

FEATURES:-

- 4 digit Large (20mm high) LCD resettable totalizer
- Total displayed in LITRES
- Easy reset of total via flip top lid.
- No power required incorporating internal 3.6 v Lithium Battery (10+ year life).
- Maximum ambient Temperature 55 °C
- Robust ASA high impact, high UV resistant, IP65 Display housing
- Dual Hinged lid protects LCD from sunlight, with magnet secure function.
- With NFC capability offering easy access for programming and re-calibration or Simple internal push button K-factor settings.
- Can be used with pulsing flowmeters e.g. CMM25 or RPF5-L(GAL25-T2)
- Optional pulse output :-
Pulse output is disabled when lid is closed (code **-P**) or
Live even when lid is closed (code **-PL**) and
option for Continuous Live LCD display (code **-NS** "no sleep mode")



The **ME4-T** resettable counter is custom designed and manufactured in Australia by ManuFlo. The **ME4-T** will operate for example with CMM25 and RPF5-L pulsing flowmeters. The unit is ideal for concrete Batch plant **SLUMPSTAND** applications for final adding of water into the Mobile concrete truck mixers. The display is easily reset by closing the lid and re-opening again or optionally by external contact closure. An internal long life lithium battery powers the LCD and circuit. When not in use the indicator will go in to 'Sleep' mode which prolongs the battery life up to 10+ years. The unit is woken by a magnet when the lid is opened.

The **ME4-T** will accept flowmeter input pulses up to a maximum of **500 Hz** from e.g. CMM25 and RPF5-L flowmeters. e.g. The flowmeters pulse rate multiply by flowrate must not exceed 500hz.

The unit is housed in a compact IP65 ASA (acrylonitrile styrene acrylate) enclosure with high UV and impact resistance making it suitable for constant exposure to the harshest of weather conditions. The housing includes fastening lugs for securing to an upright structure or wall mount.

Prior to shipping the **ME4-T** will be custom wired and programmed by ManuFlo according to your requirements including 'K-factor' input. Any subsequent calibrations in situ can be performed either by the on-board push buttons for example using the user friendly smart 1 point re-calibration-self calculation function, or alternatively via a free app using NFC capable smart phones.

SPECIFICATIONS

ME4-T

Accuracy	Dependent on flowmeter connected (refer equipment specifications) Digital input.
Display Readout	Counter: 4 digit (8mm W x 20mm H mm) in Litres (L)
Programming	Option 1: via 3 internal push buttons Option 2: via PC with RFID reader and EWM Calibration software or ANDROID device with built-in NFC and EWM application
Power Source	3.6v replaceable lithium battery (typically in excess of 10 year life)
Display Housing Ingress	IP65
Max. Ambient Temperature	55 °C
Pulse input (compatibility)	All square waveforms and Voltage free switching (500hz max.)
Pulse Output (optional)	N-Channel MOSFET, 5-100VDC 1 Amps, 100 Hz maximum
External Reset Input (option)	Passive input via 2 wire volt free contact for PLC or external totaliser reset switch.
Dimensions:	52mm (H) x 84mm (W) x 84mm (L) Fastening lugs with 94mm centers
Weight (unpacked)	0.4 kg

