



# TBOCF

High MCERT's Class 1 Accuracy on flumes, weirs, and Area x Velocity applications

**The industry's highest accuracy non-contacting ultrasonic measurement of open channel flows.**

Designed for flumes and weirs, TBOCF gives temperature-independent, reliable measurement, and logging facilities. It includes five alarm/control relays plus 4-20mA output, datalogging, digital input with the ability to accept a velocity sensor input for non-PMD applications. Programming the unit is a simple, menu-driven process. MCERTs class 1 approval when used with DUET.

### **Open Channel Flow with NO Primary Measuring Device (PMD)**

The TBOCF unit can be combined with a Microflow or a Speedy for velocity measurement. For Area x Velocity measurement, TBOCF provides both contacting and non-contacting options. Combine a Microflow and a dB transducer for non-contacting applications and the Speedy for a contacting solution.

### **Open Channel Flow WITH a Primary Measuring Device (PMD)**

Primary Measuring Devices include application assets like flumes or weirs. When you have an application with one of these already installed, TBOCF can be combined with dB transducers from a dBMACH 3, all the way up to a dB15.

For those applications that require MCERT certified accuracy, TBOCF can be combined with the DUET transducer enabling it to become the most accurate MCERT system in the world.



## THE RIGHT METER FOR

- High Accuracy Flow on Flumes and Weirs
- Area x Velocity Applications
- Open Channels
- Influent/ Effluent Flow Monitoring
- Effluent Discharge Monitoring

### **Unit Software and Data Logging**

TBOCF Data Logger provides wall mounted Ultra Controllers with data logging functionality, it records and stores a wealth of information onto the supplied 8 GB micro SD card. Log intervals can be user selected. Files are compatible with standard spreadsheet software.

The Ultra Software Package is a powerful tool that can be used alongside the data logging board, providing the ability to program the TBOCF data logging facility, download, and view stored data and export data. The software is an optional product and is supplied with a USB/RJ11 cable for connecting your PC directly to the TBOCF.



### Area x Velocity Measurement / Open Channel Flow Measurement with no Primary Measuring Device

TBOCF can be combined with either a MicroFlow or Speedy for velocity measurement. Or for Area x Velocity flow measurement TBOCF can be used with a MicroFlow and dB transducer for a non-contacting solution or Speedy for a contacting solution.

### Open Channel Flow Measurement with a Primary Measuring Device

When you have an application with a primary measuring device (PMD), TBOCF can be combined with dB transducers up to a dB15. For MCERTS certified applications, TBOCF can be combined with DUET for the most accurate MCERTS system in the world! (independently tested).

### UltraLog Software

The UltraLog Software Package is a powerful tool that can be used in conjunction with the data logging board available with TBOCF. UltraLog can program the TBOCF data logging facility and download any data stored in

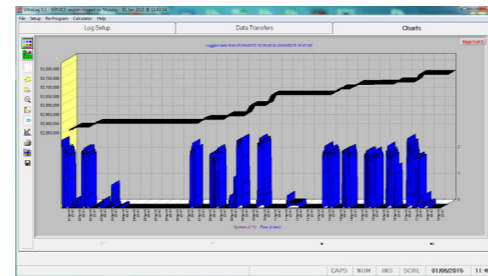
TBOCF combined with MicrowFlow for velocity measurement.

the unit so that it may be interrogated, viewed, and stored. You can also export data in .csv format compatible with standard spreadsheet programs. UltraLog is an optional software program, it is supplied with a USB/RJ11 cable for connecting your PC to a TBOCF.

### Data Logging

Trodeks TBOCF Ultra Data Logger provides wall mounted Ultra Controllers with data logging functionality.

Ultra Data Logger records a wealth of information onto the supplied 8GB Micro SD card enabling you to log a wealth of data for the lifetime of the unit - for example, when set to log at 30-second intervals, the logging period is 19,884 days (54.5 years). Log interval is user selectable and logged files are stored in .csv format which can be used with the most widely used spreadsheet software.



### Open Channel Flow Measurement

TBOCF can be combined with either a MicroFlow or Speedy for velocity measurement. Or for Area x Velocity flow measurement TBOCF can be used with a MicroFlow and dB transducer for a non-contacting solution or Speedy for a contacting solution.

### Primary Measuring Device

When you have an application with a primary measuring device (PMD), TBOCF can be combined with dB transducers up to a dB15. For MCERTS certified applications, TBOCF can be combined with DUET for the most accurate MCERTS system in the world! (independently tested).

### Accessory Software

The UltraLog Software Package is a powerful tool that can be used in conjunction with the data logging board available with TBOCF. UltraLog can program the TBOCF data logging facility and download any data stored in the unit so that it may be interrogated and viewed and stored. You can also export data in .csv format compatible with standard spreadsheet programs. UltraLog is an optional software program, it is supplied with a USB/RJ11 cable for connecting your PC to aTBOCF. We used it in conjunction with the data logging board available withTBOCF. UltraLog can program the TBOCF data logging facility and download any data stored in the unit so that it may be interrogated, viewed, and stored.

