Ultrasonic Level Transmitter Model- MS0410

Introduction:

This is microprocessor based Ultrasoniclevel transmitter. It has Multifunction Instruments It is capable of monitoring Virtually Any Short Or Medium Range of Non-Contact Ultrasonic Level Measurements of Liquids, Solids Or Slurries. In this Instrument User can take measurements of Roller Lift of mills, water level and select the range in the range parameter and set Reverse action in Action parameter. It has One Analog Output 4-20mA(Isolated) and two digital control output (we can also define these two digital control output as relay1and Relay2).

TANK LEVEL INDICATOR TRANSMITTER

Latest and modern technology based Tank Measurement through Ultrasonic type sensor and solid state digital indication systems specially design for measurement and display of Tank Level. Ultrasonic Sensors shall be Top Mounted on Tank and Digital indicators are designed for Panel mounting in industry environment. The digital indicator indicates the instantaneous value of Tank (0-50000mm) is to be measured through Ultrasonic type Sensors and Transmitters. Please read the instructions carefully before installing the system.

INSTALATTION OF ROLLER LIFT SENSOR TRANSMITTER

 The Sensor fit a L type support   arrangement with ultrasonic transmitter and then the system will be placed 240 mm above the Tank full Level.(the sensor tip of transmitter should be 240 mm above the Tank Level) because 24cm is the dead zone of transmitter. Show in fig1.

Note:
ULTRASONIC TRANSMITTER CONFIGURATION
The range parameter of ultrasonic transmitter should be set your required range And the action parameter should be set as 1 value.
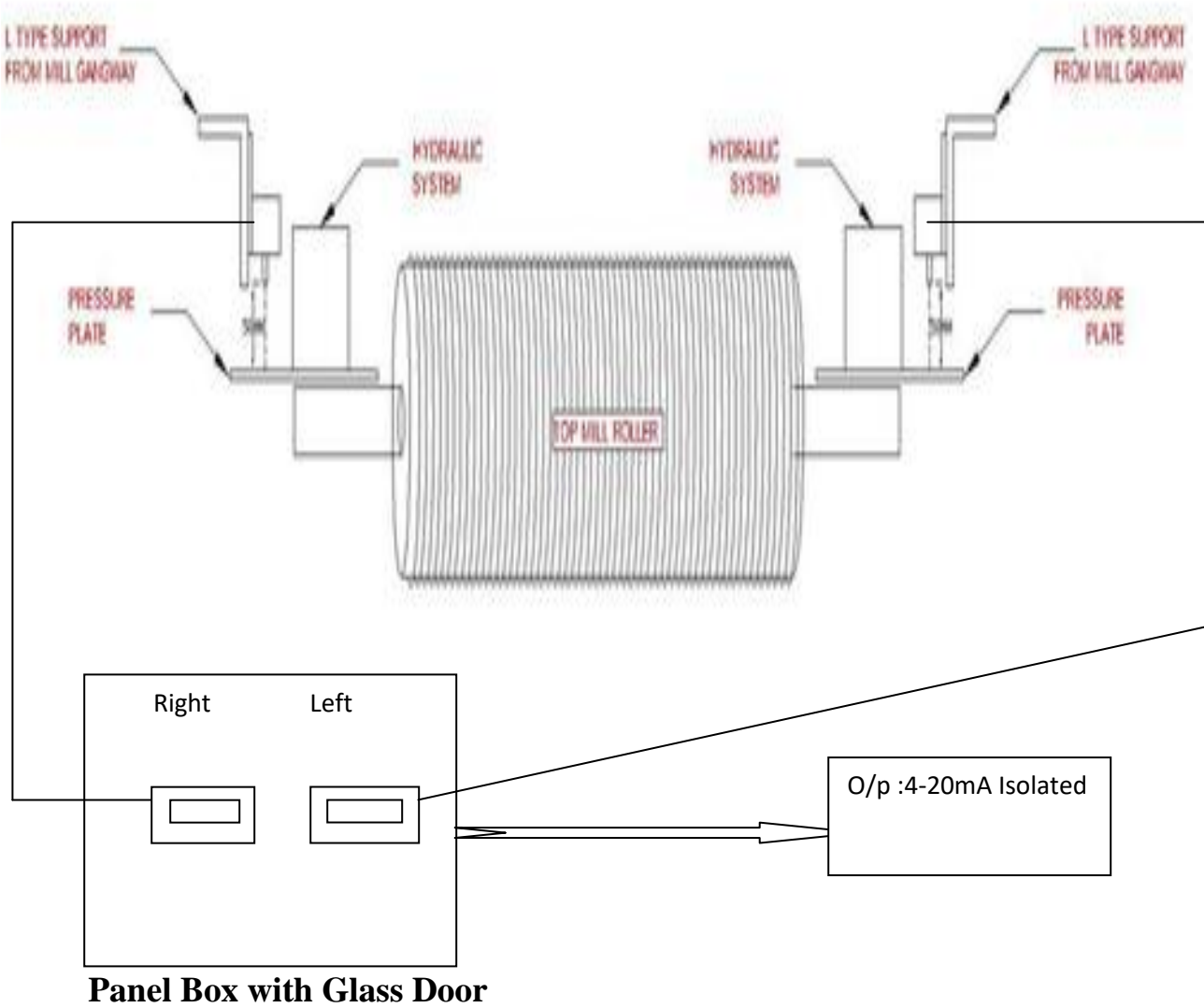

