

Electronic calculator for thermal energy meters: compact design for heating and cooling systems

• MID MI004 - EN1434 approval



Model CC S3C:

- Separate electronic calculator that can be connected to a reed switch or open collector pulsed output energy meter
- LCD Display – 8 digits plus special characters
- Optical infrared interface M-Bus protocol for data transfer to an external terminal via optical head and configuration SW
- 6-level key-operated query menu (main/technical/statistics/maximum values/configuration/interfaces, if applicable)
- Preset for future installations of communication interfaces and 3 pulse inputs (i.e. hot and cold sanitary water)
- Battery service life: up to 10 years (replaceable)
- Preset for external power supply with a 230V/3V DC transformer

Model CC1 S3C Mbus:

- With M-Bus output and galvanic separation according to norm EN 1434-3 and EN 13757-2

Model CC1 S3C WM-Bus:

- Wireless M-Bus 868Mhz S1/T1/C1 communication interface
- Communication on Opening Metering System (OMS) standard, open system to ensure a common transmission standard among the various meters (water, gas, heat)
- Default configurations can be changed through special configuration software and optical head (optional)

Model CC2 S3C:

With pulse output of energy/volume or energy/energy (calories/frigours))

Not available in combination with wired or wireless M-Bus output

Available options:

- Double register/display heat/refrigeration recording
- Mains power supply 230V/3V DC
- 3 pulse inputs for hot and cold water meters/dual (not available on Mod. CC S3C and CC2 S3C)



Technical Data

Temperature range of medium – heat	°C	0°C...+150°C
Temperature range of medium – cooling	°C	0°C...+50°C
Temperature difference range ΔΘ heat	K	3K ...100K
Temperature difference range ΔΘ cooling	K	-3K ...-50K
Minimum temperature difference ΔΘ heat	K	ΔΘ>0,05K
Minimum temperature difference ΔΘ cooling	K	ΔΘ<-0,05K
Temperature resolution	°C	0,01 °C
Operating ambient temperature	°C	+5°C...+55°C
Transport T	°C	-25°C...+70°C (168h max)
Storage temperature	°C	-25°C...+55°C
Energy measuring cycles in standard operation conditions	Sec	60 sec. with a lifetime 10 years 30 sec. with a lifetime 6 years + 1 2 sec. (with power pack)
Power supply	Standard	3 V lithium (10 years replaceable)
	Optional	External input voltage 230 /24V-3V DC)
Pulse values	Standard	K10 o 100 o 1000 (based on the meter input K)
	TX version	K values configurable:: 1 / 2,5 / 10 / 25 / 100 / 250 / 1.000 identif. on display
Unit of measurement	Standard	MWh
	Optional	kWh, GJ
	The energy unit of measurement can be set until the energy value is ≤ 10 kWh.	
Interfaces	Standard	Optical interface
	Optional	M-Bus / M-Bus+3 pulse inputs
		WM-Bus / WM-Bus+3 pulse inputs
	2 pulse outputs	
Data storage	Nonvolatile memory	
Storage of maximum values	Power, power and temperature (inlet, outlet, ΔΘ), related values of the latest 15 months included	
Reading dates	Selectable yearly	
Monthly values	15 monthly and semi-monthly values via display or wireless M-Bus (compact mode) 24 monthly and semi-monthly values via optical interface or wired Mbus	
Protection class	IP54	
Electromagnetic class	E2	
Mechanical class	M2	
Pulse input interface	CMOS microcontroller, class IB, EN 1434-2:2015 (D) compliant	
Pulse inputs sensor volumetric heat output	Reed switch contact (OA) Open Collector (OC) Pulse lenght ≥25ms Pulse pause. ≥50ms Max.input frequency 10 Hz	
Dimensions	mm	H x L x D = 130 x 150 x 35
Weight	g	350g

Parameter	Possible settings	Standard Factory settings
Radio transmission mode	S1 / T1 / C1; unidirectional	T1 unidirectional
Frequency	868Mhz Wireless Mbus OMS EN13757-3, EN13757-4	
Transmission period	00:00 – 24:00	8:00 – 18:00
Transmission interval	10 seconds - 240 minutes	120 seconds (heating)
Weekdays	Monday - Sunday	Monday – Friday
Weeks in a month	1 – 4 (5)	1 – 4 (5)
Months	1 – 12	1 – 12
Radio activation date	01.01 – 31.12	Not set up
AES-128 Encryption	not encrypted; encrypted	Master Key; not activated
Type of telegram	short telegram in conformity to AMR OMS long telegram for walk-by read-out	Short Telegram (AMR)