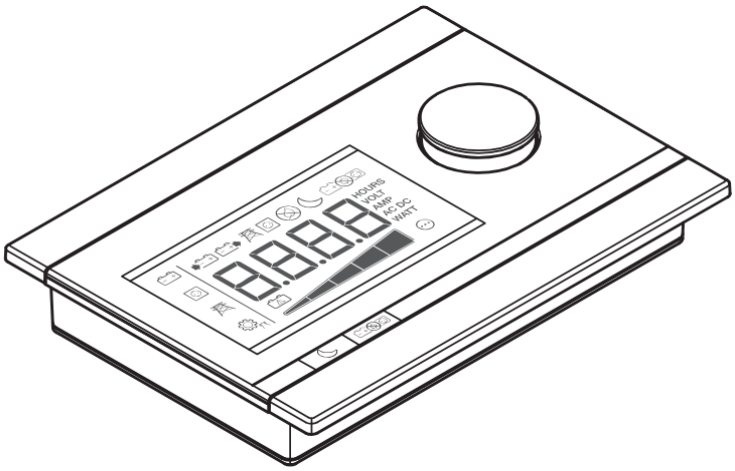
DOMETIC DSP-EM Energy And Lighting Controls User Manual

DOMETIC

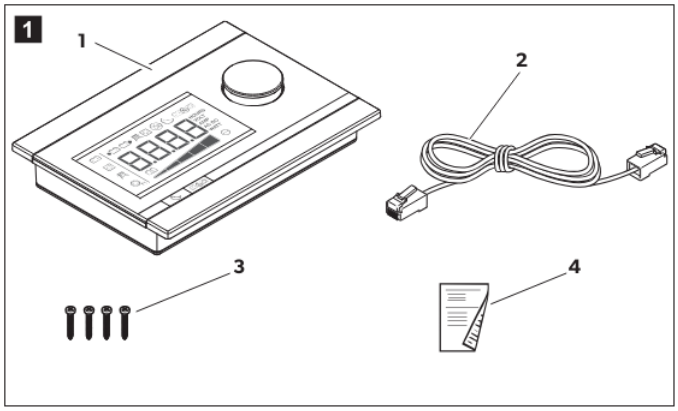
ENERGY & LIGHTING CONTROLS

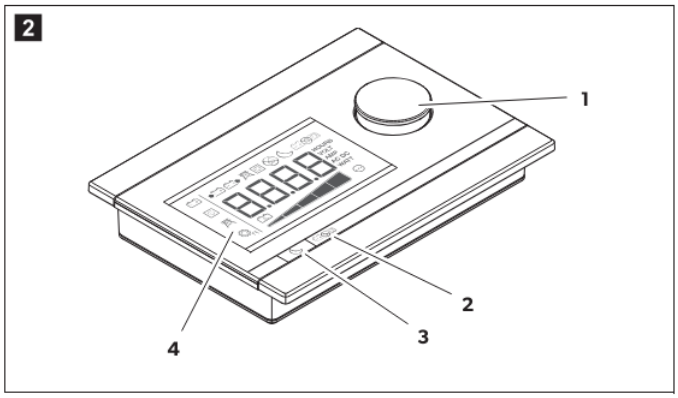


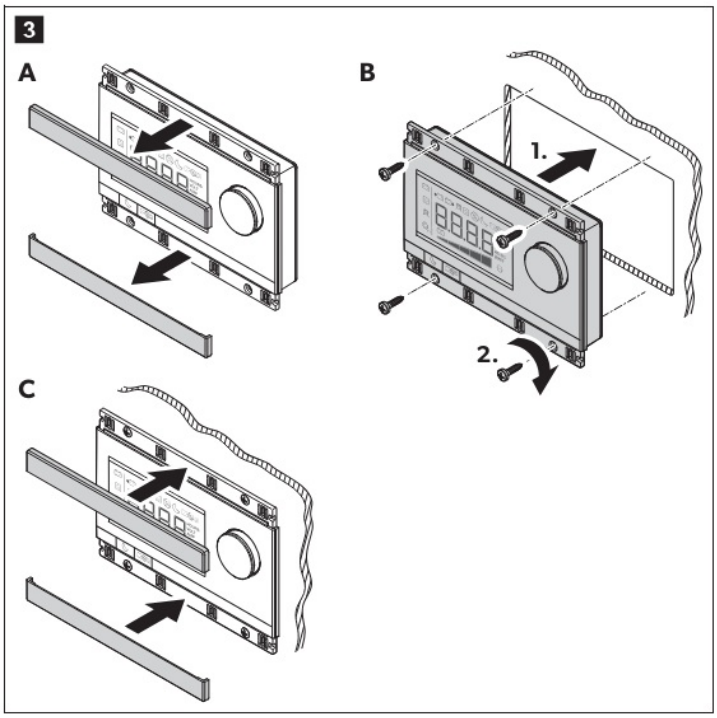
DSP-EM
Monitoring and control device
Installation and Operating Manual

Contents

DSP-EM Energy And Lighting Controls



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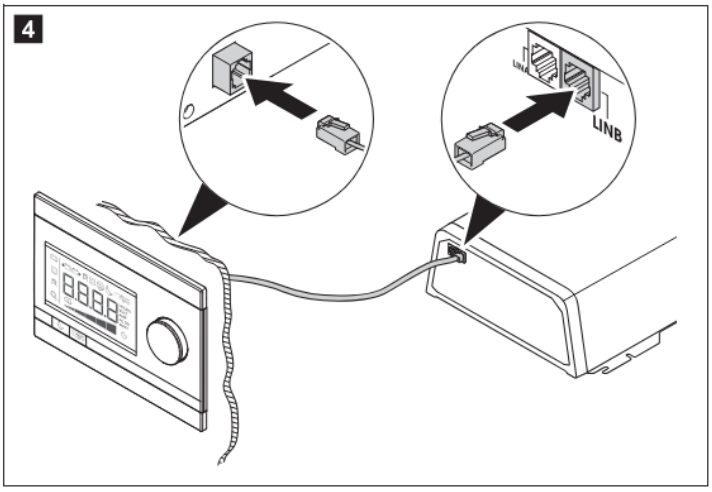
