Em-Lite EMA1.z MP21 / MP22 Single Phase Prepayment Meter

User Manual
2017 v1.0

Before installing or using your Prepayment Card Meter, please read the following instructions carefully:

Thank you for purchasing the Prepayment card operated meter. These instructions are intended to provide information on the installation, operation and programming of the meter. Please keep for future reference.

This meter is designed to be used for the control of the electricity supply in utility or secondary metered sites such as holiday and landlord accommodation. The meter is fully approved to the European metering standard, MID (Metering Instruments Directive). The meter is therefore tested and approved as accurate for billing purposes. The meter may also be used as a time controller.
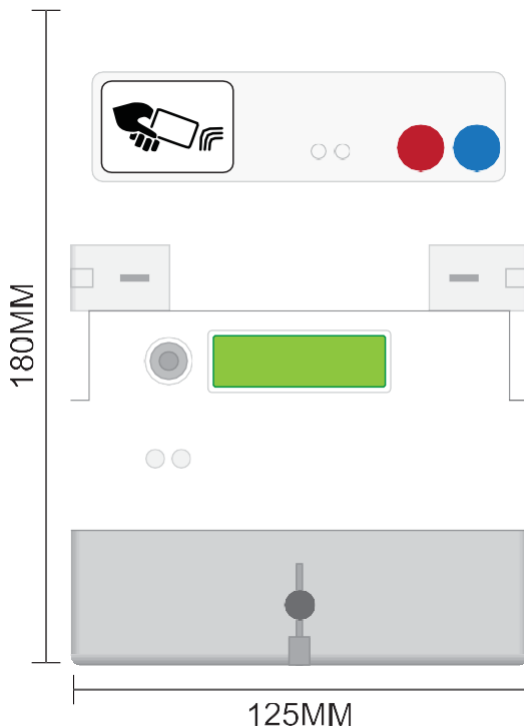
Basic Features

The meter is programmed by using a programming card in conjunction with the red and blue buttons at the top of the meter. The programming function allows the energy prices and standing charge to be set, whilst a debt collection facility enables a pre-set amount to be collected daily. The total amount for collection is programmed and the meter will reduce this each day by collecting monies from the remaining credit balance.

Additional card types are available to support a variety of functions including new tenancy and servicing. Please contact your supplier for further information. An electronic display indicates the amount of credit remaining on the meter. This display is also used when programming energy prices, and other meter settings. The grey push button next to the display allows the tenant / user to cycle through a set of displays showing usage totals, charges, etc.

A timer mode allows the meter to be used for the control of appliances and services where the "on" time is set using a top up card that adds a time determined by the value of the card. The amount of time added for a given card value can be programmed to a maximum value of 23h 59m per £/€1.

When energy is being consumed the red LED light below the display flashes 1000 times for every 1kWh used, or if no energy is being consumed is on permanently.

Top Up Cards

The meter has rechargeable top up cards at values of 1, 5, 10, 20 and 50. The cards work with RFID "contactless" technology; hold the card against the top left hand corner of the meter to apply the credit. The cards come charged with a single use available, once the value has been transferred to the meter, the card itself will need returning to the meter supplier for recharging.
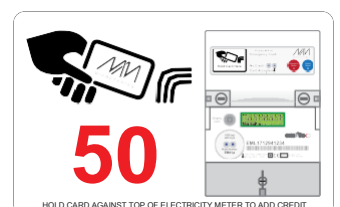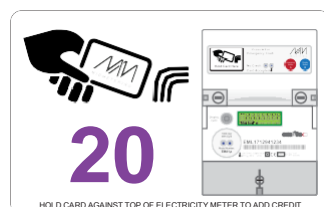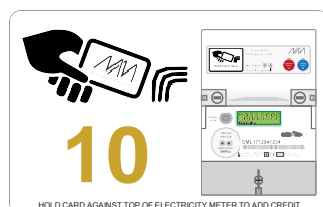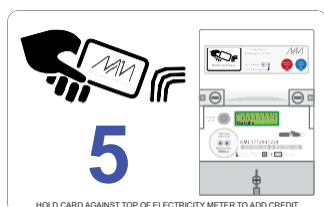
Installation and Connection

NOTE: The installation of this device must only be undertaken by a suitably trained and qualified electrician; all local safety standards must be observed. All work must satisfy Building/IEE Wiring regulations in force at the time. Work must be passed by an approved NICEIC member.

