

## Subracks

## 2.2 Subracks SR12 and SR24

**Order No.** Subracks SR12.x and SR24.x are available for different supply voltages and with or without fan.

|        | Order No.    | Supply voltage | Fan | Power supply type |
|--------|--------------|----------------|-----|-------------------|
| SR12.1 | 6DD1682-0CC0 | 24 V DC        | yes | SP22              |
| SR12.2 | 6DD1682-0CD0 | 24 V DC        | no  | SP23              |
| SR12.3 | 6DD1682-0BC3 | 115/230 V AC   | yes | SP22.5            |
| SR12.4 | 6DD1682-0BC4 | 115/230 V AC   | no  | SP23.5            |

|        |              |              |     |       |
|--------|--------------|--------------|-----|-------|
| SR24.1 | 6DD1682-0BC0 | 24 V DC      | yes | SP8   |
| SR24.2 | 6DD1682-0BE0 | 24 V DC      | no  | SP9   |
| SR24.3 | 6DD1682-0CE3 | 115/230 V AC | yes | SP8.5 |
| SR24.4 | 6DD1682-0CE4 | 115/230 V AC | no  | SP9.5 |

**Description** The subracks accommodate SIMADYN D modules with the format (H×T) 233.4 × 220 mm<sup>2</sup>.  
An integrated power supply provides the necessary voltages for the modules via 2 backplane buses (**L bus**, **C bus**) and permits data transfer between them.

**Number of slots** SR12.x: **12**  
SR24.x: **24**  
The slots are identified by a labeling strip.

### 2.2.1 Power supply

The power supply plugs into the SIMADYN D rack.

**Line filter** The power supply has a line filter which limits the radio interference voltage to limit value class A in accordance with VDE 0871.

#### Front panel elements

- Green LED: Error-free operation
- Red LED: Fault condition
- Compartment for the back-up battery
- Supply voltage connection (screw/plug-in terminal X1)
- Connection for an external back-up battery via screw/plug-in terminal X3 (this is optional to a back-up battery which can be inserted in the subrack itself)
- Reset (cold restart of the modules) by
  - Depressing the reset button
  - Jumpering pins 1 and 2 at connector X4

## Subracks

- Test sockets to check the 3 output voltages 5 V, +/-15 V (short-circuit proof)

### Supply connection

The line supply voltage is connected through the 3-pole screw/plug-in terminal X1.

The connection assignment is printed on the front panel:

Above the voltage selector switch (Slide switch) can be switched to between an input nominal voltage from 230 V and 115 V.

The in each case valid value becomes visible with transfer of the switch.

|                        | SR12.1 and SR12.2<br>SR24.1 and SR24.2                                                                                                                                                                        | SR12.3 and SR12.4<br>SR24.3 and SR24.4                                                                                                                                                                                           |
|------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Input voltage          | <b>24 V DC</b>                                                                                                                                                                                                | <b>230 V AC</b> (default setting of voltage selector switch )<br>115 V AC (change over voltage selector switch )                                                                                                                 |
| X1 Pin 1               | +24 V                                                                                                                                                                                                         | Phase conductor L                                                                                                                                                                                                                |
| X1 Pin 2               | Ground (0 V)                                                                                                                                                                                                  | Neutral conductor N                                                                                                                                                                                                              |
| X1 Pin 3               | Protective ground conductor PE                                                                                                                                                                                | Protective conductor PE                                                                                                                                                                                                          |
| External fuse (rating) | For SR12.x:<br>In = 16 A max..<br>I <sup>2</sup> t= 6 A <sup>2</sup> s<br>Is = 32 A<br>(inrush peak)<br>For SR24.x:<br>In = 32 A max..<br>I <sup>2</sup> t= 10 A <sup>2</sup> s<br>Is = 64 A<br>(inrush peak) | For SR12.x: (AC230V)<br>In = 1.2 A max..<br>I <sup>2</sup> t= 0.6 A <sup>2</sup> s<br>Is = 6 A<br>(inrush peak)<br>For SR24.x: (AC230V)<br>In = 2.7 A max..<br>I <sup>2</sup> t= 1 A <sup>2</sup> s<br>Is = 9 A<br>(inrush peak) |
| X2 pins 1 - 4          | Monitoring the power supply and fan assembly (relay)                                                                                                                                                          |                                                                                                                                                                                                                                  |
| X3 pins 1 - 2          | Feed for an external back-up battery                                                                                                                                                                          |                                                                                                                                                                                                                                  |
| X4 pins 1 - 2          | Reset: A reset is initiated by jumpering the contents (optional to using the reset button)                                                                                                                    |                                                                                                                                                                                                                                  |

