

F4 Calculator

For detailed consumption recording with every comfort



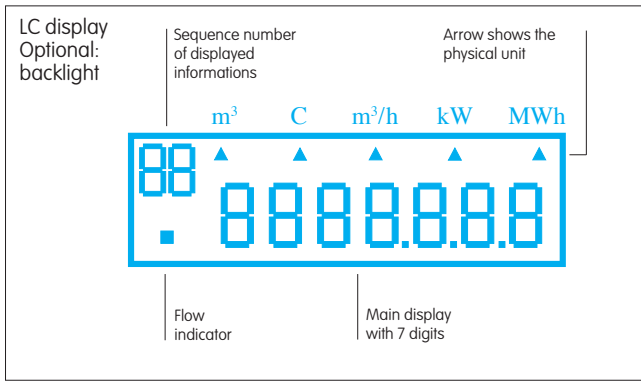
PTB approval	MID-type examination certificate
22.55 99.01	0402-MID-154218

- Ideal for heating and cooling applications
- Ideal for water/glycol mixtures
- PTB type approval/MID-type examination certificate
- Pulse inputs and pulse outputs
- M-Bus according to EN1434-3
- Optical interface
- Additional option cards
- Temperature sensor connection with 2/4-wire possible



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Interfaces		
Pulse outputs	Standard	Open collector
Pulse length (Standard)	ms	250
Voltage	V	≤ 30
Current	mA	≤ 20

Pulse inputs	Standard	2
Frequency	Hz	≤ 12
Pulse length	ms	≥ 40
Voltage	V	≤ 3
Current	µA	3

Alarm output	Typ	Open collector
Pulse length	ms	250

Data outputs	M-Bus	acc. to EN 1434-3 two-wire optical EN 60870-5

Type	F4 F4 H/C MF4	Standard Combined heating/cooling measurement Cooling measurement water/glycol 25% / 30% / 35% 40% **	Option cards	
			Battery	Mains supply
2 pulse outputs	x	Standard		
2 pulse outputs potential free	—	FCRC-41D2	FCRC-41D2	
2 pulse inputs	x	—	—	—
2 pulse inputs + 2 pulse outputs potential free	—	—	—	FCRC-41D1
M-Bus – additional address	—	—	—	FCMB-4... STA
M-Bus – galvanical separation	—	FCR-2B	FCR-2M	—
4/20 mA output	—	—	—	FCAU4-20
Min/max values	—	FCMX-41A	FCMX-41A	FC10 LON
LON FTT 10	—	—	—	—
Alarm	x	—	—	—
RS232 (M-Bus)	—	FC2N-B	FC2N-M	—
RS232 (SIOX)	—	FC2S	FC2S	—
Datenlogger (32 kB)	—	FCLG-41	FCLG-41	—
Tarife	—	FCTF-41	FCTF-41	—
Power supply US473	—	—	—	FCU2-41

* max. 3/5 option cards, depending on combination
 ** information needed before ordering

Register

Flow sensor requirements			
Frequency	Hz	≤ 12	
Pulse length	ms	≥ 40	
Voltage	V	≤ 3	
Current	µA	3	
Pulse value	litres/pulse	0.0001 ... 9.999	
Cable length	m	≤ 15	

Temperature measuring range	°C	0 ... 190	
Temperature difference range	K	3 ... 120	

Ambient temperature			
Operation	°C	+ 5 ... + 55	
Storage / transport	°C	- 20 ... + 70	

Measuring cycle temperature display			
Battery operation	s	5 ... 60	
Mains operation	s	1	

Protection type	DIN 40 050	IP 54	
Environment	EN 1434	Class C	

Power supply			
Battery	V / Ah	3.6 / 2.75	
Operation life-time	Years	≤ 10	
Mains operation	V / Hz	230 ± 10 % / 45 ... 65	
Backup battery	Ah	2.75	

Temperature sensor (2/4-wire)

Requirements	Type	Pt 100 or Pt 500

Cable	Length	with 0.75 mm ²
2-wire system	m	3
4-wire system	m	10
Sensor current for Pt 100	µA	4 (RMS)

ELSTER Messtechnik GmbH
 Otto-Hahn-Strasse 25
 68623 Lampertheim, Germany

T +49 (0) 62 06 933 0
 F +49 (0) 62 06 933 100
 E messtechnik@de.elster.com
 www.elstermesstechnik.com

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Displays

The powerful register offers a multiplicity of data.

- Energy.
- Accumulated volume (from flow sensor).
- Accumulated volume (calculation of energy).
- Accumulated values. Of the pulse inputs
- Actual performance.*
- Actual flow rate.*
- Flow temperature.*
- Return temperature.*
- Temperature difference.*
- Overall operation period.
- Time and date.
- Number of meter.
- Number of manufacturer.
- Pulse value.
- Installation position of flow sensor.
- Error code with date of error.
- Last error code with date of error.
- Total date of error.
- Battery change (reference date).
- Monthly index (37).
- Target dates (2).
- Storage:
 - Date.
 - Accumulated energy.
 - Accumulated volume (from flow sensor).
 - Accumulated volume (calculation of energy).
 - Accumulated values of the additional pulse inputs
 - Error code with date of error.

* With option card also minimal-maximal values.

Service

Specified parameters can be adjusted on-site, without using any further equipment and without breaking the calibration seal.

- Time and date.
- Pulse value, one-time after calibration.
- Target date, one-time after calibration.
- Communication address.
- Reset of total error time.
- Battery change: recommended date.

