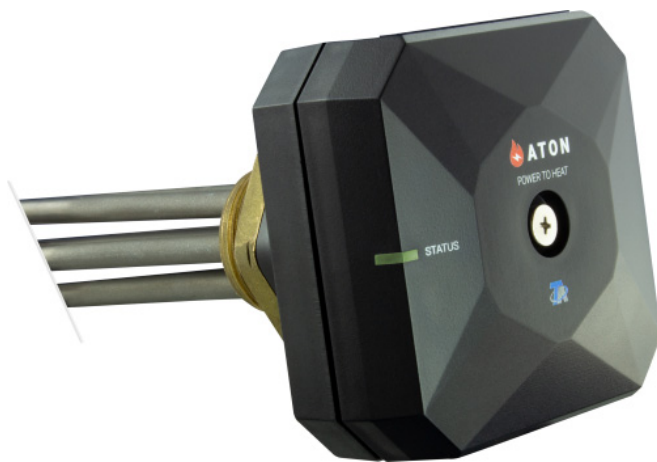


ATON

ELECTRIC IMMERSION HEATER
CAN ENERGY METER

EHS-R
CAN-EZ3A



End user guide

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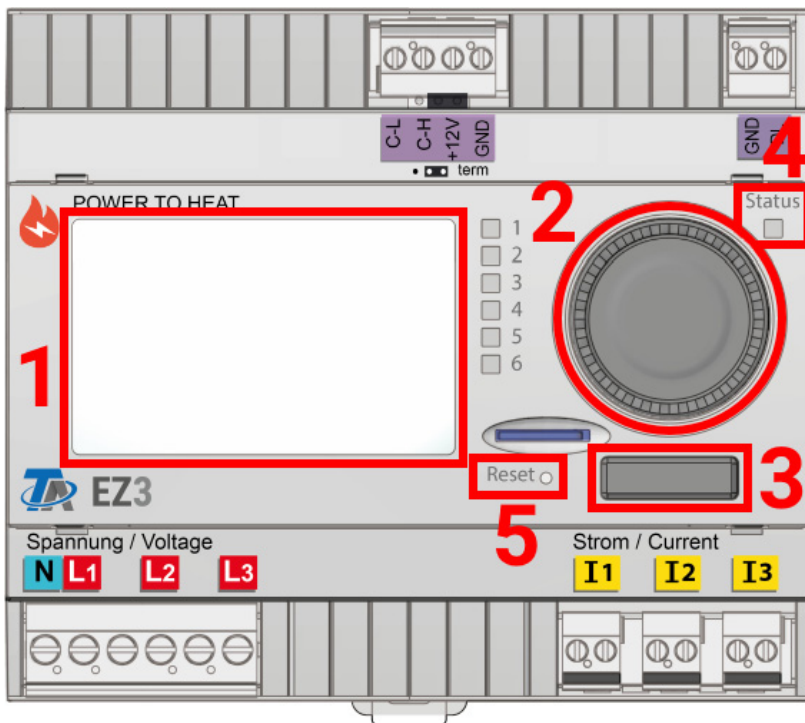
Principles

These instructions are aimed at the final user of the energy meter. For details about the device, programming, etc., detailed operating instructions are available on our website www.ta.co.at or on the [official Technische Alternative wiki](#).

The **CAN-EZ3A** is a freely programmable energy meter, which communicates wirelessly with a variable **EHS-R** immersion heater. The purpose of this device is to identify surplus output, e.g. from PV systems, and convert this surplus into domestic hot water, instead of exporting it to the mains, which can be less profitable.

The energy meter is operated via a display, a rotary dial and a button.

Device overview



The display (1) is used to navigate within the energy meter, to program functions, read in values, access other devices, etc.

The dial (2) to the right of the display is used for navigation. A clockwise rotation moves you down the menu; anti-clockwise moves you up.

Pressing the dial (2) opens the selected menu/allows you to change the selected value/parameter. (= Enter button)

Pressing the button (3) below the dial will exit a menu. (= Back button)

Pressing "Enter" or "Back" relates to the value/menu item framed on the display.


The "Status" LED (4) above right of the rotary dial provides information on the status of the device. Green flashing means the energy meter is starting up. A continuous green light shows normal operation. Orange means there is a "message", for example concerning a collector overtemperature shutdown. Red means there is a "fault", such as a DL sensor failure.

