

BEC44PL / BEC44PLT

Prepayment electricity meter



The BEC44 is a single phase split configuration, class 2, prepayment electricity meter that is designed for maximum security against fraud, whilst still retaining customer convenience. The small footprint of this DIN rail mount meter allows the installation of multiple units in one enclosure, resulting in a cost saving for the utility.

The split meter is unique in that it separates the User Interface Unit (UIU) from the Measurement and Control Unit (MCU). This allows utilities to mount the MCU in a location where it is readily accessible, while the UIU is installed at a point of convenience within the customer's premises. The UIU draws its power from the MCU via the current loop communication wires.

Measurement and Control Unit (MCU)

The MCU contains the measurement and control circuits. This includes the power supply, reset circuit, latch driver, voltage and current sensing circuits, a non-volatile memory and a disconnection switch rated at 100 Amps.

User Interface Unit (UIU)

The UIU provides the user with a convenient interface to the remote MCU. A user-friendly interface is ensured through the large format custom designed LCD display, a visual consumption rate LED and the numeric keypad data entry terminal.

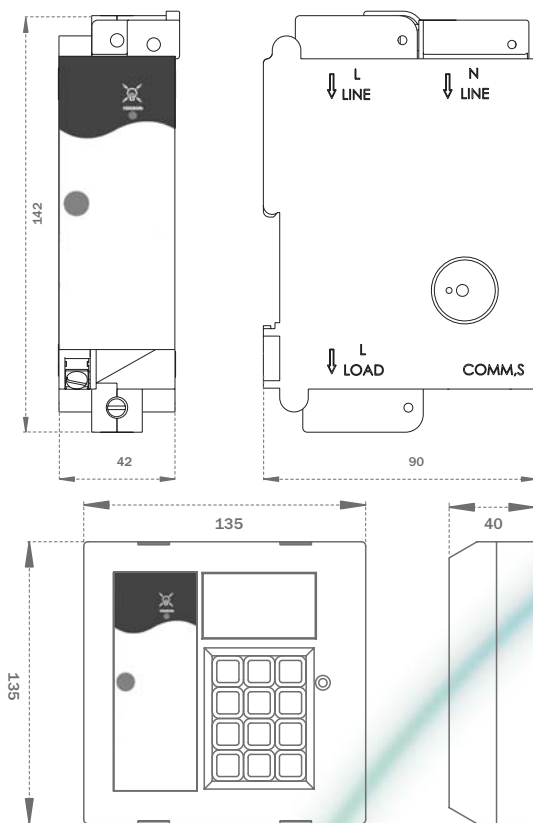
Each meter has an unique security key and credit is entered into the meter in the form of a secure 20-digit token, through the numeric keypad. Secure data transfer takes place via an encryption algorithm included within the Standard Transfer Specification (STS) and all correctly entered tokens are registered, eliminating token fraud.

Reliability and durability are enhanced as the active unit is completely sealed and all printed circuit boards are conformal coated, providing complete protection against insects, dust and humidity.

A 5kA/5kV surge arrestor provides protection against lightning and voltage surges and the meter can withstand 420 volts for a period of 48 hours.

Features

- Programmable under and over voltage trip threshold
- Supply terminals protected by tamper switch
- Thermal shutdown protection
- Display of the trip condition
- List of last five tokens entered
- Comprehensive consumption data
- Optional audible feedback on UIU
- UIU and MCU split for added security and convenience
- Programmable current and power trip
- DIN mounting for space saving applications
- UIU fits onto a standard 4x4 wall socket base
- Calibration retained over the life of the meter
- Transformerless power supply for improved reliability
- High level of surge protection
- Tactile feedback numeric keypad
- STS compliant encryption
- Manufactured to ISO 9001:2000 and ISO 14001 standards



BEC44PL / BEC44PLT

Technical Specifications

Customer Displayed Information

Status of incoming supply
Available credit
Disconnection status
Low credit
List of last 5 tokens entered
Consumption rate LED

Encryption Algorithm

Credit transferred using a 20 digit token entered on the keypad
The credit is transferred in kWh
Meter specific credit tokens
Management and engineering tokens
STS Compliant (Standard Transfer Specification)

Installation

Easy installation
DIN rail mounting

Functional Product Components

Electricity measurement circuit
Consumer electricity supply disconnect

Other Functions

Direct probe port
Optical data reader on UIU

User Interface Unit

Fault tolerant, current loop communication
Standard 4x4 wall socket footprint

Standards

IEC 62052-11
IEC 62053-21
IEC 62055-41
IEC 60068-2-27
IEC 60068-2-6
SANS 1524-1
ISO 14001:2004
ISO 9001:2000
ESKOM SCSSCAA9

Packaging

Unit mass (Kg):
Unit size (h:w:d)(mm):
Units per box:
Packaged size (h:w:d)(mm):
Units per pallet:
Pallet size (mm):
Pallet mass (kg):

MCU

0.45
142x42x90
10
210x150x200
2000
1200x1000
915

UIU

0.27
135x135x40
10
425x140x150
1440
1200x1000
405

Voltage Range

230VAC -20% +15%

Additional voltage ranges available on request

Supply Frequency

50 Hz $\pm 2\%$

60 Hz $\pm 2\%$

Current Ratings

Maximum current (I_{max}) 80 A

Base current (I_b) 5 A

Starting current ($0,005 I_b$) 0,025 A

Supply Burden

Nominally 0.9W and 9.5VA

Disconnection

100 Amp load switch
Utilisation category UC3

Accuracy

Class 2 meter
Maintained throughout life cycle of product

Over Voltage Rating

420VAC for 48 hours

Short Circuit Rating

Short-circuit current 3kA

Environmental Specification

Operating temperature: -10°C to $+55^{\circ}\text{C}$

Storage temperature: -25°C to $+70^{\circ}\text{C}$

Humidity: 95% non-condensing

Dealer Stamp