

**1 YEAR**  
WARRANTY

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## **TXDIN70 SERIES** **Dual Transmitter**



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## MODEL COVERED

### TXDIN70

**Description:** Dual Transmitter  
**Supply Power:** 100~240VAC,50/60Hz

### TXDIN70-24V

**Description:** Dual Transmitter  
**Supply Power:** 24VDC

### TXDIN70-DISPLAY

**Description:** Transmitter Display  
**Supply Power:** From TXDIN70 Transmitter

## TECHNICAL SPECIFICATION

<b>Input type:</b> <i>Thermocouple</i>	K(-50 °C ~1,300 °C), S(-50 °C ~1,700 °C), R(-50 °C ~1,600 °C), E(0 °C ~1,000 °C), J(0 °C ~1,200 °C), N(-50 °C ~1,300 °C), T(-200 °C ~350 °C), B(0 °C ~1,800 °C), WRe5-WRe26(0 °C ~2,300 °C), WRe3-WRe25(0 °C ~2,300 °C)
<i>RTD</i>	Cu50(-50 °C ~+150 °C), Pt100(-200 °C ~+900 °C)
<i>Linear Voltage</i>	0~1V, 0.2~1V, 0~20mV, 0~60mV, 0~100mV
<b>Retransmission accuracy:</b>	0.3%FS ± 1 digit (including input and output error)
<b>Output specification:</b>	Defined in the range of 0~22mA with maximum output voltage ≥ 11V
<b>Temperature drift:</b>	≤0.015%FS / °C (including the temperature drift of input and output)
<b>Electromagnetic compatibility (EMC):</b>	±4KV/5KHz according to IEC61000-4-4 (EFT); 4KV according to IEC61000-4-5
<b>Isolation withstanding voltage:</b>	Voltage between supply power and signal input output terminals ≥300VDC; Voltage between inputs or 2 outputs ≥200VDC
<b>Power supply:</b>	100~240VAC, -15%, +10% / 50~60Hz; or 24VDC
<b>Power consumption:</b>	≤ 3W
<b>Operating Ambient :</b>	Temperature -10 °C~+60 °C; Humidity ≤90%RH
<i>Remark: Type-B thermocouple operates in the range of 60 °C ~400 °C but the measurement accuracy does not meet the stated accuracy. Accuracy is guaranteed in the range of 400 °C~1,800 °C.</i>	

## CONNECTION DIAGRAM

<b>Terminal 1,2:</b>	Power supply of 100~240VAC (TXDIN70) or 24VDC (TXDIN70-24V)
<b>Terminal 5,6 OP1:</b>	Positive and negative pole of channel 1 current retransmission output.
<b>Terminal 7,8 OP2:</b>	Positive and negative pole of channel 2 current retransmission output.
<b>Terminal 14,16 IN1:</b>	Channel 1 input.
<b>Terminal 10,12 IN2:</b>	Channel 2 input.

**OP1** and **OP2** lights on when there is outputs in channel 1 and 2. The luminosity change with the magnitude of output.

**MODE** light blinks when transmitter is communicating with upper device.

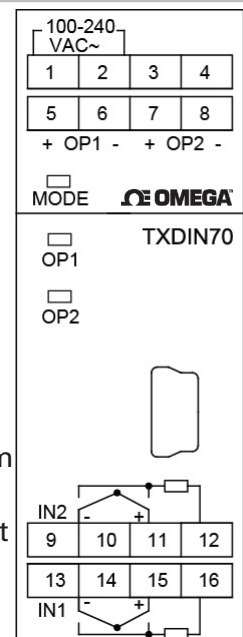
Blinking at 1.6 sec cycle: No active communication. Working normal without alarm

Blinking at 0.6 sec cycle: No active communication with alarm

Blinking at 0.3 sec cycle: No active communication with severe fault such as input out of range.

Light off: No power or out of order.

Light kept on over 8 sec: Transmitter is powered on but it is out of order



## DISPLAY/OPERATION

Parameters are set by an hot-plugged display **TXDIN70-Display**. Apart from nitial set-up, **TXDIN70-Display** can be stay connected serving as an external display.

