



Climatix™

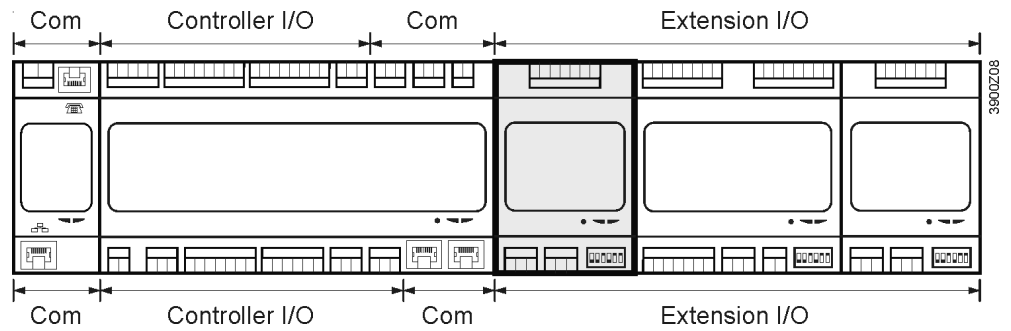
Climatix extension module 8 I/Os

POL945.00/XXX

The POL945.00/XXX extension module extends the I/O numbers of Climatix 600 Controllers. It is part of the Climatix product range (refer to Data Sheet 3900 and Mounting Instruction M3910).

The extension module offers the following features:

- Power supply AC 24 V or DC 24 V
- 4 analog inputs (configurable as digital inputs separately)
- 4 relay outputs
- Peripheral bus interface for local/remote extension I/Os



Disposal



The devices are considered electronics devices for disposal in term of European Directive 2012/19/EU and may not be disposed of as domestic waste.

- Dispose of the device via the channels provided for this purpose.
- Comply with all local and currently applicable laws and regulations.

Technical data

Power supply

Operating voltage	AC 24 V ± 20%; DC 24 V ± 10%
Frequency	45...65 Hz
Max. AC-Current consumption	0.26 A at AC 24 V
Max. DC-Current consumption	0.125 A at DC 24 V
Connection	Peripheral bus

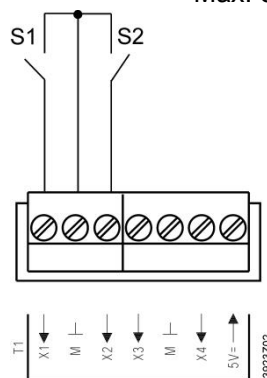
Power distribution

Max. pass through current	3.74 A at AC 24V 3.875 A at DC 24 V
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Analog inputs

X1...X4 (T1)

0/1 digital signal (binary)	For potential-free contacts
Sampling voltage/current	DC 24 V / 8 mA
Contact resistance	Max. 200 Ω (closed) Min. 50 kΩ (open)
Delay	10 ms
Pulse frequency	Max. 30 Hz



Connecting floating contacts

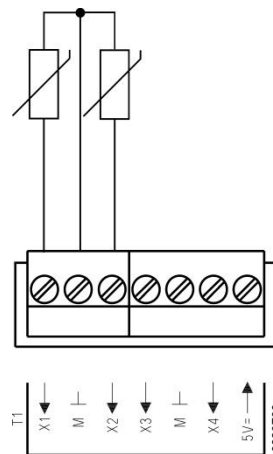
X1, X2 (T1)

NTC 10k ($B_{25/85} = 3977 \text{ K}$)

Sensor current	60 μA at 25 °C	
Temperature	Accuracy	Resolution
-50 °C	2.5 K	0.6 K
-40 °C	1.4 K	0.4 K
-30 °C	0.9 K	0.2 K
-10 °C	0.5 K	0.1 K
50 °C	0.7 K	0.2 K
70 °C	1.3 K	0.4 K
90 °C	2.5 K	0.7 K
100 °C	3.4 K	0.9 K

NTC 100k ($B_{25/85} = 3977 \text{ K}$)

Sensor current	15 μA at 25 °C	
Temperature	Accuracy	Resolution
0 °C	1.8 K	0.5 K
10 °C	1.2 K	0.3 K
30 °C	0.7 K	0.2 K
70 °C	0.5 K	0.2 K
110 °C	0.8 K	0.2 K
120 °C	1.0 K	0.3 K
140 °C	1.5 K	0.4 K
150 °C	1.9 K	0.5 K

