1. External Features

1.1 Meter Parts

Figure 1. ES-10B Meter
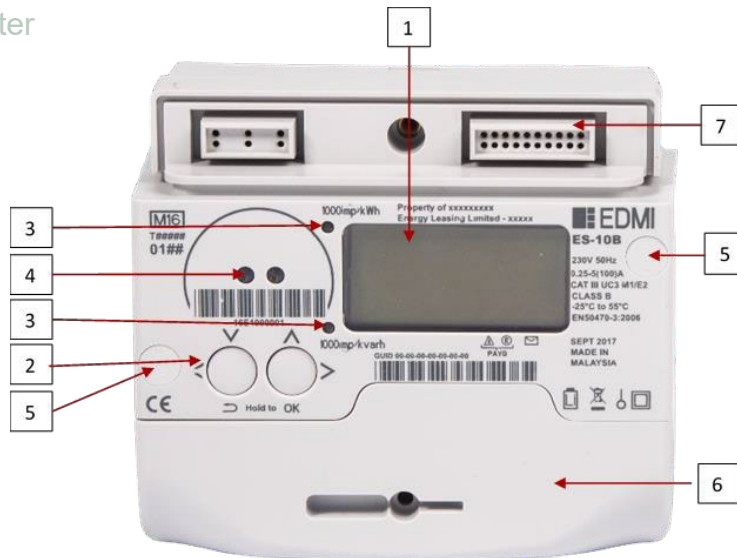

Table 1. Features

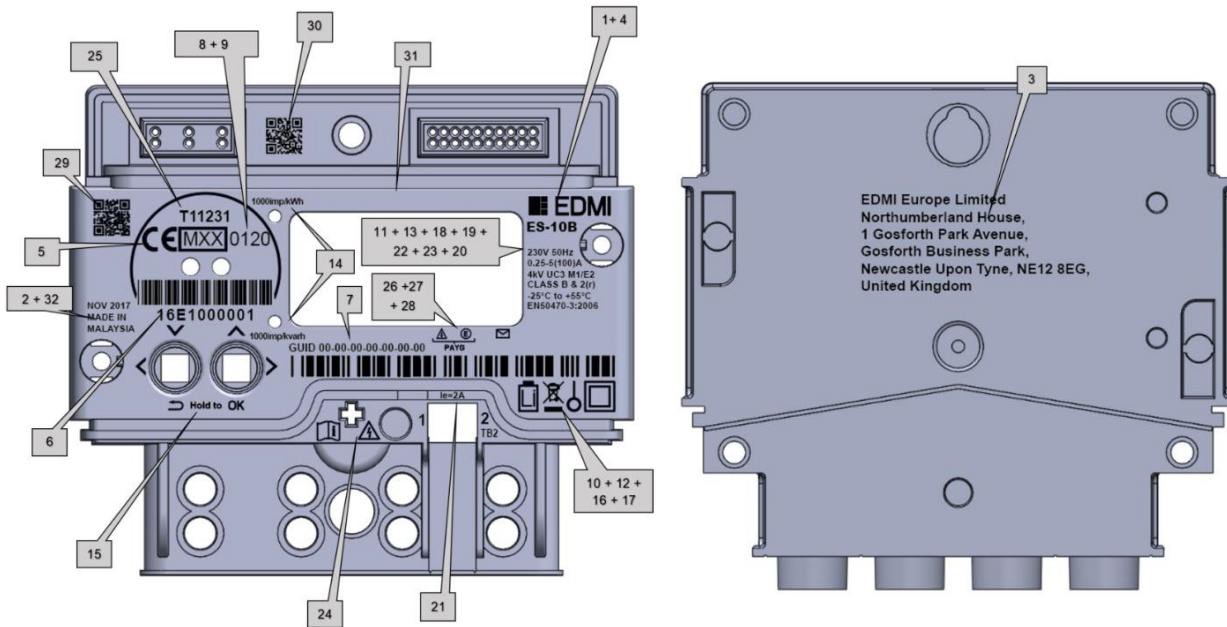|	
1	Liquid Crystal Display (LCD)
2	Navigation Buttons (for menu navigation and selection): • Left button: Press to navigate down or left (as applicable), press and hold to return. • Right button: Press to navigate up or right (as applicable), press and hold for OK.
3	LED energy indicators: • Top: Flashing at 1 pulse per Wh (1/1000th kWh) • Bottom: Flashing at 1 pulse per varh (1/1000th kvarh)
4	Local optical port.
5	Tamper evident seals protecting the meter lid screws.
6	Terminal Cover. Beneath this cover is the terminal block for the main supply and the Auxiliary Load Control Switch.
7	ICHIS cover (pictured below). If fitted to meter, remove in order to install a Communications Hub on the meter.

1.2 Meter Markings

Figure 2. Meter Markings
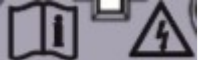
Table 2. ESME Faceplate Details

1	Logo of EDMI (the meter manufacturer)	**EDMI**
2	Place of manufacture	"MADE IN MALAYSIA" or "MADE IN CHINA" (dependant on factory)
3	Manufacturers postal address	EDMI Europe Limited Northumberland House, 1 Gosforth Park Avenue, Gosforth Business Park, Newcastle Upon Tyne, NE12 8EG, United Kingdom
4	Designation of type	**ES-10B**
5	CE mark	$C \epsilon$
6	Serial Number (Technical Recommendation M2 Version 1.2 – Serial numbering of 'smart type)	XXEXXXXXXX
7	GUID	GUID 00-00-00-00-00-00-00

