

STATIC ENERGY METERS CONTO

► NEW ◀

New Conto D6
Static meter for direct
connection up to 125A



► Energy meters

one-way multi measure, also
suitable for tax purposes
applications.

The LCD display, show active
energy consumption (kWh)
Class 1 EN/IEC 62053-21 or EN
50470 certified class B MID, and
reactive (kvarh) Class 2 EN/IEC
62053-23 addition to the main
electrical parameters.



MID certification

Conto static meter guarantees accuracy and reliability of measurement, and thanks to european directive homologation 2004/22/CE MID (Measuring Instruments Directive), can be used for tax purposes.

The static meter are equipped by tamper-proof components to prevent fraud or access to some functions (no reset).





Direct measurement up to 125 A

Direct measurement for currents up to 125 A, singlephase and three-phase, indirect measurement via current transformers for currents from 125 A and up to 6000 A:

Energy management

Thanks to models with pulse outputs or RS485 communications, ModBus RTU or M-Bus, energy meters are easily integrated into main system of centralized monitoring and thanks to the ethernet interface with web server function is possible to integrate in a remote control system such as MIDAS Evo.

Selection table

						
Model conto		D1 MID	D2 MID	D4-Pd MID	D4-Pt MID	
Network		LV	LV	LV	LV/MV	
Connection		Direct			CT	
Technical notes		NT867	NT788	NT789	NT742	
INPUT	Connection	1Ph	•	•		
		3Ph balanced load				
		3Ph unbalanced load			•	•
		3Ph+N unbalanced load			•	•
	Rated value	Direct single phase voltage	230V	230V		
		VT single phase voltage				
		Direct three-phase voltage			400V	400V
		VT three-phase voltage				100V
		Basic current (I _b)	5A	10A	10A	5A
		Max. current (I _{max})	45A	63A	63A	6A
Programmable Ratio	Starting current	20mA	40mA	40mA	10mA	
	VT (kVT) ¹				1...500	
	CT (kCT) ¹				1...1.999	
	max. kVT x kCT				1.000.000	
DISPLAY	Active energy	Accuracy EN/IEC62053-21				
		Accuracy EN50470	cl.B	cl.B	cl.B	cl.B
		Total to terminals	•MID	•MID	•MID	•MID
		Total to primary side				•
		Partial resettable		•	•	
	Reactive energy	Double tariff				
		Accuracy EN/IEC62053-23			cl.2	cl.2
		Total to primary side			•	•
		Partial resettable			•	
	Voltage	Double tariff				
		Phase		•	•	•
	Current	Linked			•	•
		Phase		•	•	•
	Power factor	Neutral				•
				•	•	•
	Power	Active		•	•	•
		Reactive			•	•
		Apparent			•	•
		Phase Active and reactive			•	•
		Peak max. demand			•	•
Frequency			•	•	•	
Run hour meter			•	•	•	
OUTPUT	Pulse	•	▲	▲	•	
	RS485 MODBUS RTU		■	■	•	
	RS232		• ²	• ²	• ²	
	M-BUS			•		
	Ethernet		• ³	• ³	• ³	
Auxiliary supply				•		
Self-supplied	•	•	•			
Mid certifications		•	•	•		
UTF certifications (italia only)		•	•	•		
Dimensions			2 modules	4 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 With interface (see page 62)
 3 With interface (see page 62)



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

Cat. Nos.	Conto D1 MID		
		Network	Output
CE1DMID12		1Ph+N	Pulse

Technical features

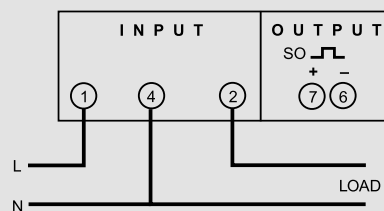
TECHNICAL NOTES	NT867
INPUT CURRENT	
Starting current (Ist)	0,02A
Min. current (Imin)	0,25A
Basic current (Ib)	5A
Max. current (Imax)	45A
Short-time overcurrent	30Imax/10ms
Power consumption	2W / 10VA
INPUT VOLTAGE	
Reference single-phase voltage	230V
Specified operating range	+ - 15%
NETWORK	
Reference 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
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



Static Energy Meters

Static meter 63 A direct connection



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.
 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 energy (MID)
- Partial active energy
- Current / Voltage
- Active power
- Frequency
- Power factor
- Run hour meter (count start with current $\geq 40\text{mA}$)

Cat. Nos.	Conto D2 MID	
CE2DMID11	Network 1Ph+N	Output RS485 ModBus RTU
CE2DMID12	1Ph+N	Pulse

