

Technical Bulletin #2 Level Sensors

Setting Ink Levels

Ink level sensing is achieved by monitoring the levels in the individual reservoirs using a probe mounted on the side of each reservoir. The probe comprises 2 steel rods spaced 20mm apart. One side is electrically isolated from the container.

The probe is mounted vertically to the reservoir, with the bottom of the probe as close to the bottom of the reservoir as possible, but far enough away to prevent air being drawn into the ink reservoir and pipe as the IDS dispenses. This ensures that the empty point registers prior to any air being drawn through to the dispense valve, therefore eliminating spitting from the valve when empty.

Select “Ink Level Configuration” from the “Dispenser” settings in “Options”. Click the mouse into the “Empty Point” field for reservoir number 1.

Note: The field in the final column labeled **Disabled** must be un-checked (enabled) for the reservoir you are about to fill – only place a check in this box for the reservoirs that you are not going to fill or are to remain temporarily unused.

Ensuring you are using the correct color ink, pour in enough Ink to cover approx 1”Inch (25mm) above the bottom of the probe in reservoir 1.

Click on “Set Empty” to set the zero level for this color. This ensures that the reservoir will show the empty point **BEFORE** the ink reaches the bottom, as previously explained.

Now continue to fill reservoir 1 to a maximum level of 1/2” Inch (12mm) below the bend in the probe. When you have finished, press the tab key to move to the cursor to the ‘Full Point’ field and press the “Set Full” button (the value entered for the full level should be **smaller** than the value of the original zero point level). Typically this value will typically be between 20-30K but invariably depends upon the Ink type and viscosity.

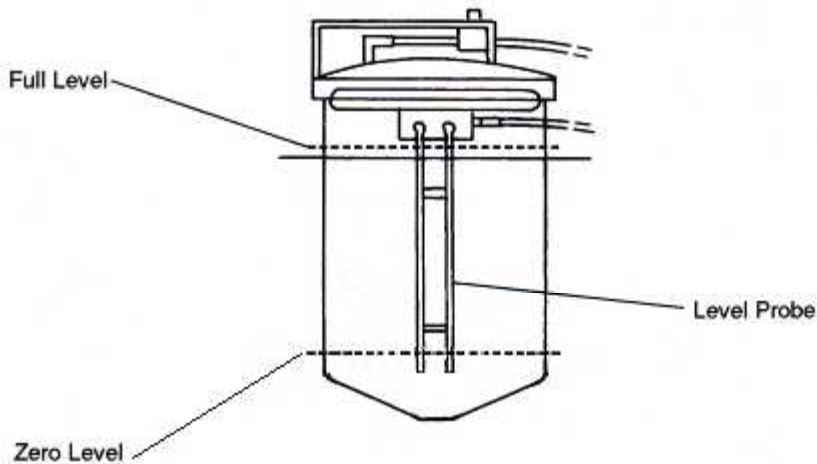
Level Sensor Configuration **Reservoir / Pot 1 active**

	Current Level	Empty Point	Full Point	Weight	Disable		Current Level	Empty Point	Full Point	Weight	Disable
1:	<input type="text" value=""/>	36821	1000	0.0	<input type="checkbox"/>	13:	<input type="text" value=""/>	37111	1000	0.0	<input checked="" type="checkbox"/>
2:	<input type="text" value=""/>	36134	1000	0.0	<input checked="" type="checkbox"/>	14:	<input type="text" value=""/>	37935	1000	0.0	<input checked="" type="checkbox"/>
3:	<input type="text" value=""/>	37312	1000	0.0	<input checked="" type="checkbox"/>	15:	<input type="text" value=""/>	37170	1000	0.0	<input checked="" type="checkbox"/>
4:	<input type="text" value=""/>	36655	1000	0.0	<input checked="" type="checkbox"/>	16:	<input type="text" value=""/>	34689	1000	0.0	<input checked="" type="checkbox"/>
5:	<input type="text" value=""/>	36982	1000	0.0	<input checked="" type="checkbox"/>	17:	<input type="text" value=""/>	35530	1000	0.0	<input checked="" type="checkbox"/>
6:	<input type="text" value=""/>	36362	1000	0.0	<input checked="" type="checkbox"/>	18:	<input type="text" value=""/>	37623	1000	0.0	<input checked="" type="checkbox"/>
7:	<input type="text" value=""/>	36091	1000	0.0	<input checked="" type="checkbox"/>	19:	<input type="text" value=""/>	37325	1000	0.0	<input checked="" type="checkbox"/>
8:	<input type="text" value=""/>	37357	1000	0.0	<input checked="" type="checkbox"/>	20:	<input type="text" value=""/>	38803	1000	0.0	<input checked="" type="checkbox"/>
9:	<input type="text" value=""/>	36309	1000	0.0	<input checked="" type="checkbox"/>	21:	<input type="text" value=""/>	0	0	0.0	<input checked="" type="checkbox"/>
10:	<input type="text" value=""/>	36984	1000	0.0	<input checked="" type="checkbox"/>	22:	<input type="text" value=""/>	0	0	0.0	<input checked="" type="checkbox"/>
11:	<input type="text" value=""/>	36264	1000	0.0	<input checked="" type="checkbox"/>	23:	<input type="text" value=""/>	0	0	0.0	<input checked="" type="checkbox"/>
12:	<input type="text" value=""/>	36582	1000	0.0	<input checked="" type="checkbox"/>	24:	<input type="text" value=""/>	0	0	0.0	<input checked="" type="checkbox"/>

A live working Sensor (points to the 'Current Level' field of row 1)

Live reading from Sensor for Reservoir / Pot 1 (points to the '6450' value in the 'Current Level' field)

The “Weight” field is optional. If you know exactly how much ink you have used to set these levels, you can manually type in the known quantity at this stage. This will allow you to check how much ink, in weight, is in a particular reservoir at any time.



