



ACTIVE ENERGY METER FOR SWITCHBOARD MOUNTING



72Ea, 72Eb1

For measuring the active energy on 1-phase or 3-phase, 4-wire, balanced AC networks.

Accuracy class: 1, as per norm IEC 1036.

Counter: 6-digits, electromechanical

The case and the panel cutout are according to norm DIN 43700.



Application		1-phase	3-phase 4-wire balanced load
Type	Active power (W)	72Ea	72Eb1
Weight	Approxiative	0,4kg	0,4 kg
Input	Rated value U_N	57...290V	3x100/57V, 3x110/63V, 3x230/132V, 3x400/230V, 3x500/290V
	Rated value I_N Power consumption Working range Measuring range Rated frequency	.../1A, .../5A for current transformer connection voltage < 1,8VA current < 0,2VA 80 – 120% U_N 0 – 120% I_N apparent power calibration factor FCAL (0,5 – 1,2) 50 / 60 Hz	
Overload	Continuous for 0,5 sec	1,2 U_N ($U < 600V$) 2 I_N ($i < 10A$) 2 U_N ($< 600V$) 10 I_N	
Accuracy	Class	1% according IEC 1036	
Display	Counter	6-digit electromechanical (height: 4mm)	
	Mains input display Energy consumption display	green LED red LED, 10 light pulse = 1 count	
Pulse output	Relay	10 pulse per count 100ms 100V AC, 1A, or 30V DC, 1A	
	Opto	10 pulse per count collector (+), emitter (-) 100ms 30V DC, 20mA	
Insulation	Test voltage	3,75kV, 50 Hz, 1min	
Case	Material	NORYL UL 94 V1, RAL 9005 black	
	Connection	screw terminals, maximal 2,5 mm ² rigid wire (13 AWG) 1,5 mm ² flexible wire (15 AWG)	
	Fixing	screw terminals, DIN 43835 B	
	Mouting Enclosure code Size	Any position Case IP 50 / terminals IP 20 72 x 72 x 87 mm	
Climatic	Working temperature	0 to +50°C	
	Storage temperature	-20 to +70°C	
	Humidity	=95%RH non condensing	
Applied general standards		IEC 1036	

Order specification:

Active power energy meter, 3-pase, 4-wire, balanced load
3 x 400/230V, CT: 100/5A, opto output
Class of accuracy: 1

72Eb1	3x400/230V	100/5A	opto	cl. 1
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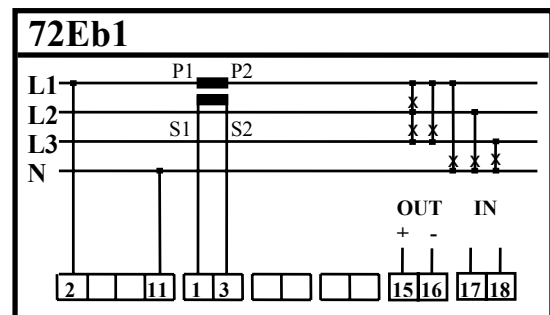
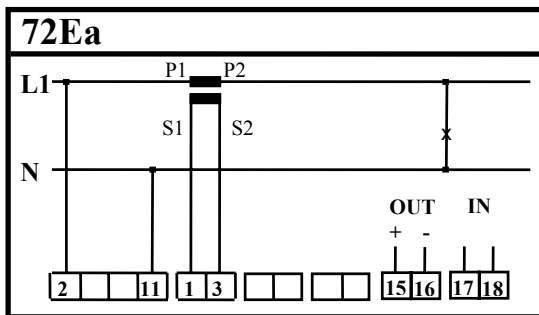
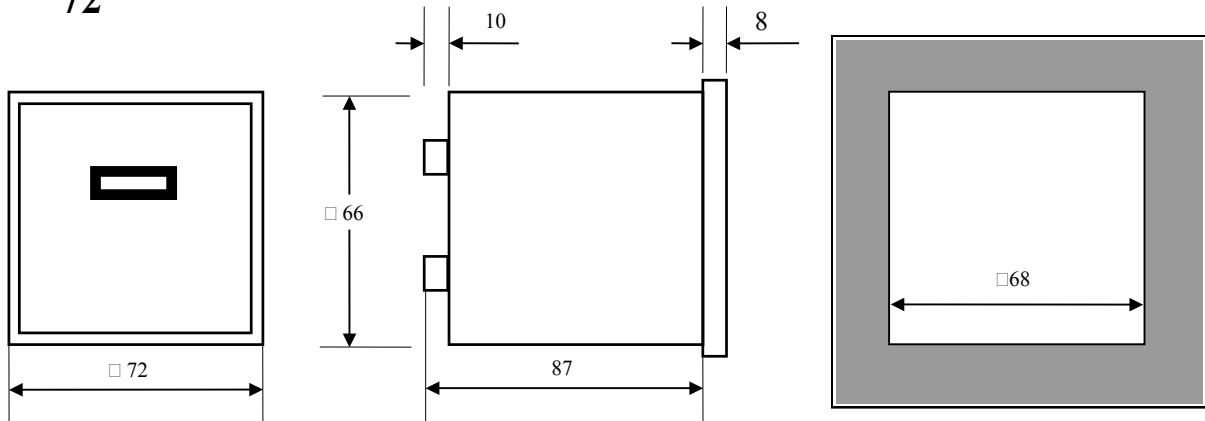


ACTIVE ENERGY METER



Dimension in mm:

72





ACTIVE ENERGY METER FOR SWITCHBOARD MOUNTING



96Eb, Eb1, Ec, Ed

For measuring the active energy on 3-phase, 3-wire or 4-wire, balanced or unbalanced AC networks.

Accuracy class: 1 as per norm IEC 1036.

Counter : 6-digits, electromechanical

The case and the panel cutout are according to norm DIN 43700.



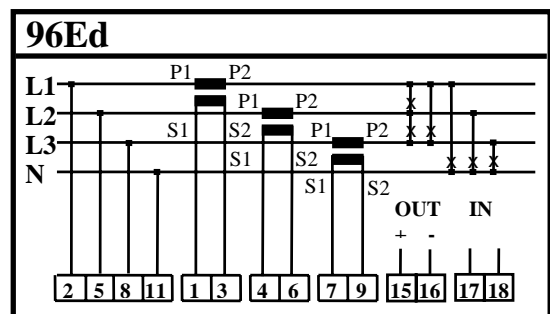
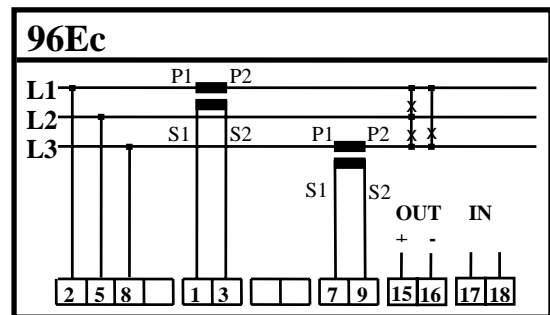
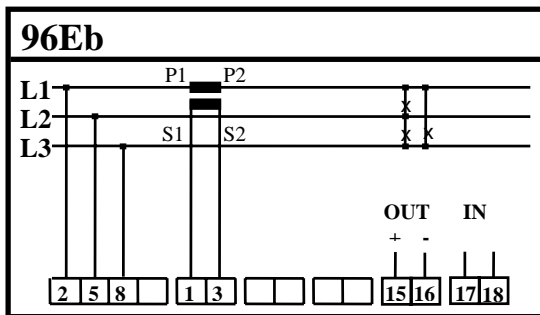
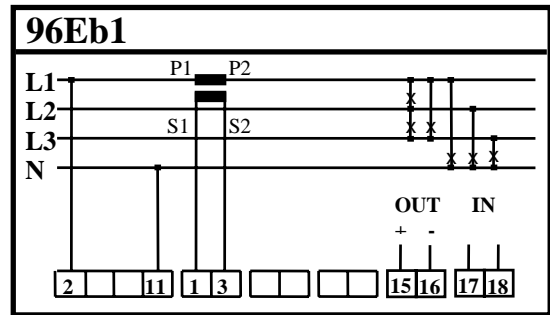
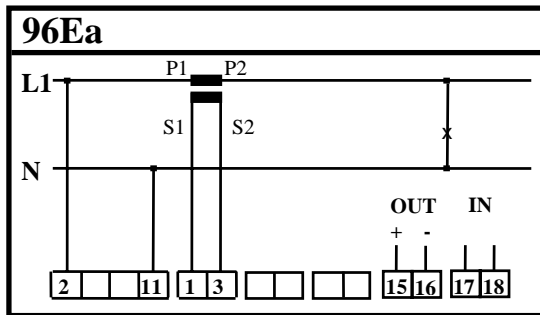
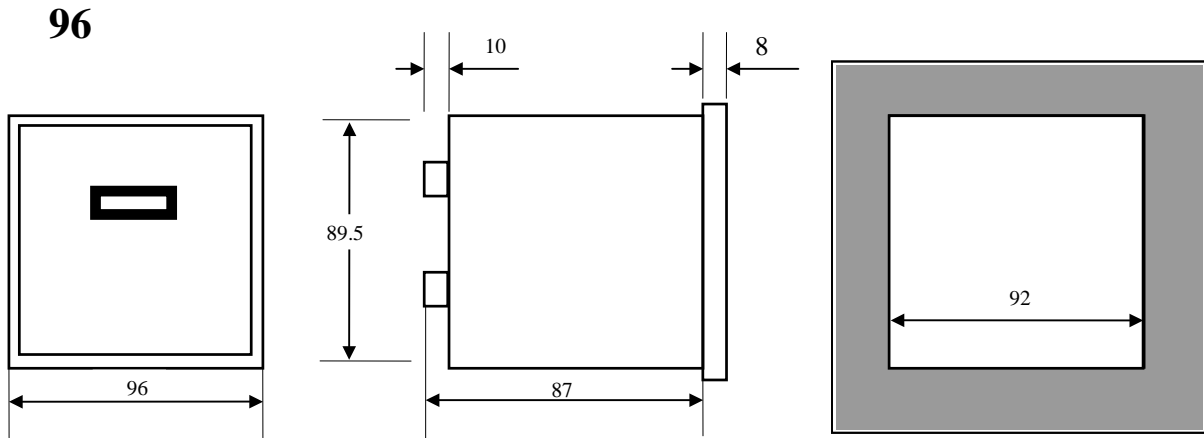
Application		3-phase 3-wire balanced load	3-phase 4-wire balanced load	3-phase 3-wire unbalanced load	3-phase 4-wire unbalanced load
Type	Active power (W)	96Eb	96Eb1	96Ec	96Ed
Weight	Approxiative	0,5 kg			
Input	Rated value U_N	3x100/57V, 3x110/63V, 3x230/132V, 3x400/230V, 3x500/290V			
	Rated value I_N	.../1A, .../5A for current transformer connection			
	Power consumption	voltage < 1,8VA current < 0,2VA			
	Working range	80 – 120% U_N		0 – 120% I_N	
	Measuring range	apparent power calibration factor FCAL (0,5 – 1,2)			
Rated frequency		50 / 60 Hz			
Overload	Continuous for 0,5 sec	1,2 U_N ($U < 600V$) 2 I_N ($i < 10A$) 2 U_N ($< 600V$) 10 I_N			
Accuracy	Class	1% according IEC 1036			
Display	Counter	6-digit electromechanical (height: 4mm)			
	Mains input display Energy consumption display	green LED red LED, 10 light pulse = 1 count			
Pulse output	Relay	10 pulse per count 100ms 100V AC, 1A, or 30V DC, 1A			
	Opto	10 pulse per count collector (+), emitter (-) 100ms 30V DC, 20mA			
Insulation	Test voltage	3,75kV, 50 Hz, 1min			
Case	Material	NORYL UL 94 V1, RAL 9005 black			
	Connection	screw terminals, maximal		2,5 mm ² rigid wire (13 AWG) 1,5 mm ² flexible wire (15 AWG)	
	Fixing	screw terminals, DIN 43835 B			
	Mouting	Any position			
Climatic	Enclosure code	Case IP 50 / terminals IP 20			
	Size	96 x 96 x 87 mm			
Applied general standards	Working temperature	0 to +50°C			
	Storage temperature	-20 to +70°C			
	Humidity	=95%RH non condensing			