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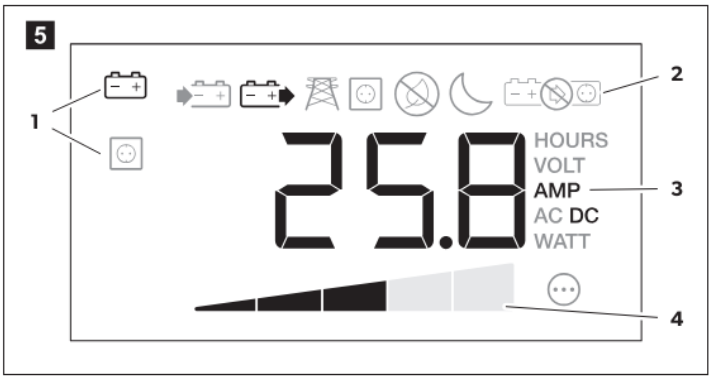
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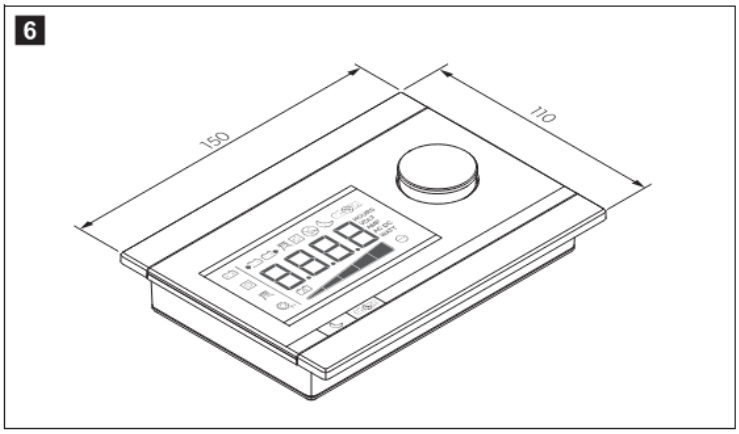


Please read this instruction manual carefully before installation and first use, and store it in a safe place. If you pass on the product to another person, hand over this instruction manual along with it.