Briefly pressing the reset button (5) restarts the device. For a total reset, press and hold the button until the status LED (4) stops quickly flashing orange and starts slowly flashing red.

General information on programming parameters

for inputs, outputs, fixed values, functions, general settings, and CAN and DL inputs and outputs.

If displayed, entries must be confirmed with a .

If you want to discard your entries, select .

Example:



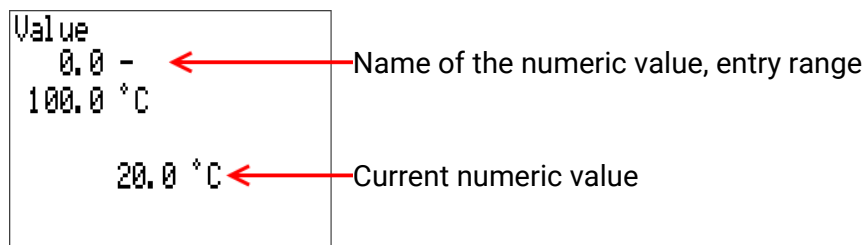
New password

128


  

Entering numeric values


The following window is displayed for entering numerical values:



Value

0.0 -  Name of the numeric value, entry range

100.0 °C

20.0 °C  Current numeric value

The current value is shown (example: 20.0 °C).

The top line shows the name of the value, then the entry range (example: 0.0 – 100.0 °C).

The value is entered by turning the rotary dial. As there are no symbols for confirming or rejecting a value, the entry is confirmed by pressing the dial or rejected by using the back button.

Work settings

The energy meter is programmed at the factory. If this has not been changed, here are the instructions for various parameter settings.

These instructions relate to factory programming.

As the energy meter is freely programmable, the displays on your device may differ in some cases drastically from the figures in these instructions.

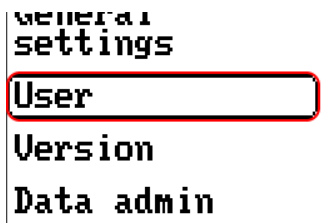
If the system malfunctions, it is generally advisable to contact the system installer. **These instructions are not intended to be used for troubleshooting;** instead, they should be used for customising the energy meter with factory programming to suit the requirements of the end user.

The essential function of programming is converting surplus output (e.g. from PV systems) into DHW instead of less profitable export to the mains. An optional function is also available for heating DHW with an immersion heater within a user defined time window (disabled at the factory). "Cylinder temperature" in this case relates to the first sensor input on the immersion heater itself.

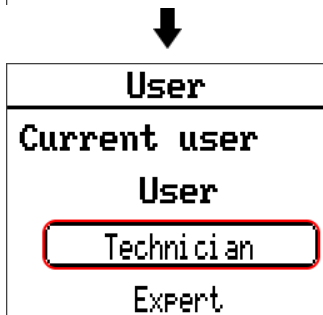
An energy meter also runs together with a date-specific memory for viewing meter readings and yields.

Technician access

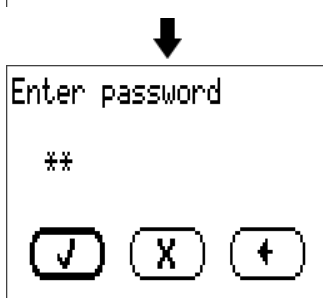
Many of the processes described here require access to the energy meter's **Technician** level.




In the main menu is the menu item **User**.

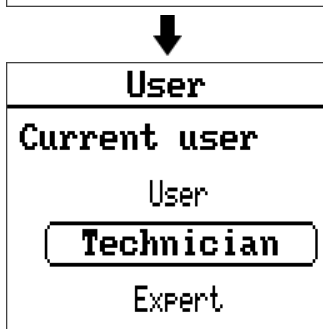


Technician is selected.



The relevant password must be entered. The standard password is 64. If this password is incorrect, it has been changed (probably by the programmer).

The entry must be confirmed with .



If the process was successful, **Technician** is then highlighted in bold.

Change to fundamental parameters

| |
|---------------------|
| Value summary |
| Inputs |
| Fixed values |
| Functions |



| Fixed values | |
|-----------------------------|----------|
| 1: Set output | -0.20 kW |
| 2: Maximum temperature | 60.0 °C |
| 3: Forced operation, enable | No |
| 4: Forced op., set temp. | 50.0 °C |
| 5: Forced operation, output | 3.00 kW |

In the main menu is the menu item **Fixed values**. There are various threshold values, set values, etc., which have been stored during factory programming as fixed values. The values can be adjusted by the user in this menu.