L TYPE SUPPORT FROM MILL GANGWAY

HYDRAULIC SYSTEM

HYDRAULIC SYSTEM

L TYPE SUPPORT FROM MILL GANGWAY

PRESSURE PLATE

PRESSURE PLATE

TOP MILL ROLLER

Right   Left

O/p :4-20mA Isolated

Panel Box with Glass Door

Fig.1

NOTE – To measure the level t of the tank, the sensor has to be placed 24cm above the level as it is defined as the dead zone of the sensor .

SPESCIFICATION

Measuring Range   : 0-5 Meters(0-5000MM)

Main (auxiliary supply)   **: 24V DC**
O/P (Analog)   **: 4-20mA(Isolated)**
Digital o/p (RL1& RL2)   **: +24v common**
Display OLED   **: 16 x7**
Display value   **: In CM(Centimeter) And MM(Millimeter)**
Revers Action   **: User can be take 4-20mA in reveres action**
R1:OF/ON   **: Display status of Relay 1(On/OFF)**
R2:OF/ON   **: Display status of Relay 2(On/OFF)**

Tx   CONNECTION DETAILS: 9Pins 'D' Type Connector provide at the back side

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Discretion	Pins Numbers	Pins Details
Power	**1**	**+24V DC**
	2	**-24V DC**
O/P 4-20mA	**3**	**+mA**
	4	**-mA**
Digital O/P	**7**	**+V Comman**
	6	**RL1 O/P**
	8	**RL2 O/p**

Indicator Panel Box Connection Details

Discretion	CON. NOS	CONNECTOR DETAILS
Power Supply 220 V AC,50HZ	1	LINE
	2	NEUTRAL
	3	EARTH
LEFT SIDE SENSOR CONNECTION	6	+24VDC(TO SENSOR)
	7	-24VDC(TO SENSOR)
	8	+mA(O/P To Panel)
	9	-mA (O/P To Panel)
RIGHT SIDE SENSOR CONNECTION	10	+24VDC(TO SENSOR)
	11	-24VDC(TO SENSOR)
	12	+mA(O/P To Panel)
	13	-mA (O/P To Panel)
ANALOG O/P FROM PANEL TO PLC/DCS (LEFT SIDE)	14 15	+mA o/p to PLC/DCS -mA o/p to PLC/DCS
ANALOG O/P FROM PANEL TO PLC/DCS (RIGHT SIDE)	16 17	+mA o/p to PLC/DCS -mA o/p to PLC/DCS

PARAMETER DETAILS:

Action parameter :- if we mention the value of action parameter as 1 then it will work in reverse order and if value is mentioned as 0 it will work in forward order.