Explanation of symbols

WARNING!
Safety instruction: Failure to observe this instruction can cause fatal or serious injury.

CAUTION!
Safety instruction: Failure to observe this instruction can lead to injury.

NOTICE!
Failure to observe this instruction can cause material damage and impair the function of the product.

NOTE
Supplementary information for operating the product.

Safety instructions

The manufacturer accepts no liability for damage in the following cases:

- Damage to the product resulting from mechanical influences and incorrect connection voltage
- Alterations to the product without express permission from the manufacturer
- Use for purposes other than those described in the operating manual
  Note the following basic safety information when using electrical devices to protect against:
- Electric shock
- Fire hazards
- Injuries

WARNING!

- Electrical devices are not children’s toys!
  Always keep and use the device out of the reach of children.
- This device can be used by children aged 8 years or over, as well as by persons with diminished physical, sensory or mental capacities or a lack of experience and knowledge, providing they are supervised, or have been taught how to use the device safely and are aware of the resulting risks.
- Only use the device as intended.
- Lay the cables so that they cannot be damaged by the doors or the bonnet. Crushed cables can lead to serious

injury.

⚠ CAUTION!

- Lay the cables so that they cannot be tripped over or damaged.
- Do not operate the device:
  – In salty, wet or damp environments
  – In the vicinity of corrosive fumes
  – In areas where there is a danger of explosions
- Always disconnect the power supply when working on the device.
- Please observe that parts of the device may still conduct voltage even if the fuse has blown.
- Do not disconnect any cables when the device is still in use.

NOTICE!

- Use ductwork or cable ducts if it is necessary to lay cables through metal panels or other panels with sharp edges.
- Do not lay the cable so that it is loose or heavily kinked.
- Fasten the cables securely.
- Do not pull on the cables.

Scope of delivery

Item in fig. 1, page 3	Quantity	Description
1	1	11Display
2	1	21Connection cable
3	4	Fastening screws
4	1	Drill template

Accessories

Available as accessories (not included in the scope of delivery):

Description	Ref. no.
Battery sensor, MCA-HS1 Hella sensor	9102500038
IBS multiplexer	9600002566

Intended use

⚠ WARNING!
Also observe the instructions in the operating manuals of the connected devices.

DSP-EM is used for controlling, setting and the status display of devices that are connected to the CI bus.

- A connected MCA battery charger and the following inverters can be operated remotely with this:
- DSP1312T, DSP1812T, DSP2312T, DSP3512T, DSP1324T, DSP1824T, DSP2324T, DSP3524T
  The DSP-EM is the energy monitor for a connected battery sensor of the MCA-HS1 Hella sensor type.
  With an IBS multiplexer, up to four battery sensors can be connected. If no inverter is connected, an IBS multiplexer is required for the energy supply.

Technical description

6.1 Function
A connected inverter can be switched on and off and be configured.
A connected MCA battery charger can be switched to sleep mode.
DSP-EM can communicate with a battery sensor of the MCA-HS1 Hella sensor type. With an IBS multiplexer, up to four battery sensors can be connected.
6.2 Display and control elements

Item in fig. 2, page 3	Description	Explanation
1	Selector button	Turn: Navigate through menus or change values Press: Select menu items or values
2		For connected inverter: Deactivates the inverter function and thus the power supply of the battery to the 230 V consumer units. The battery is not discharged via the inverter.
3		For connected MCA charger: Switches the night mode of the connected device on or off. The charging current of the connected device is limited and the fan switches off.
4	Display	Displays values and current statuses of the connected devices.

Assembling and connecting DSP-EM

When selecting the installation location, note the following:

- The device must be installed in a location that is protected from moisture.
- Do not install the device in a dusty environment.
- The device must be installed on a level and sufficiently sturdy surface.
- Note the length of the connection cable.
- Install the device in a well-protected location to ensure no objects can touch the connection cable or cause it to tear.
  ➤ Prepare the cut-out in the wall with the template included in the scope of delivery.
  ➤ Mount the display as shown (fig. 3, page 4).
  ➤ Connect the display as follows(fig. 4, page 5).

