COUNTIS E50 / E53

Active energy meter and concentrator



3-phase
Via CT up to 6000 A

➲ Function

COUNTIS E5x are active energy meters.

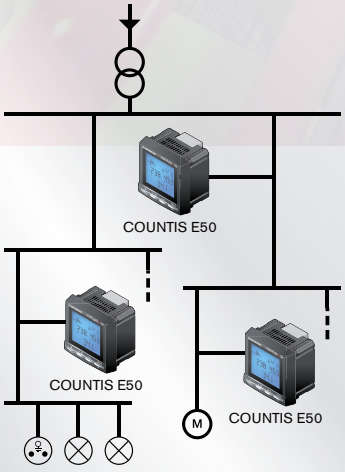
The **COUNTIS E50** is a totalising meter allowing direct reading of the power consumed, using a pulse output. Two partial meters with reset allow the energy to be metered over a specific period.
The **COUNTIS E53** uses JBUS/MODBUS communication via RS485.

➲ Conformity to standards

- IEC 62053-23 class 2
- IEC 62053-21 class 1
- IEC 61557-12

➲ Applications

COUNTIS E50 and **E53** are equipped as per standards with a totalising meter which allows direct reading in kWh and a pulse output.
The CT ratio can be configured by the user via the keypad and the display screen.
In addition, once they are associated with COUNTiS Ci, it is possible to centralise consumption with an automaton or a PC equipped with CONTROL VISION.



Multimeasurement
- Currents
  - instantaneous: I1, I2, I3
- Voltages & frequency
  - instantaneous : U1, U2, U3, U12, U23, U13
- Power
  - instantaneous : 3P, 3Q, 3S
  - mean maximum : 3P
- Power factor
  - instantaneous : 3PF

Energy meters
- Active energy : +/- kWh
- Reactive energy : +/- kvarh
- Apparent energy : kVAh

➲ References

Type	COUNTIS E50 Reference	COUNTIS E53 Reference
Outputs (Pulse)	4850 **3010**	
MODBUS RS485 communication		4850 **3011**

Front panel

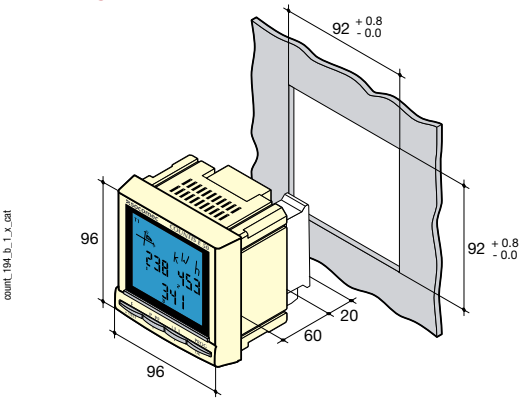


1. Backlit LCD display
2. Energy display and test function key
3. Power and power factor display key
4. Current and voltage display key
5. Enter key in programming mode

Electrical Characteristics

Current measurement	
Type	CT/5A up to 6000 A
Input consumption	< 0.3 VA
Overload	10 In / 1 second
Sustained overload	6 A
Minimum current measured	3 mA
Voltage measurement	
Range of measurement	86…520 VAC
Input consumption	< 0.1 VA
Sustained overload	800 VAC
Energy accuracy	
Reactive (according to IEC 61268)	Class 2
Active (according to IEC 62053-21)	Class 0.5 S
Power supply	
Self supplied	No
Auxiliary power supply U_s	110…400 VAC ±10 %
Frequency	45…65 Hz
Output (pulsed)	
Number	1
Type	100 VDC - 0.5 A - 10 VA
Max. number of operations	≤ 10^8
Operating conditions	
Operating temperature	-10 … 55 °C
Storage temperature	-20 … 85 °C
Relative humidity	95 %

Casing



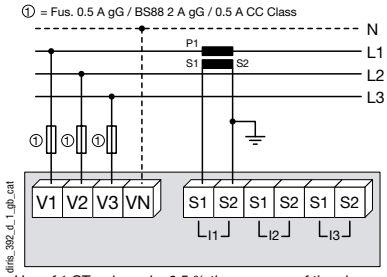
Type	panel mounting
Dimensions W x H x D	96 x 96 x 80 mm
Case protection index	IP20
Front protection rating	IP52
Display type	Blue backlit LCD display
Voltage and other connection section	0.5 … 2.5 mm²
Current connections section	1.5 … 6 mm²
Weight	370 g

Connection

Recommendation:
- For IT earthing systems, it is recommended that the CT secondaries are not earthed.
- While disconnecting the COUNTIS, the secondaries of each current transformer must be short-circuited. This operation can be carried out automatically from a product in the SOCOMEC catalogue, PTI: please consult us.

Low voltage balanced network

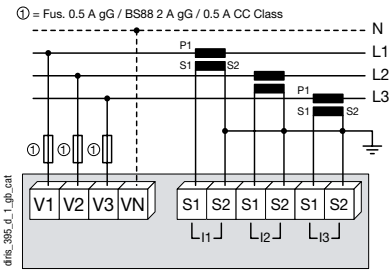
3/4 wires with 1 CT



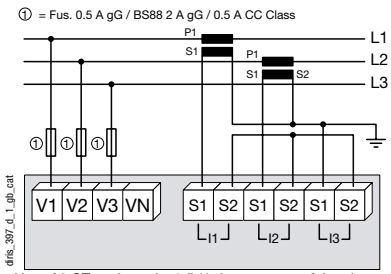
Use of 1 CT reduces by 0.5 % the accuracy of the phases whose current is worked out by vector calculation.

Low voltage unbalanced network

3/4 wires with 3 CTs



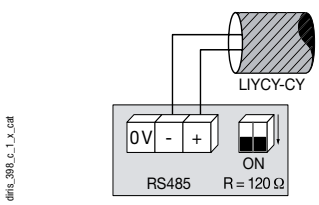
3 wires with 2 CTs



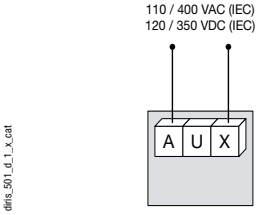
Use of 2 CTs reduces by 0.5 % the accuracy of the phases whose current is worked out by vector calculation.

Other information

Communication via RS485 link



AC & DC auxiliary power supply



It is recommended to protect the auxiliary power supply by the use of 500 mA gG fuses.