What if one or more of the sensors are not working?

The Digitizer or Sensor jack plug work can occasionally work loose during excessive or rough handling transportation of the IDS. To check that the Digitizer and Sensor jack plug are secure be sure to first **POWER OFF THE IDS**, removing or inserting the Sensor jack plug whilst the power is ON to the IDS can cause un-repairable failure of the Digitizer.



Figure 1. Digitizer and Jack Plug fallen off reservoir
(Usually found after rough transportation of the IDS)



Figure 2. Jack Plug incorrectly fitted to Digitizer

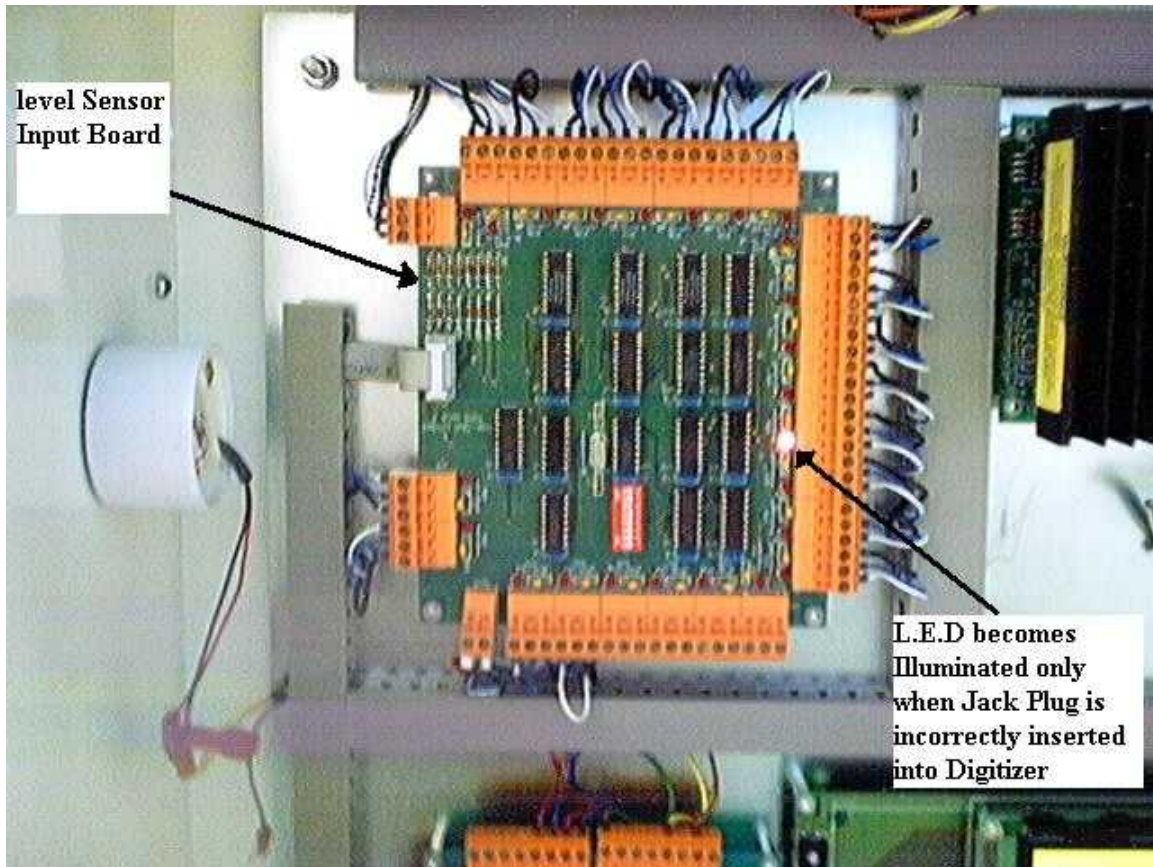


Figure 3. Shows fault condition on Level Sensor Input Board when the Jack Plug is incorrectly inserted into Digitizer

If it is required to fit a new Jack Plug cable due to a damaged cable, then the following table below gives one example for the replacement cable routing for Reservoir 1

Chassis side			Conn Numb er	Pin Number	Machine Side	
Destination	Colour				Color	Destination
PCB 1005 J1 – 1	Black	2 Core	5	1	Yellow	Pot 1 Jack Lead
PCB 1005 J1 – 2	Blue	Screened	5	2	Red	
PCB 1005 J1 – 3	White		5	3	White	

A full list of the Jack Plug connections is available by request to Vale-Tech



Figure 4. Correctly mounted Jack Plug and Digitizer