Putting DSP-EM into operation

DSP-EM checks whether the connected devices are setup during start up.
➤ Connect the Display.
If a setup has not been done, the service menu opens:
✓ The number “1” appears.
➤ Use the table to determine the necessary value for your connected devices:

Value	connected devices
1	only battery sensor
2	only MCA battery charger
3	battery sensor and MCA battery charger
4	only DSP-T inverter
5	battery sensor and DSP-T inverter
6	MCA battery charger and DSP-T inverter
7	battery sensor, MCA battery charger and DSP-T inverter

➤ Turn the selector button until the determined value is displayed.
➤ Press the selector button to save the value.
Without connected battery sensor
➤ Press the selector button until the display is no longer illuminated.
✓ DSP-EM can now be put into operation.
With connected battery sensor
✓ The display indicates “service code 12”.
➤ Continue with the setup as described in the following chapter (chapter “Starting up the battery sensor” on page 12).

8.1 Starting up the battery sensor

➤ Use the table to determine the necessary value for your battery type:

Value	Type of battery
0	Lead acid battery
1	1Gel-battery
2	2AGM-battery
3	eStore-battery

➤ Press the selector button.
➤ Turn the selector button until the determined value is displayed.
➤ Press the selector button to save the value.
✓ The display indicates “service code 13”.
➤ Determine the capacity of your batteries (0 – 500 Ah).
➤ Press the selector button.
➤ Turn the selector button until the determined capacity is displayed.
➤ Press the selector button to save the value.
✓ DSP-EM switches off and can now be put into operation.

NOTE
Only for specialists
The advanced service settings can be found in the service guide at **dometic.com/manuals**.
The advanced service settings must be performed by specially trained personnel. An incorrect setting of the values can impair the functionality of the connected devices.

Using DSP-EM

9.1 Display

Item in fig.5, page 5	Explanation
1	1Menus
2	2Status displays
3	Display of values
4	Display of values as a bar chart

9.2 Menus

Symbol	Menu	Displayed values
	Battery menu	**Without battery sensor** • Input voltage on the inverter **With battery sensor** The battery is being charged:  • Time remaining until the battery is fully charged • Battery voltage • Charging current Bar chart: Charging status of the battery in percent The battery is discharging:  • Remaining time • Battery voltage • Used battery power Bar chart: Charging status of the battery in percent
	AC load menu	• Remaining time • Battery voltage • Used battery power Bar chart: Charging status of the battery in percent
	Service menu	**Only for specialists** The advanced service settings can be found in the service guide a t dometic.com/manuals

9.3 Status displays

Symbol	Menu
	Battery is charging
	Battery is discharging
	AC mains power is connected
	Inverter is operating Consumer units can be connected If there is a power cut, the inverter supplies the consumer units with power from t he battery
	Energy saving mode is switched off
	The charger is operating in night mode
	Inverter is switched off 230 V consumer units are now supplied with power via th e mains power supply
	With battery sensor Low battery charge

9.4 Navigating within the menu

Navigate through the menus as follows:

➤ Turn the selector button (fig. 2 1, page 3), to scroll through the menu pages.