Order specification:

Active power energy meter, 3-pase, 4-wire, unbalanced load
3 x 400/230V, CT: 100/5A, opto output
Class of accuracy: 1

96Ed	3x400/230V	100/5A	opto	cl. 1
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Dimension in mm:





96 EDC

For measuring the energy on DC networks (on request).

Accuracy class: 1, as per norm IEC 1036.

Counter: 6-digits, electromechanical.

The case and the panel cutout are according to norm DIN 43700.



Application		DC
Type	Active power (W)	96EDC
Weight	Approxiative	0,4kg
Input	Rated value U_N	...V/24V DC $\pm 20\%$; ...V/48V DC $\pm 20\%$; ...V/60V DC $\pm 20\%$
	Rated value I_N	...A/60mV; ...A/100mV; ...A/150mV
	Power consumption	voltage < 1,8VA current < 0,2VA
	Working range	80 – 120% U_N 0 – 120% I_N
Overload	Continuous for 0,5 sec	1,2 U_N ($U < 100V$) 2 I_N ($i < 0,3A$) 2 U_N ($< 150V$) 10 I_N
Accuracy	Class	1%
Display	Counter	6-digit electromechanical (height: 4mm)
	Mains input display	green LED
	Energy consumption display	red LED, 10 light pulse = 1 count
Pulse output	Relay	10 pulse per count 100ms 100V AC, 1A, or 30V DC, 1A
	Opto	10 pulse per count collector (+), emitter (-) 100ms 30V DC, 20mA
Auxiliary voltage		48V DC $\pm 20\%$; 60V DC $\pm 20\%$; 110V DC $\pm 20\%$
Insulation	Test voltage	3,75kV, 50 Hz, 1min
Case	Material	NORYL UL 94 V1, RAL 9005 black
	Connection	screw terminals, maximal 2,5 mm ² rigid wire (13 AWG) 1,5 mm ² flexible wire (15 AWG)
	Fixing	screw terminals, DIN 43835 B
	Mouting	Any position
	Enclosure code	Case IP 50 / terminals IP 20
Size	96 x 96 x 87 mm	
Climatic	Working temperature	0 to +50°C
	Storage temperature	-20 to +70°C
	Humidity	=95%RH non condensing

Order specification:

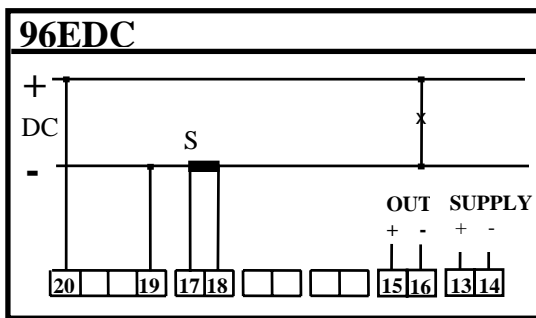
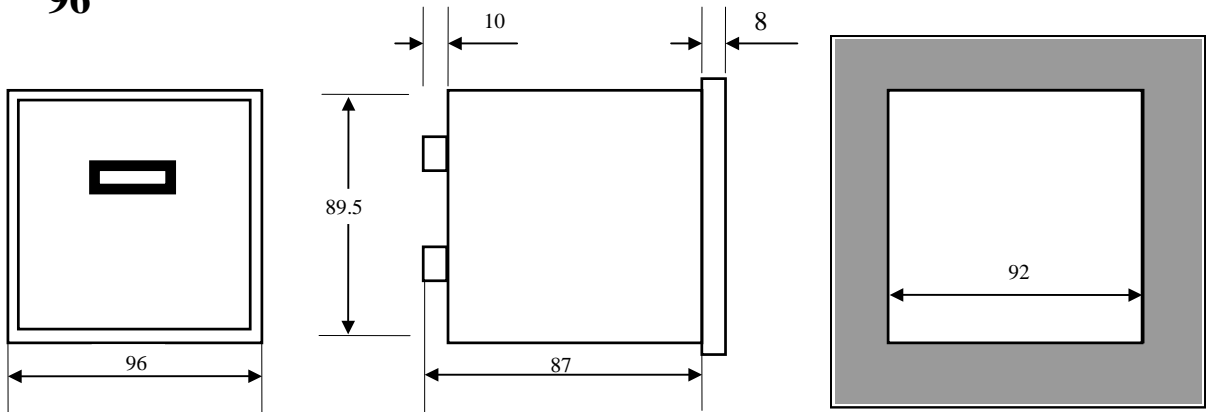
DC energy meter, opto output
Class of accuracy: 1

96EDC	60VDC	100A/150mV	opto	cl. 1
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Dimension in mm:

96





ACTIVE ENERGY METER FOR DIN-RAIL MOUNTING



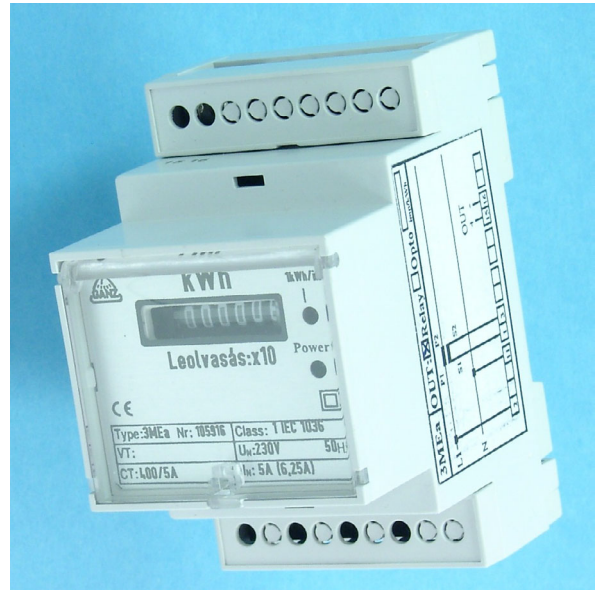
3MEa, 3MEb1

For measuring the active energy on 1-phase or 3-phase, 4-wire, balanced AC networks.

