8B0C0320HC00.002-1

1 General information

- Connections for supplying external 24 V devices
- Extensive protective measures

2 Order data

Model number	Short description	Figure
	Cold plate or feed-through mounting	
8B0C0320HC00.002-1	ACOPOSmulti auxiliary supply module, 32 A, HV, cold plate or feed-through mounting, 24 V Out 1x 32 A, 1x 5 A	
	Required accessories	
	Terminal block sets	
8BZ0C032000.002-1A	Screw clamp set for ACOPOSmulti 8B0C0320Hx00.002-1 modules: 1x 8TB3104.201M-11, 1x 8TB2104.2010-00, 1x 8TB2106.2010-00	
	Optional accessories	
	Fan modules	
8BXF001.0000-00	ACOPOSmulti fan module, replacement fan for ACOPOSmulti modules (8BxP/8B0C/8BVI/8BVE/8B0K)	
	Terminal blocks	
8TB2104.2010-00	4-pin screw clamp, single row, spacing: 5.08 mm, label 1: numbered serially	
8TB2106.2010-00	6-pin screw clamp, single row, spacing: 5.08 mm, label 1: numbered serially	
8TB2106.2210-00	Push-in terminal block 6-pin, 1-row, spacing: 5.08 mm, label 1: numbered consecutively	
8TB3104.201M-11	Screw clamp 4-pin, single-row, spacing: 7.62 mm, label 1: numbered serially, M keying: 1011	

Table 1: 8B0C0320HC00.002-1 - Order data

3 Technical data

Model number	8B0C0320HC00.002-1
General information	
Cooling and mounting method	Cold plate or feed-through mounting
Certifications	
CE	Yes
KC	Yes
UL	cULus E225616 Power conversion equipment
DC bus connection	
Voltage	
Nominal	750 VDC
Operating range in continuous operation	260 to 800 VDC
Full continuous power	315 to 800 VDC
Continuous power consumption	Max. 880 W
Power dissipation with continuous power [1]	22 W (0% continuous power) 35 W (50% continuous power) 80 W (100% continuous power)
DC bus capacitance	220 nF
Design	ACOPOSmulti backplane
24 VDC output	
Continuous power [2]	800 W
Output voltage	
DC bus voltage (U_{DC}): 260 to 315 VDC	25 VDC * (U_{DC} / 315)
DC bus voltage (U_{DC}): 315 to 800 VDC	24 VDC ±6%
Continuous current	32 ADC
Reduction of continuous power at ambient temperatures starting at 40°C	No reduction
Reduction of continuous power depending on installation elevation	
Starting at 500 m above sea level	80 W per 1000 m

