

ME995-7D LITRES (Decimal point) PRESET CONTROLLER

FEATURES

- 4-Digit LED display
- 4x LED status indicators
- Preact function
- Preset maximum limit
- Missing pulse detection
- Counts in 0.1 Litres upto 999.9
- Optional PLC and computer interface
- Signal conditioning with K-factor adjustment
- Compatibility with most flowmeters



The ME995-7D LITRES decimal point preset Batch Controller can be used with most pulse output flowmeters, for preset liquid batching applications.

The controller incorporates a preact (overflow deduct) feature, K-factor adjustment, 4 LED status indicators and diagnostic safeties. With the ME995-7D Batch Controller using the same 10-pin Weidmuller receptacle plug as the previous models, changeover or upgrade is instant with no rewiring necessary. The ME995-7D can be easily interfaced with PLCs, thus incorporating the controller's safety features and providing a backup batch facility.

With 4 rotary selector switches, batch quantities are easily selected. The batch operator can also visually refer to the numbered selector dials for the selected batch quantity. Command operations are by user-friendly toggle switches, and four LEDs indicate operational status conditions. Batch counting is in 0.1 Litre increments upto a maximum 999.9 Litres.

The controller operates from standard 220 - 260 vac (or optional 110 vac or 12 - 24 VDC) voltage supplies. Contact output drive is via one (or optional two) relays. Standard controllers are in panel mount form, or can optionally be housed in a metal box or IP65 ABS wall mount enclosure.

The ME995-7D controller is designed for compatibility with all ManuFlo flowmeters and most other brands. Calibration is settable via rear selector dials.

SAFETY FEATURES

- * **LIMIT (LM) LED** activates if batch cycle reaches locked internal limit or if circuit diagnostics detect internal chip problem. There is subsequent automatic shutoff of voltage contact drive.
- * **PULSE FAIL (PF) LED** activates if no pulses arrive within 1.5 seconds (variable) initial start time period, or if pulses are interrupted during batch cycle and fall below (variable) pulse scanning time (typical 30Hz). There is subsequent automatic shutoff of voltage contact drive output.
- * **FLOW (FL) LED** monitors and indicates incoming pulses from field flowmeter, or if TEST is used.
- * **CONTACT DRIVE (CD) LED** indicates voltage contact output drive when pump or solenoid is activated.
- * Internal audible **ALARM** sounds momentarily upon completion of batch cycle, and continuously if PULSE FAIL or LIMIT LEDs are activated or if overflow runs 26 litres over selected batch quantity.

Warning: if CONTACT or FLOW LED indicators are on, but controller not counting, discontinue use and call for service.

OPERATING INSTRUCTIONS

ME995-7D

- * To operate, push each of the toggle switches ON-OFF, START-STOP and TEST-RESET to the desired function.
- * Switch the power ON to unit. Select required batch quantity using rotary number dial selector switches.
- * RESET unit. The LED displays zero and all LED indicators and alarm turns off. The unit is ready for batching.
- * START unit; voltage contact drive activates. CONTACT DRIVE LED illuminates indicating pump or solenoid are energized, followed by FLOW LED illuminating, indicating pulsing and operation of flowmeter. The digits begin counting upward towards the selected batch quantity.
- * Upon digits reaching the selected batch quantity the alarm sounds (short beep) indicating completion of batch; CONTACT DRIVE and FLOW LEDs turn off. LED display digits and selected batch quantity should correspond. If LED digits overshoot target, use PREACT (inflight, freefall) overflow deduct dials (located at rear of controller unit) to scale back the difference.
- * To interrupt unit before completion of batch, push STOP toggle; digit counting will stop, drive contact off. Push START toggle to resume batch.
- * TEST toggle is used to test digit counting, switch contacts, alarm conditions or generate output pulses for computer interfacing. TEST does not activate pump or solenoid.

Warning: if CONTACT or FLOW LED indicators are on, but controller is not counting, discontinue use and call for service.

