

# TECHNICAL DATA SHEET

## SCB B

### 1. Description

The SCB measures the DC voltage at the DC terminal of the EA device. If the voltage at the DC terminal is higher than the permissible voltage (e.g. SCB 360 V, 360 V (+tolerance)), the SCB short-circuits the share bus, which leads to a share bus fail (SF) on the EA devices (see EA 10.000 series manual).

In addition, the SCB forwards the OVP signal to all other connected SCBs, which in turn short-circuits the share bus to switch off the DC terminals of all devices. In this situation, the internal resistance of the various EA devices can be equalised again, so that the overvoltage situation is rectified after the DC terminal has been enabled again.

The short circuit on the share bus is active as long as the SCB detects an overvoltage situation. This ensures that the DC terminal of the EA device cannot be released until the overvoltage situation has been rectified. Once the overvoltage situation has been rectified, the DC terminal can be reactivated by acknowledging the SF on each EA device.

Each EA device in a series connection must be equipped with an SCB. In the case of a series and parallel connection of EA devices, e.g. 3 parallel devices in series with 3 parallel devices, only one device per 3 parallel devices must be equipped with an SCB.

The green LED (OK) indicates that the device is working. The red LED (OVP) indicates an overvoltage situation.

### 2. Safety regulations

#### Danger to life - dangerous voltage (electric shock)



- When operating electrical equipment, certain externally accessible parts of the equipment are inevitably live, sometimes to a dangerous level. Therefore, all live parts must be covered during operation (with the covers supplied)!
- The DC connection is insulated from the mains supply and is not earthed in the device. Therefore, there can always be dangerous potential between the DC poles and PE, e.g. due to the application. Due to charged, internal capacitors, even when the DC connection is already switched off.
- Do not insert any mechanical parts, especially metal parts, into the device through the slots.
- For any type of configuration change on the DC connections, the device must be completely de-energised.
- Improper work can lead to personal injury and damage to property. Only persons who have the necessary training, knowledge and experience may carry out any activities.

#### Indication of a risk of damage to the device



- Avoid using liquids of any kind in the vicinity of the device, as these could get into the device. Protect the device from moisture, humidity and condensation.

#### Safety note



- The device is only authorised for operation within the connected loads and technical data specified on the rating plate.

#### Note



- The device may only be used for its intended purpose.

### 3. Restrictions

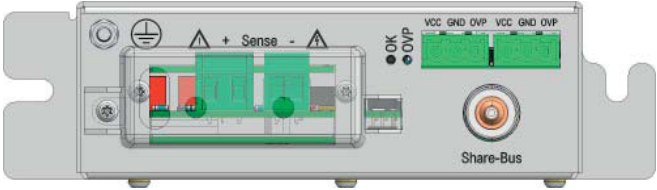
ID	Description
1	The SCB can only be used with the EA 10.000 device series. Devices from other manufacturers or other EA devices are not supported.
2	The SCB is only available in 360 V, 500 V, 750 V, 920 V, 1000 V and 1500 V versions. Lower or higher voltages are not supported.
3	Series connection of different models is not permitted.
4	The maximum system voltage is limited to 3000 V.
5	The permissible configurations are limited to those described in this manual.

### 4. Technical data

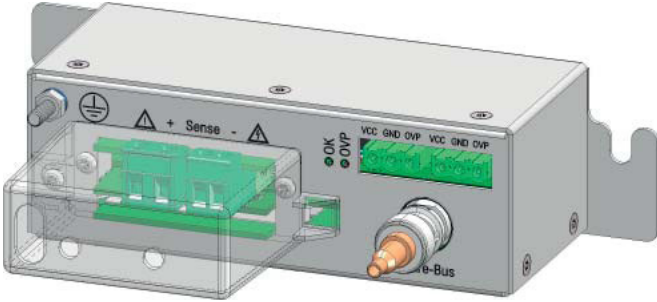
Description	Value
Power supply	24V <sub>DC</sub> (±10 %) (not included in the scope of delivery)
Typical power consumption (per SCB)	60 mA
Dimensions (WxHxD)	170 mm x 50 mm x 70 mm
Weight	0.450 kg
Time until overvoltage detection	25 µs
Maximum trigger threshold	U <sub>Nominal</sub> + 7 %
Maximum permissible cable length	3 m <
Permitted environment	Inside the switch cabinet
Height	<= 2000 m
Operating temperature	0-50 °C
Storage temperature	-20 °C - 70 °C
Moisture	2
Protection class	IP20