Technical features

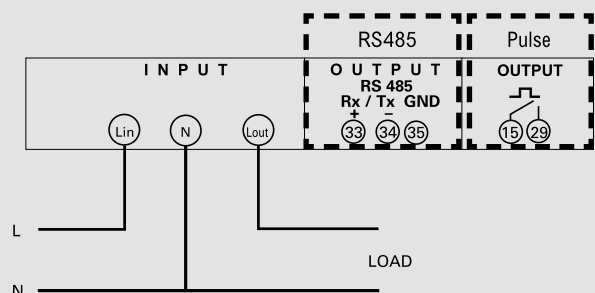
TECHNICAL NOTES		NT788
INPUT CURRENT		
Starting current (Ist)		0,04A
Min. current (Imin)		0,5A
Basic current (Ib)		10A
Max. current (Imax)		63A
Short-time overcurrent		30Imax/10ms
Power consumption		1,5W / 4VA
INPUT VOLTAGE		
Reference single-phase voltage		230V
Specified operating range		$\pm 10\%$
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
DISPLAY		
Type		Backlit 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		output - max 4mm ² input - max 16mm ²
Flexible cable		output - max 2,5mm ² input - max 10mm 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*		$\leq 4\text{W}$

*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 energy
Pulse weight	selectable 1Wh...1kWh
Pulse duration	selectable 50...500ms
RS485 COMMUNICATION	
Protocol	MODBUS RTU
Standard	RS485-3-wire
Baud rate	selectable 2400...19200 bit/s

Wiring diagrams





Static Meter with MID certification

Direct connection for 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.

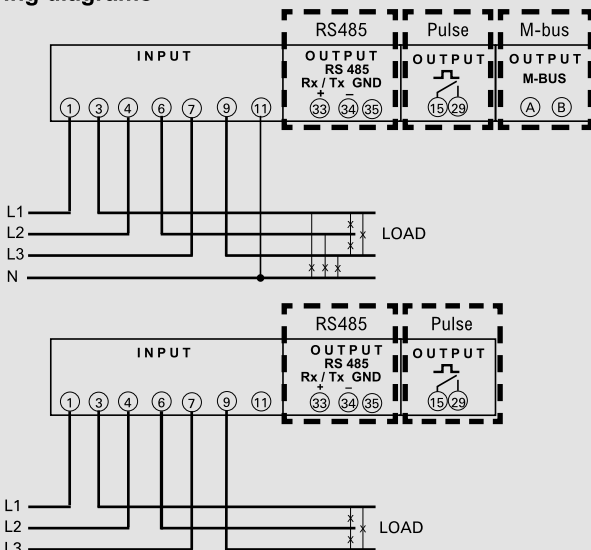
Functions

- Active energy (MID)
- Reactive energy
- Partial positive, active and reactive energy
- Current / Voltage
- Frequency
- Power factor
- Active, reactive and apparent power, phase active and reactive power, active power demand and active power max. demand
- Run hour meter (count start with minimum currents)

Cat. Nos.	Conto D4 - Pd MID	
	Network	Output
CE4DMID21	3Ph	RS485 ModBus RTU
CE4DMID22	3Ph	Pulse
CE4DMID31	3Ph + N	RS485 ModBus RTU
CE4DMID32	3Ph + N	Pulse
CE4DMID3M	3Ph + N	M-bus output

Cat. Nos.	Accessories
	Description
AVKIT4	Wall mounting adapter (103x72mm)
AVKIT4Q	Wall mounting adapter (96x96mm)

Wiring diagrams



Technical features

CAT.NOS	CE4DMID21/22 CE4DMID31/32	CE4DMID3M
TECHNICAL NOTES	NT789	NT887
INPUT CURRENT		
Starting current (Ist)	0,04A	
Min. current	0,5A	
Basic current (Ib)	10A	
Max. current (Imax)	63A	
Short-time overcurrent	20Imax/0,5s	30Imax/0,5s
Power consumption	2,2VA /1,5W three-phase	
INPUT VOLTAGE		
Reference three-phase voltage	230-400V	400V
Specified operating range	± 15%	
NETWORK		
Reference frequency	50Hz	
Frequency tolerance	49...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 resolution	999999,99 kWh/kvarh	
MECHANICAL FEATURES		
Housing	4 module DIN 43880 (35mm)	
Housing material	self-extinguishing polycarbonate	
Protection degree	IP20 terminals/ IP52 front frame	
Sealable terminals	Yes	
Connections type	screw terminals	
Cable with lag	output - max 4mm 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...10KkWh/kvarh
Pulse duration	selectable 50...500ms
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

Static Energy Meters

Static meter by CT



Static Meter with MID certification

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

- Active and Reactive energy primary side (external CT and/or VT)
- Active energy to the terminals (MID)
- Current / Voltage
- Frequency
- Power factor
- Active, reactive and apparent power, phase active and reactive power, active power demand and active power max. demand
- Run hour meter (count start with currents >10mA or with the presence of the line voltages)

Cat. Nos.	Conto D4 - Pt MID	
	Network	Output
CE4DMID01	3Ph /3Ph + N	Pulse + RS485 ModBus RTU

Cat. Nos.	Accessories
	Description
AVKIT4	Wall mounting adapter (103x72mm)
AVKIT4Q	Wall mounting adapter (96x96mm)