## Technical Specifications

### PHYSICAL:

|  |   |
|--|---|
| <b>Mounting Option:</b>                | <b>Standard Wall Mount:</b>   |
| <b>Controller Body Dimensions:</b>     | 235 mm x 184 mm x 120 mm (9.25 in x 7.24 in x 4.72 in)                                      |
| <b>Weight:</b>                         | Nominal 1 kg (2.2 lb)   |
| <b>Enclosure Material/Description:</b> | Polycarbonate, flame resistant to UL94-5V   |
| <b>Cable Entry Detail:</b>             | 10 cable entry knock outs, 5 x M20, 1 x M16 underside, x 18 mm (0.71 in) dia (PG11) at rear |
| <b>Transducer Cable Extensions:</b>    | 2-core screened   |
| <b>Maximum Separation:</b>             | Up to 1,000 m (3,280 ft)  |

### ENVIRONMENTAL

|   |   |
|---|---|
| <b>IP Rating:</b>                                 | IP65 / NEMA 4X  |
| <b>Max. &amp; Min. Temperature (Electronics):</b> | -20 °C to +50 °C (-4 °F to +120 °F)                       |
| <b>Flammable Atmosphere Approval:</b>             | Safe area: compatible with approved dB transducers        |
| <b>CE Approval:</b>                               | Listed in the Certificate of Conformity within the manual |

### PERFORMANCE

|                                |   |
|--------------------------------|---|
| <b>Accuracy/Repeatability:</b> | Dependent on application and sensor used. See sensor specification. |
| <b>Resolution:</b>             | Dependent on application and sensor used. See sensor specification. |
| <b>Min. &amp; Max. Range:</b>  | 0 m to 15 m (49 ft). Dependent on sensor used.                      |
| <b>Echo Processing:</b>        | DATEM (Digital Adaptive Tracking of Echo Movement)                  |
| <b>Rate Response:</b>          | Fully Adjustable  |

### OUTPUTS

|  |  |
|--|--|
| <b>Analog Outputs:</b>                           | Isolated (floating) output (to 150 V) of 4-20mA or 0-20mA into 500 Ω (user programmable and adjustable) 1 μA resolution                        |
| <b>Digital Output:</b>                           | Full Duplex RS232  |
| <b>Volt Free Contacts, Number, &amp; Rating:</b> | 5 form "C" (SPDT) rated at 5A at 115 V/240 V AC  |
| <b>Display:</b>                                  | 6 digits plus 12 character text, plus bar graph with direction indicators, remote communicator identifier and program/run/test mode indicators |

### INPUTS

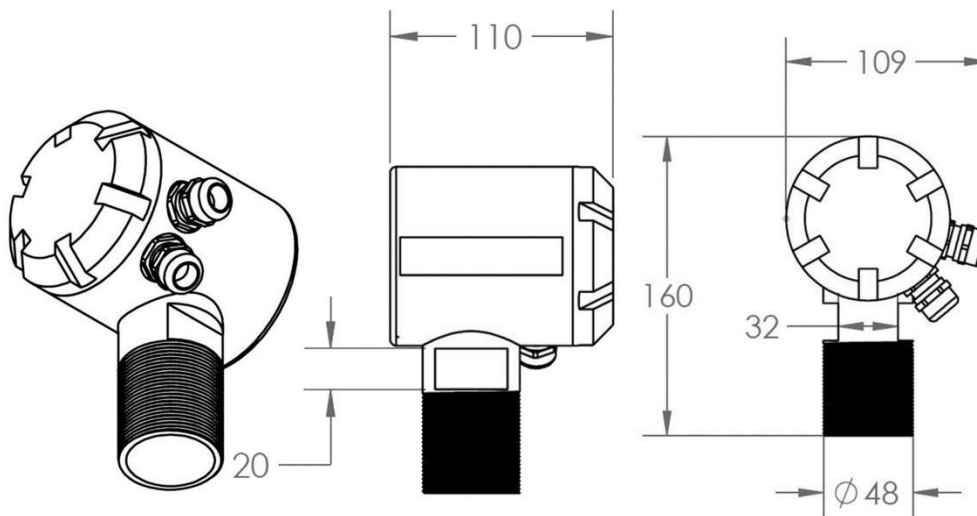
|                        |  |
|------------------------|--|
| <b>Analog Inputs:</b>  | 2 x isolated (floating) input (to 150 V) of 4-20mA or 0-20mA into 500 Ω (user programmable and adjustable) 1 μA resolution |
| <b>Velocity Input:</b> | Via RS485 digital communications interface   |

## PROGRAMMING

|                                   |   |
|-----------------------------------|---|
| <b>On-board Programming:</b>      | By integral keypad                            |
| <b>PC Programming:</b>            | Via RS232                                     |
| <b>Programming Security:</b>      | Via passcode (user selectable and adjustable) |
| <b>Programmed Data Integrity:</b> | Via non-volatile RAM, plus backup             |

## SUPPLY

|                      |  |
|----------------------|--|
| <b>Power Supply:</b> | 115 V AC +5% / -10% 50/60 Hz, 230 V AC +5% / -10% 50/60 Hz, 22-28 V DC, 10 W maximum power (typically 6 W) |
| <b>Fuses:</b>        | 100mA at 230 V AC, 200mA at 115 V AC   |



## Delivering the Measure of Possibility

TBOCF Measurement offers worldwide professional support for all of our products, and our network of reps and distributors all offer full support and training. Our facilities in Malvern, UK and Largo, USA are home to technical support teams who are always available to answer your call or attend your site when required. Our global presence, with direct offices in the UK, USA, Canada, and Malaysia allow us to create close relationships with our customers and provide service, support, training, and information throughout the lifetime of your product.

For more information, please visit our website:

[www.Trodeks.com](http://www.Trodeks.com)