1: Set output

This value corresponds to the output that is fed into the mains as a tolerance before the Energy manager activates the immersion heater. This prevents inadvertent power drawn, which could otherwise occur due to the system inertia.

A value of -0.20 kW means that the immersion heater is only activated at a surplus of >200 W.

2: Maximum temperature

If the cylinder temperature exceeds this value, immersion heater operation is blocked.

3: Forced operation, enable

The factory programming includes an optional function for DHW heating by the immersion heater. Operation of the immersion heater is activated within a user defined time window, even if there is no surplus output.

This fixed value (setting **Yes** or **No**) activates/deactivates this function. It is **deactivated** (= No) at the factory.

4: Forced operation, set temp.

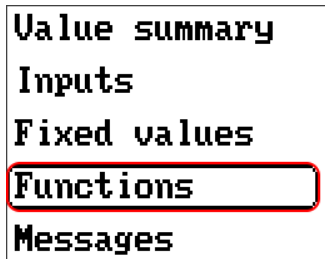
The set temperature in the cylinder that should be reached during a time window during active **Forced operation** (see point 3).

5: Forced operation, output

The set output of the immersion heater in kW during active forced operation (3) and set temperature (4) is not reached.

Time program for DHW heating

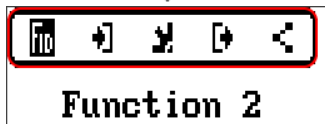
If optional DHW heating is activated (via fixed value 3), the time windows for this mode should be adjusted. Technician access, as described in chapter "**Technician access**", is required. A time window for Mo-Su, 17:00 - 20:00 h is set at the factory.



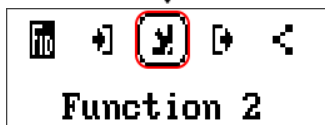
In the main menu, the menu item **Functions** is selected.



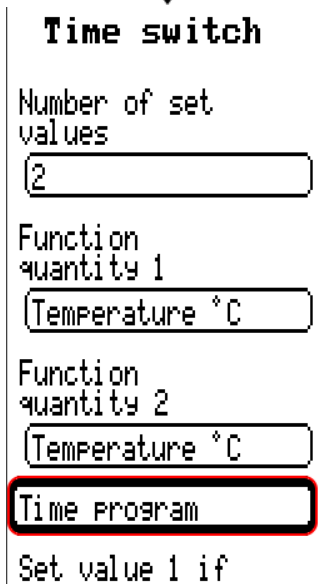
The function **Time switch** is selected. Ensure that the name of the function and not the plus symbol next to it is highlighted with a box around it.



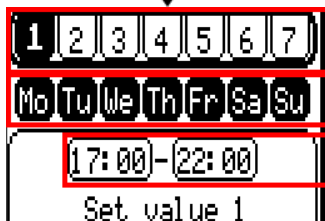
The line above the heading is selected...



...and then the gear symbol.



This button opens the menu for changing time programs.



Time programs

Days

Time window

Time programs

Up to **7 time programs** can be set, and each time program has up to 3 time windows. The time program currently being edited is highlighted in black.

If, for example, at the weekend, time windows other than those on work days apply, a time program for **Mo-Fr** and an additional time program for **Sa-Su** must be set. For each of these two time programs, 3 time windows can then be set.

Days

The days to which the current time program should apply. Selected days are in black.

Time window

Times at which the selected time program should be active on the selected days.

Single charging start

If optional DHW heating is activated (fixed value 3), the cylinder can be charged to the set temperature, irrespective of the time window and the available surplus.

Technician access, as described in chapter "**Technician access**", is required. The **Functions** menu is then opened.

The set temperature for charging once corresponds to the fixed value **F4 Forced operation, set temp.**



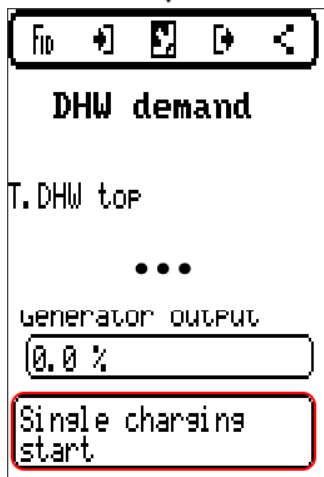
The function **DHW demand** is selected. Ensure that the name of the function and not the plus symbol next to it is highlighted with a box around it.



