Swansons
never out of power

SM102/103

INSTALLATION AND USER MANUAL

SM102 · SM102HV · SM103 · SM103HV



Read the entire manual before installation and keep it for future reference. This manual applies to SM102, SM102HV, SM103 and SM103HV

⚠ SAFETY – READ THIS FIRST

- ⚠ **Danger – high voltage.** Dangerous voltages and currents are present in the unit whether the internal fuses are on or off. The area marked “Livsfarlig spänning” (danger – high voltage) on the circuit board is live when mains voltage is connected.
- ⚠ **Authorised personnel only.** Only authorised personnel experienced in AC and DC may operate, install, work on, service or maintain the unit.
- ⚠ **Insulated tools.** Use only insulated tools inside the unit.
- ⚠ **Batteries are always live.** Batteries are always electrochemically active, even when the unit is disconnected. Never short-circuit the battery terminals.
- ⚠ **Read and understand the manual.** The manual must be read thoroughly and understood by all personnel handling the unit. If you are in any doubt about the system’s design, function, components or safety, contact the supplier.
- ⚠ **Check before installation.** Check that the circuit boards are securely fitted and have not been damaged in transit.

✓ DO

- ✓ Read the entire manual before starting work.
- ✓ Use insulated tools.
- ✓ Check that the circuit boards are securely fitted and undamaged.
- ✓ Install the unit with free space so that ventilation is not blocked.
- ✓ Follow the connection sequence: 230 V AC → batteries → load.
- ✓ Check the output voltage before connecting batteries and load.
- ✓ Contact Swansons if you are in any doubt.

✗ DO NOT

- ✗ Work on the unit without AC and DC qualifications.
- ✗ Assume the unit is de-energised because the fuses are switched off.
- ✗ Short-circuit the battery terminals.
- ✗ Cover the enclosure’s ventilation openings.
- ✗ Exceed the rated current – it applies to the total load on OUT1 and OUT2 combined.

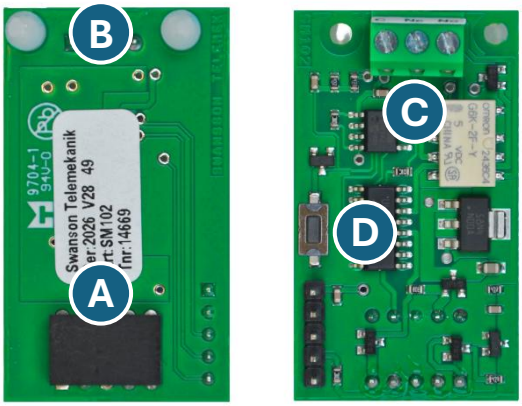
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1 UNIT OVERVIEW



A	**Connector block**	Connects to the pin header.
B	**Spacers**	Press into the holes in the circuit board.
C	**Changeover relay contact**	Changeover relay output C–NC–NO.
D	**Reset button**	Resets the battery fault alarm.

2 INSTALLATION

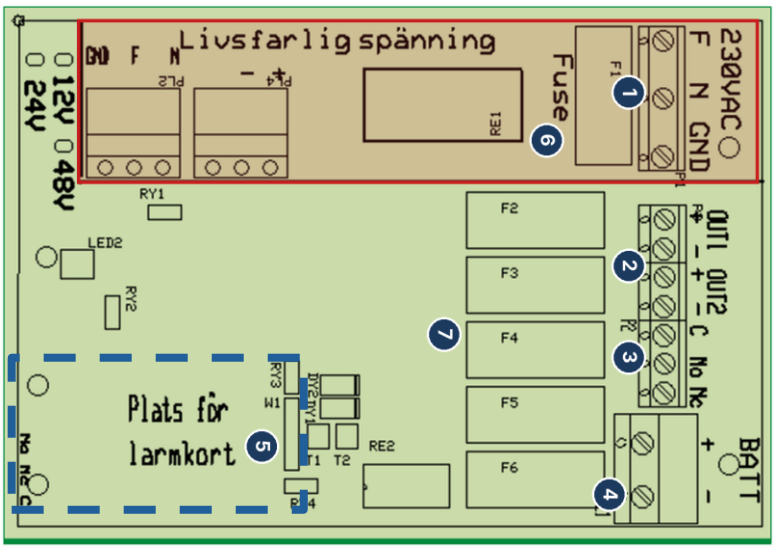
> ⚠ **WARNING**
>
> **Work may only be carried out by authorised personnel.** Dangerous voltage is present in the unit even when the internal fuses are switched off. Use insulated tools.

