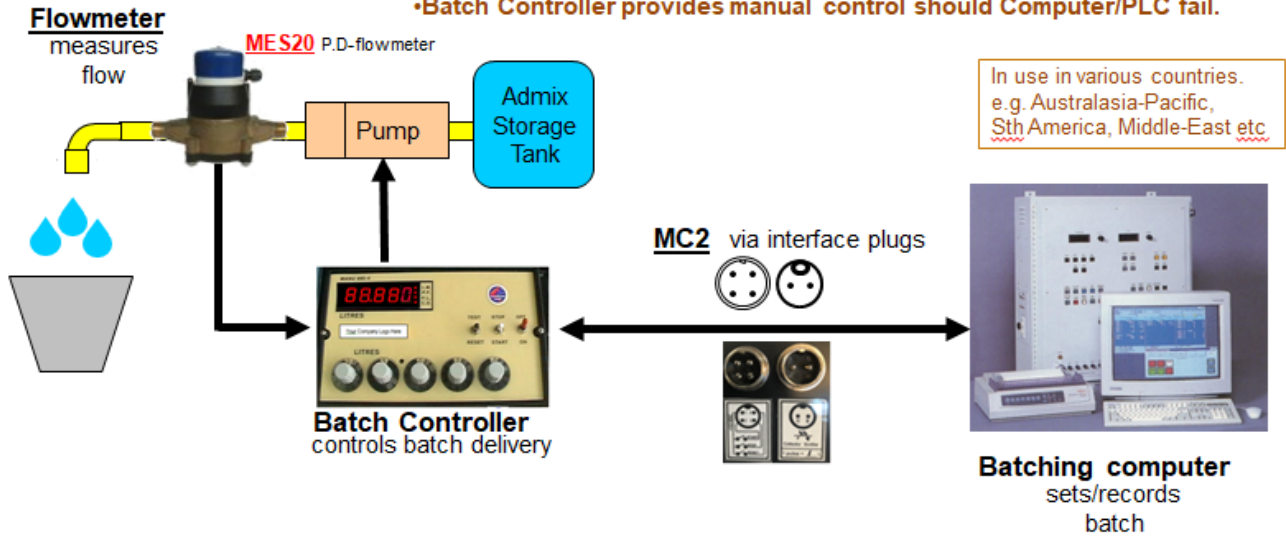


# “-MC2” PLC control with **ME995** Batch Controllers

- Having Batch Controller incorporates safeties e.g. Batch Limit, Pulse Fail.
- Batch Controller provides manual control should Computer/PLC fail.



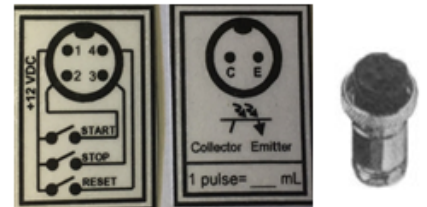
Quantity set by: Computer/PLC  
 Delivery controlled by: Batch Controller/Computer/PLC

**Eliminates Bottle Requirement**

## (A) Interfacing to PLC using – **MC2**



With PLCs, ME995 or ME3000 used as a Set Point Controller, or for added safety.



Located at rear of ME995 /ME3000 (4pin and 2 pin plugs)

**For safety**, when using ManuFlo Batch Controllers in a system controlled by a PLC/Computer with batch recipe software: **on the Batch Controller use the front selector switches to set the maximum batch limit and/or doserate**. Thereafter, in the event of a flowmeter or PLC malfunction, the Batch Controller will override the computer and stop the batch.

If unsure about any aspect of installation, please check the appropriate wiring diagram, product brochure and trouble shooting guide.

