



Multi-Tariff Meter with M-BUS

4-Quadrant-/Combi Meter

Measuring of		
Active energy	yes	yes
Reactive energy	---	yes
2 directions/4-Quadrants	---	yes
Type of connection	3- and 4-wire	3- and 4-wire
Voltage (+15%,-20%)	4-wire-version:	4-wire-version:
	3x230/400V, 3x58/100V, 3x63/110V	3x58/100V ... 3x240/410V
	3-wire-version:	3-wire-version:
	3x100V, 3x110V further voltages on request	3x100V ... 3x415V further voltages on request
Current		
direct connection	10(60)A	10(100)A
transformer connection	5I1A	5I1A
Frequency	50 Hz, 60 Hz (± 2%)	50 Hz, 60 Hz (± 2%)
Accuracy		
Active energy	Cl 1	Cl 1, Option: Cl 0.5 or 0.2
Reactive energy	---	Cl 2, Option: 1% or 0.5%
Energy measurement/Tariff design	2 tariff registers	2 tariff registers + 1 tariffless for every energy type
Maximum measurement	---	2 maximum registers for every energy type
Measuring period	---	15 minutes
Tariff control	external control	external control
Further measuring variables	---	Apparent energy, current, voltage, power, line frequency, power factor
Data retention time	> 10 years	> 10 years
Meter constant—LED (Imp./kWh)		
direct connection	300	500
transformer connection	3 000 (3x230/400V, 5I1A)	10 000 (3x230/400V, 5I1A)
Meter constant—output (Imp./kWh)		
direct connection	300	250
transformer connection	3 000 (3x230/400V, 5I1A)	5 000 (3x230/400V, 5I1A)
Control inputs	1 control input (system voltage)	3 control inputs (system voltage) for tariff- and maximum switching and clock synchron.
Outputs	S0 (DIN 43 864) for transmission of impulses	S0 (DIN 43 864) for transmission of impulses
Interfaces		
D0	yes	yes
CL0	---	Option
M-BUS	yes	---
LON-BUS	---	---
Further interfaces	---	RS485
Registering	LC-Display with	LC-Display accord. to VDEW with
direct connection	6.1 digits	8.0 digits
transformer connection	5.2 digits	5.3 digits
Power consumption (per phase)		
Voltage path	< 2.0 VA	< 2.0 VA
Current path	dependent on the meter type	dependent on the meter type
Temperature		
Operate/Limit	-10°C...+45°C	-25°C...+55°C / -40°C...+70°C
Storage	-20°C...+70°C	-40°C...+70°C
Class of protection		
Housing	IP 51	IP 51
Connection	IP 20	IP 20
Dimensions	178 x 328 x 60 (wxhxd)mm	178 x 328 x 60 (wxhxd)mm
Weight	1.6 kg	approx. 1.6 kg

PTB-Approval



The meter types DIZ, DHZ, ITZ, DMZ, MTZA and LZQJ are multi-functional meters. In this overview, practical standard versions are described. Furthermore we can also offer you customer-tailored configurations.

EMH Elektrizitätszähler GmbH & Co KG

The Partner for electronic specialized trade



EMH Elektrizitätszähler
GmbH & Co KG

Inform yourself:

Internet: www.emh-meter.de

You can reach us per Email:

info@emh-meter.de

Call us on:

+49 (0)3 88 52 - 645-0

Fax us on:

+49 (0)3 88 52 - 645-29

Or write us at the following

address:

EMH Elektrizitätszähler
GmbH & Co KG

Südring 5
D - 19243 Wittenburg



Die EMH Elektrizitätszähler is certified
accord. to DIN ISO 9001:2000.

IZ-PUE-E-04

Product Specifications are subject to
change without notice.

Fields of application:

Households
Industry
Building sites
Trade
Shopping centres
Camping sites
Yacht ports
etc.