Accuracy class: 1, as per norm IEC 1036.

Counter: 6-digits, electromechanical

The case and the panel cutout are according for rail mounted (35x7.5mm) according to DIN EN50022.



Application		1-phase	3-phase 4-wire balanced load
Type	Active power (W)	3MEa	3MEb1
Weight	Approxiative	0,3 kg	0,3 kg
Input	Rated value U_N	57...290V	3x100/57V, 3x110/63V, 3x230/132V, 3x400/230V, 3x500/290V
	Rated value I_N Power consumption Working range Measuring range Rated frequency		.../1A, .../5A for current transformer connection voltage < 1,8VA current < 0,2VA 80 – 120% U_N 0 – 120% I_N apparent power calibration factor FCAL (0,5 – 1,2) 50 / 60 Hz
Overload	Continuous for 0,5 sec		1,2 U_N ($U < 600V$) 2 I_N ($i < 10A$) 2 U_N (< 600V) 10 I_N
Accuracy	Class		1% according IEC 1036
Display	Counter		6-digit electromechanical (height: 4mm)
	Mains input display Energy consumption display		green LED red LED, 10 light pulse = 1 count
Pulse output	Relay		10 pulse per count 100ms 100V AC, 1A, or 30V DC, 1A
	Opto		10 pulse per count collector (+), emitter (-) 100ms 30V DC, 20mA
Insulation	Test voltage		3,75kV, 50 Hz, 1min
Case	Material		NORYL UL 94 VO, RAL 7035 gray
	Connection		screw terminals, maximal 2,5 mm ² rigid wire (13 AWG) 1.5 mm ² flexible wire (15 AWG)
	Fixing Mouting Enclosure code Size		snap-on DIN EN 50022 rail 35 x 7,5 mm Any position Case IP 50 / terminals IP 20 54 x 90 x 73 mm
Climatic	Working temperature		0 to +50°C
	Storage temperature		-20 to +70°C
	Humidity		=95%RH non condensing
Applied general standards			IEC 1036

Order specification:

Active power energy meter, 3-pase, 4-wire, balanced load 3 x 400/230V, CT: 100/5A, opto output, Class of accuracy: 1

3Eb1 3x400/230V 100/5A opto cl. 1

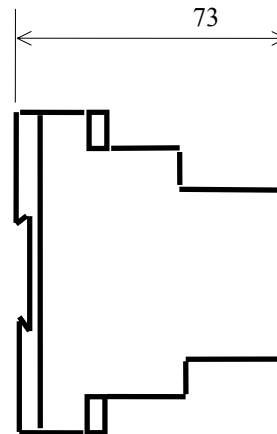
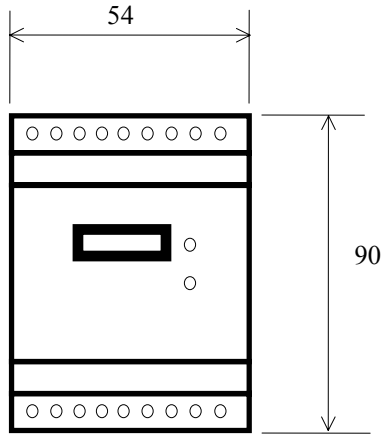


ACTIVE ENERGY METER

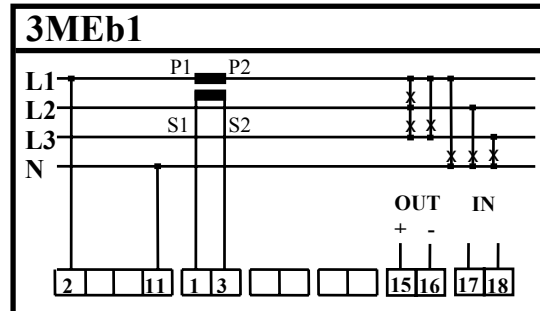
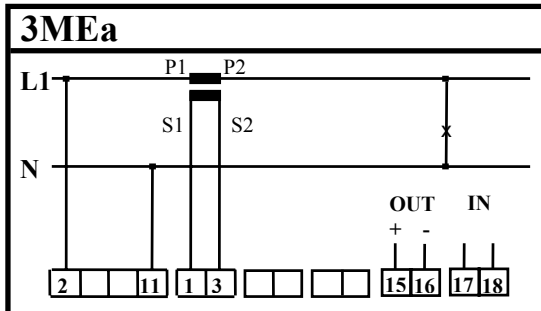


Dimension in mm:

3M



Connection diagram





Type: 45Ea ENERGY METER

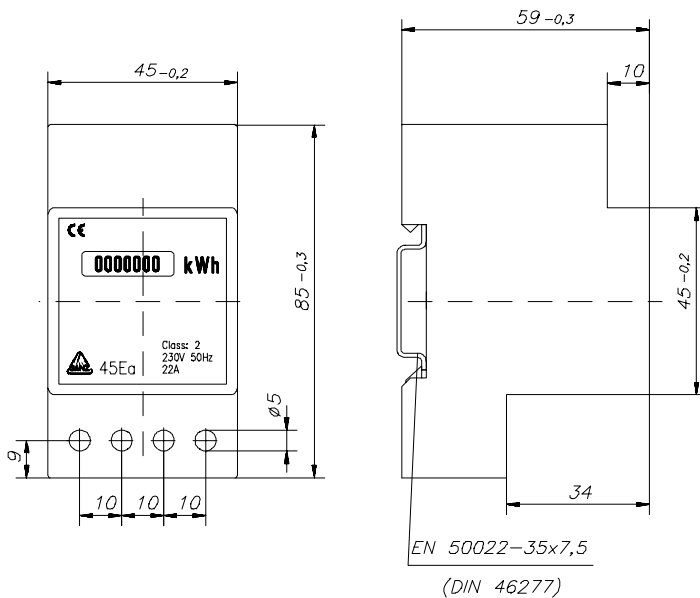
5(20)A
.../5A

10(30)A
.../1A

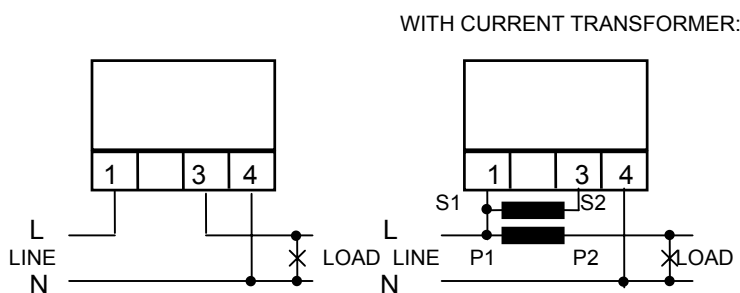
SINGLE PHASE

10(40)A DIRECT CONNECTION
WITH CURRENT TRANSFORMER

Dimensions:



Wiring diagram:



SPECIFICATIONS

- Modular active-energy meter
- Rated voltage: 57 - 260V AC ($\pm 15\%$)
- Rated current: 5(20)A, 10(30)A, 10(40)A
- Consumption:
 - current circuit: max. 3.5VA
 - (with current transf. max. 0.3VA)
 - voltage circuit: max. 0.2W
- Accuracy: class 2 (optional: class 1)
- Counter: 99999.99 kWh
- No zero reset
- Indicator LED's: (optional)
 - green: power supply
 - blinking red: active consumption
- Impulse output: (optional)
 - transistor: 24V 40mA DC, 275ms
 - relay: 100V 1A AC, 30V 1A DC, 90ms
- Operating temperature range: 0 ... +50°C
- Protection class: IP 40 (terminals: IP 20)
- High voltage probe: 2.3kV_{eff} 50Hz 1min
- Terminals: M4 screws, wire: max. 6mm²
- Case: DIN EN 50022 module
- Weight: 0.15kg
- Mounting: snap-on fixing to 35mm DIN rails

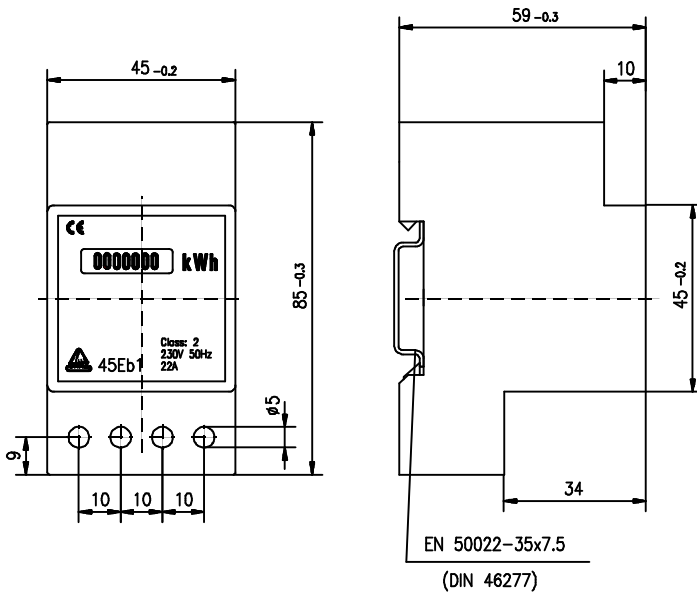


Type: 45Eb1 ENERGY METER

THREE PHASE 4WIRE BALANCED LOAD

5(20)A 10(30)A 10(40)A DIRECT CONNECTION
 .../5A .../1A WITH CURRENT TRANSFORMER

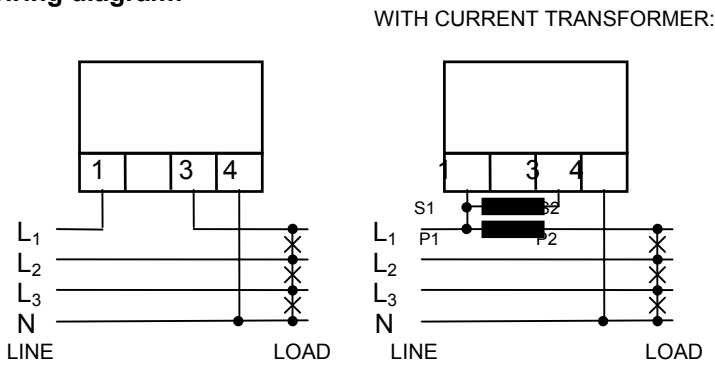
Dimensions:



