Ref: FAQ0426	Version: 1.0
Title-Pseudo channel data interpretation	
Made By: AB 15/12/17	(Issue 1)

HWM data logger Pseudo channel data interpretation

Summary

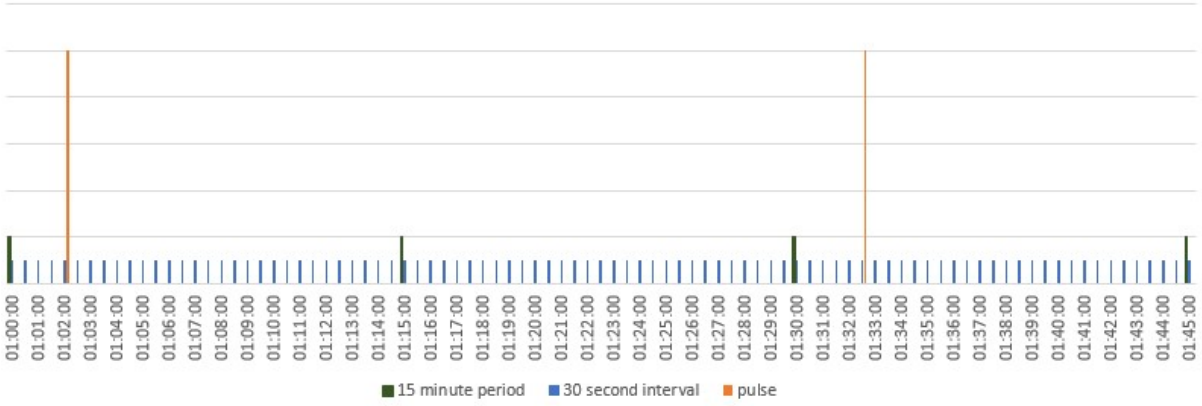
- The values stored in the Pseudo channel are based on Event Logging.
- Event Logging derives the flow rate based upon the time gap between each pulse that the meter records.
- The pseudo channel stores the lowest sample flow rate from the event logging data captured in the 15 minute period.
- If a pulse does not occur during the 15 minute period, the pseudo channel carries forward the previous sample and stores this in the pseudo channel.

Event logging

- Event Logging uses the time between the last 2 pulses to calculate the flow-rate.
- Each 15-minute period is broken into 30 x 30-second samples.
- The Pseudo Channel stores the lowest flow rate value from the 30-second samples within the 15-minute period.

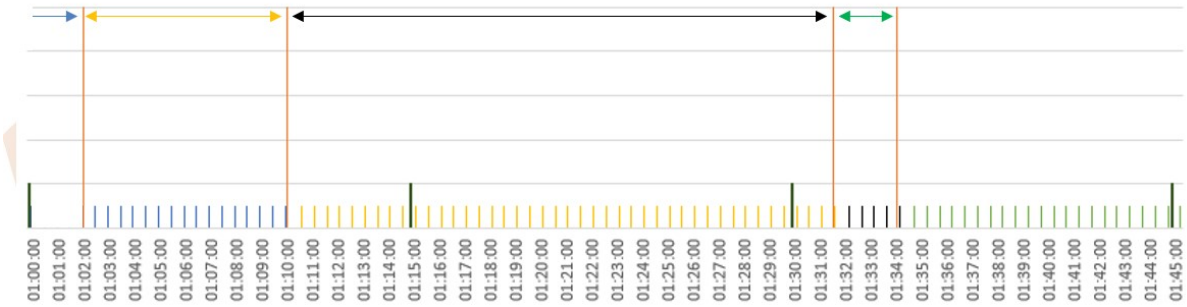
In the chart below :

- Short lines (blue) are the 30 second samples, medium lines (black) are the 15-minute recording periods and tall lines (orange) represent the pulses occurring.



