



Energy Meters

We make energy measurable and take care of your future



www.mbs-ag.com



MBS – Wir machen Energie messbar

MBS – We Make Energy Measurable



Auf dem Energieübertragungsweg zwischen Kraftwerk und Verbraucher ist an einer Vielzahl von Messstellen die korrekte Erfassung der Stromstärken notwendig. Dies erfolgt mit Hilfe von Stromwandlern. MBS produziert ein umfangreiches Sortiment an Niederspannungs- und Mittelspannungs-Stromwandlern für Mess- und Schutzzwecke.

When transferring energy from power station to consumer, it is essential to ensure the correct collection of amperages at a multiplicity of measuring points. This is done by means of current transformers. MBS produces an extensive assortment of low- and medium voltage current transformers for measuring and protection purposes.

10 Reasons for MBS

- ✓ Customer oriented solutions
- ✓ Individual consultancy
- ✓ Satisfied customers on all continents
- ✓ A product range in excess of 28,000 units
- ✓ Multiple of international licences and certificates, DIN EN ISO 9001:2000
- ✓ Supreme technical quality
- ✓ Official calibration of current transformers and measuring units
- ✓ Reliability
- ✓ Fast deliveries
- ✓ More than 35 years of success

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Our strategy

Realizing today, on what others think only tomorrow.





ECP 6112 / ECP 6152

Single-phase energy meter

Features / Benefits

- Direct connection up to 32 A
- Accuracy class 1
- S0 output impulse

Application

Electronic energy meter for the recording of the electric active energy in AC current supply systems. The energy meters are used in the industry, panel board manufacturing, trade and also by private users.

With the S0 output impulse the processing of the measured energy data is guaranteed. I.e. cost center accounting, central building control system and energy management.

Technical parameters:

Measurement input

Rated voltage U_N :	230 V AC (voltage range: - 20 % ... + 15 %)
Measurement range:	5 (32) A
Starting current:	20 mA
Nominal frequency f_N :	50 Hz (frequency range: 50 ... 60 Hz)
Own consumption:	< 0.4 W / phase

S0-interface according to EN 62053-31

Impulse value:	1000 pulses / kWh
Maximum voltage:	27 V DC
Current:	10 ... 27 mA

Display

Electromechanical counter or LCD display:	Dimension 2.0 x 4 mm, 7-digits, one decimal digit (000000.0 kWh)
Further display data:	Load - LED: 1000 pulses / kWh

Further informations

Accuracy class:	1
Protection fuse:	max. 32 A
Weight:	80 g
Mounting:	DIN rail according to EN 60715
Ambient temperature:	- 25 °C ... + 55 °C
Connection S0 impulse:	1 ... 6 mm ²
Connection measurement input:	1 ... 6 mm ²

Order list

order-no.	S0 output impulse	electromechanical display	LCD display	current range
ECP6112	•	•		32 A
ECP6152	•		•	32 A

Dimensions and connection drawings see page 21

ECP 6156

Single-phase energy meter

Features / benefits

- Direct connection up to 80 A
- Accuracy class 1
- S0 output impulse
- 2. LCD display which is resettable

Application

Electronic energy meter for the recording of the electric active energy in AC current supply systems. The energy meters are used in the industry, panel board manufacturing, trade and also by private users.

With the S0 output impulse the processing of the measured energy data is guaranteed. I.e. cost center accounting, central building control system and energy management.



Technical parameters:

Measurement input	
Rated voltage U_N :	230 V AC (voltage range: - 20 % ... + 15 %)
Measurement range:	5 (80) A
Starting current:	20 mA
Nominal frequency f_N :	50 Hz (frequency range: 50 ... 60 Hz)
Own consumption:	0.6 W / phase
S0-interface according to EN 62053-31	
Impulse value:	1000 pulses/ kWh
Maximum voltage:	30 V DC
Minimum voltage:	5 V DC
Current:	20 mA
Display	
LCD display:	dimension 2.0 x 4 mm, 7-digits, one decimal digit (000000.0 kWh)
Further display data:	Load-LED: 1000 pulses/ kWh
Further informations	
Accuracy class:	1 (according to IEC 62052-11)
Weight:	80 g
Mounting:	DIN rail according to EN 60715
Ambient temperature:	- 25 °C ... + 55 °C
Connection measurement input:	25 mm ²

Dimensions and connection drawings see page 21

ECP 1155



Three-phase energy meter for current transformer connection

Features / benefits

- 5 A current transformer connection up to 6000/5 A
- Accuracy class 1
- Transmission ratio adjustable
- S0 output impulse

Application

Electronic energy meter for the recording of the electric active energy in AC current supply systems. The energy meters are used in the industry, panel board manufacturing, trade and also by private users.

With the S0 output impulse the processing of the measured energy data is guaranteed. I.e. cost center accounting, central building control system and energy management.

Technical parameters:

Measurement input	
Rated input voltage U_N :	3 x 230/400 V AC (voltage range: - 20 % ... + 15 %)
Measurement range:	1,5 (6) A (programmable current transformer-transmission ratio for direct reading)
Start current:	3 mA
Nominal frequency f_N :	50 Hz
Own consumption:	< 0.7 W / phase
S0-interface according to EN 62053-31	
Impulse value:	12000 pulses per kWh for transmission 5/5A (please refer to the order list for other transmissions)
Maximum voltage:	30 V DC
Minimum voltage:	5 V DC
Current:	20 mA
Display	
LCD display:	Dimension 4.0 x 10 mm, 8-digits, display according to order list
Further display data:	LED A B C, flashing display at wrong connection
Further informations	
Accuracy class:	1
Protection fuse:	6 A
Weight:	350 g
Mounting:	DIN rail according to EN 60715
Ambient temperature:	- 20 °C ... + 55 °C
Connection S0 Impulse:	1 mm ²
Connection measurement input:	6 mm ²



Order list:

Order no.	Primary current of CT	Secondary current of CT	Factor	meter-impulse	Impulse output per kWh	Digital-display digits	display in kWh
ECP11550005-A	5	5	1	12000	12000	6+2	999999,99
ECP11550010-A	10	5	2	12000	6000	6+2	999999,99
ECP11550020-A	20	5	4	12000	3000	6+2	999999,99
ECP11550025-A	25	5	5	12000	2400	6+2	999999,99
ECP11550040-A	40	5	8	12000	1500	6+2	999999,99
ECP11550050-A	50	5	10	12000	1200	6+2	999999,99
ECP11550060-A	60	5	12	12000	1000	6+2	999999,99
ECP11550075-A	75	5	15	12000	800	7+1	999999,9
ECP11550080-A	80	5	16	12000	750	7+1	999999,9
ECP11550100-A	100	5	20	12000	600	7+1	999999,9
ECP11550120-A	120	5	24	12000	500	7+1	999999,9
ECP11550150-A	150	5	30	12000	400	7+1	999999,9
ECP11550200-A	200	5	40	12000	300	7+1	999999,9
ECP11550250-A	250	5	50	12000	240	7+1	999999,9
ECP11550300-A	300	5	60	12000	200	7+1	999999,9
ECP11550400-A	400	5	80	12000	150	7+1	999999,9
ECP11550500-A	500	5	100	12000	120	7+1	999999,9
ECP11550600-A	600	5	120	12000	100	7+1	999999,9
ECP11550800-A	800	5	160	12000	75	8+0	99999999
ECP11551000-A	1000	5	200	12000	60	8+0	99999999
ECP11551200-A	1200	5	240	12000	50	8+0	99999999
ECP11551500-A	1500	5	300	12000	40	8+0	99999999
ECP11552000-A	2000	5	400	12000	30	8+0	99999999
ECP11552500-A	2500	5	500	12000	24	8+0	99999999
ECP11553000-A	3000	5	600	12000	20	8+0	99999999
ECP11554000-A	4000	5	800	12000	15	8+0	99999999
ECP11555000-A	5000	5	1000	12000	12	8+0	99999999
ECP11556000-A	6000	5	1200	12000	10	8+0	99999999

