

M-Bus for MULTICAL®

Remote data acquisition from MULTICAL® energy meters

Plug-in module for MULTICAL®

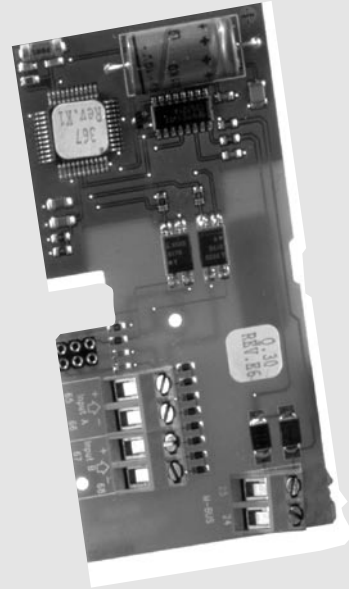
2-wire connection

Supplied via M-Bus Master

Simple and cost-effective read-outs

2-way communication (300/2400 baud)

Complies with EN 1434-3



Application

The M-Bus Slave is a plug-in module for MULTICAL®, which simply slots into the meter without the use of tools. The module can be retrofitted. Once the M-Bus Slave is installed, the meter data can be accessed remotely via an M-Bus.

An M-Bus is a local network which makes it possible to communicate with energy meters from a centrally placed M-Bus Master.

The M-Bus Slave can be equipped with either two extra inputs or outputs, to facilitate remote data acquisition from other meters, e.g. water meter, or to read out the energy and the volume pulses from the meter.

The M-Bus Slave is supplied via the M-Bus, which makes it completely independent of MULTICAL®'s supply.

An opto-coupler is used to transmit data between the M-Bus and the energy meter, effectively separating the M-Bus Slave and meter galvanically.

The M-Bus Slave acquires data from the energy meter every 12th hour - or subsequent to a reset/start-up.

The read-out address which activates the M-Bus Slave, comprises of the last three to eight digits in the MULTICAL® customer ID No, so no programming or complicated recording procedures are necessary. If required, the address can be changed using Kamstrup's hand-held terminal MULTITERM or the Pc program of METERTOOL.



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Accessible data

MULTICAL® III

66-04-000-100, Pulse input modules
66-07-000-100, Pulse output modules

Energy, Volume, Hour counter, t_{flow} , t_{return} , Δt , Power, Flow, Customer number, Peak Power/peak flow, Info code, TA2, TL2, TA3, TL3, InA, InB, Program number, Config. number, Date.

Target date data: Acquisition date, Energy, Volume.

Can be used in MULTICAL® 66-CDE, but will only transfer this dataset.

MULTICAL® 66-CDE

66-08-000-100, Pulse input modules
66-09-000-100, Pulse output modules

Energy, Volume, Hour counter, t_{flow} , t_{return} , Δt , Power, Flow, Customer number, Peak power, Info Code, TA2, TL2, TA3, TL3, InA, InB, Program number, Config. number, Date, $\text{m}^3 \times t_{\text{flow}}$, $\text{m}^3 \times t_{\text{return}}$, Cooling energy, Peak power year.

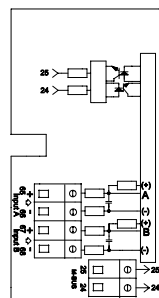
Target date data: Acquisition date, Energy, Volume.

Use only with MULTICAL® 66-CDE.

NB! InA and InB are not used in 66-07-000-100 or 66-09-000-100.

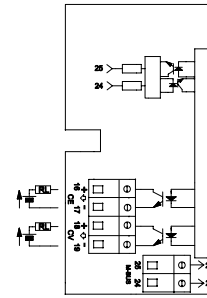
Connection diagram

Pulse input modules 66-04-000-100
66-08-000-100



InA (66,65) Water Meter
InB (68,67) Electricity Meter

Pulse output modules 66-07-000-100
66-09-000-100



CE (16,17) Counter energy
CV (18,19) Counter volume

Technical data

Electrical data

Supply	Via the M-Bus
Voltage supply	21-42 VDC
Power consumption	1,5 mA (1 unitload)
$R_{\text{in}}/C_{\text{in}}$	410 Ω / 0,5 nF
Reading interval	Min. 15 seconds between 2 readings
Data update	Automatically every 12 hours
Typical response time	<1 sek. @ 300 baud
Address field	
Primary addressing	001 - 250
Secondary addressing	00000001-99999999
Communication	300/2400 baud with autodetect, 1 startbit, 8 databits, 1 paritybit, 1 stopbit

Cable length	Max. 1800 m
$R_{\text{max}}/C_{\text{max}}$	29 Ω /180 nF
Area cross section (recomm.)	0,8 mm ² , twisted pair

Mechanical data

Dimensions	90x45x20 mm
Ambient temperature	0-55°C
Mounting	Plugs into MULTICAL®

Standards/markings/approvals

Complies with following norms	CEN/TC 176, EN 1434-3
CE-mark	Complies with stipulations for MULTICAL®
Signal quality	ISO 7480, Section 3.6.

Order specification

Description

M-Bus Slave for MULTICAL® III/CDE, Pulse inputs
M-Bus Slave for MULTICAL® III/CDE, Pulse outputs
M-Bus Slave for MULTICAL® 66-CDE, Pulse inputs
M-Bus Slave for MULTICAL® 66-CDE, Pulse outputs
M-Bus Master without display *
M-Bus Master with display *
M-Bus Cascade Module
RS232 Cable
M-Bus Technical Description
* Supports only primary addressing

Type No.

66-04-000-100
66-07-000-100
66-08-000-100
66-09-000-100
66-98-1XX-XXX
66-98-AXX-XXX
66-98-001-100
66-99-106
5511-710

Please contact Kamstrup A/S with regards to computer requirements.