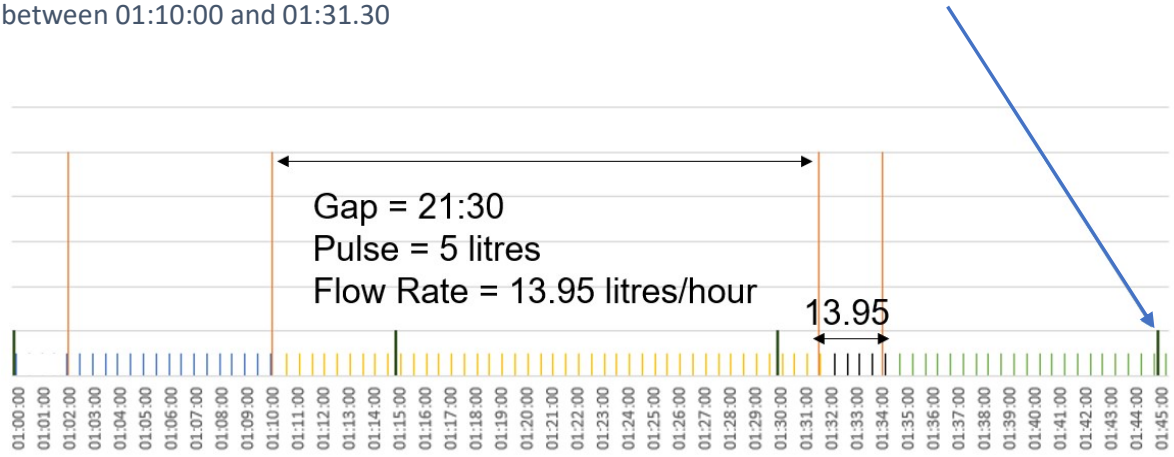
In the next chart

- Colour coding on the chart shows the time period used to calculate the flow-rate for each 30-second sample.
- So, for example, the green 30-second samples in the chart, will have a flow rate that relates to the gap between pulses preceding them, illustrated by the green arrow.
- The 30 second samples are only updated with a new flow rate when a new pulse arrives, hence the term event logging.

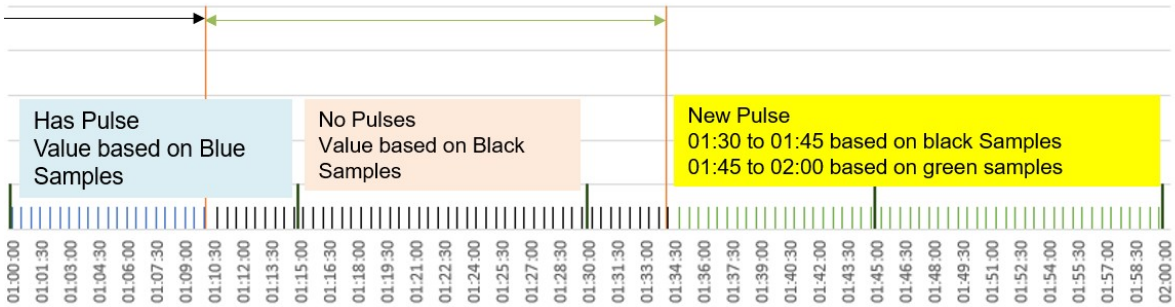


- The sample that has the longest time gap preceding it will have the lowest flow rate and be recorded by the Pseudo Channel as the minimum flow value.

So for example, the value stored in the Pseudo Channel at 01:45 will be 13.95 litres/hour. This is derived from the samples between 01:31:30 and 01:34:00, which relate to the gap in pulses between 01:10:00 and 01:31.30



- If no pulses occur during a 15-minute period, the previous 30-second sample will roll forward and this will be the minimum value stored by the Pseudo channel.
- This means that the 15-minute average flow, based on pulse counting will be zero, whereas the minimum value from Pseudo Channel could be greater than zero.
- It also means that the value stored in the Pseudo Channel for a period that does not have any pulses, could be different to the value stored in the Pseudo Channel for previous 15-minute interval that had a pulse i.e. the previous value stored in the Pseudo Channel is not carried forward to the next 15-minute period in the Pseudo Channel.



The time between pulses recorded appears to be converted to a flowrate of litres/second.

5 litres / seconds between pulses

This value is then rounded down to 3 decimal places and recorded.

Example: 1703 seconds between pulses (28 mins, 23 s)

5 / 1703 = 0.002936 l/s

Rounded to 0.002 l/s

Example: 5001 seconds between pulses (1h 13~mins)

5 / 5001 = 0.0009998 l/s

Rounded to 0 l/s

Document History:

Edition	Date of Issue	Modification	Notes
1st	18/12/17	Release	