SCYLAR INT M

CALCULATOR

DIEHL
Metering

APPLICATION

The calculator SCYLAR INT M is a two-channel calculator for measuring thermal energy in heating and cooling circuits. It includes the functions of two calculators. 2 independent energy measurements can be made in one housing at the same time. It is highly suitable in an industrial surrounding. Billing-relevant data can be calculated in the range of local heating and district heating with very high precision. Due to its variety of additional functions it is also very well prepared for future requirements.

FEATURES

- Application for heating, cooling or climate calculator
- 4 Flow sensor inputs, include 2 for energy measurement
- 4 Temperature inputs, for 2- or 4- wire measuring
- 2 Analog inputs
- 4 Active analog outputs for 0/4 - 20mA
- 4 Pulse outputs
- 1 M-Bus interface
- 1 Optical interface
- 1 USB-interface
- 1 Relay output
- 4 Further slots for extension modules (2nd MBus .....)
- 24 Due days
- Programmable interval memory

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GENERAL

		SCYLAR INT M
Type		mwz04
Calculator		Two channel heating and cooling calculator
Number of energy measurements		2 independent energy measurements in one housing
Approval		MID
Protection type		IP 65
Power supply		230 VAC
Volume pulse	kHz	max. 10[1]
Pulse value	p/l	0.0001 to 99999.9999[2]
Temperature sensor		Pt 100 or Pt 500

[1] depending on the type of pulse generator
[2] depending of the flow sensor size

BASIC FEATURES

		SCYLAR INT M
Environment class		C after EN 1434
Ambient temperature	°C	5 ... 55
Storage temperature	°C	-25 ... +70
Environmental condition		mechanical: Class M1
Environmental condition		electro magnetic: Class E2

TEMPERATURE-INPUTS

Input option for R0 and factors a and b. Thermo-electric offset compensation 24 Bit ADC.

			SCYLAR INT M
Temperature range	absolute	°C	-50 to +300
Temperature difference	absolute	K	ΔT min < 0.001 / ΔT max 350
Temperature measuring error	max	°C	≤ ± 0.04
Accuracy ΔT	typical	K	0.005
Measurement cycle		sec	1
Temperature range	MID Approval	°C	0 - 300
Temperature difference	MID Approval	K	ΔT min 3 / ΔT max 300 (Keeping of verification errors even at Δt 1K)
Temperature sensor type			Pt 100 or Pt 500
Temperature measuring			2 or 4-wire up to 100 m sensor cable if 4-wire measuring

FLOW SENSOR-INPUTS

Compatible with Reed-contact, Open Collector, Open Emitter, NAMUR, CMOS/TTL, Sharky 473, BR571, BR572.
Trend identification with status signal or "Namur-steps".

		SCYLAR INT M
Measurement cycle	sec	1
max. Flow	m^3/h	360 000 000
max. Power	MW	151 200 000
Pulse value	p/l	0.0001 to 99999.9999
Pulse width min	µs	50
Reed debounced	Hz	≤ 30
Open Collector	Hz	≤ 10 000
Open Emitter	Hz	≤ 10 000
CMOS/TTL	Hz	≤ 10 000
Namur	Hz	without trend identification ≤ 200
Namur	Hz	with trend identification ≤ 100
Active output sensor	Hz	≤ 10 000
Sensor supply	V / mA	8.2 ; 5.0/3.6

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2 ANALOG-INPUTS

e.g.: for pressure or humidity sensors

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Measurement accuracy	%	≤ 1
Input signal	mA	0(4)-20
Supply	mA	25 at Input signal 0 (4)- 20 mA
Input signal	V	0(2)-10
Supply	V	11 - 27 at Input signal 0 (2) - 10 mA

4 ACTIVE ANALOG-OUTPUTS

0/4 - 20 mA, galvanically isolated
Power, Flow rate, VL, RL and ΔT

		SCYLAR INT M
Burden	Ω	≤ 500
Output current	mA	0 - 20
Output current	mA	4 - 20
Overstepping	mA	20 - 22

4 PULSE-OUTPUTS

galvanically isolated

			SCYLAR INT M
Switching frequency	max	Hz	500
Input voltage	max	V	40
Current	max	mA	100

1 RELAY-OUTPUT

			SCYLAR INT M
Switching frequency		Hz	≤ 1
Input voltage	max	V	40
Current	max	A	1

COMMUNICATION-OUTPUTS

		SCYLAR INT M
M-Bus interface	1 piece	≤ 1 Unit Load
Optical interface	1 piece	ZVEI
USB interface	1 piece	USB 2.0
Extension slots	4 piece	for optional moduls e.g.: 2nd M-Bus,...

