

ELICIUS

ELECTRONIC ELECTRICITY METER

DIEHL
Metering



APPLICATION

The smart electricity meter is applicable for residential and small commercial electricity consumers. The meter is characterized by its simple and reliable technology, offers a double-spaced information display for the indication of consumption values and EDL information and provides the established Diehl Metering communication technology. The meter is able to communicate with the existing Diehl Metering system components, and can be integrated into the smart metering infrastructure for walk-by / drive-by or fixed network operations. A module compartment at the ELICIUS can be equipped with radio and wire-based communication modules.

FEATURES

- ▶ Three-point mounting
- ▶ Low intrinsic consumption
- ▶ Active energy measurement for im- and export
- ▶ Network parameter recording
- ▶ System clock for due date generation
- ▶ Tamper detection
- ▶ EDL functions
- ▶ IZAR+ radio performance
- ▶ Mobile readout
- ▶ Seamless integration in fixed network installation
- ▶ BSI conform to TR 03109 for unidirectional communication
- ▶ Conformity to Open Metering System specification

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TYPE EXAMINATION

ELICIUS	
Certification for	MID, DIN EN 50470-1, DIN EN 50470-3

NOMINAL WORKING CONDITIONS

ELICIUS	
Un	3x230/400 V, 1x230 V at L3
Iref respectively Ib or Ih (maximum current Imax)	5 (60) A or 5(65) A
Ist	0,02 A
Imin	0,1 A
fn	50 Hz
Accuracy class	Cl. A, B
Measurement mode	Import: +A, Export: -A
Impulse rating test output, LED	10000 imp/kWh
Energy register for import energy	1
Energy register for export energy	1
Working temperature range	-25°C to +55°C
Environmental conditions / moisture	< 100%
Mechanical conditions	M1
Field condition for the meter	Indoor
Protection class	II
Protection category	IP51

DISPLAY

- Double spaced, Display with network information
- 6- or 8 digit indication for energy values
- 3- digit indication of OBIS codes
- INFO-indication for historical energy values resettable by push button
- Indication of due dates, power indication

INTERFACES

ELICIUS	
Meteorological test output	Pulse output infrared, pulse width 4 ms continuous light at halt state
Optical	Interface DIN EN 62056-21, Interface with optional password protection
Radio (wM-Bus)	868 MHz or 434 MHz, unidirectional, Mode T1 configurable telegram, Open Metering System specification, symmetrical encryption as OMS Vol. 4
M-Bus	Baud rate 300, 2400 and 9600 baud (auto baud detection), power input: 2x M-Bus loads, Connection on M-Bus Master for V < 40 V, Cable length according to EN 13757-2

DATA LIST

ELICIUS	
Data list for Radio, M-Bus	Active energy +A, active energy -A, due date values, M-Bus load profile, device-parameter; optional current, voltage, frequency, reactive power
Data list for optical interface	Measuring values, device-parameter, parameterization values, time

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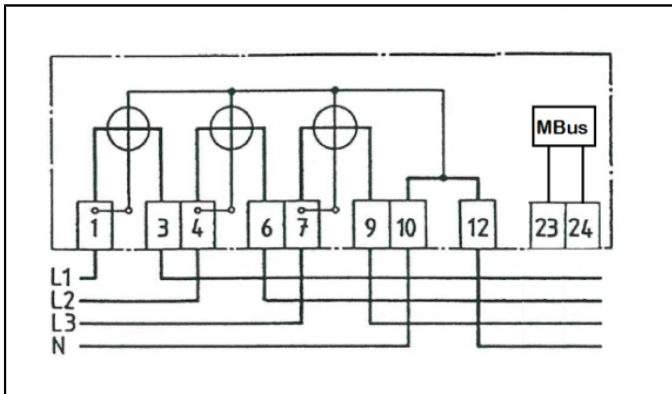
OPERATING PARAMETERS, DISTRIBUTE PROTECTION

ELICIUS	
Power input	Voltage path 0,5 W / 2VA per phase (3-phase connection), Voltage path 1,2 W / 2,5 VA (1-phase connection), current path: shunt with 300 µOhm per phase
EMV, pulse- an HF-test	According to DIN EN 50470-1 and -3, IEC 62052-11, IEC 62053-21, CLC/FprTR 50579, Pulse test 0,1/200 µs, 8 kV / 1 Ws
Magnetic fields	Resistant, additionally magnet field detection and alarm message
Terminal block	Detection opening and alarm message
Device clock	Second base index according EDL-meter, additional real time clock for due calculation (accuracy ±10ppm)
Ambient temperature / storage	-25°C to +70°C
Data security	By non-volatile storage

