Batching Computers and Scaling

- Types of Batching Computers include:
  - Command-Batch Eagle/Alkon (see http://www.commandalkon.com)
  - Jonel-Archer (see http://www.jonel.com/readyMixBatch.htm)

Batching Computer System

  - Eagle by IPE, Batch-Tec, Matcon-Matic
  - United and many others

- ManuFlo do not supply Batching Computers, but our equipment interfaces with computers in customer installations.
- Call ManuFlo if you are unsure as to the interface required.

- **Pulse output rate to inputs of AC input PLC/computers must not exceed 12-15 Hz (12-15 pulses/sec).**

- **Any pulse rate faster than 12-15 Hz will cause overdose, as computer will start missing pulses due to AC input or scanning time.**

- **Relates to any 24 – 240 vac pulse inputs (Eagle/Alcon/Jonel etc).**

- **In your case at BGC Perth WA**
- **PMS80-I Magflow is flowing at 1200 Litres/min. (20 litres/sec)**
- **With 10 pulses/litre output**

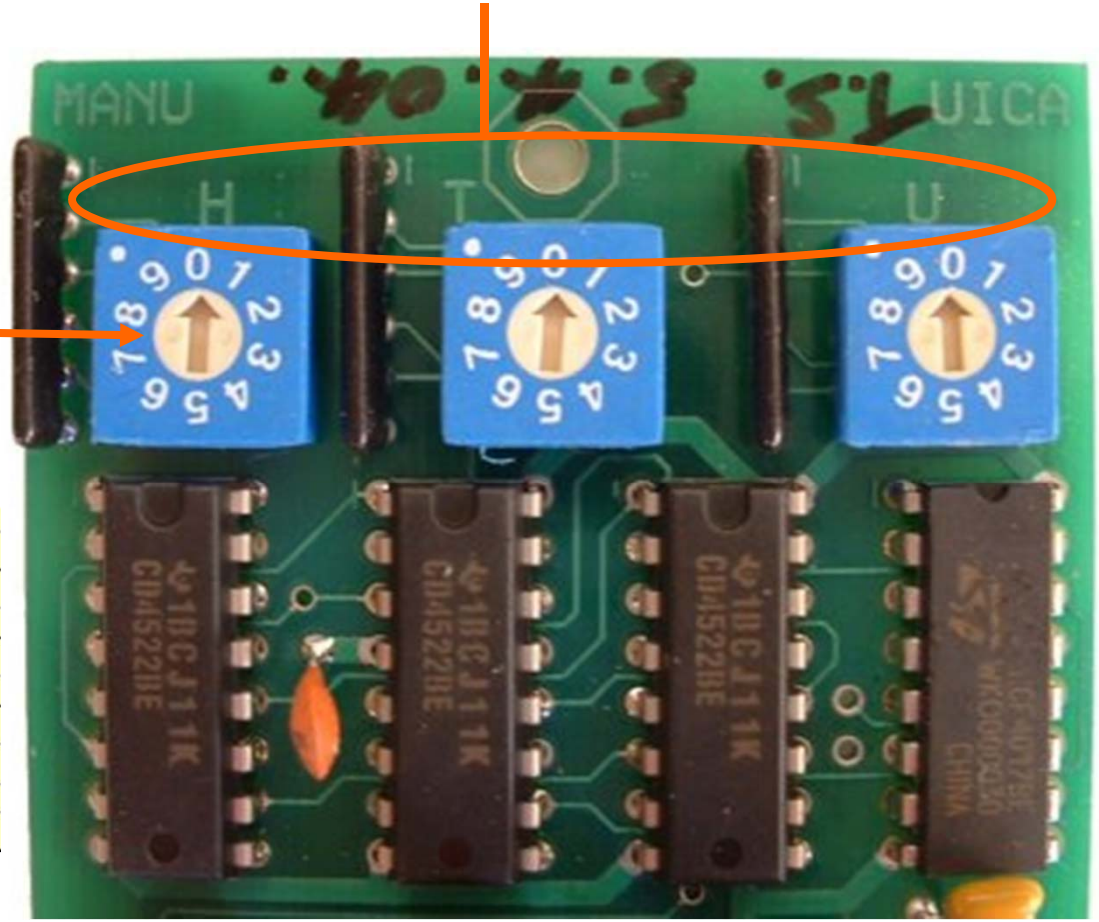
- **To avoid computer input missing pulses and as a result overflow of water**
  Set the UIC/A2 card on the following:-
  H = 1, T = 0, U = 0
  This will result in 2 litres/pulse (0.5pulses/litre) going to computer input,
  Now set the computer input to match the same as above.

