

**INSTALLATION INSTRUCTIONS MANUAL  
WATER LEVEL CONTROLLER**

**D2 WLC1**



**S2 WLC1**



**WLC D1**



S2 WLC1 / WLC D1 is water level controller operating on electrical conductivity principle for controlling the pump operation automatically at two desired water levels in either the overhead tank or underground tank. S2 WLC1 / WLC D1 is an auxiliary relay and should be used in control circuit. The output of switching relay is 1 change over contact of 5A/240 VAC rating(Resistive). D2 WLC1 - Controlling pump operation automatically at two desired water levels in overhead tank and underground tank.

**S2 WLC1 unit is operating in AUTOMATIC MODE only.**

**APPLICATIONS**

S2 WLC1 / WLC D1 is basically two level controller for either overhead or underground tank. It can be used as one level controller for either overhead or underground tank. The S2 WLC1 / WLC D1 can be used as two level controller for both overhead & underground tanks. In this case two units are required. S2 WLC1 / WLC D1 can also be used as moisture controller.

**FUNCTION DURING SUCTION LOGIC**

When you select SUCTION LOGIC by using output contact at terminals C-NO then the level sensing prods P1, P2,P3 are to be put into the underground water tank as shown in corresponding Fig. The pump motor will start automatically when the underground tank is full (i.e when prod P1,P2 and P3 are under water) and will stop automatically when the tank is empty(i.e when prod P2 and P3 are out of water).

**FUNCTION DURING DELIVERY LOGIC**

When you select DELIVERY LOGIC by using output contact terminals C-NC then the level sensing prods P1,P2,P3 are to be put into the overhead water tank. The pump motor will start automatically when the overhead tank is empty(i.e when prod P1 is under water and P2,P3 are out of water)and will stop automatically when the overhead tank is full(i.e when prod P, P2 and P3 are under water).

**SENSITIVITY SETTING :**

Fix the sensitivity according to the liquid conductivity with the help of sensitivity potentiometer.  
1. Keep all the prods in water and Pot at maximum position. Now relay becomes ON.  
2. Turn the pot towards minimum side till the relay become Off.  
3. Now adjust the pot above the setting where relay becomes ON & doesn't chatter by turning the pot towards maximum side. Now check this operation for 2/3 times for repeat functional accuracy.

**MOUNTING**

The WLC is suitable for DIN RAIL mounting.