Table 2: 8B0C0320HC00.002-1 - Technical data

Model number	8B0C0320HC00.002-1
Reduction of continuous power depending on cooling method	No reduction
Startup delay	Max. 1 s
Startup time	Approx. 5 to 20 ms
Residual ripple	Typ. 50 mV_{SS}
24 VDC internal system voltage supply	
Output voltage [3]	25 VDC ±1.6%
Peak current (<4 s)	
DC bus voltage (U_{DC}): 350 to 800 VDC	42 ADC
Protective measures	
Open circuit protection	Yes
Overload protection	Yes
Short circuit protection	Yes
Feedback protection	Max. 26 VDC (also when switched off)
Overtemperature protection	Yes
Dielectric strength to ground	±50 VDC
Output/Input isolation	SELV/PELV requirements
Design	ACOPOSmulti backplane
24 VDC Out	
Output voltage [3]	
DC bus voltage (U_{DC}): 260 to 315 VDC	25 VDC * (U_{DC} / 315)
DC bus voltage (U_{DC}): 315 to 800 VDC	24 VDC ±6%
Protection of 24 VDC Out 1 output	32 A (slow-blow) electronic, automatic reset
Protection of 24 VDC Out 2 output	5 A (slow-blow) electronic, automatic reset
Protective measures	
Open circuit protection	Yes
Overload protection	Yes
Short circuit protection	Yes
Feedback protection	Max. 35 VDC (also when switched off)
Overtemperature protection	Yes
Dielectric strength to ground	±50 VDC
Output/Input isolation	SELV/PELV requirements
Design	
24 VDC, COM	Male connector
Terminal connection cross section of 24 VDC Out 1 output	
Flexible and fine wire lines	
With wire end sleeves	0.25 to 6 mm²
Approbation data	
UL/C-UL-US	22 to 10 AWG
CSA	22 to 10 AWG
Terminal connection cross section of 24 VDC Out 2 output	
Flexible and fine wire lines	
With wire end sleeves	0.25 to 2.5 mm²
Approbation data	
UL/C-UL-US	22 to 12 AWG
CSA	22 to 12 AWG
24 VDC Out 1 controller input	
Wiring	Sink
Electrical isolation	
Input - 24 VDC	Yes
Modulation compared to ground potential	Max. ±50 V
Input voltage	
Nominal	24 VDC
Maximum	30 VDC
Switching threshold	
Low (24 VDC Out 1 is switched on)	<5 V
High (24 VDC Out 1 is switched off)	>15 V
Input current at nominal voltage	Approx. 10 mA
Switching delay	
ON (24 VDC Out 1 is switched on)	Max. 25 ms
OFF (24 VDC Out 1 is switched off) [4]	Max. 0.25 ms
Design	Male connector
Terminal connection cross sections	
Flexible and fine wire lines	
With wire end sleeves	0.25 to 2.5 mm²
Approbation data	
UL/C-UL-US	30 to 12 AWG
CSA	22 to 12 AWG

Table 2: 8B0C0320HC00.002-1 - Technical data

Model number	8B0C0320HC00.002-1
Operating conditions	
Permissible mounting orientations	
Hanging vertically	Yes
Lying horizontally	Yes
Standing horizontally	No
Installation at elevations above sea level	
Nominal	0 to 500 m
Maximum [5]	4000 m
Pollution degree per EN 61800-5-1	2 (non-conductive pollution)
Overvoltage category per EN 61800-5-1	III
Degree of protection per EN 60529	IP20
Environmental conditions	
Temperature	
Operation	
Nominal	5 to 40°C
Maximum	55°C
Storage	-25 to 55°C
Transport	-25 to 70°C
Relative humidity	
Operation	5 to 85%
Storage	5 to 95%
Transport	Max. 95% at 40°C
Mechanical characteristics	
Dimensions [6]	
Width	53 mm
Height	317 mm
Depth	
Cold plate	212 mm
Feed-through mounting	209 mm
Weight	Approx. 2.6 kg
Module width	1

Table 2: 8B0C0320HC00.002-1 - Technical data

1) Continuous power on the 24 VDC output
2) Valid under the following conditions: 750 VDC DC bus voltage, 55°C ambient temperature, installation elevation <500 m above sea level, no derating due to cooling type.
3) The output voltage is limited to max. 60 VDC in the event of error.
4) When switching off, there is no active discharge of the output and the loads connected to it.
5) Continuous operation at an installation elevation of 500 m to 4,000 m above sea level is possible taking the specified reduction of continuous power into account. Requirements that go beyond this must be arranged with B&R.
6) These dimensions refer to the actual device dimensions including the respective mounting plate. Make sure to leave additional space above and below the devices for mounting, connections and air circulation.

4 Status indicators

Status indicators are located on the black cover of each module.