- **Now do a calibration check, the Magflow amount batched, the computer display and actual volume collected should all near match. If not then we look at the measurement device.**

Interface Cards - UIC - scaling

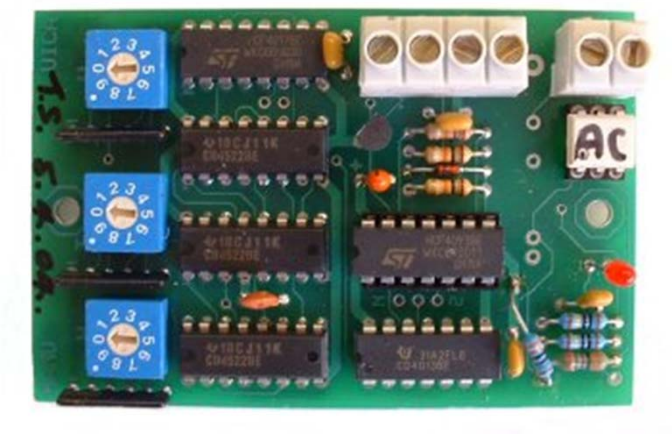
Calibrating or scaling of pulse output signals is via 3 rotary select switches (numbered 0-9) marked **Hundreds (H), Tens (T) and Units (U).**

Use small flat-bladed screwdriver, insert into switch slot and turn arrow to desired number.



HTU =	input pulses/Litre / output pulses/Litre	x 5
e.g. to convert 20 pulses/Litre to 1 pulse/Litre:		
HTU =	20 pulses/Litre / 1 pulse/Litre	x 5
HTU =	100 (i.e. H=1 T=0 U=0)	

Interface Cards - UIC - scaling



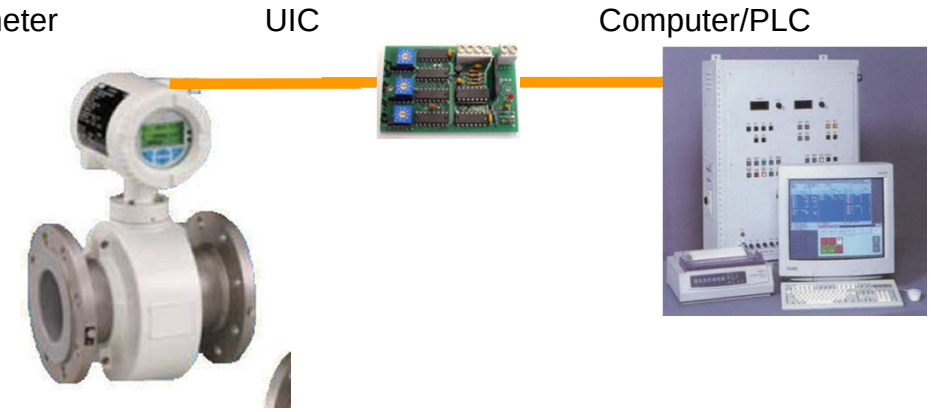
For batching with water lines, the RPFS paddlewheel and Magflow flowmeters are primarily used. Scaling values (x10 input card standard) :

Final Calibration:

- If the liquid collected is **more** than pulse value shown on computer screen, then **decrease** the rotary decade set value by the same % difference.
- If the liquid collected is **less** than pulse value shown on computer screen, then **increase** the rotary decade set value by the same % difference.
- Note: Final calibration can also be performed via computer software scaling.

Rotary decade value H T U	Pulse output rate
0 5 0	1 Litre /pulse
1 0 0	**2 Litres/pulse**
2 0 0	4 Litres/pulse
2 5 0	5 Litres/pulse
5 0 0	10 Litres/pulse

Interface Cards - UIC

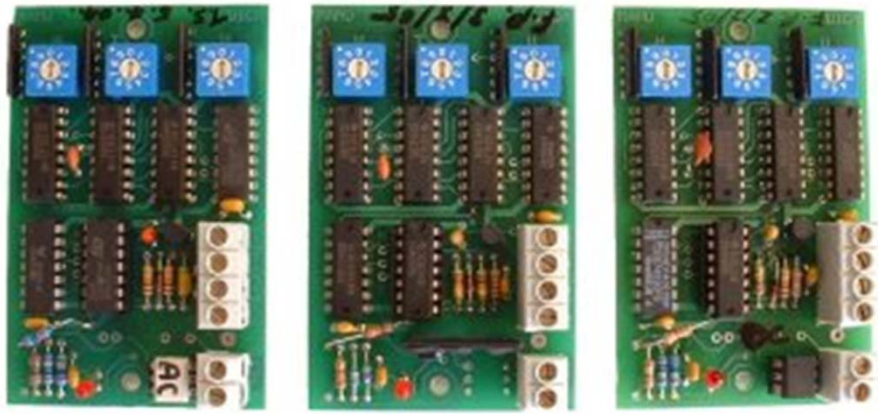


The UIC **Universal Interface Card** provides:

