

8B0C0160HC00.A01-1

1 General information

- Connections for the power supply of 42 V devices
- Extensive protective measures

2 Order data


| Model number | Short description | Figure |
|--------------------|---|---|
| | Cold plate or feed-through mounting |  |
| 8B0C0160HC00.A01-1 | ACOPOSmulti auxiliary supply module, 16 A, HV, cold plate or feed-through mounting, 42VOut 1x 16 A, 1x 3 A | |
| | Required accessories | |
| | Terminal block sets | |
| 8BZ0C016000.A01-1A | Screw clamp terminal block set for ACOPOSmulti 8B0C0160Hx00.A01-1 modules: 1x 8TB3104.201H-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 | |
| 8TB3104.201H-11 | 4-pin screw clamp, single row, spacing: 7.62 mm, label 1: numbered serially, H keying: 1110 | |

Table 1: 8B0C0160HC00.A01-1 - Order data

3 Technical data

| Model number | 8B0C0160HC00.A01-1 |
|--|---|
| General information | |
| Cooling and mounting type | Cold plate or feed-through mounting |
| Certifications | |
| CE | Yes |
| UL | cULus E225616 |
| EAC | Power conversion equipment |
| KC | Yes |
| DC bus connection | |
| Voltage | |
| Nominal | 750 VDC |
| Workspace | 350 to 800 VDC |
| Continuous power consumption | Max. 880 W |
| Power dissipation with continuous power ¹⁾ | 25 W (0% continuous power) 36 W (50% continuous power) 70 W (100% continuous power) |
| DC bus capacitance | 220 nF |
| Variant | ACOPOSmulti backplane |
| 24 VDC internal system power supply | |
| Variant | ACOPOSmulti backplane |
| 42 VDC output | |
| Continuous power ²⁾ | 800 W |
| Output voltage | |
| DC bus voltage (U _{DC}): 260 to 315 VDC | 0 V |
| DC bus voltage (U _{DC}): 315 to 800 VDC | 42 VDC |
| Continuous current | 16 ADC |
| Reduction of continuous power at ambient temperatures starting at 40°C | No reduction |

Table 2: 8B0C0160HC00.A01-1 - Technical data

| Model number | 8B0C0160HC00.A01-1 |
|---|--|
| Reduction of continuous power depending on installation elevation | |
| Starting at 500 m above sea level | 80 W per 1000 m |
| 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} |
| 42 VDC Out | |
| Output voltage | |
| DC bus voltage (U _{DC}): 260 to 315 VDC | 0 V |
| DC bus voltage (U _{DC}): 315 to 800 VDC | 42 VDC ±6% |
| Peak current (<4 s) over total DC bus voltage operating range | 21 ADC |
| Protection of 42 VDC Out 1 output | 16 A (slow-blow) electronic, automatic reset |
| Protection of 42 VDC Out 2 output | 3 A (slow-blow) electronic, automatic reset |
| Protective measures | |
| Open circuit protection | Yes |
| Overload-proof | Yes |
| Short-circuit proof | Yes |
| Feedback protection | 42 VDC Out1: Max. 50 VDC (also when the power is switched off) 42 VDC Out2: Max. 50 VDC (also when the power is switched off) ³⁾ |
| Overtemperature protection | Yes |
| Dielectric strength to ground | ±96 VDC |
| Output/Input isolation | SELV / PELV requirements |
| Variant | |
| 42 VDC, COM | Connector |
| Terminal connection cross section of 42 VDC Out 1 output | |
| Flexible and fine-stranded wires | |
| With wire end sleeves | 0.25 to 6 mm ² |
| Approbation data | |
| UL/C-UL-US | 22 to 10 AWG |
| CSA | 22 to 10 AWG |
| Terminal connection cross section of 42 VDC Out 2 output | |
| Flexible and fine-stranded wires | |
| With wire end sleeves | 0.25 to 2.5 mm ² |
| Approbation data | |
| UL/C-UL-US | 22 to 12 AWG |
| CSA | 22 to 12 AWG |
| 42 VDC Out 1 controller input | |
| Circuit | Sink |
| Electrical isolation | |
| Input - 42 VDC | Yes |
| Modulation compared to ground potential | Max. ±50 V |
| Input voltage | |
| Nominal | 24 VDC |
| Maximum | 30 VDC |
| Switching threshold | |
| Low (42 VDC Out 1 is switched on) | <5 V |
| High (42 VDC Out 1 is switched off) | >15 V |
| Input current at nominal voltage | Approx. 10 mA |
| Switching delay | |
| ON (42 VDC Out 1 is switched on) | Max. 25 ms |
| OFF (42 VDC Out 1 is switched off) ⁴⁾ | Max. 0.25 ms |
| Variant | Connector |
| Terminal connection cross sections | |
| Flexible and fine-stranded wires | |
| With wire end sleeves | 0.25 to 2.5 mm ² |
| Approbation data | |
| UL/C-UL-US | 22 to 12 AWG |
| CSA | 22 to 12 AWG |
| Operating conditions | |
| Permissible mounting orientations | |
| Hanging vertically | Yes |
| Horizontal, face up | Yes |
| Standing horizontally | No |
| Installation elevation 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 |

