

STATIC ENERGY METERS CONTO

ENERGY METERS
FOR SINGLE AND
THREE PHASE
NETWORK



ENERGY METERS CONTO



► NEW ◀

**New energy meters
New graphic and more intuitive displays**

► Energy meters

Family of smart meters that, in addition to energy counting, offer a complete overview of the main electrical quantities.





MID certification

The range includes bi-directional multi-measure energy meters certified to the European Directive 2014/32 / EU, usable for counts for fiscal purposes.

Direct measurement up to 125 A

The offer includes single-phase and three-phase meters with direct connection up to 125A and insertion meters via CT/VT.

Energy management

Thanks to the models equipped with RS485 Modbus RTU or M-Bus communication, the energy meters can be integrated into energy monitoring systems.

For models equipped with RS485 Modbus communication, it is possible to combine the RS485 / Ethernet network interfaces or the WebServer to allow management from a PC or tablet via web pages.

CONTO

New energy meters

The CONTO range of energy meters is renewed with new, more performing and modern devices. The new devices, completely modernized from an aesthetic point of view, offer state-of-the-art performance and new functions, which meet the different needs in measuring electrical parameters.



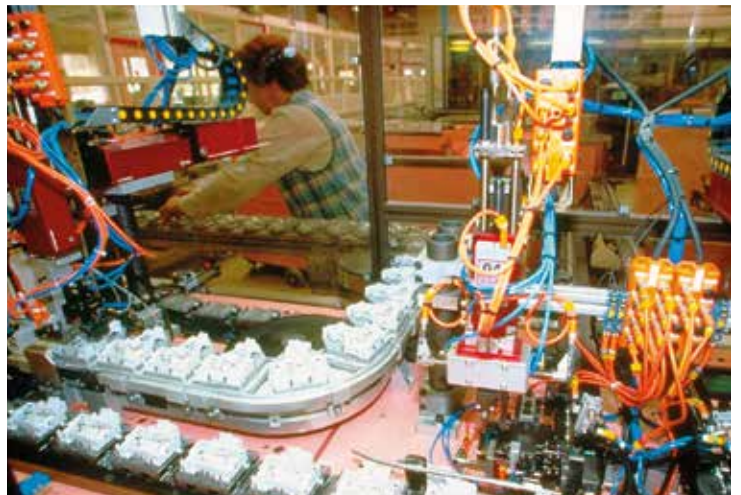
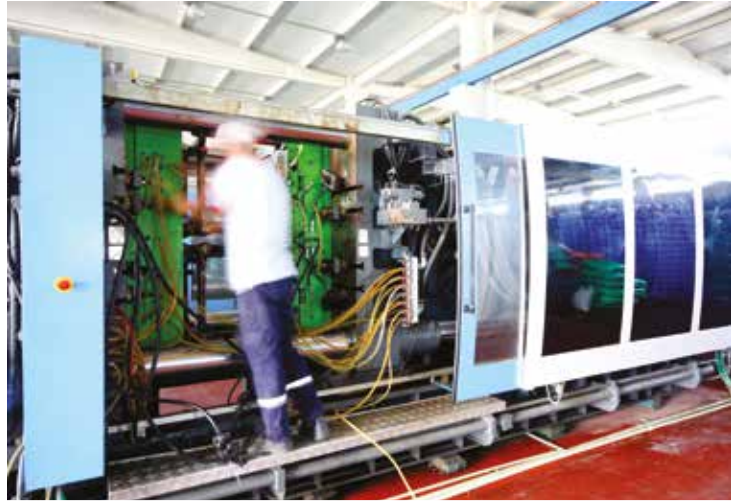
Main features

The main features of the range are:

- Backlit graphic display
- Measurement on 4 quadrants
- Multi-size
- MID certified versions
- Active energy precision:
Class B according to EN50470 (MID version)
Class 1 according to EN / IEC 62053-23
- Standard sealable terminal blocks
- Versions with pulse output or Modbus or Mbus communication. Through dedicated interfaces it is possible to communicate with Ethernet or KNX protocols.
- 1 measurement input of other quantities such as water or gas or alternatively double tariff entry.

Application

- Industrial application for the division of energy consumption by cost center
- On board the machine for precise control of consumption
- Residential to share main meter consumption (residences, camping, etc.)
- Applications for fiscal use (UTF certifications) to obtain reimbursements or incentives for the energy produced by generators or renewable energy.



CONTO

More functions...
New design

New features are available for the CONTO static energy meters.

The interfaces are intuitive and simple. indications on the display are clear and easy to manage. The new range includes devices with Mbus or RS485 Modbus communication and in this case it is possible to integrate the catalog webservers.

NEW DISPLAY AND NEW DESIGN

- Backlit display
- Simplified reading mode, preview of the next page, settings
- Bidirectional measurement (E + and E-)
- 9-digit display
- Partial measurement of the active and reactive energy



COMMUNICATION

Modbus or Mbus or impulse
Built-in 120 Ω termination resistance in prog menu

INTEGRATED IMPULSE INPUT

1 inlet for measuring gas or water or the like.
Alternatively, the entrance can be used to manage the double tariff



Main functions

The main functions of the range are:

Three-phase network

Choice of the wiring in base to the needs. The same device can be programmed and installed in different kind of networks.

Energy management

Easy and quick installation with WebServers (10, 32 and 255 measure points) with direct and integrated Modbus port on board.

Memory

All the new CONTO meters save the data of total energies (actives and reactivities; positives and negatives) to a not-volatile memory on board to the device. The value of partial energies can be resetted in function to the needs.

MID certification

CONTO Static meter offer guarantees accuracy and reliability of measurement. Thanks to European directive homologation 2004/22/CE MID can be used for tax purpose. The static meter are equipped by tamper-proof component in order to prevent fraud.

Display

The energy values are all shown with 9 digits allowing a longer duration of the device.



SIMPLIFIED HMI

- Press 1 button to navigate or enter the setup mode



NEW CONNECTORS

Same section for phase and neutral terminals



WEBSERVER

For control and manage of the consumptions

With the web server integrated with the new range of **ENERGY METERS**, is possible:

- analyze data and improve process
- determine the annual energy needs to define the consumption distribution,
- analyze the evolution over time to control the performances,
- manage multisite electrical installations remotely and / or locally using smartphone, tablet, PC, etc.

The energy meters are mainly used for measure, record and transmit values like active and reactive energy or power, voltages and currents. The new CONTO are able to collect pulse from water or gas meters to have a complete view of the consumption of the building. To do this, the new CONTO meters are equipped by different protocols pulse, Modbus or Mbus.



Allow **remote configuration, test, control and visualization**, via a **web browser** on several devices; PCs, Smartphone, web viewers, data collected from IME devices: Meters Conto, Multifunction NEMO, NEMO SX Measure system.

Pop-up alarms available with Telegram Smartphone app (configuration through the Web Server and only with Nemo SX)



Web server (DIN version) for 10 (item code **SXWS10**) or 32 Modbus addresses or pulse modules (item code **SXWS32**)



Web server for 255 Modbus addresses or 255 pulse modules (item code **SXWS255**)

Web Server Features:

- data display on smartphone tablet or PC
- billing function
- multitariffs
- webserver multi-level
- possibility to setup all the world currencies

