

# Radiomodules for MULTICAL® meters

**Wireless radio reading of MULTICAL® heat/cooling meters**

**Operates within a license-free radio band**

**Easily built into the modular space of the meter (Plug and Play)**

**Built-in antenna**

**External antenna is possible**

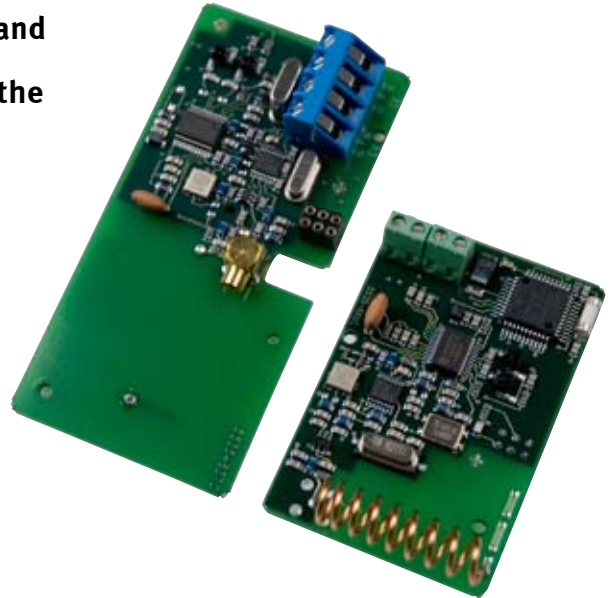
**No configuration**

**Prepared for radio network**

**Extra pulse inputs or outputs**

**Supplied from MULTICAL®**

**Supports leakage and bursting alarm**



## Application

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With a radio module from Kamstrup placed in the meter it is possible to read the meter by using the hand-held terminal MULTITERM Pro without disturbing the customer.

External cables are not necessary as is the case with reading via an external data plug or an optical eye.

The radio module is mounted in the modular space of the meter without using tools and is ready for use less than 10 seconds after the calculator top has been mounted.

The software program of the hand-held terminal determines what data should be read in the meter. This data is transferred every 24 hours from the meter to the memory of the radio module, and thereby the reading time can be reduced considerably.

At the utility the read data is easily transferred to the AMR-system.

The radio modules are supplied as standard to operate in a licence-free frequency band, but can also be supplied for other licence demanding frequencies.

The radiomodules is prepared to form part of a Kamstrup radio network, where data is automatically transferred to the system software via the network components: RF Router and RF Concentrator.

The radio module can be supplied with extra pulse inputs for direct connection of e.g. water or electricity meters or extra pulse outputs, delivering energy or volume pulses.

Kamstrup's radio system tolerates other radio systems.

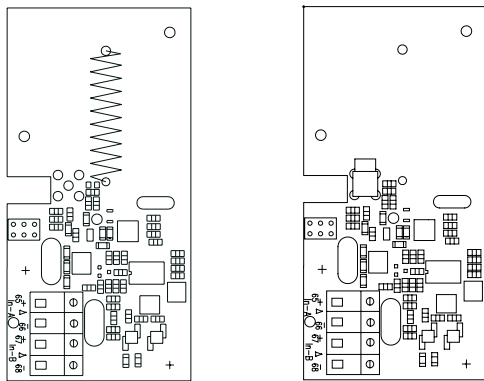


## Kamstrup

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# Connection diagram

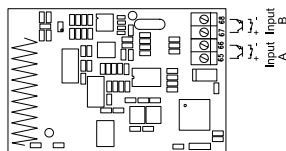
## MULTICAL® III/MULTICAL®/MULTICAL®601 - Pulse inputs



External antenna

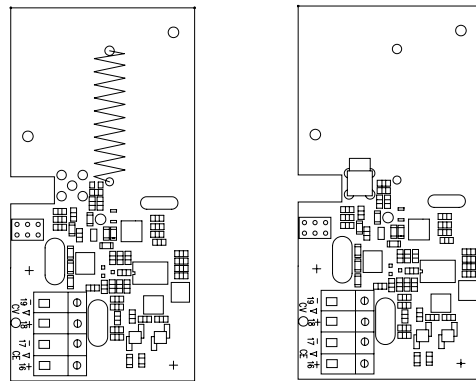
Terminal 65-66 (input A) Pulse input A  
Terminal 67-68 (input B) Pulse input B

### MULTICAL® 401



Terminal 65-66 (input A) Pulse input A  
Terminal 67-68 (input B) Pulse input B

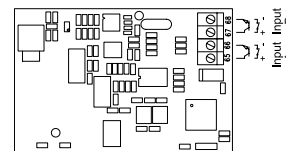
## MULTICAL® III/MULTICAL® - Pulse outputs



External antenna

Terminal 16-17 (CE) Energy pulse  
Terminal 18-19 (CV) Volume pulse

### MULTICAL® 401



External antenna

Terminal 65-66 (input A) Pulse input A  
Terminal 67-68 (input B) Pulse input B

## Technical data

### Electrical data

Supply	Supplied via the meter
Range	
– Installed	Up till 200 m
– With external antenna	Up to 500 m.
Frequency band	
– As standard	Licence-free frequency band
– Alternatively	Licence demanding frequencies
Output	2 mW (3 dBm)

### Mechanical data

Dimensions	
– MULTICAL® III/MULTICAL®/ MULTICAL® 601	45 x 90 mm
– MULTICAL® 401	45 x 64 mm
Ambient temperature	-40 - +60°C
Mounting	In the modular space of the meter

### Marking and approvals

EN 1434 approval	
R&TTE directive	EN 300 220 - class 2 EN 301 489
CE-marking	

Typical reading times	MULTICAL® 601 MULTICAL® III MULTICAL® 401
Data from the memory of the radio module	6 sec.
Data directly from the meter	12 sec.

See the manual on the hand-held terminal for further information.

## Order specification

Description	Type no.	Description	Type no.
Radio module for MULTICAL® 601		Radio module for MULTICAL® 401	
– Pulse inputs	6700-25-000-3xx	– Pulse inputs	66-0U-000-3xx
– Pulse inputs, external antenna	6700-26-000-3xx	– Pulse inputs, external antenna	66-0W-000-3xx
Radio module for MULTICAL® III/MULTICAL®,		External antenna (1.5 m antenna cable)	66-99-407
– Pulse inputs	66-0A-000-3xx	External antenna	66-99-408
– Pulse inputs, external antenna	66-0B-000-3xx	Converter, external antenna	66-99-417
– Pulse outputs	66-0G-000-3xx		
– Pulse outputs, external antenna	66-0H-000-3xx		