SPECIFICATIONS

- Modular active-energy meter
- Terminals:
 - M4 screws, wire: max. 6mm²
- Read resolution:
 - 0.01 kWh
- Rated voltage:
 - 57 - 260V AC (±15%)
- Consumption:
 - - current circuit: max. 3.5VA
 - - (with current transf. max. 0.3VA)
 - - voltage circuit: max. 0.2W
- Accuracy:
 - class 2 (optional: class 1)
- Counter:
 - 99999.99 kWh
- No zero reset
- Indicator LED's: (optional)
 - green: power supply (optional)
 - blinking red: active consumption
- Rated current:
 - 5(20)A, 10(30)A, 10(40)A
- Operating temperature range:
 - 0 ... +50°C
- Storage temperature range:
 - -25 ... +75°C
- Protection class:
 - IP 40 (terminals: IP 20)
- High voltage probe:
 - 2.3kV_{eff} 50Hz 1min
- Case:
 - DIN EN 50022 module
- Weight:
 - 0.15kg
- Mounting:
 - snap-on fixing to 35mm DIN rails

Wiring diagram:





ACTIVE / REACTIVE ENERGY METER FOR DIN-RAIL MOUNTING



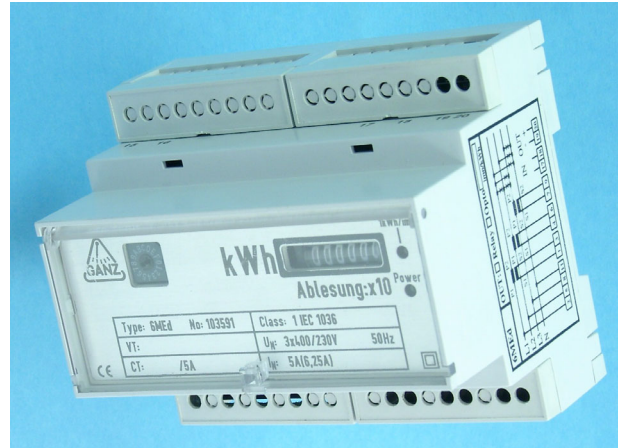
6ME... serie

For measuring the active and the active-reactive energy on 3-phase, 3-wire or 4-wire unbalanced AC networks.

Accuracy class: 1, as per norm IEC 1036 and 2, as per norm IEC 1268.

Counter: 6-digits, electromechanical

The case and the panel cutout are according for rail mounted (35x7.5mm) according to DIN EN50022.



Application		3-phase 3-wire balanced load	3-phase 3-wire unbalanced load	3-phase 4-wire unbalanced load
Type	Active power (W)	6MEb	6MEc	6MEd
	Reactive power (var)	6MEbm	6MEcm	6MEdm
	Active/reactive power	6MEARb	6MEARc	6MEARd
Weight	Approxiative	0,4 kg		
Input	Rated value U_N	3x100/57V, 3x110/63V, 3x230/132V, 3x400/230V, 3x500/290V		
	Rated value I_N	.../1A, .../5A for current transformer connection		
	Power consumption	voltage < 1,8VA current < 0,2VA		
	Working range	80 – 120% U_N 0 – 120% I_N		
	Measuring range	apparent power calibration factor FCAL (0,5 – 1,2)		
	Rated frequency	50 / 60 Hz		
Overload	Continuous for 0,5 sec	1,2 U_N ($U < 600V$) 2 I_N ($i < 10A$) 2 U_N ($< 600V$) 10 I_N		
	Class	1% according IEC 1036 (Active), 2% according IEC 1268 (Reactive)		
Display	Counter	6-digit electromechanical (height: 4mm)		
	Mains input display Energy consumption display	green LED red LED, 10 light pulse = 1 count		
Input for tariff change	Change voltage	5 V, 24 V DC or 230 V AC		
Pulse output	Relay	10 pulse per count 100ms 100V AC, 1A, or 30V DC, 1A		
	Opto	10 pulse per count collector (+), emitter (-) 100ms 30V DC, 20mA		
Insulation	Test voltage	3,75kV, 50 Hz, 1min		
Case	Material	NORYL UL 94 VO, RAL 7035 gray		
	Connection	screw terminals, maximal 2,5 mm ² rigid wire (13 AWG) 1.5 mm ² flexible wire (15 AWG)		
	Fixing	snap-on DIN EN 50022 rail 35 x 7,5 mm		
	Mouting	Any position		
	Enclosure code	Case IP 50 / terminals IP 20		
Size	106 x 90 x 73 mm			
Climatic	Working temperature	0 to +50°C		
	Storage temperature	-20 to +70°C		
	Humidity	=95%RH non condensing		
Applied general standards	IEC 1036			

Order specification:

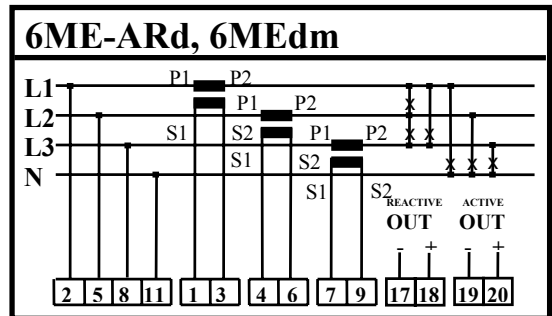
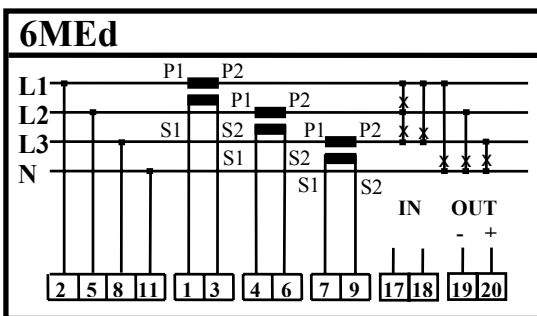
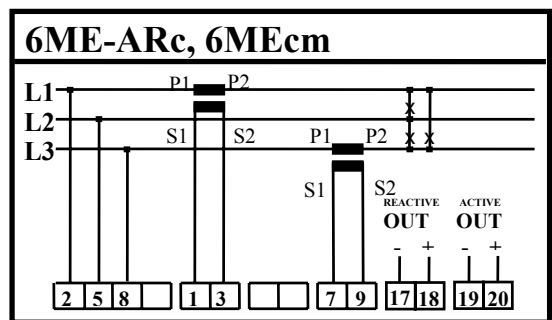
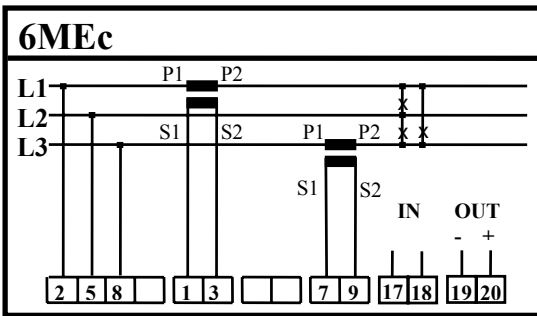
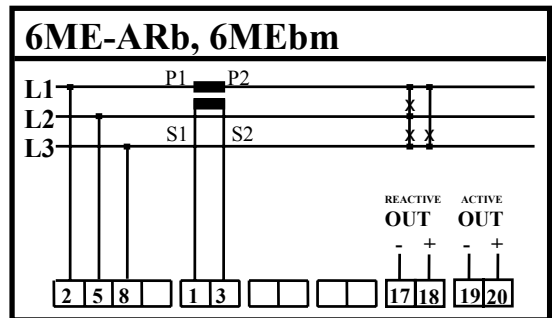
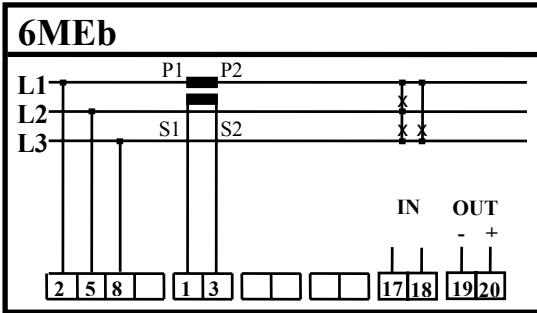
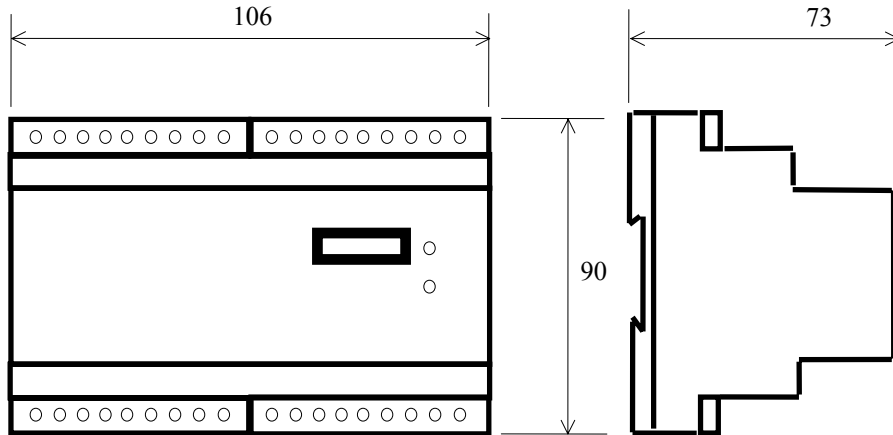
Active power energy meter, 3-pase, 4-wire, unbalanced load
3 x 400/230V, CT: 100/5A, opto output
Class of accuracy: 1

