

drax

ES-10B 4 Terminal Single Phase Electricity Meter

Product guide



1. External features

1.1 Meter parts

Figure 1. ES-10B Meter

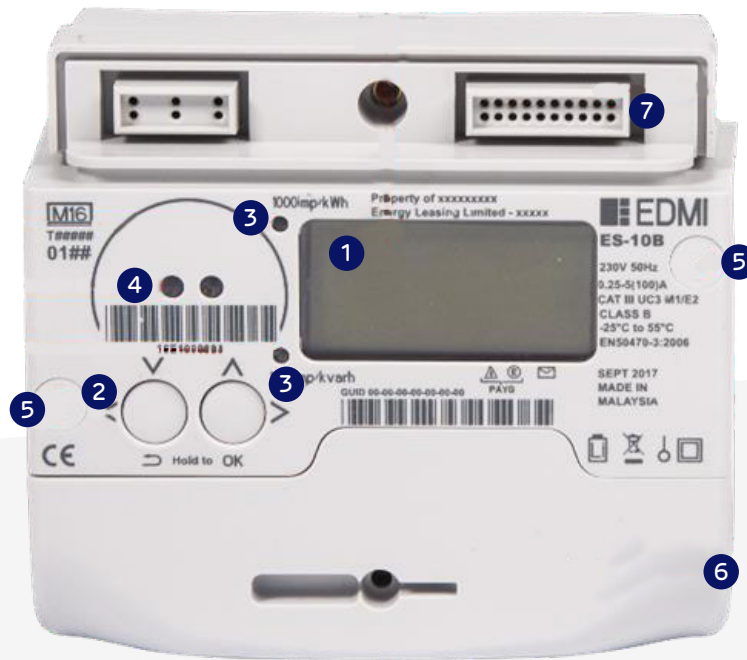


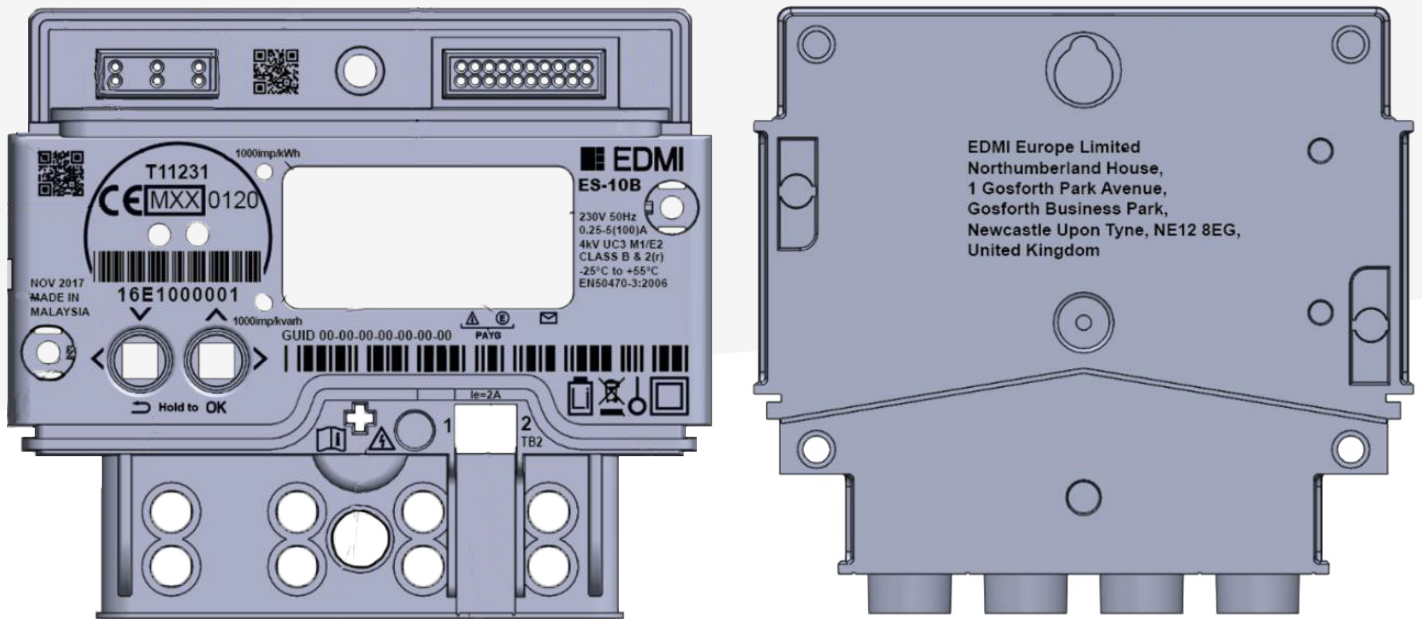
Table 1. Features

- | | |
|---|---|
| <p>1 Liquid crystal display (LCD)</p> <hr/> <p>2 Navigation buttons (for menu navigation and selection):</p> <ul style="list-style-type: none"> • Left button: Press to navigate up or left (as applicable), press and hold to return • Right button: Press to navigate down or right (as applicable), press and hold for OK <hr/> <p>3 LED energy indicators:</p> <ul style="list-style-type: none"> • Top: Flashing at 1 pulse per Wh (1/1000th kWh) • Bottom: Flashing at 1 pulse per varh (1/1000th kvarh) | <p>4 Local optical port</p> <hr/> <p>5 Tamper evident seals protecting the meter lid screws</p> <hr/> <p>6 Terminal cover – beneath this cover is the terminal block for the main supply and the Auxiliary Load Control Switch</p> <hr/> <p>7 ICHIS cover – remove to install a Communications Hub on the meter</p> |
|---|---|



1.2 Meter markings

Figure 2: Meter markings



EDMI ES-10A

Logo of EDM (the meter manufacturer) and model type

“MADE IN MALAYSIA” or
“MADE IN CHINA” (dependant on factory)
Place of manufacture

EDMI Europe Limited
Northumberland House, 1 Gosforth Park Avenue,
Gosforth Business Park, Newcastle Upon Tyne,
NE12 8EG, United Kingdom
Manufacturer's postal address

ES-10B
Designation of type

CE
CE mark

XXEXXXXXXX
Serial Number (Technical Recommendation M2
Version 1.2 – Serial numbering of 'smart type')