DEVICES FOR VISUALIZATION AND CONTROL



Smartphone

I-Pad or Tablet



Personal Computer

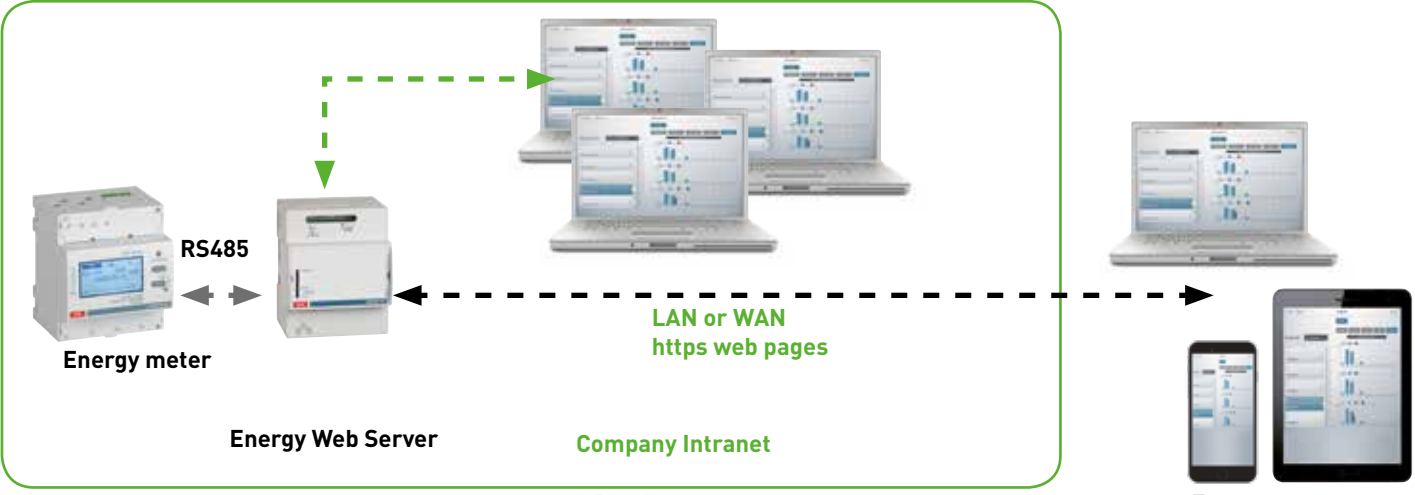


WEBSERVER Application examples

ARCHITECTURE: EXAMPLE 1



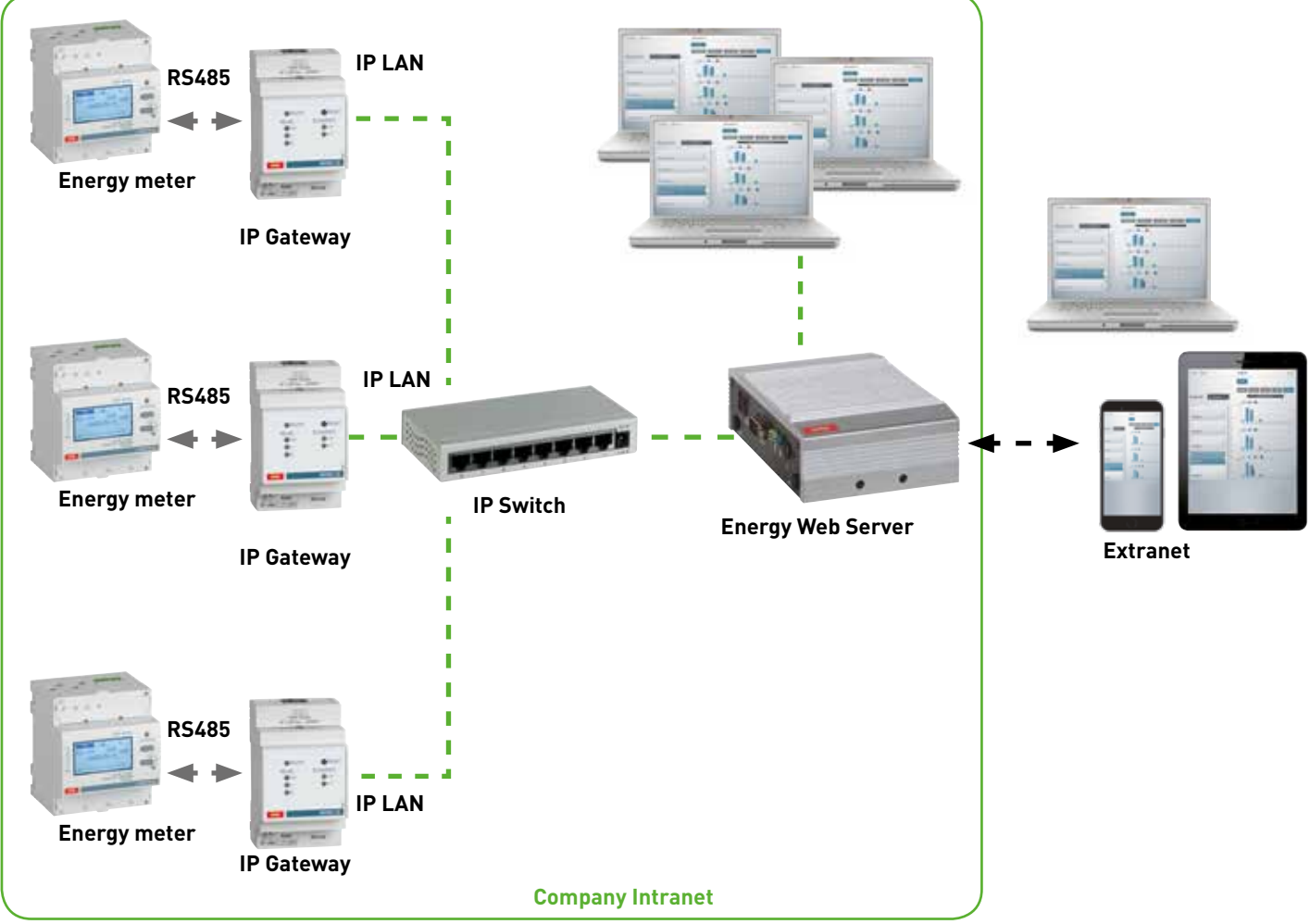
1 SITE WITH 1 PANEL AND THE NEED TO VIEW LOCALLY AND / OR REMOTELY



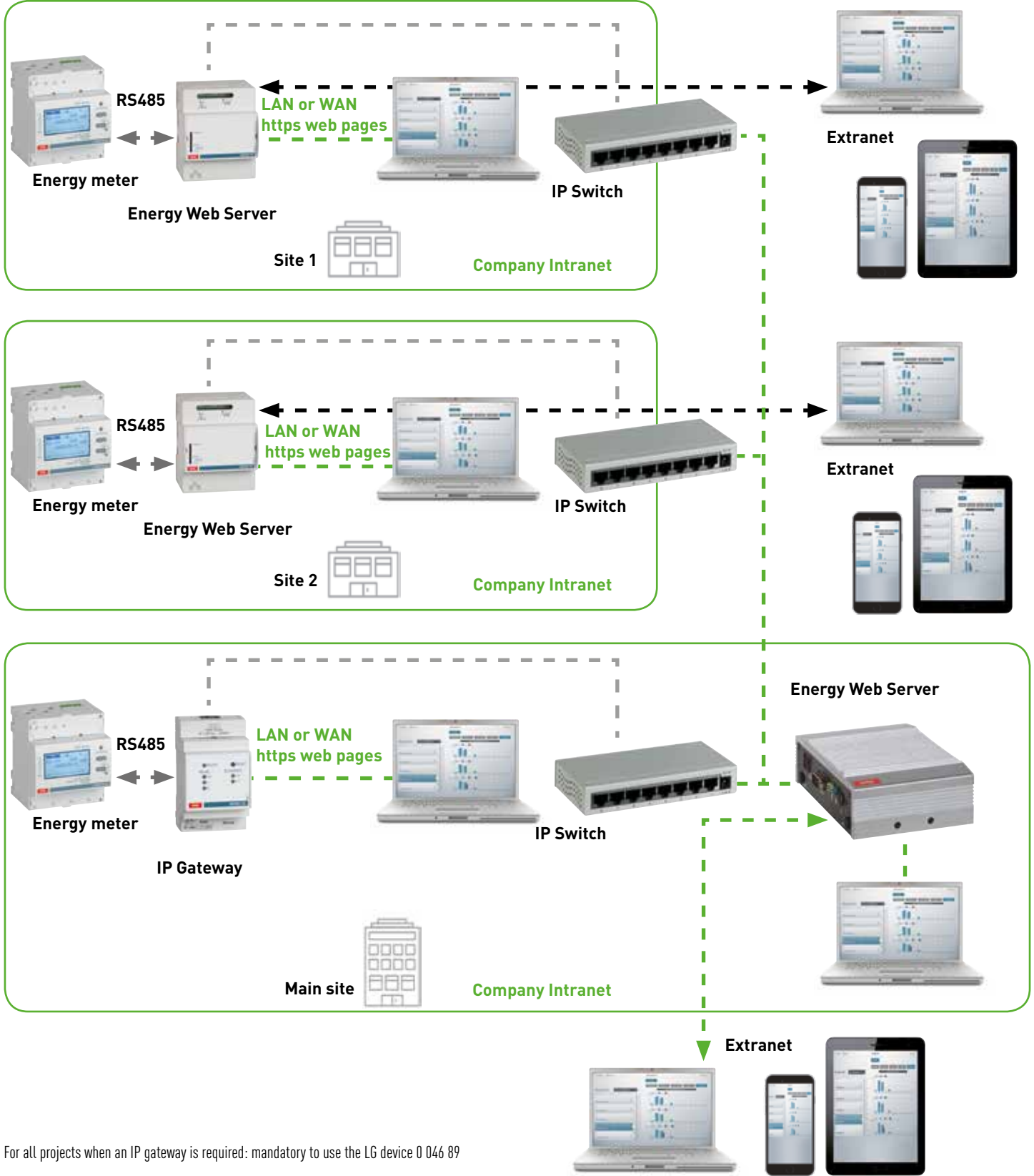
ARCHITECTURE: EXAMPLE 2



1 SITE WITH 2 PANELS AND THE NEED TO VIEW LOCALLY AND / OR REMOTELY



ARCHITECTURE: EXAMPLE 3 SEVERAL SITES



For all projects when an IP gateway is required: mandatory to use the LG device 0 046 89

Selection table

Model conto		CONTO D1 MID	CONTO D2 MID	CONTO D4-Pd MID	CONTO D6-Pd MID	CONTO D4-Pt MID	
Network		LV	LV	LV	LV	LV/MV	
Connection		Direct				CT	
INPUT	Connection	Single-phase	yes	yes	-	-	-
		Three-phase balanced load	-	-	yes	yes	-
		Three-phase unbalanced load	-	-	yes	yes	yes
		Three-phase+N unbalanced load	-	-	yes	yes	yes
	Rated value	Direct single phase voltage	230V	230V	-	-	-
		VT single phase voltage	-	-	-	-	-
		Direct three-phase voltage	-	-	400V	400-415V	400V
		VT three-phase voltage	-	-	-	-	100V
		Basic current (Ib)	5A	5A	5A	10A	5A
	Programmable Ratio	Max. current (Imax)	45A	63A	63A	125A	6A
Starting current		20mA	20mA	20mA	40mA	10mA	
VT (kVT) ¹		-	-	-	-	1.00...300.00	
	CT (kCT) ¹	-	-	-	-	1...9999	
	max. kVT x kCT	-	-	-	-	3000000.00	
DISPLAY	Active energy	Accuracy EN/IEC62053-21	-	-	-	-	-
		Accuracy EN50470	cl.B	cl.B	cl.B	cl.B	cl.B
		Total to terminals	yes MID	yes MID	yes MID	yes MID	yes MID
		Total to primary side	-	-	-	-	yes
		Partial resettable	-	yes	yes	yes	yes
	Reactive energy	Double tariff ⁴	-	yes	yes	yes	yes
		Accuracy EN/IEC62053-23	-	cl.2	cl.2	cl.2	cl.2
		Total to terminals	yes	yes	yes	yes	yes
		Total to primary side	-	-	-	-	yes
	Voltage	Partial resettable	-	yes	yes	yes	yes
		Double tariff ⁴	-	yes	yes	yes	yes
	Current	Phase	-	yes	yes	yes	yes
		Chained	-	-	yes	yes	yes
	Power factor	Phase	-	yes	yes	yes	yes
		Neutral	-	-	-	-	-
	Power	Active	-	yes	yes	yes	yes
		Reactive	-	yes	yes	yes	yes
		Apparent	-	yes	yes	yes	yes
		Phase Active, reactive and apparent	-	-	yes	yes	yes
		Peak max. demand	-	yes	yes	yes	yes
Peak max. demand per tariff		-	yes	yes	yes	yes	
Frequency	-	yes	yes	yes	yes		
Run hour meter	-	yes	yes	yes	yes		
IN	Input	-	-	-	-	-	
	Pulse	yes	yes	yes	yes	yes	
	RS485 Modbus RTU	-	yes	yes	yes	yes	
	RS232	-	yes ²	yes ²	yes ²	yes ²	
	M-BUS	-	yes	yes	-	yes	
	Ethernet	-	yes ³	yes ³	yes ³	yes ³	
OUT	Auxiliary supply	-	-	-	-	-	
	Self-supplied	yes	yes	yes	yes	yes	
	MID/UTF certifications	yes (only MID)	yes	yes	yes	yes	
	DIN Dimensions	1 module	2 modules	4 modules	6 modules	4 modules	








¹ kVT/ kCT transformations ratio to CT and VT defined as the mathematical ratio between the primary and secondary value.
 Example: kVT of a transformer 1000/100V = 1000:100 = 10
 kCT of a transformer 800/5A = 800:5 = 160

