

# SCYLAR INT 8

## CALCULATOR



### 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

## 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                        | I/pulse 0.01 ... 10,000 <sup>1</sup>                               |
| Temperature sensor type            | Pt 100 or Pt 500 with 2- or 4- wire leads; Ø 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

## BASIC FEATURES

| SCYLAR INT 8                                  |                                                                                                                              |
|-----------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|
| 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 address)                      |
| 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

| SCYLAR INT 8               |                                                                                                                                                    |
|----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| 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) |

## DISPLAY

| SCYLAR INT 8       |                                                                                         |
|--------------------|-----------------------------------------------------------------------------------------|
| 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                              |

INTERFACES

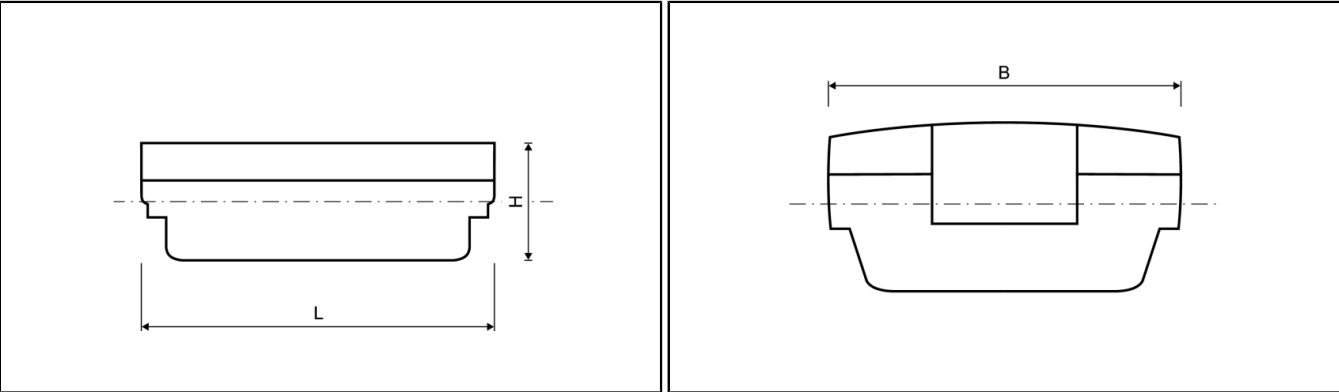
| SCYLAR INT 8              |                                                                                                                                                                                                                                                                        |
|---------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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.                                                                                                |
| NB-IoT*                   | Compatible in Slot 1 with internal antenna, with external D-Cell battery, 13+1 years battery lifetime with daily upload of 24 hourly values. Configurable with NFC connection via OTC App (AppStore Android).                                                          |
| 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.                                                                                                                                                                       |

\* Starting with August 1, 2025, only devices with firmware F04.006 or newer may be combined with NB-IoT modules with firmware 14.0 or newer, in order to ensure compliance with the essential requirements according to art. 3(3) d and art. 3(3) e of Directive 2014/53/EU (RED Cybersecurity). The firmware version can be read out with the OTC app.

TEMPERATURE INPUT

| SCYLAR INT 8                         |                       |                                                            |                                                                           |
|--------------------------------------|-----------------------|------------------------------------------------------------|---------------------------------------------------------------------------|
| 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  |

## 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)

### **Economic Actor Information**

Applicable regulation and legal obligations for products may change.

DIEHL METERING monitors applicable regulation to ensure their products comply at the date of placing on the market.

Each economic actor making products available on the market thereafter must independently keep informed about the current applicable regulation.

For questions, please contact: [metering-germany-info@diehl.com](mailto:metering-germany-info@diehl.com)

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