**INPUT SENSORS:**

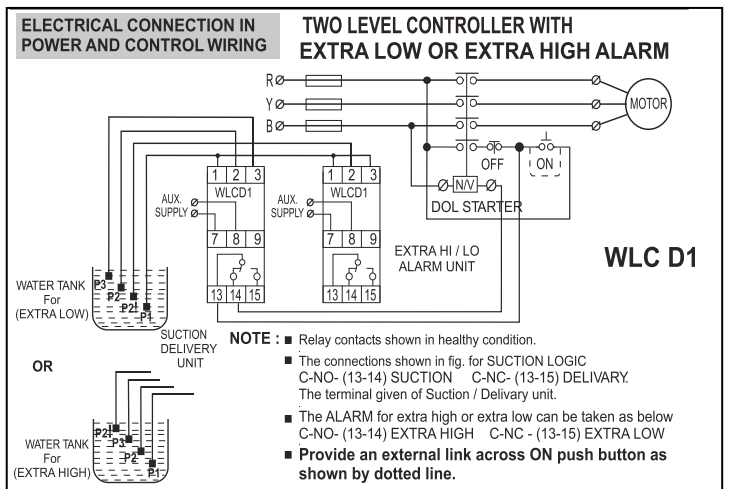
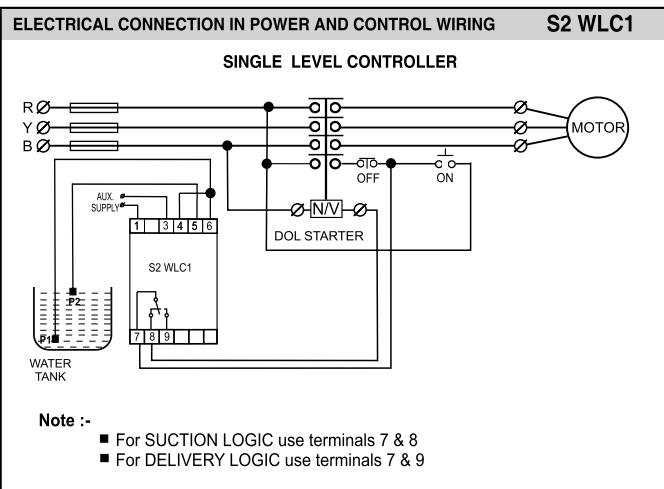
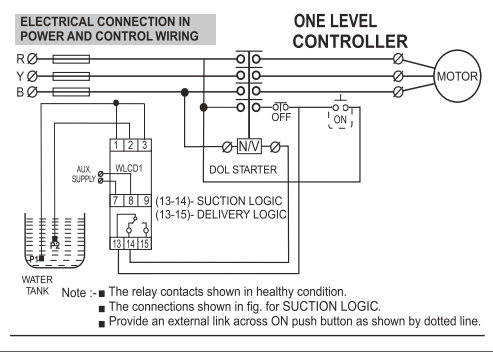
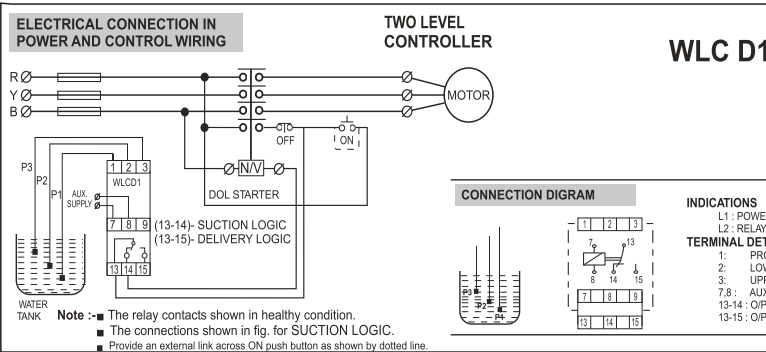
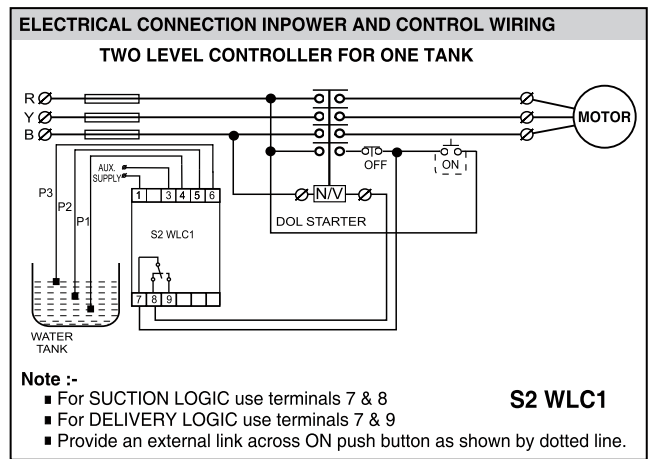
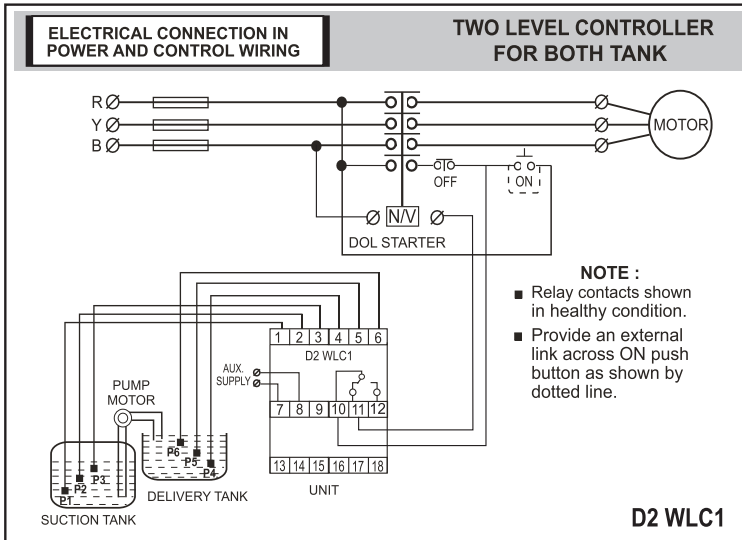
WLC is to be used with Minilec sensor prod(Electrodes) only. The sensor is of stainless steel material (for specific and typical applications, you may use a sensor prod of suitable electrically conductive material in case Minilec sensor prod does not suit your requirement). Consult Minilec before using different prod. Minilec sensor prod has a bolting arrangement for connecting a suitable cable and it is to be suspended from top opening of the water tank.