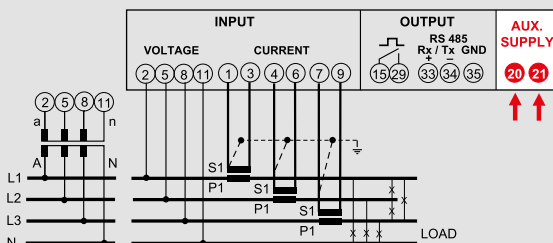
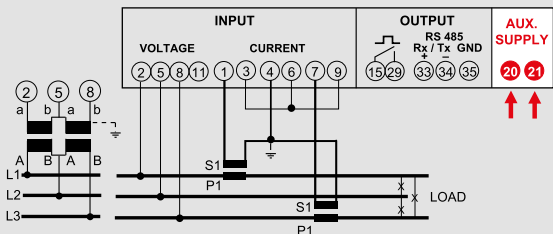
Technical features

TECHNICAL NOTES	NT742
INPUT CURRENT	
Starting current (Ist)	0,01A
Min. current (Imin)	0,05A
Basic current (Ib)	5A
Max. current (Imax)	6A
Short-time overcurrent	30Imax/10ms
Power consumption	0,3W / 0,2VA for phase
INPUT VOLTAGE	
Reference three-phase voltage	100V-400V
Specified operating range	± 15%
NETWORK	
Reference frequency	50-60Hz
Frequency tolerance	49...51-59...61Hz
AUXILIARY SUPPLY	
Nominal voltage	230V
Tolerance	+ - 15%
Reference frequency	50Hz
Frequency tolerance	47...63Hz
Power consumption	4,5VA(2,2)W at 264V
ACCURACY	
Active energy kWh EN50470	cl. B
Reactive energy kvarh EN/IEC 62053-23	cl. 2
DISPLAY	
Type	Backlit LCD
Digit height	6mm
Energy resolution	depending on the CT/VT 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	-25...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	999999,99MWh/Mvarh
10000...99999	9999999,9MWh/Mvarh
100000...999999	99999999MWh/Mvarh

Wiring diagrams



Output

ENERGY PULSES S0 EN/IEC 62053-31	
Type	Optorelay with potential-free
Contact range	27 Vdc/ac-50mA
Assignable energy	Active or reactive energy
Pulse weight	selectable 10Wh/varh...1MWh/Mvarh
Pulse duration	selectable 50...300ms

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

Static Energy Meters

Static meter 32 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

Cat. Nos.	Conto D1	Network	Output
CE11165A0		1Ph+N	-
CE11165A2		1Ph+N	Pulse

Technical features

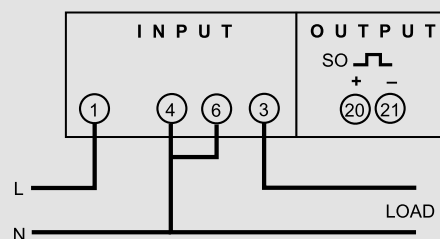
TECHNICAL NOTES	NT784
INPUT CURRENT	
Starting current (Ist)	0,02A
Min. current (Imin)	0,5A
Basic current (Ib)	5A
Max. current (Imax)	32A
Short-time overcurrent	30Imax/10ms
Power consumption	9,7VA(0,5W) a 264V
INPUT VOLTAGE	
Reference single-phase voltage	230V
Specified operating range	196...264V
NETWORK	
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
Digit height	6mm
Energy resolution	99999,99 kWh
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
Flexible cable	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

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



Static Energy Meters

Static meter 45 A direct connection



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

Cat. Nos.	Conto D1	
	Network	Output
CE11165A4	1Ph+N	RS485 ModBus RTU

Technical features

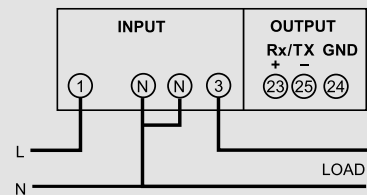
TECHNICAL NOTES	NT868
INPUT CURRENT	
Starting current (Ist)	0,02A
Min. current (Imin)	0,5A
Basic current (Ib)	5A
Max. current (Imax)	45A
Short-time overcurrent	30I _{max} /10ms
Power consumption	7,5VA / 0,6W
INPUT VOLTAGE	
Reference single-phase voltage	230V
Specified operating range	196...264V
NETWORK	
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	Backlit LCD
Digit height	6mm
Energy resolution	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 25mm ²
Flexible cable	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

Wiring diagrams



Static Energy Meters

Static meter 36 A direct connection



Direct connection for single-phase network.

