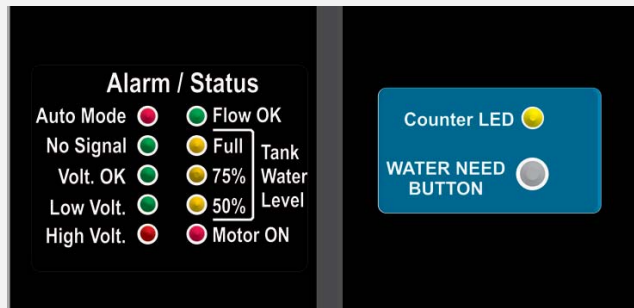


## OPERATING MANUAL

AUTOMATIC MODEL: *ACE*



*This model is designed for controlling the motor which pump water from assured source of water i.e. from large underground tank to O.H. Tank or by bore-well motor to Under Ground Tank/ O.H. Tank.*

This model is designed to automate the water filling to over head tank from large under ground tank by motor pump or filling Underground Tank by submersible boring pump.

One transmitter is installed with level & flow sensor (optional) at over head/ underground storage tank to be filled, which send the data of flow status & water level to controller.

The controller is installed near the existing switch of the motor. It receive the signals from transmitter and display the water level status of overhead/ underground tank and other indications.

Whenever the water level in O.H./ underground tank falls below 50% level ( the 50% LED will start blinking) the controller will start the motor and keep running the motor till the O.H./ underground tank gets filled 100%( The 50%,75% Level LED will glow steadily and Full level LED will start blinking/ glow steadily).

A “Water Need” button is provided to start the motor even if water in O.H. Tank is above 50% or 75%. After starting the motor the controller will, check for the flow of water in tank. If the water started falling in tank, the over head tank transmitter will send this signal to controller and the “Flow OK” LED will glow. If the controller gets flow signal within 3 minute, it will keep running the motor till the tank/ tanks get “Full”.

While filling the tank if flow of water in tank is interrupted for more then 3 minute, it will stop the motor and after 3 minute cooling period it will again start the motor for 3 minute and check for flow of water in Storage Tank. After starting the motor if the flow of water in the tank is interrupted, the controller tries three times of 3 minute operation with 3 minute cooling period between trial. If even after 3 trial, the water flow dose not start in tank, it will stop the motor and the “Flow OK” LED will start blinking indicating there is no water in main supply line. if flow of water in tank is interrupted for more then 2 min. it will stop the motor and after 2 min. gap it will again start the motor for 2 min. and check for flow of water in O.H. storage Tank . It will try for 3 times and even after 3 trial if water flow dose not start in tank, it will stop the motor and the “Flow OK” LED will start blinking indicating fault/ dry run condition of motor. After rectification of fault of motor the controller should be reset for normal operation.

After every reset the controller performs self testing for 2 minute. After 2 minute, it starts normal operation.

The Motor will not allowed to run or may be stopped in following conditions:

- 1) If the water Level in Overhead Tank is 50% or more
- 2) If the “No Signal” LED is glowing continuously.
- 3) If “ Hi/Low Volt” LED is blinking/ glowing.( If voltage protection is enabled)
- 4) If while running the motor flow of water tank is interrupted for more then 2 min.( If flow sensor installed. This is optional feature)
- 5) If Water level in O.H tank is not changed within 2 hours in spite of running motor.(If timeout is enabled)

## KNOW YOUR CONTROLLER



**Main Switch:** This is three stop switch. When pressed at top most position the controller will operate in Automatic Mode. When this switch is pressed at lower most position it will be in manual mode and the motor will be started. At center position of switch, the controller will be Off. To reset the controller the switch should be in off position for 5 sec. and afterward in “Auto-Mode” position.

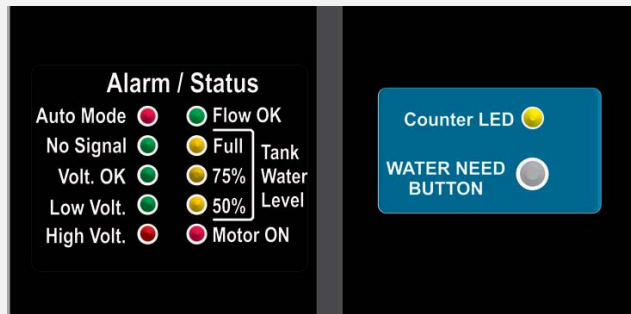
**MAINS Indicator:** It indicates that power supply is reaching up to controller unit.

**Fuse :** A fuse is provided for protection against heavy current due to fault in motor or short circuiting. In case fuse is blown away the motor and wires upto motor should be get checked by electrician/ manufacturing company of motor.

**Water Need Button:** If this button is pressed for 5 seconds, it will start the motor ( Even if the water level in O.H. tank is 50% or 75%) and after filling the tank it will switch of the motor

## Description of L.E.D. Indications

( Not valid for initial 2 min. while in self testing operation after reset)



**Auto Mode:** If it is glowing , it indicates that controller is working in automatic Mode i.e it will perform all operation automatically.

**No Signal:** This LED glow steadily if it dose not receive signal from Storage Tank transmitter. If it is receiving signal from transmitter it will remain off.

**Volt OK:** It indicates that supply voltage is within normal operating voltage 170~250 V.

**High Volt:** If it is glowing, it indicates that supply voltage is is above 250V.

**Low Volt:** If it is glowing it indicates that supply voltage is less then 170V.

**Flow OK:** If it is glowing it indicates that water is falling in Storage Tank. If it is blinking it indicates that even after three trials, water dose not start falling in storage tank and motor is stopped due to this. Blinking LED indicates faulty/ dry run condition of motor. After rectification of fault of motor the controller should be reset for normal operation.

### Tank Water Level:

**Full-** This LED indicates that the water level in Tank is 100%.

**75%-** This LED indicates that water level in Tank is between 75% and 100%.

**50%-** This LED indicates that water level in Tank is between 50% and 75%.

**Motor ON:** If this LED is glowing , it indicates that controller has started the motor. If this LED is blinking, it indicates that controller has stopped the motor because water level in O.H. Tank is not changing even after continuous running the motor for 2 hours.( If the time-out is enabled). It can be disable/ enabled.

## SETTINGS

### **Enabling/ Disabling Voltage Protection:**

Voltage protection can be disabled/ enabled by pressing “Water Search” button 3 times. If both the LED of High Volt & Low Volt is started blinking, it conforms that voltage protection is disabled. If this button is again pressed 3 times, protection is enabled. This protection is generally required to be disabled where there is continuous fluctuation of voltage beyond the operating voltage due to which controller stops the operation of motor. Customer can disable this protection at his own risks, as it may damage motor.

### **Enabling/ Disabling Time out:**

A two hours time out protection is provided in this model, i.e. if the water level in controller does not change even after continuous operation of motor for 2 hours, the controller will switch-off the motor and stop all further operation until system is reset. For large tanks this “Time-out” feature can be disabled/ enabled by pressing “Water Search” button 9 times ( One beep will indicate that it is disabled). If this button is pressed again 9 times, it will be enabled (Two beeps will indicate that it is enabled).

*( Due to constant ongoing improvements the specifications/ working may be changed without prior notice)*