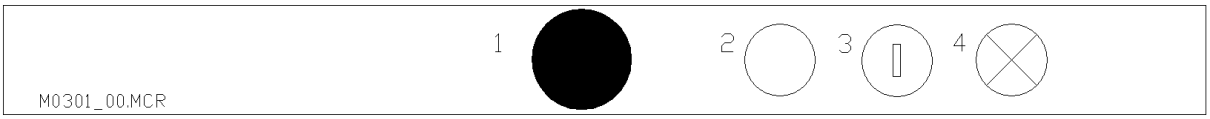
System ON/OFF unit



Pos.	Component / function
1	Mushroom pushbutton: System OFF
2	Pushbutton: Mains supply OFF
3	Pushbutton: Mains supply ON
4	Signal lamp: Mains supply ON

The system OFF mushroom pushbutton, the mains supply OFF button, the mains supply ON button and a signal lamp are located on the front panel of the rack.
Pressing the mains supply ON button supplies all devices in the rack with power. The signal lamp lights green.
Pressing the mains supply OFF button disconnects all devices in the rack from power. The signal lamp does not light.
Pressing the system OFF mushroom pushbutton disconnects all devices in the rack from power and in case more racks are connected together, they will be disconnected from power as well.
At the back panel of the rack are various connectors to control the system switch-off from the Spitzenberger & Spies devices and the laboratory. In case a switch-off interaction between devices from Spitzenberger & Spies and the laboratory is not required, the supplied Spitzenberger & Spies adapters must be used.
A door switch is implemented in the Spitzenberger & Spies rack. If the door of the rack is opened the system is switched off.

