Electromagnetic compatibility (EMC) : En 50081-2, En 50082-2 Dimension : shown in Figure 1. Housing material : ABS plastic. UL 94V0 Weight : 19g

# Programmable Isolated 3 wire Potentiometer Transmitter

Model IST-P

## Installation and Operation Guide



*i*SignalTrans® IST-P is a 2-wire loop-powered isolated potentiometer transmitter. It converts 3 wire potentiometer into a scalable linear 4~20mA output current. Microprocessor based designed make it flexible to accept up to 15 user defined linearization points. various input signals including mV, V, mA, PT100 and 9 different thermocouples. The measuring unit and range are also configurable with a user-friendly software *i*SignalWin® via PC.

## Features

- Up to 15 User defined linearization points available The user linearization feature allows the volume of a tank's contents to be caculated from the height of the material in the container. Up to 15 linearization points can be defined by user in the measurement range.
- Configurable without power connected
- 3750 Vrms isolation between input and output
- 2-wire loop-power technology 4 to 20mA analogue output
- Fault signal on sensor break presettable
- Accept 200~60K ohms 3 wire potentiometer input

## Specification

Input signal : 3 wire 200~60K ohms potentiometer. Measuring accuracy : ±0.1% A/D resolution : 16 bits Input sampling rate : <200mS. Output signal : Analogue 4 to 20mA, 20 to 4mA. Output resolution : 0.6uA (15 bits) Output response time : <200mS. Load : Max. (VPower supply - 10 V) / 0.020 Power supply : 10 to 36 V, internal protection against polarity inversion. Common mode rejection ratio : >80dB. Galvanic isolation : 3.75 KVrms. between input and output Input current required ≤3.8mA Current limit ≤23mA Operating temperature : 0to 55°C Humidity : 0 to 90% RH





## Installation







Figure 2. Terminal connections

#### Wiring Specification :

Srew tightening torque : 3.5 lb-in Wire range : 16~26 AWG Wire strip length : 5~6mm

#### Wiring Precaution :

Always keep signal wires away from power or contactor wires.
The power supply of *i*SignalTrans® should not be shared with contactors, electrical motor and other inductive devices.

#### Operation

The output current are calibrated within the specified accuracy at factory. However, a recalibration is implemented to provide fine adjustments to the input and output signal in the field. This is accomplished by iSignalWin® software.

### Configuration

The *i*SignalTrans® transmitter is user configurable with the *i*SignalWin® PC software and URC-1020 interface cable or a EzPro hand held programmer. ■ *i*SignalWin® is user-friendly software. The lastest release version can be download free from <u>www.vertex-tw.com</u>

■ URC-1020 Interface cable consist of interface converter and USB plug. It can be purchased separately from *i*SignalTrans® supplier.

During configuration the transmitter can work alone with or without connecting to a power source. The configuration connection is shown in Figure 3.





Figure 4. Configuration screen



## Figure 3. Configuration connection

Figure 4 show the configuration screen of iSignalWin®. The help menu provides further detail information about the IST-P transmitter and the software. The Configurable parameters are :

1. Input signal : 200~60K ohms

2. Measuring range : 0.0~100.0 %

3. **Output direction :** Defines the scalable analogue output signal to be 4 to 20mA or 20 to 4mA.

4. **Fault signal on sensor break :** Defines the output signal to be upscale (>20mA) or downscale (<4mA) on sensor break.

Offset Correction : Allows to eliminate the offset error of measuring value.
4~20mA Output Signal Adjustment : Zero and Span adjustment of output signal. A power source shoule be connected as Figure 5.

7. **User defined linearization :** Depend on the model No.. up to 15 user defined linearization points available

Measuring value : Read the measuring value from transmitter continually.
Device information : Indicate the device model, firmware version, series number and communication status.

Figure 5. Output Signal Adjustment connection

#### Accessary

URC-1020 Interface cable



EzPro hand held programmer

