

# SCYLAR INT 8

## ENERGY CALCULATOR

**DIEHL**  
Metering



### APPLICATION

Energy calculator for universal use in systems for heating and cooling measuring. Highly accurate recording of all billing data in local and district heating / cooling systems.

### FEATURES

- ▶ Can be used for heating, cooling or combined heating / cooling
- ▶ Measurement accuracy fulfills the requirements according to EN 1434
- ▶ Suitable for 2 and 4 wire temperature sensor connection
- ▶ Improved power consumption --> longer battery lifetime
- ▶ Approved according to MID and PTB K 7.2 (cooling)
- ▶ Programmable history memory (daily, weekly, monthly)
- ▶ IZAR@MOBILE2 parameterization software on Windows basis guarantees optimum adaption to the user specific needs
- ▶ Individual remote reading (AMR) with add on modules Plug & Play
- ▶ Optional with integrated radio acc. Open Metering Standard (868 or 434 MHz) profile A and B
- ▶ 3 communication interfaces (e. g. M-Bus + M-Bus + Radio)
- ▶ 2 passive analogue outputs for 4 ... 20 mA
- ▶ Significantly improved radio performance

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### GENERAL

SCYLAR INT 8	
Application	Heating - cooling - heating with cooling tariff
Approval	MID (DE-10-MI004-PTB004) and PTB K7.2 for cooling (22.75/11.02)
Protection class	IP 54
Battery supply	3.6 VDC A-cell 11 years lifetime; 3.6 VDC D-cell 16 years lifetime
Mains supply	24 VAC; 230 VAC / $\leq 0.15$ W
Volume pulse input frequency	Max. 200 Hz; pulse durance > 3 ms
Pulse value	l/pulse 0.01 ... 10,000 <sup>1</sup>
Temperature sensor type	Pt 100 or Pt 500 with 2- or 4- wire leads; $\varnothing$ 5.2 / 6 mm
Cable length of temperature sensor	Pt 100; Pt 500: 1.9 / 4.9 / 9.9 m
Calculation cycle	s 2

<sup>1</sup> Depending on size of flow sensor

### REACH

Information pursuant to Article 33 (1) of Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006:

This product series contains components with the following substances in a concentration of more than 0.1% weight by weight (w/w):

- Lead (CAS no.: 7439-92-1)

- 1,2-dimethoxyethane (CAS no.: 110-71-4)

### BASIC FEATURES

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Ambient class	Class E2 + M2
Ambient temperature	°C 0 ... 55
Ambient storage temperature	°C -25 ... +60 (>35 °C max. 4 weeks)
Communication	3 communication interfaces (e. g. M-Bus + M-Bus + Int. Radio; 2 primary addresses, 1 secondary adress)
Integrated Radio	Optional
Interfaces standard	Optical ZVEI interface
Interfaces optional	2 slots for modules with M-Bus, L-Bus, RS232, RS485, pulse output, pulse input, combined pulse in-/output or analogue output
Temperature range heating	°C $\Theta$ : 0 ... 180   $\Delta\Theta$ : 3 ... 177
Temperature range cooling	°C $\Theta$ : 0 ... 90   $\Delta\Theta$ : 3 ... 87
Temperature range heating with cooling tariff	°C $\Theta$ : 0 ... 105   $\Delta\Theta$ : 3 ... 102

### INTEGRATED RADIO

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Frequency band	868 or 434 MHz
Type of radio telegram	Open Metering Standard (OMS) profile A and B
Transmission data updating	Online - no time delay between value measurement and data transmission
Data transmission	Unidirectional T1 mode
Sending interval	With A-cell: 180 s (11 years lifetime); with D-cell: 12 s (16 years lifetime); with mains unit: 12 s; depending on length of telegram (duty cycle)

\*Standard conditions of use and temperature. Theoretical life, with no guarantee.