Fixing

The meter is intended to be used within an indoor environment and must be positioned away from sources of water, excess heat and humidity. If installing outside, the meter must be fitted within a weatherproof meter cabinet or similar IP rated box.

Mounting points are provided as shown on the fitting template provided. Follow the template instructions for screw positions. Initially, the meter should be hung from the top bracket using a suitable round head screw such that the head fits snugly under the hanging point. Once hung, the meter should be screwed to the wall securely using the two fixing points located under the meter terminal cover.

Wiring

The meter must be protected against overcurrent. This is normally as part of the building installation (Service fuse to BS1361) or equivalent; maximum current through the meter must not exceed 100Amps. The meter is wired using the connections found under the grey terminal cover as shown here on the right.
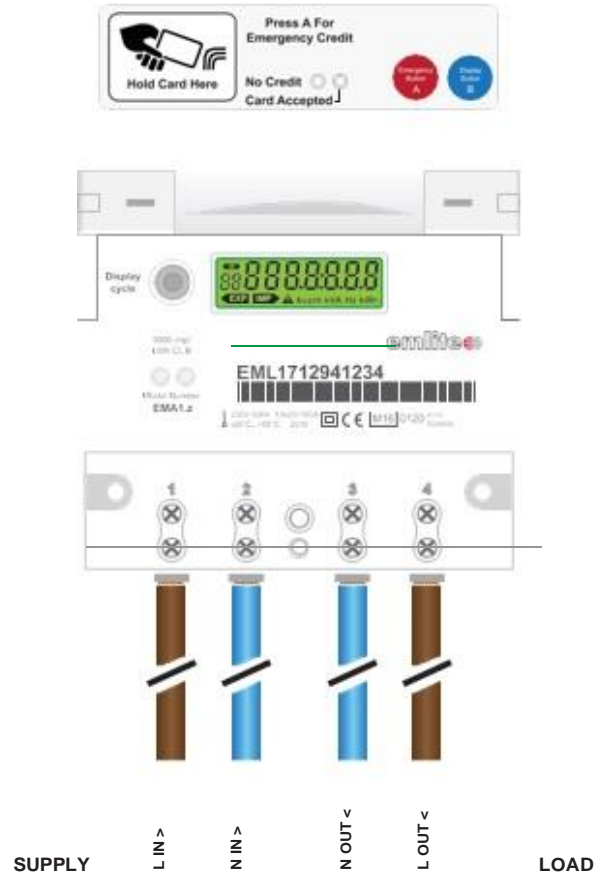
Normal Operating Display

The meter's default display shows the amount of credit or debt remaining to the user. For example: **Cr 3.50** means a credit of £3.50 (or €3.50) is remaining. In timer mode the default display is the time remaining, or "OFF" when the timer has expired.

When a top up card is introduced to and accepted by the meter, the card's value is added to the meter's credit, and the display momentarily shows **Card XX** (where XX is the card value), before returning to show the remaining credit or debt.

