	SONARtrac[®] Technical Note	
	TN0006	
	Subject: Changing Transmitter 4-20mA Output From Internal to External Power	
		Date: 22Aug07
		Revision 02
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Problem:

I need to change my transmitter 4-20mA output from internal power to external power. Please provide details.

Resolution:

In order to change from internal powering of the 4-20mA outputs proceed as follows.

- **Externally Powered 4-20mA Loop Configuration**

The connections for a 4-20mA interface configured as “Externally Powered” are shown below. The maximum value of V_{EXT} should be chosen such that the maximum applied voltage between V_{EXT} and local ground and I_{OUT} and local ground shall be within the range of +30V / -10V and current limited to 100mA. The maximum value of R_L is determined by the following equation:

$$R_{L\ Max} = (V_{EXT} - 8.35) / (0.022)$$

For example, with $V_{EXT} = 24VDC$:

$$R_{L\ Max} = (24 - 8.35) / (0.022) = 711\ Ohms$$

In the externally powered configuration the 4-20mA interface is capacitively isolated from the rest of the transmitter electronics provided that the applied voltages are within +30V / -30V.

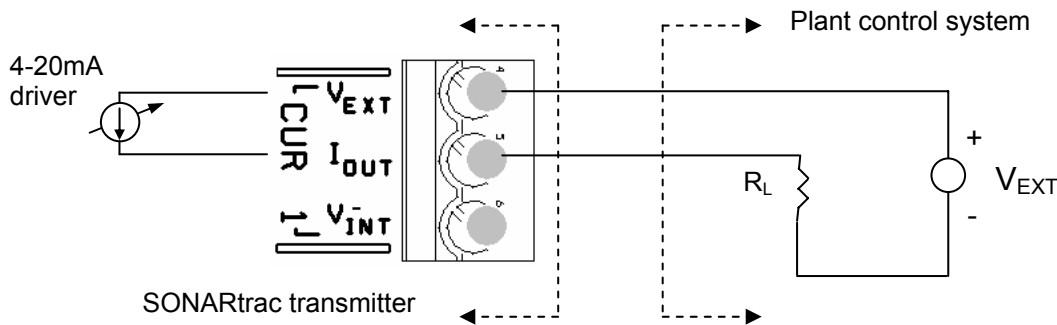



Figure 1 Externally Powered 4-20mA Loop

- **Wiring Changes**

Refer to Figure 1 above. Change the terminal board wiring of the transmitter from V_{INT} being wired to V_{EXT} being wired.

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- **Transmitter Menu Changes**

1. Press any key of the front panel display except the ENTER key and 'Basic Config' will be displayed on Line 1 of the transmitter display.
2. Press the ↓ Arrow key once and 'Output Config' will be on Line 1 of the transmitter display.
3. Press the ENTER key and '4-20mA CH 1' will be displayed on Line 2 of the transmitter display.. (If 4-20mA 2 channel is desired press the ↓ Arrow key again.)
4. Press the ENTER key and 'Output Select' will be displayed on Line 3 of the transmitter display.
5. Press the ↓ Arrow key once and 'Power Sel' will be displayed on Line 3 and 'Internal' will be displayed on Line 4 of the transmitter display.
6. Press the ENTER key and 'Internal' will be highlighted.
7. Press the ↓ Arrow key once and 'External' will be displayed on Line 4 of the transmitter display.
8. Press the ENTER key to set this selection and then press the EXIT key. The transmitter will restart.

If there are any questions, please contact CIDRA Technical Support

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Revision History

Rev	Date	Changed By	Approved By	Change Description
01	22Aug07	Markoja	M. Sapack	Initial Release
02	7/29/08	V. Rojas-Haines	V. Rojas-Haines	Update Figures and name