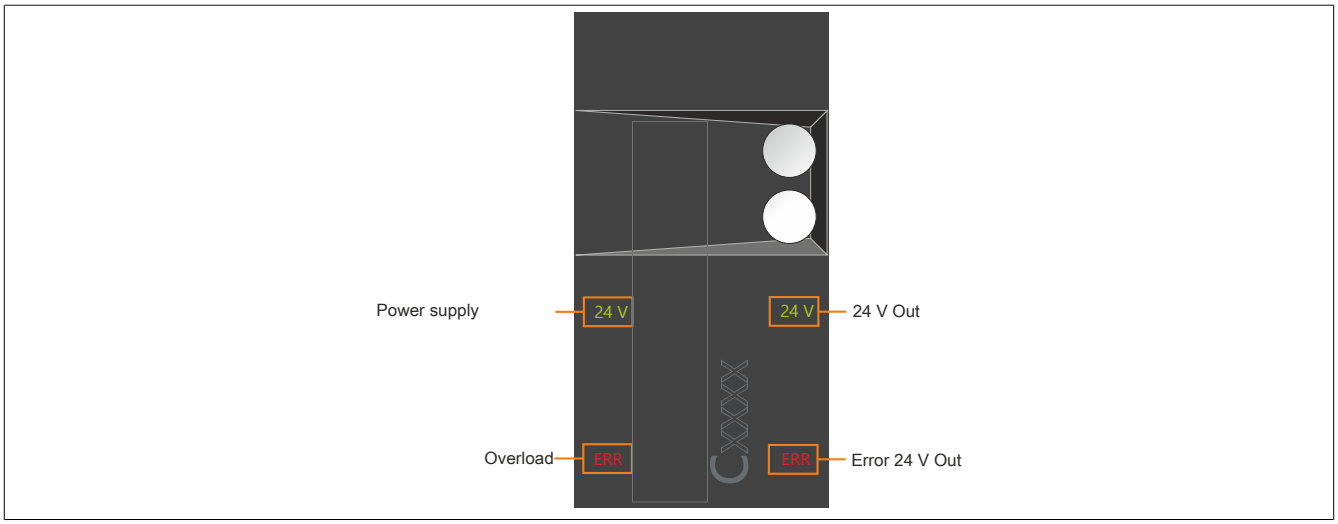


Figure 1: Auxiliary supply modules with 24 V Out (8B0C0xx0Hx00.00x-1) - Status indicator groups

4.1 Auxiliary supply modules with 24 V Out - LED status indicators

Status indicator group	Label	Color	Function	Description
Power supply	24 V	Green	24 V OK	The 24 VDC internal system power supply is within the permissible tolerance.
Overload	ERR	Red	Overload	The module is not supplied via the DC bus. [1] The 24 VDC internal system power supply is outside of the permissible tolerance (overload, overtemperature, short circuit, etc.).
24 V Out	24 V	Green	24 V Out OK	One of the switchable 24 VDC outputs is enabled; the output voltage is within the permissible tolerance. The 24 VDC internal system power supply is within the permissible tolerance.
	ERR	Red	24 V Out error	The 24 VDC internal system power supply is outside of the permissible tolerance (overload, overtemperature, short circuit, etc.). At least one of the switchable outputs is enabled, **and** one or more switchable outputs has tripped the electronic fuse.

Table 3: 8B0C auxiliary supply modules with 24 V Out - LED status indicators

1) The module is enabled via input CR_OK, no electrical contact to the backplane module - check the lower mounting screw.