Adjustment of transformer transmission ratio:

- Hold down button for parameters and feed in voltage value at clamps 1 and 4 (display 00005 5).
- meter display changes to transmission mode
- Press button to select further transmission ratios
- When the required transmission ratio is displayed hold down the button for parametering for 10 sec.
(until energy displays value in kWh appears)
example: display 0080 5, hold down the programming key until display 0100 5 appears, hold the key 10 seconds until the energy display appears, 100/5 A is programmed
- **During running activity:** Display shows the transmission ratio and the energy values alternating
- **The transformer ratio can only be set up once!**

Dimensions and connection drawings see page 22



ECP 1151

Three-phase energy meter

Features / Benefits

- Direct connection up to 100 A
- Accuracy class 1
- S0 output impulse

Application

Electronic energy meter for the recording of the electric active energy in AC current supply systems. The energy meters are used in the industry, panel board manufacturing, trade and also by private users.

With the S0 output impulse the processing of the measured energy data is guaranteed. I.e. cost center accounting, central building control system and energy management.

Technical parameters:

Measurement input	
Rated input voltage U_N :	3 x 230/400 V AC (voltage range: - 20 % ... + 15 %)
Measurement range:	10 (60) A or 10 (100) A
Starting current:	40 mA
Nominal frequency f_N :	50 Hz (frequency range: 45 ... 55 Hz)
Own consumption:	< 0.6 W / phase
S0-interface according to EN 62053-31	
Impulse value:	800 pulses per kWh
Maximum voltage:	27 V DC
Current:	10 ... 27 mA
Display	
LCD display:	Dimension 2.0 x 4 mm, 7-digits, one decimal digit (000000,0 kWh)
Further display data:	LED A B C, flashing display at wrong connection
Further informations	
Accuracy class:	1
Protection fuse:	max. 100 A
Weight:	400 g
Mounting:	DIN rail according to EN 60715
Ambient temperature:	- 25 °C ... + 55 °C
Connection S0 impulse:	2.5 x 3 mm
Connection measurement input:	7 x 8 mm

Dimensions and connection drawings see page 22



On the next pages you will find energy meters, data loggers and software made by the Swiss company EMU AG in Baar. MBS AG is the exclusive representative in Germany.

The goods are developed and produced 100% in Switzerland.

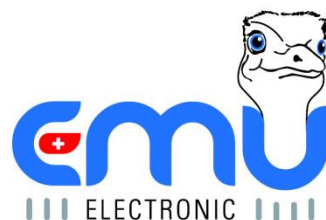
We hereby guarantee short distances and advanced technology with MID certification.

The energy meters "Allrounder" and "Professional" are setting new standards in the complexity of data collection in the scope of DIN rail energy meters. A multiplicity of measurement data can be transferred by a multiple of readout interfaces. The instruments offer the highest standard of flexibility.

- Transformer connection 1A and 5A
- Direct connection up to 75A
- On site adjustable: transformer ratio, impulse rate, impulse time
- Width of instrument 5 TE (90mm)
- Low own consumption

You also can profit from the excellent quality „Made in Switzerland“.

Quality is connected!



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MBS “Allrounder”

3-phase energy meter

Features / Benefits

- Direct connection up to 75 A or current transformer connection for $\times 1A$ and $\times 5 A$ (up to 4000/1 A and 20000/5 A)
- Accuracy class B according to EN 50470-1 (MID)
- Accuracy class 1 according to EN 62053-21
- MID approval module B and D for tariff applications
- Usable for tariff applications
- S0 output impulse
- Multiple tariff
- Optional M-Bus read-out interface

Application

Electronic energy meter for the recording of the electric active energy in AC current supply systems. The energy meters are used in the industry, panel board manufacturing, trade and also by private users.

With the S0 output impulse the processing of the measured energy data is guaranteed. I.e. cost center accounting, central building control system and energy management.

Technical Parameters:

Measurement input	
Rated input voltage U_N :	3 x 230/400 V AC (voltage range: $\pm 20\%$)
Measurement range (direct connection):	0.012 ... 75 A
Measurement range (current transformer connection):	1 and 5 A, transformer ratio adjustable
Starting current (direct connection):	9 mA
Starting current (current transformer connection):	1 mA
Nominal frequency f_N :	50 Hz (frequency range: 45 ... 65 Hz)
Own consumption:	< 0.8 W / phase
Tariff changeover	230 V AC
S0-interface according to EN 62053-31	
Pulse width (direct connection):	40 ms (factory set)
Pulse width (current transformer connection):	120 ms (factory set)
Impulse value (direct connection):	1000 pulses per kWh (factory set)
Impulse factor (current transformer connection):	10 pulses per kWh (factory set)
	Impulse rate and impulse width individually adjustable on meter
Minimum voltage:	5 V DC
Maximum voltage:	600 V AC
Current:	max. 90 mA
Display	
LCD display:	Dimension 60 x 30 mm, 8-digit, one decimal digit (0000000.0 kWh)
Further display:	active tariff, rotating field display, energy direction, real power
Read-out interface	
Optional read-out interface:	M-Bus



Further informations

Accuracy class:	B (according to EN 50470-1, MID)
Protection fuse (direct connection):	max. 80 A
Protection fuse (current transformer connection):	max. 6 A
Protection class:	II
Protection degree:	IP 20
Weight:	330 g
Mounting:	DIN rail according to EN 60715
Ambient temperature:	- 25 °C ... + 55 °C
Connection of tariff changeover:	2,5 x 3 mm
Connection S0 impulse:	2,5 x 3 mm
Connection measurement input:	7 x 8 mm

Order list

Order-no.	S0 Output impulse	M-Bus interface	LCD display	Current range
EMA4176-4	•		•	75 A
EMA4776-4	•	•	•	75 A
EMA4177-2	•		•	1 A and 5 A
EMA4777-2	•	•	•	1 A and 5 A

Display data:

	Total 3-phases	Per phase	Per tariff
Active energy import (kWh)	•		•
Active energy import (kWh) resettable	•		•
Active power (kW)	•	•	
Current (A)	•	•	
Voltage (V) L-N		•	
Number of power outages	•		

Interface reports are available on our website.

Dimensions and connection drawings see page 23



MBS “Professional”

3-phases energy meter

Features / Benefits

- direct connection up to 75 A or current transformer for x/1 A and x/5 A (up to 4000/1 A and 20000/5 A)
- accuracy class B according to EN 50470-1 (MID)
- accuracy class 1 according to EN 62053-21
- MID approval module B and D for tariff applications
- applicable to billing
- 4 S0 output impulses
- multiple tariff
- optional read-out interfaces: M-Bus, KNX, TCP/IP, LON or MODBUS RTU-ASCII

Application

Electronic energy meter for the recording of the electric active energy in AC current supply systems. The energy meters are used in the industry, panel board manufacturing, trade and also by private users.

With the S0 output impulse the processing of the measured energy data is guaranteed. I.e. cost center accounting, central building control system and energy management.