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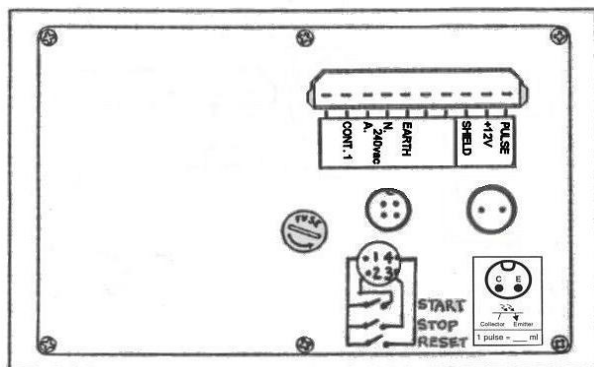
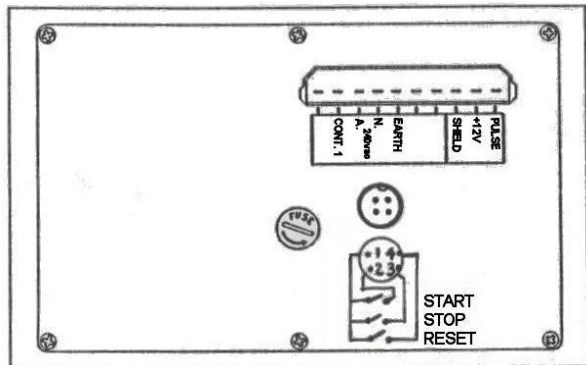
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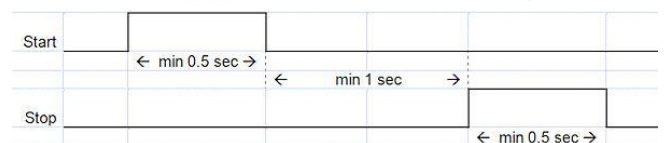
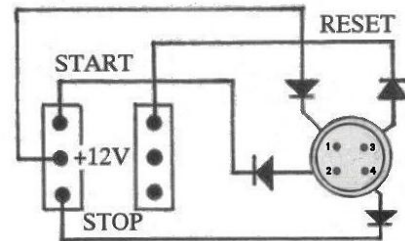
## MC2 Batch Controller / PLC interface plugs options (suit ME995 / ME188 / ME3000)

The MC-series interface plugs are 2 and/or 4-pin interface socket/plug configurations fitted as an option to ME995, ME3000 (and previous ME188) Batch Controllers, that provide an interface to PLCs.

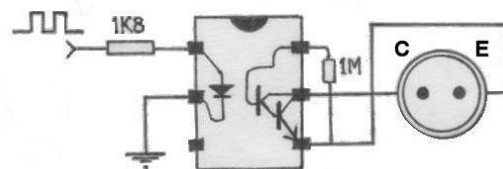
The 4-pin plug allows an external PLC to command a Batch Controller (to start/stop/reset the Batch Controller) via a volt-free momentary (minimum 0.5 second) contact that actuates the internal 12 VDC of the Controller's Start/Stop/Reset signal. Note: for the ME3000, the reset pulse duration is a minimum 3 seconds.



INSIDE MANU UNIT



4N33 INSIDE MANU UNIT



The 2-pin plug provides opto-isolated open collector 5-25VDC (maximum 120mA via the internal 4N33 opto) pulse output to the PLC inputs.

### ORDER CODES:

- MC** : 4-pin interface plug: external (volt-free) start/stop/reset command from PLC to Batch Controller.
- MC2** : 2-pin (pulse output) and 4-pin plug (start/stop/reset) interface plugs.

Note1: Pulse output on the ME995-7 Batch Controller is 1 pulse/1Litre. ME995-7D is 1 pulse/0.1 Litre. All other ME995-1 to ME995-6 models are supplied with the standard 1 pulse/1 millilitre output. For ME3000, the pulses/Litre output value is programmable.

Note2: Pulse output scaling options for ME995-1 to ME995-6 models:  
10, 20, 50, 100 millilitres per pulse e.g. order as -S10 for 10 millilitres per pulse.

**Note:** Exact setup and incorporation of safeties varies from different computer suppliers and installers, depending on whether pump drives are wired direct from the PLC or paralleled to the PLC and the Manu Batch Controller or wired to the Manu Batch Controller only.

**Operation:** When a Manu Batch Controller is interfaced with computer systems, a maximum permissible batch quantity must be set on the Manu Batch Controller's selector switches. The Computer will control batch quantities, and will start, stop and reset the Manu Batch Controller for batches that are below the selected maximum. The Manu Batch Controller will energise pump or solenoid starts, thus incorporating a true safety system. This way, in the event of a computer batch program malfunction or flowmeter problem, the Manu Batch Controller will override and stop the system on the occurrence of a pulse fail or when the maximum permissible batch quantity is reached. This is an ideal setup if the computer system does not have missing pulse detection, and provides a backup batch facility and a verification cross reference. Batch Controllers can also be used as set point targets for PLC systems