Table 2: 8B0C0160HC00.A01-1 - Technical data

| Model number | 8B0C0160HC00.A01-1 |
|-----------------------------------|--------------------|
| Degree of protection per EN 60529 | IP20 |
| Ambient 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 properties | |
| Dimensions ¹⁾ | |
| 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: 8B0C0160HC00.A01-1 - Technical data

- 1) Continuous power on 42 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) Revision H0 and later. The following applies up to revision G0:
42 VDC Out1: Max. 60 VDC (also when the power is switched off)
42 VDC Out2: Max. 60 VDC (also when the power is switched off).
- 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. Additional spacing above and below the devices must be taken into account for mounting, connections and air circulation.

4 Status indicators

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

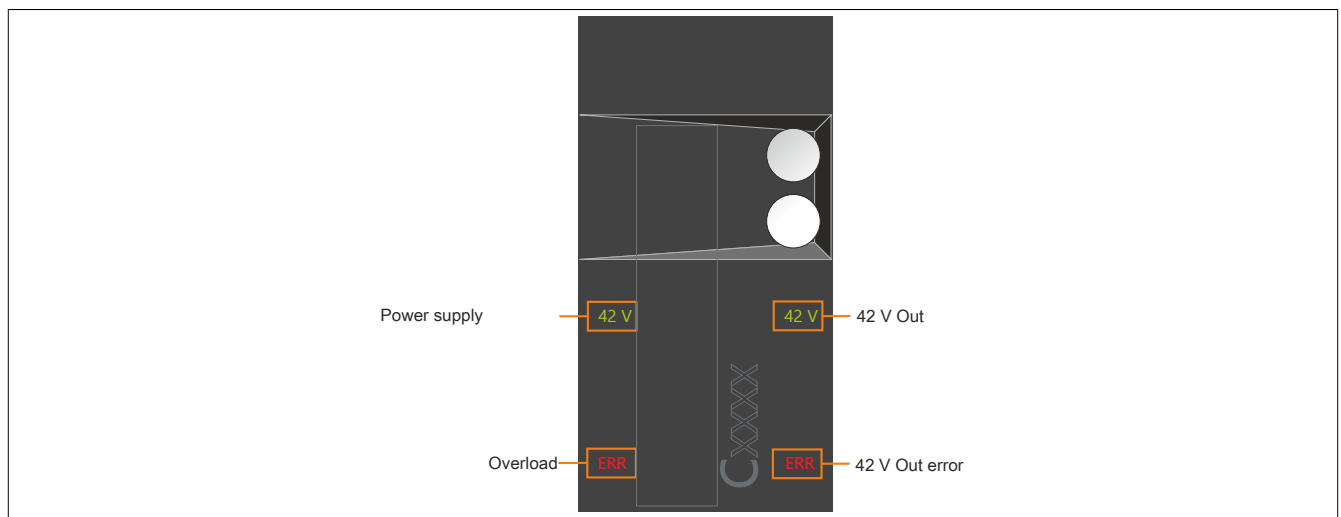


Figure 1: Auxiliary supply modules with 42 V Out (8B0C0160Hx00.A01-1) - Status indicator groups

4.1 Auxiliary supply modules with 42 V Out - LED status indicators

| Status indicator group | Label | Color | Function | Description |
|------------------------|-------|-------|----------------|--|
| Power supply | 42 V | Green | 42 V OK | 42 VDC power supply is within the permissible tolerance. |
| Overload | ERR | Red | Overload | The module is not supplied via the DC bus. ¹⁾ The 42 VDC power supply is outside the permissible tolerance (overload, overtemperature, short circuit, etc.). |
| 42 V Out | 42 V | Green | 42 V Out OK | One of the switchable 42 VDC Out outputs is enabled; the output voltage is within the permissible tolerance. |
| | ERR | Red | 42 V Out error | The 42 VDC power supply is outside the permissible tolerance (overload, overtemperature, short circuit, etc.). At least one of the switchable outputs is enabled and the electronic fuse has tripped for one or more switchable outputs. |