**CAUTIONS:**

1. Ensure that WLC is -
  - Not installed near any heat sources like Burner, Sunlight, Electric arc, etc.
  - Not subjected to abnormal operations.
  - Installed as near to starter as possible.
  - Not subjected to direct rain, Stormy wind and Dust.
2. Ensure that the sensor prods are suspended from top opening of the water tank in suitable PVC piping. Metal pipe should not be used. Sensor prod should not be wall mounted on metallic water tanks.
3. Ensure required water resistance by adjusting the sensitivity potentiometer given on front panel.

TECHNICAL SPECIFICATIONS		WLC D1	S2 WLC1	D2 WLC1
1.	Auxillary supply voltage	24/110/220/230/240/380/415/440 VAC ±20% 24VDC ±20%	100 -120 / 220 - 240 VAC±20% 24 VAC/ DC ± 20%	:100 - 120/220 - 240/ 380 - 440 VAC ±20% 24VAC/DC ±15%
2.	Frequency :	50 Hz/60Hz ± 3%	50 / 60 Hz ± 3%	50 / 60Hz, + 1%
3.	Power consumption :	3VA	3VA	3VA max.
4.	Input Sensor :	3 Nos. Stainless steel prods	3 Nos Stainless steel prods. (Electrodes)	6 Electrodes.
5.	Sensitivity :	1 KOhms - 200 KOhms	1 KOhms to 200 KOhms	1 KOhms to 200 KOhms ±5% of calibrated value
6.	Output relay & contact rating (Resistive):	1 Changeover Contact & 5A, 240 VAC	1 change over contact and 5 Amp,240VAC	5A,240VAC (resistive)
7.	Operating conditions :	Temperature : -5°c to 60°c Humidity : Upto 95% RH	- 5° C to 60° C upto 95 %Rh	temperature :-5 c to 60 c humidity :upto 95% R/H.
8.	Life Expectancy :	0.5 x 10 <sup>6</sup> operations at 100% rating.	0.5 x 10 <sup>6</sup> operations at 100% rating	0.5 x 10 <sup>6</sup> operations at 100% rating
9.	Trip setting :	According to the levels of sensor placed in the water tank.	According to the levels of sensors placed in water tank.	According to the levels of sensors placed in water tank.
10.	Trip Time Delay (secs):	Less than 1 sec.	Less than 1 Sec.	Less than 1 Sec.
11.	Resetting :	Automatic	Automatic.	Automatic.
12.	Indications:	Power on : L1(Green) Relay on: L2(Red)	ON (green) RLY (red)	:ON (green) L1 :Power ON EMT ( red ) L2 :Tank Empty(T1) FL (red) L3 :Tank Full(T2)
13.	Enclosure :	ABS	ABS / PC ABS	ABS(D2 Series) Enclosure
14.	Mounting :	35mm rail mounting & panel mounting.	35 mm rail mounting	DIN RAIL Mounting
15.	Sensor Weight (gms) approx. :	20 each	50 each	20 each
16.	Sensor dimensions overall(mm) (Single Prod) :	Ø18 x 90 (L)	24(Dia) X 72(L)	:Ø18 X 90(L) Dimension (mm)Overall 76 X 56.5 X 117.5
17.	Unit Weight (gms) approx. :	300	120 Gms.	400 gms
18.	Control action modes	Delivery OR Suction Combined	Delivery OR Suction Combined	Delivery & Suction Combined

**WARRANTY - AGAINST ALL MANUFACTURING DEFECTS FOR 18 MONTHS FROM DATE OF SUPPLY OR 12 MONTHS FROM INSTALLATION WHICHEVER IS EARLIER**



#### TESTING CHART

No.	D2 WLC1			S2 WLC1			PUMP / MOTOR STATUS
	P1	P2	P3	P1	P2	P3	
1	IN	IN	IN	IN	IN	IN	OFF
2	IN	IN	IN	IN	IN	OUT	OFF
3	IN	IN	IN	IN	OUT	OUT	ON
4	IN	IN	OUT	IN	IN	IN	OFF
5	IN	IN	OUT	IN	IN	OUT	OFF
6	IN	IN	OUT	IN	OUT	OUT	ON
7	IN	OUT	OUT	IN	IN	IN	OFF
8	IN	OUT	OUT	IN	IN	OUT	OFF
9	IN	OUT	OUT	IN	OUT	OUT	OFF