2-3

With interface

Energy Meters

Selection table

							
CONT0 D1	CONT0 D1	CONT0 D2-b	CONT0 D2	CONT0 D4-Pd	CONT0 D6-Pd	CONT0 D4-Pt	CONT0 D4-Sh
LV	LV	LV	LV	LV	LV	LV/MV	LV/MV
Direct						CT	CT
yes	yes	yes	yes	-	-	yes	yes
-	-	-	-	-	-	yes	yes
-	-	-	-	yes	-	yes	yes
-	-	-	-	yes	yes	yes	yes
230V	230V	230-240V	230-240V	-	-	230-240V	230-240-254V
-	-	-	-	-	-	100-110V	-
-	-	-	-	400-415V	400-415V	400-415V	400-415-440V
-	-	-	-	-	-	100-110V	-
5A	5A	5A	5A	5A	10A	1-5A	1-5A
32A	45A	36A	63A	63A	125A	6A	6A
20mA	20mA	20mA	20mA	20mA	40mA	10mA	20mA
-	-	-	-	-	-	1.00...300.00	-
-	-	-	-	-	-	1...9999	1...1999
-	-	-	-	-	-	3.000.000 (1A) 3.000.000 (5A)	5.000.000 (1A) 1.000.000 (5A)
cl.1	cl.1	cl.1	cl.1	cl.1	cl.1	cl.1	cl.1
-	-	-	-	-	-	-	-
yes	yes	yes	yes	yes	-	yes	-
-	-	-	-	-	-	yes	yes
-	-	-	yes	yes	yes	yes	yes
-	-	-	yes	yes	yes	-	-
-	-	-	cl.2	cl.2	cl.2	cl.2	cl.2
-	-	-	yes	yes	yes	yes	yes
-	-	-	-	yes	yes	yes	yes
-	-	-	yes	yes	yes	yes	yes
-	-	-	yes	yes	yes	yes	-
-	yes	-	yes	-	yes	-	-
-	-	-	-	yes	yes	yes	yes
-	yes	-	yes	yes	yes	yes	yes
-	-	-	-	-	-	-	-
-	yes	-	yes	yes	yes	yes	yes
-	yes	-	yes	yes	yes	yes	yes
-	yes	-	yes	yes	yes	yes	yes
-	yes	-	yes	yes	yes	yes	yes
-	-	-	-	yes	yes	yes	-
-	-	-	yes	yes	yes	yes	-
-	-	-	yes	yes	yes	yes	yes
-	-	-	yes	yes	yes	yes	yes
-	-	-	yes	yes	yes	yes	-
-	-	-	yes	yes	-	yes	-
yes	-	-	yes	yes	yes	yes	yes
-	yes	-	yes	yes	yes	yes	yes
-	yes ²	-	yes ²	yes ²	yes ²	yes ²	yes ²
-	-	-	-	yes	-	yes	-
-	yes ³	-	yes ³	yes ³	yes ³	yes ³	yes ³
-	-	-	-	-	-	-	-
yes	yes	yes	yes	yes	yes	yes	yes
-	-	-	-	-	yes	-	-
1 module	1 module	2 modules	2 modules	4 modules	6 modules	4 modules	4 modules



Static Meter with MID certification
 Direct connection for single-phase network.
 It makes available active energy counting of the pulse output to integration of consumption supervision systems.

Functions

Total Active Energy

Item	Conto D1 MID	
CE1DMID12	Network 1Ph+N	Output Pulse

Technical features

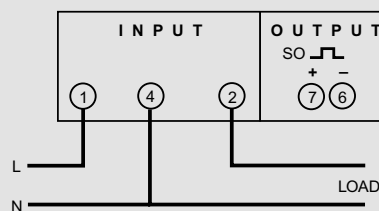
INPUT CURRENT	
Starting current (Ist)	0,02A
Min. current (Imin)	0,25A
Basic current (Ib)	5A
Max. current (Imax)	45A
Short-time overcurrent	30Imax/10ms
Power consumption	2W / 10VA
INPUT VOLTAGE	
Reference single-phase voltage	230V
Specified operating range	+ - 15%
NETWORK	
Reference frequency	50-60Hz
Frequency tolerance	49...51-59...61Hz
AUXILIARY SUPPLY	
Nominal voltage	Taken from measurement (self-supplied)
ACCURACY	
Active energy kWh EN50470	cl. B
DISPLAY	
Type	Backlit LCD
Digit height	6mm
Energy resolution	9999,99 kWh - 99999,9 kWh
MECHANICAL FEATURES	
Housing	1 module DIN 43880 (35mm)
Housing material	self-extinguishing polycarbonate
Protection degree	IP20 terminals/ IP51 front frame
Sealable terminals	Yes
Connections type	screw terminals
Cable with lag	output - max 7mm ² input - max 10mm ²
Flexible cable	output - max 4mm ² input - max 7mm ²
ENVIRONMENTAL CONDITIONS	
Nominal temperature range	-5...55°C
Limit range for storage and transport	-25...70°C
Suitable for tropical climates	yes
Max.power dissipation*	≤1W

*For switchboard thermal calculation

Output

ENERGY PULSES S0 EN/IEC 62053-31	
Type	Optorelay with potential-free
Contact range	27Vdc/ac-27mA
Assignable energy	Active energy
Pulse weight	1 imp/Wh
Pulse duration	70ms

Wiring diagrams





Energy meter with direct connection for single-phase lines up to 63A with MID certification. The device measures and displays positive and negative active and reactive energies, among others, it is also equipped with a double tariff or pulse input. In the supervision systems, through the model with RS485 Modbus RTU communication port, it is possible to transmit and display all the electrical parameters in addition to the energy consumption.

Functions

- Active positive and negative energy (MID)
- Active and reactive energy tariff 1 and tariff 2
- Setting of the tariff in use
- Current / Voltage / Frequency
- Power factor
- Active, reactive and apparent power
- Active and apparent phase power
- Average active power
- Average active maximum power
- Programmable hour meter depending on the presence of voltage or by choosing a minimum power
- Display on 9 digits and 4 quadrants
- Double tariff or pulse input
- Pulse output

Item	Conto D2 MID		
	Network	Output	Input
CE2DF3DTMID	1Ph+N	RS485 Modbus RTU	Duoble tariff
CE2DF30PMID	1Ph+N	Pulse	Pulse
CE2DF3MTMID	1Ph+N	M-Bus	Duoble tariff

Technical features

INPUT CURRENT	
Starting current (Ist)	0,02A
Min. current (Imin)	0,25A
Basic current (Ib)	5A
Max. current (Imax)	63A
Short-time overcurrent	30Imax/10ms
Power consumption	1,5W / 4VA

INPUT VOLTAGE	
Reference single-phase voltage	230V
Specified operating range	±10%

NETWORK	
Reference frequency	50-60Hz
Frequency tolerance	49...51-59...61Hz

AUXILIARY SUPPLY	
Nominal voltage	Taken from measurement (self-supplied)

ACCURACY	
Active energy kWh EN50470	cl. B
Reactive energy kWh EN/IEC62053-21	cl. 2

DISPLAY	
Type	Backlit Graphic display LCD
Inch Display	1"
Energy resolution	9999999,99 KWh

MECHANICAL FEATURES	
Housing	2 module DIN 43880 (35mm)
Housing material	self-extinguishing polycarbonate >PC<
Classification V2 in accordance with standard UL94	
Protection degree	IP20 terminals/ IP54 front frame
Sealable terminals	Yes
Connections type	screw terminals
Cable with lag	output - max 1mm ² / input - max 16mm ²
Flexible cable	output - max 2,5mm ² / input - max 10mm ²

ENVIRONMENTAL CONDITIONS	
Nominal temperature range	-25...55°C
Limit range for storage and transport	-40...70°C
Suitable for tropical climates	yes
Max.power dissipation*	≤4W

*For switchboard thermal calculation

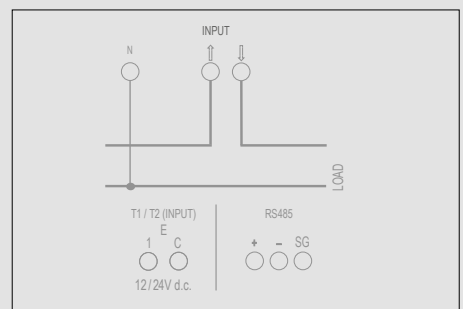
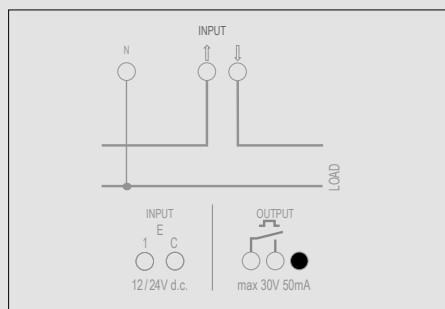
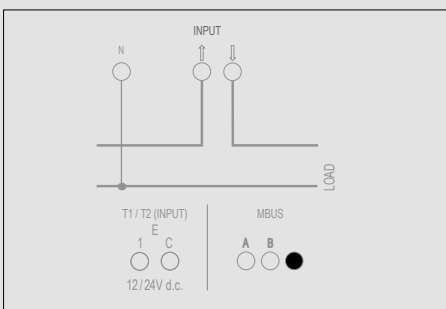
Output

ENERGY PULSES S0 EN/IEC 62053-31	
Type	Optorelay with potential-free
Contact range	27Vdc/ac – 50mA
Assignable energy	active or reactive energy
Pulse weight	selectable 1Wh/varh...10kWh/kvarh
Pulse duration	selectable 50...500ms

RS485 COMMUNICATION	
Protocol	Modbus RTU
Standard	RS485-3-wire
Impedance	120Ohm (setting by menù)
Baud rate	selectable 4800...38400 bit/s

M-BUS COMMUNICATION	
Protocol	M-BUS
Standard	EN13757
Baud rate	selectable 300;600;1200;2400;4800;9600

Wiring diagrams





Energy meter with direct connection for 3-phase or 4-wire line up to 63A with MID certification.

The device measures and displays positive and negative active and reactive energies, among others, and is equipped with a double tariff or pulse input. In the supervision systems, through the model with RS485, Modbus RTU communication port, it is possible to transmit and display all the electrical parameters in addition to the energy consumption.