- signal **scaling** and
- an **isolation interface**

to pulse flowmeter outputs, and re-transmits to PLC/computer inputs. Models available:

1) **UIC/A1** : 110-240 **vac** pulse switching via a triac opto
2) **UIC/A2** : 24-250 **vac** pulse switching via a **heavy duty** triac opto
3) **UIC/D** : 5- 30 **VDC** NPN/PNP (sink/source) pulse switching via a 4N33 opto

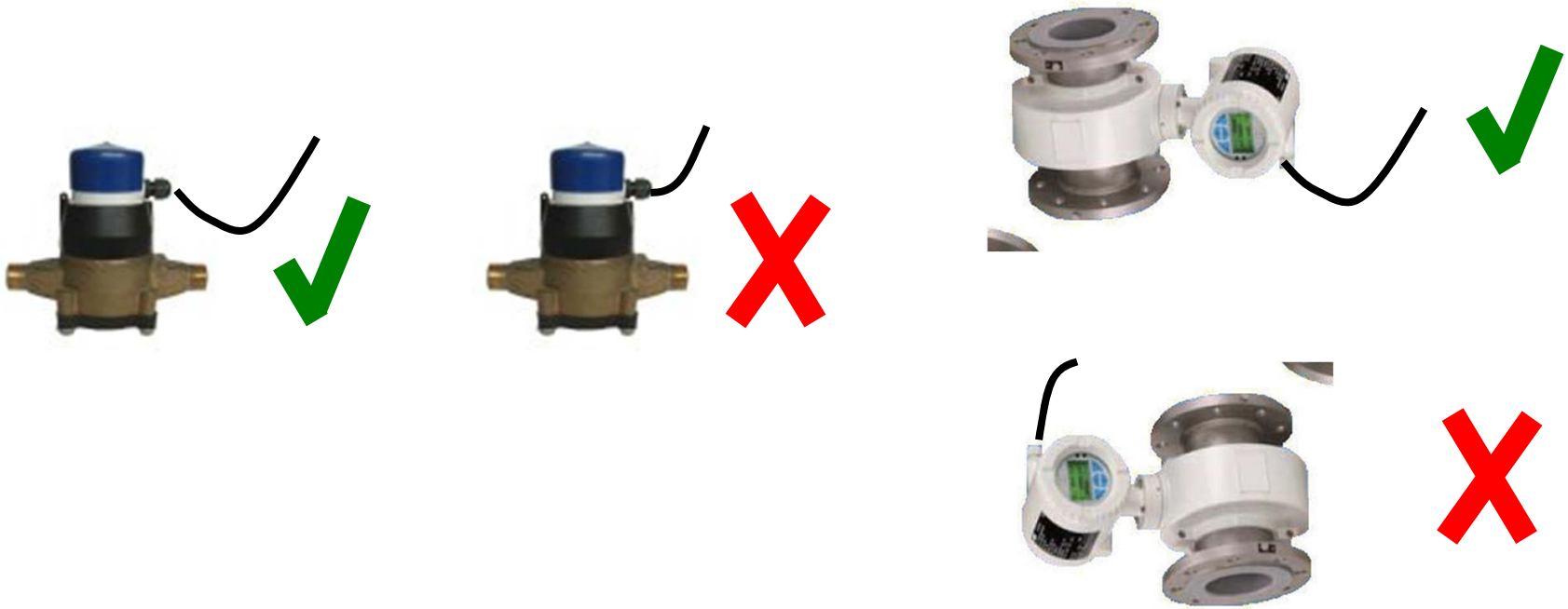


UIC/A1 UIC/A2 UIC/D

ManuFlo ®™

Flowmeter – installation - wiring

- to avoid water ingress into electronics, ensure cable entry glands are secure and loop cable down.



- interface cards are available to scale output pulses.
- to avoid interference, use only shielded cable.
- make sure regulated only DC voltages used.