

COUNTIS[®] E

Energy Measurement
for your installations

MADE TO MEASURE



The **solution** for your energy metering requirements

SOCOMEc is an independent industrial group, specialising in the availability, control and safety of low voltage electrical energy for industry and the service sector.

2 700 staff in 22 subsidiaries worldwide have complete control over the design, manufacture and sale of its products.

SOCOMEc solutions are recognised as being the most innovative and comprehensive on the market, meeting the most demanding requirements and applications.



SYDIN 070 A

Your energy efficiency concerns are clear...

Because today the environment is a **universal preoccupation**:

- Kyoto protocol,
- Sustainable development,
- World energy council,
- European Directives,
- The "Grenelle" of the environment in France.

an eco-citizen business must **contribute to the global objective to reduce energy bills.**

In this context of eco responsibility, checking energy consumption is of capital importance: **controlling energy can bring many gains**, in all respects: budgetary, environmental, societal...



SITE 468 A - SITE 467 A - SITE 463 A

... whatever your activity...

All fields are affected by the reduction in energy consumption:

- Industry,
- Infrastructure,
- IT centres,
- Health care buildings
- high-rise building...

All types of building need an appropriate solution: new and existing installations.

... we have an adapted solution



GAMME T15 A GB

The range of **COUNTIS, DIRIS** solutions meets each of your requirements and expectations in terms of energy metering, monitoring and analysis of the quality of the electrical networks.

COUNTIS® E

MADE TO MEASURE

A complete range of energy meters to meet your new requirements



⇒ **Direct measurement up to 100 A**

Direct measurement of energy, single phase or three-phase, for currents below 100 A. Three-phase indirect measurement via CTs for currents up to 6000 A.

⇒ **MID tamperproof metering**

For applications requiring the resale of consumed electricity, choose the **COUNTIS E** units with MID certification.

⇒ **Guaranteed connection**

All **COUNTIS E** are protected against phase/neutral inversion and detect wiring errors. Commissioning is faster and the meter is guaranteed to operate correctly.

⇒ **1, 2 or 4 tariffs**

COUNTIS E devices can manage up to 4 tariffs. 4 separate time slots are available for more detailed monitoring of energy consumption. RS485 connection required for 4 tariff implementation.

⇒ **A choice of communication**

To use **COUNTIS E** devices remotely: a pulse output or communication via RS485 Jbus/Modbus is available. Advanced configuration and display are available via RS485.



The range of **current transformers** associated with the **COUNTIS®** range

Selection guide for current transformers

Quality of the current transformer is a dominant factor in guaranteeing a precise measurement.

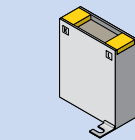
Socomec offers a **complete, high-performance range capable** of meeting all your installation requirements.



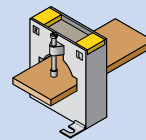
How to choose à CT?

1. Depending the rating, the size and format of the CT

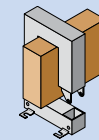
- Ratings: from 5 A to 4000 A/5 A as standard, other products on request.
- Dimensions / space requirements: see chart range below or visit our general catalog.
- Format: Socomec offers four formats of CT:



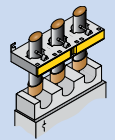
Primary wound CT



Bar or cable-through CT



Bar or cable-through three-phase CT



Bar-through split-core CT

2. Depending on the overall accuracy required

- Metering of tariffs and energy efficiency applications = class 0.2S
 - Industrial section metering/measurement = class 1 or 0.5
 - Display of one measurement = class 1
- Important: If in doubt over the variation of nominal current, choose class S.

3. Depending on the CT output

To find out your VA requirements:

- Total up the VA values of the connected equipment, taking into account the wiring.
- Choose the closest possible power value, but higher than the calculated power.

	Primary wound CT		Through cable CT		Three phase		Bar or cable-through CT								Split-core CT			
	TRB 70	T2RB 115	TCA 21	T2CA 225	TCB3 18-20	TCB3 22-30	TCB 17-20	TCB 26-30	TCB 28-30	TCB 32-40	TCB 44-50	TCB 44-63	TCB 85-100	TCB 100-125	T0 23	T0 58	T0 812	T0 816
Accuracy class	0.5		0.5-1		1		1		1		0.5-1		0.5-1		0.5-1		0.5	
Class 0.2S	•		•				•		•		•							
H (mm)	88.5	115	65	78.5	115	150	65	78.5	70	88.5	101.5	108.5	187.5	187.5	106	152	198	246
W (mm)	71	100	45	61	65	75	49.5	61	49.9	71	86	96	172	172	93	125	155	195
D (mm)	45	70	30	35	37	37	50	48	68	58	58	58	52	52	58	58	58	79
cable d (mm)			21	22.5	18	22	17.5	26	28	32	44	44	85	100	20	50	80	80
bar x 1 (mm)					20x5	30x10	20x5	30x10	30x10	40x10	50x12	63x10		123x30	20x30	50x80	80x120	80x160
bar x 2 (mm)								20x10		30x5	40x10	50x10						
bar x 3 (mm)													100x10					
Primary (A)	5 ... 40	25 ... 150	50 ... 300	150 ... 600	100 ... 250	250 ... 600	60 ... 400	50 ... 750	50 ... 600	50 ... 1000	100 ... 1250	200 ... 1600	750 ... 3000	1000 ... 4000	100 ... 400	250 ... 1000	250 ... 1500	1000 ... 5000
Secondary (A)	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5

Others types of transformers in our catalogue.

RETROFIT Line








RETROFIT Line: Combining devices and optimized measuring sensors for easy implementation. Ideal for your installations on existing sites.

