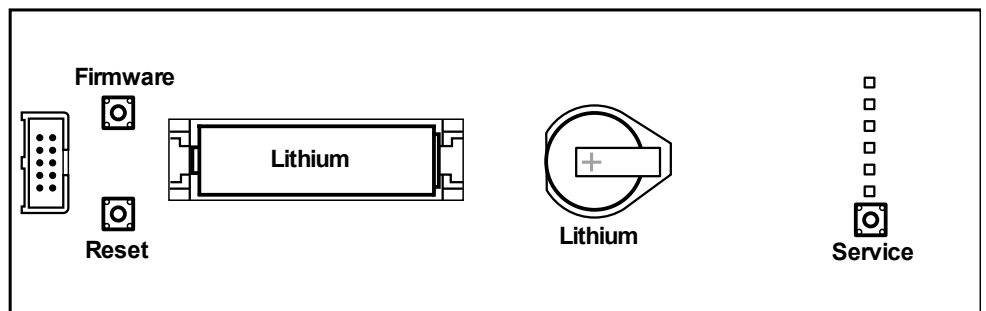
9215Z02\_0'

**PXC12.D; PXC22.D**



9215Z12\_0

**PXC36....D**



9215Z05\_0

### Battery life

The **real time clock** is backed by a **lithium battery** type CR2032

- Life span without charge: 10 years
- Life span with battery operation (cumulative): 10 years
- After the "Battery low" event 1) the remaining life span under load is several days.

The **trend data and the actual parameters** stored in the SDRAM memory are battery-backed (type AA).

- Lithium Type FR6/AA: PXC12...D, PXC22...D: series K, PXC36...D: series D
- Alkaline: PXC12...D, PXC22...D: up to series H, PXC36...D: Up to series C

- Life span without charge: 

Lithium	10 years
Alkaline	4 years
- Life span with battery operation (cumulative): min. 2 weeks
- After the "Battery low" event <sup>1)</sup> the remaining life span under load is approx. 15 hrs (Lithium) or several days (Alkaline).

1) "Battery low" event: The "LOW BATT" LED lights up when one of the batteries' charge is low, and the automation station automatically sends a system event.

### Battery change

To change the batteries, remove the front cover. As long as there is an external power supply, the battery may be removed for unlimited time.



#### Caution!

- **Do not replace an Alkaline battery with a Lithium battery!** (PXC12...D, PXC22...D: series up to H, PXC36...D: series up to D).
- **Note the special disposal notes on Li batteries.**
- **To prevent hardware damage by electrostatic discharge (ESD), a wrist strap with earth cable must be used during the battery change.**

### Firmware upgrades

The firmware, including the operating system, is stored in non-volatile flash ROM memory. Flash ROM is easily upgradeable at the job site. This provides for ease of upgrade, as new firmware updates are made available.



## Technical data

General device data	Operating voltage		AC 24 V ± 20% (SELV / PELV) or AC 24 V class 2 (US)	
	Operating frequency		50/60 Hz	
	Power Consumption (depending on field devices)		PXC12....D max.24 VA PXC22....D max.26 VA PXC36....D max.35 VA	
	Internal fuse		5 A	
Operating data	Processor	PXC12/22....D PXC36....D	Motorola Power PC MPC852T Motorola Power PC MPC885	
	Memory	PXC12/22....D	16MB SDRAM / 8MB FLASH (24MB total)	
		PXC36....D	64MB SDRAM / 16MB FLASH (80MB total)	
	Accuracy class		0.5	
	Scan cycle		Max. 1 s	
	Data backup in case of power failure			
	Battery Backup of Realtime Clock Lithium type CR2032 (field replaceable)		Battery operation (cumulative): 10 years Without load: 10 years	
Battery Backup of SDRAM 1x AA: (field replaceable)		Battery operation (cumulative): min. 2 weeks		
<ul style="list-style-type: none"> <li>• <b>Lithium</b> Type FR6/AA: PXC12/22....D series K and later; PXC36...D series D and later</li> <li>• <b>Alkaline</b>: PXC12/22....D up to series H; PXC36...D up to series C</li> </ul>		Without load: Lithium 10 years Alkaline 4 years		
Interface, room units	Interface type		PPS2	
	Supply class		4	
	PPS2 baud rate		4.8 kBit/s	
Interfaces, communication	<b>PXC....D</b>		<b>PXC...-E.D</b>	
	Building Level Network	LONWORKS FTT Transceiver (Screw terminals)	10 Base-T / 100 Base-TX IEEE802.3, Auto-sensing (RJ45)	
	Local Communication (HMI, Tool) (RJ45)	<ul style="list-style-type: none"> <li>• PXM10 (RS-232)</li> <li>• PXM20 (BACnet/LonTalk)</li> <li>• FW Download Tool</li> </ul>	--	
	Local Communication (HMI) (RJ45)	<ul style="list-style-type: none"> <li>• PXM10 (RS-232)</li> <li>• PXM20 (BACnet/LonTalk)</li> </ul>	• PXM10 (RS-232)	
		One PXM10 operator unit and one PXM20 per automation station may be connected. But not twice the same type.	One PXM10 on RJ45	
Binary inputs DI...	Contact voltage		DC 20 ... 25 V	
	Contact current		10 mA	
	Contact transfer resistance		Max. 200 Ω (closed)	
	Contact isolation resistance		Min. 50 kΩ (open)	