Technical Parameters:

Measurement input	
Rated input voltage U_N :	3 x 230/400 V AC (voltage range: $\pm 20\%$)
Measurement range(direct connection):	0.012 ... 75 A
Measurement range (current transformerconnection):	1 and 5 A, transformer ratio adjustable
Starting current (direct connection):	9 mA
Starting current (current transformer connection):	1 mA
Nominal frequency f_N :	50 Hz (frequency range: 45 ... 65 Hz)
Own consumption:	< 0.8 W / phase
Tariff changeover:	230 V AC
S0-interface according to EN 62053-31	
Pulse width (direct connection):	40 ms (factory set)
Pulse width (current transformer connection):	120 ms (factory set)
Pulse value (direct connection):	1000 pulses per kWh (factory set)
Pulse value (current transformer connection):	10 pulses per kWh (factory set)
Impulse rate and Impulse width individually adjustable on meter	
Minimum voltage:	5 V DC or 5 V AC
Maximum voltage:	600 V AC
Current:	max. 90 mA
Display	
LCD display:	Dimension 60 x 30 mm, 8-digits, one decimal digit (0000000.0 kWh)
Further display data:	active tariff, rotating field display, energy direction, real power
Read-out interface	
Optional read-out interfaces:	M-Bus, KNX, TCP/IP, LON, MODBUS RTU-ASCII
Further informations	
Accuracy class:	B (according to EN 50470-1, MID)
Protection fuse (direct connection):	max. 80 A
Protection fuse (current transformer connection):	max. 6 A
Protection class:	II
Protection degree:	IP 20

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Weight:	330 g
Mounting:	DIN rail according to EN 60715
Ambient temperature:	- 25 °C ... + 55 °C
Connection tariff changeover:	2,5 x 3 mm
Connection S0 impulse:	2,5 x 3 mm
Connection measurement input:	7 x 8 mm

Order list

Order-no.	S0 impulse-output	M-Bus	KNX	TCP/IP	LON	MODBUS RTU-ASCII	LCD Display	Current range
EMP4176-4	4x						•	75 A
EMP4776-4	4x	•					•	75 A
EMP4576-4	4x		•				•	75 A
EMP4676-4	4x			•			•	75 A
EMP4076-4	4x				•		•	75 A
EMP4276-4	4x					•	•	75 A
EMP4177-2	4x						•	1 A and 5 A
EMP4777-2	4x	•					•	1 A and 5 A
EMP4577-2	4x		•				•	1 A and 5 A
EMP4677-2	4x			•			•	1 A and 5 A
EMP4077-2	4x				•		•	1 A and 5 A
EMP4277-2	4x					•	•	1 A and 5 A

Output impulse can also be used as a switch contact!

Display data:

	Total 3-phases	Per phase	Min. measurement value	Max. measurement value	Per tariff
Active energy import (kWh)	•	•			•
Active energy export (kWh)	•				•
Reactive power inductive (kvarh)	•	•			•
Reactive power capacitive (kvarh)	•				•
Active power (kW)	•	•	•	•	
Reactive power (kvar)	•	•			
Apparent power (kVA)	•	•			
Current (A)	•	•	•	•	
Voltage (V) L-N		•	•	•	
Voltage (V) L-L		•			
Power supply factor (cos phi)		•			
System frequency (Hz)	•				
Number of voltage outages	•				
ongoing x min. maximum (kW)*					•
x min. maximum of active power					•
date / time	•				

* measurement period 1, 5, 15, 30 or 60 minutes

Interface reports are available on our website.

Dimensions and connection drawings see pages 24 and 25

Technical details

of MBS "Allrounder" and MBS "Professional"

Operating & Display

A 60x30 mm graphic LC-Display with a LED background lighting makes it possible for parameters and settings to be read, and the figures are excellently visible.

The desired menu language can be chosen by keys.

The clear and easy operating simplify the start-up and also the daily use of the energy meters.



MID-Approval B + D

The MBS "Allrounder" and MBS "Professional" are tested and approved according to the MID-modules B + D (Measurement Instrument Directive).

With additional certification according to module D, QM-system for the production and final test, MBS "Professional" and MBS "Allrounder" can be used ex factory for tariff applications within the European Union.

Calibration and Load LED

The front of the MBS "Professional" and the MBS "Allrounder" display two red calibration- and load-LEDs. They blink dependant on the instantaneous active and reactive power.

The impulse valence is 10 pulses per Wh/varh.

Adjustable current transformer factor

The current transformer ratio can be set by the use of keys at MBS "Professional" and also at MBS "Allrounder" with MID-approval from 5/5 A up to 20.000/5 A or from 1/1A up to 4.000/1A.

The set-up button can be sealed and prevents manipulations.

The MBS-Team will gladly give you advice to prevent from a SO-continuous impulse.

Accuracy in photovoltaic installations



MBS "Professional" and MBS "Allrounder" were tested specifically for the application with inverters in solar power installations. This additional inspection guarantees that MBS energy meters will provide an exact measurement result within the not officially regulated frequency range between 2 kHz and 150 kHz.

Renowned specialist journals highlight this problem, that measurement errors up to a rate of 18% can occur.

Peak Control

by S0 Output impulse

A power supplier desires plannable and consistent energy consumption. In order to cover short-term peak demand, power tariffs have been introduced.

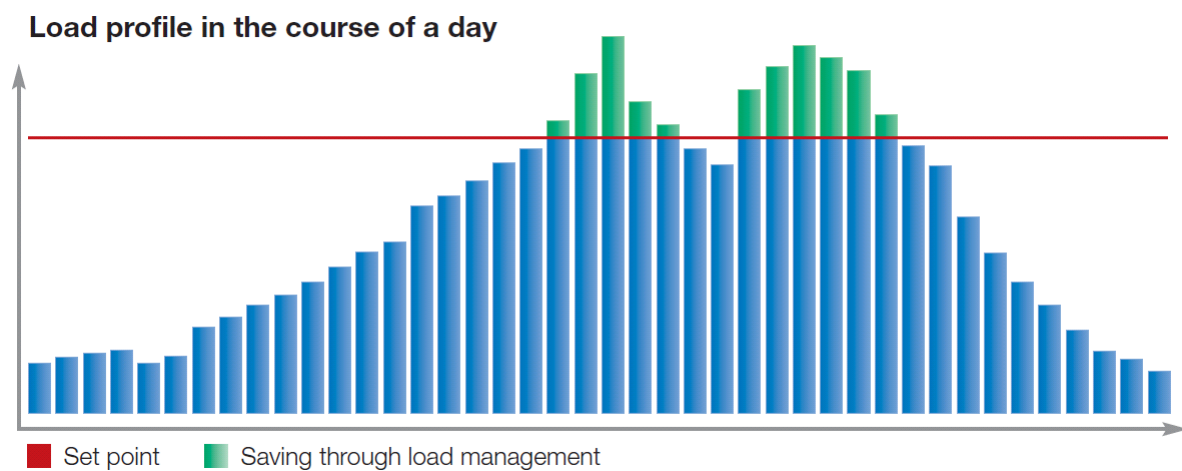
These are based on the highest monthly quarter-hour active energy peak value. These peak values relate to severely increased energy costs for hotels, hospitals and industry.

At this point the MBS Professional comes into its own and reduces the power of selected consumers. The peak values are optimised immediately and the energy costs are decreased.

Functional principle

The S0-outputs (Opto Power MOSFET 5–600V AC or V DC, 90 mA) can be used as switch contacts.

If a specific threshold value is exceeded for a set time, the switch contact is activated for a specific time.



Application

- Reduction of energy costs by avoiding active power peaks
- Alerts upon impending overload, maximum-alert
- energy direction contact
- prevents overloads and interruptions in production process
- photovoltaic facilities, industry, hotels, hospitals, energy intensive consumers

S0 Output impulses

The 4 S0 output impulses of MBS "Professional" can be used as switches when they are connected with the TCP/IP-module, in order to switch a relay on or off. With this output impulse you can activate for example the heating in your holiday home.

