

SONARtrac® Technical Note

TN0030

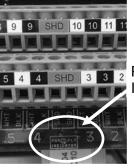
Subject: Preamplifier Communication Issues and Debugging Date: 27Nov2018
Revision 01

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Problem: Provide a method for determining preamplifier communication issues and how to isolate problems with the preamplifier.

Answer: During normal operation, the SONARtrac firmware will ping the preamplifier located within the sensor head cover for diagnostic information such as hardware and software numbers, and diagnostic voltages and temperatures. This will occur about every 10 seconds. If the transmitter cannot communicate with the preamp, the diagnostic values seen in SYSINFO file, and / or within the INFO screen of the transmitter menu, will not be available. If there are no other system failures the SONARtrac may continue to provide a valid flow reading; however, DIAGNOSTIC operations such as SENSOR CHECK or GAIN adjustment will not be possible. (As noted in the installation manual any failure during SENSOR CHECK should be confirmed by repeating the test to verify that the failure duplicates).

In the decision tree on the following pages the "Power Fault Light" (PWR FLT INDICATOR) location is on transmitter terminal board below the SHLD termination points of the sensor band cable.



PWR FLT INDICATOR

The typical mA draw on the -12Vdc and / or +12Vdc preamp power lines at terminal 11 or 12 on the terminal board is ≈90mA. Current limiting (PWR FLT light illuminates) occurs at ≈170mA.

If the Preamp Gain is set too high such that the sensors are saturating this may result in the PWR FLT INDICATOR flashing. If the meter was properly commissioned, the gain will have been adjusted with process flow present.

IMPORTANT: Prior to trouble shooting ensure the wire pairs number 10, 11, and 12 are properly attached to their mating terminals (10 WHT/BLK, 11 WHT/BLK, 12 WHT/BLK).

A method for determining the cause of failure follows.

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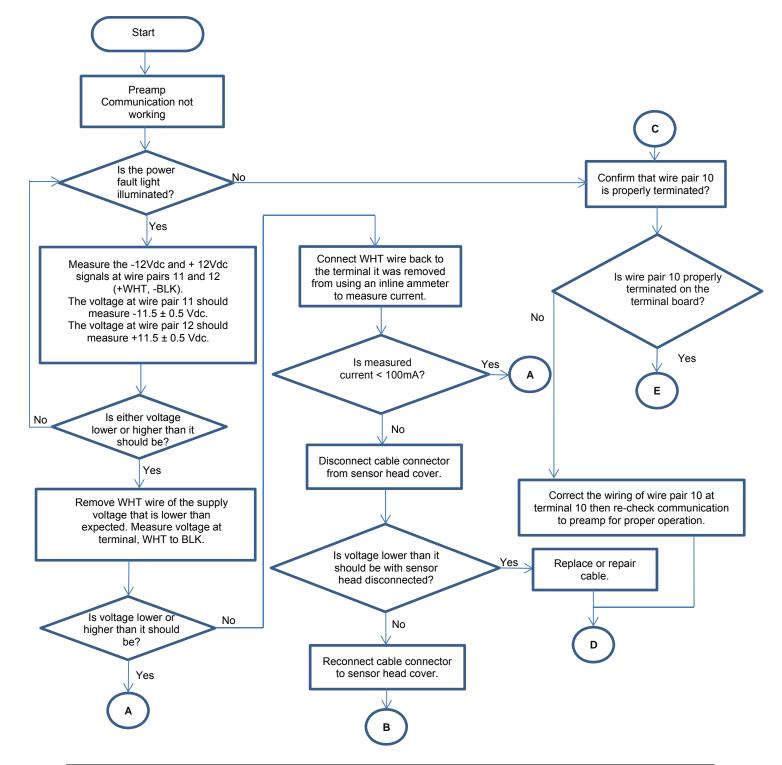
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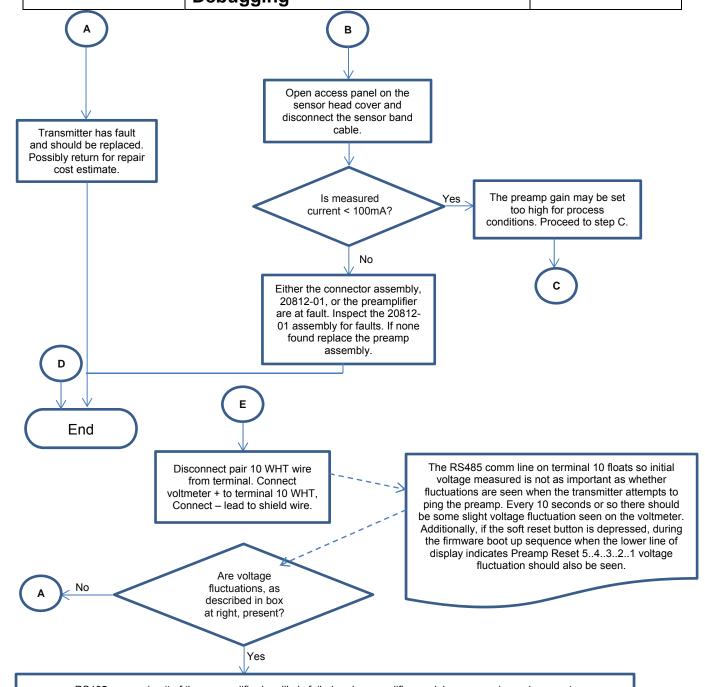
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RS485 comm circuit of the preamplifier has likely failed and preamplifier module may require replacement.

If this is a brand new installation the cable assembly from the transmitter to the sensor head should be checked for proper continuity of wire pairs 10, 11,& 12 to the proper pins in the connector assembly. Also, the cover connector assembly, 20812-01, should be checked to confirm no mis-wires are present and cable is properly connected to the preamp.

If the meter was already commissioned and the meter is still providing a flow reading customer can leave as-is; however, the diagnostic capabilities that require communication to the preamp will not be available.

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Contact CiDRA Technical Support or Customer Support with any questions.

Revision History

Rev	Date	Changed By	Approved By	Change Description
01	27Nov18	T. Griffin	D. Garcia	Initial Release

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