

	SONARtrac[®] Technical Bulletin		
	Subject: Transmitter Undetermined Value Option	TB027	Rev: 01
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ECO E14-0037 has been issued that formalizes the release of Firmware Version 04.10.01. This firmware contains a new transmitter configuration parameter called “Undetermined Value” option.

The Undetermined Value option allows for the option of the transmitter to output “0” (zero) on all outputs when the quality of the measurement is below the minimum quality value selected or the flow rate falls below the minimum set point or above the maximum set point (unless setting “OVERRANGE RAIL” is set to “Enable”).

Note: The “as shipped” from factory Default will be as how transmitters have been in the past, that is “Bad Reading”.

- “Bad Reading” (Default) – Current operation = Set MODBUS registers to NaN (Fieldbus uses this as a flag to set status of outputs to “Uncertain or Bad”), display dashes, set 4-20mA outputs to out of range setting.
- “Zero” – New operation mode that sets the MODBUS registers to 0 (Fieldbus will then output a 0 and indicate a “Good” status), display 0, and 4-20 mA outputs to 0 value, if applicable.

When the “Zero” option is selected, the outputs will be as follows:

- MODBUS (Foundation Fieldbus and Profibus): Change register values to 0, not NaN
- Display: Display a 0 instead of dashes
- 4-20: Output the mA value for 0 (not 0mA).
- Data History: Change display values to 0, not NaN
- HART: No change to its code, but will report 0 for reported values
- Results Messages: No change – results as reported from algo as before (was never NaN)

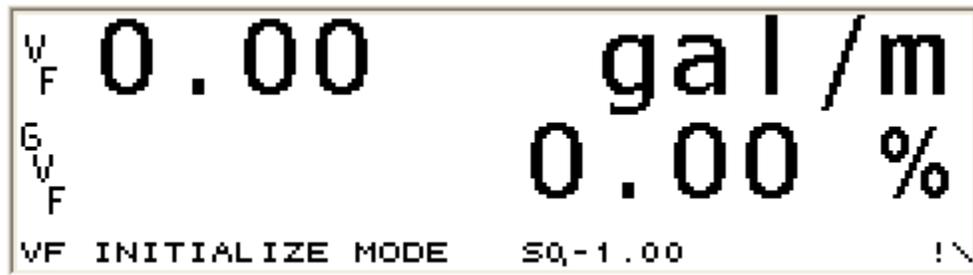
The following MODBUS, Foundation Fieldbus, and Profibus input registers that are currently set to QNaN when the quality is below minimum will now read “0”:

Register Number / Name	Register Number / Name
1 / Flow Rate	21 / SOS Flow Rate
9 / GVF	25 / TLF
15 / SOS	

Priority Code:			
1	Safety issue or system will not function	2	Intermittent problem causing system crash
3	Erratic data/readings	4	Added product feature
5	Product enhancement	6	Product Information

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The following is an example of the transmitter display showing bad quality of both VF and SOS measurements in the new 'Zero' mode. Both VF and GVF measurements are showing '0.00' and these values were approached using the damping filter; dropping gradually from their 'good' values all the way past the 'flow cutoff' value.



It is important to note that when "Zero" is selected, the transmitter display will read 0 but there may still be flow (below SONARtrac ability to read) in the system.

The next update of the Installation Manual will incorporate this change.

Please feel free to contact Bob Markoja with any questions or comments.

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Document Change History

Date	Revision	Changed By	ECO #	Description of Change
10Sep14	01	B. Markoja	E14-0038	Initial Release

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