5 Dimension diagram and installation dimensions

5.1 Cold plate

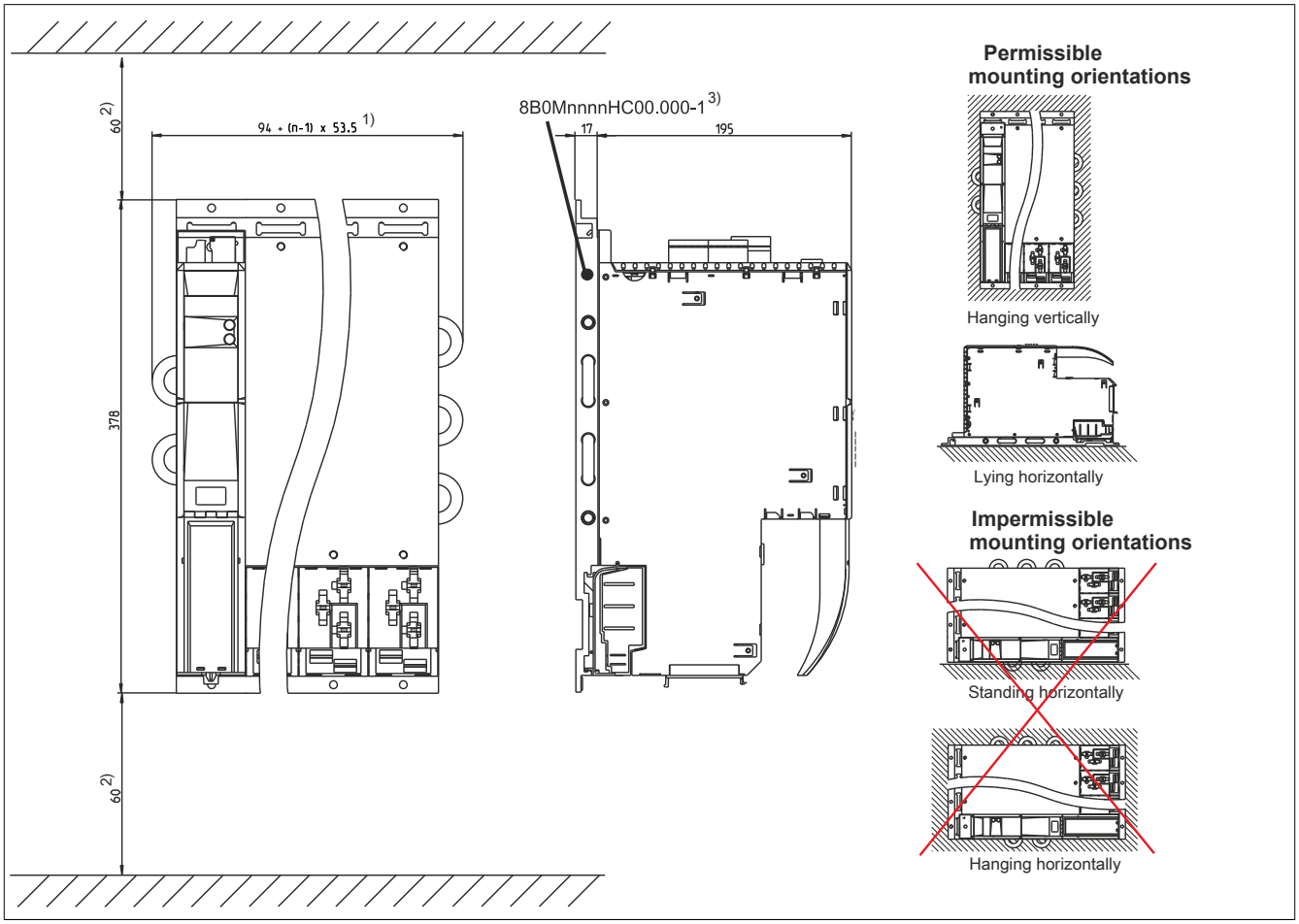


Figure 2: Cold plate - Dimension diagram and installation dimensions

1) n... Number of width units on the mounting plate
2) For sufficient air circulation, a clearance of at least 60 mm must be provided above the mounting plate and below the module.
3) nnnn indicates the number of slots (e.g. 0160 refers to 16 slots).

Information:

When mounting ACOPOSmulti modules for cold-plate or feed-through mounting, be sure not to scratch the backplane. This can impair thermal dissipation to the mounting plate.

Do not set down ACOPOSmulti modules for cold-plate or feed-through mounting on their bottom side. Doing so could break the clips that hold the unit is fan. Broken clips make it more difficult to replace the fans later on.