Functions

- Active positive and negative energy (MID)
- Active and reactive energy tariff 1 and tariff 2
- Setting of the tariff in use
- Current / Voltage / Frequency
- Power factor
- Active, reactive and apparent power
- Active and apparent phase power
- Average active power
- Average active maximum power
- Programmable hour meter depending on the presence of voltage or by choosing a minimum power
- Display on 9 digits and 4 quadrants
- Double tariff or pulse input
- Pulse output

Item	Conto D4 - Pd MID		
	Network	Output	Input
CE4DF3DTMID	3Ph / 3Ph + N	RS485 Modbus RTU	Duoble tariff
CE4DF30PMID	3Ph / 3Ph + N	Pulse	Pulse
CE4DF3MTMID	3Ph / 3Ph + N	M-bus	Duoble tariff

Item	Accessories
Item	Description
AVKIT4	Wall mounting adapter (103x72mm)
AVKIT4Q	Wall mounting adapter (96x96mm)

Technical features

INPUT CURRENT	
Starting current (Ist)	0.02A
Min. current	0.25A
Basic current (Ib)	10A
Max. current (I _{max})	63A
Short-time overcurrent	20I _{max} /0.5s 30I _{max} /0.5s
Power consumption	2.2VA /1.5W three-phase

INPUT VOLTAGE	
Reference 3 phase voltages (with N)	230V +/-10%
Reference 3 phase voltages (without N)	400V +/-10%

NETWORK	
Reference frequency	50Hz +/-1Hz / 60Hz +/-1Hz
Frequency tolerance	49..51Hz - 59...61Hz

AUXILIARY SUPPLY	
Nominal voltage	Taken from measurement (self-supplied)

ACCURACY	
Active energy kWh EN50470	cl. B
Reactive energy kvarh EN/IEC 62053-23	cl. 2

DISPLAY	
Type	Backlit Graphic display LCD
Inch Display	2"
Energy resolution	9999999,99 kWh

MECHANICAL FEATURES	
Housing	4 modules DIN 43880 (35mm)
Housing material	Polycarbonate >PC<
Resistance to glow wire	850°C
Classification V2 in accordance with standard UL94	
Protection degree	IP20 terminals/ IP54 front frame
Sealable terminals	Yes
Connections type	screw terminals
Cable with lag	output - max 1mm ² / input - max 16mm ²
Flexible cable	output - max 2,5mm ² / input - max 10mm ²

ENVIRONMENTAL CONDITIONS	
Nominal temperature range	-25...55°C
Limit range for storage and transport	-40...70°C
Suitable for tropical climates	yes
Max.power dissipation*	≤6W

*For switchboard thermal calculation

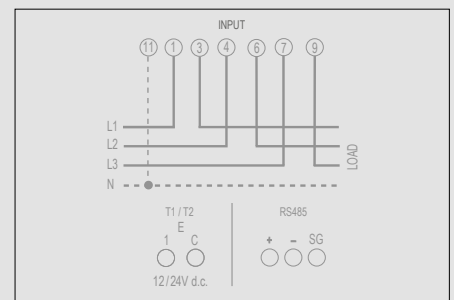
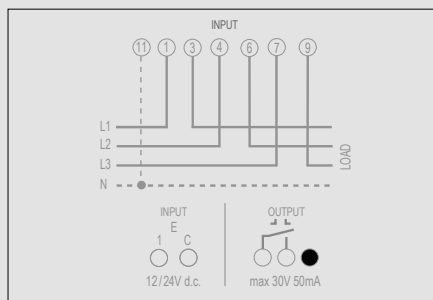
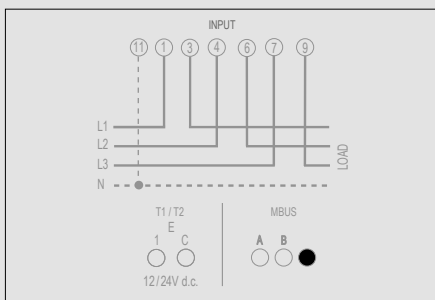
Output

ENERGY PULSES S0 EN/IEC 62053-31	
Type	Optorelay with potential-free
Contact range	27Vdc/ac – 50mA
Assignable energy	Active or reactive energy
Pulse weight	selectable 1Wh/varh...10kWh/kvarh
Pulse duration	selectable 50...500ms

RS485 COMMUNICATION	
Protocol	Modbus RTU
Standard	RS485-3-wire
Impedence	120 Ohm configurable via via on-board menu
Baud rate	selectable 4800...38400 bit/s

M-BUS COMMUNICATION	
Protocol	M-BUS
Standard	EN13757
Baud rate	selectable 300;600;1200;2400;4800;9600

Wiring diagrams



Energy Meters



Static meter 125 A direct connection



Direct connection for three-phase network, 4-wires. It makes available active or reactive energy counting of the pulse output to integration of consumption supervision systems. For supervision systems, through the model with output RS485 communication Modbus RTU, you can transmitted on the network main electrical parameters in addition to the energy consumption.

Functions

- Total / Partial Active Energy or Active Energy Tariff 1 and 2
- Total / Partial Reactive Energy or reactive Energy Tariff 1 and 2
- Istantaneous Current
- Max. Demand and Istantaneous Power
- Voltage
- Frequency
- Power Factor
- Run hour meter (count start 0,4...50% rated power)

Item	Conto D6 Pd MID	
	Network	Output
CE6DMID56	3Ph + N	Pulse + RS485 Modbus RTU/TCP
CE6DMID52	3Ph + N	Pulse

Technical features

TECHNICAL FEATURES

INPUT CURRENT

Starting current (Ist)	0,04A
Min. current (Imin)	0,5A
Basic current (Ib)	10A
Max. current (Imax)	125A
Short-time overcurrent	30Imax/10ms
Power consumption	1,5W for phase

INPUT VOLTAGE

Reference three-phase voltage	400V
Reference 3 phase voltages (with N)	230V +/-10%

NETWORK

Reference frequency	50Hz +/-1Hz / 60Hz +/-1Hz
Frequency tolerance	47...63Hz

AUXILIARY SUPPLY

Nominal voltage	Taken from measurement (self-supplied)
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ACCURACY

Active energy kWh EN50470	cl. B
Reactive energy kvarh EN/IEC 62053-23	cl. 2

DISPLAY

Type	Backlit LCD
Inch Display	2"
Energy resolution	total 99999999KWh tarif 999999,99KWh

MECHANICAL FEATURES

Housing	6 module DIN 43880 (35mm)
Housing material	self-extinguishing polycarbonate
Protection degree	IP20 terminals/ IP54 front frame
Sealable terminals	Yes
Connections type	screw terminals
Cable with lag	output - max 1mm ² input - max 50mm ² (16 neutral)
Flexible cable	output - max 2,5mm ² input - max 35mm ² (16 neutral)

ENVIRONMENTAL CONDITIONS

Nominal temperature range	-25...55°C
Limit range for storage and transport	-40...70°C
Suitable for tropical climates	yes
Max.power dissipation*	≤6W

*For switchboard thermal calculation

Output

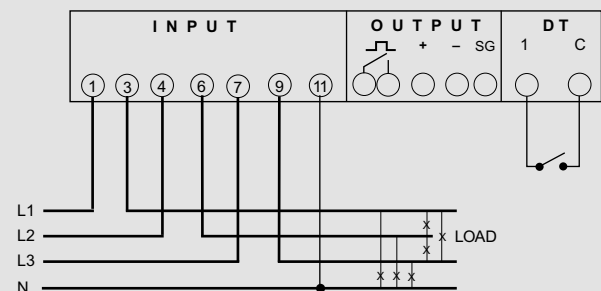
ENERGY PULSES S0 EN/IEC 62053-31

Type	Optorelay with potential-free
Contact range	27Vdc/ac – 50mA
Assignable energy	Active or reactive energy
Pulse weight	selectable 1Wh/varh...10kWh/kvarh
Pulse duration	selectable 50...500ms

RS485 COMMUNICATION

Protocol	Modbus RTU/TCP
Standard	RS485-3-wire
Baud rate	selectable 4800...19200 bit/s

Wiring diagrams





Energy meter with indirect connection via CT for single-phase and three phase lines with 3 or 4 wires with MID certification. The device measures and displays positive and negative active and reactive energies, among others, and is equipped with a double tariff input. In the supervision systems, through the model with RS485 Modbus RTU communication port, it is possible to transmit and display all the electrical parameters in addition to the energy consumption.

Functions

- Active positive and negative energy at the terminals (MID)
- Active and reactive energy on the primary side (CT/VT)
- Active and reactive energy tariff 1 and tariff 2
- Indication of the active tariff
- Current / Voltage / Frequency
- Power factor
- Active, reactive and apparent power
- Active and apparent phase power
- Average active power
- Average active maximum power
- Programmable hour meter depending on the presence of voltage or by choosing a minimum power
- Display on 9 digits and 4 quadrants
- Double tariff or pulse input
- Pulse output

Item	Conto D4 - Pt MID		
	Network	Output	Input
CE4TBDTMID	3Ph /3Ph + N	RS485 Modbus RTU	Duoble tariff
CE4TBMTMID	3Ph /3Ph + N	M-bus	Duoble tariff

Item	Accessories
	Description
AVKIT4	Wall mounting adapter (103x72mm)
AVKIT4Q	Wall mounting adapter (96x96mm)

Technical features

INPUT CURRENT	
Starting current (Ist)	0,01A
Min. current (Imin)	0,05A
Basic current (Ib)	5A
Max. current (Imax)	6A
Short-time overcurrent	30I _{max} /10ms
Power consumption	0,3W / 0,2VA for phase

INPUT VOLTAGE	
Reference 3 phase voltages (with N)	230V +/-10%
Reference 3 phase voltages (without N)	400V +/-10%

NETWORK	
Reference frequency	50-60Hz
Frequency tolerance	49...51-59...61Hz

AUXILIARY SUPPLY	
Nominal voltage	Taken from measurement (self-supplied)

ACCURACY	
Active energy kWh EN50470	cl. B
Reactive energy kvarh EN/IEC 62053-23	cl. 2

DISPLAY	
Type	Backlit LCD
Digit height	6mm
Energy Sec	
Energy Pri:**	9999999,99KWh

MECHANICAL FEATURES	
Housing	4 module DIN 43880 (35mm)
Housing material	self-extinguishing polycarbonate
Protection degree	IP20 terminals/ IP54 front frame
Sealable terminals	Yes
Connections type	screw terminals
Cable with lag	output - max 1mm ² / input - max 16mm ²
Flexible cable	output - max 2,5mm ² / input - max 10mm ²

ENVIRONMENTAL CONDITIONS	
Nominal temperature range	-25...55°C
Limit range for storage and transport	-40...70°C
Suitable for tropical climates	yes
Max.power dissipation*	≤4W

Output

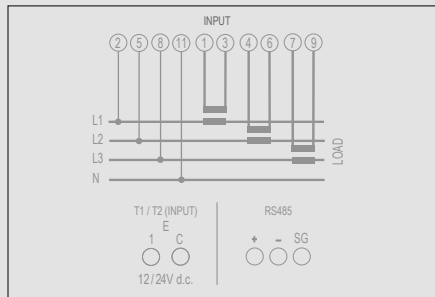
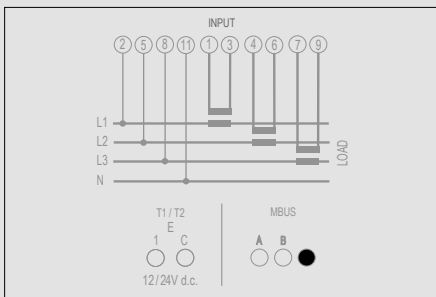
RS485 COMMUNICATION	
Protocol	Modbus RTU
Standard	RS485-3-wire
Baud rate	selectable 4800...19200 bit/s

M-BUS COMMUNICATION	
Protocol	M-BUS
Standard	EN13757
Baud rate	selectable 300...9600 bit/s

*For switchboard thermal calculation

** kCT*kVT MAXIMUN DISPLAY
 1...9 9999999,99kWh/kvarh
 10...99 99999999,9kWh/kvarh
 100...999 999999999kWh/kvarh
 1000...9999 9999999,99MWh/MTarh
 10000...99999 99999999,9MWh/MTarh
 ≥100000 999999999MWh/MTarh

Wiring diagrams



Energy Meters

Static meter 32/45 A direct connection



Direct connection for single-phase network. It makes available active energy counting of the pulse output to integration of consumption supervision systems.