Functions

- Active energy

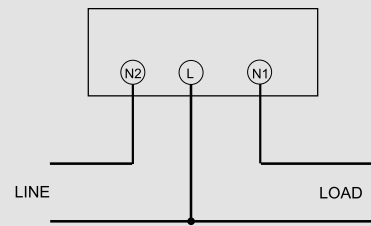
Cat. Nos.	Conto D2-b	Network	Output
CE21175A0		1Ph+N	-

Technical features

TECHNICAL NOTES	NT660
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



Static Energy Meters

Static meter 63 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.
 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 energy
- Partial active energy
- Current / Voltage
- Active power
- Frequency
- Power factor
- Run hour meter (count start with current $\geq 20\text{mA}$)

Cat. Nos.	Conto D2	
	Network	Output
CE20195A2	1Ph+N	Pulse
CE20195A4	1Ph+N	RS485 ModBus RTU

Technical features

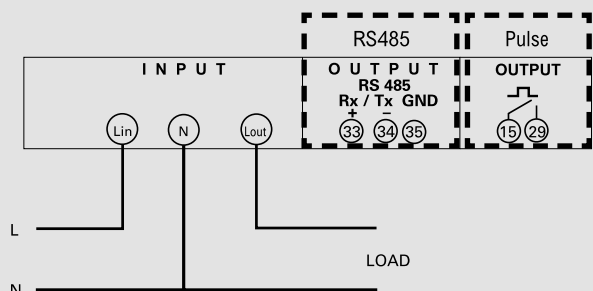
TECHNICAL NOTES		NT765
INPUT CURRENT		
Starting current (Ist)		0,02A
Min. current (Imin)		0,25A
Basic current (Ib)		5A
Max. current (Imax)		63A
Short-time overcurrent		30Imax/10ms
Power consumption		4VA(1,9W) a 264V
INPUT VOLTAGE		
Reference single-phase voltage		230-240V
Specified operating range		196...264V
NETWORK		
Reference frequency		50Hz
Frequency tolerance		49...61Hz
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/kvarh
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		output - max 4mm ² input - max 16mm ²
Flexible cable		output - max 2,5mm ² input - max 10mm 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*		≤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 energy
Pulse weight	selectable 1Wh...1kWh
Pulse duration	selectable 50...500ms
RS485 COMMUNICATION	
Protocol	MODBUS RTU
Standard	RS485-3-wire
Baud rate	selectable 2400...19200 bit/s

Wiring diagrams



Static 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

- Total active and reactive energy, active and reactive energy tariff 1 and tariff 2
- Partial active and reactive energy
- Active power max. demand, active power max. demand tariff 1 and tariff 2
- Partial active and reactive power
- Current / Voltage
- Frequency
- Power factor
- Active, reactive and apparent power,
- Run hour meter (count start: CE4DT36A4 0,4...50% rated power, CE4DT06A.. three-phase active power)

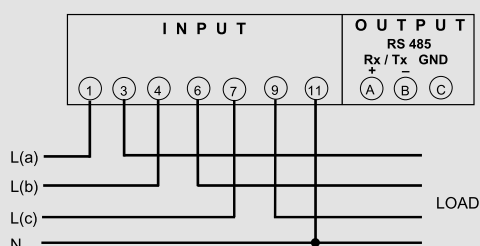
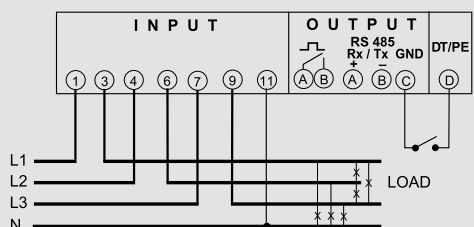
Cat. Nos.	Conto D4-Pd	Network	Output
CE4DT36A4		3x1Ph+N	RS485 ModBus RTU/TCP
CE4DT06A2		3Ph+N	Pulse
CE4DT06A4		3Ph+N	RS485 ModBus RTU/TCP
CE4DT06AM		3Ph+N	M-Bus
CE4DT06A23F		3Ph	Pulse output
CE4DT06A43F		3Ph	RS485 ModBus RTU/TCP

Technical features

CAT.NOS	CE4DT06A..	CE4DT36A4
TECHNICAL NOTES	NT669	NT880
INPUT CURRENT		
Starting current (Ist)	0,04A	
Min. current (Imin)	0,5A	
Basic current (Ib)	10A	
Max. current (Imax)	63A	
Short-time overcurrent	30Imax/10ms	
Power consumption	2VA (1,4W) 3-phase	
INPUT VOLTAGE		
Reference three-phase voltage	400-415V	-
Reference single-phase voltage	-	230-240V
Specified operating range	197...480V	190...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	
Reactive energy kvarh EN/IEC 62053-23	cl. 2	
DISPLAY		
Type	LCD	
Digit height	6mm	
Energy resolution	999999,99 kWh/kvarh	
MECHANICAL FEATURES		
Housing	4 module DIN 43880 (35mm)	
Housing material	self-extinguishing polycarbonate	
Protection degree	IP20 terminals/ IP52 front frame	
Sealable terminals	Yes	
Connections type	screw terminals	
Cable with lag	output - max 4mm ² input - max 16mm ²	
Flexible cable	output - max 2,5mm ² input - max 10mm 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*	≤6W	

*For switchboard thermal calculation.