M-Bus Interface and MB-Connect Software

The M-Bus interface according to EN13757-2, -3 (former EN1434-3) is integrated in the energy meter and protected against pollution and tampering.

Read-out data and configuration

On the M-Bus a variety of read-out data are at your disposal; i.e. active and reactive energy, current, voltage, form factor and net frequency.

When using the control keys on the energy meter the primary and secondary addresses as well as the baud rate can be set-up.

The read-out data can be parameterised with our free MB-Connect software. So you can compile your individual M-Bus protocol.

The M-Bus load of the MBS "Allrounder" and the MBS "Professional" amounts to 1.5 mA which is a standard load.



MB-Connect Software

For the configuration of the energy meters with M-Bus interface our free MB-Connect software is at your disposal on our website.

All energy meters with M-Bus interfaces, according to EN13757, can be configured and read-out by the use of the MB-Connect software.

The read-out can be done manually or periodically in an adjustable interval.

The read-out data can be exported in a CSV-file (comma-separated values) and for example be edited in Excel.

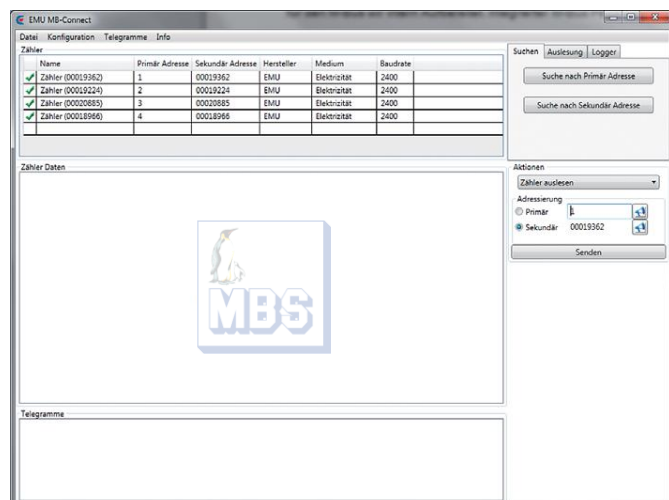
Do you request special read-out data for your project?

No problem. Compile a M-Bus parameter set with MB-connect software and note it on your order.

We parameterise the requested read-out data for you during the production process.

Functions

- Controlling of a M-Bus installation
- Addressing energy meters
- Setting-up of individual read-out data
- Changing of the baud rate
- Analysis of the response times
- Automatic read-out of the meters
- Export of the read-out data to a CSV file
- Switching on/off S0-outputs





TCP/IP-module

of the energy meter MBS "Professional"

Features / Benefits

- Good value for money
- Easy and comfortable access via web browser
- Continuous monitoring and analysis of the measurement data
- Easy installation

With the TCP/IP-module different measurement values and a load profile can be analysed via a web browser and IP-address in a LAN or WAN.

The module logs measurement values into a configurable interval and exports them to a CSV-file (Comma-Separated Values).

The integrated alarm system will reliably warn you by E-Mail (or E-Mail to SMS Gateway) if a defined measurement value has exceeded or fallen below.

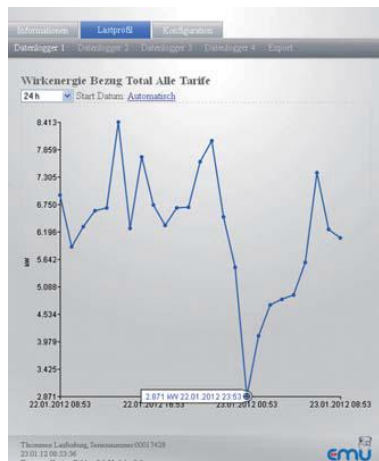
The SO output impulses (Opto Power MOSFET, 600 V AC or V DC, 90 mA) can be converted to a switch and can for example control a relay in order to activate the heating in the holiday home.

Functions

- Display of the current measurement values
- Display of a graphic load profile
- Logging of various measurement values
- Display of minimum and maximum values
- Alerts by E-Mail if measurement values have exceeded or fallen below
- Turning on/off of SO output impulses
- Access protection with password
- Remote read-out via Modbus TCP and BACnet IP

Integrated alarming system

An alarming system reliably warns you about the energy consumption in your company, even when travelling. If a defined measurement value has exceeded you receive a message via E-Mail or SMS. For example you are warned, if the current input of the heating falls below a defined value.



Data logger

The TCP/IP-module stores four configurable measurement values in intervals of 10 seconds, 5, 15, 30 or 60 minutes.

In the TCP/IP-module can be stored up to 245'000 values. The complete values are recorded and remain stored, even if the MBS "Professional" is not connected to the LAN network.

S0 Impulse-Logger



Features / benefits

- Easy and comfortable access via web browser
- Continuous monitoring and analysis of the measurement data
- Easy installation
- System is suitable to independent suppliers
- Connection of up to 9 energy meters and two terminal devices

Application

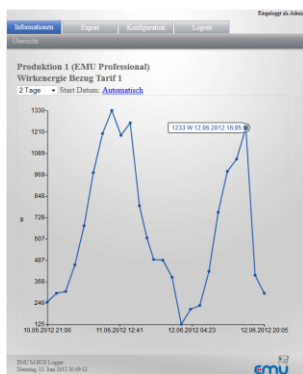
A useful building management system is only possible, if all appropriate consumption values are recorded continuously.

With the S0-Impulse-Logger this is possible in a very easy way.

The Impulse-Logger utilizes the S0-Impulse interface of water meters, heat meters, energy meters, gas meters.

Additionally it is possible to monitor the outdoor and indoor temperatures.

All you need is a notebook (PC) with a RJ45 (LAN) connection and an installed web browser (Internet Explorer, Mozilla Firefox etc.)



Technical parameters:

Interfaces

S0 impulse input:	9x
Temperature input	2x
Read-out connection:	RJ45 (LAN)

Data

Analysis:	Via web browser and IP-address (Fix IP or DynDns for remote access)
Log-interval:	10 seconds, 1, 5, 15, 30 and 60 minutes
Storage:	2 GB micro SD card, removable card 8 million log-records (all entries assigned: 20 years)
Data export:	Via website in a CSV-file
Data protection in voltage outage:	Yes (micro SD card)

Voltage supply

S0 impulse-Logger:	230 V AC
S0 impulse output of the meters:	The S0 impulse-Logger generates 13 V DC

Further informations

Protection class:	IP 20
Mounting:	DIN rail according to EN 60715

Order list

Order-no.	Description
EMI6	S0 impulse-Logger with 9 S0 impulse entries and 2 temperature entries
EMT	Temperature sensor for S0 impulse-Logger (- 55 °C ... + 155 °C)

Dimensions and connection drawings see page 26

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M-Bus-Logger



Features / Benefits

- Easy and comfortable access by web browser
- Continuous monitoring and analysis of the measurement data
- Easy installation
- System is suitable to independent suppliers
- Connection plugs for up to 60 M-Bus terminal devices

Application

A useful building control management system is only possible, if all appropriate consumption values are recorded continuously. This can easily be done by the M-Bus-Logger.

The M-Bus-Logger utilizes the M-Bus-interface of water meters, heat meters, energy meters and gas meters.

All you need is a notebook (PC) with a RJ45 (LAN) connection and an installed web browser (Internet Explorer, Mozilla Firefox etc.)

With aforementioned you have access to the records of the requested measurement data inclusive of the profile of the load on the website of the energy meter (access by IP-address of the energy meter).

Due to the integrated webserver you don't need a special read-out software and you can access the records of the data from any PC, notebook, tablet PC or smartphone.