2.1 Before installation

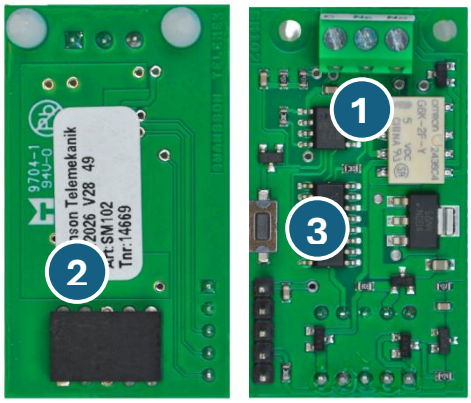
- Check that the delivery is complete and that the circuit board has not been damaged in transit.

2.2 Mounting

- The alarm card can be fitted during operation, but if the pins are misaligned the alarm card will be damaged. We therefore recommend switching off the rectifier during installation.
- Fit the alarm card in its designated position (see picture below). Insert the pin header into the connector block on the alarm card and snap it into the mounts in the holes in the circuit board.



3 CONNECTIONS



1 **Terminal for changeover relay contact**
C–NC in normal operation. C–NO in alarm state. Max 1 A.

2 **Connector block**
Connects to the pin header on the battery backup's circuit board.

3 **Reset button**
Resets alarms.

4 FUNCTION AND TROUBLESHOOTING

SM102 and SM103 have an alarm terminal that changes over on alarm. To show visually which alarm is active, the alarm card controls the battery backup's LED, which flashes in different sequences and colour combinations.

SM102 - 103

ALARM	INDICATION (LED)	ACTION	RESET
Mains failure	Steady red	Check the input fuse and incoming voltage.	Correct the fault
Battery fault	Flashes red every second	Check the battery connections. If they are OK, the batteries need replacing.	Reset button
Charging voltage fault	Flashes red/green	Measure the charging voltage with the batteries disconnected. If necessary, adjust the charging voltage according to the battery backup manual.	Correct the fault
Low battery voltage	Flashes red every 3 seconds	The battery needs charging (correct the mains failure).	Correct the fault

SM102HV - 103HV

ALARM	INDICATION (LED)	ACTION	RESET
Mains failure	Steady red	Check the input fuse and incoming voltage.	Correct the fault
Battery fault	Flashes red every second	Check the battery connections. If they are OK, the batteries need replacing.	Self-resetting
Charging voltage fault	Flashes red/green	Measure the charging voltage with the batteries disconnected. If necessary, adjust the charging voltage according to the battery backup manual.	Correct the fault

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SM102HV - 103HV			
ALARM	**INDICATION (LED)**	**ACTION**	**RESET**
Low battery voltage	Flashes red every 3 seconds	The battery needs charging (correct the mains failure).	Correct the fault

RELAY	NORMAL STATE	ALARM STATE
Alarm relay	Normal operation: C–NC closed	Alarm state: C–NO closed

5 WARRANTY AND RECYCLING

- **Warranty:** 2 years in accordance with Swansons Telemekanik's general terms of delivery.
- **Recycling:** The product is electronic waste and must be taken to an electronics recycling facility. Do not dispose of it with household waste.

Support and service

If you are in any doubt about the system's design, function, components or safety, contact Swansons Telemekanik on **+46 (0)303-746 320** or **info@swtm.se**.

Service and maintenance may only be carried out by authorised personnel experienced in AC and DC.

8 TECHNICAL DATA

Supply voltage	**12, 24, 48 V DC**
Max relay current	**1 A**
Own consumption	**7.5 mA**
Approvals	**Tested together with SM40 and covered by its CE marking**

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