

Single-circuit metering, measurement & analysis

COUNTIS E0x

Active energy meters

single-phase - direct 40 A



count_252.psd

COUNTIS E04 - MID

Function

The **COUNTIS E0x** is a modular energy meter displaying energies (kWh and kVArh) and other measurements directly on its backlit LCD display, allowing direct connection up to 40 A. COUNTIS E02, E04 and E06 are also MID-certified.

Advantages

Compactness

Only 1 module wide.

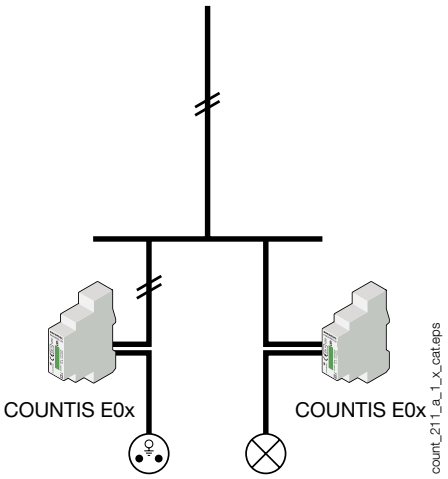
Output (pulses)

The pulse output enables the kWh consumption to be reported to a remote system (PC/BMS) so that it can be analysed for billing, energy saving or energy cost management purposes.

MID certified B+D module

COUNTIS E units comply with the MID directive to guarantee accuracy and reliability when metering, compulsory for energy billing applications. “Module B+D” certification guarantees that the design and manufacturing process of products are approved by an accredited laboratory.

Functional diagram



count_211_a_1_x_cat.eps

Common characteristics

- Compact dimensions.
- Measurement accuracy: 1%.
- Displayed on backlit screen.
- Multi-measurement available on display.

Models	Model-related specifications
E00	Pulse output
E02	Pulse output + MID
E03	Dual tariff + Pulse output + RS485 MODBUS communication
E04	Dual tariff + Pulse output + RS485 MODBUS communication + MID
E05	Dual tariff + Pulse output + M-Bus communication
E06	Dual tariff + Pulse output + M-Bus communication + MID

The solution for

- Industry
- Marinas
- Shopping centers
- Data center
- Camping
- EV Chargers



Strong points

- Compactness
- Output (pulses)
- MID certified B+D module
- RS485 (MODBUS) and M-Bus communication
- Multi-measurement
- Bi-directional metering

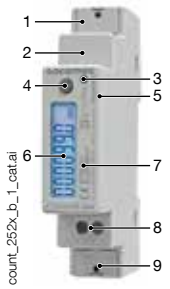
MID certification

- COUNTIS E units comply with the MID directive to guarantee accuracy and reliability when metering, compulsory for energy billing applications.
- COUNTIS E MID feature tamper-proof components to prevent fraud.

Conformity to standards

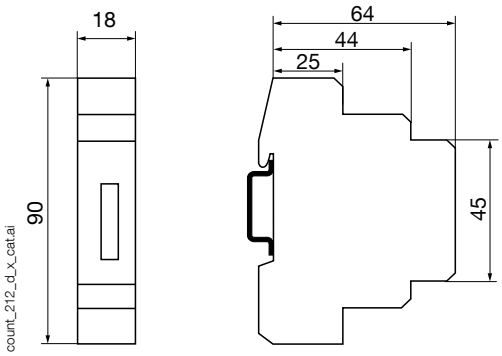
- IEC 62053-21 class 1
- IEC 62053-23 class 2
- IEC 62053-31
- IEC 62052-11
- EN 50470-1
- EN 50470-3

Front panel



1. Neutral terminal and terminal shrouds (COUNTIS E02/E04/E06).
2. M-Bus/MODBUS connection.
3. Metrological LED.
4. Navigation button.
5. Serial number.
6. Backlit LCD display.
7. MID marking (COUNTIS E02/E04/E06).
8. Pulse output.
9. Current and voltage terminals.