Wiring diagrams



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...19200 bit/s
M-BUS COMMUNICATION	
Protocol	M-BUS
Standard	EN13757
Baud rate	selectable 300...9600 bit/s

Static 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
- Instantaneous Current
- Max. Demand and Instantaneous Power
- Voltage
- Frequency
- Power Factor
- Run hour meter (count start 0,4...50% rated power)

Cat. Nos.	Conto D6 Pd	
	Network	Output
CE6DT1252	3Ph + N	Pulse
CE6DT1256	3Ph + N	Pulse + RS485 ModBus RTU

Technical features

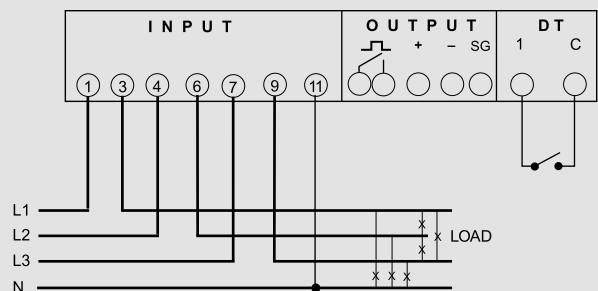
TECHNICAL NOTES	NT902
INPUT CURRENT	
Starting current (Ist)	0,04A
Min. current (Imin)	0,5A
Basic current (Ib)	10A
Max. current (Imax)	125A
Short-time overcurrent	30Imax/10ms
Power consumption	1,5W for phase
INPUT VOLTAGE	
Reference three-phase voltage	400V
Specified operating range	+/-15%
NETWORK	
Reference 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



Static 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

- 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
- Run hour meter (count start three-phase active power)

Cat. Nos.	Conto D4 Pt	
	Input (V)	Output
CE4DT12A2	100 -110	Pulse
CE4DT12A4	100 -110	RS485 ModBus RTU
CE4DT12A6	100 -110	Pulse + RS485 ModBus RTU
CE4DT12AM	100 -110	Pulse + M-Bus
CE4DT14A2	400 -415	Pulse
CE4DT14A4	400 -415	RS485 ModBus RTU
CE4DT14A6	400 -415	Pulse + RS485 ModBus RTU
CE4DT14AM	400 -415V	Pulse + M-Bus

Technical features

TECHNICAL NOTES	NT672
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	-5...55°C
Limit range for storage and transport	-25...70°C
Suitable for tropical climates	yes
Max.power dissipation*	≤2,8W

*For switchboard thermal calculation.

** kCT*kVT	MAXIMUM DISPLAY
1...9	999999,99kWh/kvarh
10...99	9999999,9kWh/kvarh
100...999	99999999kWh/kvarh
1000...9999	999999,99MWh/Mvarh
10000...99999	9999999,9MWh/Mvarh
100000...999999	99999999MWh/Mvarh

Output

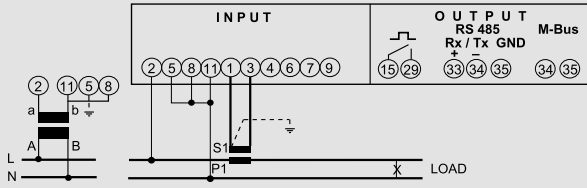
ENERGY PULSES S0 EN/IEC 62053-31	
Type	Optorelay with potential-free
Contact range	27Vdc – 50mA
Assignable energy	Active or reactive energy
Pulse weight	selectable 1Wh/varh...10kWh/kvarh
Pulse duration	selectable 50...500ms
RS485 COMMUNICATION	
Protocol	MODBUS RTU
Standard	RS485-3-wire
Baud rate	selectable 4800...19200 bit/s
M-BUS COMMUNICATION	
Protocol	M-BUS
Standard	EN13757
Baud rate	selectable 300...9600 bit/s

Static Energy Meters

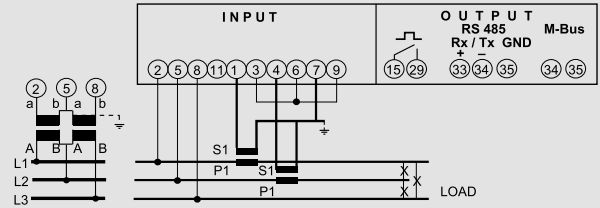
Static meter by CT

Wiring diagrams

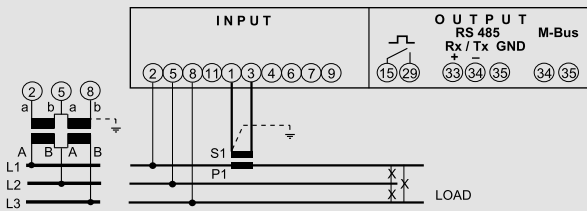
Single-phase network,



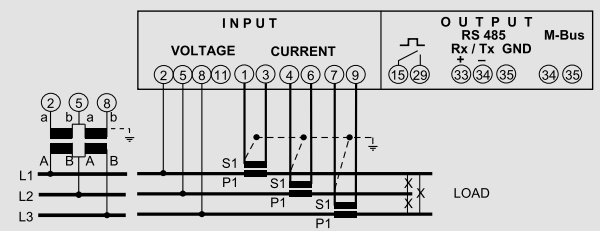
Three-phase 3Ph network, unbalanced load (aron L1-L2)