MATERIALS OF CONSTRUCTION

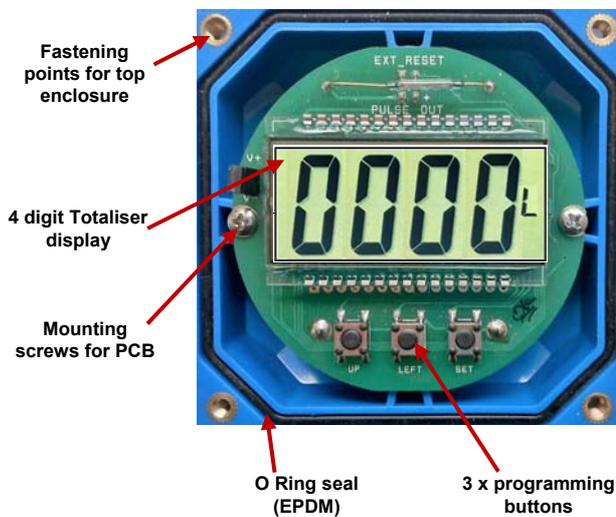
ME4-T

Display Housing - Lower Upper	ABS (acrylonitrile butadiene styrene) ASA (acrylonitrile styrene acrylate)
Viewing Window	Polycarbonate (c/w 3M 'anti scratch' protection film)
Gasket	EPDM
Cable Glands	PG7 in Polyamide
Lid Housing Fasteners	4 x cheese head screws in 316 stainless steel