For further information, please consult us.

The **COUNTIS**[®] range

Selection guide for meters

Direct connection meters										
										
E00	E02	E10	E11	E12	E20	E21	E30	E31		
Single-phase 32 A		Single-phase 63 A			Three-phase 63 A					

MAIN SPECIFICATIONS

MID certified B+D module		•			•					
Number of tariffs	1	1	1	2	2	1	2	1	2	
JBUS/MODBUS communication										
Load curve memorization										
Protection against Phase/Neutral inversions			•	•	•	•	•	•	•	•

ENERGY METERING

Active energy accuracy class	1	B (1%)	1	1	B (1%)	1	1	1	1	
Total/partial active energy (kWh)	•/-	•/-	•/•	•/•	•/-	•/•	•/•	•/•	•/•	•/•
Total/partial reactive energy (kvarh)	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
Bidirectional metering*										
Metrological LED	0.5 Wh/imp.		1 Wh/imp.			1 Wh/imp.		2 Wh/imp.		
Pulse output: fixed / configurable	•/-	•/-	•/-	•/-	•/-	•/-	•/-	•/-	•/-	•/-

MEASUREMENTS

Active power (ΣP)/Reactive power (ΣQ)	-/-	-/-	•/-	•/-	•/-	•/-	•/-	•/-	•/-	•/-
Multi-measurement (I, U, V, S, FP)										

INSTALLATION

Width (Number of modules x 17.5 mm)	1	1	3	3	3	4	4	7	7	
Connection control			•	•	•	•	•	•	•	•
Self-supplied	•	•	•	•	•	•	•	•	•	•
Sealable cover	optional	•	optional	optional	•	optional	optional	optional	optional	optional

STANDARDS

EN50470 (MID)		•			•					
IEC 62053-21, -22 or -23 (energy meters)	•	•	•	•	•	•	•	•	•	•
IEC 62053-31 (pulse output)	•	•	•	•	•	•	•	•	•	•

REFERENCES

COUNTIS E	4850 3019	4850 3020	4850 3000	4850 3001	4850 3002	4850 3003	4850 3004	4850 3005	4850 3006
sealing kit	4850 301U		4850 303U			4850 304U			

(1) 3 x 1 phase, 1 shared neutral

* Metering of consumed energy and produced energy

** Default value: 100 Wh/imp. (duration 100 ms)





• Function only available via RS485 communication

Making it easier to choose your **COUNTIS**!

The name of the **COUNTIS** (Exy) is your guide to the main product selection criteria. The name codes are explained below:

x	= connection/network/max. current/product format
0	direct/single phase/32A /DIN
1	direct/single phase/63A /DIN
2	direct/three phase/63 A /DIN
3	direct/three phase/100 A /DIN
4	on CT /three phase/6000 A /DIN
5	on CT /three phase/6000 A /96 x 96 mm built-in
6	direct /3 single phase/63 A /DIN

y	= main functions
0	standard version
1	dual-tariff version
2	dual-tariff + MID version (E02 unless – 1 tariff)
3	RS485 communication version
4	RS485 communication + MID version

				Meters connected to 5A/CT							
											
E32	E33	E34	E63	E40	E41	E42	E43	E44	E50	E53	
Three-phase 100 A			Three-phase or single-phase ⁽¹⁾	Three-phase up to 6000 A					Three-phase up to 6000 A		
•	•	•	•	•	•	•	•	•	•	•	
2	4•	4•	4•	1	2	2	4•	4•	1	4•	
•	•	•	•	•	•	•	•	•	•	•	
•	•	•	•	•	•	•	•	•	•	•	
•	•	•	•	•	•	•	•	•	•	•	
B (1%)	1	B (1%)	1	1	1	C (0.5%)	1	C (0.5%)	0.5s	0.5s	
•/-	•/•	•/-	•/•	•/•	•/•	•/-	•/•	•/-	•/•	•/•	
-/-	-/-	-/-	-/-	•/•	•/•	-/-	•/•	-/-	•/•	•/•	
•	•	•	•	•	•	•	•	•	•	•	
/imp.			2 Wh/imp.	0.1 Wh/imp.							
•/-				-/•**	-/•**	•/-			-/•**	-/optional**	
•/-	•/-	•/-	•/-	•/-	•/-	•/-	•/•	•/-	•/•	•/•	
•	•	•	•	•	•	•	•	•	•	•	
•	•	•	•	•	•	•	•	•	•	•	
•	optional	•	optional	optional	optional	•	optional	•	auxiliary		
•	•	•	•	•	•	•	•	•	•	•	
•	•	•	•	•	•	•	•	•	•	•	
•	•	•	•	•	•	•	•	•	•	•	
4850 3007	4850 3012	4850 3013	4850 3016	4850 3008	4850 3009	4850 3015	4850 3017	4850 3014	4850 3010	4850 3011	
4850 307U			4850 307U			4850 304U			None		

What are the advantages of an MID meter?

It guarantees a high-quality product	<i>COUNTIS Ex2</i> and <i>Ex4</i> units are MID-certified (B+D module). This means SOCOMEC is required to supply products which meet the design and production requirements imposed by this standard.
It allows to resell electricity	The MID directive guarantees safe and reliable metering. The meter is tamperproof and its accuracy guaranteed thanks to calibration on a metrology bench.
It guarantees a standardised measurement accuracy	Some metering devices available on the market are in class A ($\pm 2\%$). Socomec MID meters are more efficient, with guaranteed class C ($\pm 0.5\%$) measurement accuracy.

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