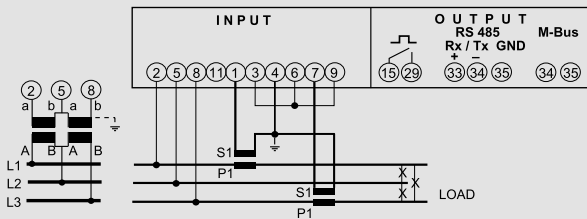
Three-phase 3Ph network, balanced load



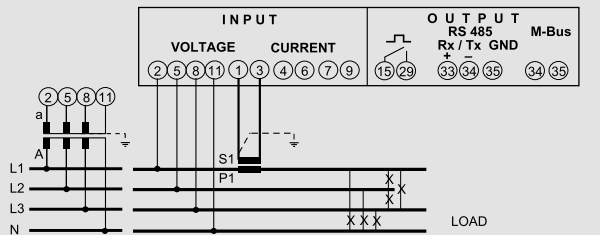
Three-phase 3Ph network, unbalanced load



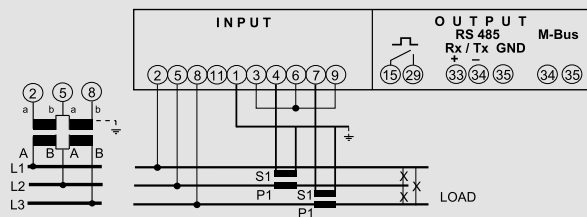
Three-phase 3Ph network, unbalanced load (aron L1-L3)



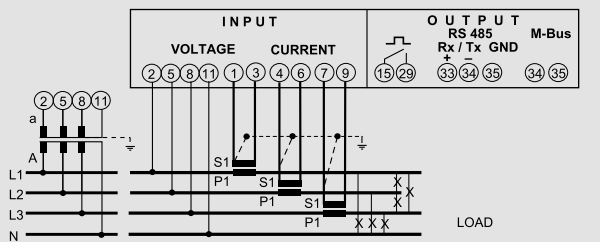
Three-phase 3P + N hnetwork, balanced load



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



Three-phase 3P + N hnetwork, unbalanced load



Static 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, 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

Cat. Nos.	Conto D4 Sh		Output
CE4ST14A2	Input (V)	400 -415	Pulse
CE4ST14A4	400 -415	RS485 ModBus RTU	
CE4ST16A2	440		Pulse

Technical features

TECHNICAL NOTES		NT739
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		-5...55°C
Limit range for storage and transport		-25...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	999999,99MWh/Mvarh

Output

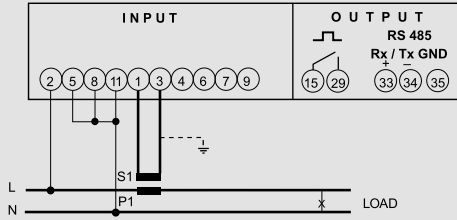
ENERGY PULSES S0 EN/IEC 62053-31	
Type	Optorelay with potential-free
Contact range	110 Vcc/ca-50mA
Assignable energy	Active or reactive energy
Pulse weight	selectable 1Wh/varh...1MWh/Mvarh
Pulse duration	selectable 50...500ms
RS485 COMMUNICATION	
Protocol	MODBUS RTU
Standard	RS485-3-wire
Baud rate	selectable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

Static Energy Meters

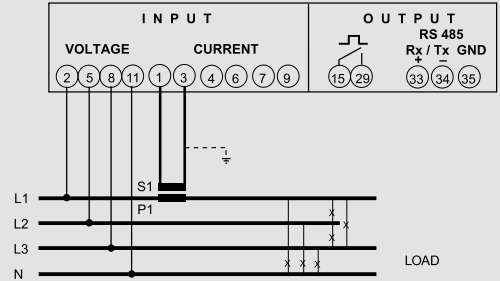
Static meter by CT

Wiring diagrams

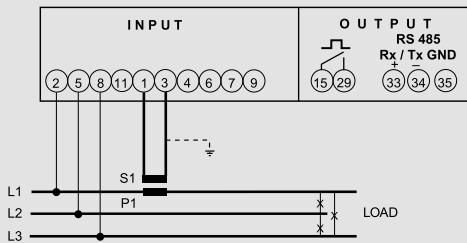
Single-phase network,



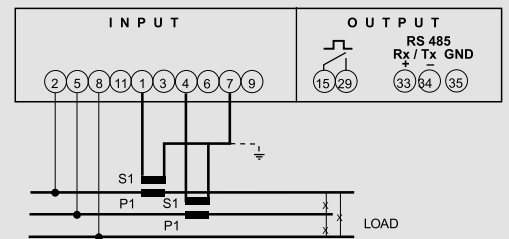
Three-phase 3Ph +N network, balanced load