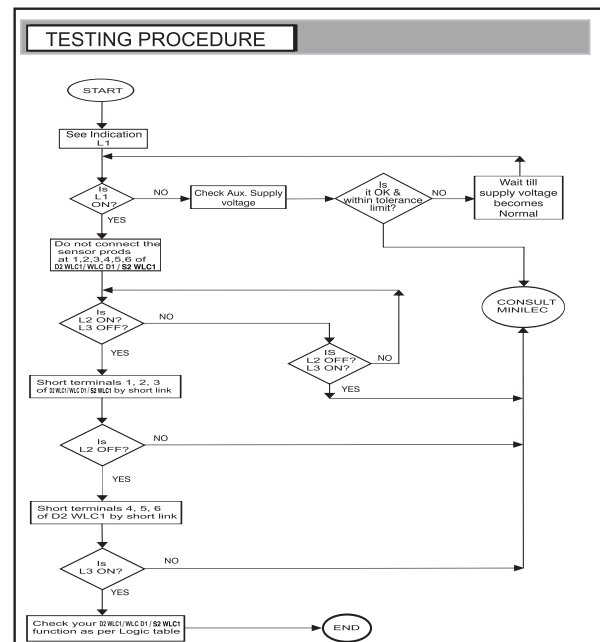
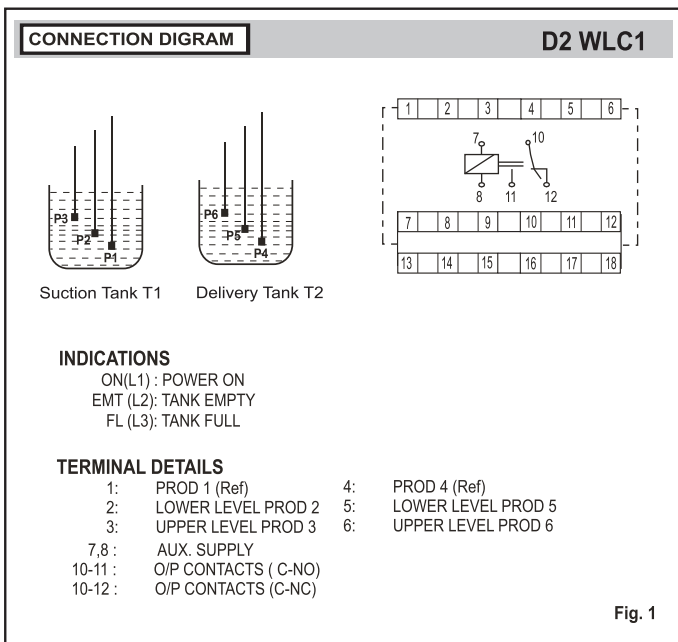
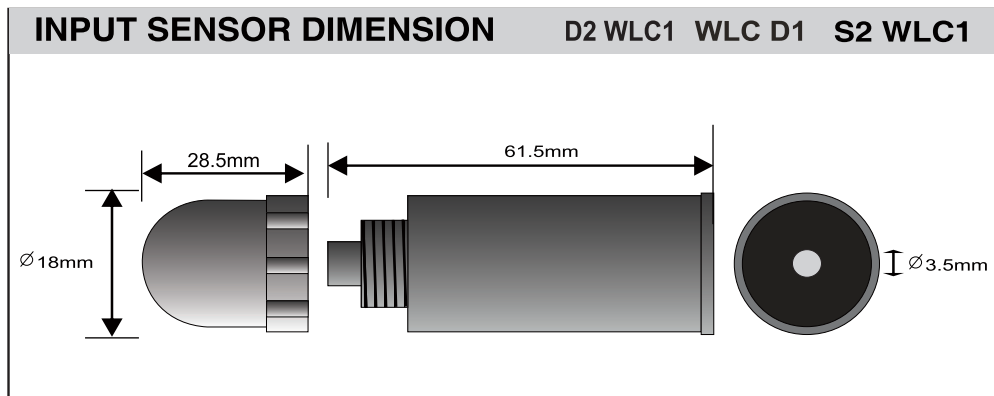
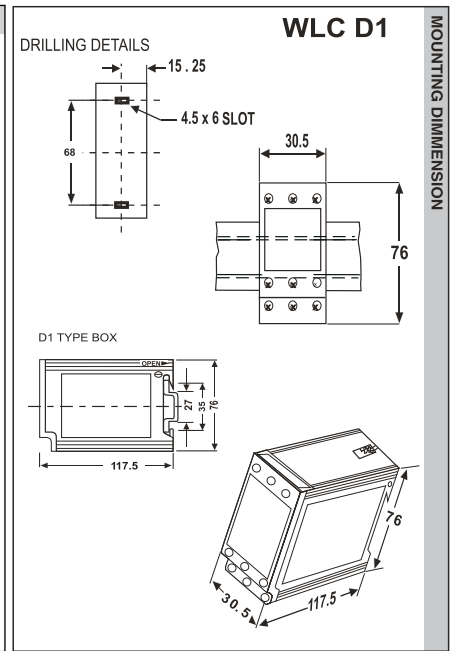
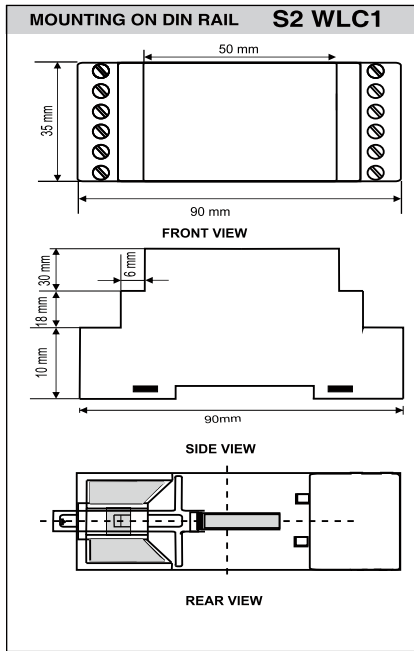
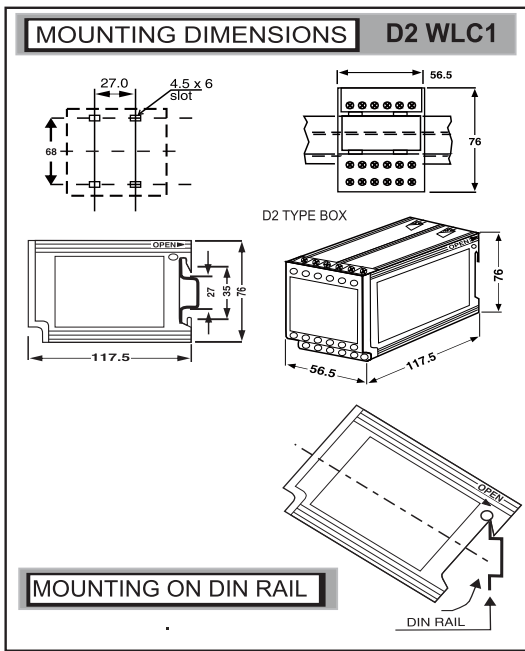
**NOTE :**