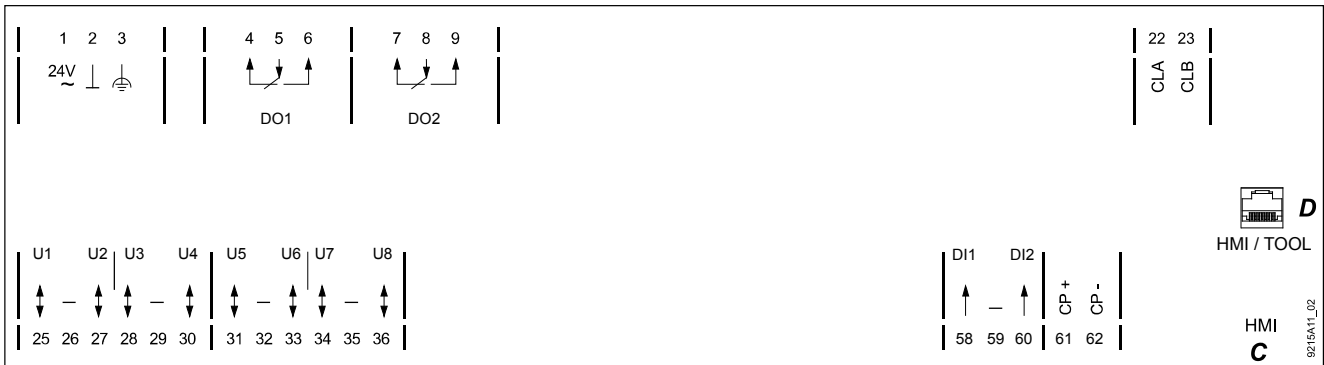


Plug-in screw terminal	Power supply and signals	Stranded or solid conductors, 0.25 ... 2.5 mm <sup>2</sup> or 2 x 1.5 mm <sup>2</sup>												
Single cable lengths and cable types	Universal inputs UI... Binary inputs DI... Universal outputs AO... Relay outputs DO... Interface, room unit Cable type Capacitance per unit length Connecting cable Ethernet and PXM20-E Cable type  Connecting cable LONWORKS bus Cable type Connecting cable PXM10	Max. 100m where A = 1 mm <sup>2</sup> Max. 100 m with diameters ≥ 0.6 mm Max. 100m where A ≥ 1.5 mm <sup>2</sup> Depends on load and local regulations Max. 125 m where A = 1.0 mm <sup>2</sup> 2-core, twisted pair, unshielded Max. 56 nF/km Max. 100 m Standard at least CAT5 UTP (Unshielded Twisted Pair) or STP (Shielded Twisted Pair) See installation manual CA110396 CAT5 Max. 3 m												
Protection data	Housing protection standard Protection class	IP 20 to EN 60529 II to EN 60730-1												
Ambient conditions	Operation Climatic conditions Temperature Humidity Mechanical conditions Transport Climatic conditions Temperature Humidity Mechanical conditions	To IEC 60721-3-3 Class 3K5 0 ... 50 °C 5 ... 95 % rh (no condensation) Class 3M2 To IEC 60721-3-2 Class 2K3 -25 ... +70 °C 5 ... 95 % rh (no condensation) Class 2M2												
Standards and directives and approvals	Product standard       EN 60730-1  Product family standard EN 50491-x  Electromagnetic compatibility (Applications)  EU conformity (CE) UL certification (US) RCM-conformity (EMC) EAC conformity AMEV: Supports profiles AS-A and AS-B as of AMEV guideline "BACnet in public buildings" FCC	Automatic electrical controls for household and similar use General requirements for Home and Building Electronic Systems (HBES) and Building Automation and Control Systems (BACS) For use in residential, commerce, light-industrial and industrial environments CM1T9215xx *) UL916 <a href="http://ul.com/database">http://ul.com/database</a> CM1T9222en_C1 *) Eurasia conformity BACnet 2011 en, V1.1 CFR 47 Part 15 Class B												
Environmental compatibility	Product environmental declaration (contains data on RoHS compliance, materials composition, packaging, environmental benefit, disposal) See "Dimensions"	CM1E9215 *)												
Dimensions														
Weight	<table border="1"> <thead> <tr> <th>Type</th> <th>without packaging</th> <th>with packaging</th> </tr> </thead> <tbody> <tr> <td>PXC12....D</td> <td>750</td> <td>830</td> </tr> <tr> <td>PXC22.... D</td> <td>754</td> <td>834</td> </tr> <tr> <td>PXC36.... D</td> <td>1080</td> <td>1180</td> </tr> </tbody> </table>	Type	without packaging	with packaging	PXC12....D	750	830	PXC22.... D	754	834	PXC36.... D	1080	1180	
Type	without packaging	with packaging												
PXC12....D	750	830												
PXC22.... D	754	834												
PXC36.... D	1080	1180												

\*) The documents can be downloaded from <http://siemens.com/bt/download>.