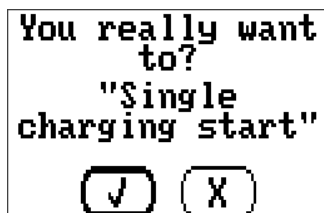
The line above the heading is selected...



...and then the gear symbol.



At the end of the menu is the button **Single charging start**.



Once the confirmation prompt has been confirmed, the single charging process is started.

Energy meter – displaying readings and yields

The **Energy meter** function includes meter readings in kWh and yields according to the set currency information. Technician access is not required for this.

| Functions | |
|-------------------|---|
| 1: MAX function | + |
| 2: Time switch | + |
| 3: DHW demand | + |
| 4: Output control | + |
| 5: Energy manager | + |
| 6: Energy meter | ⊕ |

In the **Functions** menu, the plus symbol next to the **Energy meter** function is selected.



| Functions | |
|---------------------------|---------|
| 6: Energy meter | ⊖ |
| Output: | 0.00 kW |
| Day meter readings: | 0.0 kWh |
| Prev. day meter readings: | 0.0 kWh |
| Week meter | ••• |

Various values are now displayed:

Output

Meter readings

- Day
- Previous day
- Week
- Prev. week
- Month
- Prev. month
- Year
- Prev. year
- Kilowatt hours total

Yield displays

- Day
- Previous day
- Week
- Prev. week
- Month
- Prev. month
- Year
- Prev. year
- Sum total

Resetting meter readings and yields

Meter readings and yields can be reset.

The first screenshot shows a terminal window with a list of functions. The entry "6: Energy meter" is highlighted with a red box. To its right, the text reads: "The function itself (not the plus symbol) is selected."

The second screenshot shows the terminal window with a menu of icons above the heading "Function 6". The top line of icons is highlighted with a red box. To its right, the text reads: "The line above the heading is selected..."

The third screenshot shows the same terminal window with the gear icon in the menu highlighted by a red box. To its right, the text reads: "...and then the gear symbol."

The fourth screenshot shows the terminal window displaying "Energy meter" and "Factor" with a value of "1". The bottom line, which says "Delete meter reading", is highlighted with a red box. To its right, the text reads: "When this button is selected and the subsequent confirmation prompt is confirmed, all meter readings and yields for this function are reset to 0."