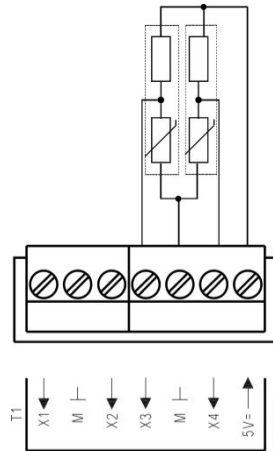


Connecting thermistor to analog input

X3, X4 (T1)

DC 0...5 V input for ratiometric sensors

Resolution	10 mV
Accuracy at 0 V	50 mV
Accuracy at 5 V	100 mV
Input resistance	100 kΩ



Connecting ratiometric sensor to analog input

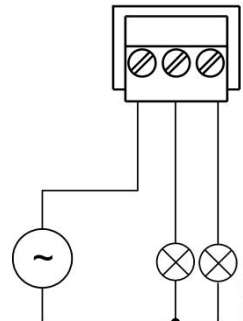
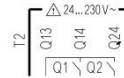
Relay outputs
Q1...Q4 (T2, T3)

Relay: type, contact	Monostable, NO contact
Contact rating	
Switching voltage	AC 24 V...230 V
Nominal current (res./ind.)	Max. AC 3 A/2 A (cosφ 0.6)
Switching current at AC 19 V	Min. AC 30 mA



Warning

Do not mix SELV/PELV and line voltage on the same terminal.
Use external protection for inductive load.



Connecting control-lamps to relay output

Powering sensors	Output	
	Voltage/current	DC 5 V ± 2.5% / 20 mA
	Reference potential	Terminals ⊥
	Connection	Short-circuit-proof
Connection terminals	Optional plugs for IO signals	Phoenix FKCVW 2,5 / x-ST Phoenix FKCT 2,5 / x-ST Phoenix MVSTBW 2,5 / x-ST
	Solid wire	0.5...2.5 mm ²
	Stranded wire (twisted and with ferrule)	0.5...1.5 mm ²
	Cable lengths	In compliance with load, local regulations and installation documents
Peripheral bus	Power supply	U _{eff} = AC 24 V ± 20%, f _{main} = 45...65 Hz or U = DC 24 V ± 10%, no internal fuse
	Bus termination selectable	(680Ω / 120Ω +1nF / 680Ω)
	Solid wire	0.2...1.0 mm ²
	Stranded wire (twisted and with ferrule)	0.2...1.0 mm ²
	Cable lengths	Max. 30 m
	Addressing	DIP Switch 1...5
	Termination	DIP Switch 6
Environmental conditions	Operation	IEC 60721-3-3 class 3K5
	Temperature	-40...70 °C
	Humidity	<90% r.h. (non-condensing)
	Air pressure	Min. 700 hPa, corresponding to Max. 3,000 m above sea level
	Transport	IEC 60721-3-2 class 2K3/2K4
	Temperature	-40...70°C
	Humidity	<95% r.h. (non-condensing)
	Air pressure	Min. 260 hPa, corresponding to Max. 10,000 m above sea level
Protection	Degree of protection	IP20 (EN 60529)
	Safety class	For use in plants with safety class II
Standards	Product standard	EN 60730-1 Automatic electrical controls for household and similar use
	Electromagnetic compatibility (applications)	For use in residential, commerce, light-industrial and industrial environments.
	EU conformity (CE)	CB1T3920xx *)
	RCM conformity (EMC)	CB1T3909en_C1
	Listings	UL916, UL873 http://database.ul.com/ CSA Class 4812 http://www.csagroup.org
Environmental compatibility	The product environmental declaration CB1E3920en contains data on environmentally compatible product design and assessments (RoHS compliance, materials composition, packaging, environmental benefit, disposal).	
	*) The document can be downloaded from http://siemens.com/bt/download .	
General data	Dimensions of controller	72 x 110 x 75 mm
	Weight excl. packaging	145 g