5.2 Feed-through mounting

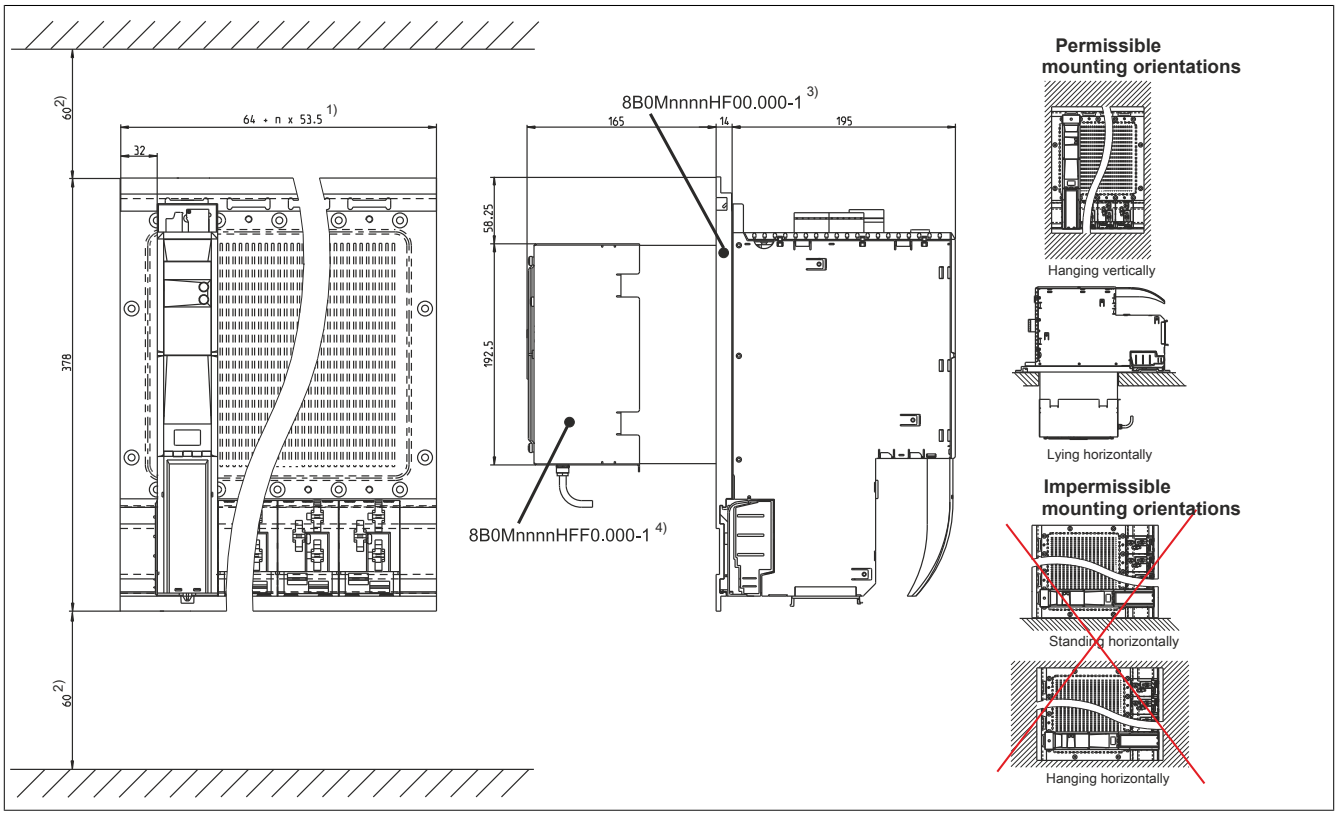


Figure 3: Feed-through mounting - Dimension diagram and installation dimensions

1) n... Number of width units on the mounting plate
2) For sufficient air circulation, a clearance of at least 60 mm must be provided above the mounting plate and below the module.
3) nnnn indicates the number of slots (e.g. 0160 refers to 16 slots).
4) For sufficient air circulation, a clearance of at least 100 mm must be provided around the fan module.

Information:

When mounting ACOPOSmulti modules for cold-plate or feed-through mounting, be sure not to scratch the backplane. This can impair thermal dissipation to the mounting plate.

Do not set down ACOPOSmulti modules for cold-plate or feed-through mounting on their bottom side. Doing so could break the clips that hold the unit is fan. Broken clips make it more difficult to replace the fans later on.