The specified current In is the current that can occur at a maximum insertion of the subrack. The power supplies are in part oversized, and have a higher maximum input current (Chapter: Technical dates).

### NOTES

The **protective conductor** must be connected at connector X1, pin 3. It is not sufficient to connect a protective conductor at the subrack.

It must be a slightly accessible circuit breaker in the supply circuit.

**Interface modules** with binary output function **SB70**, **SB71** should be powered-up approximately 200 ms before the modules are powered-up to prevent power-on effects.

This is achieved by **simultaneously powering-up** the subrack power supplies (this requires approximately 200 ms to establish the voltages) and the interface modules.

## Subracks

There are following fuses on the printed circuit board of the power supplies:

| Power supply  | Fuse | Type  | Voltage rated value |
|---------------|------|-------|---------------------|
| SP22.5/SP23.5 | F601 | T4A H | 250 V               |
| SP8.5         | F400 | T8A H | 250 V               |

### NOTE

The power supply PC boards are suitable for the connection to IT systems.

2

## 2.2.2 Voltage monitoring functions

### Input voltage

The input voltage is monitored for undervoltage and overvoltage conditions.

| Input voltage                                                                                 | Response                                                                                                                                                                       |
|-----------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Undervoltage:<br>SRx.1/SRx.2: <b>&lt; 20 V</b><br>or<br>SRx.3/SRx.4: <b>&lt; 170 ...175 V</b> | Green OK-LED goes dark<br>The output voltages are shutdown;<br>CPU stop (DSAVE signal)<br>The system automatically restarts when the input voltage increases to approx. 196 V. |
| Overvoltage<br>SRx.1/SRx.2: <b>&gt; 32 V</b><br>or<br>SRx.3/SRx.4: <b>&gt; approx. 265 V</b>  | Red fault LED is lit;<br>The output voltages are shutdown,<br>CPU stop (DSAVE signal)<br>Automatic restart                                                                     |

### Output voltage

All of the output voltages are monitored for an undervoltage condition (e.g. as a result of overload/short-circuit)

| Undervoltages at the output                                                 | Response                                                                                                                                        |
|-----------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>V (5 V) &lt; 4.7 ... 4.85 V</b><br><br>(for t>100-200 µs)                | Red fault LED is lit<br>The output voltages are shut down;<br>(CPU stop)<br>No automatic restart (the line supply voltage must be disconnected) |
| <b>V (+ 15 V) &lt; approx. 14 V</b><br><b>V (- 15 V) &gt; approx. -14 V</b> | Red fault is lit<br>5V voltage remains<br>System failure message                                                                                |

### System failure message

The associated module (under the „STOP“ tab) is configured in HWConfig under "object properties" to define how the module behaves when a system failure message is output (bus signal \*RDYIN=low):

- Modules can reset their binary and analog outputs
- CPU modules can go into the "stop" condition ("H")



GLOBAL INDUSTRIAL AUTOMATION SOURCING

# Ready to source this part?

Ask for availability, pricing and delivery options.

## Request a fast quote

Include the product title and any required part number or quantity.

EMAIL

info@apterpower.com

PHONE

+86 18106909650

[CHAT ON WHATSAPP >](#)



SCAN TO CHAT ON WHATSAPP

PRODUCT: 6DD1682-0BE0 / Siemens SIMADYN D SR24.2 Subrack

The enclosed manufacturer pages are reproduced without alteration to technical content.

Apter Power is not an authorized distributor, reseller or representative of the products featured.

Product names, trademarks, brands and logos remain the property of their respective owners.