## Connection terminals

### PXC12.D

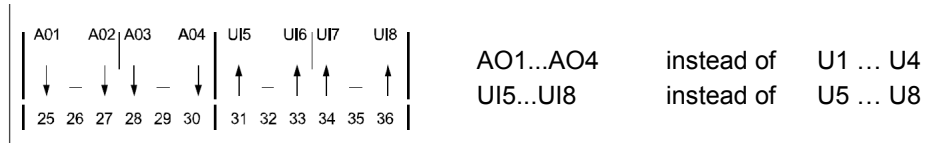


Terminal(s)	Symbol	Description	CFC IOAddr
1, 2	24 V ~, ⊥	Operating voltage AC 24 V	
3	⊥	Functional earth	
4 ... 9	DO1, DO2	2 Digital outputs (Relays)	DO1: C=5.1
22, 23	CLA, CLB	LonWorks-Bus	
25 ... 30	U1...U4	4 Universal inputs / outputs with Q250	xx1: C=4.1 *)
31 ... 36	U5...U8	4 Universal inputs / outputs	xx5: C=1.1 *)
58 ... 60	DI1, DI2	2 Digital inputs	DI1: C=3.1
61, 62	CP+, CP-	PPS2 bus (for up to 5 QAX... room units)	
C	HMI	RJ45 socket for operator unit	
D	HMI / Tool	RJ45 socket for operator unit and tool	

\*) Signal type when no application is loaded (wiring test):

U1...U4: xx = Y10S, U5...U8: xx = R1K

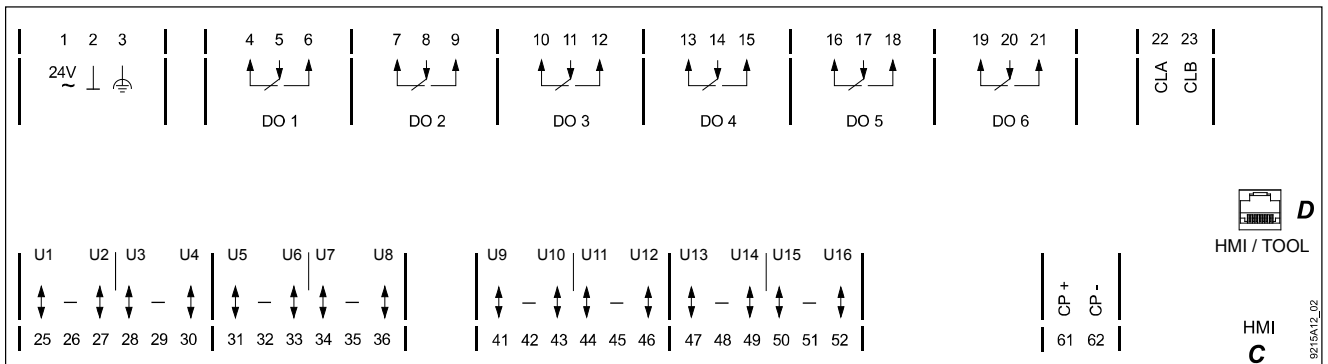
Terminal designation of old devices that have been upgraded to FW V5 or later



#### Caution!

- Observe the technical data for the relay outputs.
- Local installation regulations must be observed.

## PXC22.D



<b>1, 2</b>	24 V ~, ⊥	Operating voltage AC 24 V	
<b>3</b>	⊥	Functional earth	<b>CFC IOAddr</b>
<b>4 ... 21</b>	DO1 ... DO6	6 Digital outputs (Relays)	DO1: C=5.1
<b>22, 23</b>	CLA, CLB	LonWorks-Bus	
<b>25 ... 30</b>	U1 ... U4	4 Universal inputs / outputs with Q250	xx1: C=4.1 *)
<b>31 ... 52</b>	U5 ... U16	12 Universal inputs / outputs	xx5: C=1.1 *)
<b>61, 62</b>	CP+, CP-	PPS2 bus (for up to 5 QAX... room units)	
<b>C</b>	HMI	RJ45 socket for operator unit	
<b>D</b>	HMI / Tool	RJ45 socket for operator unit and tool	

\*) Signal type when no application is loaded (wiring test):  
 U1...U4: xx = Y10S, U5...U16: xx = R1K

Terminal designation of old devices that have been upgraded to FW V5 or later



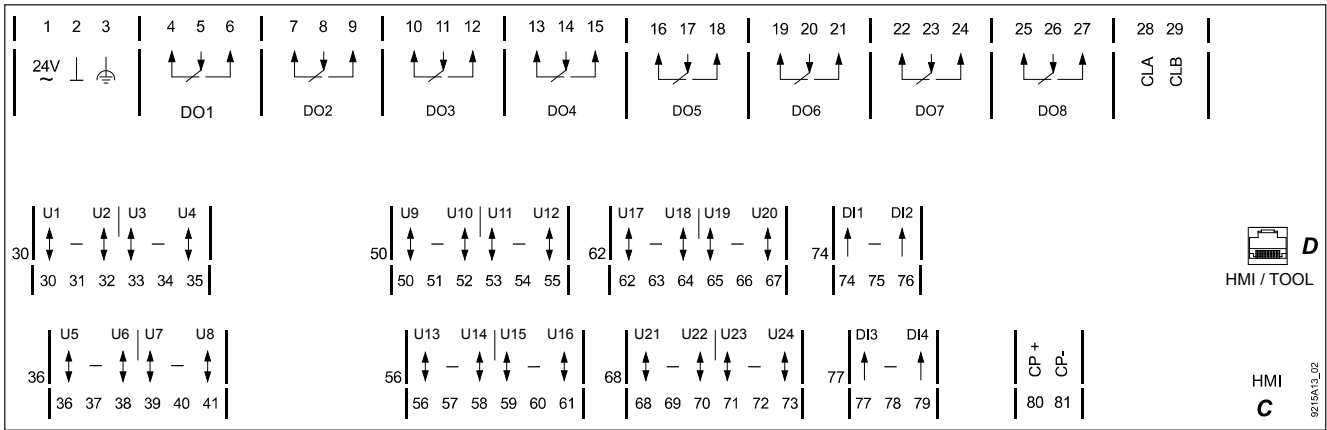
AO1...AO4      instead of      U1 ... U4  
 UI5...UI16    instead of      U5 ... U16