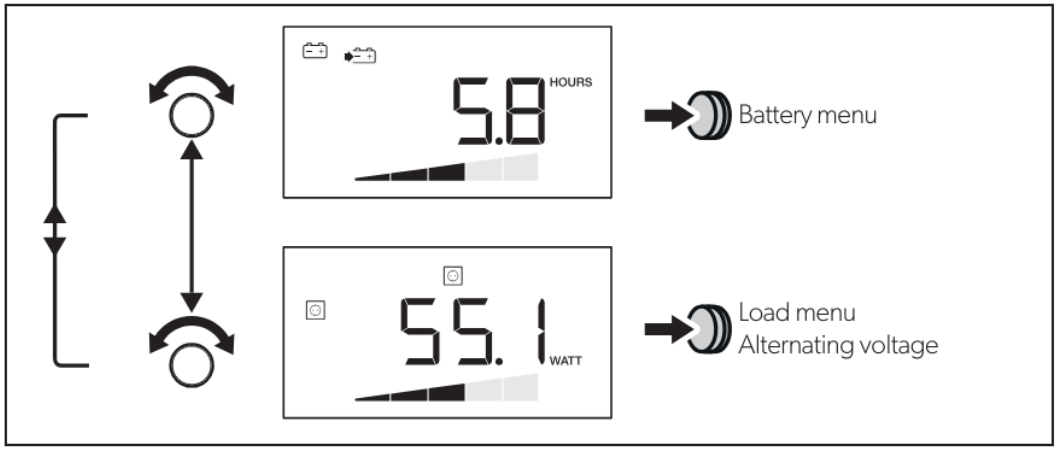
The selector button can be turned in both directions. When the last menu item has been reached, the display goes back to the first menu item.

✓ The symbol of the selected menu (fig. 5 1, page 5) is displayed.

✓ The first value is displayed (chapter “Menus” on page 13).

Press the selector button to show the next value.

The following figure shows how you can navigate within the menu:



➤ Press the selector button to show the next value in the current menu (chapter “Menus” on page 13).

Switching inverter on/off

➤ Press to switch off the inverter.

➤ Press again to switch on the inverter.

Switching on the display

The display switches off after a defined time.

➤ Press the selector button or or , to illuminate the display.

Troubleshooting

If the system detects an error, it switches off independently. The toolbar and the display bar are hidden.

Source	Error code	Possible cause	Possible Solution
	E-01	Battery undervoltage	Charge the battery.
	E-02	Battery overload	Reduce the input voltage.
	E-03	Inverter overload	Reduce the connected load.
	E-04 – E-05	Overheating of the inverter	Ensure sufficient air supply at the inverter.
	E-06	Initialisation error	Contact customer service.
	E-07	Uninterrupted power supply is not present	· Activate the inverter function (chapter “Switching inverter on/off” on page 15). · Check the connection to the mains power supply.
Display	E-16	CI bus does not respond	Check the BUS cabling of the battery sensor.
	E-17	DSP-T does not respond	· Set the main switch to REMO. · Check the BUS cabling of the DSP-T inverter.
	E49	MCA does not respond	Check the BUS cabling to the MCA charger.
	E-20	Battery charging status too low	Charge the battery.

Warranty

The statutory warranty period applies. If the product is defective, please contact the manufacturer’s branch in your country (see the back of the instruction manual for the addresses) or your retailer.
For repair and guarantee processing, please send the following items:

- Defect components
- A copy of the receipt with purchasing date
- A reason for the claim or description of the fault

Disposal

➤ Place the packaging material in the appropriate recycling waste bins wherever possible.

 If you wish to finally dispose of the product, ask your local recycling centre or specialist dealer for details about how to do this in accordance with the applicable disposal regulations.

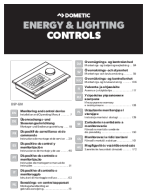
Technical data

DSP-EM

Ref. no.:	9600002565
Input voltage:	9 – 35 Vg
Power consumption in display mode: in standby mode:	 170 mA 40 mA
Display dimensions:	fig. 6, page 6
Certification:	

dometic.com
YOUR LOCAL DEALER
dometic.com/dealer
YOUR LOCAL SUPPORT
dometic.com/contact
YOUR LOCAL SALES OFFICE
dometic.com/sales-officesA complete list of Dometic companies, which comprise the Dometic Group, can be found in the public filings of:
DOMETIC GROUP AB
Hemvärnsgatan 15
SE-17154 Solna
Sweden

Documents / Resources

	DOMETIC DSP-EM Energy And Lighting Controls [pdf] User Manual DSP-EM Energy And Lighting Controls, DSP-EM, Energy And Lighting Controls, Lighting Controls, Controls

References

- Dometic | Dometic Australia
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- Find a Dealer | Dometic USA
- Service locator | Dometic USA
- User Manual