CALIBRATION

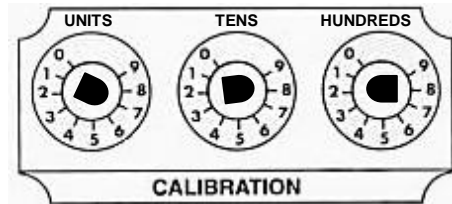
1) The Batch Controller is initially set up for the connected flowmeter using the Controller's Calibration rotary selector knobs (at rear of unit) marked UNITS, TENS and HUNDREDS to match (flowmeter o/p pulse value)/10.

e.g. MES25 is 550 pulses/Litre, so Calibration = 550/10 = 055.

Note reverse sequence of dials: U=5, T=5, H=0, is a value of 055.

On-site calibration adjustment and test:

- 2) Must adjust what is shown on the Batch Controller display (red LEDs) to match a known amount dispensed, using the Calibration knobs. So, set Controller to 190.0L, and batch into a 200 litre (44 gallon) drum.
- 3) If the amount collected is **more** than is shown on the LED display, then **decrease** the set calibration value by the same % difference
e.g. if collected 200L when 190.0L on LEDs, this is 10L more or 5% over (10/190x100%). So, decrease the calibration value by 5% i.e. if calibration set to 055, new value is 055-5% = 055-3 = 052 (Set Calibration U=2, T=5, H=0).
- 4) If the amount collected is **less** than is shown on the LED display, then **increase** the set calibration value by the same % difference.
e.g. if collected 180L when 190.0L on LEDs, this is 10L less or 5% under (10/190x100%). So, increase the calibration value by 5% i.e. if calibration set to 055, new value is 055+5% = 055+3 = 058 (Set Calibration U=8, T=5, H=0).



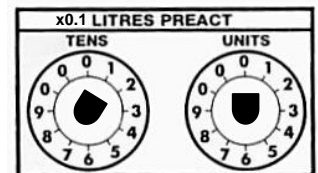
Example pulse flowmeter calibration settings

Note: x17 pulse input multiplier is used to enhance calibration resolution if flowmeter has < ~500 pulses/Litre.

Flowmeter	Size Ø	H T U	Signal input multiplier
RPFS	25mm	1 2 8	x17
MES20	20mm	1 0 0	x1
MES25	25mm	0 5 5	x1

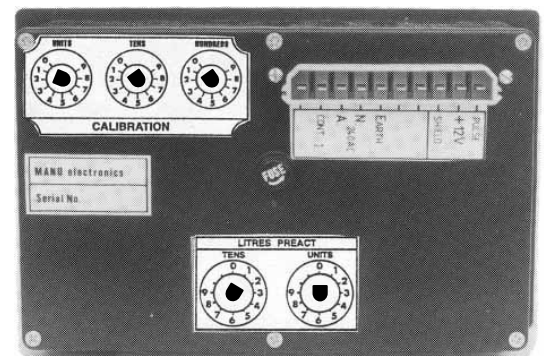
5) **PREACT:** Calibrating inflight overflow is via two rotary select knobs marked "TENS" and "UNITS" of 0.1 LITRES, located at the rear of controller. Simply set knobs to the overflow reading as indicated by the LED display.

Example: You select 100.0 Litres, batch the quantity, 101.0 Litres is shown on display, and 101.0 Litres is collected in drum. A valve may take extra time to close, so what is selected on dials usually overshoots on display. So, set 1.0 Litres on PREACT to deduct the 1.0 Litres overshoot (PREACT T=1, U=0 is a value of 1.0 Litres). Next batch, the selector Dials, LED reading and amount collected in drum are all 100.0 Litres.



SPECIFICATIONS

Power supply	220-260 vac (optional 110 vac or 12-24 VDC)
Output to flowmeter	12 VDC upto 100mA
Relay outputs	Max. 240 vac, 1A. Other outputs on request.
Frequency input	5 KHz. with x1 input, 300 Hz. with x17 input
Display	4 digits, 1 dec.place, Display LED (14mm H)
Connection	10 pin mating plug and socket
Fuse	1 Amp (5 x 20mm case)
Batch selection	Visual rotary select switches
Batch commands	Push toggle switches
Mounting	Panel mount
Instrument housing	ABS hi-impact case mould
External dimensions	206 L, 130 H, 90 D mm
Panel cutout	190 L, 122 H mm
Weight	1 kg



Due to continuous product development, specifications are subject to change without notice.

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