6 Wiring

6.1 8B0C0160Hx00.001-1, 8B0C0320Hx00.002-1 - Pinout overview

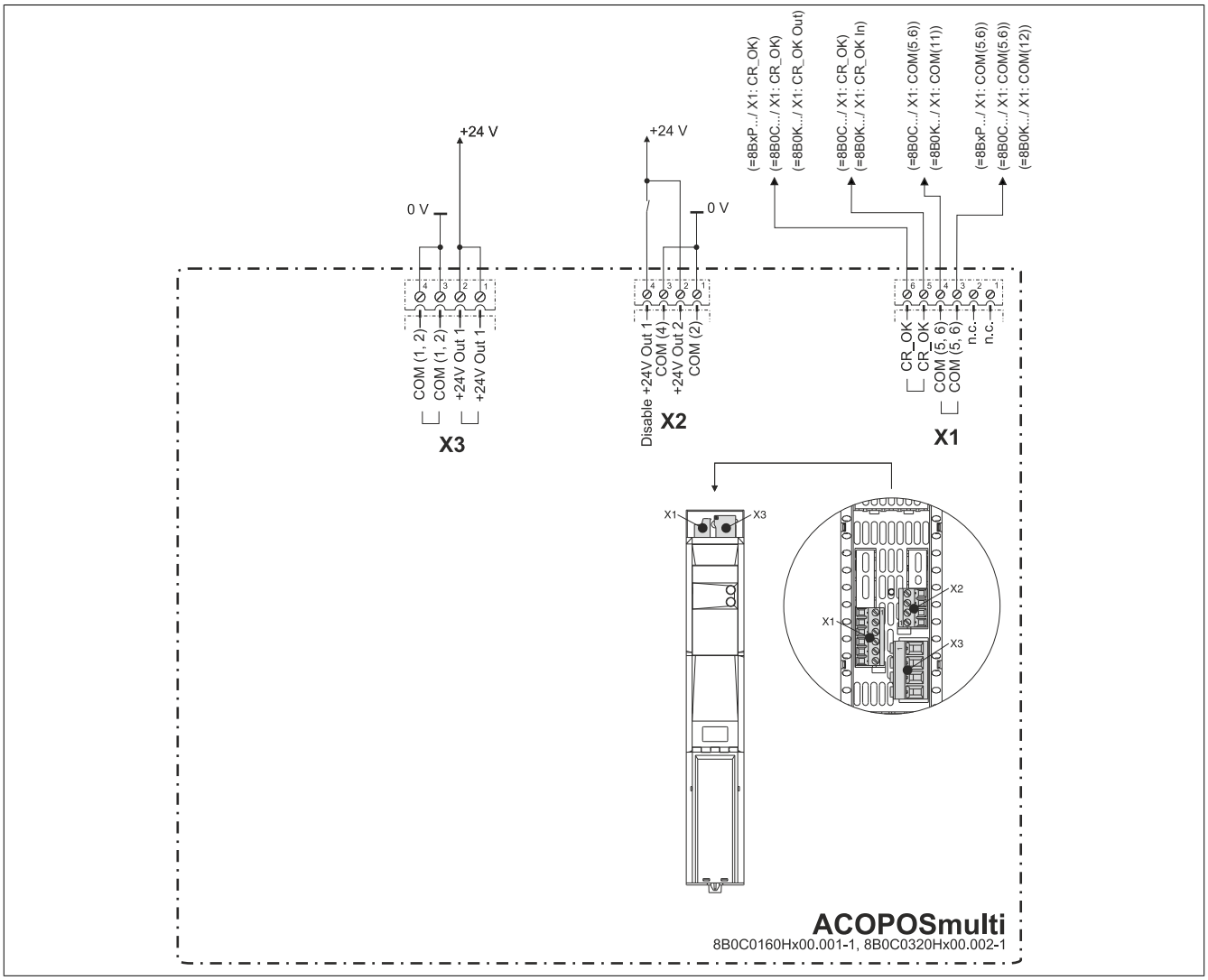


Figure 4: 8B0C0160Hx00.001-1, 8B0C0320Hx00.002-1 - Pinout overview

6.2 Connector X1 - Pinout

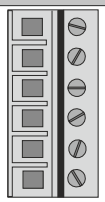
X1	Pin	Description	Function
	1	---	---
	2	---	---
	3	COM (5, 6)	DC bus ready 0 V
	4	COM (5, 6)	DC bus ready 0 V
	5	CR_OK	DC bus ready
	6	CR_OK	DC bus ready

