Distance measurement control board

Distance measurement control was designed to support 3 types of distance sensor, it consince two parts 1. Distance sensor 2. 2 inputs of signal and output control board. It is easy to set range of measurement and status logic output. Output can connect and communication with PLC, MCU and peripheral IO card.

■Features

- One analog Input can measurement 3 types (DTS01, DTS02 and DTS03)
- 12 to 24 V DC one input unit
- 12 to 24 V DC Two NPN outputs control unit
- Power supply 24V
- Setup distance measurement function to control output
- Auto run distance measurement function to control output
- LCD 16 x 2 Character
- 4 Switches, LED Statuses of Power and input control
- Distance measurement display in cm unit
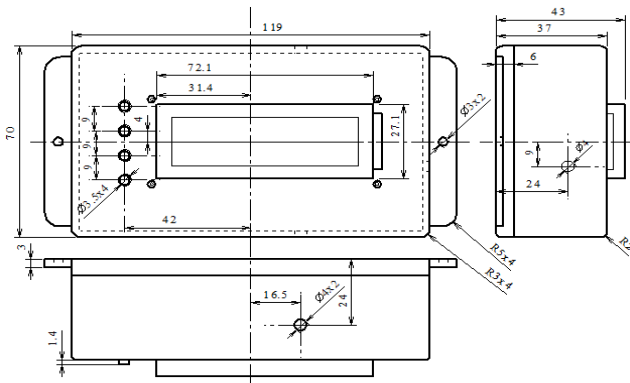- Measurement and analysis time 20 ms to control output
- Low cost

■Applications
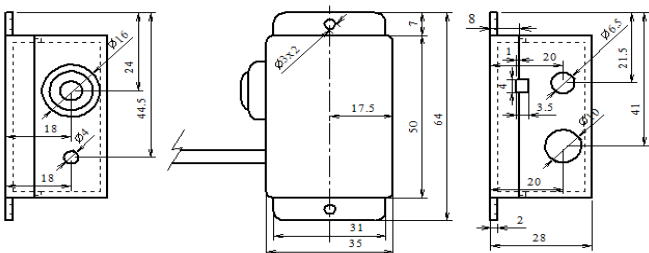
- PLC
- MCU
- Peripheral IO card

■Absolute Maximum Ratings

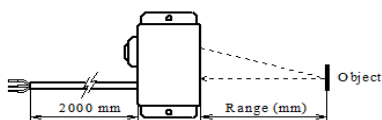| Parameter	Symbol	Rating	Unit
Supply voltage	Pin	12 to 24	V
Output NPN voltage	O1, O2	12 to 24	V
Operating temperature	T_{opr}	-10 to +60	°C
Storage temperature	T_{stg}	-40 t o +70	°C

■Outline Dimension Control Box (Unit : mm)

■ Outline Dimension Distance sensor (Unit : mm)

■Distance sensor

■Select type of sensor

Type of sensor	range (mm)	Wiring		
		Red	Black	Blue
DTS01	40 to 300	VCC	GND	Signel
DTS02	100 to 800	VCC	GND	Signel
DTS03	200 to 1500	VCC	GND	Signel

■Connecting and position

Fig.2 Top view box
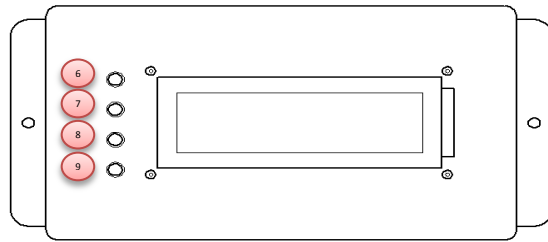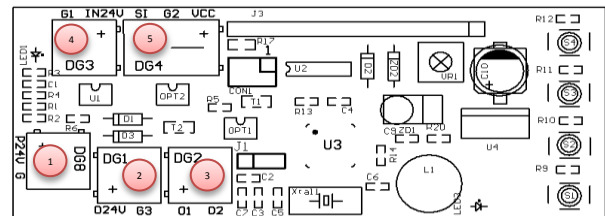

Fig.3 Inside box (connector and wiring positions)


1) Input power supply (P24V is +24V DC and G is GND)

2) Input power of output control of output 1 (O1) and output 2 (O2)

3) Output logic control output 1 (O1) and output 2 (O2)

4) Input logic (IN24V is input logic 12-24 Vdc and G1 is GND)

5) Input distance sensor (VCC is 5 Vdc, G2 is GND and SI is signal input)

6) This is switch bottom (sw mode)

7) This is switch bottom (sw select)

8) This is switch bottom (sw up)

9) This is switch bottom (sw down)

■Auto run mode

fig.4 Autor rund mode

Turn on power it go to auto run mode (fig.4)

- O1 is output 1
- 12:92 is current distance mesurement
- "Off" is out of scope after compare, It will "On" if it run normal mode and in scope, if it run on invert mode is invert status
- 3.00 is start check range of scope
- 9.50 is end check range of scope
- L is status mode (L is normal mode, D is invest mode, and N is not use output)
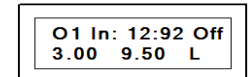
■Setup mode

fig.5 Setup mode

Press sw mode, show setup mode (fig.5)
it has two output setup, now cursure points at Set Output 1 (press sw down move cursure to Set Output 2 and press sw up move currsure to Set Output 1)

fig.6 sub setup mode

- Press sw select goto sub menu (fig.6)
if cursure points at the Set Output 1 when press sw select, it shows sub setup mode of output 1
- S:004.00 is start range of scope, now is 4.0 cm
- E:006.00 is end range of scope, now is 6.0 cm
- ST:L is settng status mode, now selected "L" is normal mode
- S is save data setting
- C is cancle data setting and shows lass data.
- Move cursor by press sw up to under position that wishes to adjust
- Adjust values by press sw down
- Adjust status (ST), move cursor to L and press sw up to select L, D or N
- Move cursor to S and press sw selects for save and same concept at C for cancel
- Exit sub menu by press sw mode
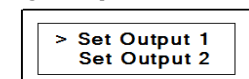Press sw mode again go to auto run menu, it will show output 1