### Caution!

- **Observe the technical data for the relay outputs.**
- **Local installation regulations must be observed.**

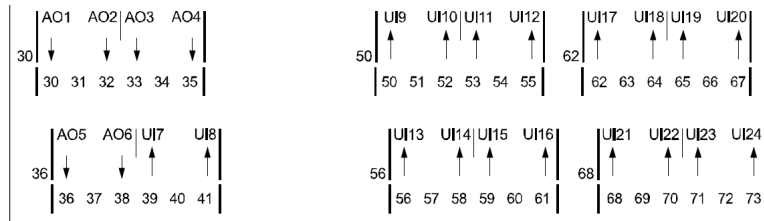
**PXC36.D**



<b>1, 2</b>	24 V ~, ⊥	Operating voltage AC 24 V	
<b>3</b>	⊥	Functional earth	<b>CFC IOAddr</b>
<b>4 ... 27</b>	DO1 ... DO8	8 Digital outputs (Relays)	DO1: C=5.1
<b>28, 29</b>	CLA, CLB	LONWORKS bus	
<b>30 ... 38</b>	U1 ... U6	6 Universal inputs / outputs with Q250	xx1: C=4.1 *)
<b>39 ... 73</b>	U7 ... U24	18 Universal inputs / outputs	xx7: C=1.1 *)
<b>74 ... 79</b>	DI1 ... DI4	4 digital inputs	DI1: C=3.1
<b>80, 81</b>	CP+, CP-	PPS2 bus (for up to 5 QAX... room units)	
<b>C</b>	HMI	RJ45 socket for operator unit	
<b>D</b>	HMI / Tool	RJ45 socket for operator unit and tool	

\*) Signal type when no application is loaded (wiring test):  
 U1...U6: xx = Y10S, U7...U24: xx = R1K

Terminal designation of old devices that have been upgraded to FW V5 or later



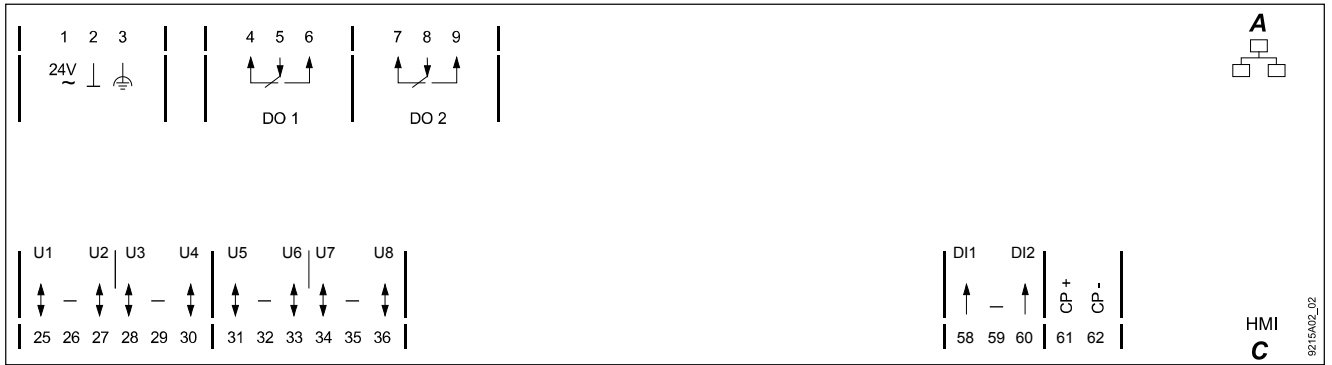
AO1...AO6 instead of U1 ... U6  
 UI7...UI24 instead of U7 ... U24



**Caution!**

- **Observe the technical data for the relay outputs.**
- **Local installation regulations must be observed.**

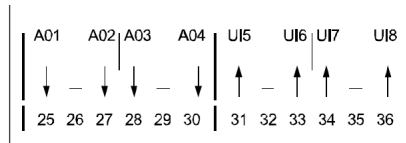
# PXC12-E.D



<b>1, 2</b>	24 V ~, ⊥	Operating voltage AC 24 V	
<b>3</b>		Functional earth	<b>CFC IOAddr</b>
<b>4 ... 9</b>	DO1, DO2	2 Digital outputs (Relays)	DO1: C=5.1
<b>25 ... 30</b>	U1 ... U4	4 Analog inputs / outputs with Q250	xx1: C=4.1 *)
<b>31 ... 36</b>	U5 ... U8	4 Analog inputs / outputs	xx5: C=1.1 *)
<b>58 ... 60</b>	DI1, DI2	2 Digital inputs	DI1: C=3.1
<b>61, 62</b>	CP+, CP-	PPS2 bus (for up to 5 QAX... room units)	
<b>A</b>		Ethernet socket	
<b>C</b>	HMI	RJ45 socket for operator unit	