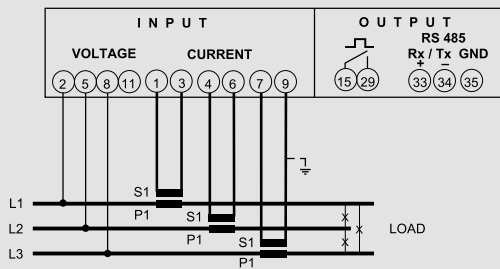
Three-phase 3Ph network, balanced load



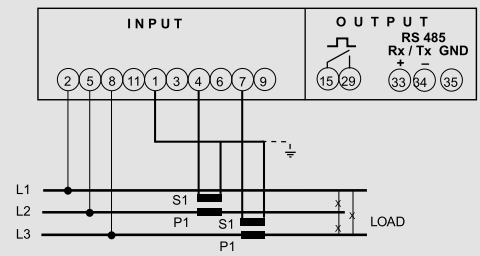
Three-phase 3Ph network, unbalanced load (aron L1-L2)



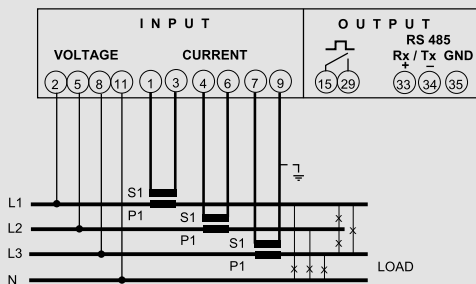
Three-phase 3Ph network, unbalanced load



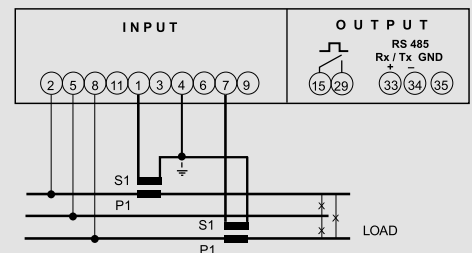
Three-phase 3Ph network, unbalanced load (aron L2-L3)



Three-phase 3Ph +N network, unbalanced load



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



Static Energy Meters

Flush mounting 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, 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

Cat. Nos.	Conto 72 Pt	
	Input (V)	Output
CE72T12A2	100 -110	Pulse
CE72T12A4	100 -110	RS485 ModBus RTU
CE72T14A2	400 -415	Pulse
CE72T14A4	400 -415	RS485 ModBus RTU

Cat. Nos.	Conto 96 Pt	
	Input (V)	Output
CE96T12A2	100 -110	Pulse
CE96T12A4	100 -110	RS485 ModBus RTU
CE96T14A2	400 -415	Pulse
CE96T14A4	400 -415	RS485 ModBus RTU

Technical features

MODEL	Conto 72 Pt	Conto 96 Pt
TECHNICAL NOTES	NT697	NT698
INPUT CURRENT		
Starting current (Ist)	0,02A	
Min. current (Imin)	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 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	flush mounting panel cutout (68X68)	flush mounting panel cutout (92X92)
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	-5...55°C	
Limit range for storage and transport	-25...70°C	
Suitable for tropical climates	yes	
Max.power dissipation*	≤2,8W	

*For switchboard thermal calculation

** kCT*kVT	MAXIMUM DISPLAY
1...9	999999,99kWh/kvarh
10...99	9999999,9kWh/kvarh
100...999	99999999kWh/kvarh
1000...9999	999999,99MWh/Mvarh
10000...99999	9999999,9MWh/Mvarh
100000...999999	99999999MWh/Mvarh

Output

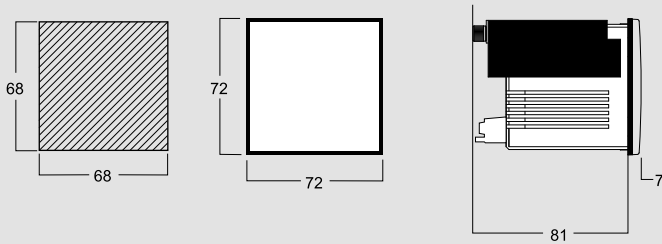
ENERGY PULSES S0 EN/IEC 62053-31	
Type	Optorelay with potential-free
Contact range	110 Vcc/ca-50mA
Assignable energy	Active or reactive energy
Pulse weight	selectable 10Wh/varh...1MWh/Mvarh
Pulse duration	selectable 50...500ms
RS485 COMMUNICATION	
Protocol	MODBUS RTU
Standard	RS485-3-wire
Baud rate	selectable 4800...19200 bit/s