Functions

Active Energy

Item	Conto D1 (32A)		Output
CE11165A0	Network	1Ph+N	-
CE11165A2	Network	1Ph+N	Pulse



Direct connection for single-phase network. For supervision systems, through the model with output RS485 communication Modbus RTU, you can transmitted on the network main electrical parameters in addition to the energy consumption.

Functions

Active and Reactive energy
Current / Voltage
Power factor
Active, reactive and apparent power

Item	Conto D1 (45A)		Output
CE11165A4	Network	1Ph+N	RS485 Modbus RTU

Technical features

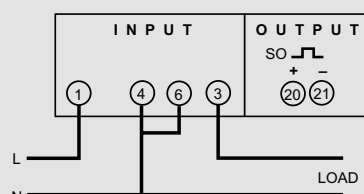
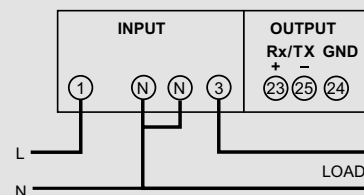
TIPO	CE11165A0 CE11165A2	CE11165A4
INPUT CURRENT		
Starting current (Ist)	0,02A	
Min. current (Imin)	0,5A	
Basic current (Ib)	5A	
Max. current (Imax)	32A	45A
Short-time overcurrent	30Imax/10ms	
Power consumption	9,7VA(0,5W) a 264V	7,5VA / 0,6W
INPUT VOLTAGE		
Reference single-phase voltage	230V	
Specified operating range	196...264V	
NETWORK		
Reference frequency	50-60Hz	
Frequency tolerance	47...63Hz	
AUXILIARY SUPPLY		
Nominal voltage	Taken from measurement (self-supplied)	
ACCURACY		
Active energy kWh EN/IEC 62053-21	cl. 1	
DISPLAY		
Type	LCD	Backlit LCD
Digit height	6mm	
Energy resolution	99999,99 kWh	999999 kWh/kvarh
MECHANICAL FEATURES		
Housing	1 module DIN 43880 (35mm)	
Housing material	self-extinguishing polycarbonate	
Protection degree	IP20 terminals	
Sealable terminals	Yes	
Connections type	screw terminals	
Cable with lag	output - max 6mm ² input - max 10mm ²	output - max 6mm ² input - max 25mm ²
Flexible cable	output - max 4mm ² input - max 6mm ²	output - max 4mm ² input - max 6mm ²
ENVIRONMENTAL CONDITIONS		
Nominal temperature range	-5...55°C	
Limit range for storage and transport	-25...70°C	
Suitable for tropical climates	yes	
Max.power dissipation*	≤1W	

*For switchboard thermal calculation

Output

RS485 COMMUNICATION	
Protocol	Modbus RTU
Standard	RS485-3-wire
Baud rate	selectable 1200...9600 bit/s
ENERGY PULSES S0 EN/IEC 62053-31	
Type	Optorelay with potential-free
Contact range	12...27Vdc-10...27mA
Assignable energy	Active energy
Pulse weight	1 imp/Wh
Pulse duration	700ms

Wiring diagrams



Energy Meters

Static meter 36 A direct connection

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Direct connection for single-phase network.

Functions

Active energy

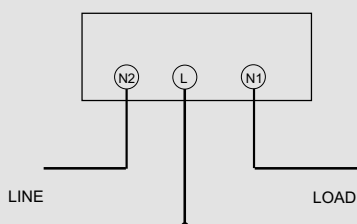
Item	Conto D2-b	Network	Output
CE21175A0		1Ph+N	-

Technical features

INPUT CURRENT	
Starting current (Ist)	0,02A
Min. current (Imin)	0,25A
Basic current (Ib)	5A
Max. current (Imax)	36A
Short-time overcurrent	30Imax/10ms
Power consumption	9,7VA (1,3W) @ 264V
INPUT VOLTAGE	
Reference single-phase voltage	230-240V
Specified operating range	207...264V
NETWORK	
Reference frequency	50-60Hz
Frequency tolerance	47...63Hz
AUXILIARY SUPPLY	
Nominal voltage	Taken from measurement (self-supplied)
ACCURACY	
Active energy kWh EN/IEC 62053-21	cl. 1
DISPLAY	
Type	LCD
Digit height	6mm
Energy resolution	99999,9 kWh
MECHANICAL FEATURES	
Housing	2 module DIN 43880 (35mm)
Housing material	self-extinguishing polycarbonate
Protection degree	IP20 terminals/ IP51 front frame
Sealable terminals	Yes
Connections type	screw terminals
Cable with lag	input - max 16mm ²
Flexible cable	input - max 10mm ²
ENVIRONMENTAL CONDITIONS	
Nominal temperature range	-10...45°C
Limit range for storage and transport	-25...70°C
Suitable for tropical climates	yes
Max.power dissipation*	≤2,3W

*For switchboard thermal calculation

Wiring diagrams



Energy Meters

Static meter 63 A direct connection



Energy meter with direct connection for single-phase lines up to 63A. The device measures and displays positive and negative active and reactive energies, among others, it is also equipped with a double tariff or pulse input. In the supervision systems, through the model with RS485 Modbus RTU communication port, it is possible to transmit and display all the electrical parameters in addition to the energy consumption.

Functions

- Active positive and negative energy
- Active and reactive energy tariff 1 and tariff 2
- Setting of the tariff in use
- Current / Voltage / Frequency
- Power factor
- Active, reactive and apparent power
- Active and apparent phase power
- Average active power
- Average active maximum power
- Programmable hour meter depending on the presence of voltage or by choosing a minimum power
- Display on 9 digits and 4 quadrants
- Double tariff or pulse input
- Pulse output

Item	Conto D2		
	Network	Output	Input
CE2DF3DTCL1	1Ph+N	RS485 Modbus RTU	Double tariff or pulse (in alternative)
CE2DF30PCL1	1Ph+N	Pulse	Pulse

Technical features

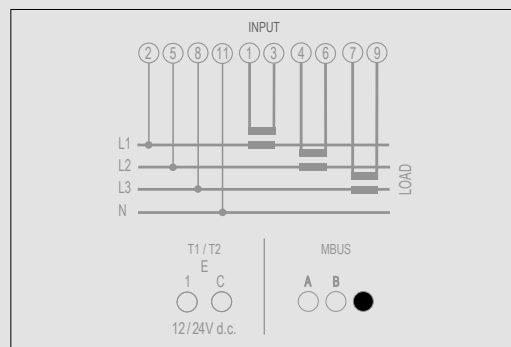
INPUT CURRENT	
Starting current (Ist)	0,02A
Min. current (Imin)	0,25A
Basic current (Ib)	5A
Max. current (Imax)	63A
Short-time overcurrent	30Imax/10ms
Power consumption	1,5W / 4VA
INPUT VOLTAGE	
Reference single-phase voltage	230V
Specified operating range	±10%
NETWORK	
Reference frequency	50-60Hz
Frequency tolerance	49...51-59...61Hz
AUXILIARY SUPPLY	
Nominal voltage	Taken from measurement (self-supplied)
ACCURACY	
Active energy kWh EN50470	cl. B
Reactive energy kWh EN/IEC62053-21	cl. 2
DISPLAY	
Type	Backlit Graphic display LCD
Inch Display	1"
Energy resolution	9999999,99 kWh
MECHANICAL FEATURES	
Housing	2 module DIN 43880 (35mm)
Housing material	self-extinguishing polycarbonate >PC<
Classification V2 in accordance with standard UL94	
Protection degree	IP20 terminals/ IP54 front frame
Sealable terminals	Yes
Connections type	screw terminals
Cable with lag	output - max 1mm ² / input - max 16mm ²
Flexible cable	output - max 2,5mm ² / input - max 10mm ²
ENVIRONMENTAL CONDITIONS	
Nominal temperature range	-25...55°C
Limit range for storage and transport	-40...70°C
Suitable for tropical climates	yes
Max.power dissipation*	≤4W

*For switchboard thermal calculation

Output

ENERGY PULSES S0 EN/IEC 62053-31	
Type	Optorelay with potential-free
Contact range	27Vdc/ac – 50mA
Assignable energy	active or reactive energy
Pulse weight	selectable 1Wh/varh...10kWh/kvarh
Pulse duration	selectable 50...500ms
RS485 COMMUNICATION	
Protocol	Modbus RTU
Standard	RS485-3-wire
Impedance	120Ohm (setting by menu)
Baud rate	selectable 4800...38400 bit/s

Wiring diagrams



Energy Meters

Static meter 63 A direct connection



Direct connection for three-phase network, 3 or 4-wires and for single-phase 3 inputs.
 It makes available active or reactive energy counting of the pulse output to integration of consumption supervision systems.
 For supervision systems, through the model with output RS485 communication Modbus RTU or M-Bus, you can transmitted on the network main electrical parameters in addition to the energy consumption.

Functions

- Active positive and negative energy at the terminals
- Active and reactive energy tariff 1 and tariff 2
- Indication of the active tariff
- Current / Voltage / Frequency
- Power factor
- Active, reactive and apparent power
- Active and apparent phase power
- Average active power
- Average active maximum power
- Programmable hour meter depending on the presence of voltage or by choosing a minimum power
- Display on 9 digits and 4 quadrants
- Double tariff or pulse input
- Pulse output

Item	Conto D4-Pd		
	Network	Output	Input
CE4DF3DTCL1	3Ph /3Ph + N	RS485 Modbus RTU/TCP	Double tariff or pulse (in alternative)
CE4DF30PCL1	3Ph /3Ph + N	Pulse	Pulse
CE4DF3MTCL1	3Ph /3Ph + N	M-Bus	Double tariff or pulse (in alternative)

Item	Accessories	
	Description	
AVKIT4	Wall mounting adapter (103x72mm)	
AVKIT4Q	Wall mounting adapter (96x96mm)	

Technical features

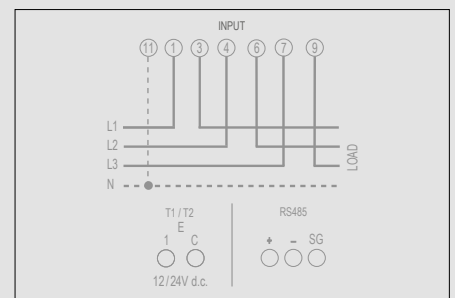
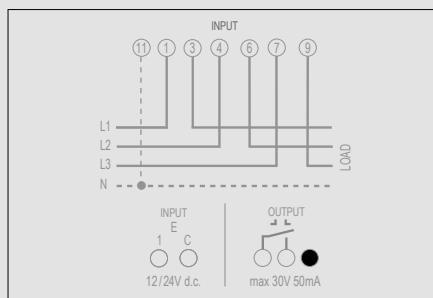
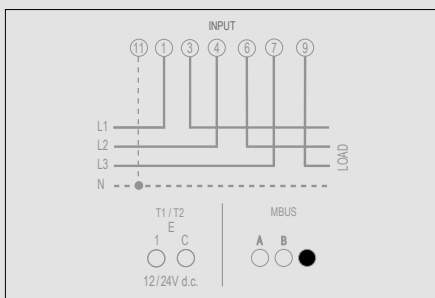
INPUT CURRENT	
Starting current (Ist)	0,02A
Min. current (Imin)	0,25A
Basic current (Ib)	5A
Max. current (Imax)	63A
Short-time overcurrent	30Imax/10ms
Power consumption	<2VA 3-phase
INPUT VOLTAGE	
Reference three-phase voltage	230:240 (400:415)
Specified operating range	196V Phase phase 480V Phase neutral
NETWORK	
Reference frequency	50-60Hz
Frequency tolerance	47...63Hz
AUXILIARY SUPPLY	
Nominal voltage	Taken from measurement (self-supplied)
ACCURACY	
Active energy kWh EN/IEC 62053-21	cl. 1
Reactive energy kvarh EN/IEC 62053-23	cl. 1
DISPLAY	
Type	Backlit Graphic display LCD
Inch Display	2"
Energy resolution	9999999,99 KWh
MECHANICAL FEATURES	
Housing	4 module DIN 43880 (35mm)
Housing material	self-extinguishing polycarbonate
Protection degree	IP20 terminals/ IP54 front frame
Sealable terminals	Yes
Connections type	screw terminals
Cable with lag	output - max 1mm ² / input - max 16mm ²
Flexible cable	output - max 2,5mm ² / input - max 10mm ²
ENVIRONMENTAL CONDITIONS	
Nominal temperature range	-25...55°C
Limit range for storage and transport	-40...70°C
Suitable for tropical climates	yes
Max.power dissipation*	≤6W

*For switchboard thermal calculation.

