



# RETROFIT Line

MID active energy meter dedicated to existing installations

Single-circuit metering,  
measurement &  
analysis



COUNTIS E44R



TCO 36  
400 A

## The solution for

- > Light Industry
- > Infrastructure
- > Data centers



## Strong points

- > High overall accuracy
- > Easy installation
- > Proven products
- > Communication to a Monitoring system
- > Guaranteed connections

## Conformity to standards

### COUNTIS:

- > IEC 62053-21
- > IEC 62053-22
- > IEC 62053-23
- > IEC 62053-31
- > EN 50470-3
- > EN 50470-1



## Function

Existing sites, having been built before optimised energy consumption was a consideration, are especially in need of a dedicated energy efficient solution.

COUNTIS products with MID certification provide the guaranteed accuracy required for applications in which sub-billing of the electrical energy consumed is necessary.

To meet this requirement, the **RETROFIT Line** allows you to easily add metering points in electrical enclosures which are very restricted in terms of integration.

The RETROFIT Line consists of COUNTIS meters combined with TCO split-core current transformers. Together they allow measuring and metering single and three phase networks up to 600 A, even inside the most confined cabinet spaces.

## Advantages

### High overall accuracy

A global system measuring accuracy of better than 1% in energy from 10 to 120% of nominal current.

### Easy installation

TCO split-core transformers mean the power cables do not need to be disconnected. Operations are quicker and minimise the electrical disconnection time.

### Proven products

The COUNTIS products are based on standard SOCOMEC ranges.

### Communication to Monitoring

The data from RETROFIT products can be transferred to a central monitoring system.

### Guaranteed connections

The product is protected against phase/neutral inversion and detects wiring errors. Commissioning has been simplified to ensure the device operates correctly: installation costs are therefore reduced.

## Meters

### Function



The **COUNTIS E4xR** is an active electrical energy meter designed for three-phase networks. It is used for connection via TCO up to 600 A.

The **COUNTIS E42R** is a totalising meter allowing direct reading of the power consumed, using a pulse output. It is a dual tariff meter for dual tariff invoicing.

The **COUNTIS E44R pack** offers MODBUS RTU communication via RS485 and includes 4 tariffs.

**COUNTIS E42R and E44R are MID-certified (B + D module).**

### Technical characteristics<sup>(1)</sup>

	COUNTIS E42R 	COUNTIS E44R 
<b>Current measurement</b>		
Type	TC/1 up to 600 A	TC/1 up to 600 A
Input consumption	0.2 VA per phase	0.2 VA per phase
Overload	24 A / 0.5 s	24 A / 0.5 s
Permanent overload	1.2 A	1.2 A
Minimum current measured	10 mA	10 mA
<b>Voltage measurement</b>		
Range of measurement	230 ... 400 V ± 15 %	230 ... 400 V ± 15 %
Input consumption	2 VA	2 VA
Permanent overload	280 V	280 V
<b>Energy accuracy</b>		
Active (according to EN 50470)	Class C	Class C

<sup>(1)</sup> Features not mentioned are identical to those of COUNTIS E4x standard products.

### Front panel, terminals, case, connection

See the standard COUNTIS E range catalogue pages.

### References

Meters	Reference	Current transformers	Reference
COUNTIS E42R	4850 <b>3021</b>	TCO 24 100/1	182T <b>4910</b>
COUNTIS E44R	4850 <b>3022</b>	TCO 24 250/1	182T <b>4925</b>
		TCO 36 400/1	182T <b>4940</b>
		TCO 36 600/1	182T <b>4960</b>

### What are the advantages of a MID meter?

#### It allows to resell electricity

The MID directive guarantees safe and reliable metering. The meter is tamper-proof and its accuracy is guaranteed thanks to calibration on a metrology bench.

**COUNTIS E42R and E44R** are MID-certified (B + D module). It is mandatory and this means SOCOMEC is required to supply products which meet the design and manufacturing requirements imposed by this standard.

#### The specificity of MID product

- Standardised accuracy A, B or C: Socomec MID meters have a guaranteed accuracy class C ± 0.5%.
- Tamper-proof devices: protection cover and seals are provided.
- Mandatory markings: CE + MID front and side marking confirms the compliance to modules B + D.
- Related Certificate: provided by Socomec, it formalizes the accuracy verification of the energy meter at four different current levels.



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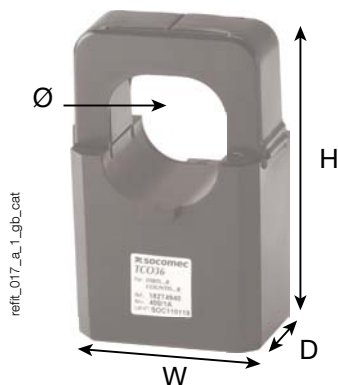
## TCO - split-core current transformers

### Function

The TCO small split-core current transformers must be only combined with COUNTIS RETROFIT energy meters.

The RETROFIT pack guarantees overall accuracy to within less than 1%.

### Technical characteristics



	TCO 24	TCO 36
Internal diameter (mm)	24	36
Overall accuracy class <sup>(1)</sup>	1	1
Dimensions H x W x D (mm)	74.5 x 45 x 34	91 x 57 x 40.5

*(1) Overall accuracy of the COUNTIS RETROFIT + TCO combination: (1) Global accuracy guaranteed when associating COUNTIS Retrofit + split-core CT with load between 10 % to 120 % of  $I_n$ .*

### The advantages of TCO split-core current transformers

#### Wide current range

The TCOs accept a primary current between 100 and 600 A making it possible to connect at different points in the installation.

#### A guaranteed overall accuracy

Combined with the COUNTIS RETROFIT products, the TCO guarantees overall accuracy is better than 1%.

#### Compact

With their compact and open design, the TCOs are easily positioned on existing installations without the need to disconnect/reconnect the cables or modify the installation. Measurement points can therefore be placed in the most confined panels.

## Services

Take advantage of the advice offered by an energy specialist

Socomec offers a full range of customised services for your energy efficiency requirements and can help you find the best solution:

- Implementation
- Training
- Electrical facility audit
- Project engineering.

For more details download our Service brochure available on our web site: [www.socomec.com](http://www.socomec.com) or contact your SOCOMEC office.



## Zoom



## Think about it

### COUNTIS Eci

Communicate consumption information whatever the energy (electricity, water, gas...) to a PC or PLC. Please see the COUNTIS Eci catalogue pages.