

# **ME995** PRESET AUTO BATCHING CONTROLLER SYSTEMS

## **with MES, AMM, CMM, KMS flowmeters**

Congratulations on choosing a **ManuFlo**®™ (Manu Electronics) preset batch control system. You will now join many thousands of satisfied customers worldwide.



### **Prior to installation:**

- A. Consider a good viewing AND operating position for the ME995 Batch Controller.
- B. Remove the detachable 10-pin plug from the rear of the ManuFlo controller. Wire the appropriate as ordered power option. Wire the Active/contact drive, Neutral and Earth or +/- from the solenoid valve or return from the external contactor if driving a pump. If starting a pump, make sure the contactor is of sufficient amperage rating to handle the pump current draw.  
Consider wiring an override button (N.O. with spring return) for manual batching or top up of admix, which will be counted by the controller display. See wiring diagram.
- C. Install the flowmeter as per the installation guide found on the flowmeter brochure.
- D. Use shielded cable only for connection between flowmeter and Batch Controller.  
Note: The batch controller supplies the flowmeters with +12vdc where required.
- E. **The ME995 Batch Controllers, model ranges “-1 to -6” can be used with 1000ppl flowmeters (primarily MES20/N). All -7 type models have K-factor Recalibration and may be used with a larger range of pulse flowmeters e.g. MES25/32/40,CMM, KMS types.**

If unsure on any aspect of installation or operation, call ManuFlo or your local installer.

**Happy batching !!!!!!!!!!!!!!!**

**ManuFlo**®™

Flow Measurement Products

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Rev. 0406/1

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# ME995 Series PRESET BATCH CONTROLLERS

## FEATURES

- LED displays
- 4 x LED diagnostic indicators
- Preact/freefall function
- Preset maximum limit
- Missing pulse detection
- User friendly simple operation
- Optional PLC/computer interface & pulse/setpoint/alarm outputs
- Many configuration options



(Over 10,000 units in operation !!)

The ME995-series panel mount preset batch controllers are available in a range of configuration options. They are suitable for use with pulse output flowmeters for preset liquid batch control applications.

Using rotary selector switches, batch quantities are quickly and easily selected. The batch operator can cross-reference the up-count LED display counter with the originally selected batch quantity shown on the selector dials. The final batched quantity is displayed on the LED batch screen. Command operations are performed by toggle switches, and four LEDs indicate operational status conditions.

The controller incorporates a standard pre-act (overflow deduct) feature, K-factor adjustment (-7 series models only), 4 diagnostic status condition LED indicators. All wiring and output options are via plug sets, making replacement or maintenance a simple procedure, without having to rewire the installation. The ME995 is easily interfaced with PLCs, thus incorporating the controller's safety features and providing a set-point system with a backup batch facility.

Standard controllers are in panel mount form, with 240vac input supply, 240vac output drive, and 12vdc to flowmeter. A range of enclosures are available, in metal or ABS, rated to IP65.

## CONFIGURATION OPTIONS

Model No.	Description	Input (Pulses/Litre)
ME995-1A	Millilitres, 0 dec. place, 4 digit to 9990	1000 fixed (MES20)
ME995-1	Millilitres, 0 dec. place, 5 digit to 99990	1000 fixed " "
ME995-2, -3, -2C, -2CH, -3K, -3KH	Dosage-rate calculation controllers – enquire for further details	1000 fixed " "
ME995-4	Litres, 2 dec. places, 4 digit to 90.000	1000 fixed " "
ME995-6	Litres, 1 dec. place, 3 digit to 90.0	1000 fixed " "
ME995-7	Litres, 0 dec. place, 4 digit to 9000 (x1 or x17 input)	1 to 999 K-factor
ME995-7D	Litres, 1 dec. place, 4 digit to 900.0 (x1 or x17 input)	1 to 999 K-factor
ME995-7DS	Litres, 1 dec. place, 3 digit to 90.0 (x1 input)	1 to 999 K-factor

## OTHER OPTIONS (see ManuFlo Catalogue or datasheets for even more options)

-MC2	PLC interface, Start/Stop/Reset volt free commands via 4pin & open collector pulse via 2pin (For Batch Controllers interfaced in a Computer/PLC controlled batch plant)
-5P, with ME5IC	PLC interface via plug and special isolation command card (for USA based computer systems)
-S12	Two product control selection switch, sequential relay output drives. (2pump/valves/flowmeters)
-AO	Logic or relay output on batch complete or alarm condition
-110V	110vac Supply & control voltage
-DC-OC	12-24 VDC power supply input / output drive, with Open Contact output drive (5 Amps) which is via external voltages e.g. 12 or 24 VDC, 110 or 240vac
-24VAC-OC	24 vac power supply input / output drive (Neutral can be to Ground or floating)
-110-OC	110 vac power supply input / output drive
-OC	240vac supply, Open Contact output drive (5 Amps). Drive is via external voltages e.g. 12 or 24 VDC, 110 or 240vac