6MEd 3x400/230V 100/5A opto cl. 1



Dimension in mm:

6M



Active energy meters



- | | | | |
|--|--|---------------------------------------|-----------------------------|
| <input type="checkbox"/> 3MEa, | <input type="checkbox"/> 72Ea, | <input type="checkbox"/> 96Ea | 1 phase |
| <input type="checkbox"/> 6MEb, | <input type="checkbox"/> 96Eb | | 3 phase, 3 wire, balanced |
| <input type="checkbox"/> 3MEb1, | <input type="checkbox"/> 72Eb1, | <input type="checkbox"/> 96Eb1 | 3 phase, 4 wire, balanced |
| <input type="checkbox"/> 6MEc, | <input type="checkbox"/> 96Ec | | 3 phase, 3 wire, unbalanced |
| <input type="checkbox"/> 6MEd, | <input type="checkbox"/> 96Ed | | 3 phase, 4 wire, unbalanced |
| <input type="checkbox"/> 96EDC | | | DC kWh meter |

- ...DT** Double tariff Change voltage 5 V DC 230V AC
 24V DC

The instruments are suitable to measure the active energy on 1-phase or 3-phase, 3-wire or 4-wire, balanced or unbalanced AC networks. These are also suitable to measure the energy on DC networks (on request).

The kWh meters are accuracy class 1 as per norm IEC 1036. They have a 6-digit electromechanical counter.

The case and the panel cut-out are according to norm DIN 43700 or for rail mounted (35x7.5mm) according to DIN EN50022.

Technical data

Voltage input :

Nominal voltage U_N AC	: 57.7 V ... 600 V AC
Nominal voltage U_N DC	: 24V DC $\pm 20\%$; 48V DC $\pm 20\%$; 60V DC $\pm 20\%$
Referency range	: $U_N \pm 1\%$, at $\cos \varphi = 1$
Operating range	: $0.8 - 1.2 \times U_N$
Overload	: $1.2 \times U_N$ continuous
Maximal overload	: up to $2 \times U_N$ 1 sec
Burden	: 1.8 VA per phase
Nominal frequency	: 50Hz, 60Hz
Operating range	: 45-55Hz, 55-65Hz
Referency range	: 50Hz $\pm 0.3\%$, 60Hz $\pm 0.3\%$

Current input :

Nominal current I_N AC	: 1A or 5A for current transformer connection
Nominal current I_N DC	: ...A/60mV; ...A/100mV; ...A/150mV
Operating range	: $0,1 \times I_N - 1,2 \times I_N$, at $\cos \varphi = 1$
Continuous overload	: $1,2 \times I_N$
Maximal overload	: up to $20 \times I_N$ 0,5 sec
Power consumption	: 0.2 VA

Accuracy :

: Accuracy class 1, according IEC 1036

Display :

Counter	: 6-digit electromechanical (height: 4mm)
Mains input display	: green LED
Energy consumption display	: red LED, 10 light pulse = 1 count

Pulse output (relay) :

(optional)	
Contacts without voltage	
Number of pulses	: 10 pulse per count
Length of pulses	: 100ms
Maximal load	: 100V AC, 1A, or 30V DC, 1A

Pulse output (opto-coupler):

(optional)	
output without voltage	: collector (+), emitter (-)
Number of pulses	: 10 pulse per count
Length of pulses	: 100ms
Maximal load	: 30V DC, 20mA

Input for tariff change:

(optional)	
Change voltage	: 5 V, 24 V DC or 230 V AC

High-voltage test

: 3.75 kV_{eff}, 1 min

Environment

Referency temperature	: 23°C ± 2 °C
Operating temperature	: -10...+ 45°C
Storage temperature	: -25...+ 70°C
Temperature coefficient	: 0.05 % / K ($0.1 \times I_N \dots 1.2 \times I_N$; $\cos \varphi = 1$)
Protection class	: II. according IEC 348

Case:**DIN EN 50022**

Material	: NORYL UL 94 VO, RAL 7035 gray
Terminals	: screw terminals, maximal 2,5 mm ² rigid wire (13 AWG) 1.5mm ² flexible wire (15 AWG)
Case protection	: IP50
Terminals protection	: IP20
Size	: 106 x 90 x 73 mm (6M..), 54 x 90 x 73 mm (3M..)
Weight	: 0.4 kg (6M..), 0.3 kg (3M..)
Fixing	: snap-on DIN EN 50022 rail 35 x 7,5 mm

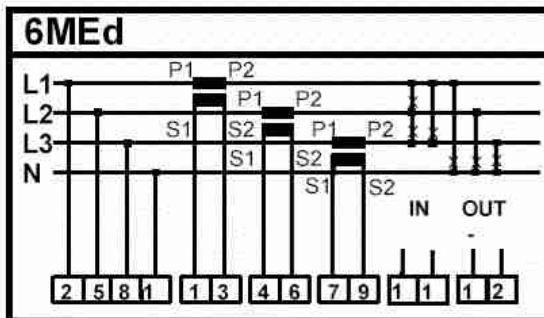
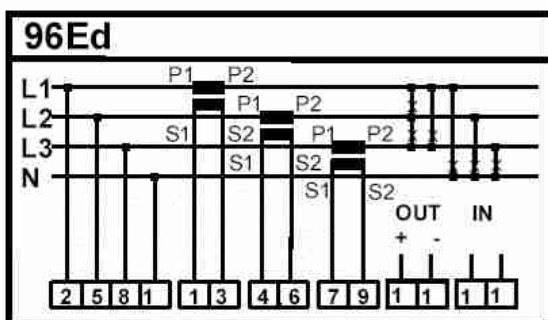
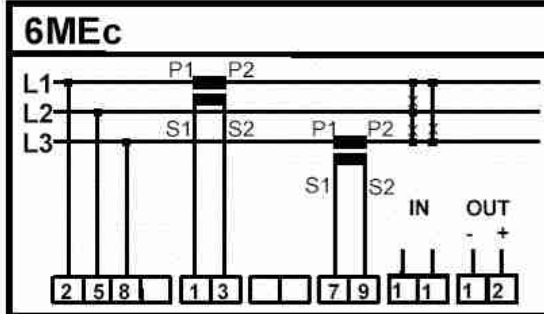
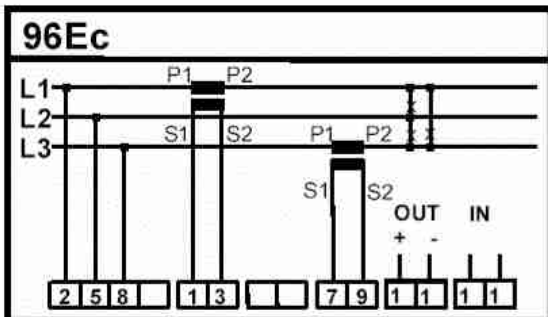
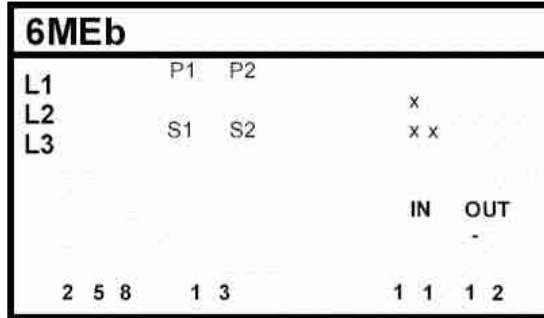
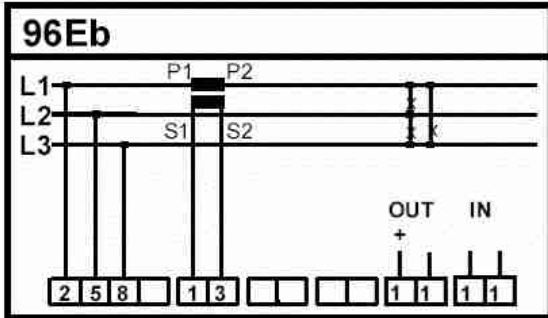
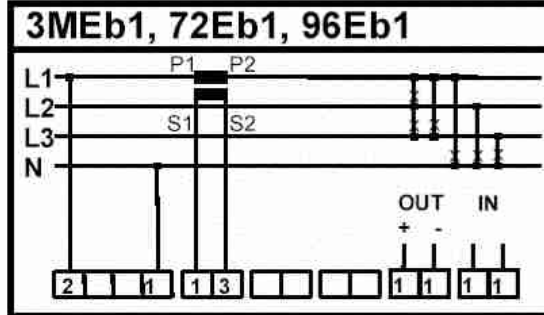
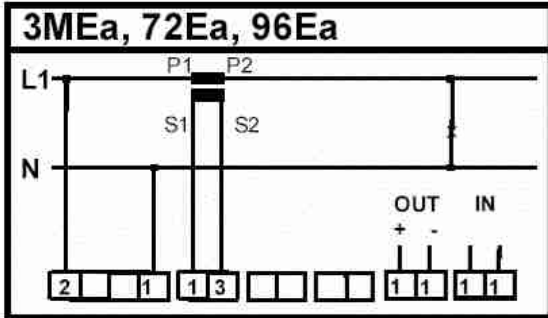
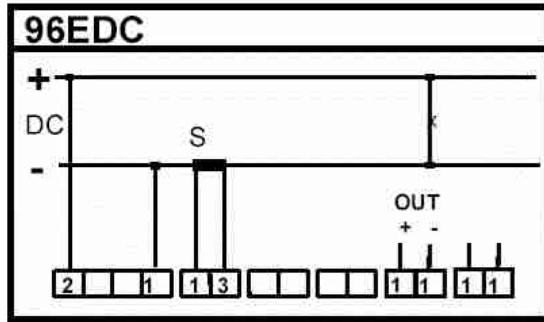
DIN EN 43700

