

## Q4000 MBUS Communication Unit



### Specifications

<p>Communication Protocol Power</p> <p>Standard cable length</p> <p>Waterproof structure</p> <p>Operating temperature</p> <p>Dimensions (mm)</p> <p>Weight</p>	<p>Mbus acc EN13757-3</p> <p>Powered via Mbus with a back-up battery 10 years life*</p> <p>10 metres</p> <p>IP 68</p> <p>-10°C to +55°C</p> <p>H 35 x W 55 x D 70</p> <p>Approx. 500 grams (With 10m cable)</p>
--	---

\*at average ambient temperature of 30°C

**Operation.** The Q4000 Mbus communication unit provides a standard output communication for connection to Mbus compatible systems.

**Installation.** The communication unit can be fitted at any time to the Q4000 meter either pre-shipment or in-the-field. Simply connect the device to the meter for instant functionality. The unit is hermitically sealed and is suitable for use in flooded pits up to a water depth of 10 metres.

**Communication Protocol.** The Mbus communication protocol can be read and configured via standard Mbus masters. The message protocol provides a wide range of integrated alarms. The standard message includes:

- Meter Serial number
- Total volume
- Reverse Volume\*
- Flow rate
- Ambient temperature
- Overload time

Additional data provided when requested by the Mbus Master, including:

- Serial number of the module
  - 15 monthly index values
  - 15 mid monthly index values
  - Meter Index on a chosen day of the year.
  - Alarms: Leak, Zero flow, Tamper, Meter dry.
  - Meter battery low.
- A full list of available data is shown on the reverse.

\* Measured since the module was fitted to the meter



## Users of the Q4000 MBus module may chose data from an extensive list.

Telegram 1 provides basic metering data. More can be obtained by enabling those items with an amber mark (●).

Telegram 2 provides a much larger data packet, and can be increased even further by enabling those items with an amber mark (●).

At any time logged data, such as the Special Read Value, can be cleared by sending a clear command.

Peak and minimum logged values, such as temperature, reset automatically according to a schedule – typically each month.

### Key to table below

● Always Included    ● Configurable (on/off)    ✓ Clear Derived Data    ☑ Rolling Reset

MBus Module Direct Data Set	Telegram 1	Telegram 2	Clear	Reset
Total Volume	●	●		
Flow Rate	●	●		
Alarm Code (Alarm Status)	●	●		
<b>MBus Module Standard Data Set</b>				
Telegram Counter	●	●		
Manufacturer Serial Number	●	●		
Serial Number	●	●		
<b>MBus Module Derived Data Set</b>				
Reverse Volume	●	●	✓	
Monthly Values		●	✓	
Mid-Monthly Values		●	✓	
Special Read Date	●	●	✓	
Special Read Value	●	●	✓	
Module Temperature	●	●		
Peak Temperature Log		●	✓	☑
Meter Battery Remaining	●	●	✓	
Operating Hours	●	●	✓	
Error Hours	●	●	✓	
Overload Times (Start and stop times)	●	●	✓	
Peak Flow Rate		●	✓	☑
Minimum Flow Rate		●	✓	☑
Last Overload Duration	●	●	✓	
Total Overload Duration	●	●	✓	
<b>MBus Module Alarms and Events</b>				
Meter Low Battery alarm (Code 0d)	●	●		
Zero Flow alarm (Code 1d)	●	●	✓	
Leakage alarm (Code 3d)	●	●	✓	
Meter Not Present alarm (Code 4d)	●	●		
Overload alarm (Code 5d)	●	●	✓	
Meter Empty Pipe alarm (Code 6d)	●	●		
Reverse Flow alarm (Code 7d)	●	●	✓	