### 5. View

SCB front view



SCB 3D view



### 6. Connection

#### Attention

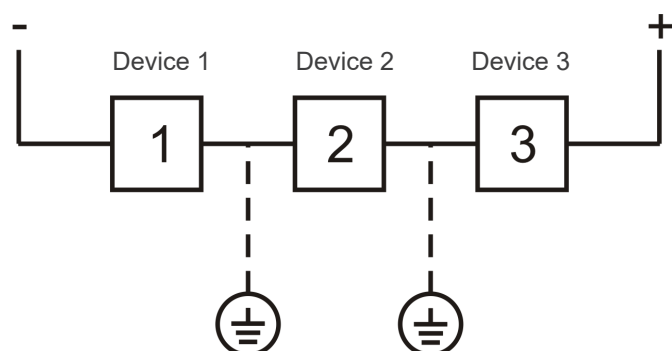


- Dangerous voltages may be present at the sense terminals. Connection only when de-energised. Cover must be fitted before commissioning.
- The GND of the 24 V power supply unit must not be connected to the earth of the EA device or the control cabinet.
- The SCB must be switched on before the DC connection of the EA device is activated. If possible, the SCB should be switched on before switching on the EA device.
- All SCB connections must be connected, none of the connections are optional.

#### Connection overview

Connection	Description
PE (earthing symbol)	Connection for earthing (all connections required).
Sense +/- sense -	Connection for sense line to the DC terminal of the EA device.
VCC / GND / OVP (left)	Connection to the power supply (for 1st SCB in series) / connection to the previous SCB (for 2-x SCB in series).
VCC / GND / OVP (right)	Connection to the nearest SCB.
Share bus	Connection to the share bus of the EA device.

## 7. Wiring options



Voltage class	Max. number of devices	Max. system voltage	Limitation
360 V	3	1000 V	The OVP must be set so that max. 1000 V system voltage is applied and the earthing must be connected between device 1-2 or 2-3.
500 V	3	1500 V	The OVP must be set so that max. 1500 V system voltage is applied and the earthing must be connected between device 1-2 or 2-3.
750 V	3	2250 V	The OVP must be set so that max. 2250 V system voltage is applied and the earthing must be connected between device 1-2 or 2-3.
920 V	3	2760 V	The OVP must be set so that max. 2760 V system voltage is applied and the earthing must be connected between device 1-2.
1000 V	3	3000 V	The OVP must be set so that max. 3000 V system voltage is applied and the earthing must be connected between device 1-2.

1500 V	2	3000 V	The OVP must be set so that max. 3000 V system voltage is applied and the earthing must be connected between device 1-2.
--------	---	--------	--

## 8. Ordering information and compatibility

Name	Nominal voltage	Compat-ibility	Order number
SCB 10360 B	360 V	PSB/ PSBE/ ELR/ PUB/PUL 10000	33000960
SCB 10500 B	500 V		33000961
SCB 10750 B	750 V		33000962
SCB 10920 B	920 V		33000963
SCB 11000 B	1000 V		33000964
SCB 11500 B	1500 V		33000965

## 9. Scope of delivery

- 1x SCB B
- 1x cable set
- 1x this data sheet
- 1x sense cover

### EA Elektro-Automatik GmbH & CO. KG

Helmholtzstr. 31-37  
41747 Viersen, Germany

Phone: +49 (2162) 3785 - 0  
Fax: +49 (2162) 16230  
ea1974@elektroautomatik.com

[www.elektroautomatik.com](http://www.elektroautomatik.com)