\*) Signal type when no application is loaded (wiring test):  
 U1...U4: xx = Y10S, U5...U8: xx = R1K

Terminal designation of old devices that have been upgraded to FW V5 or later



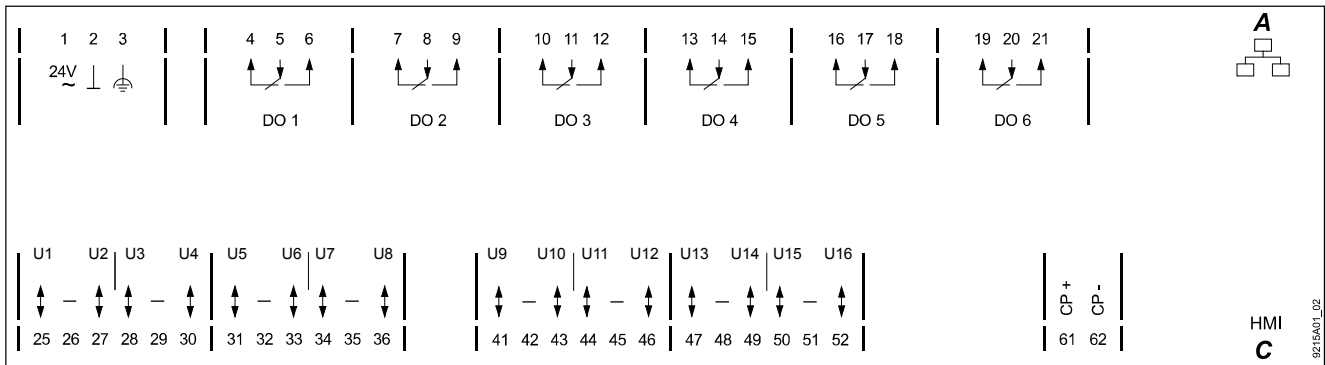
AO1...AO4 instead of U1 ... U4  
 UI5...UI8 instead of U5 ... U8



## Caution!

- **Observe the technical data for the relay outputs.**
- **Local installation regulations must be observed.**

# PXC22-E.D



<b>1, 2</b>	24 V ~, ⊥	Operating voltage AC 24 V	
<b>3</b>		Functional earth	<b>CFC IOAddr</b>
<b>4 ... 21</b>	DO1 ... DO6	6 Digital outputs (Relays)	DO1: C=5.1
<b>25 ... 30</b>	U1 ... U4	4 Universal inputs / outputs with Q250	xx1: C=4.1 *)
<b>31 ... 52</b>	U5 ... U16	12 Universal inputs / outputs	xx5: C=1.1 *)
<b>61, 62</b>	CP+, CP-	PPS2 bus (for up to 5 QAX... room units)	
<b>A</b>		Ethernet socket	
<b>C</b>	HMI	RJ45 socket for operator unit	

\*) Signal type when no application is loaded (wiring test):

U1...U4: xx = Y10S, U5...U16: xx = R1K

Terminal designation of old devices that have been upgrades to FW V5 or later



AO1...AO4 instead of U1 ... U4  
 UI5...UI16 instead of U5 ... U16

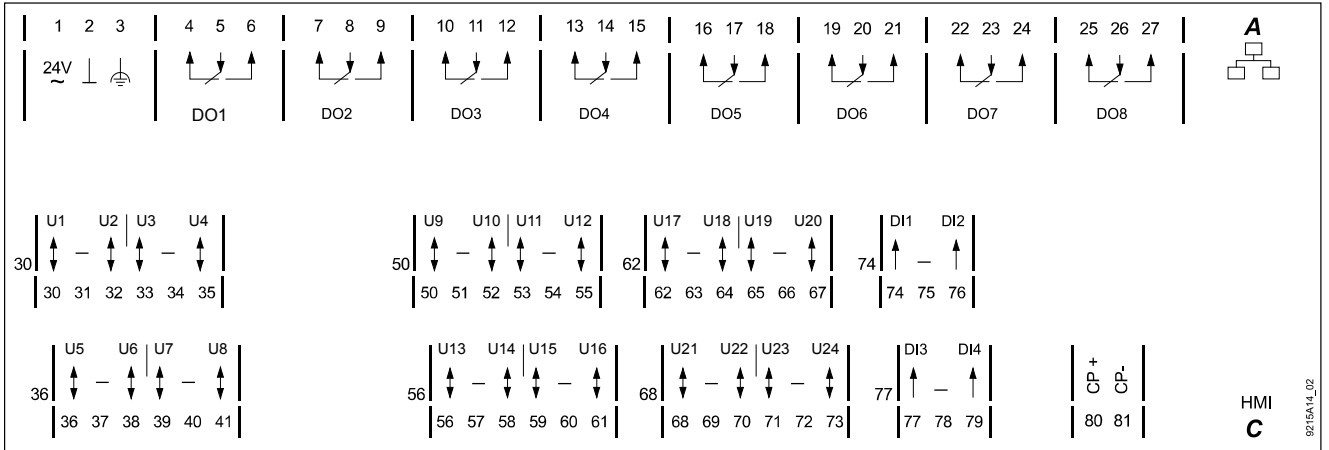


## Caution!

- Observe the technical data for the relay outputs.
- Local installation regulations must be observed.