8	MID marking (M##) where ## is the last 2 digits of the year of manufacture	MXX
9	MID Notified Body Number (Module D)	0120 or 0122 (dependant on factory)
10	WEEE Marking with year of Manufacture anywhere on the device e.g. Point 31.	
11	Nominal Frequency, Voltage, Maximum & Nominal Current	50Hz 230V 0.25-5(100)A
12	Battery marking and type symbols	Li
13	Accuracy class on the front of the device	Class B & 2(r)
14	LED pulsing outputs (pulses per fundamental unit)	1000 imp/kWh 1000 imp/kvarh
15	Labelled buttons on the front of the unit to show their function	
16	Single Phase connection marking	
17	Sign of insulating encased meter of protective class II	
18	Utilisation category (UC)	UC3
19	Rated impulse voltage rating (withstand the transient voltage) Cat III	4kV
20	Reference to standards European standard EN50470-3	EN 50470-3:2006
21	Rated current of the Auxiliary Load Switch	Ie = 2A
22	Environmental Class marking	M1/E2
23.	Operating Temperature range	-25ºC to +55ºC
24	Warning symbol on the terminal cover (Lightning Bolt warning sign) and the meter lid screw sealing covers to indicate danger if removing	

25	EC Type Examination Cert No.	T11231
26	6th LCD enunciator labelled with 'Message' icon	✉
27	1st enunciator labelled to denote low credit warning	⚠ PA
28	3rd enunciator labelled to denote Emergency Credit available	Ⓔ YG
29	3D barcode linking to EDMI Europe website	
30	2D Barcode for internal traceability	
31	Meter Asset Provider' Name (not used if Sample meter)	N/A
32	Year of Manufacture	MMM YYYY
33	MAP Details (not used if Sample meter)	N/A

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 Display
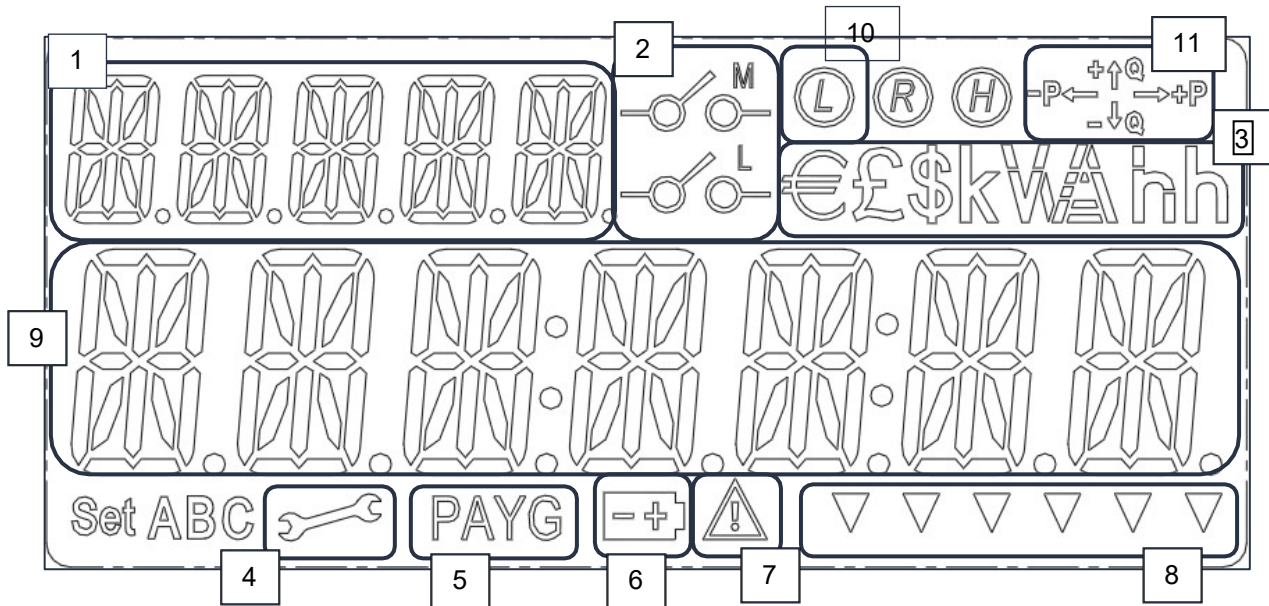
1	5 character label, shows: Description for main character array (9) Current menu level
2	Relay state icons. M for main disconnect relay, L for ALCS. Operating states: M icon ON: Main supply has been disconnected L icon ON: ALCS is on M & L icons ON: Meter is currently in a 'Non-Disablement' period M & L icons OFF: Supply connected, ALCS off
3	Currency and unit symbols. Only £ will be used in the UK.
4	Engineering menu activated
5	Pay As You Go (or Prepayment) mode is activated
6	Internal battery low indicator
7	Alert indicator
8	Enunciators. Please refer to section 11 for more detail
9	Main character array. Shows all figures for billing, information and content for messages
10	Load Limiting indicator. Icon is lit when site has a restricted maximum load
11	Power flow quadrants +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 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
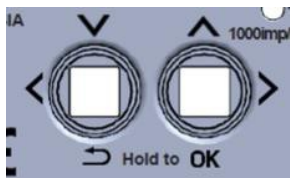
To…	…do this.
Move down the menu structure one level…	…press the OK (right/up) button and hold it for one second.
Move left, within the same level of the menu structure…	…press and release the Left button.
Move right, within the same level of the menu structure…	…press and release the Right button.
Move up the menu structure one level…	…press the Return (left/down) button and hold it for one 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 My Bills

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

5. Customer support

For help with your meter's functions

Call: **0800 668 1337**

Email: smart.operations@opusenergy.com