Static Energy Meters

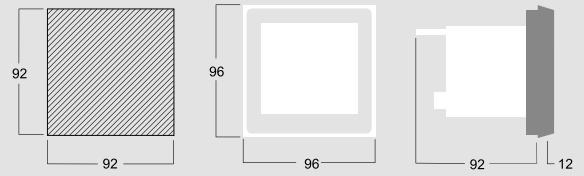
Flush mounting static meter by CT

Dimensions

Conto 72 Pt

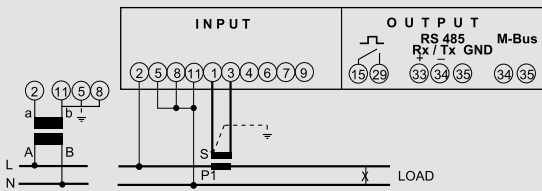


Conto 96- Pt

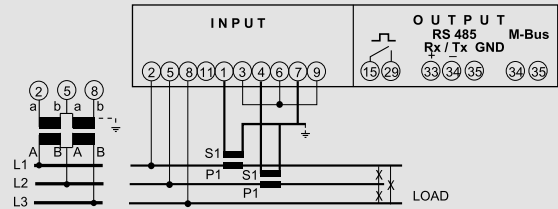


Wiring diagrams

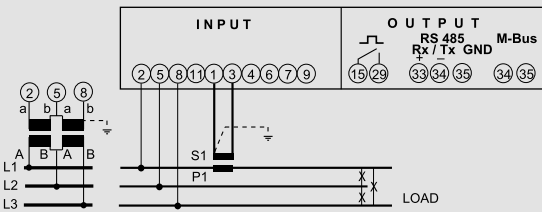
Single-phase network,



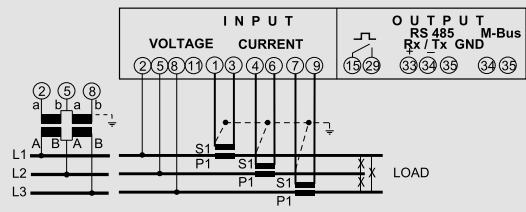
Three-phase 3Ph network, unbalanced load (aron L1-L2)



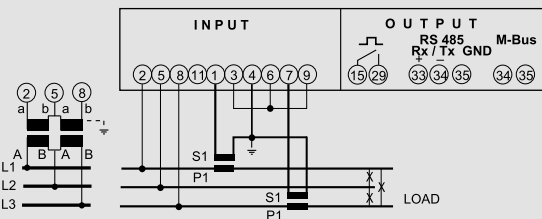
Three-phase 3Ph network, balanced load



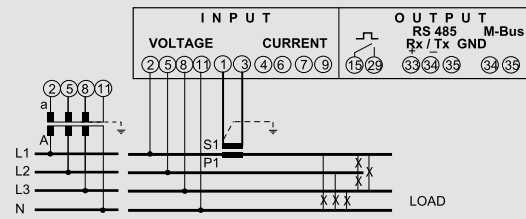
Three-phase 3Ph network, unbalanced load



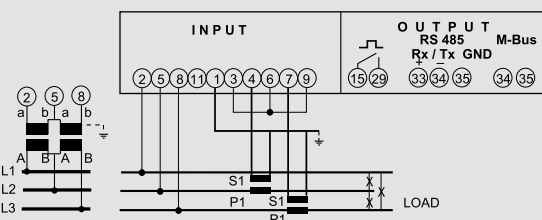
Three-phase 3Ph network, unbalanced load (aron L1-L3)



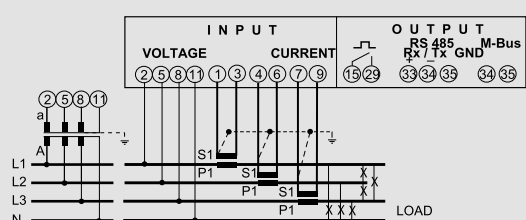
Three-phase 3Ph+N network, balanced load



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



Three-phase 3Ph+N network, unbalanced load



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

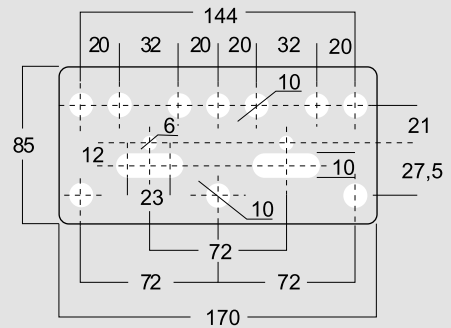
Cat. Nos.	AV Terminal blocks
Description	
AV201	3-phase Aron 2 CT connection, input/output rear connection cables (holes on insulating base)
AV202	3-phase + neutral 3 CT connection, input/output rear connection cables (holes on insulating base)
AV204	3-phase + neutral 3 CT connection, input /output front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

Technical features

TECHNICAL NOTES	NT857
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

Dimensions

AV201



AV202 - AV204