Dimensions (mm)



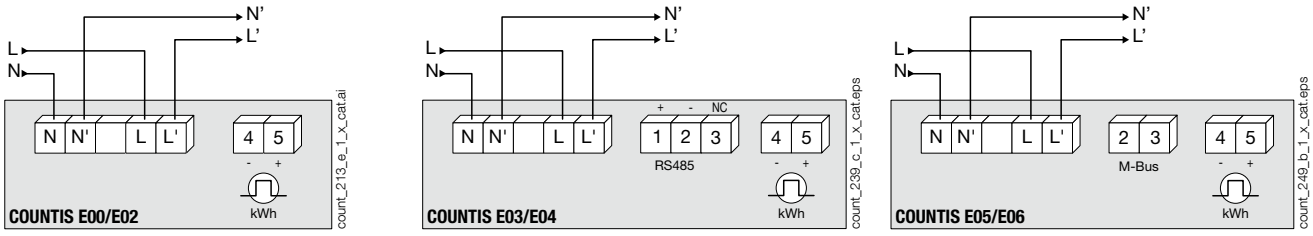
Type	modular
Number of modules	1
Dimensions W x H x D (mm)	18 x 90 x 64
Case degree of protection	IP 20
Front degree of protection	IP 51(1)
Display type	7 digit LCD with backlighting
Rigid cable cross-section	1.5 … 6 mm²
Flexible cable cross-section	1.5 … 6 mm²
Weight	100 g E03/E04 80 g E00/E02/E05/E06

(1) For the installation in a cabinet at least with IP51 protection.

Electrical characteristics

Current measurement (TRMS)		
Type	single phase - direct 40 A	
Input consumption	max 0.5 VA	
Permanent overload	40 A	
Intermittent overload	30 I_{max} over 10 ms	
Startup current (I_{st})	20 mA	
Minimum current (I_{min})	0.25 A	
Transition current (I_{tr})	0.5 A	
Reference current (I_{ref})	5 A	
Voltage measurements (TRMS)		
Range of measurement	184 … 276 VAC	
Input consumption	Max. 1.5 VA for E00/E02/E03/E04 Max. 1 VA for E05/E06	
Permanent overload	280 VAC	
Energy accuracy		
Active (according to IEC 62053-21)	Class 1	
Active (according to EN 50470)	Class B	
Reactive (according to IEC 62053-22)	Class 2	
Power supply		
Self-powered	yes	
Frequency	50/60 Hz	
Output (pulses)		
Number	1	
Type of optocoupler	27 VDC - 27 mA (IEC 62053-31)	
Fixed pulse weight	100 Wh	
Pulse duration	100 ms	
Operating conditions		
Operating temperature	-25 … +55°C	
Storage temperature	-40 … +75°C	
Relative humidity	80%	
Communication	**COUNTIS E03/E04**	**COUNTIS E05/E06**
Link	RS485	Wired
Type	2 … 3 half duplex wires	2 half duplex
Protocol	MODBUS in RTU mode	M-Bus
Speed	2400 … 38400 bauds	300, 2400, 9600 bps

Terminals and connections



N - L: network input. **N' - L':** network output.

References

Type	COUNTIS E00 Reference	COUNTIS E02 Reference	COUNTIS E03 Reference	COUNTIS E04 Reference	COUNTIS E05 Reference	COUNTIS E06 Reference
Direct 40 A	4850 **3058**					
Direct 40 A - MID		4850 **3059**				
Direct 40 A - Dual tariff + RS485 MODBUS communication			4850 **3039**			
Direct 40 A - Dual tariff + RS485 MODBUS communication + MID				4850 **3040**		
Direct 40 A - Dual tariff + M-Bus communication					4850 **3041**	
Direct 40 A - Dual tariff + M-Bus communication + MID						4850 **3042**