ENERGY REGISTER CALCULATION, MEASURING MODE

ELICIUS		
Variant	Register-identifier	Energy register
Import meter with return stop	1.8.0	$E_{tot} = E_{L1} + E_{L2} + E_{L3}$ (for $E_{L1} + E_{L2} + E_{L3} > 0$); $E_{tot} = 0$ (for $E_{L1} + E_{L2} + E_{L3} < 0$)
Two-way meter	1.8.0	$E_{tot} = E_{L1} + E_{L2} + E_{L3}$ (for $E_{tot} > 0$);
	2.8.0	for $E_{tot} < 0$
Export meter with return stop	2.8.0	$E_{tot} = E_{L1} + E_{L2} + E_{L3}$ (for $E_{L1} + E_{L2} + E_{L3} < 0$); $E_{tot} = 0$ (for $E_{L1} + E_{L2} + E_{L3} > 0$)
Import meter without return stop	2.8.0	$E_{tot} = E_{L1} + E_{L2} + E_{L3}$ (for $P_{tot} < 0$, in 2.8.0 added); (for $P_{tot} > 0$, in 2.8.0 subtracted)
Two-way meter with always positive registration	1.8.0	$E_{tot} = E_{L1} + E_{L2} + E_{L3} $
Due date value per variant	1.8.0	And indication of due date, once per week or month or year

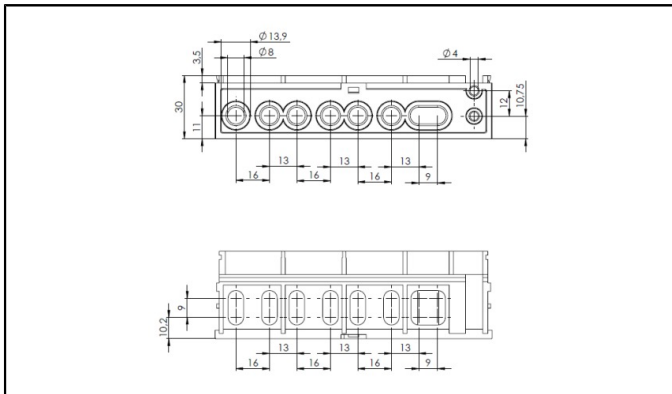
CONNECTION DIAGRAM



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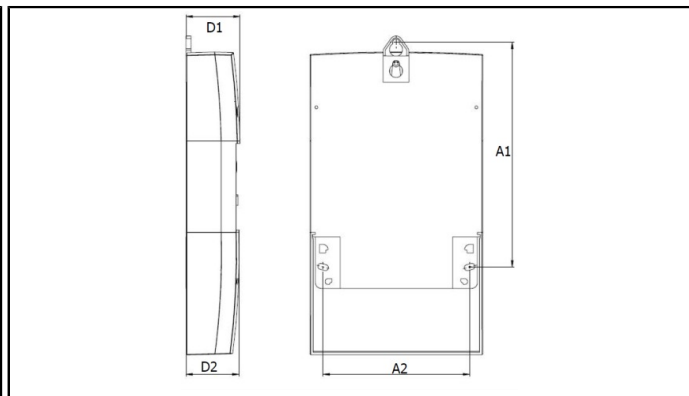
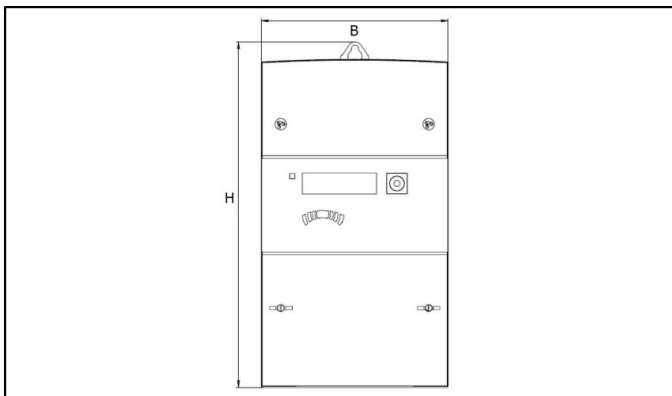
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TERMINAL BLOCK



ELICIUS	
Terminal block screws current	2x M5 per terminal
Terminal block screws M-Bus-connection	1x M3 per terminal

MEASURES



ELICIUS	
H	mm 326.9
B	mm 177
D1	mm 55.3
D2	mm 54.4
A1	mm 230
A2	mm 150

TYPICAL ERROR CHARACTERISTIC