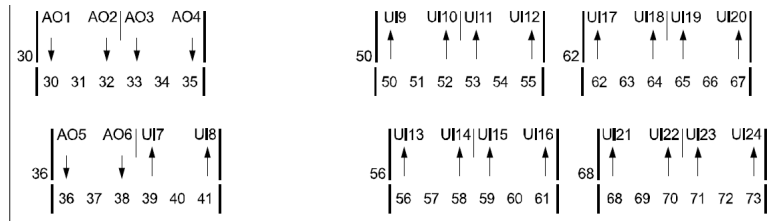
**PXC36-E.D**



<b>1, 2</b>	24 V ~, ⊥	Operating voltage AC 24 V	
<b>3</b>		Functional earth	<b>CFC IOAddr</b>
<b>4 ... 27</b>	DO1 ... DO8	8 Digital outputs (Relays)	DO1: C=5.1
<b>30 ... 38</b>	U1 ... U6	6 Universal inputs / outputs with Q250	xx1: C=4.1 *)
<b>39 ... 73</b>	U7 ... U24	18 Universal inputs / outputs	xx7: C=1.1 *)
<b>74 ... 79</b>	DI1 ... DI4	4 Digitale Eingänge	DI1: C=3.1
<b>80, 81</b>	CP+, CP-	PPS2 bus (for up to 5 QAX... room units)	
<b>A</b>		Ethernet socket	
<b>C</b>	HMI	RJ45 socket for operator unit	

\*) Signal type when no application is loaded (wiring test):  
 U1...U6: xx = Y10S, U7...U24: xx = R1K

Terminal designation of old devices that have been upgrades to FW V5 or later



AO1...AO6 instead of U1 ... U6  
 UI7...UI24 instead of U7 ... U24



**Caution!**

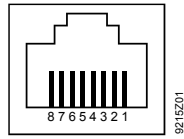
- Observe the technical data for the relay outputs.
- Local installation regulations must be observed.

## Pin layout

---

### Tool socket "HMI" (Ethernet)

#### Automation stations for **BACnet / IP**



#### Pin Description

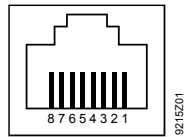
1. Unoccupied
2. Unoccupied
3. G0, GND
4. G/Plus

#### Pin Description

5. Unoccupied
6. Hot-wired to Pin 8
7. COM1/TxD
8. COM1/RxD

### Tool socket "HMI" (LONWORKS)

#### Automation stations for **BACnet / LonTalk**



#### Pin Description

1. LONWORKS Data A (CLA)
2. LONWORKS Data B (CLB)
3. G0 / GND
4. G / Plus

#### Pin Description

5. Unoccupied
6. Hot-wired to Pin 8
7. COM1 / TxD
8. COM1 / RxD

## Connecting the field devices



### Note!

In the automation stations described in this data sheet, system neutral (G0) and measuring ground (–) are NOT CONNECTED.

For active 4-wire field devices, this connection is made in the device.

For active 3-wire field devices, you have to make an additional connection:

- ① either on the terminals of the field device
- ② or between one of the (–) terminals of the automation station and G0 (in existing plants where there are only 3 conductors installed).

## Field device supply voltage from system transformer

Counter inputs

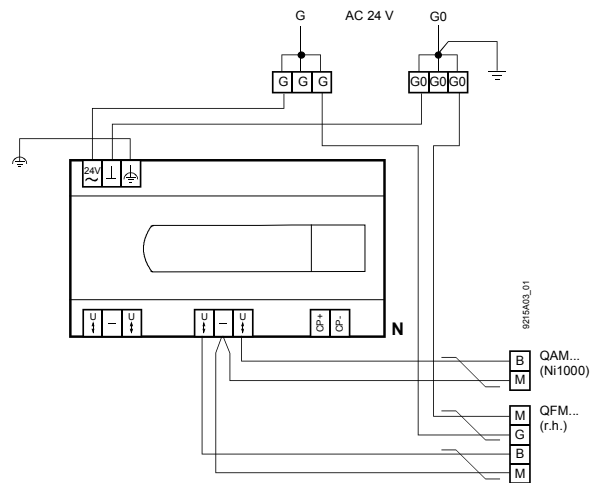
*Counter inputs faster than 1 Hz must be shielded if they are routed in the same trunking as analog inputs for more than 10 m.*

Passive sensors

(e.g. QAM... , Ni 1000)

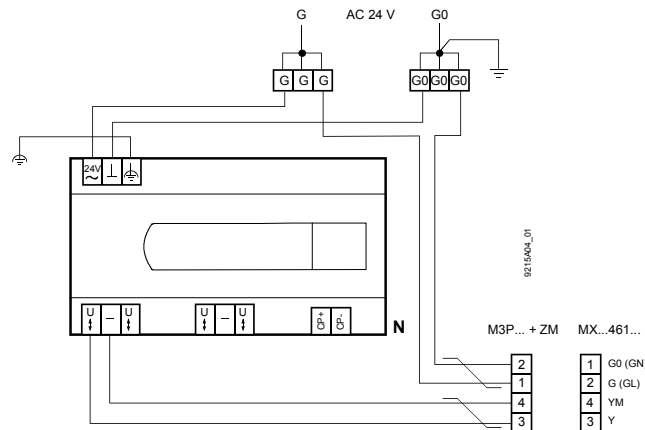
Active sensors

(e.g. QFM... , humidity)

