# COUNTIS E50 / E53

*Active energy meter and concentrator*


## *Three-phase*
## *Via CT up to 6000 A*

### ➲ Function

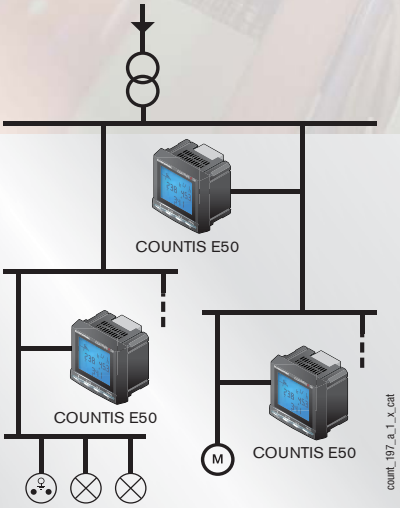
**COUNTIS E5x** are active and reactive energy meters.
The **COUNTIS E50** is a totalising meter allowing direct reading of the power consumed, using a pulse output.
Two partial meters with reset allow the energy to be metered over a specific period.
The **COUNTIS E53** provides additional JBUS/MODBUS 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.
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.




**Multi-function meter**

- Current
  - 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

**Metering**

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

### ➲ References

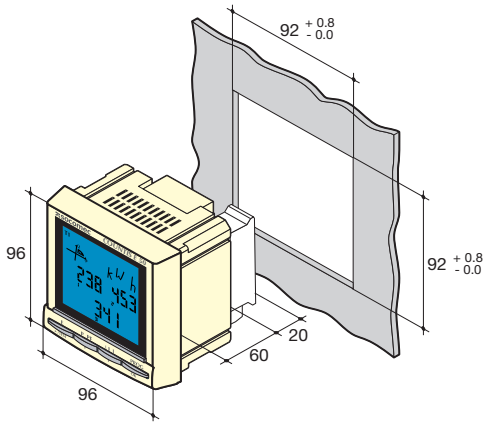
| Type | COUNTIS E50 Reference | COUNTIS E53 Reference |
|---|---|---|
| Outputs (Pulse) | 4850 **3010** | |
| MODBUS RS485 communication | | 4850 **3011** |

## Front panel


count_196x_a_2_cat

*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*

## Case




count_194_b_1_x_cat

## Characteristics

| | |
|---|---|
| **Current measurement** | |
| Type | Three-phase on CT/5A up to 6000 A |
| Input consumption | < 0.6 VA |
| Startup current ($I_{st}$) | 40 mA |
| Minimum current ($I_{min}$) | 50 mA(1) |
| Transition current ($I_{tr}$) | 250 mA(2) |
| Reference current ($I_{ref}$) | 5 A(3) |
| Permanent overload ($I_{max}$) | 6 A |
| Short-time over-current | 50 A for 1 s |
| **Voltage measurement** | |
| Range of measurement | 86 … 520 VAC |
| Input consumption | < 0.1 VA |
| Permanent 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 Us | 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 % |

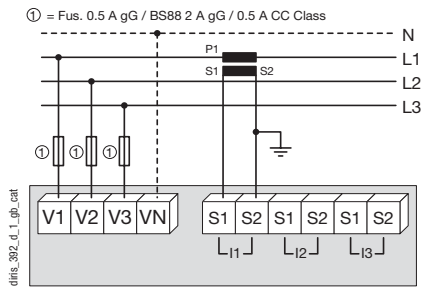
*(1) $I_{(min)} \leq 0.5 * I_{tr}$*
*(2) The accuracy class is guaranteed between $I_{tr}$ et $I_{max}$.*
*(3) $I_{(ref)} = I_{(b)}$ (base current) = 10 * $I_{(tr)}$ for direct connection COUNTIS.*

| | |
|---|---|
| Type | panel mounting |
| Dimensions W x H x D | 96 x 96 x 80 mm |
| Case protection index | IP30 |
| Front protection rating | IP52 |
| Display type | Blue backlit LCD display |
| Voltage and other connection section | 0.5 … 2.5 mm² |
| Current connection section | 1.5 … 6 mm² |
| Weight | 370 g |

## Connection

**Recommendation:**
- For IT earthing systems, it is recommended that the CT secondary is not connected to earth.
- While disconnecting the COUNTIS, the secondaries of each current transformer must be short-circuited. This operation can be carried out automatically via a SOCOMEC product, the PTI, can be found in the SOCOMEC catalogue page 348.

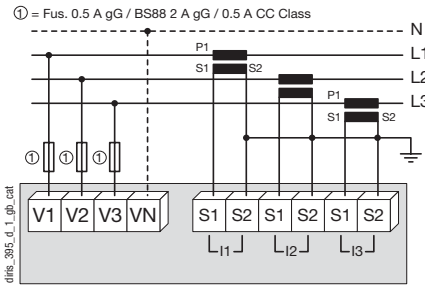
**Low voltage balanced network**
3/4 wires with 1 CT




diris_392_d_1_gb_cat

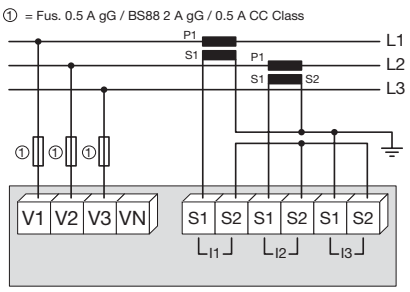
*Use of 1 CT reduces by 0.5% the accuracy of the phases, the current of which is worked out by vector calculation.*

**Low voltage unbalanced network**
3/4 wires with 3 CTs




diris_395_d_1_gb_cat

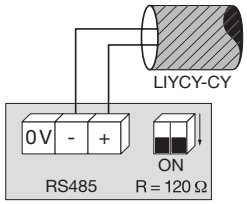
3 wires with 2 CTs




diris_397_d_1_gb_cat

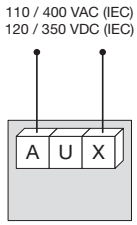
*Use of 2 CT reduces by 0.5% the accuracy of the phases, the current of which is worked out by vector calculation.*

**Additional information**
Communication via RS485 link




diris_398_c_1_x_cat

AC & DC auxiliary power supply




diris_501_d_1_gb_cat

*It is recommended that the auxiliary power supply be protected by 500mA gG fuses.*