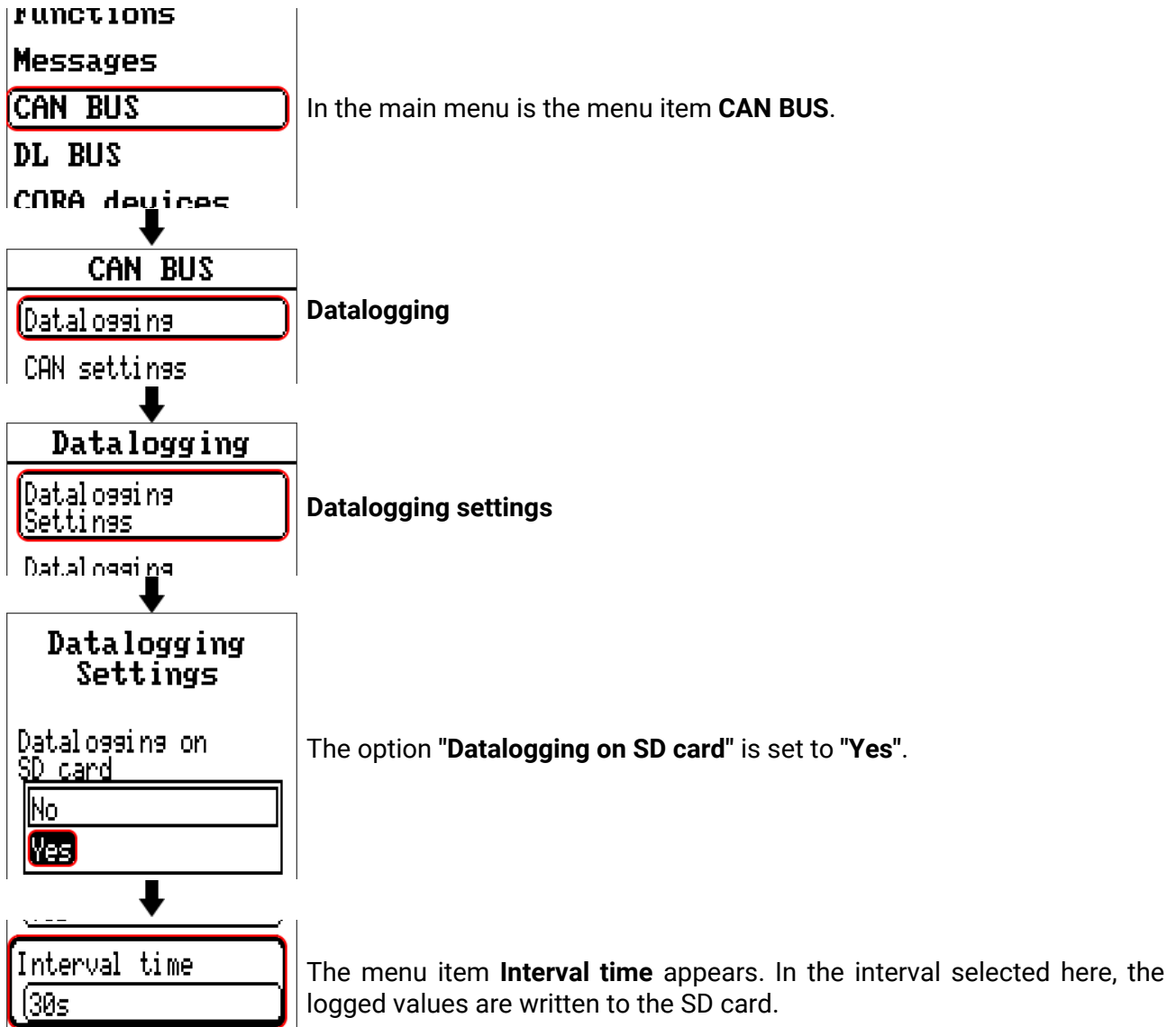
Datalogging

In the factory settings, 4 values are stored for recording data:

- Temperature in the cylinder, top (relates to optional DHW heating)
- Current output of the immersion heater
- Total real power
- Kilowatt hours total

If a **C.M.I.** is used for datalogging, detailed instructions can be found in the Technische Alternative [online help](#).

Logging data can also be recorded on the supplied micro SD card. Technician access, as described in chapter "**Technician access**", is required.



Given the limited write cycles of an SD card, a high interval should not be set for an extended period. To evaluate the data, PC software **Winsol** is required. This is available to download for free from www.ta.co.at/download/software/.

For this software, there is also an [online help site](#).

Warranty conditions

Note: The following guarantee conditions do not in any way limit the legal right to warranty, but rather expand your rights as a consumer.

1. The company Technische Alternative RT GmbH provides a one-year warranty from the date of purchase for all the devices and parts which it sells. Defects must be reported immediately upon detection and within the guarantee period. Technical support knows the correct solution for nearly all problems. In this respect, contacting us immediately will help to avoid unnecessary expense or effort in troubleshooting.
2. The warranty includes the free of charge repair (but not the cost of on site fault-finding, removal, refitting and shipping) of operational and material defects which impair operation the event that a repair is not, for reasons of cost, worthwhile according to the assessment of Technische Alternative, the goods will be replaced.
3. Not included is damage resulting from the effects of over-voltage or abnormal ambient conditions. Likewise, no warranty liability can be accepted if the device defect is due to: transport damage for which we are not responsible, incorrect installation and assembly, incorrect use, non-observance of operating and installation instructions or incorrect maintenance.
4. The warranty claim will expire, if repairs or actions are carried out by persons who are not authorised to do so or have not been so authorised by us or if our devices are operated with spare, supplementary or accessory parts which are not considered to be original parts.
5. The defective parts must be sent to our factory with an enclosed copy of the proof of purchase and a precise description of the defect. Processing is accelerated if an RMA number is applied for via our home page www.ta.co.at. A prior clarification of the defect with our technical support is necessary.
6. Services provided under warranty result neither in an extension of the warranty period nor in a resetting of the warranty period. The warranty period for fitted parts ends with the warranty period of the whole device.
7. Extended or other claims, especially those for compensation for damage other than to the device itself are, insofar as a liability is not legally required, excluded.

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