Table 4: Connector X1 - Pinout

6.3 Connector X2 - Pinout

X2	Pin	Description	Function
	1	COM (2)	+24 V output 2 0 V
	2	+24 V Out 2	+24 V output 2
	3	COM (4)	Disable +24 V output 1 0 V
	4	Disable +24 V Out 1	Disable +24 V output 1

Table 5: Connector X2 - Pinout

6.4 Connector X3 - Pinout

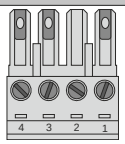
X3	Pin	Description	Function
	1	+24 V Out 1	+24 V output 1
	2	+24 V Out 1	+24 V output 1
	3	COM (1, 2)	+24 V output 1 0 V
	4	COM (1, 2)	+24 V output 1 0 V

Table 6: Connector X3 - Pinout

Information:

To obtain a defined reference of ground to ground potential, B&R recommends grounding the two COM connections (1, 2) on connector X3. Alternatively, grounding of the COM (2) connection is possible on connector X2.

6.5 Input/Output circuit diagram

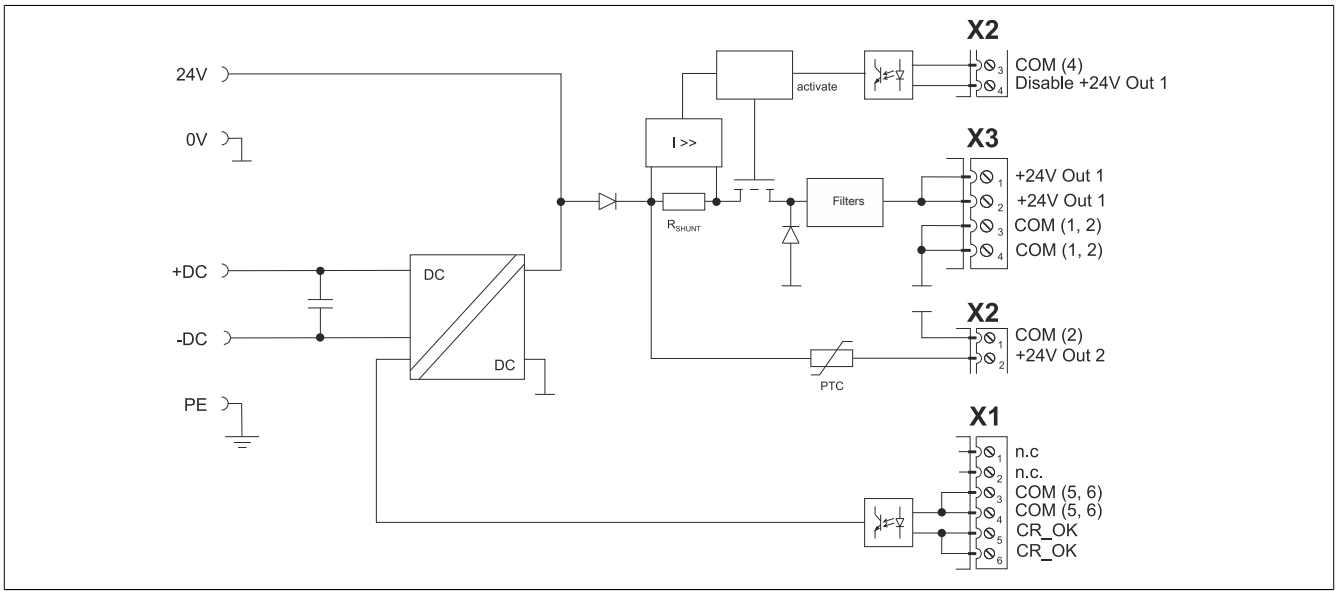


Figure 5: 8B0C0160Hx00.001-1, 8B0C0320Hx00.002-1 - Input/Output circuit diagram

6.6 Parallel connection of multiple 8B0C auxiliary supply modules

Warning!

When connecting external 24 V outputs (24 V Out 1, 24 V Out 2) in parallel, the corresponding COM connections must also be connected in parallel!