GUID 00-00-00-00-00-00-00
GUID

MXX

MID marking (M##) where ## is the last
2 digits of the year of manufacture

0120 or 0122 (dependant on factory)
MID Notified Body Number (Module D)



WEEE Marking with year of Manufacture
anywhere on the device

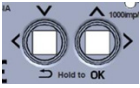
50Hz 230V 0.25-5(100)A
Nominal Frequency, Voltage, Maximum & Nominal Current



Battery marking and type symbols

Class B & 2(r)
Accuracy class on the front of the device

1000 imp/kWh
1000 imp/kvarh
LED pulsing outputs (pulses per fundamental unit)



Labelled buttons on the front of the unit to show their function



Single phase connection symbol



Sign of insulating encased meter of protective class II

UC3

Utilisation category (UC)

4kV

Rated impulse voltage rating (withstand the transient voltage) Cat III

EN 50470-3:2006

Reference to standards European standard EN50470-3

$I_e = 2A$



Rated current of the Auxiliary Load Switch

M1/E2

Environmental Class marking

-25°C to +55°C

Operating Temperature range



Warning symbol on the terminal cover (Lightning Bolt warning sign) and the meter lid screw sealing covers to indicate danger if removing

T11231

EC Type Examination Cert No.



6th LCD enunciator labelled with 'Message' icon



1st enunciator labelled to denote low credit warning



3rd enunciator labelled to denote Emergency Credit available



3D barcode linking to EDM Europe website



2D barcode for internal traceability

N/A

Meter Asset Provider's name (not used if Sample meter)

MMM YYYY

Year of manufacture

N/A

MAP Details (not used if Sample meter)

