

## Frequently Asked Questions #E3

**Question :** How can I set the water level on a WL2100 transducer so I don't have to add an offset in my Data Logger ?

**Answer :**

You can use the SDI-12 command 0X0 to set the water level in metres. The WL2100 takes the value from the last water level measurement, and works out the offset that needs to be added to give the desired water level.

$$\begin{array}{l} \text{Desired Water Level} = \text{Measured Water Level} + \text{Offset} \\ \text{(in metres)} \qquad \qquad \qquad \text{(m)} \qquad \qquad \qquad \text{(m)} \end{array}$$

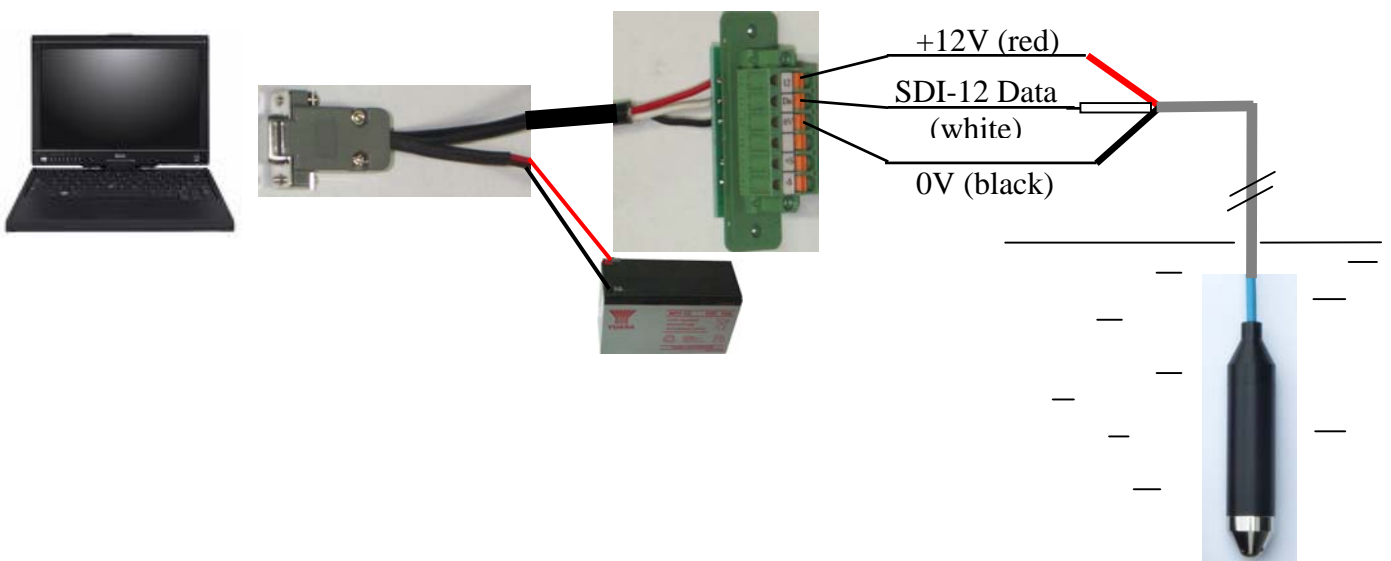
where

$$\begin{array}{l} \text{Measured Water Level} = \text{Measured Pressure} \times \text{User Factor} \\ \text{(in metres)} \qquad \qquad \qquad \text{(kPa)} \qquad \qquad \qquad \text{(0.101972m/kPa)} \end{array}$$

This is best explained in an example.

If the WL2100 is connected to a Data Logger, then put the logger into SDI-12 transparent mode.

If this is not available, then connect the WL2100 to an RS232 to SDI-12 adapter, as shown, and use HyperTerm or WinComLog set to 1200 baud, 7 bits, even parity, 1 stop bit to communicate.



\*\*\* **PLEASE NOTE** \*\*\* By proceeding each SDI-12 command with a \* the WL2100 will ignore the critical timing required with normal SDI-12 communications.

Check the comms to the WL2100 and its address by typing :

\*?! and the WL2100 will reply with its “address” then a CR LF  
(for example, the screen will display \*?!0 showing the address is 0)

It is assumed in the following examples that the address is set to 0. If not, then substitute 0 with the actual WL2100 address !!!

If you know the WL2100 is in SDI-12 mode then skip this step, otherwise :

enter	*OX14+0!	Forces the WL2100 into SDI-12 mode for accurate water level measurement.
enter	*OM!	Make a measurement – the WL2100 will respond with 00045 (5 measurements available in 4 secs)
	0	Wait 4 secs and the WL2100 will respond with the service request 0
enter	*OD0!	Read the WL2100 data – the WL2100 will respond with something like 0+000.018+000.0026+0000.002+0000.006 (depending on configuration) In this example the reply is kPa+psi+m+ft and the water level is <b>0.002m</b>
enter	*OX0+0035.702!	Sets the water level to <b>35.702m</b> (the WL2100 will automatically calculate the appropriate offset)
enter	*OM!	Test by making a measurement – the WL2100 will respond with 00045 (5 measurements available in 4 secs)
	0	Wait 4 secs and the WL2100 will respond with the service request 0
enter	*OD0!	Read the WL2100 data – the WL2100 will respond with something like 0+000.018+000.0026+0035.702+0117.132 Notice that the kPa and psi returned are the actual measurements but the m and ft returned have been offset by 35.700m

You can double check the internal offset of the WL2100 as follows :

enter	*OX9!	Read the offset (replies with 00001 – meaning 1 result in 0 secs)
enter	*OD0!	Get the data – the WL2100 will respond with 0+0035.700 indicating the offset is 35.700m

You can also clear the internal offset as follows :

enter	*OX9+0000.000!	Clear the offset back to 0.000m. Note that you cannot set the offset to any other value than 0.000
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