## HOUSING ENCLOSURES

SHB	Single Metal powder coated enclosure
SHB1	Single box, wired with 240vac contactor (for 1 hp pump), plug-in 240vac pump outlet, and plug
DHB	Dual Metal powder coated enclosure
DHB2	Dual box, wired with 2x 240vac contactors, 2x pump outlets, and 2x plugs for Batch Controllers.
-T	Terminal strip connection fitted in SHB1/DHB2 boxes for power/pump drives in lieu of GPO
HB2510	IP66 ABS waterproof clear swing lid enclosure –SS316-hinges.
SSR	External commands start/stop/reset IP65 rated (fitted to HB2510)

## SAFETY FEATURES

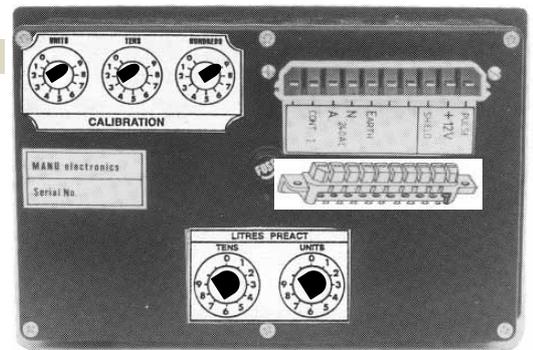
- \* **LIMIT (LM) LED** activates if batch cycle reaches locked internal limit, or if circuit diagnostics detect internal chip problem. Subsequently, there is automatic shutoff of voltage contact drive.
- \* **PULSE FAIL (PF) LED** activates if no pulses arrive within 1.5 seconds (variable) initial start time period, or if pulses are interrupted during batch cycle and fall below (variable) pulse scanning time (typical 30Hz). Subsequently, there is automatic shutoff of voltage contact drive.
- \* **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.
- \* **ALARM** sounds momentarily upon batch cycle completion, and continuously if PULSE FAIL or LIMIT LEDs activate or if overflow setting is reached.

## OPERATING INSTRUCTIONS

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

## SPECIFICATIONS

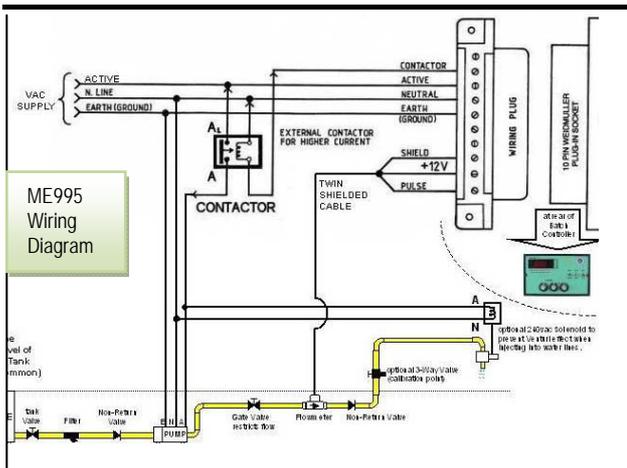
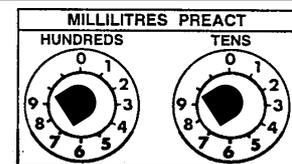
<b>Power supply</b>	220-260 vac (optional 24vac, 110vac or 12-24 VDC)
<b>Output to flowmeter</b>	12 VDC up to 100mA
<b>Relay outputs</b>	Max. 240 vac, 30 VDC 1 Amp. (or open contact drive where ordered)
<b>Frequency input</b>	5 KHz: x1 input, or 340 Hz: x17 inputs
<b>Displays</b>	7 segment LED (14mm H), (Qty 2-5, depends on model). 4x 3mm LED status indicators
<b>Connection</b>	10-pin Weidmuller mating plug and socket
<b>Fuse</b>	1 Amp (5 x 20mm case)
<b>Batch selection</b>	Visual rotary select switches
<b>Batch commands</b>	Push toggle switches
<b>Mounting</b>	Panel mount
<b>Instrument housing</b>	ABS hi-impact case
<b>External dimensions</b>	206 L, 130 H, 90 D mm
<b>Panel cutout</b>	190 L, 122 H mm
<b>Weight</b>	1 kg