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

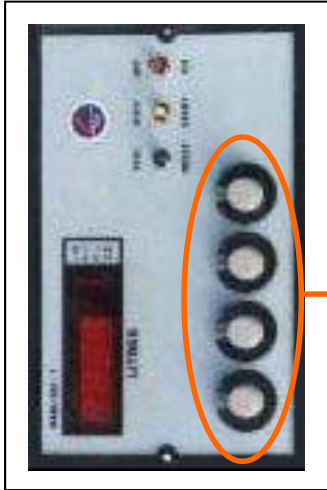
A maximum batch limit is set using the front selector switches of the Batch Controller. The PLC/Computer System starts, stops and resets the Batch Controller via the 4-pin interface plug, using volt-free momentary contacts (minimum 0.5 sec duration). An Open Collector opto-isolated pulse output is provided to the PLC via the 2-pin plug (fixed value 1, 10, 20, 50, 100 or 1000 mls/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 condition or Batch Complete contact output is available as an option.

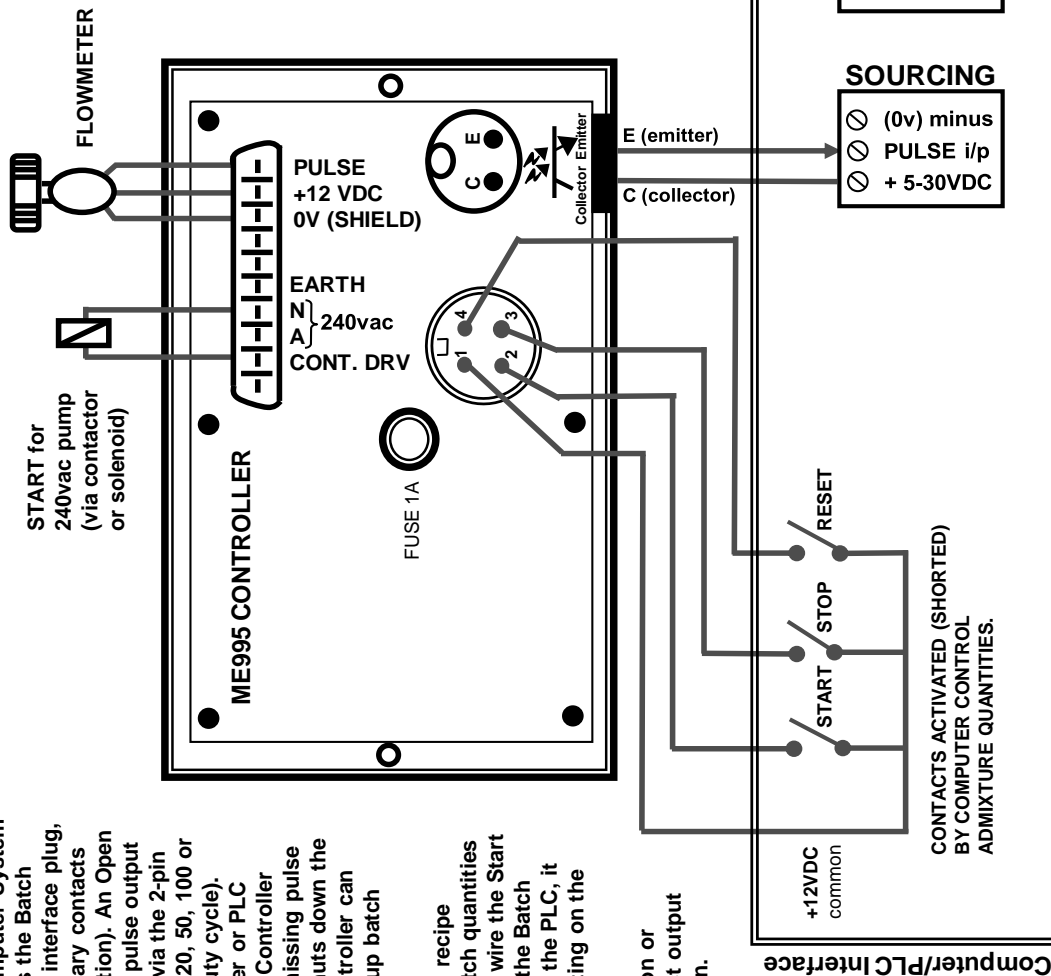
ME995 series Batch Controller



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	20 mls
10 mls	50 mls
100 mls	
1 Litre	



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

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