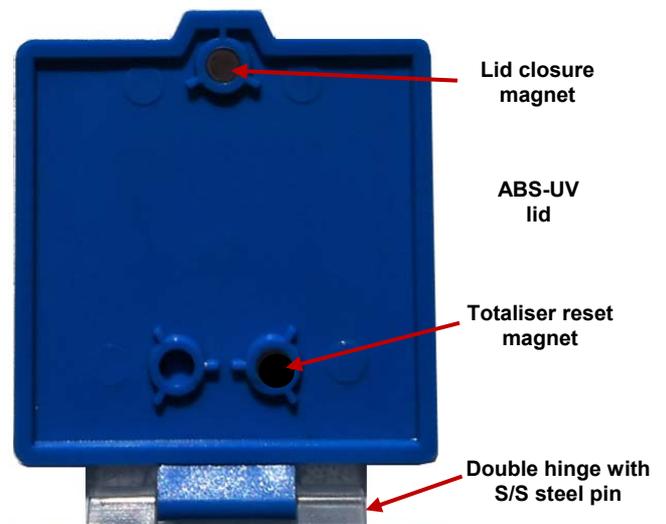
PARTS AND DIMENSIONS

ME4-T

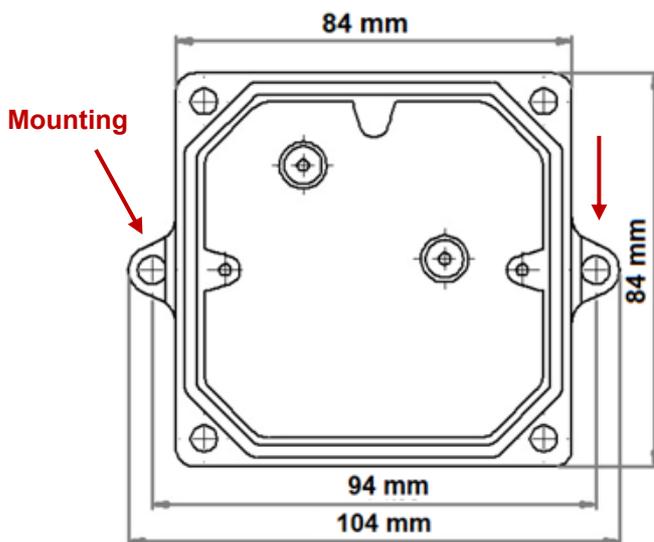
Internal View - PCB



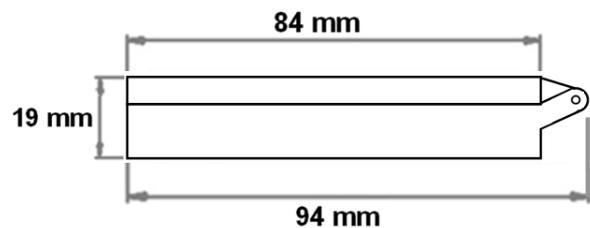
Lid Section



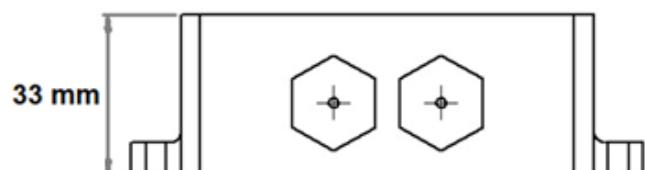
Lower Enclosure - Plan

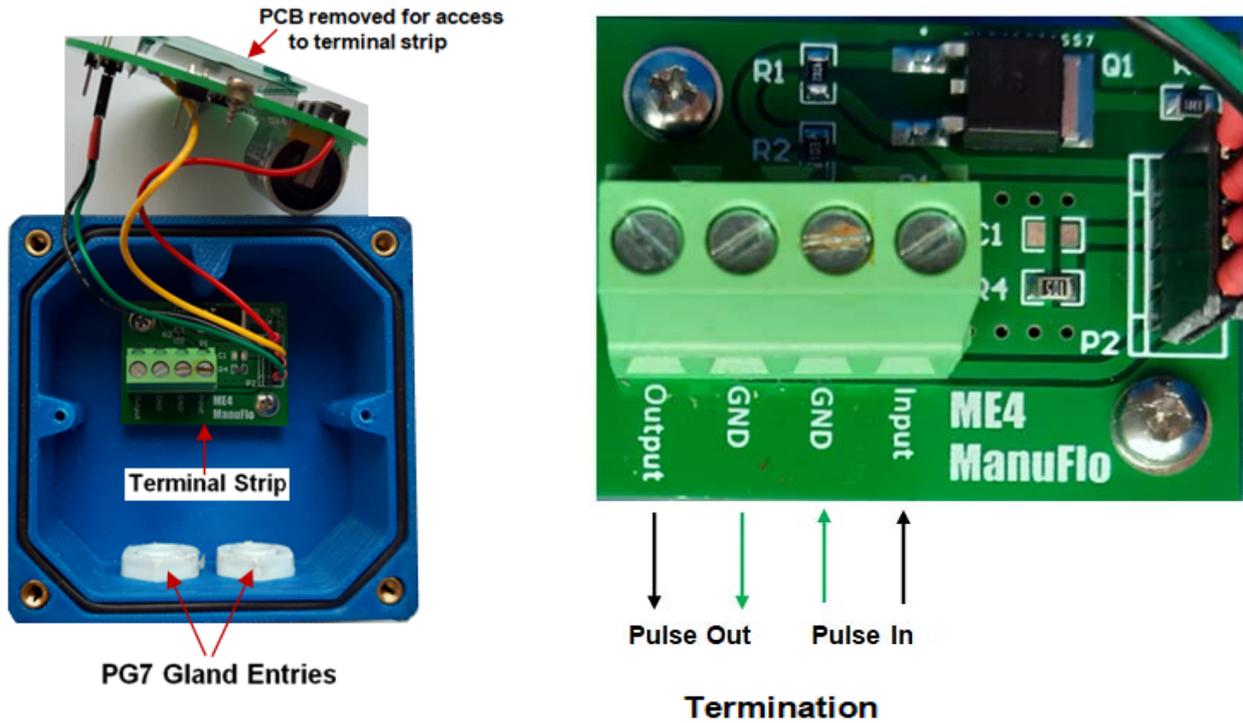


Upper Enclosure & Lid



Lower Enclosure - Side





INSTALLATION GUIDE

Mounting:

The **ME4-T** has two external lugs for mounting to an upright structure, (refer detail page 2 'Lower Enclosure' diagram). Do not over tighten the mounting screws when using these lugs (Note: mounting screws not supplied with the ME4-T). Choose a suitable mounting position that allows the display to be read without strain by the operator and also allows easy access to the wiring terminals.