Display Cycle

The display cycle allows the user to look at their energy readings, prices and meter settings. It can be stepped through using the grey "Display cycle" button to the left hand side of the display. The examples below describes the display cycle sequence:

Cr 15.67	Remaining available credit. (£/€15.67)
E 14242.50 IMP kWh	Total energy recorded.
r1 12345.67 IMP kWh	Amount of energy recorded whilst using rate 1.
r1 015.00	Rate 1 pence per kWh or eurocents per kWh. (15p)
r2 01896.83 IMP kWh	Amount of energy recorded whilst using rate 2.
r2 010.85	Rate 2 pence per kWh or eurocents per kWh. (10.85p)
Stch 35.00	Daily Standing Charge in pence or eurocents. (35p)
dtc 3.00	Emergency Credit debt, collected on next top up. (£/€3.00)
dtch 00.50	Amount collected each day to clear additional debt. (50p)
dtt 005.00	Additional debt owed by end-user. (£/€5.00)
01.08.16	(Timer Mode) Remaining time. (1h 8m 16s)
End	End of display cycle.
Cr 2.98E	Remaining Credit when emergency credit is in use. (£/€2.98)
CArd 20	Top up card accepted. (£/€20)

Emergency Credit

If the end-user is unable to purchase new cards and the credit level falls below £/€1.00, they can press the "Emergency Credit A" button (red) and this will provide them with £/€3.00 credit. An 'E' will appear on the display indicating emergency credit has been added. Once the end-user has used all of the £/€3.00 emergency credit, the meter will disconnect the supply. Once the supply has been disconnected, the meter will show **"dt 3.00E"** indicating that the £/€3.00 of emergency credit will need to be added prior to the meter reconnecting the supply. Using the minimum value card, £/€5.00 will be added to the meter, £/€3.00 will be deducted, and the end-user will be left with £/€2.00 credit. The emergency credit function will now be restored.
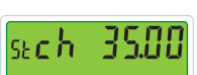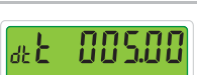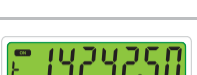
£/€3.00 is the default Emergency Credit value, this cannot be changed using the programming card. You can request that your meter supplier pre-sets it to a different value before purchasing, or alternatively you can purchase a Rate Setting card.

Programming

The programming display cycle is accessed when a programming card is introduced to, and accepted by, the meter; a test display with all the display segments visible is shown. The A button (red) can now be used to step through the display cycle and the B button (blue) used to make changes to the displayed values. For values which can be modified, button B will change the flashing digit, and button A will move to the next digit. **NOTE:** Modified values are used by the meter when it reverts to the normal display. This occurs if neither button is pressed for 30 seconds, or the complete display cycle has been stepped through and "End" is shown.

Programming Display Cycle

The examples below describe the programming display sequence:

Display	Description	Display	Description
88 8.8.8.8.8 EXP IMP kvarh kVA Hz kWh	Test display with all the display segments visible	Fh n	Friendly hours prevents disconnection in rate 2 period. (Select "y" to impliment)
Func 1	Current Function setting: 1 - Electricity Prepayment 0 - Timer Mode	r1 015.00	Rate 1 pence per kWh or eurocents per kWh. (15p)
PC 0010	Number of times the meter has been programmed.	r2 010.85	Rate 2 pence per kWh or eurocents per kWh. (10.85p)
t Cr 0105	Total amount of credit accepted. (£/€105)	Stch 35.00	Daily Standing Charge in pence or eurocents. (35p)
CLEAr n	Clears remaining credit, debt & emergency credit values. (Select "y")	dt 005.00	Additional Debt to be collected. (£/€5.00)
run00:10	Amount of time £/€1 of credit purchases. (10 minutes) *Timer mode only*	dtch 00.50	Daily charge to reduce additional debt. (50p)
19:38	Current Time. (24hr)	r1 12345.67 IMP kWh	Amount of energy recorded whilst using rate 1.
17.12.16	Current Date.	r2 01896.83 IMP kWh	Amount of energy recorded whilst using rate 2.
r1 00:00	Start time for rate 1 charge.*	t 14242.50 IMP kWh	Total energy recorded.
r2 19:00	Start time for rate 2 charge.*	End	End of programming cycle.

*If Rate 1 and Rate 2 start times are left the same, the meter will only work on the charge set for Rate 1.

If you require any further support for installing or using your Prepayment meter, or to purchase / recharge cards, please contact your meter supplier.