Position	Name	Wert
1	Fertigungsnummer	0000000
2	Wirkenergie Bezug Tarif 1	2820 Wh
3	Wirkenergie Bezug Tarif 2	0 Wh
4	Blindleistung Induktiv Tarif 1	15451 varh
5	Blindleistung Induktiv Tarif 2	0 varh
6	Wirkleistung Phase L1	232 W
7	Wirkleistung Phase L2	117 W
8	Wirkleistung Phase L3	0 W
9	Wirkleistung	350 W
10	Blindleistung Phase L1	1433 var
11	Blindleistung Phase L2	581 var
12	Blindleistung Phase L3	0 var
13	Blindleistung	2109 var
14	Spannung Phase L1	239.4 V
15	Spannung Phase L2	239.8 V

Technical Parameters:

Interfaces

M-Bus input:	60x
Read-out connection:	RJ45 (LAN)

Data

Analysis:	By Web browser and IP-address (Fix IP or DynDns for remote access)
Log-interval:	10 seconds, 1, 5, 15, 30 and 60 minutes, 6, 12, 24 hours
Store:	2 GB Micro SD card, removable approximately 5 million meter read-outs / M-Bus telegrams
Data export:	by website in CSV-file
Data protection at voltage outage	Yes (Micro SD card)

Voltage supply

M-Bus -Logger:	100 - 240 V AC
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Further informations

Protection class:	IP 20
Mounting:	DIN rail according to EN 60715

Order list

Article no.	Description
LM620000	M-Bus-Logger 60 TCP/IP (webserver, FTP upload) for the connection of up to 60 terminal devices

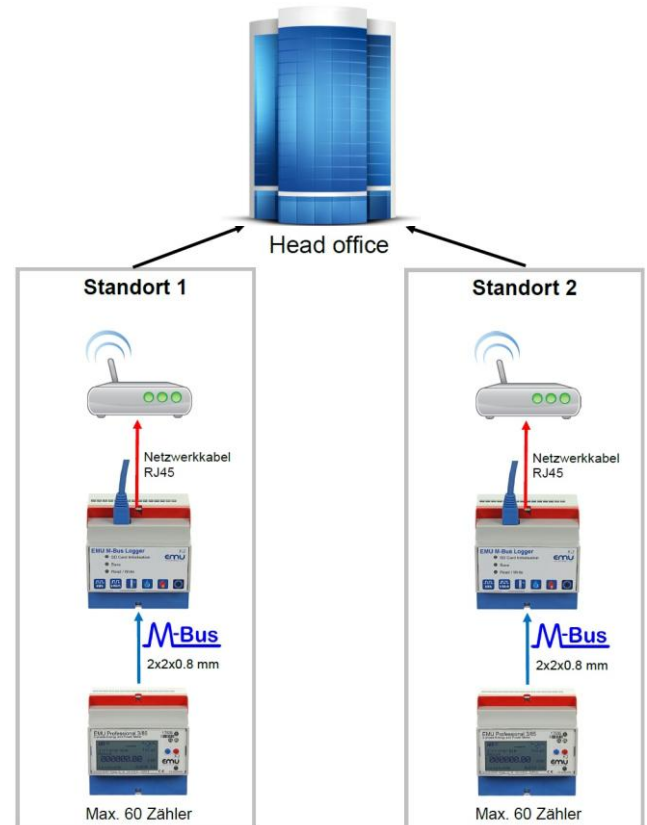
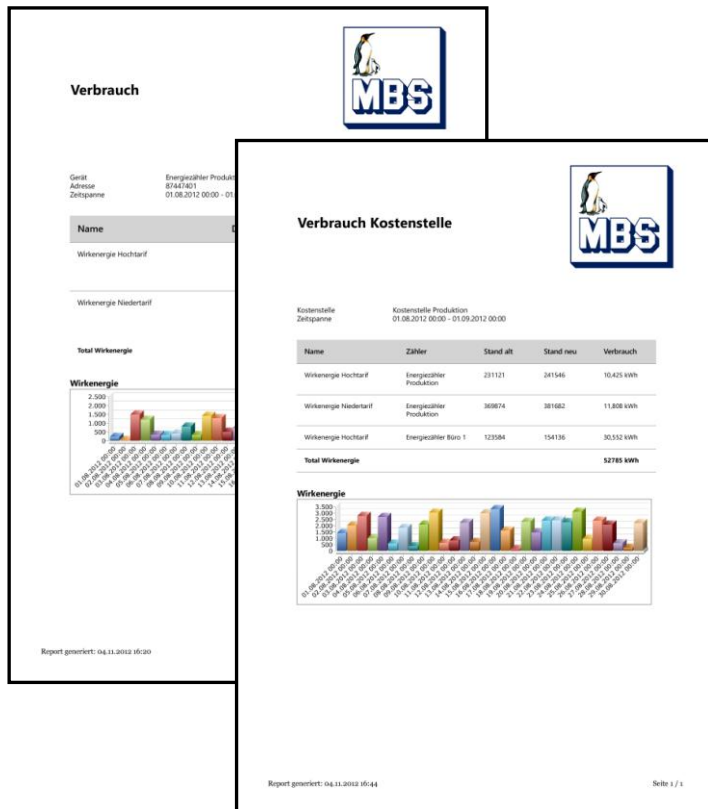
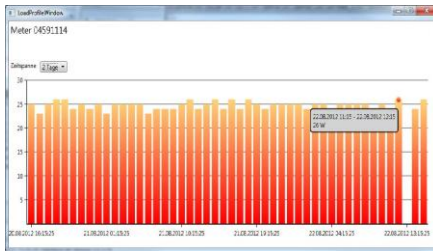
Dimensions and connection drawings see page 26

MBS Bill & Report

The MBS Bill & Report software is easy to use and produces customized billings and reports by a touch of a button. The consumption values are read-out and processed by the MBS M-Bus-Logger

Functions

- Administration of all energy meters which are connected to a MBS M-Bus-Logger
- Display of all measurement values of an energy meter
- Load profile of all energy values, bar chart
- Display of a virtual meter, sum of other meters
- Compiling of a consumption overview for each meter, starting and end time freely selectable
- Allocating of meters and virtual meters to cost centers
- Billing for cost centers, period freely selectable
- No online mode (24h) necessary, measurement values are read-out by the MBS M-Bus-Logger, software has not to be non-stop operating.
- Individual reports, design and bills, invoiced at cost by MBS.



Order list

Article no.	Description
SW1M000020	Bill & Report Software 20 – for 20 energy meter
SW1M000060	Bill & Report Software 60 – for 60 energy meter
SW1M000120	Bill & Report Software 120 – for 120 energy meter
SW1M000180	Bill & Report Software 180 – for 180 energy meter
SW1M000240	Bill & Report Software 240 – for 240 energy meter
SW1M000300	Bill & Report Software 300 – for 300 energy meter
SW1M000400	Bill & Report Software 400 – for 400 energy meter
SW1M000500	Bill & Report Software 500 – for 500 energy meter

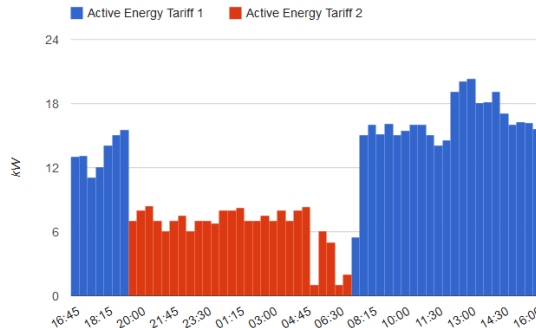
smart-me

smart-me is a free web application, which allows the online analysis and monitoring of your energy consumption.