Material	: NORYL UL 94 V1, RAL 9005 black
Terminals	: screw terminals, maximal 2,5 mm ² rigid wire (13 AWG) 1,5 mm ² flexible wire (15 AWG)
Case protection	: IP50
Terminals protection	: IP20
Size	: 96 x 96 x 87 mm (96..), 72 x 72 x 87 mm (72..)
Weight	: 0.5 kg (96..), 0.4 kg (72..)
Fixing	: screw terminals, DIN 43835 B

ROLL DOWN ↓**ROLL DOWN ↓**

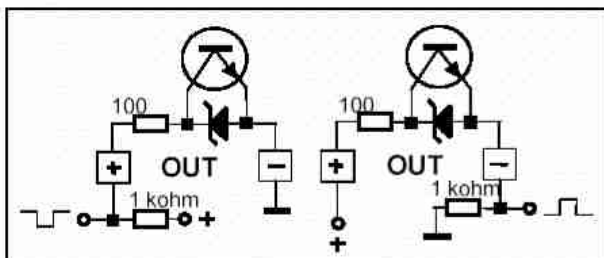
Wiring diagram :

- 2 - Phase L1
- 5 - Phase L2
- 8 - Phase L3
- 11 - Null N
- 1 - Current input L1 (S1)
- 3 - Current input L1 (S2)
- 4 - Current input L2 (S1)
- 6 - Current input L2 (S2)
- 7 - Current input L3 (S1)
- 9 - Current input L3 (S2)
- 17 - Input for tariff change -
- 18 - Input for tariff change +
- 16; 19 - Pulse output -
- 15; 20 - Pulse output +



Note :

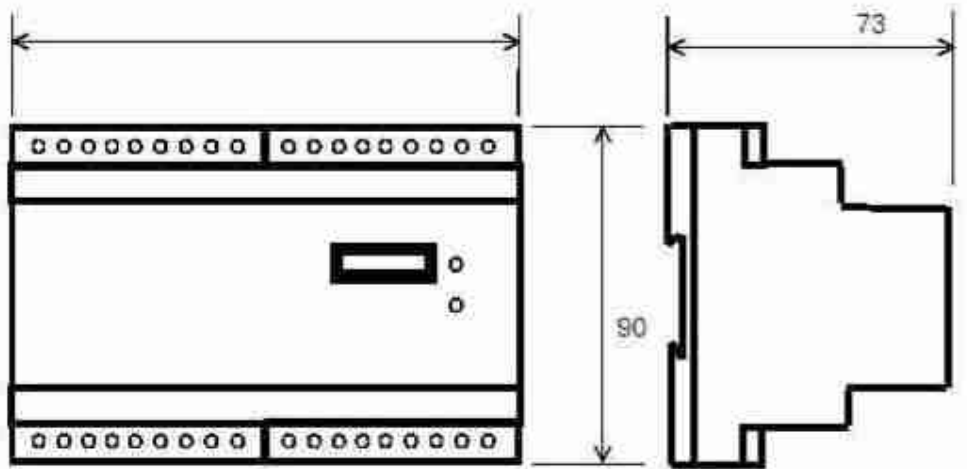
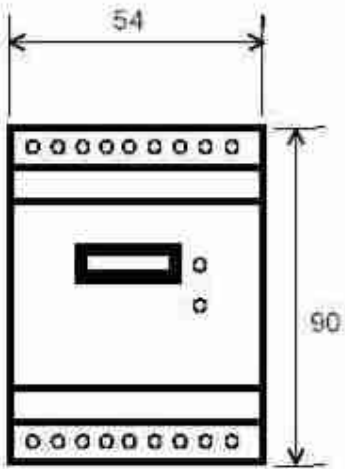
- OUT : Pulse output (Relay or opto-coupler)
- IN : Input for tariff change
- No input at types 3M..., 72



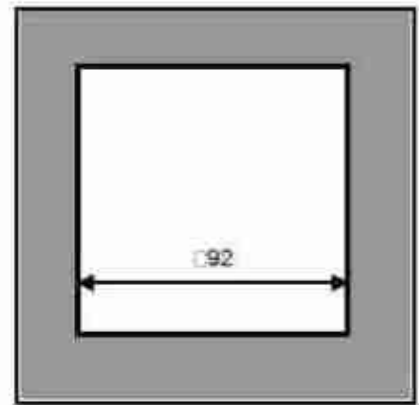
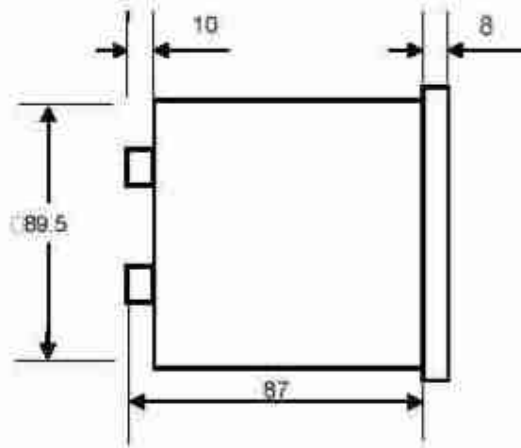
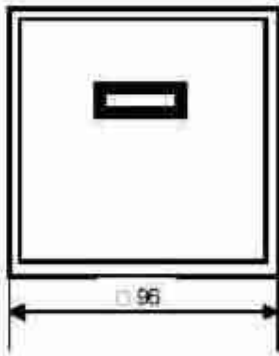
Size :

3M

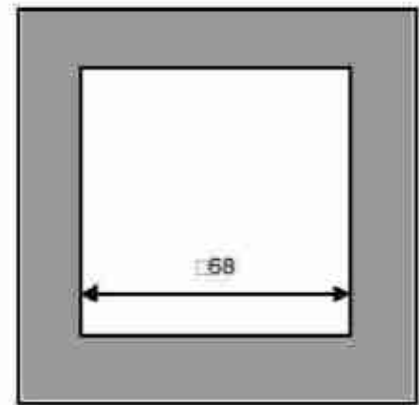
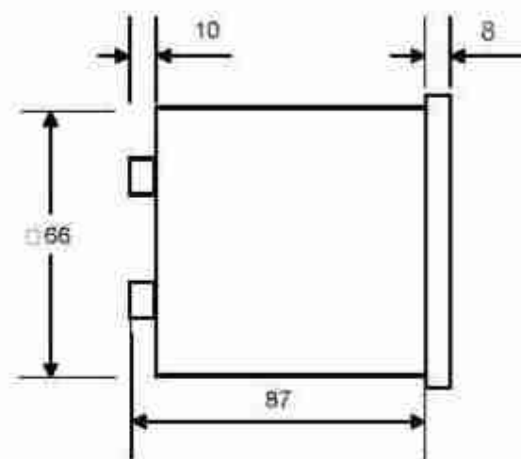
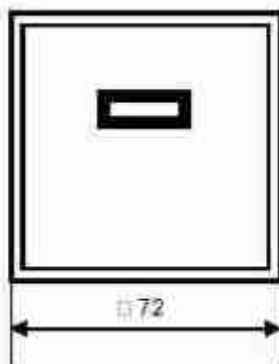
6M



96



72



Safety prescriptions

Keep following instructions to ensure a correct installation!

