

Data sheet

Data pulse modules + Pulse inputs + Pulse outputs

for MULTICAL® 403 and MULTICAL® 603

- Communication speed fixed at 1200 bit/s
- Two pulse inputs for additional water and electricity meters
- Two pulse outputs for selected operations
- Data connections galvanically isolated from meter
- Level-converter cables for interfacing to RS232 or USB



Introduction

The data pulse modules have been developed along with the MULTICAL® 403 energy meter family. The data communication module enables the MULTICAL® 403 and MULTICAL® 603 meters to be hard-wired to other on-site communication equipment for automatical reading of data in the meter. The protocol is Kamstrup KMP *, which allows reading of all actual and historical data as well as other relevant information to identify the meter. The module design allows for extensive reading of data without significantly reducing the battery lifetime of the meter while maintaining the galvanic isolation between the meter and the serial data connections.

* Utilities and other relevant companies wishing to develop their own communication driver for the KMP protocol can order a demonstration program in C # (.net-based) and a detailed protocol description (in English language).

Applications

The data pulse module is designed with focus on high flexibility to fulfill a wide range of applications.

Analysis

MULTICAL® 403 and MULTICAL® 603 support high quantities of data, and all relevant data for analysis can be read out. This is valid for both actual meter data as well as for historical data.

Billing

All relevant data for billing can be read from MULTICAL® 403 and MULTICAL®603.

Installation

The module is easily mounted in the module slot of the meter. The module can be used in meters with both battery and mains supply.

Wiring

Module with pulse inputs (HC-003-10)

Wire size

Max cable size 1.5 mm²

Data connection

Terminal 62: DAT

Terminal 63: REQ

Terminal 64: GND

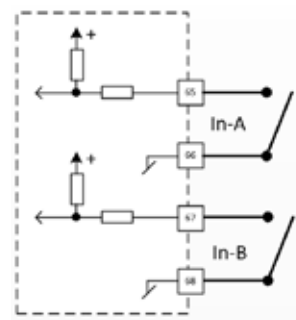
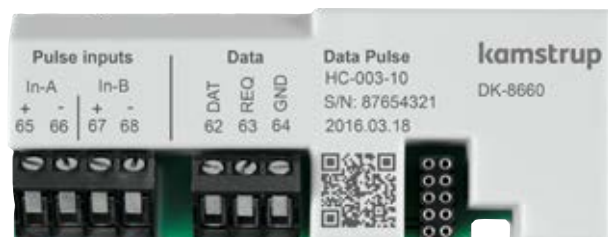
Pulse input connection

Terminal 65: Pulse input A/In-A (+)

Terminal 66: Pulse input A/In-A (-)

Terminal 67: Pulse input B/In-B (+)

Terminal 68: Pulse input B/In-B (-)



Installation

Module with pulse outputs (HC-003-11)

Wire size

Max cable size 1.5 mm²

Data connection

Terminal 62: DAT

Terminal 63: REQ

Terminal 64: GND

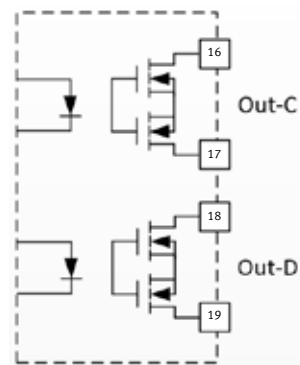
Pulse output connection

Terminal 16: Pulse output C/Out-C (+)

Terminal 17: Pulse output C/Out-C (-)

Terminal 18: Pulse output D/Out-D (+)

Terminal 19: Pulse output D/Out-D (-)



Data

Screw terminals for communication: DAT, REQ and GND. The data signals DAT and REQ are low-voltage serial signals, which require an active converter cable in order to communicate through RS232 or via USB.

Pulse inputs

The data pulse module HC-003-10 is equipped with two pulse inputs, In-A and In-B, to collect and accumulate pulses remotely, e.g. from water and electricity meters. The pulse inputs are physically placed on the data pulse module. However, the accumulation and data logging of values are made by the MULTICAL® calculator.

Pulse outputs

The data pulse module HC-003-11 has two configurable pulse outputs, Out-C and Out-D, which are suitable for pulsing out selected registers from MULTICAL® 403 and MULTICAL® 603. The pulse outputs are physically placed on the data pulse module, but the pulses are made by the MULTICAL® calculator.

Technical specifications

Physical

Usage Only suitable for installation in MULTICAL® 403 and MULTICAL® 603

Communication

Protocol Kamstrup KMP
 Baud rate 1200 bit/s
 Parity, stop 8 bit, No parity, 2 stop

Bus Specific

Type 3.6V C-MOS levels
 Galvanic isolation > 2kV
 Kamstrup A/S • 58101570_B1_GB_10.2017

Technical specifications

Supply

Power supply Battery or AC supply

Pulse outputs

Output type Opto Fet
External voltage 5...45 VDC/AC
Current 1...50mA
 $R_{ON} \leq 40 \Omega$
Max cable length 25 m

Pulse inputs

Input type Contact input
Open voltage 3.6 V
Current $\leq 5 \mu A$
Max cable length 10 m

Environment

Operational temperature 5 °C – 55 °C
Humidity 25 – 85 % RH non-condensing

Markings/approvals

CE approval
Measuring instruments EN 1434

Ordering

Description

Data pulse inputs
Data pulse outputs
3-wire 1.5 m cable with 9F plug for RS232 communication
3-wire 1.5 m cable with USB plug
Driver for USB cable

Order no.

HC-003-10
HC-003-11
66-99-106
66-99-098
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