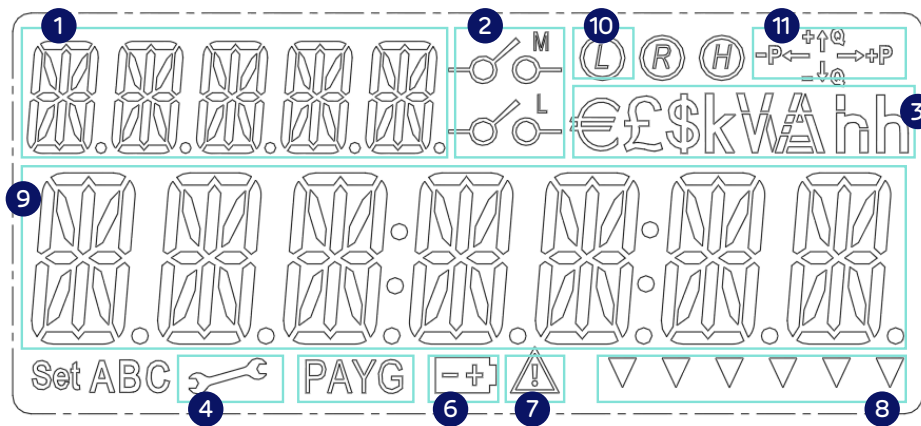


2. The liquid crystal display (LCD)

The LCD is the main user interface for the meter (Figure 3). Its purpose is to provide feedback during installation, manufacture, calibration, diagnostics issues and simply for your reference. It has a central row of 7 'starburst' type digits to display values/date/time/messages and 5 upper left 'starburst' type digits to display a description/label.

The LCD has a number of fixed segments to indicate a range of functions. For low light conditions, the LCD has a backlight, which comes on when a button is pressed, unless configured not to do so at manufacture.

Figure 3:
Liquid crystal displays



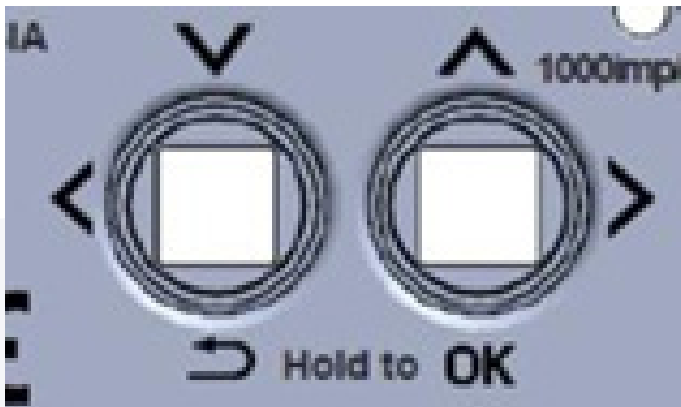
- | | |
|--|--|
| <p>1 5 character label, shows:</p> <ul style="list-style-type: none"> • Description for main character array (9) • Current menu level <p>2 Relay state icons. M for main disconnect relay, L for ALCS. Operating states:</p> <ul style="list-style-type: none"> • M icon ON: Main supply has been disconnected • L icon ON: ALCS is on • M & L icons ON: Meter is currently in a 'Non-Disablement' period • M & L icons OFF: Supply connected, ALCS off <p>3 Currency and unit symbols. Only £ will be used in the UK.</p> <p>4 Engineering menu activated</p> <p>5 Pay As You Go (or Prepayment) mode is activated</p> | <p>6 Internal battery low indicator</p> <p>7 Alert indicator</p> <p>8 Enunciators. Please refer to section 11 for more detail</p> <p>9 Main character array. Shows all figures for billing, information and content for messages</p> <p>10 Load Limiting indicator. Icon is lit when site has a restricted maximum load</p> <p>11 Power flow quadrants</p> <ul style="list-style-type: none"> • +P = Import Kw • -P = Export Kw • +Q = Import kVar (Lag) • -Q = Export kVar (Lead) |
|--|--|

3. The pushbuttons & user interface

The ES-10B has two pushbuttons for you to interact with the meter, and both are multifunctional. Figure 4 shows the two buttons and labelling around them. The left button acts as both as the 'down' and 'left' functions, and the right button acts as the 'up' and 'right' functions.

The two buttons have further functionality when held down for a period of 1 second. Holding the left button acts as a 'return' function, holding the right button acts as an 'OK' function. The 'Hold To' text underneath is there to prompt you to hold the buttons to perform these actions.