### DISPLAY

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Display indication	LCD, 8-digit
Units	MWh - kWh - GJ - Gcal - MBtu - gal - GPM - °C - °F - m <sup>3</sup> - m <sup>3</sup> /h
Total values	99,999,999 - 9,999,999.9 - 999,999.99 - 99,999.999
Values displayed	Energy - Power - Volume - Flow rate - Temperature and more

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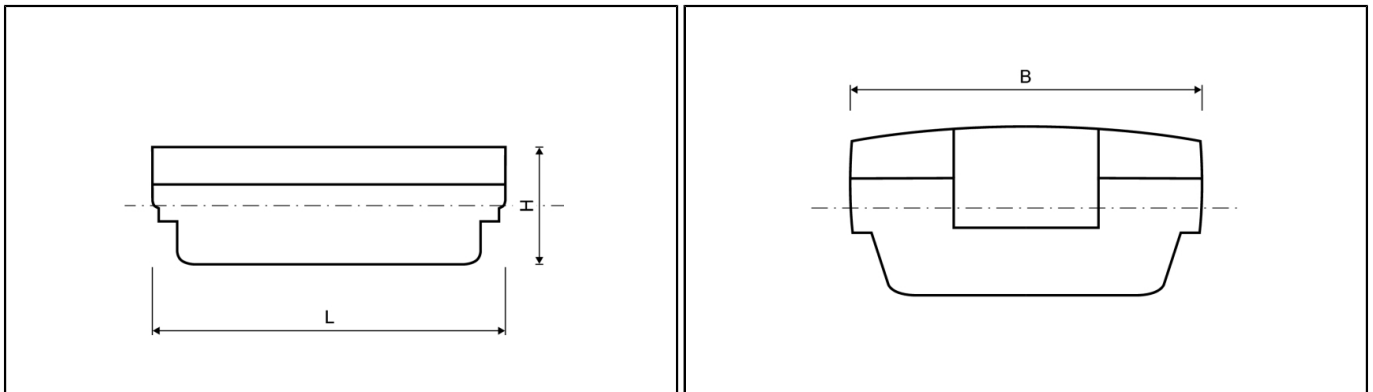
### INTERFACES

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Optical	ZVEI interface, for communication and testing, M-Bus protocol, 2400 baud
M-Bus	Configurable telegram, according to EN1434-3, data reading and parametrization are via two wires with polarity reversal protection, auto baud detect (300 and 2400 baud), 2 M-Bus with 2 primary addresses
L-Bus	Adapter for external radio module, configurable telegram, according to EN13757-3, data reading and parametrization are via two wires with polarity reversal protection.
RS232	Serial interface for communication with external devices, a special data cable is required, M-Bus protocol, 300 and 2400 baud
RS485	Serial interface for communication with external devices, power supply with 12 V ± 5 V, M-Bus protocol, 2400 baud
Pulse output	Module with 2 Open Collector pulse outputs (potential-free), output 1: 4 Hz (pulse width 125 ms), pulse or static conditions (e.g. errors), output 2: 200 Hz (pulse width ≥ 5 ms), ratio: pulse duration / pulse break ~ 1:1, configurable via IZAR@MOBILE 2 software.
Pulse input	Module with 2 pulse inputs, max. 20 Hz, configurable via IZAR@MOBILE 2 software, data can be transferred remotely.
Combined pulse in-/output	Module with 2 pulse inputs and 1 pulse output, configurable via IZAR@MOBILE 2 software, needed for leak detection.
Analogue output	Module for 4 ... 20 mA with 2 programmable passive outputs, programmable value in case of error.

### TEMPERATURE INPUT

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Sensor current		mA	Pt 100 peak < 8; rms < 0.015, Pt 500 peak < 2; rms < 0.012
Measuring cycle	T	s	With mains unit: 2 s; with A-cell battery: 16 s; with D-cell battery: 4 s
Starting temperature difference	$\Delta\Theta$	K	0.125
Min. temperature difference	$\Delta\Theta_{\min}$	K	3
Max. temperature difference	$\Delta\Theta_{\max}$	K	177
Absolute temperature measuring range	$\Theta$	°C	-20 ... 190

### DIMENSIONS



SCYLAR INT 8			
Overall length	L	mm	150
Width of calculator	B	mm	100
Height	H	mm	54