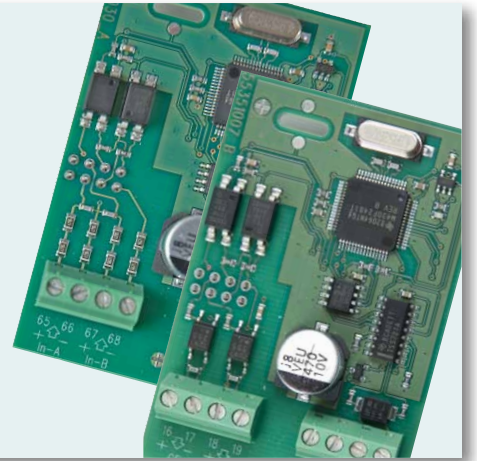


# M-Bus Modules for MULTICAL® 402

## DATA SHEET

- Two pulse inputs or two pulse outputs
- Supporting primary/secondary/enhanced secondary addressing and wild card search
- 300/2400/9600 baud communication speed with auto baud rate detection
- Collision detection
- Configuration of primary address, M-Bus ID number, Date/time and preset of pulse inputs via the M-Bus Network
- According to EN 13757



## Application

Kamstrup has developed two M-Bus modules for MULTICAL® 402.

The modules are used for remote reading via an M-Bus master. Selected settings in MULTICAL® 402 can also be configured via the M-Bus module.

The modules are either fitted with two pulse inputs for reading e.g. water meters, or two pulse outputs with energy (CE) and volume (CV) values.

The modules are easily mounted in the module area of MULTICAL® 402.

The modules are galvanically separated from the meter and is supplied via the M-Bus Master. Thus, the supply of the meter is not burdened by the module.

Via the M-Bus network, primary address, M-Bus ID number, date/time and preset of pulse inputs (VA and VB) can be configured.

Both primary and secondary M-Bus addresses can be shown in the display of MULTICAL® 402. The primary address as well as the pulse input presets can be changed via the two push buttons on the MULTICAL® 402.

# M-Bus Modules for MULTICAL® 402

## DATA SHEET

### M-Bus addressing

The modules support primary, secondary and enhanced secondary addresses.

#### Primary addressing (001-250)

When supplied from Kamstrup, M-Bus modules will automatically use the last 2-3 digits of the MULTICAL® 402 customer number as the primary address. Otherwise there is no bond between customer number and M-Bus address.

#### Secondary addressing (00000000-99999999)

Creating the secondary address the last eight digits of the customer number are used as M-Bus ID number. Furthermore, eight additional digits from the module's software, incl. Kamstrup's manufacturer's ID, can be added, thus extending the secondary address to 16 digits.

#### Enhanced secondary addressing (00000000-99999999)/(00000000-99999999)

The meter's serial number is used for enhanced secondary addressing. This number is unique for each meter and cannot be changed after production.

#### Wild card search

Some or all digits of the M-Bus modules secondary or enhanced secondary addresses can be replaced by wild cards when searching for meters.

### Communication

The modules support 300, 2400 and 9600 baud communication speed and automatically detects the baud rate coming from the master.

### Connections M-Bus module with pulse inputs

Order no. 402-0-20  
Module no. 5550-1030

#### Pulse input connection

Terminal 65: Pulse input A (VA)/In-A (+)  
Terminal 66: Pulse input A (VA)/In-A (-)  
Terminal 67: Pulse input B (VB)/In-B (+)  
Terminal 68: Pulse input B (VA)/In-B (-)

#### M-Bus connection

Terminal 24: M-Bus connection  
Terminal 25: M-Bus connection

Polarity independent

Max cable size 1.0 mm<sup>2</sup>



# M-Bus Modules for MULTICAL® 402

## DATA SHEET

### Connections M-Bus module with pulse outputs

Order no. 402-0-21  
Module no. 5550-1007

#### Pulse output connection

Terminal 16: Pulse output CE (+)  
Terminal 17: Pulse output CE (-)  
Terminal 18: Pulse output CV (+)  
Terminal 19: Pulse output CV (-)

#### M-Bus connection

Terminal 24: M-Bus connection  
Terminal 25: M-Bus connection

Polarity independent

Max cable size 1.0 mm<sup>2</sup>



### Data telegram

M-Bus data	Actual data	Target data	Manufacture specified data
Meter number	Serial No.	Energy E1	Info
Manufacturer ID	Energy E1	Volume V1	Energy E8
Versions ID	Volume V1	Max. power	Energy E9
Meter type	Hour counter	Max. flow	TL2
Reading counter	Tforward	TA2	TL3
Configuration	Treturn	TA3	Prog. No.
	Tdiff.	VA/In-A	Config. No. 1
	Actual power	VB/In-B	Config. No. 2
	Max. power	Cooling Energy E3	Meter No. 1
	Actual flow	Target date	Meter No. 2
	Max. flow		Meter type + revision
	TA2		Module type + revision
	TA3		
	In-A		
	In-B		
	Cooling Energy		
	Date/Time		

# M-Bus Modules for MULTICAL® 402

## DATA SHEET

### Technical data

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#### Physical features

Only suitable for installation in MULTICAL® 402

#### Supply

Power consumption	1 unit load (1.5 mA) per M-Bus Slave
Consumption	From M-Bus Master
Rin / Cin	410 Ω/0.5 nF
Max. cable resistance	29 Ω/180 nF per pair
Temperature area	0 - 60°C

#### Markings/approvals

EN 1434

EN 13757

CE approval

### Ordering

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#### Description

M-Bus module with pulse inputs for MULTICAL® 402

M-Bus module with pulse outputs for MULTICAL® 402

M-Bus Master MultiPort 250D

#### Order No.

4020200000000

4020210000000

MBM-M210000

#### Module No.

5550-1030

5550-1007