- **Range Parameter:** 0 – 5000mm (set higher range of 20mA)
- **RL 1& RL2**   :Set value of Relay(Digital O/p). If actual value Lower than Set value Relay will be OFF and if actual Values cross the Set value. Relay goes to change its control(ON).
- **CORRE.FACTOR : This parameter is selectable for multiplier and divider factor for display**

   Actual value x Corre. Factor value =result (corrected value)

   Example1: 1800(actual) x .834=1501 value (result)

   Example 2.   if actual value 3000mm but you want display 1535 mm then

   actual value/ required value= result(it is multiplier value or it is Corre.Factor parameter value)

   Noted : if Actual value 1500 but if you Want display   6000 mm

   Then   Corre.Factor parameter= 6000/1500 Or If Actual value are 6000 but you Want display 1500 value Then Corre.Factor parameter = 1500/6000 .

   Noted: If you are not using correction factor then must be set the zero value in correction factor parameter , Press Hold PROG key up to 1 second & after press enter key now release both keys.

Now modified value has been stored.

Zero Parameter: In this parameter user can adjust Zero , Suppose after installation indicator showing 5mm at the zero position of machine then select zero parameter and set 5 mm by use up/dn key press & hold PRG key & after 1 second press E Key & now release both keys.

■ ## Configuration: Press PRG key for 5 seconds ,display Action Parameter if want change in existing value then use up/Dn key and again press PRG key now modified value store and display Range parameter in this parameter user can set value for 20mA(Higher Range) again press PRG key now modified value store same process apply for all parameters. If user not touch any for some time then system automatically exit from configuration mode.

■ ## Noted Correc.Factor Parameter :

In this parameter user can selectable for multiplier and divider correction factor for display actual value by use Up/Dn key.

For storing modified value , Press Hold PROG key up to 1 second & Then press enter now release both keys now modified value has been stored.

For not store muddied value then Press Enter key only. Now you have been exit From configuration mode.

ACTION PARAMETER - if we mention the value of action parameter as 1 then it will work in reverse order and if value is mentioned as 0 it will work in forward order.

RANGE PARAMETER – in range parameter we have to define that value which gives the output of 420mA.

WORKING OF TRANSMITTER- (REVERSEACTION) if we mention the value of action parameter as 1 , suppose the object is placed 1 m (value of range parameter) from the transmitter then this value will be considered zero and as the object will move closer to it ,it will begin to sense the distance and will give the output as soon as when the object will be at 24cm it will display maximum range i.e 4-20 mA.

FORWARD ACTION – if we mention the value of action parameter as 0 and the object is placed closer to the transmitter ie24cm from it or less than that ,it will consider it as zero and show dead zone and at this time the range will be 3.8 mA .when the object will move farther from 24cm it will sense the value and display the output.

Tank Level Measurement

24 cm dead zone
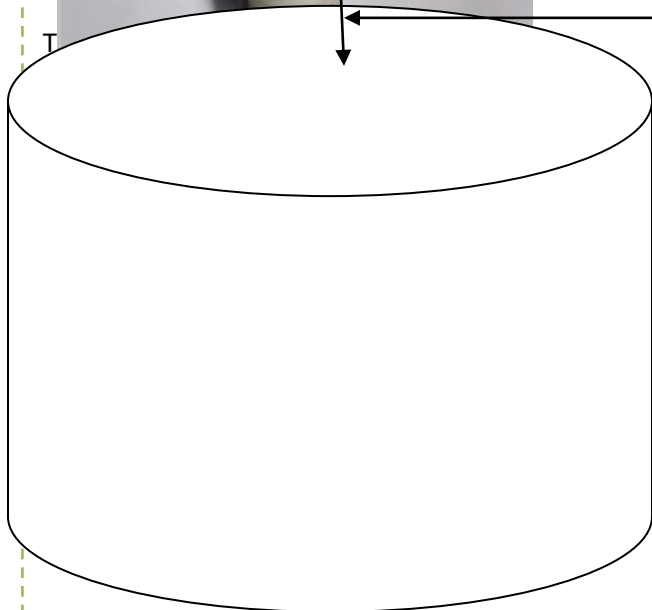
NOTE - TO MEASURE THE LEVEL OF THE TANK, THE SENSOR HAS TO BE PLACED 24C M ABOVE THE LEVEL OFTANK, AS IT IS DEFINED AS THE DEAD ZONE OF SENSOR.