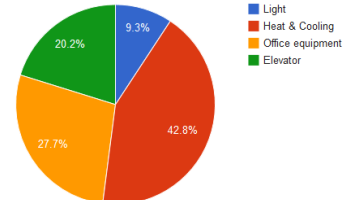
Electricity, water, gas or heat – with smart-me you have control over your energy consumption.

Functions

- Automated data processing
- Individual user account
- Quick and easy start-up
- Supports all M-Bus energy meters
- Worldwide access
- Detailed evaluations and reports
- Data export
- smart-me is free!
- www.smart-me.com



Consumption last 24h



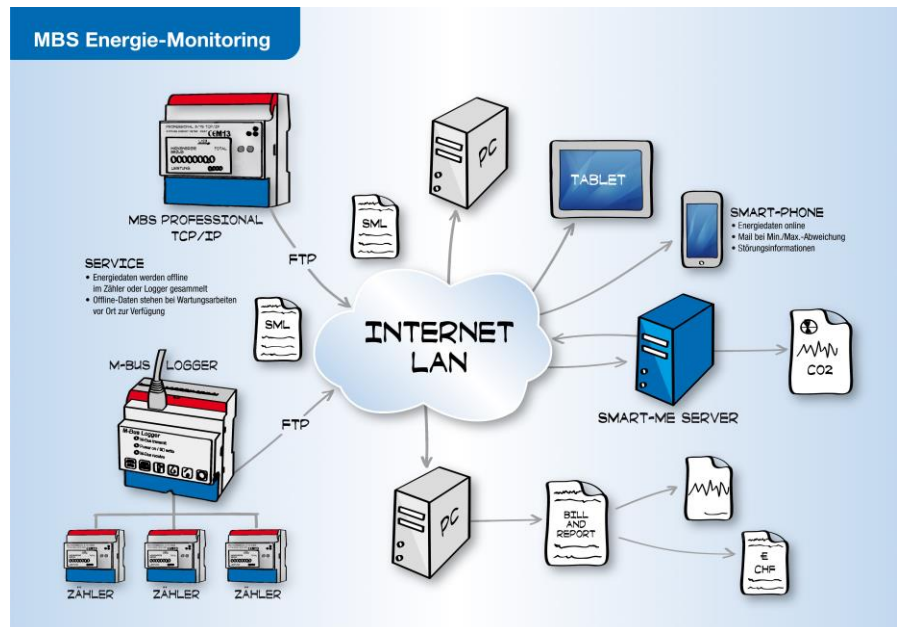
Your benefits

With smart-me you manage all your global measuring points and generate reports, comparisons and analysis.

From your PC, tablet or smartphone you have worldwide access to your measuring values and reports.

Functionality

Measurement data from the MBS M-Bus-Logger and the MBS „Professional“ TCP/IP will be transferred to the smart-me server via SML (Smart Meter Language).



Front panel mounting frame



Typ ER



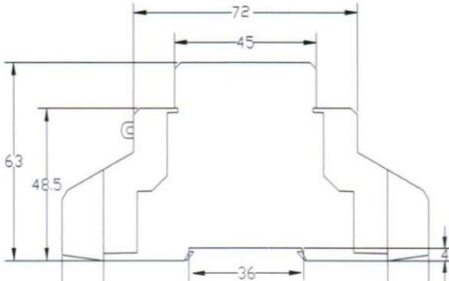
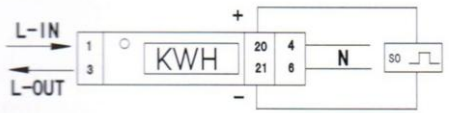
Typ KF

Order list

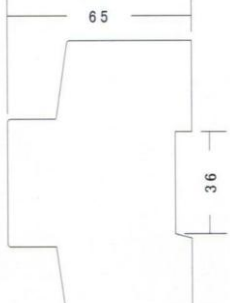
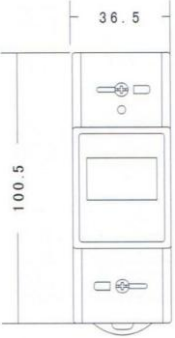
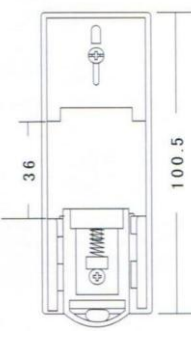
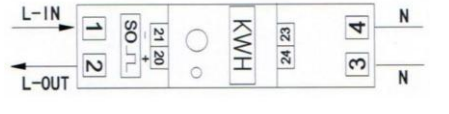
Order-no.	Description
59501	ER Front door kit, 6 modules
Trap window KF self-locking, transparent, IP 44 with touch guard and mounting bracket	
59502	KF Trap window , 2 modules
59503	KF Trap window , 4 modules
59504	KF Trap window , 6 modules
59505	KF Trap window , 8 modules
59506	Lock set for KF, retrofittable

Connection drawings

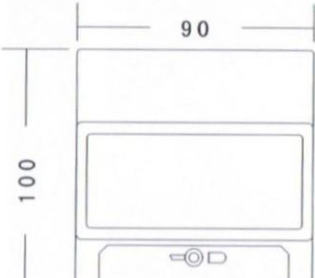
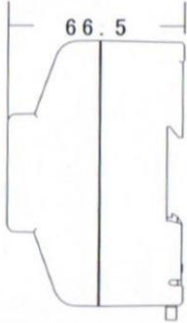
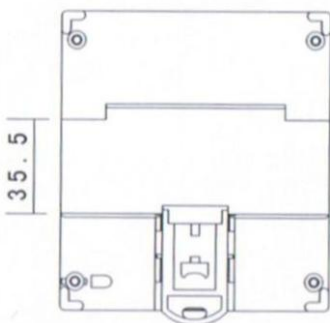
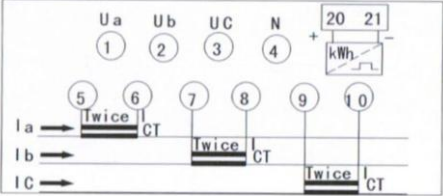
ECP 6112 / ECP 6152

Dimensions		
		
Direct connection		
		

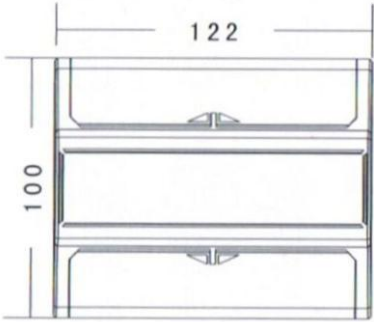
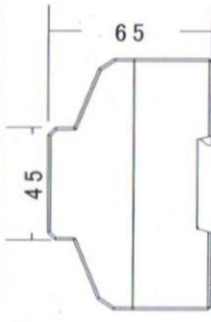
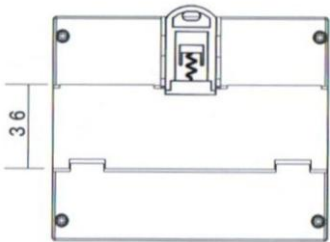
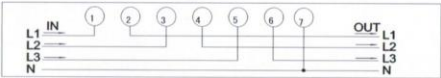
ECP 6156