PRODUCT RANGE

Industrial Meters



EIZ-EEWD7393



Electronic Single Phase Meter

ISM



Industry Standard Meter

EIZ



Electronic Industry Energy Meter

DIZ



Digital Industry Meter

DHZ



Digital DIN-Rail Meter

ITZ



Digital Impulse Meter/Tariff Meter

DMZ



Digital Multi-Tariff Meter

Measuring of								
Active energy	yes	yes	yes	yes	yes	yes	yes	
Reactive energy	---	---	yes	---	Option	---	---	
2 directions/4-Quadrants	---	---	---	---	Option	---	---	
Type of connection	2-wire	4-wire	2-, 3-, 4-wire	2-, 3- and 4-wire	3- and 4-wire	4-wire	2-wire	
Voltage (+15%, -20%)	230V	3x230/400V	4-wire-version: 3x230/400V, 3x58/100V 3x63/110V, 3x290/500V 3-wire-version: 3x400V, 3x100V, 3x110V, 3x500V 2-wire-version 230V, 58V, 63V, 100V	4-wire-version: 3x230/400V, 3x58/100V 3x63/110V, 3x290/500V 3-wire-version: 3x400V, 3x100V, 3x110V, 3x500V 2-wire-version 230V, 58V, 63V, 100V	4-wire-version: 3x230/400V, 3x58/100V 3-wire-version: 3x400V, 3x100V, 3x110V	4-wire-version: 3x230/400V, 3x58/100V, 3x63/110V 3-wire-version: 3x400V, 3x100V, 3x110V	3x230/400V	230V
Current								
direct connection	5(20)A	10(63)A	10(63)A	5(65)A	10(63)A	10(65)A	5(60)A	
transformer connection	---	5A, 1A	5A, 1A	5II1A	5II1A	5A	---	
Frequency	40...60 Hz	45...65 Hz	45...65 Hz; 16 2/3 Hz	50 Hz, 60 Hz (± 2%); (16 2/3 Hz) ¹⁾	50 Hz (± 2%)	50 Hz (± 2%)	50 Hz (± 2%)	
Accuracy				¹⁾ in preparation				
Active energy	Cl 1	2%	Cl 1	Cl 2, Option: Cl 1	Cl 1	Cl 2, Option: Cl 1 (with transformer connection)	Cl 2	
Reactive energy	---	---	Cl 2	---	Cl 2	---	---	
Energy measurement/Tariff design	1 tariff	1 tariff	1 tariff	1 tariff / 2 tariffs	2 tariff registers + 1 tariffless for every energy type	2 tariff registers + 1 tariffless	2 tariff registers + 1 tariffless	
Maximum measurement	---	---	---	---	2 maximum registers for every energy type	---	---	
Measuring period	---	---	---	---	15 minutes	---	---	
Tariff control	---	---	---	Option: external control	Option: external control	external control	external control	
Further measuring variables	---	---	Option: Momentary power and others with M-BUS and LON-BUS	---	Current, voltage, power, line frequency, phase angle	---	---	
Data retention time	continuously	continuously	continuously	> 10 years	> 10 years	> 10 years	> 10 years	
Meter constant-LED (Imp./kWh)								
direct connection	2 000	1 000	1 000	1 000	1 000	1 000	1 000	
transformer connection	---	10 000	10 000	10 000 (3x230/400V, 5II1A)	10 000 (3x230/400V, 5II1A)	10 000	---	
Meter constant-output (Imp./kWh)								
direct connection	2 000	100	100	500	500	500	500	
transformer connection	---	1 000	1 000 / 10 000 (at 1A)	5 000 (3x230/400V, 5II1A)	5 000 (3x230/400V, 5II1A)	5 000	---	
Control inputs	---	---	---	Option: 1 control input (system voltage)	Option	Option: 1 control input (system voltage)	Option: 1 control input (system voltage)	
Outputs	S0 (DIN 43 864) for transmission of impulses	S0 (DIN 43 864) for transmission of impulses	S0 (DIN 43 864) for transmission of impulses	S0 (DIN 43 864) for transmission of impulses	S0 (DIN 43 864) for transmission of impulses	S0 (DIN 43 864) for transmission of impulses	S0 (DIN 43 864) for transmission of impulses	
Interfaces								
D0	---	---	---	---	yes	yes	yes	
CL0	---	---	---	---	Option	Option	Option	
M-BUS	---	Option	Option	Option	---	---	---	
LON-BUS	---	Option	Option	---	Option	---	---	
Further interfaces	---	---	---	---	---	RS485	RS485	
Registering	Mechanical register	Mechanical register	Mechanical register	LC-Display with	LC-Display with	LC-Display with	LC-Display with	
direct connection	5.1 digits	6.1 digits	6.1 digits	7.1 digits	6.1 digits	6.0 digits	6.0 digits	
transformer connection	---	5.2 digits	5.2 digits	6.2 digits	5.2 digits	5.1 digits	---	
Power consumption (per phase)								
Voltage path	< 2 VA	< 1.8 VA	< 1.6 VA	< 2.0 VA	< 2.0 VA	< 2.0 VA	< 1.7 VA	
Current path	---	< 0.3 VA	< 0.5 VA	< 2.5 VA (direct), < 0.5 VA (transformer)	< 2.5 VA (direct), < 0.5 VA (transformer)	< 2.5 VA (direct), < 0.5 VA (transformer)	< 0.1 VA	
Temperature								
Operate/Limit	-20°C...+55°C	-10°C...+40°C	-20°C... +50°C	-10°C...+45°C / -20°C...+55°C	-10°C...+45°C / -20°C...+55°C	-25°C...+60°C / -40°C...+70°C	-25°C...+60°C / -40°C...+70°C	
Storage	---	---	-20°C... +70°C	-25°C...+70°C	-25°C...+70°C	-40°C...+70°C	-40°C...+70°C	
Class of protection								
Housing	IP 51	IP 51	IP 51	IP 51	IP 51	IP 51	IP 51	
Connection	IP 20	IP 20	IP 20	IP 20	IP 20	IP 20	IP 20	
Dimensions	1 pitch = 18 mm (DIN 43 880)	7 pitch= 126 x 90 x 70 (wxhxd)mm	7 pitch = 126 x 90 x 70 (wxhxd)mm	6 TE = 108 x 90 x 70 (wxhxd)mm	7 pitch = 126 x 90 x 70 (wxhxd)mm	178 x 328 x 60 (wxhxd)mm	134 x 208 x 55 (wxhxd)mm	
Weight	approx. 0.1 kg	approx. 0.5 kg	approx. 0.5 kg	approx. 0.4 kg	approx. 0.5 kg	approx. 1.35 kg	approx. 0.7 kg	
PTB-Approval	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	

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