- Baud rate options: 300 to 9600 bauds
- Primary or secondary addressing
- Protocol selectable: M-Bus, EN 61107
- Answer telegram selectable

POWER SUPPLY

		SCYLAR INT M
Power supply		230 VAC / 50 Hz +10% / -15%
Power supply on demand 1		110 VAC / 60 Hz +10% / -15%
Power supply on demand 2		24 VAC / 50 Hz +10% / -15%
Total input power max	VA	17.5

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DISPLAY

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Units energy	kWh - MWh - GWh - MJ - GJ - TJ - kBtu - MBtu - GBtu - MCal - Gcal - TCal
Units volumen	m^3 - l - US-Gal - Ft^3
Units temperature	°C - °F- K
Total values	999999.999 - 9999999.99 - 99999999.9 - 9999999999
Values displayed	Energy - Power - Volume - Flow rate - Temperature and more

graphic display 64x128 with plaintext menu and back light

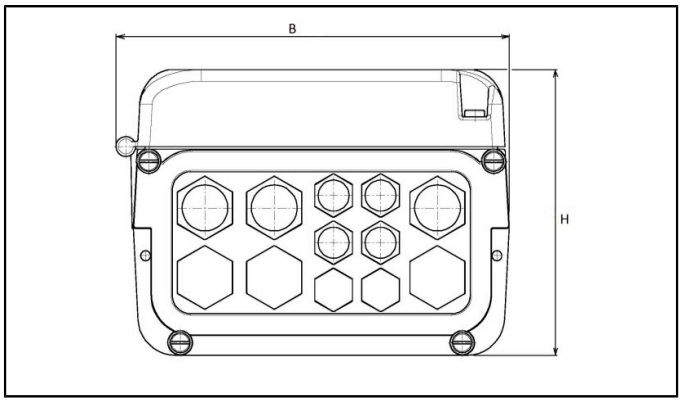
CHASSIS

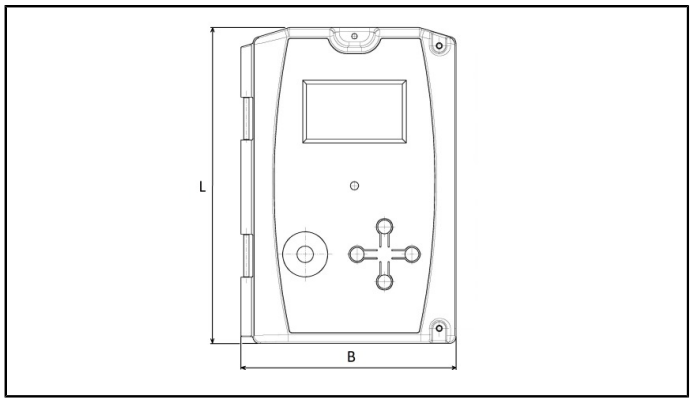
		SCYLAR INT M
Protection class		IP65
Cable entry	6 piece	PG7
Cable entry	6 piece	PG11

DEVICE

	SCYLAR INT M
Tariff	8
Deadlines	12
Interval memory	60
Puffer battery	Lifetime without power supply > 6 years
Ambient class	C
Storage temperature	-25 ... +70 °C (battery lifetime: -10°C ... >3 years; -25°C ... >1 year)
Shielding	EMC
Calibrate change	simple separation from the upper part and lower part or simple removal of the connectors due to a plug system, removeable connection board with cable gland plate, DIN rail mounting of the housing
Measurement accuracy	EN 1434

DIMENSION





			SCYLAR INT M
Overall length	L	mm	239.6
Width of calculator	B	mm	159
Height	H	mm	115

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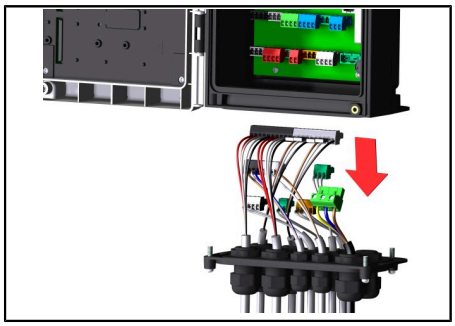
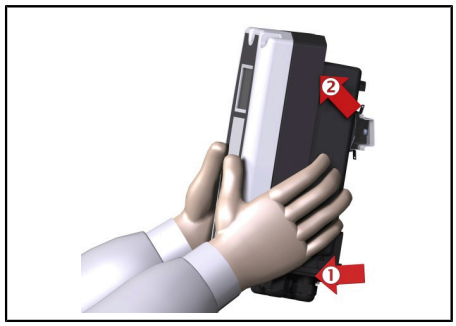
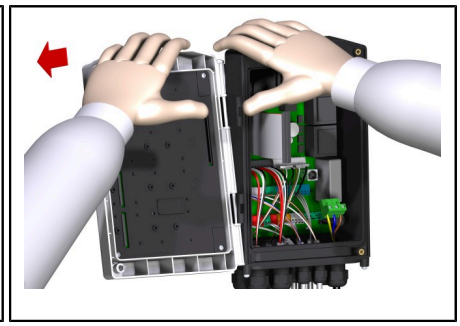
VERIFICATION CHANGE







In case the calculator needs to be exchanged (e.g. after the end of the verification period) this can easily be done with just a few simple steps.

.) The simple disconnection via the plug system,
.) Removeable connecting plate,
.) Top-hat rail fixing of the housing,
.) or simple separation of the upper part form the lower part

enables a simple and fast exchange of the calculator.

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