**IN : SENSOR PROD INSIDE THE WATER**

**OUT : SENSOR PROD OUT SIDE THE WATER**

#### COMPLIANCE TO STANDARDS

TEST	IEC STD.
1. EFT Test of Auxiliary Supply	61000-4-4
2. EFT Test of Data Bus, I/O Lines	61000-4-4
3. Surge Test of Auxiliary Supply	61000-4-5
4. Surge Test of Data Bus, I/O Lines	61000-4-4
5. Voltage Interruption, Variation & Dip Test	61000-4-11
6. 50/60Hz Magnetic Field Test for Enclosure	61000-4-8
7. Pulsed Magnetic Field Test for Enclosure	61000-4-9
8. ESD Test (Contact Discharge)	61000-4-2
ESD Teast (Air Discharge)	61000-4-2
9. H.V. Test (Dielectric Test)	60255-5
10. Insulation Resistance Test	60255-5
11. Dry Heat Test	60068-2-2
12. Damp Heat test (Steady State)	60068-2-30
13. Damp Heat test (cyclic test)	60068-2-78



Instructions for Screw Gun torque adjustment -

- Torque should be 1 Nm max.
- Max 2.5 sq. mm size wire can be used.

WEEE (Waste Electrical & Electronic Equipment) Regulations: After end of equipment life, recycle or disposal needs to be done as per guidelines or handover it to Ewaste processing authorized agencies. For more details contact us.

**WARRANTY - AGAINST ALL MANUFACTURING DEFECTS FOR 18 MONTHS FROM DATE OF SUPPLY OR 12 MONTHS FROM INSTALLATION WHICHEVER IS EARLIER**

[www.minilecgroup.com](http://www.minilecgroup.com)

Minilec (India) Pvt. Ltd.

Factory & Head Office: S. No. 1073/1-2-3, At Post: Pirangoot, Pune 412 111, India