



FlowTracker2 QC Warnings Field Guide

Warnings in **RED** should be fixed before continuing with the measurement. If these cannot be fixed, abort the measurement. Warnings in **GREEN** should be examined – if all solutions are attempted or the warning is realistic, then proceed with the measurement.

Warning	Description	Why?	What To Do?
Approach Low SNR	SNR is 4 to 7 dB	Clear water, very sediment-rich or poor water conditions	<ul style="list-style-type: none"> Repeat or move to a different location
Beam SNRs Not Similar	Difference in SNR between two beams is greater than SNR Threshold	Beams are not seeing similar water quality. Can be caused by obstacles (plants, rocks) or malfunction in probe	<ul style="list-style-type: none"> Check for obstacles (plants, rocks, etc.) Repeat or move to a different location Perform AutoQC or Beamcheck to ensure proper probe function
Boundary Interference	Indicates quality of measurement (Poor, Fair, Good, or Best)	Poor or Fair quality usually indicates obstacles at or near measurement location	<ul style="list-style-type: none"> Check for obstacles Repeat or move to a different location
Fractional Depth > 1	The ratio between the measurement and total depth is greater than one.	The entered measurement depth is deeper than the water depth. This error will not appear for a standard discharge (0.2/0.6/0.8) measurement.	<ul style="list-style-type: none"> Check that measurement depth was entered correctly
High % Spikes	Percent of spikes exceeds Spike Threshold	Highly variable flow, obstacles upstream or at the station, vibrations or moving the probe during data collection	<ul style="list-style-type: none"> Check for obstacles upstream or at station Make sure probe isn't moving during measurement Repeat or move to different location
High Stn % Discharge	The percent discharge at this station is larger than the Max Station Discharge	High velocity at station, or too much spacing between stations	<ul style="list-style-type: none"> Add an additional station in between current and last station
Large SNR Variation	SNR varies more than expected during a measurement	Unusually high or low sediment load at station, or obstacles interfering with probe	<ul style="list-style-type: none"> Check for obstacles Check for changes in sediment load (is the warning realistic?)
Location Outside Edge	Station location is outside edge location	The entered station location is outside of the edge location	<ul style="list-style-type: none"> Check that station location was entered correctly
Low SNR	SNR is below 4 dB	Clear water, very sediment-rich or poor water conditions	<ul style="list-style-type: none"> Repeat or move to a different location Perform AutoQC or Beamcheck to ensure proper probe function
Rod Angle > QC	Rod angle is greater than Max Wading Rod Angle	Rod is not vertical during measurement	<ul style="list-style-type: none"> Repeat measurement, ensuring rod is vertical (pay attention to indicator during measurement)



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Warning	Description	Why?	What To Do?
SNR Threshold Variation	Difference in SNR between this station and previous station is greater than SNR Threshold	Sudden changing of water conditions, or obstacles interfering with probe	<ul style="list-style-type: none"> • Check for obstacles • Repeat or move to a different location • Check for sudden changes in water conditions and sediment load (is the warning realistic?)
Standard Error > QC	Calculated standard error (σ) for this station is greater than the σ Threshold	The variability (standard error) in the measurement at this station is greater than previous stations	<ul style="list-style-type: none"> • Check for obstacles • Make sure probe isn't moving during measurement • Repeat or move to a different location
Station Order	Station location out of sequential order	Stations are usually measured in sequential order	<ul style="list-style-type: none"> • Make sure you meant to measure the station out of order, otherwise correct the station location
Stn Spacing > QC	Spacing between this and previous station exceeds Max Depth Change %	Distance between this station and last station is too large	<ul style="list-style-type: none"> • Check that station location was entered correctly • Add an additional station in between current and last station, if necessary
Velocity Angle > QC	Flow angle is greater than Max Velocity Angle	The angle of flow at this station is not perpendicular to tag line	<ul style="list-style-type: none"> • Check that the flow angle is not perpendicular (is this warning realistic?) • Repeat or move to a different location • DO NOT turn wading rod to align probe with flow. Proceed with measurement despite a high flow angle warning if moving to a new location is not possible
Water Depth > QC	Depth at this station differs by more than Max Depth Change % from previous station.	The entered water depth at this station is very different from the previous station	<ul style="list-style-type: none"> • Check that water depth was entered correctly

Fields in **BLUE** represent values that can be set by the user during the measurement by going to Menu > Settings > Quality Control Settings or Discharge Settings.

Note: If you notice any of these warnings appearing frequently using one FlowTracker2 system at different sites, please contact Technical Support (858-546-8327 or support@sontek.com) as your instrument may have an issue.