Output

ENERGY PULSES S0 EN/IEC 62053-31	
Type	Optorelay with potential-free
Contact range	27Vdc – 50mA
Assignable energy	Active or reactive energy
Pulse weight	selectable 1Wh/varh...10kWh/kvarh
Pulse duration	selectable 50...500ms
RS485 COMMUNICATION	
Protocol	Modbus RTU/TCP
Standard	RS485-3-wire
Baud rate	selectable 4800...38400 bit/s
M-BUS COMMUNICATION	
Protocol	M-BUS
Standard	EN13757
Baud rate	selectable 300...9600 bit/s

Wiring diagrams



Energy Meters

Static meter 125 A direct connection



Direct connection for three-phase network, 4-wires. It makes available active or reactive energy counting of the pulse output to integration of consumption supervision systems. For supervision systems, through the model with output RS485 communication Modbus RTU, you can transmitted on the network main electrical parameters in addition to the energy consumption.

Functions

- Total / Partial Active Energy or Active Energy Tariff 1 and 2
- Total / Partial Reactive Energy or reactive Energy Tariff 1 and 2
- Istantaneous Current
- Max. Demand and Istantaneous Power
- Voltage
- Frequency
- Power Factor
- Run hour meter (count start 0,4...50% rated power)

Item	Conto D6 Pd	
	Network	Output
CE6DT1256	3Ph + N	Pulse + RS485 Modbus RTU
CE6DT1252	3Ph + N	Pulse

Technical features

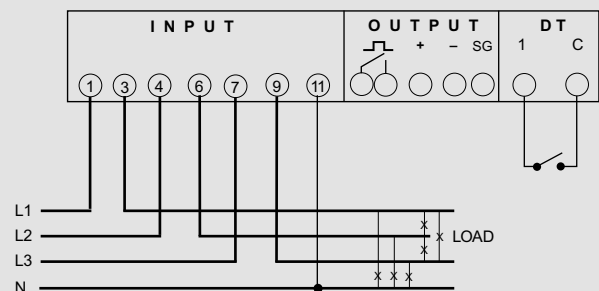
INPUT CURRENT	
Starting current (Ist)	0,04A
Min. current (Imin)	0,5A
Basic current (Ib)	10A
Max. current (Imax)	125A
Short-time overcurrent	30I _{max} /10ms
Power consumption	1,5W for phase
INPUT VOLTAGE	
Reference three-phase voltage	400V
Specified operating range	+/-15%
NETWORK	
Reference frequency	50-60Hz
Frequency tolerance	47...63Hz
AUXILIARY SUPPLY	
Nominal voltage	Taken from measurement (self-supplied)
ACCURACY	
Active energy kWh EN/IEC 62053-21	cl. 1
Reactive energy kvarh EN/IEC 62053-23	cl. 2
DISPLAY	
Type	Backlit LCD
Digit height	6mm
Energy resolution	999999,99 kWh/kvarh
MECHANICAL FEATURES	
Housing	6 module DIN 43880 (35mm)
Housing material	self-extinguishing polycarbonate
Protection degree	IP20 terminals/ IP54 front frame
Sealable terminals	Yes
Connections type	screw terminals
Cable with lag	output - max 1mm ² input - max 50mm ² (16 neutral)
Flexible cable	output - max 2,5mm ² input - max 35mm ² (16 neutral)
ENVIRONMENTAL CONDITIONS	
Nominal temperature range	-25...55°C
Limit range for storage and transport	-40...70°C
Suitable for tropical climates	yes
Max.power dissipation*	≤6W

*For switchboard thermal calculation

Output

ENERGY PULSES S0 EN/IEC 62053-31	
Type	Optorelay with potential-free
Contact range	27Vdc/ac – 50mA
Assignable energy	Active or reactive energy
Pulse weight	selectable 1Wh/varh...10kWh/kvarh
Pulse duration	selectable 50...500ms
RS485 COMMUNICATION	
Protocol	Modbus RTU/TCP
Standard	RS485-3-wire
Baud rate	selectable 4800...19200 bit/s

Wiring diagrams



Energy Meters

Static meter by CT



Static meter by CT for single and three-phase network, 3 or 4-wires. It makes available active or reactive energy counting of the pulse output to integration of consumption supervision systems. For supervision systems, through the model with output RS485 communication Modbus RTU or M-Bus, you can transmitted on the network main electrical parameters in addition to the energy consumption.

Functions

- Active and reactive energy on the primary side (CT/VT)
- Active and reactive energy tariff 1 and tariff 2
- Indication of the active tariff
- Current / Voltage / Frequency
- Power factor
- Active, reactive and apparent power
- Active and apparent phase power
- Average active power
- Average active maximum power
- Programmable hour meter depending on the presence of voltage or by choosing a minimum power
- Display on 9 digits and 4 quadrants
- Double tariff or pulse input
- Pulse output

Item	Conto D4 Pt		
	Input (V)	Output	Input
CE4TBDTCL1	100 -110	RS485 Modbus RTU	Double tariff or pulse (in alternative)
CE4TB0PCL1	100 -110	Pulse	Pulse
CE4TBMTC11	100 -110	M-Bus	Double tariff or pulse (in alternative)

Item	Accessories	
	Description	
AVKIT4	Wall mounting adapter (103x72mm)	
AVKIT4Q	Wall mounting adapter (96x96mm)	

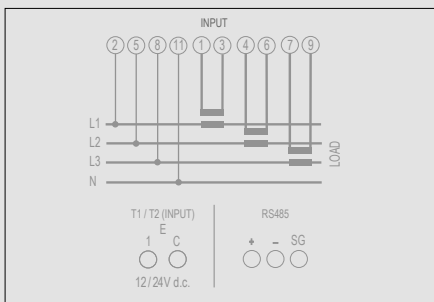
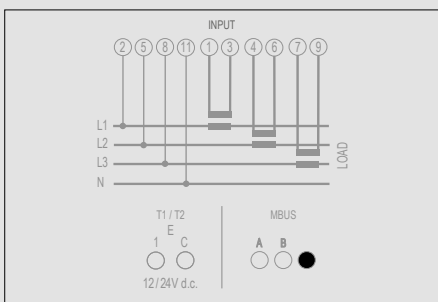
Technical features

INPUT CURRENT	
Starting current (Ist)	0,02A
Min. current (Imin)	0,5A
Basic current (Ib)	1A + 5A
Max. current (Imax)	6A
Short-time overcurrent	20Imax/0,5s
Power consumption	4,5VA (1,85W) @ 440V 3-phase
INPUT VOLTAGE	
Reference three-phase voltage	400-415V and 100-115V
Reference single-phase voltage	230-240V and 100-115V
Specified operating range	210...264V and 90...140V
NETWORK	
Reference frequency	50Hz
Frequency tolerance	47...63Hz
AUXILIARY SUPPLY	
Nominal voltage	Taken from measurement (self-supplied)
ACCURACY	
Active energy kWh EN/IEC 62053-21	cl. 1
Reactive energy kvarh EN/IEC 62053-23	cl. 2
DISPLAY	
Type	LCD
Digit height	6mm
Energy resolution	depending on the CT ratio**
MECHANICAL FEATURES	
Housing	4 module DIN 43880 (35mm)
Housing material	self-extinguishing polycarbonate
Protection degree	IP20 terminals/ IP51 front frame
Sealable terminals	Yes
Connections type	screw terminals
Cable with lag	output - max 4mm ² input - max 4mm ²
Flexible cable	output - max 2,5mm ² input - max 2,5mm ²
ENVIRONMENTAL CONDITIONS	
Nominal temperature range	-25...55°C
Limit range for storage and transport	-40...70°C
Suitable for tropical climates	yes
Max.power dissipation*	≤2,8W

Output

ENERGY PULSES S0 EN/IEC 62053-31	
Type	Optorelay with potential-free
Contact range	27Vdc – 50mA
Assignable energy	Active or reactive energy
Pulse weight	selectable 1Wh/varh...10kWh/kvarh
Pulse duration	selectable 50...500ms
RS485 COMMUNICATION	
Protocol	Modbus RTU
Standard	RS485-3-wire
Baud rate	selectable 4800...38400 bit/s
M-BUS COMMUNICATION	
Protocol	M-BUS
Standard	EN13757
Baud rate	selectable 300...9600 bit/s

Wiring diagrams



*For switchboard thermal calculation

** kCT*kVT	MAXIMUM DISPLAY
1...9	9999999,99kWh/kvarh
10...99	99999999,9kWh/kvarh
100...999	999999999kWh/kvarh
1000...9999	9999999,99MWh/MTarh
10000...99999	99999999,9MWh/MTarh
≥100000	999999999MWh/MTarh

Energy Meters

Static meter by CT



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Static meter by CT for single and three-phase network, 3 or 4-wires. It makes available active or reactive energy counting of the pulse output to integration of consumption supervision systems. For supervision systems, through the model with output RS485 communication Modbus RTU, you can transmitted on the network main electrical parameters in addition to the energy consumption.