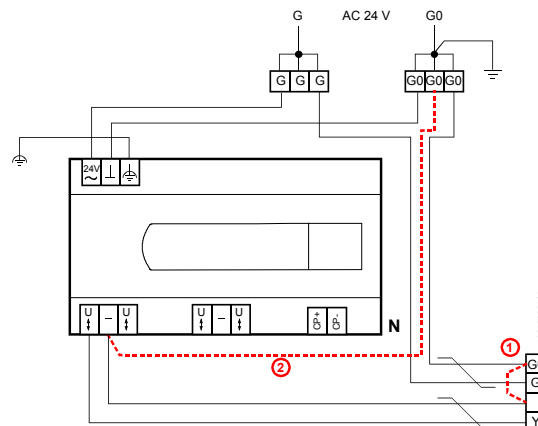


Magnetic valves

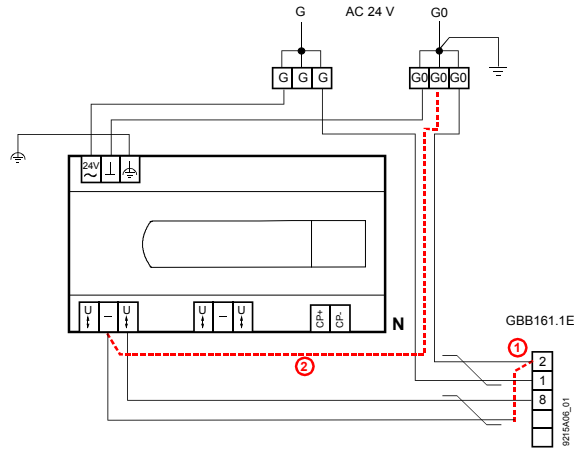
(e.g. M3P... + ZM  
or MX...461...)



Motorized valves

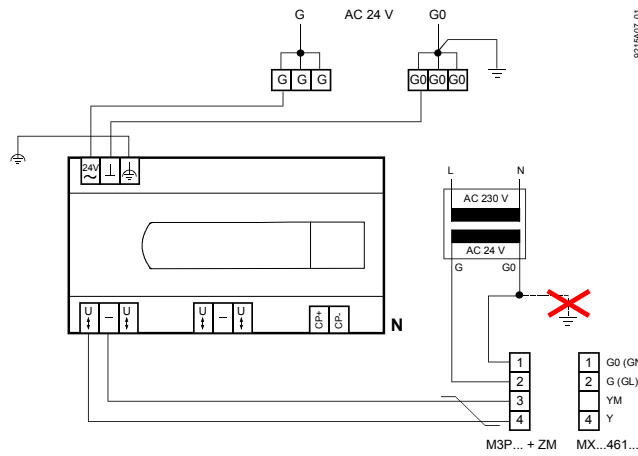


Damper actuators  
(e.g. GBB161.1E)



### Field device supply from separate transformer

Magnetic valves  
(e.g. M3P... + ZM  
or MX...461...)



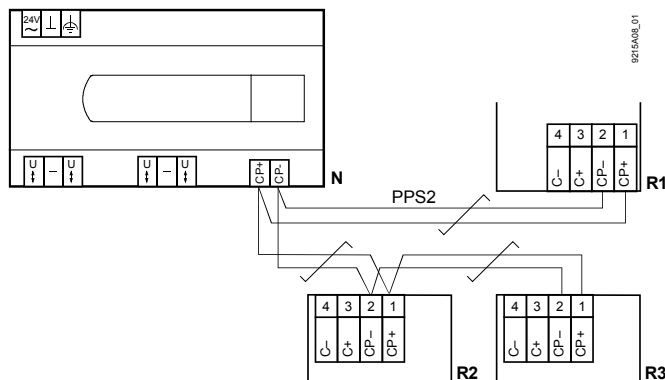
**STOP Note!**  
Do NOT earth  
the local  
transformer

### Connecting the room units

N Automation station

R... Max. 5 room units  
(parallel)

- PPS2
- Twisted pair bus cable
  - Reversible polarity
  - Cable length, see "Technical data"