1. Installation must be done by an expert.
2. Wiring must follow the wiring diagram.
3. Don't install a faulty instrument.
4. Control the separate wires and the polarity of the current transformer for right connection (P1-P2; S1-S2)
5. Maintenance: not necessary

Keep following instructions to ensure a correct installation!

1. Have a unit installed by an expert.
2. Choice code of your CT with table which is shown below (0-F), set the code switch.
3. After supply, the indicator LED will count the code of selected CT

SCALE :		0.1 kWh	kWh	10 kWh	100 kWh	COUNTER CYCLE Time
pulse output:		10 Wh / imp	0.1kWh /	1 k Wh / imp	10 kWh /	
LED blinking cycle:		10 Wh / imp	0.1kWh /	1 k Wh / imp	10 kWh /	
SW code	LED count code	CT rate	CT rate	CT rate	CT rate	
0	1		15 / 5A	150 / 5A	1500 / 5A	346.41 sec
1.	2.		16 / 5A	160 / 5A	1600 / 5A	324.75 sec
2.	3.		20 / 5A	200 / 5A	2000 / 5A	259.80 sec
3.	4.		25 / 5A	250 / 5A	2500 / 5A	207.84 sec
4.	5.		30 / 5A	300 / 5A	3000 / 5A	173.20 sec
5.	6.		36 / 5A	360 / 5A	3600 / 5A	144.33 sec
6.	7.		40 / 5A	400 / 5A	4000 / 5A	129.90 sec
7.	8.	5 / 5A	50 / 5A	500 / 5A	5000 / 5A	103.92 sec
8.	9.	6 / 5A	60 / 5A	600 / 5A	6000 / 5A	86.60 sec
9.	10.	7.5 / 5A	75 / 5A	750 / 5A	7500 / 5A	69.28 sec
A.	11.	8 / 5A	80 / 5A	800 / 5A	8000 / 5A	64.95 sec
B.	12.	10 / 5A	100 / 5A	1000 / 5A	10000 / 5A	51.96 sec
C.	13.		120 / 5A	1200 / 5A		43.30 sec
D.	14.		125 / 5A	1250 / 5A		41.56 sec
E.	15.		150 / 5A	1500 / 5A		34.64 sec
F.	16.		160 / 5A	1600 / 5A		32.47 sec

$U_N : 3 \times 400V / 230V$

GANZ Instruments Ltd.

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HUNGARY

☎ : ++ 36-1-2800515, 2800912

Fax: ++ 36-1-2829685, 2829683

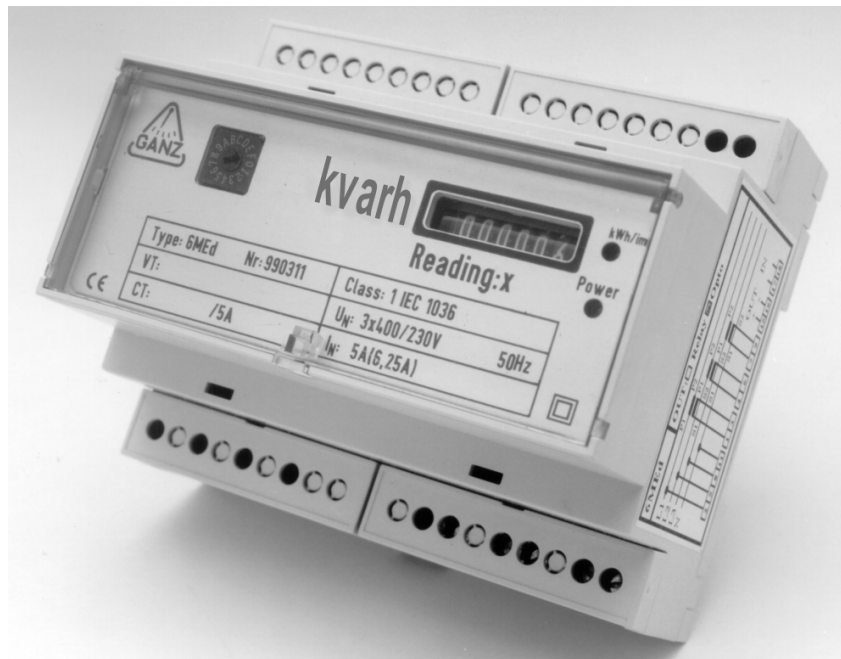
e-mail: ganz@ganzinst.hu



Active energy meter

Reactive energy meter

Active-Reactive energy meter



6MEdm

Active

6MEb

6MEb1

6MEc

6MEd

Reactive

6MEbm

6MEb1m

6MEcm

6MEdm

Active-Reactive

6ME-ARb

6ME-ARb1

6ME-ARc

6ME-ARd

3 phase, 3 wire, balanced

3 phase, 4 wire, balanced

3 phase, 3 wire, unbalanced

3 phase, 4 wire, unbalanced

Description:

The instruments are suitable to measure either the active, or reactive, or active-reactive energy, on 3-phase, either 3-wire or 4-wire, balanced or unbalanced AC networks.

Quality properties:

Accuracy class (norm IEC 1036): 1.0

Accuracy class (norm IEC 1268): 2.0

Counter: 6-digit, electromechanical

Case outfit: rail mounted, 35x7.5 mm (DIN EN50022).

Hex switch:

The switch is for adjusting the range of the connected current transformer (built-in by all types of instruments above).

Active-Reactive energy meter

Reactive energy meter

<input type="checkbox"/> 6ME-ARb	<input type="checkbox"/> 6MEbm 3 phase, 3 wire, balanced
<input type="checkbox"/> 6ME-ARb1	<input type="checkbox"/> 6MEb1m 3 phase, 4 wire, balanced
<input type="checkbox"/> 6ME-ARc	<input type="checkbox"/> 6MEcm 3 phase, 3 wire, unbalanced
<input type="checkbox"/> 6ME-ARd	<input type="checkbox"/> 6MEdm 3 phase, 4 wire, unbalanced

The instruments are suitable to measure the active-reactive energy on 3-phase, 3-wire or 4-wire, balanced or unbalanced AC networks.

The energy meters are accuracy class 1 as per norm IEC 1036 and accuracy class 2 as per norm IEC 1268. They have a 6-digit electromechanical counter.

The case and the panel cutout are according for rail mounted (35x7.5mm) according to DIN EN50022.

Technical data

Voltage input :

Nominal voltage U_N	: 57.7 V ... 600 V
Referency range	: $U_N \pm 1\%$, at $\cos \varphi = 1$, $\sin \varphi = 1$
Operating range	: $0.8 - 1.2 \times U_N$
Overload	: $1.2 \times U_N$ continuous
Maximal overload	: up to $2 \times U_N$ 1 sec
Burden	: 1.8 VA per phase
Nominal frequency	: 50Hz, 60Hz
Operating range	: 45-55Hz, 55-65Hz
Referency range	: 50Hz $\pm 0.3\%$, 60Hz $\pm 0.3\%$

Current input :

Nominal current I_N	: 1A or 5A for current transformer connection
Operating range	: $0,1 \times I_N - 1,2 \times I_N$, at $\cos \varphi = 1$, $\sin \varphi = 1$
Continuous overload	: $1,2 \times I_N$
Maximal overload	: up to $20 \times I_N$ 0,5 sec
Power consumption	: 0.2 VA

Accuracy :

: Accuracy class: 1. according IEC 1036, 2. according IEC 1268

Display :