Functions

- Total active and reactive energy
- Partial active and reactive energy
- Current / Voltage
- Frequency
- Power factor
- Active, reactive and apparent power, active power demand and active power max. demand

Item	Conto D4 Sh	
	Input (V)	Output
CE4ST14A4	400 -415	RS485 Modbus RTU
CE4ST14A2	400 -415	Pulse

Item	Accessories
	Description
AVKIT4	Wall mounting adapter (103x72mm)
AVKIT4Q	Wall mounting adapter (96x96mm)

Technical features

INPUT CURRENT	
Starting current (Ist)	0,01A
Min. current	0,5A
Basic current (Ib)	1A + 5A
Max. current (Imax)	6A
Short-time overcurrent	30Imax/0,5s
Power consumption	4,5VA (1,85W) @ 440V 3-phase
INPUT VOLTAGE	
Reference single-phase voltage	230-240V and 254V
Specified operating range	110...244V and 220...275V
Reference three-phase voltage	400-415V and 440V
Specified operating range	196...440V and 380...440V
NETWORK	
Reference frequency	50Hz
Frequency tolerance	47...63Hz
AUXILIARY SUPPLY	
Nominal voltage	Taken from measurement (self-supplied)
ACCURACY	
Active energy kWh EN/IEC 62053-21	cl. 1
Reactive energy kvarh EN/IEC 62053-23	cl. 2
DISPLAY	
Type	LCD
Digit height	6mm
Energy resolution	depending on the CT ratio**
MECHANICAL FEATURES	
Housing	4 module DIN 43880 (35mm)
Housing material	self-extinguishing polycarbonate
Protection degree	IP20 terminals/ IP54 front frame
Sealable terminals	Yes
Connections type	screw terminals
Cable with lag	output - max 4mm ² input - max 4mm ²
Flexible cable	output - max 2,5mm ² input - max 2,5mm ²
ENVIRONMENTAL CONDITIONS	
Nominal temperature range	-25...55°C
Limit range for storage and transport	-40...70°C
Suitable for tropical climates	yes
Max.power dissipation*	≤4W

*For switchboard thermal calculation

** kCT*kVT	MAXIMUM DISPLAY
1...9	999999,99kWh/kvarh
10...99	9999999,9kWh/kvarh
100...999	99999999kWh/kvarh
1000...9999	999999999MWh/Mvarh

Output

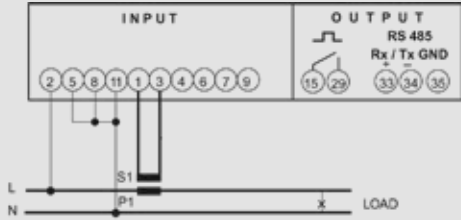
ENERGY PULSES S0 EN/IEC 62053-31	
Type	Optorelay with potential-free
Contact range	110 Vcc/ca-50mA
Assignable energy	Active or reactive energy
Pulse weight	selectable 1Wh/varh...1MWh/Mvarh
Pulse duration	selectable 50...500ms
RS485 COMMUNICATION	
Protocol	Modbus RTU
Standard	RS485-3-wire
Baud rate	selectable 4800...19200 bit/s

Energy Meters

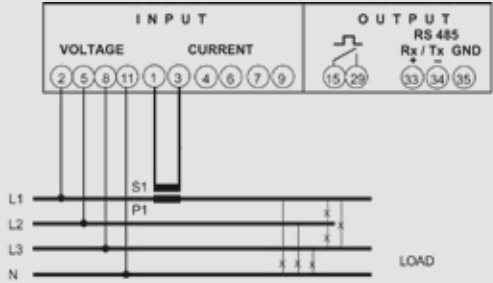
Static meter by CT

Wiring diagrams

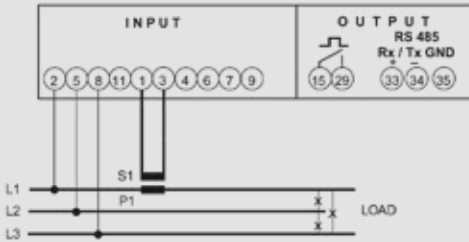
Single-phase network,



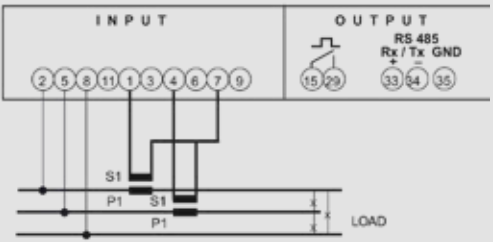
Three-phase 3Ph +N network, balanced load



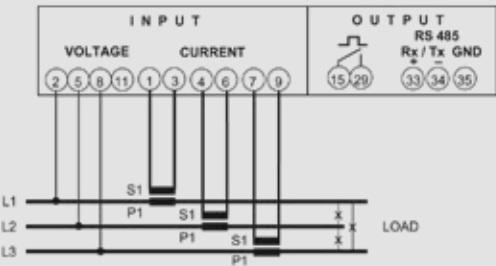
Three-phase 3Ph network, balanced load



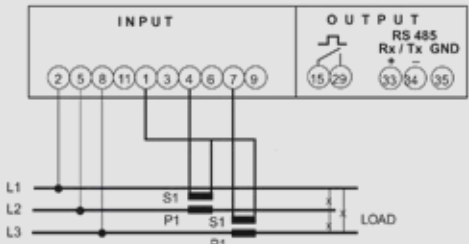
Three-phase 3Ph network, unbalanced load (aron L1-L2)



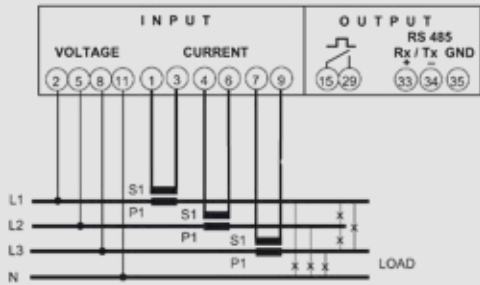
Three-phase 3Ph network, unbalanced load



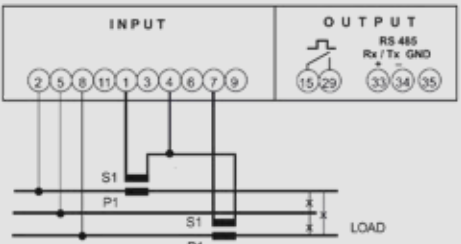
Three-phase 3Ph network, unbalanced load (aron L2-L3)



Three-phase 3Ph +N network, unbalanced load



Three-phase 3Ph network, unbalanced load (aron L1-L3)



Monitoring systems

Communication interfaces



SXIIIP



SXWS32



SXWS225



IF1KNX



IF4E011



IF4C001

FOTO NUOVA

Item	Conversion interface USB-RS485
	It allows the direct connection to PC of Conto energy meters and Nemo multifunctions with RS485 output. It is exclusively suggested for local use. Useful to carry out programming on field and download the data from the memory module IF96012 combined with F.O.C. IDM Evolution software, downloadable from the website.
IFUSB01	USB-RS485

Item	Repeater interface RS232-RS485
	It allows to amplify the signal to 31 other devices over a distance of 1200m included in the same RS485 line
IF2E003	80...270Vac+100...300Vdc
IF2E103	20...60Vdc+24Vac

Item	Interface RS485-KNX
	KNX/Modbus RS485 converter interface, for Conto energy meters and Nemo multifunctions, up to 31 struments
IF1KNX	95...250Vac

Item	Ethernet-RS485 Bridge or Datalogger function
	Multisession conversion interface (up to 4) Ethernet-RS485/ Datalogger, it allows to interface Conto energy meters and Nemo multifunctions to an Ethernet 10/100MB network. Direct connection on RS485 line up to 31 devices or through repeaters up to 255. Two Bridge operating modes (Modbus RTU or Over TCP) or Datalogger to store the energy data for each connected device and on demand to generate consumption reports for a selected period with the possibility to deliver by email to the system administrator. In this configuration, you can manage up to 64 different energy meters / multifunctions and users with individual access and a system administrator. Direct access by IP interface.
IF4E011	80...270Vac+100...300Vdc

Item	Pulse concentrator 12 inputs
	It allows to interface the Conto energy meters and all devices with pulse outputs (ex. water and gas meters) to data acquisition systems through RS485 Modbus-RTU output. Three possible configurations: 12 inputs from contact SPST-NO or 6 inputs from contact SPST-NO + 6 voltage contacts 27V max or 6 inputs from contact SPST-NO + inputs S0 (Wh+/Wh-/varh+/varh-/tariff change) for connection to ES card for GME (Enel measuring group)
IF4C001	230Vac

Item	Mini Web server DIN version
	Allow remote configuration, test, control and visualization, via a web browser on PCs, smartphones, web viewers, tablet computers, of data collected from: protection devices, meters and multi-function measuring units.
	Description
SXWS10	For 10 Modbus addresses or 10 pulse modules
SXWS32	For 32 Modbus addresses or 32 pulse modules






Item	Web server
	Allow remote configuration, test, control and visualization, via a web browser on PCs, smartphones, web viewers, tablet computers, of data collected from: protection devices, meters and multi-function measuring units.
	Description
SXWS225	It manages up to 255 Modbus addresses

Item	Communication interfaces RS485 / Modbus TCP-IP module
	Modbus RS485 - Modbus TCP / IP conversion, allowing the devices in the electrical panel to be connected to an Ethernet network.
	Description
SXIIIP	RS485 / Ethernet conversion (for connection to an IP network)



CT for Static Energy Meters

Low voltage transformers

Cable/ passing bar

																
		TAIBB (NT516)			TA221 (NT811)			TA327 (NT812)			TA432 (NT814)			TA540 (NT815)		
Dimensions (mm)		44x65			49.5x80			56x80			70x95			70x95		
Cable (mm)		Ø21			Ø21			Ø27			Ø32			Ø40		
Window (mm)		16x12.5			20.5x10.5			25.5x15.5 32.5x10.5			25.5x25.5 32.5x20.5			40.5x20.5 50.5x12.5		
Ratio	Item	VA			Item	VA			Item	VA			Item	VA		
		cl.0.5	cl.1	cl.3		cl.0.5	cl.1	cl.3		cl.0.5	cl.1	cl.3		cl.0.5	cl.1	cl.3
40/5A	TABB50B400	-	-	1	-	-	-	-	-	-	-	-	-	-	-	
50/5A	TABB50B500	-	-	1.5	TA22150B500	-	-	2.5	TA32750B500	-	-	1.5	-	-	-	
60/5A	TABB50B600	-	-	2	TA22150B600	-	1.5	3	TA32750B600	-	-	2.5	-	-	-	
75/5A	TABB50B750	-	1.5	2.5	TA22150B750	-	2	4	TA32750B750	-	1.5	3	-	-	-	
80/5A	TABB50B800	-	1.5	2.5	TA22150B800	-	3	4	TA32750B800	-	2.5	3.5	-	-	-	
100/5A	TABB50C100	1.5	2.5	-	TA22150C100	1.5	3	-	TA32750C100	1.5	3	-	TA43250C100	-	2	
120/5A	TABB50C120	2	3.5	-	TA22150C120	2.5	4	-	TA32750C120	2	3.5	-	TA43250C120	-	2	
125/5A	TABB50C125	2	3.5	-	TA22150C125	2.5	4	-	TA32750C125	2	3.5	-	TA43250C125	-	2	
150/5A	TABB50C150	3	4	-	TA22150C150	4	6	-	TA32750C150	3	4	-	TA43250C150	1	3	
160/5A	TABB50C160	3	4	-	TA22150C160	4	6	-	TA32750C160	3	5	-	TA43250C160	1.5	3	
200/5A	TABB50C200	4	5.5	-	TA22150C200	6	8	-	TA32750C200	4	7	-	TA43250C200	3	5	
250/5A	TABB50C250	5	6	-	TA22150C250	8	10	-	TA32750C250	6	8	-	TA43250C250	3	5	
300/5A	TABB50C300	6	7.5	-	TA22150C300	8	10	-	TA32750C300	8	10	-	TA43250C300	5	8	
400/5A	-	-	-	-	-	-	-	-	TA32750C400	10	12	-	TA43250C400	8	10	
500/5A	-	-	-	-	-	-	-	-	TA32750C500	12	15	-	TA43250C500	10	12	
600/5A	-	-	-	-	-	-	-	-	TA32750C600	15	20	-	TA43250C600	12	15	
800/5A	-	-	-	-	-	-	-	-	-	-	-	-	TA43250C800	10	12	
1000/5A	-	-	-	-	-	-	-	-	-	-	-	-	TA43250D100	12	15	
1200/5A	-	-	-	-	-	-	-	-	-	-	-	-	TA54050D120	12	15	
Sealable terminal cover	ATACOP12				ATACOP13				ATACOP13				ATACOP13			