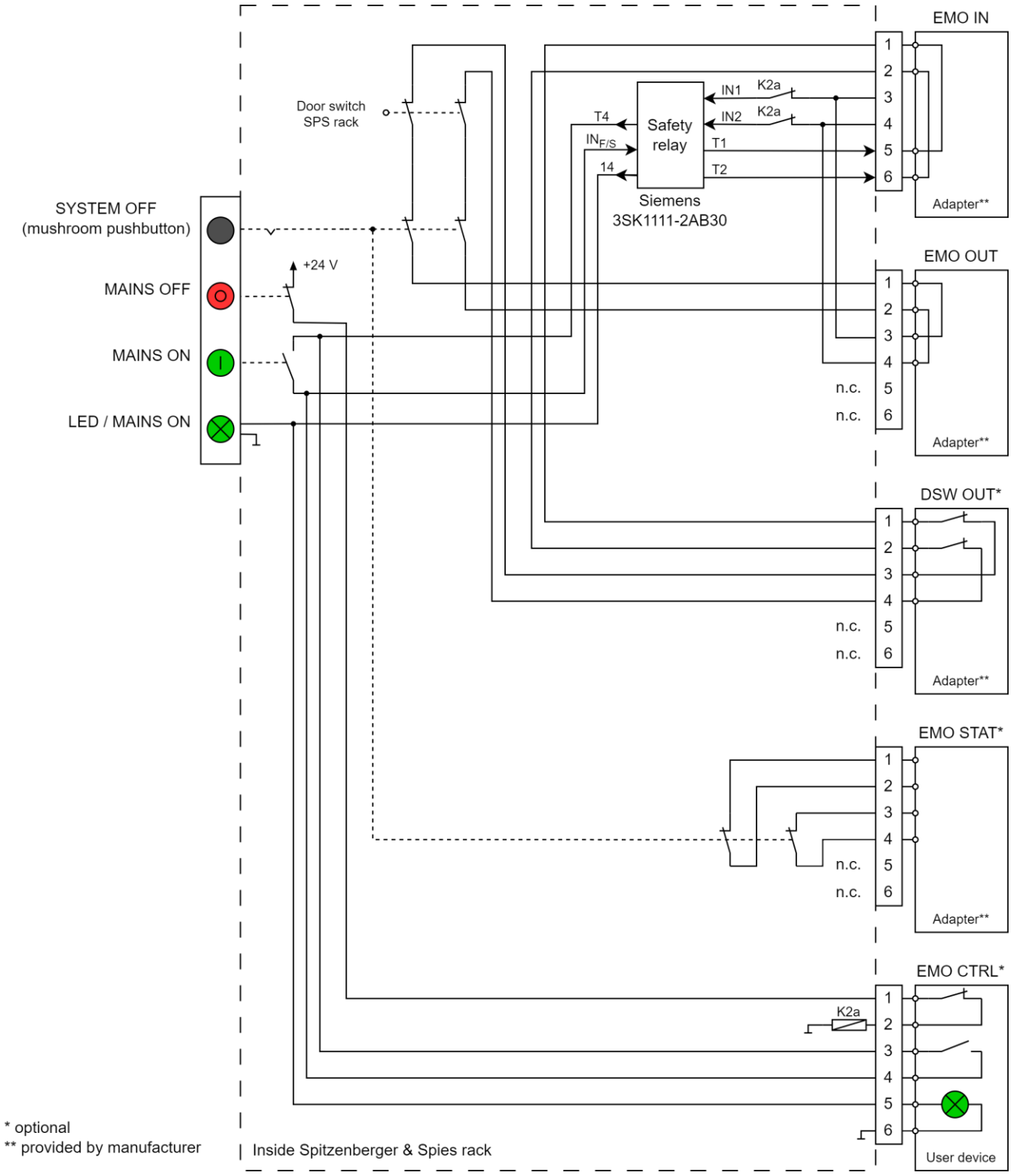


Figure 1: Block diagram system ON/OFF unit

EMO IN

If independent system ON/OFF of devices from Spitzenberger & Spies should be combined into a common one, the EMO OUT connector of one device has to be connected to the EMO IN connector of the next device. For the EMO IN connector of the first and the EMO OUT connector of the last device the supplied Spitzenberger & Spies adapter must be used. If an external system switch-off is required, the supplied Spitzenberger & Spies adapter for the EMO OUT connector (see EMO OUT) needs to be replaced.

Pin assignment "EMO IN"

Pin	Description
1	Return test signal T1
2	Return test signal T2
3	Status "system ON/OFF" loop 1
4	Status "system ON/OFF" loop 2
5	Test signal T1 of safety relay
6	Test signal T2 of safety relay
PE	Protective conductor

If "EMO IN" is not used, pin 1 and pin 5 respectively pin 2 and pin 6 must be connected using the Spitzenberger & Spies adapter supplied.

EMO OUT

The EMO OUT connector can be used to switch off the power supply by an external system switch-off. The external potential-free normally closed contacts for 24 V have to be connected between pin 1 and pin 3 respectively between pin 2 and pin 4. If no external system-off is connected the supplied Spitzenberger & Spies adapter must be used.

Pin assignment "EMO OUT"

Pin	Description
1	Output "system ON/OFF" loop 1
2	Output "system ON/OFF" loop 2
3	Input "system ON/OFF" loop 1
4	Input "system ON/OFF" loop 2
5 / 6	n.c.
PE	Protective conductor

If "EMO OUT" is not used, pin 1 and pin 3 respectively pin 2 and pin 4 must be connected using the Spitzenberger & Spies adapter supplied.

EMO STAT (optional)

The EMO STAT connector can be used to switch-off a laboratory supply by the system OFF mushroom pushbutton. If the system OFF mushroom pushbutton is pushed, pin 1 is disconnected from pin 2 respectively pin 3 is disconnected from pin 4 of the normally closed contacts. The normally closed contacts are potential-free and for voltage levels up to 230 V.

Pin assignment "EMO STAT"

Pin	Description
1 / 2	Normally closed contact 1
3 / 4	Normally closed contact 2
5 / 6	n.c.
PE	Protective conductor

EMO CTRL (optional)

The EMO CTRL connector enables the mains supply to be switched on and off remotely. i.e. it offers the same functionality as the mains supply OFF button, the mains supply ON button and the signal lamp located on the front panel of the rack. If an external normally closed contact between pin 1 and pin 2 is opened, the mains supply is switched off. If an external normally open contact between pin 3 and pin 4 is closed for a short amount of time (approx. 1 s), the mains supply is switched on. An external LED can be connected between pin 5 and pin 6 to indicate the status of the mains supply. If the mains supply is switched on, +24 V is applied to pin 5. This voltage can be used to supply an external LED with up to 200 mA. A suitable series resistor must be selected by the user.
If EMO CTRL is not used, pin 1 and pin 2 must be connected with the supplied Spitzenberger & Spies adapter.

Pin assignment "EMO CTRL"

Pin	Description
1 / 2	External normally closed contact to switch off the system
3 / 4	External normally opened contact to switch on the system
5	+24 V (only when "system ON/OFF" unit is switched on)
6	GND
PE	Protective conductor

DSW OUT (optional)

The DSW OUT connector is used to include other Spitzenberger & Spies racks into the door switch system. If the door of any rack is opened, the complete system must be switched off. If no other rack is connected the supplied Spitzenberger & Spies adapter must be used.

Pin assignment "DSW OUT"

Pin	Description
1 / 3	Door contact (T1)
2 / 4	Door contact (T2)
5 / 6	n.c.
PE	Protective conductor