Pulse Termination:

In order to gain access to the terminals for wiring of pulse input/output it is necessary to first undo the 4 cheese head screws in the top section of the enclosure, this gains access to the PCB and LCD display, remove the two small Phillips head fasteners that hold the PCB to the mounting posts, carefully lift the PCB and let it dangle from the wiring harness taking care to set aside the two fastening screws in a safe place, access to the terminals is via PG7 cable glands. There are 4 terminals that are clearly labeled two for input pulses from the flow meter and two for pulse output if required.

Removing the PCB:

To service or replace the PCB first disconnect the 4 pin connector from the lower wiring terminal board, following replacement or service ensure the connection pins are returned to the correct position with the red wire at the top of the connector.

O-Ring Seal:

It is extremely important to make sure the EPDM O-ring is positioned correctly in to the groove of the enclosure prior to re-fastening the cheese head screws. Failure to do this if mounted externally will result in water ingress and associated void of warranty following failure of the indicator.

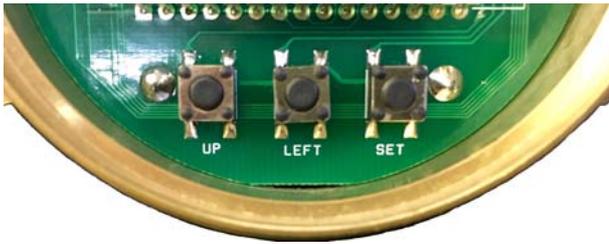
Cable Glands:

Make sure after running cables (most be round) the glands are properly tightened to reseal to IP65.

Exposure to Sunlight:

To prevent LCD fading due to prolonged exposure in direct sunlight **always close lid after viewing.**

Programming of unit is via the three internal pushbuttons (marked **UP**, **LEFT** and **SET**) located underneath LCD screen.



Input multiplier factor fixed on x10
e.g.
CMM25 25mm magmeter 100ppl
Then 10 x 100ppl = 1000 on the K-FACTOR

User access for re-calibration (K-FACTOR) only

1. Press SET to enter Calibration Mode.
0010 (example only, value depends on the pre-programmed K-factor (C))
2. Press LEFT to select desired digit to be change.
3. Press UP to change value of selected digit.
4. Press SET to lock in the changed value.

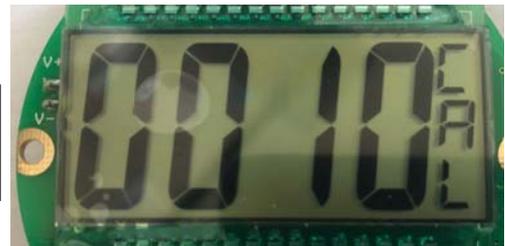
Calibration is via the three internal pushbuttons (marked **UP**, **LEFT** and **SET**) located underneath screen.

- Note: The calibration (K-factor) characteristics can vary up to 6% between horizontal or vertical runs.
- Run liquid through the MRTU4 into a calibrated vessel or load cell, until at least 50 Litres is displayed on the MRTU4. For accuracy, keep flowrate continuous and above minimum flow range for the pipe size.
- Compare the actual amount collected against what is displayed on the MRTU4. If the amount collected matches the amount displayed within $\pm 2\%$, then no adjustment to calibration is necessary.
- **Formula:** $Percentage\ error = (Amount\ displayed - Amount\ collected) / Amount\ displayed \times 100$
- If the percentage error is more than $\pm 2\%$, please follow **1 point calibration** procedure.
- **To access buttons**, open the hinged lid and remove the four SST screws holding the viewing window to the enclosure. Set the viewing window aside in a safe place you will now be able to see the green electronics board.

Adjusting the Calibration Value using the internal Calibration push buttons SET, LEFT and UP.

LCD display in simple manual calibration mode.

(K-Factor: CAL input:
Displayed for a flowmeter with 1 pulse /1 litre
e.g. 1ppl x 10 = 0010 CAL



Advanced programming of Parameters

1. Check with ManuFlo

NOTE; Specifications can change without prior notice.

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