Table 3: 8B0C auxiliary supply modules with 42 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 Wiring

5.1 8B0C0160Hx00.A01-1 - Pinout overview

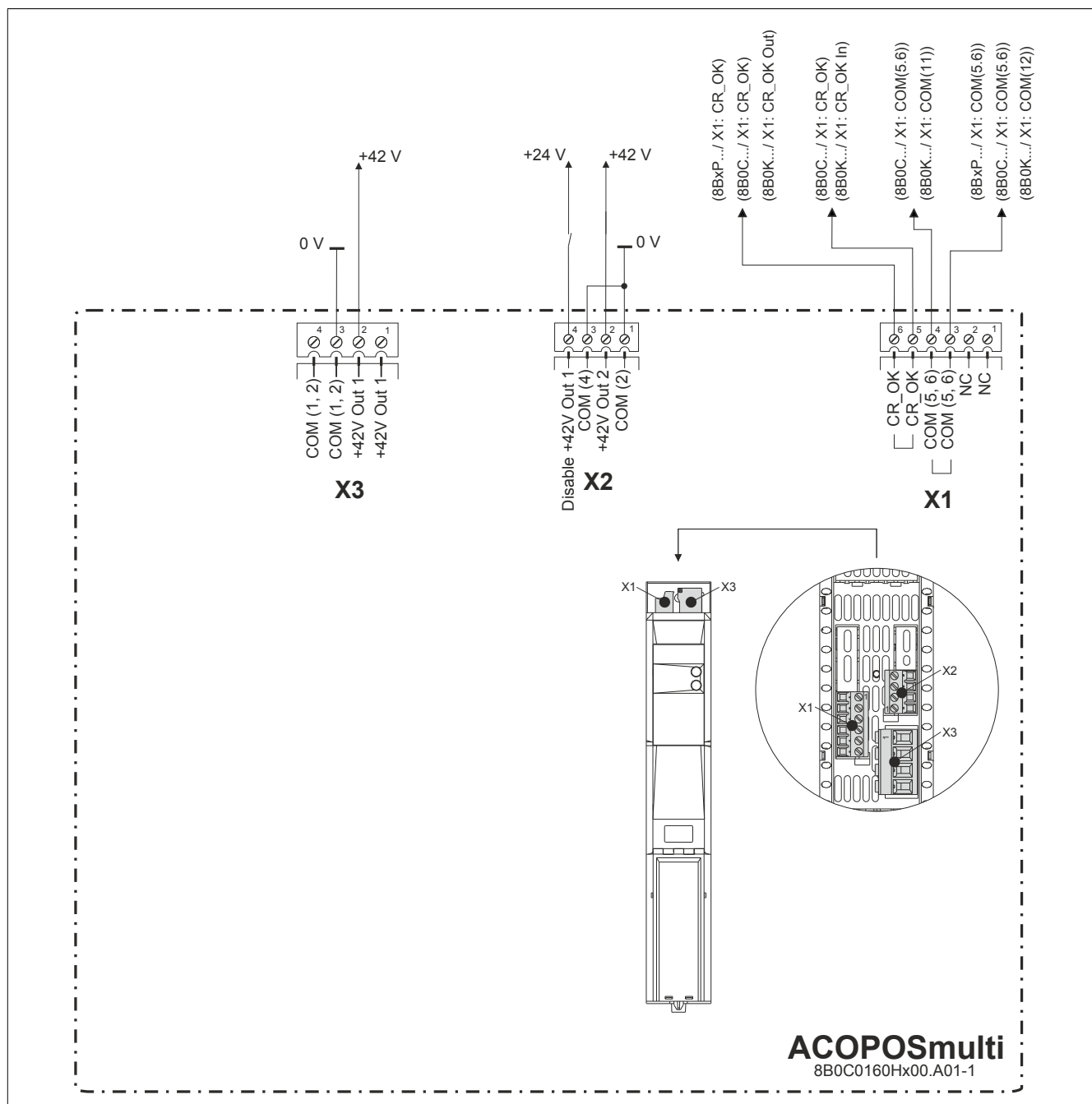


Figure 2: 8B0C0160Hx00.A01-1 - Pinout overview

5.2 Connector X1 - Pinout

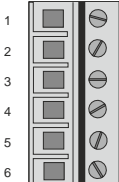
| X1 | Pin | Description | Function |
|---|-----|-------------|------------------|
|  | 1 | --- | --- |
| | 2 | --- | --- |
| | 3 | COM (5, 6) | DC bus ready 0 V |
| | 4 | COM (5, 6) | DC bus ready 0 V |
| | 5 | CR_OK | DC bus ready |
| | 6 | CR_OK | DC bus ready |