Rear of ME995 controller

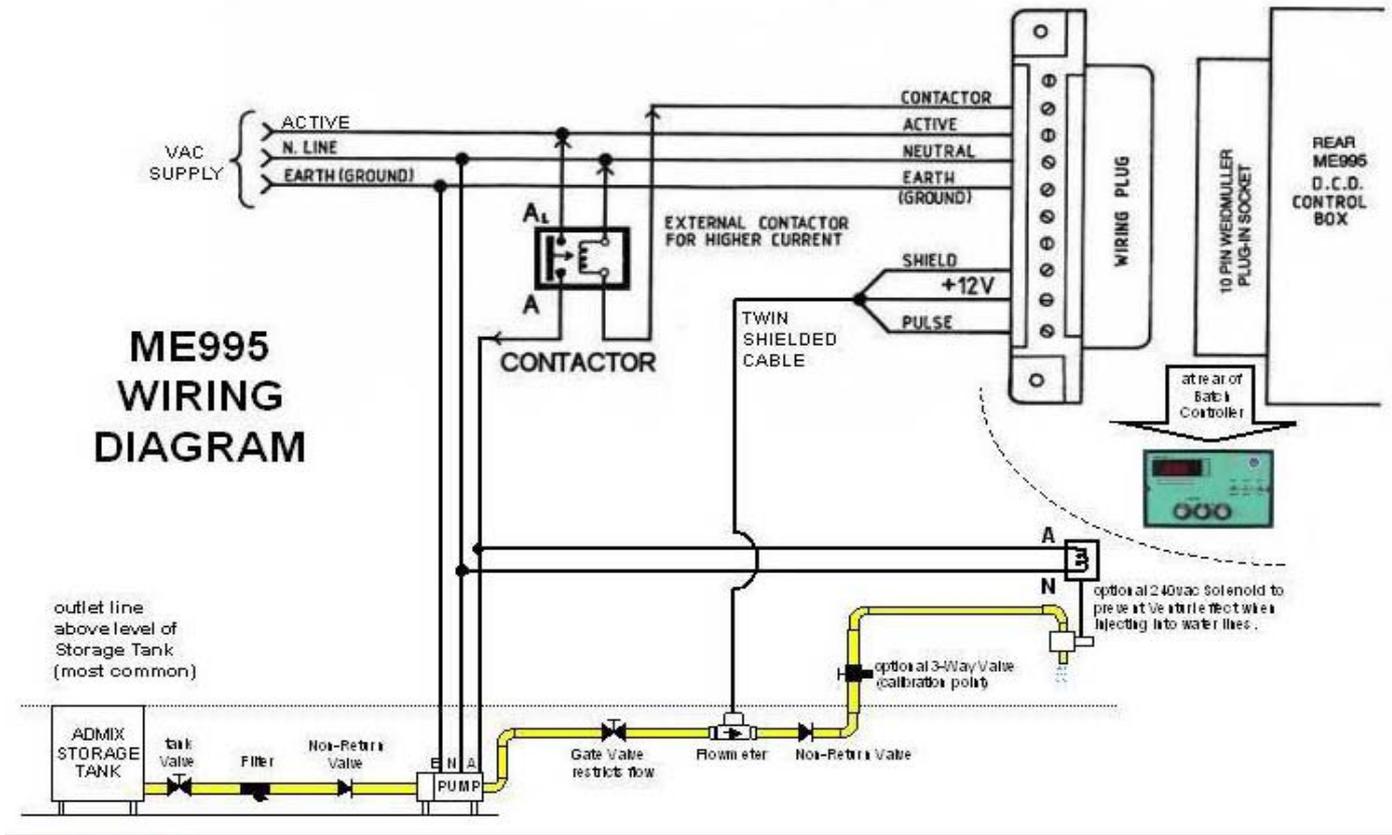


Side 1-2 product selection option



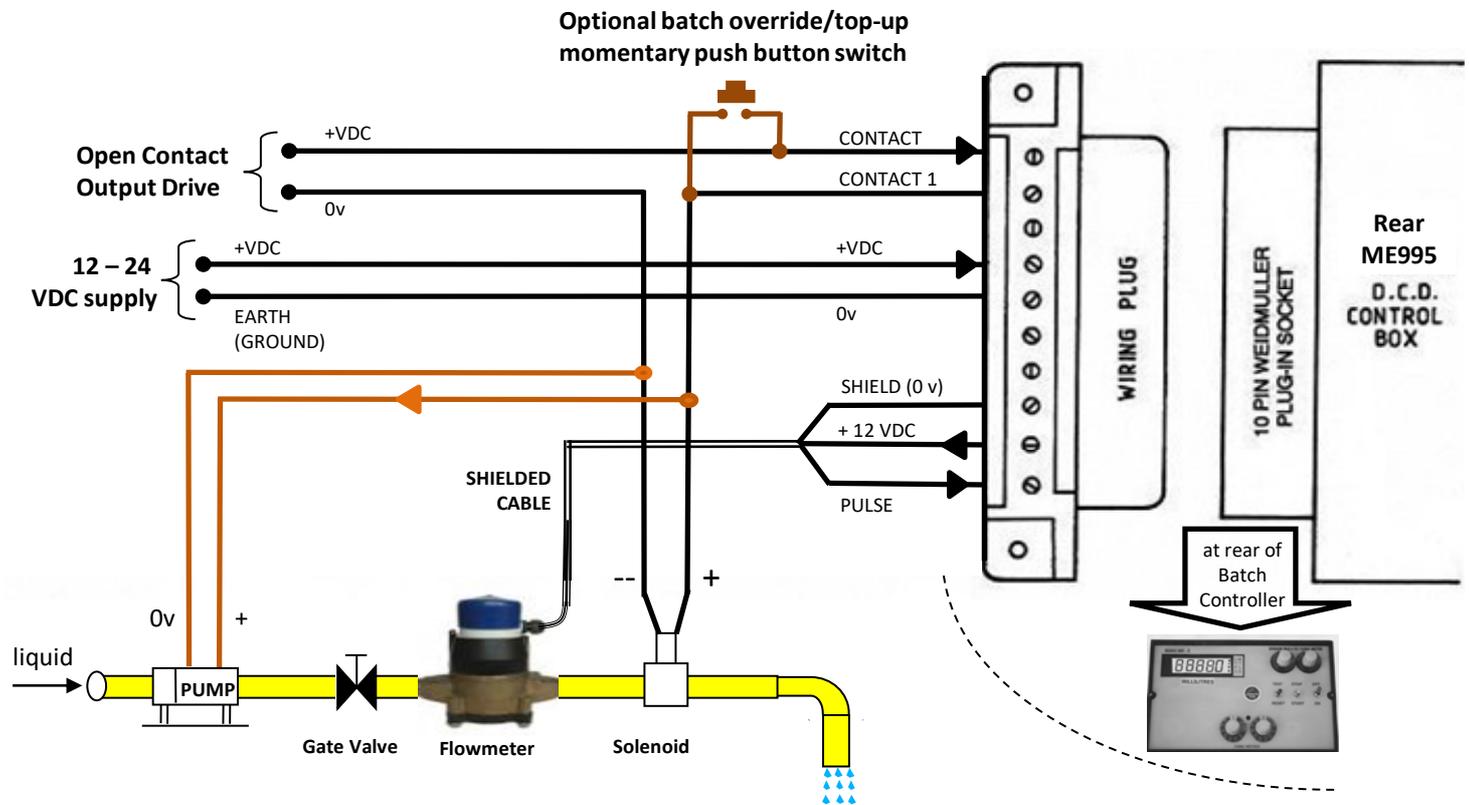
Due to continuous product improvement, specifications are subject to change without notice.

## Standard AC Wiring for Pump and optional Solenoid



## Wiring for DC-powered Batch Controller with DC Open Contact Output Drive to Pump and/or Solenoid

NOTE: if current draw of solenoid is > 0.5 Amps, or if using a pump, then install a contactor