Base plastic, pigeon-blue RAL 5014
Housing plastic, light-grey RAL 7035

Status of LEDs

The status of BSP LED is defined as follows:

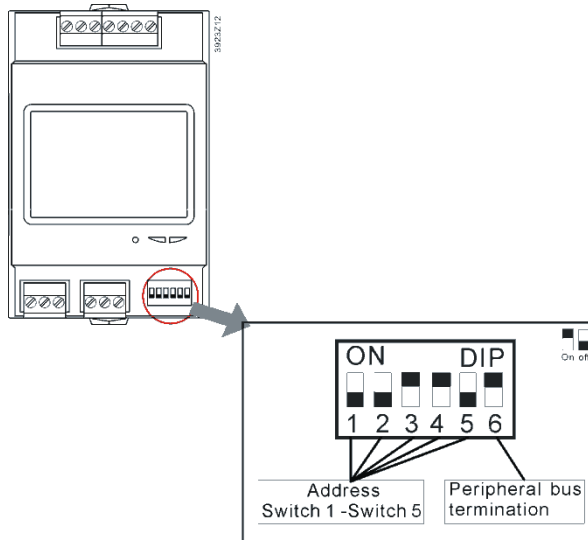
Status	Meaning
Red flashing at 2Hz	BSP error or slave address error
Green on	BSP running

The status of BUS LED is defined as follows:

Status	Meaning
Red on	Communication error
Green on	Communication running
Green on and Red on (Yellow)	Communication running but parameter <u>not</u> configured successfully

DIP switch

The extension module is equipped with DIP switch to communicate with the controller. Switch 1, 2, 3, 4, and 5 are configurable to set the slave address, while switch 6 serves as peripheral bus termination. If the extension module works as the termination in the network, switch 6 must be set to ON.



The order of bit is from 5 to 1. The lowest bit is 5 while the highest bit is 1. Max. 31 slave addresses can be configured as follows:

DIP Switch configuration of Extension Module							
No.	Schematics	No.	Schematics	No.	Switch 5	No.	Schematics
1		9		17		25	
2		10		18		26	
3		11		19		27	
4		12		20		28	

DIP Switch configuration of Extension Module							
No.	Schematics	No.	Schematics	No.	Switch 5	No.	Schematics
5		13		21		29	
6		14		22		30	
7		15		23		31	
8		16		24			

Note



The same address of extension module must be set respectively in the application program of the controller. 0 cannot be set as the slave address.

Ordering data

Extension module 8 I/Os POL945.00/STD

**Accessories
(available on request)**

Connector set (spring cage, cable top entry) POL094.56/STD
 2 x Phoenix FKCT 2,5/3-ST GY7035
 1 x Phoenix FKCT 2,5/7-ST GY7035
 1 x Phoenix ZEC 1,0 / 4-LPV-3,5 GY35AUC2C11

Connector set (spring cage, cable side entry)
 2 x Phoenix FKCVW 2,5/3-ST GY7035
 1 x Phoenix FKCVW 2,5/7-ST GY7035
 1 x Phoenix ZEC 1,0 / 4-LPV-3,5 GY35AUC2C11

Connector set (screw, cable side entry) POL094.55/STD
 2 x Phoenix MVSTBW 2,5/3-ST GY7035
 1 x Phoenix MVSTBW 2,5/7-ST GY7035
 1 x Phoenix ZEC 1,0 / 4-LPV-3,5 GY35AUC2C11

Board-to-wire connector POL002.43/STD
 2 x Phoenix ZEC 1,0 / 4-ST-3,5 GY35AUC1R1,4 50 pcs