Table 4: Connector X1 - Pinout

5.3 Connector X2 with 42 Out - Pinout

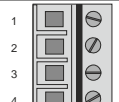
| X2 | Pin | Description | Function |
|---|-----|---------------------|----------------------------|
|  | 1 | COM (2) | +42 V output 2 0 V |
| | 2 | +42 V Out 2 | +42 V output 2 |
| | 3 | COM (4) | Disable +42 V output 1 0 V |
| | 4 | Disable +42 V Out 1 | Disable +42 V output 1 |

Table 5: Connector X2 with 42 Out - Pinout

5.4 Connector X3 - Pinout

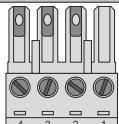
| X3 | Pin | Description | Function |
|---|-----|-------------|--------------------|
|  | 1 | +42 V Out 1 | +42 V output 1 |
| | 2 | +42 V Out 1 | +42 V output 1 |
| | 3 | COM (1, 2) | +42 V output 1 0 V |
| | 4 | COM (1, 2) | +42 V output 1 0 V |

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 connection COM (2) on connector X2 is also possible.

5.5 - Input/Output circuit diagram

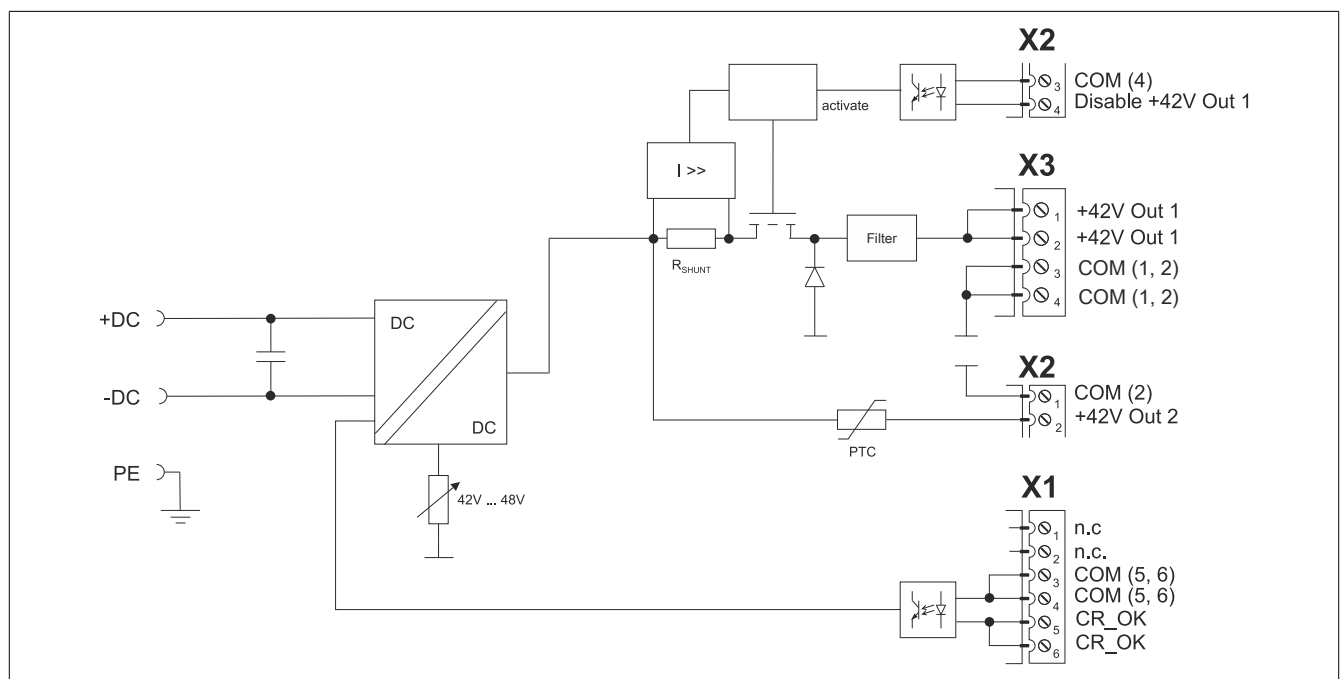


Figure 3: 8B0C0160Hx00.A01-1 - Input/Output circuit diagram

5.6 Parallel connection of multiple 8B0C auxiliary supply modules

Warning!

When connecting external 42 V outputs (42 V Out 1, 42 V Out 2) in parallel, the corresponding COM connections must also be connected in parallel!