

## Universal Transmitter (Model UT-94)

UT-94



Masibus Model UT-94 is a 4 wire versatile universal transmitter that isolates & converts wide range of conventional / unconventional process inputs into standard process signals acceptable to commercially off the shelf (COTS) automation products. Signal inverting option is also available. The input circuit can accommodate a variety of input signal levels including bi-directional, reverse, true and live-zero.

A built in digital 4 digit display facilitates the user to monitor process value and helps in fast configuration and calibration.

Model UT-94 enables analog signals to transmit without galvanic connections between the field to the receiving instrument. This in turn allows ground or reference levels to float up to thousands of volts at its input terminals, and prevents circulating current between differing ground potentials that can contaminate input signal.

Isolation provided by Model UT-94 saves the control system from damage due to accidental application of high voltage or induced voltages on the input signal and in turn avoids wrong output signals to process. Isolation provides a good protection for sensitive system parts against voltage spikes etc.

Model UT-94 offers a wide range of input/ output signal types include mA, mV, V, RTD, TC. Built-in transmitter power supply (TPS) can drive field transmitters in case of 4-20mA DC input. Model UT-94 offers excellent accuracy and stability for reliable operation in hostile environments and full isolation safely separates each input channel, each output channel and the power supply.

Model UT-94 is equipped with advanced functions like digital filtering, password setting, input and output protection and square root function for optimum process functionality.

## Features

- *Smart universal transmitter with local display*
- *Wide choice of input types*
- *Three port isolation*
- *Software selectable mA and V output*
- *Fully configurable through front keys*
- *Accepts live-zero, true-zero, bi-directional or reverse/inverted input signals*
- *DIN rail mounted*
- *Built in transmitter powering*
- *Output range limit facility*
- *Digital filter & sq.root extractor*

**masibus**  
Advanced Automation - Sure Solutions

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## TECHNICAL SPECIFICATIONS UT-94

Input	Refer Table 1
Display	4 digit, 0.3", seven segment red LED
Display Scaling	-1999 to 9999
Display Range	
RTD (Pt 100)	-199.9 TO 850.0 °C
Linear	-1999 to 9999 (selectable)
Thermocouple	As per sensor range
Keys	3 Keys (ENT, SEL & ESC)
No. of Input	One
Input Accuracy	0.1% of Full Scale
Response Time	75 mS
Linearization Method	Through Software, using 9th order Co-efficients.
No. of Outputs	Upto Two (O/P-2 is Optional)
Output Types	4 -20mA, 0 -20mA , 1-5V, 0-5V, 0-10VDC (Either Voltage or Current from a channel at a time, field selectable)
Output Load	750 Ohms max (For Current O/Ps) 4000 Ohms min (For Voltage O/Ps)
Output Accuracy	0.25% of Full Scale
Transmitter Power Supply	24 VDC@30mA with short circuit protection
Calibration	Through front panel keys
Cold Junction Compensation	By software
Over Range Output	5% above FS (Not applicable for Voltage Inputs)
Protection	Short circuit & Open circuit
CMRR	> 120 dB
NMRR	> 50 dB
Thermocouple Burn Out	Programmable
Operating Supply	85-265 VAC or 18-30 VDC (optional)
Power Consumption	< 10 W
Isolation	Three port isolation i.e. between input/ output/ power supply
Isolation Level	1500 VDC between input, outputs and power supply
Mounting	DIN Rail
Dimension	55 (W) x 75 (H) x 110 (D) mm
Weight	Less than
Operating Temperature	0 to 55 °C
Operating RH	0 to 95 % RH Non condensing
Advance Options	
Digital filter	0-300 Second
Password setting	Available
Square root	Available for linear inputs only
Output direction	Direct / Reverse (programmable)
Output signal limit	Available (low and high)
Engineering unit	°C, °F, °K (for T/C and RTD inputs)
Decimal point	Programmable for linear inputs

TABLE 1

Input	Range	Resolution
E TC	-200 to 1000 °C	# 0.1 °C
J TC	-200 to 1200 °C	# 0.1 °C
K TC	-200 to 1370 °C	# 0.1 °C
T TC	-200 to 400 °C	0.1 °C
B TC	450 to 1820 °C	1 °C
R TC	0 to 1750 °C	1 °C
S TC	0 to 1750 °C	1 °C
N TC	-200 to 1300 °C	# 0.1 °C
RTD Pt100	-200 TO 850 °C	0.1 °C
-10 to 20 mV	-1999 to 9999 Counts	1 Count
0 to 100 mV	-1999 to 9999 Counts	1 Count
0 to 2 V	-1999 to 9999 Counts	1 Count
0.4 to 2 V	-1999 to 9999 Counts	1 Count
* 0 to 20 mA	-1999 to 9999 Counts	1 Count
* 4 to 20 mA	-1999 to 9999 Counts	1 Count
0 to 5 V	-1999 to 9999 Counts	1 Count
1 to 5 V	-1999 to 9999 Counts	1 Count
0 to 10 V	-1999 to 9999 Counts	1 Count

# Resolution 1 °C after 999.9 °C  
\* Connect 100 ohms 0.1% resistance at input.

## ORDERING CODE

Model UT-94		APS		No of AO & type			
Input Type				X		X	
X		XX		1	One	1	4-20mA
1	E	U1	85-265VAC	2	Two	2	0-20mA
2	J	U2	18-30VDC	3		3	1-5VDC
3	K			4		4	0-5VDC
4	T			5		5	0-10VDC
5	B						
6	R						
7	S						
8	N						
9	Pt-100, 3W						
C	4-20mA						
D	0-20mA						
E	1-5VDC						
F	0-5VDC						
G	0-10VDC						
W	0.4 to 2 V						
X	-10-20 mV						
Y	0-100 mV						
Z	0-2 V						

X - Specify from table