Engineering notes

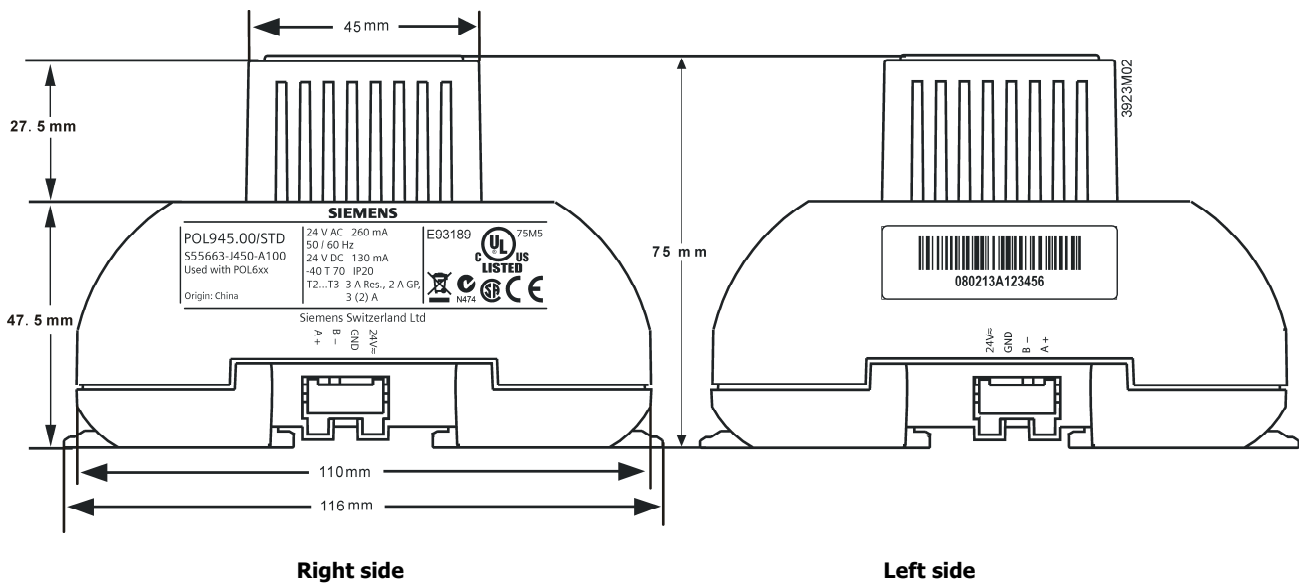
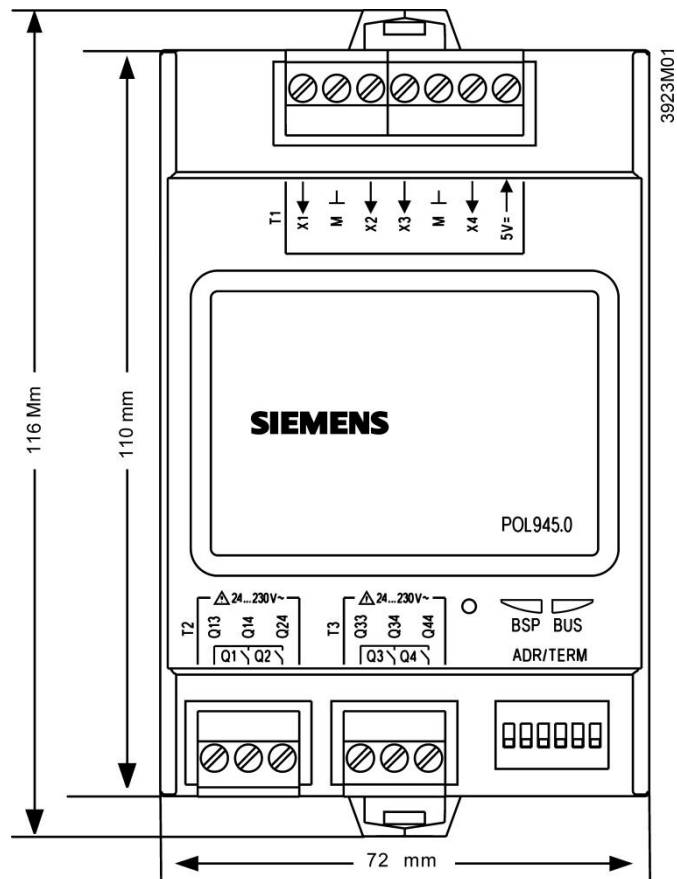


Warning

To ensure protection against accidental contact with relay connections carrying voltages above 42 V_{eff}, the extension module must be installed in an enclosure (preferably a control panel). It must be impossible to open the enclosure without the aid of a key or tool.

AC 230 V cables must be double-insulated against safety extra low-voltage (SELV) cables.

Dimensions



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