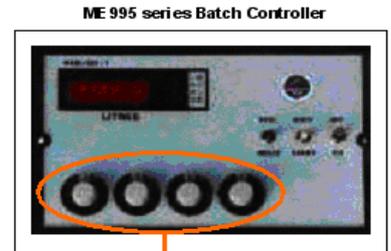
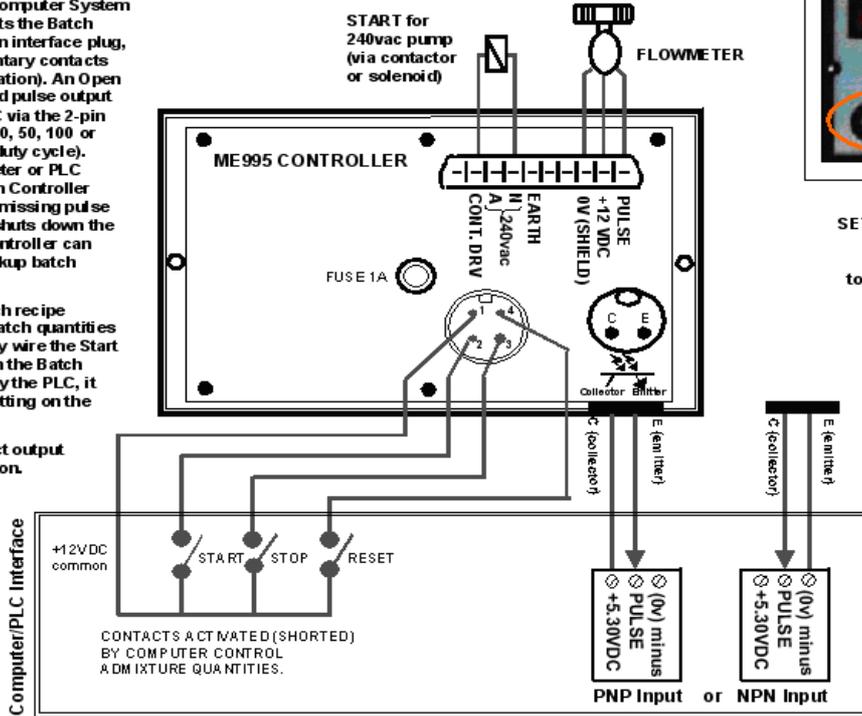


**OPERATION OF BATCH CONTROLLER WITH PLC CONTROLLED SYSTEM**

A maximum batch limit is set using the front selector switches of the Batch Controller. The PLC/Computer System starts, stops and resets the Batch Controller via the 4-pin interface plug, using volt-free momentary contacts (minimum 0.5 sec duration). An Open Collector opto-isolated pulse output is provided to the PLC via the 2-pin plug (fixed value 10, 20, 50, 100 or 1000 ml/pulse; 50% duty cycle). In the event of flowmeter or PLC malfunction, the Batch Controller overrides through its missing pulse detection safety and shuts down the system. The Batch Controller can also be used as a backup batch facility.

If the PLC has no batch recipe software control (or batch quantities are repeatable), simply wire the Start and Reset lines. When the Batch Controller is started by the PLC, it will batch up to the setting on the front dials.

Note: An alarm contact output is available as an option.



SET ON MAXIMUM QUANTITY WHEN OPERATING IN COMPUTER MODE to set maximum batch limit.

- PULSE OUTPUT value is fixed at factory setting of:
- 1 ml
  - 10 mls
  - 100 mls
  - 1 Litre
  - 20 mls
  - 50 mls

**WIRING DIAGRAM: ME995 Batch Controller and Computer Batching System.**

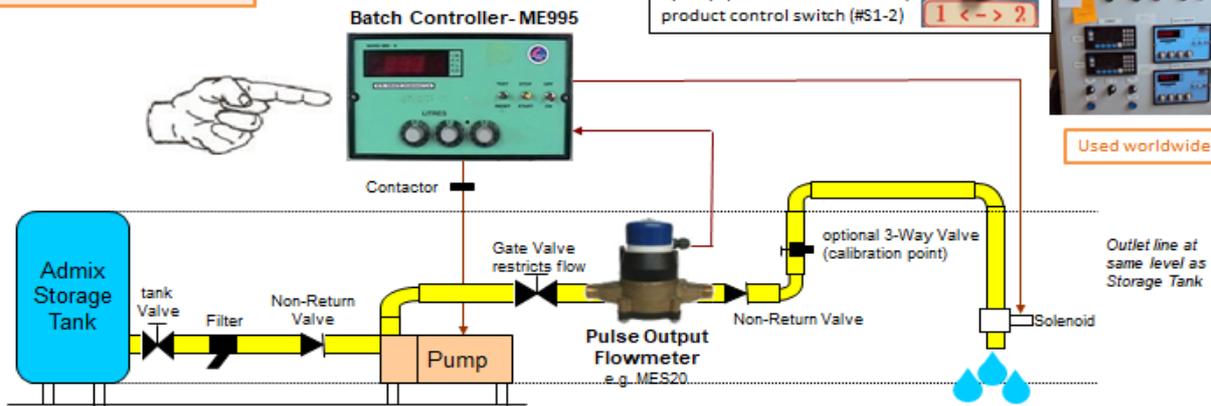
## 2. Semi-Automatic Batching

New Country Install was Nov.2019  
Ghana Africa – dispensing chemicals easily, safely, simply & reliably !!

Controllers can be configured to dispense 2 admixture products  
2 pumps/2 flowmeters via 2way product control switch (#S1-2)



Used worldwide



Quantity set by: operator  
Delivery controlled by:  
Batch Controller with multiple safety features.  
Some earlier models still in use since 1980 !!