Cable/ passing bar

												
		TAS64 (NT569)		TAS65 (NT518)		TAS84 (NT574)		TAS102 (NT766)		TAS127B (NT523)		
Dimensions (mm)		90x130		90x94		96x116		98x129		125x160		
Window (mm)		51x31 64x11		32x65		34x84		38x102		54x127		
Ratio	Item	VA		Item	VA		Item	VA		Item	VA	
		cl.0.5	cl.1		cl.0.5	cl.1		cl.0.5	cl.1		cl.0.5	cl.1
600/5A	TASI50C600	4	6	TASL50C600	8	12	TASO50C600	6	10	-	-	-
800/5A	TASI50C800	6	8	TASL50C800	12	15	TASO50C800	8	12	-	-	-
1000/5A	TASI50D100	8	10	TASL50D100	15	20	TASO50D100	10	15	TAMP50D100	10	12
1200/5A	TASI50D120	10	12	TASL50D120	15	20	TASO50D120	12	15	TAMP50D120	12	15
1250/5A	TASI50D125	10	12	TASL50D125	15	20	TASO50D125	12	15	TAMP50D125	12	15
1500/5A	TASI50D150	10	12	TASL50D150	20	25	TASO50D150	15	20	TAMP50D150	12	15
1600/5A	TASI50D160	10	12	TASL50D160	20	25	TASO50D160	15	20	TAMP50D160	12	15
2000/5A	-	-	-	TASL50D200	20	25	TASO50D200	20	25	TAMP50D200	20	25
2500/5A	-	-	-	-	-	-	TASO50D250	25	30	TAMP50D250	20	25
3000/5A	-	-	-	-	-	-	-	-	TAMP50D300	20	25	
4000/5A	-	-	-	-	-	-	-	-	-	-	-	
Sealable terminal cover	ATACOP03			ATACOP04			ATACOP04			ATACOP04		

RED ITEMS: In stock also in the version with terminals on the long side. Ordering code: add "3" at the end of the standard code

CT for Static Energy Meters

Low voltage transformers

Open core CT



Dimensions (mm) Window (mm)	TRA230 (NT869)				TRA580 (NT841)			TRA812 (NT842)				TRA816 (NT863)		
	92x110 20.5x30.5				120x150 50.5x80.5			150x190 80.5x120.5				185x230 80.5x160.5		
	Ratio	Item	VA			Item	VA		Item	VA			Item	VA
		cl.0.5	cl.1	cl.3		cl.0.5	cl.1		cl.0.5	cl.1	cl.3		cl.0.5	cl.1
60/5A	TA23050B600	-	-	1	-	-	-	-	-	-	-	-	-	-
100/5A	TA23050C100	-	-	1.5	-	-	-	-	-	-	-	-	-	-
150/5A	TA23050C150	-	1.5	2.5	-	-	-	-	-	-	-	-	-	-
200/5A	TA23050C200	1	2.5	-	-	-	-	-	-	-	-	-	-	-
250/5A	TA23050C250	1.5	3	-	TA58050C250	1	2	-	-	-	-	-	-	-
300/5A	TA23050C300	1.5	4	-	TA58050C300	1.5	3	-	-	-	-	-	-	-
400/5A	TA23050C400	2.5	6	-	TA58050C400	1.5	3	-	-	-	-	-	-	-
500/5A	-	-	-	-	TA58050C500	2.5	5	TA81250C500	-	4	12	-	-	-
600/5A	-	-	-	-	TA58050C600	2.5	5	TA81250C600	-	5	14	-	-	-
800/5A	-	-	-	-	TA58050C800	3	7	TA81250C800	3	7	-	-	-	-
1000/5A	-	-	-	-	TA58050D100	5	10	TA81250D100	5	10	-	-	-	-
1200/5A	-	-	-	-	-	-	-	TA81250D120	6	11	-	-	-	-
1500/5A	-	-	-	-	-	-	-	TA81250D150	8	15	-	-	-	-
2000/5A	-	-	-	-	-	-	-	-	-	-	-	TA81650D200	15	20
2500/5A	-	-	-	-	-	-	-	-	-	-	-	TA81650D250	15	20
3000/5A	-	-	-	-	-	-	-	-	-	-	-	TA81650D300	20	25
4000/5A	-	-	-	-	-	-	-	-	-	-	-	TA81650D400	20	25
5000/5A	-	-	-	-	-	-	-	-	-	-	-	TA81650D500	20	25
Sealable terminal cover	ATACOP13				ATACOP13			ATACOP13				ATACOP13		

Primary winding



Dimensions (mm) Primary terminals	TAQ2M (NT881)				TAQ6M (NT883)		TAQ2L (NT882)			TAQ6L (NT884)		
	56x80 screw type, max. cross section 6mm ² /10mm ² with wire terminals				56x80		56x80			56x80		
	Rapporto	Item	VA		Item	VA		Item	VA		Item	VA
		cl.0.5	cl.1		cl.0.5	cl.1		cl.0.5	cl.1		cl.0.5	cl.1
5/5A	TAQ2M50A500	2	4	TAQ6M50A500	6	7.5	-	-	-	-	-	-
10/5A	TAQ2M50B100	2	4	TAQ6M50B100	6	7.5	-	-	-	-	-	-
15/5A	TAQ2M50B150	2	4	TAQ6M50B150	6	7.5	-	-	-	-	-	-
20/5A	TAQ2M50B200	2	4	TAQ6M50B200	6	7.5	-	-	-	-	-	-
25/5A	TAQ2M50B250	2	4	TAQ6M50B250	6	7.5	-	-	-	-	-	-
30/5A	TAQ2M50B300	2	4	TAQ6M50B300	6	7.5	-	-	-	-	-	-
40/5A	TAQ2M50B400	2	4	TAQ6M50B400	6	7.5	-	-	-	-	-	-
50/5A	-	-	-	-	-	-	TAQ2L50B500	2	4	TAQ6L50B500	6	7.5
60/5A	-	-	-	-	-	-	TAQ2L50B600	2	4	TAQ6L50B600	6	7.5
75/5A	-	-	-	-	-	-	TAQ2L50B750	2	4	TAQ6L50B750	6	7.5
80/5A	-	-	-	-	-	-	TAQ2L50B800	2	4	TAQ6L50B800	6	7.5
100/5A	-	-	-	-	-	-	TAQ2L50C100	2	4	-	-	-
Sealable terminal cover	ATACOP13			ATACOP13			ATACOP13			ATACOP13		

Static Energy Meters

Terminal blocks



Connection to 2- or 3-system 3-phase kWh-meters
 It allows to test or to replace the kWh- meters (by a standard meter),
 without disconnecting the current circuit
 Max. voltage 500V
 Max. current 57A
 Sealable protection cover

Item	AV Terminal blocks
	Description
AV201	3-phase Aron 2 CT connection, input/output rear connection cables (holes on insulating base)
AV202	3-phase + neutral 3 CT connection, input/output rear connection cables (holes on insulating base)
AV204	3-phase + neutral 3 CT connection, input /output front connection cables (holes on transparent cover)



AVKIT4

AVKIT4Q

Item	Accessories
	Description
AVKIT4	Wall mounting adapter (103x72mm)
AVKIT4Q	Wall mounting adapter (96x96mm)

Technical features

MECHANICAL FEATURES	
Housing	insulating base + sealable cover
Insulating base material	self-extinguishing Kelon (Keramic + Nylon)
Sealable cover material	cellulose acetate
Sealable terminals	Yes
Weight	700 grams (AV201) - 1100 grams (AV202)
Connections type	screw terminals
Rigid cable	max 6mm ²
Flexible cable	max 6mm ²

Static Energy Meters

Conversion table NEW -OLD item codes



	Description	NEW item code	OLD item code
NO MID VERSION	Conto D2 63A DIR Modbus Double Tarif	CE2DF3DTCL1	CE20195A4
	Conto D2 63A DIR Pulse	CE2DF30PCL1	CE20195A2
	Conto D4 63A DIR Pulse	CE4DF30PCL1	CE4DT06A2 CE4DT06A23F
	Conto D4 63A DIR Modbus Double Tarif	CE4DF3DTCL1	CE4DT06A4 CE4DT06A43F
	Conto D4 63A DIR Mbus Double Tarif	CE4DF3MTCL1	CE4DT06AM
	Conto D4 CT5A Pulse	CE4TB0PCL1	CE4DT14A2 CE4DT12A2
	Conto D4 CT5A Modbus Double Tarif	CE4TBDTCL1	CE4DT14A4 CE4DT14A6 CE4DT12A4 CE4DT12A6
	Conto D4 CT5A Pulse Mbus Double Tarif	CE4TBMTCCL1	CE4DT14AM CE4DT12AM
MID VERSION	Conto D2 63A DIR Modbus Double Tarif MID	CE2DF3DTMID	CE2DMID11
	Conto D2 63A DIR Pulse MID	CE2DF30PMID	CE2DMID12
	Conto D2 63A DIR Mbus MID	CE2DF3MTMID	-
	Conto D4 63A DIR Pulse MID	CE4DF30PMID	CE4DMID32 CE4DMID22
	Conto D4 63A DIR Modbus Double Tarif MID	CE4DF3DTMID	CE4DMID31 CE4DMID21
	Conto D4 63A DIR Mbus Double Tarif MID	CE4DF3MTMID	CE4DMID3M
	Conto D4 CT5A Modbus Double Tarif MID	CE4TBDTMID	CE4DMID01
	Conto D4 CT5A Mbus Double Tarif MID	CE4TBMTCMID	CE4DMID0M

Note: Bus version available starting March 2020



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