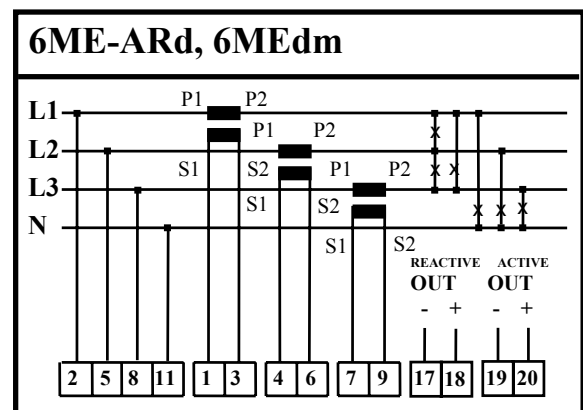
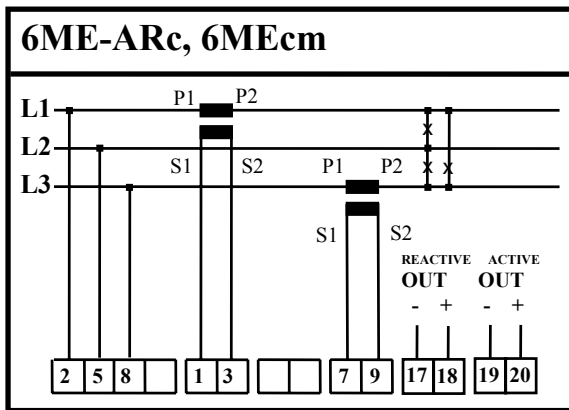
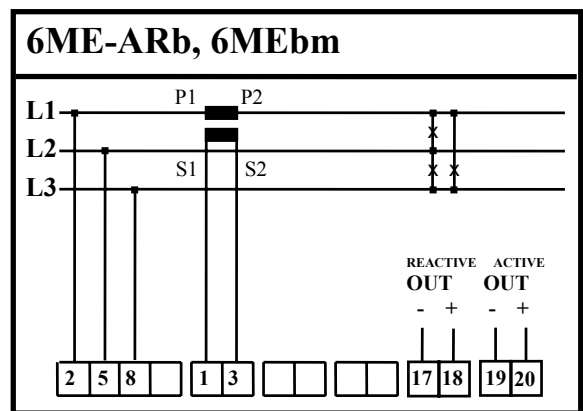
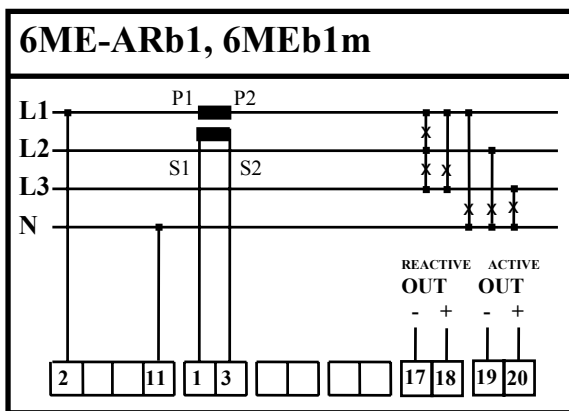
Counter	: 6-digit electromechanical (height: 4mm)
Mains input display	: green LED
Energy consumption display	: red LED, 10 light pulse = 1 count

Impulse output (relay) :

(optional)

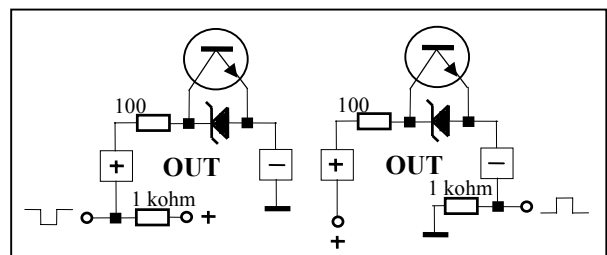
Wiring diagram :

- 2 - Phase L1
- 5 - Phase L2
- 8 - Phase L3
- 11 - Null N
- 1 - Current input L1 (S1)
- 3 - Current input L1 (S2)
- 4 - Current input L2 (S1)
- 6 - Current input L2 (S2)
- 7 - Current input L3 (S1)
- 9 - Current input L3 (S2)
- 17 - REACTIVE impulse output -
- 18 - REACTIVE impulse output +
- 19 - ACTIVE impulse output -
- 20 - ACTIVE impulse output +

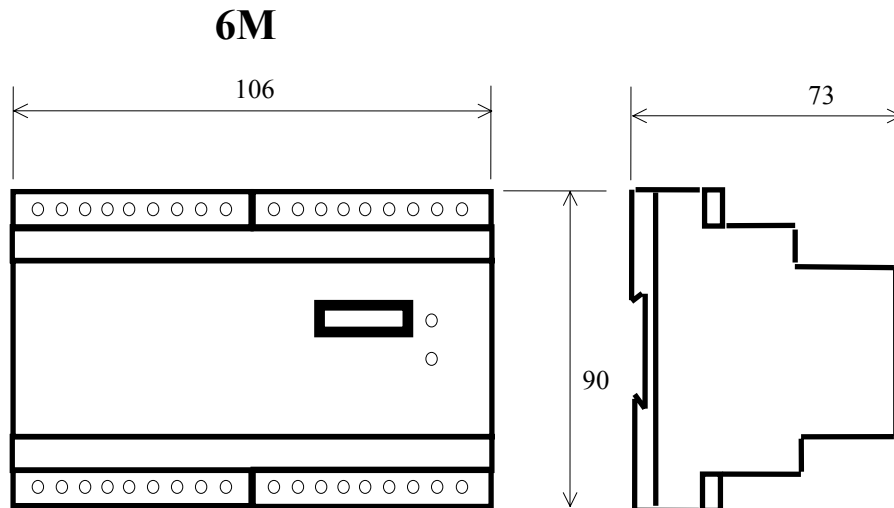


Note:

OUT : Impulse output
(Relay or opto-coupler)



Size :



Safety prescriptions

Keep following instructions to ensure a correct installation!

- 1. Installation must be done by an expert.**
- 2. Wiring must follow the wiring diagram.**
- 3. Don't install a faulty instrument.**
- 4. Control the separate wires and the polarity of the current transformer for right connection (P1-P2; S1-S2)**
- 5. Maintenance: not necessary**

Keep following instructions to ensure a correct installation!

1. Have a unit installed by an expert.
2. Choice code of your CT with table which is shown below (0-F), set the code switch.

SCALE :		0.1 kWh	kWh	10 kWh	100 kWh	COUNTER CYCLE TIME
pulse output:		10 Wh / imp	0.1kWh / imp	1 kWh / imp	10 kWh / imp	
LED blinking cycle:		10 Wh / imp	0.1kWh / imp	1 kWh / imp	10 kWh / imp	
SW code	LED cycle time	CT rate	CT rate	CT rate	CT rate	
0	24.6 sec		15 / 5A	150 / 5A	1500 / 5A	246.41 sec
1	32.4 sec		16 / 5A	160 / 5A	1600 / 5A	324.75 sec
2	25.9 sec		20 / 5A	200 / 5A	2000 / 5A	259.80 sec
3	20.7 sec		25 / 5A	250 / 5A	2500 / 5A	207.84 sec
4	17.3 sec		30 / 5A	300 / 5A	3000 / 5A	173.20 sec
5	14.4 sec		36 / 5A	360 / 5A	3600 / 5A	144.33 sec
6	12.9 sec		40 / 5A	400 / 5A	4000 / 5A	129.90 sec
7	10.4 sec	5 / 5A	50 / 5A	500 / 5A	5000 / 5A	103.92 sec
8	8.6 sec	6 / 5A	60 / 5A	600 / 5A	6000 / 5A	86.60 sec
9	6.9 sec	7.5 / 5A	75 / 5A	750 / 5A	7500 / 5A	69.28 sec
A	6.5 sec	8 / 5A	80 / 5A	800 / 5A	8000 / 5A	64.95 sec
B	5.2 sec	10 / 5A	100 / 5A	1000 / 5A	10000 / 5A	51.96 sec
C	4.3 sec		120 / 5A	1200 / 5A		43.30 sec
D	4.1 sec		125 / 5A	1250 / 5A		41.56 sec
E	3.4 sec		150 / 5A	1500 / 5A		34.64 sec
F	3.2 sec		160 / 5A	1600 / 5A		32.47 sec

SCALE :		0.1 kvarh	kvarh	10 kvarh	100kvarh	COUNTER CYCLE TIME
pulse output:		10 varh / imp	0.1kvarh/imp	1 kvarh / imp	10 kvarh/imp	
LED blinking cycle:		10 varh / imp	0.1kvarh/imp	1 kvarh / imp	10 kvarh/imp	
SW code	LED cycle time	CT rate	CT rate	CT rate	CT rate	
0	24.6 sec		15 / 5A	150 / 5A	1500 / 5A	246.41 sec
1	32.4 sec		16 / 5A	160 / 5A	1600 / 5A	324.75 sec
2	25.9 sec		20 / 5A	200 / 5A	2000 / 5A	259.80 sec
3	20.7 sec		25 / 5A	250 / 5A	2500 / 5A	207.84 sec
4	17.3 sec		30 / 5A	300 / 5A	3000 / 5A	173.20 sec
5	14.4 sec		36 / 5A	360 / 5A	3600 / 5A	144.33 sec
6	12.9 sec		40 / 5A	400 / 5A	4000 / 5A	129.90 sec
7	10.4 sec	5 / 5A	50 / 5A	500 / 5A	5000 / 5A	103.92 sec
8	8.6 sec	6 / 5A	60 / 5A	600 / 5A	6000 / 5A	86.60 sec
9	6.9 sec	7.5 / 5A	75 / 5A	750 / 5A	7500 / 5A	69.28 sec
A	6.5 sec	8 / 5A	80 / 5A	800 / 5A	8000 / 5A	64.95 sec
B	5.2 sec	10 / 5A	100 / 5A	1000 / 5A	10000 / 5A	51.96 sec
C	4.3 sec		120 / 5A	1200 / 5A		43.30 sec
D	4.1 sec		125 / 5A	1250 / 5A		41.56 sec
E	3.4 sec		150 / 5A	1500 / 5A		34.64 sec
F	3.2 sec		160 / 5A	1600 / 5A		32.47 sec

$$U_N : 3 \times 400V / 230V$$