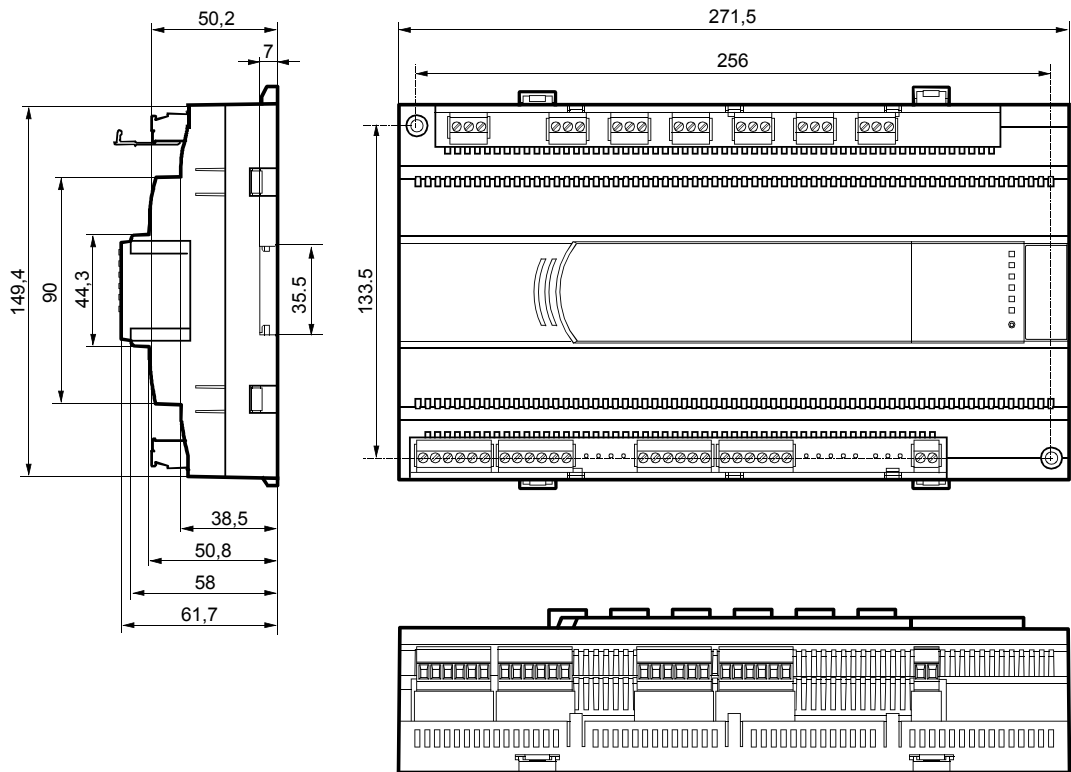


- Notes
- The room units are connected in parallel (max. five devices).
  - To distinguish between them, they must be addressed by use of jumpers (address plug on the printed circuit board). The factory-setting is Address 1.

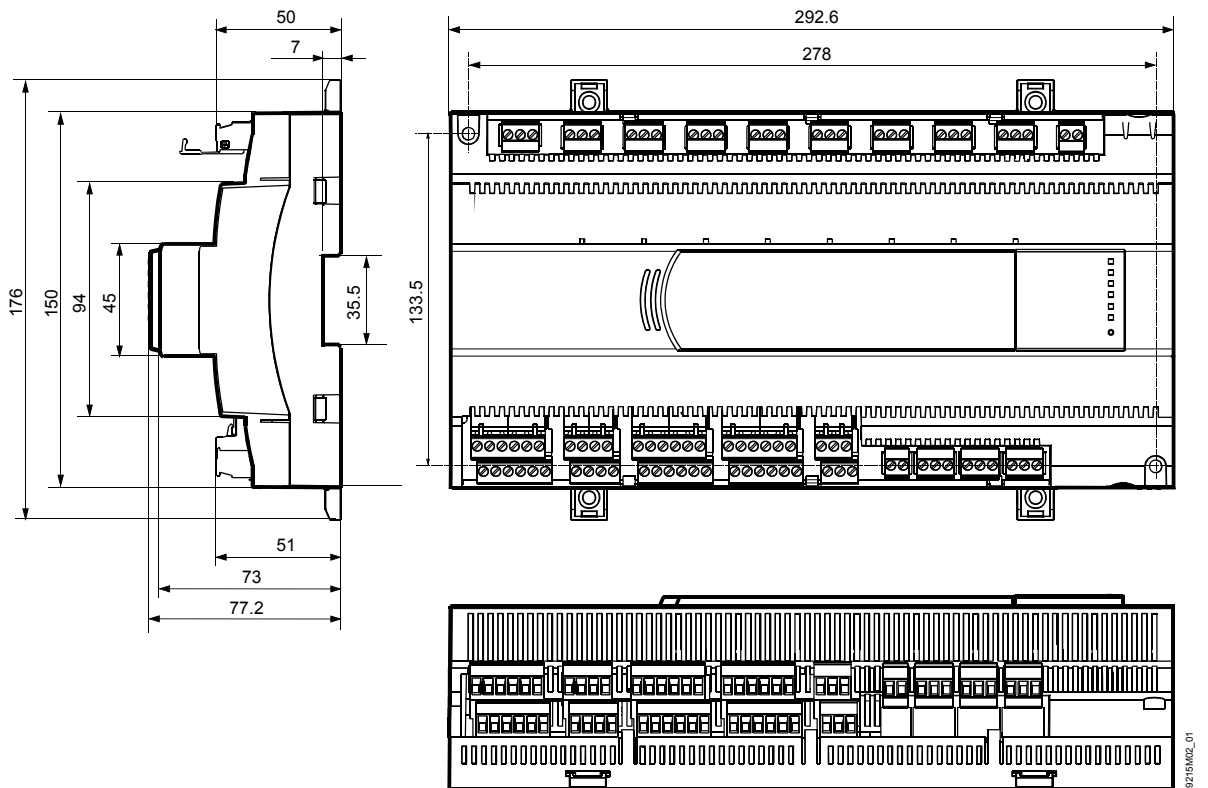
## Dimensions

All dimensions in mm

### PXC12....D and PXC22....D



### PXC36....D



Published by:  
Siemens Switzerland Ltd.  
Building Technologies Division  
International Headquarters  
Gubelstrasse 22  
6301 Zug  
Switzerland  
Tel. +41 41-724 24 24  
[www.siemens.com/buildingtechnologies](http://www.siemens.com/buildingtechnologies)

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