Dimensions		
		
Direct connection		
		

ECP 1155

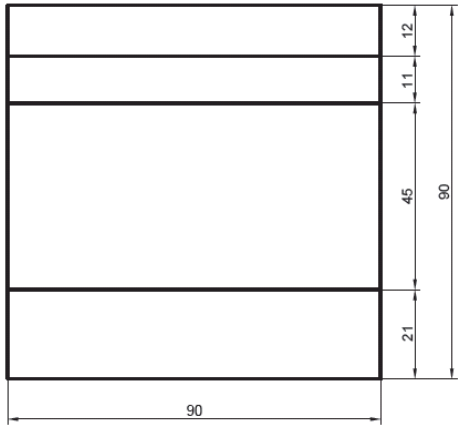
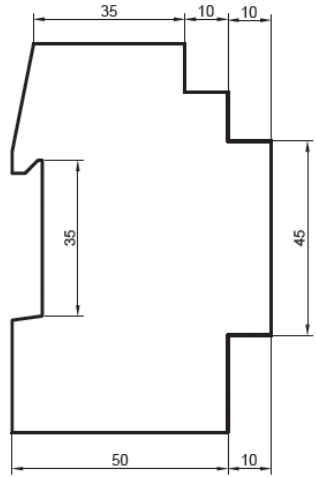
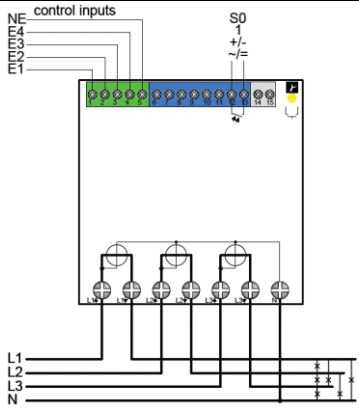
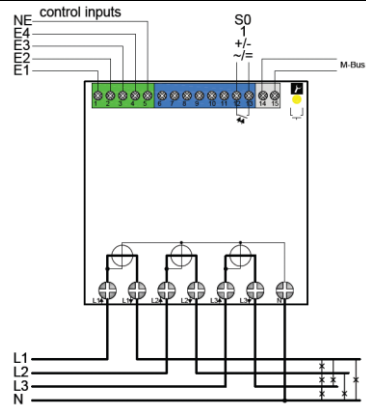
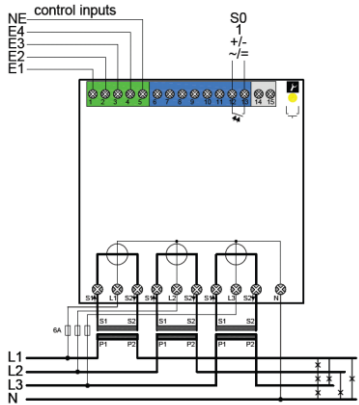
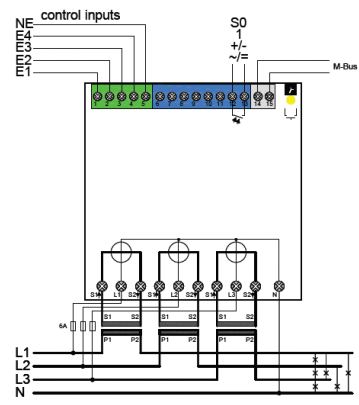
Dimensions		
		
Current transformer connection		
		

ECP 1151

Dimensions		
		
Direct connection		
		

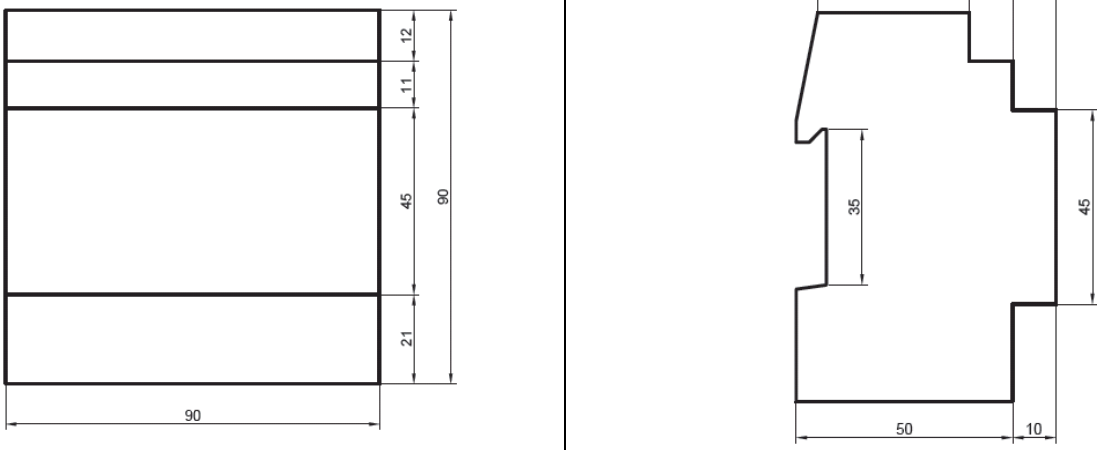
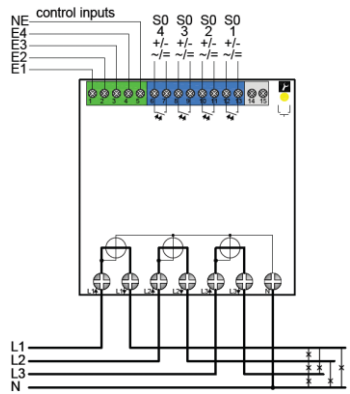
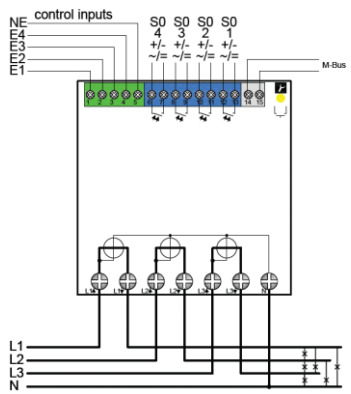
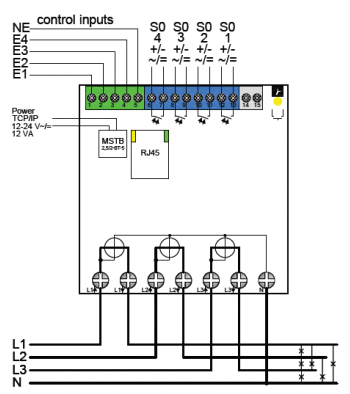
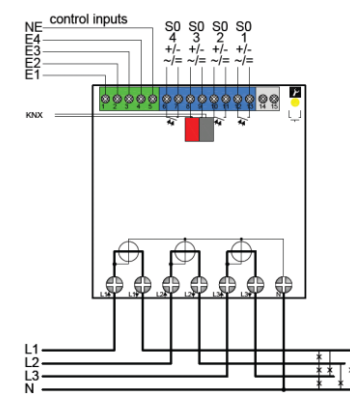
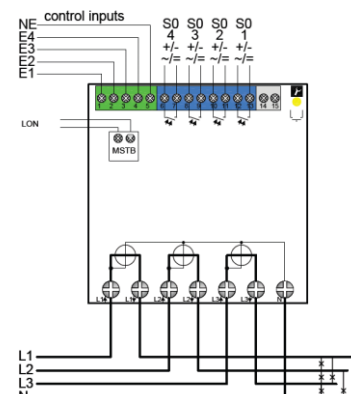
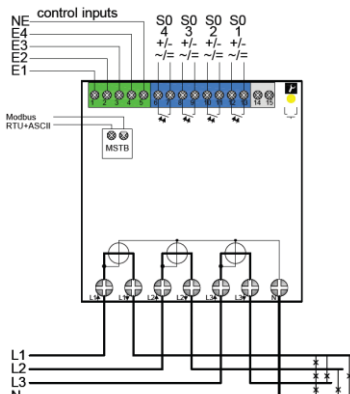
MBS “Allrounder”