Figure 4:
Pushbuttons



To...

... do this

Move down the menu structure one level...

...press the **OK** (right/down) button and hold it for 1 second.

Move left, within the same level of the menu structure...

...press and release the **Left** button.

Move right, within the same level of the menu structure...

...press and release the **Right** button.

Move up the menu structure one level...

...press the **Return** (left/up) button and hold it for 1 second.

Confirm a selection (i.e. Press OK)...

...press the **OK** (right/up) button and hold it for one second.

Note: After a period of inactivity, the meter will revert to the main screen. This time will depend upon each supplier's configuration.

4. Menu structures

The meter's menu is activated by pressing the OK button. This level of menu includes the main headings of the document (Billing, Security, Info, and Message). Pressing OK on each of these headings on the User Interface (UI) will open up the submenus denoted by subheadings under each section.

Pressing the left and right buttons, navigates between menu headings.

4.1 The Default (Main) Screen – Credit Mode

The main screen displays basic information at-a-glance, cycling through:

Active Import register

I	M	P	R	T					
1	2	3	4	5	6	7			kWh

Active Export Register

E	X	P	R	T					
0	0	0	0	1	2	3			kWh

Meter Balance

B	I	L	L						
	1	1	0.	4	5				£

When on any other screen, the meter display reverts to this default screen if no buttons have been pressed for one minute.

4.2 Billing menu screens

The Main Billing screen provides access to:

- My Bills, which displays your energy usage in kWh or £
- Tariffs, which enables you to view the current tariff and standing charge
- Advanced billing information (Time of Use (TOU) Register Matrix, TOU Block Register Matrix, and TOU Block Counter Matrix)

4.3 MyBills

The **MyBills** menu displays kWh and £ usage for the current billing period, allowing you to scroll through previous periods.

When in this menu, the UI buttons perform the following actions:

Left/Right	Manually scroll through information
OK	Go to menu
Return	No effect

Current usage in kWh

C	U	R	N	T					
0	0	0	0	2	3	1			kWh

Current usage in £

C	U	R	N	T					
				2	3.	3	1		£

Previous period in kWh

P	R	E	V	1					
0	0	0	1	8	7	6			kWh

Previous period in £

P	R	E	V	1					
0	0	1	0	3.	2	1			£

4.4 Tariffs

The Tariffs menu provides access to:

- Display of current tariff
- Display of current standing charge

4.5 Tariff Now

The **Now** menu item displays the current active price.
For example:

```
P R I C E
 1 2. 3 4 5 £
```

When in this menu, the UI buttons perform the following actions:

Left/Right	No effect
OK	No effect
Return	Returns to parent menu

4.6 Standing charge

The **standing charge** menu item displays the current standing charge.

```
/ D A Y
0 0 . 1 2 3 4 £
```

When in this menu, the UI buttons perform the following actions:

Left/Right	No effect
OK	No effect
Return	Returns to parent menu

4.7 Advanced

The advanced menu shows you the:

- Time of Use (TOU) Register Matrix
- TOU Block Register Matrix
- TOU Block Counter Matrix

4.8 TOUmatrix

The **TOUmatrix** menu item displays the Time of Use (TOU) Register Matrix. Pressing the left and right UI buttons allows you to scroll through the list of rates and associated kWh values. For example:

```
R A T E 1
0 1 2 1 8 7 6 kWh
```

```
R A T E 2
0 0 0 0 8 7 6 kWh
```

When in this menu, the UI buttons perform the following actions:

Left/Right	Scroll up or down the table
OK	No effect
Return	Returns to parent menu

4.9 Tel

The **Tel** menu displays the supplier's telephone number. The number entered may be up to 18 characters long and scrolls at a rate of one character per second. For example:

```
T E L
0 8 0 0 1 2 3
```

(Full message string "08001234567")

When in this menu, the UI buttons perform the following actions:

Left/Right	No effect
OK	No effect
Return	Returns to parent menu

4.10 Meter Point Administration Numbers (MPAN)

The **MPAN** menu options display the Import and Export Meter Point Administration Numbers.

Customer support

For help with your meter's functions, please contact us.



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