Direct connection and current transformer connection

Dimensions	
	
Direct connection	Direct connection with M-Bus
	
Current transformer connection	Current transformer connection with M-Bus
	

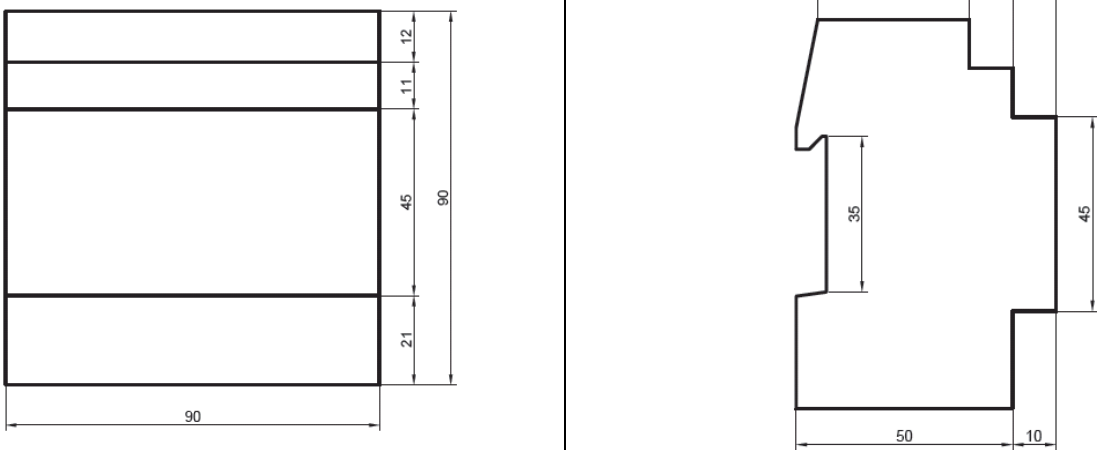
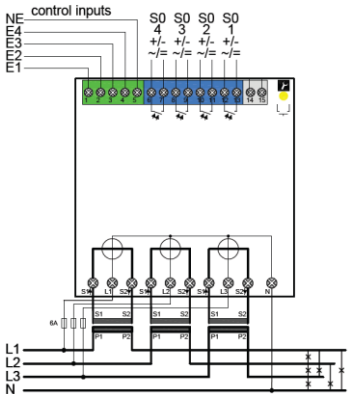
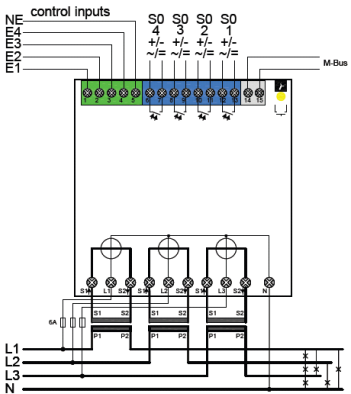
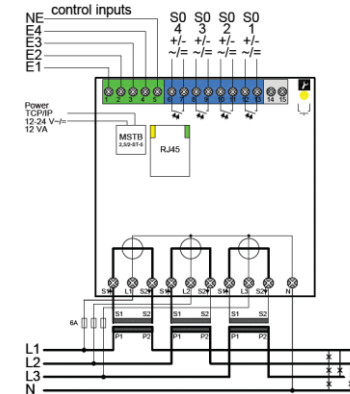
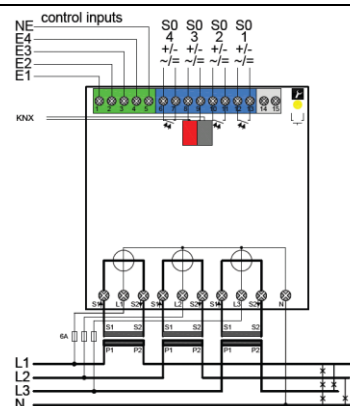
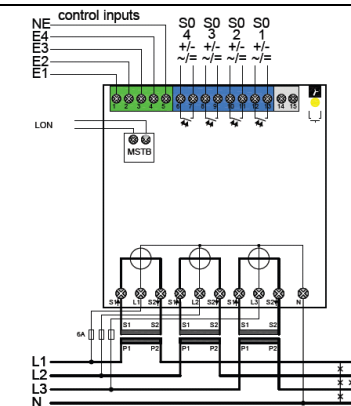
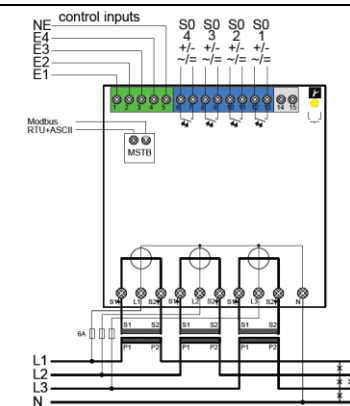
MBS "Professional"

Direct connection

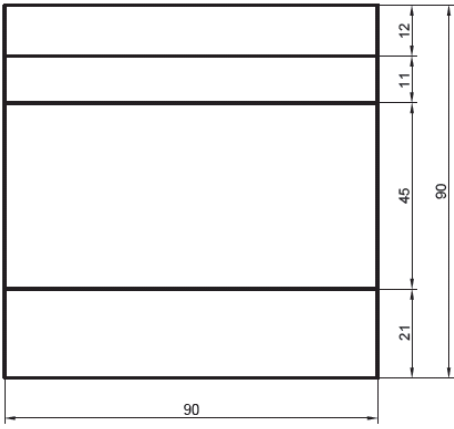
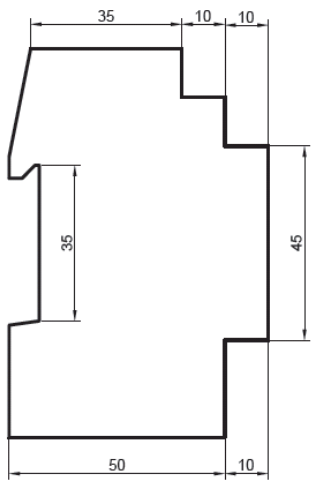
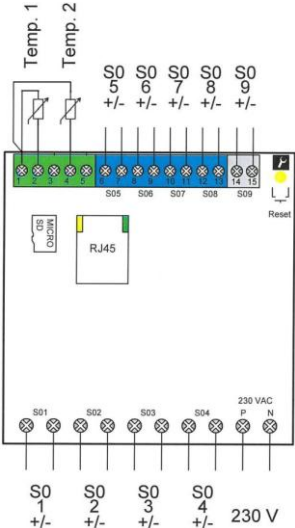
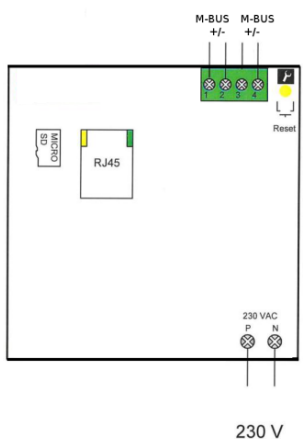
Dimensions		
		
Direct connection 	Direct connection with M-Bus 	Direct connection with TCP/IP 
Direct connection with KNX 	Direct connection with LON 	Direct connection with Modbus 

MBS "Professional"

Current transformer connection

Dimensions		
		
Current transformer connection	Current transformer connection with M-Bus	Current transformer connection with TCP/IP
		
Current transformer connection with KNX	Current transformer connection with LON	Current transformer connection with Modbus
		

Data logger

Dimensions	
	
Connection drawing S0 impulse-logger	Connection drawing M-Bus logger
	



- Current transformers for industry
- Current transformers for tariff
- Accessories for current transformers
- Medium-voltage CTs
- Bus bar insulators / -supports
- Shunts
- Voltage transformers
- All current sensors
- Measuring transducers
- Energy meters for industry
- Energy meters for tariff
- Panel board heaters, filter fans, roof fans and control units



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