① **Upper Display:** Displays PV of channel 1 or parameter code, When the display keeps flashing or the reading is abnormal, please check the input specification whether it is correctly set.

② **Lower Display :** Displays PV of channel 2 or parameter value. When the display keeps flashing or the reading is abnormal, please check the input specification whether it is correctly set.

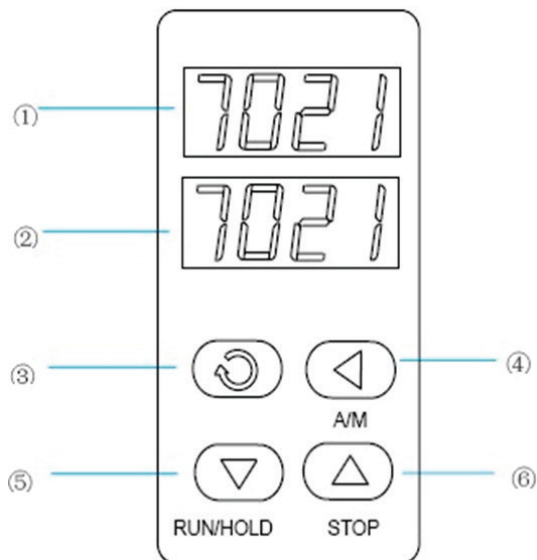
③ **Set Key:** Accessing parameter table and to confirm parameter change.

④ **Data Point Shift** (to the left)

⑤ **Data Decrease**

⑥ **Data Increase**

*Remark: The bundled IEEE-1394 cable is designed for communication between TXDIN70-Display and TXDIN70. This cable is not for other usages.*



### Entering Parameter Table

When the parameter lock "Loc" is not locked, press and hold (3) for about 2 seconds to bring up the Full Parameter Table. Press (3) (without holding) to bring up the parameters one by one. Press (4) (5) to modify a parameter value. Press (3) to confirm and proceed to next one. Press (4) and hold will return to the preceding parameter. Press (4) and then (3) by holding two keys will escape from the parameter table.

When the parameter lock "Loc" is locked, press (3) to bring up *Field Parameter Table* which show field parameters INP1, INP2, SCL1, SCL2, SCH1, SCH2. These field parameter value are not allowed to be changed due to the lock.

The transmitter will automatically escape from the parameter table if there is no keys operation in 25 seconds. The change of the latest parameter will not be saved.

## TROUBLESHOOTING

When there is a fault, the upper display blinks out an error message.

Error Message	Description and Suggestion
orAL	Incorrect input specification paramter. Pleaes check the INP1 and/or INP2 parameter.
	Thermocouple, RTD or analog input wiring is disconnected. Probe of thermocouple or RTD is broken. Please check the wiring.
	Input wires are short-circuited. Please check the wiring.
EErr	IC Software error. Factory repair is required.
8888	IC Software error. Factory repair is required.

## PARAMETER TABLE

Code	Parameter	Description	Range			
INP1/ INP2	Input Specification	Define the input specification of channel 1~ 2.	0~32			
		<b>InP</b>		<b>Input spec.</b>	<b>InP</b>	<b>Input spec.</b>
		0		K	11~19	Spare
		1		S	20	Cu50
		2		R	21	Pt100
		3		T	22~24	Spare
		4		E	25	0~75mV voltage input
		5		J	26~27	Spare
		6		B	28	0~20mV voltage input
		7		N	29	0~100mV voltage input
		8		WRe3-WRe25	30	0~60mV voltage input
9	WRe5-WRe26	31	0~1 V			
10	Extended input specification	32	0.2~1V			
SCL1/ SCL2	Scale Low Limit	SCL and SCH define the corresponding scale range of linear output. For example, for channel 1, in order to retransmit 0~600 °C to output channel 1, SCL1 should be set to 0, and SCH1 should be set to 600. For channel 2, to transmit 0~1000°C, then SCL2=0, SCH2=1000.	-999~ +3000 units			
SCH1/ SCH2	Scale High Limit					
Scb1/ Scb2	Input Offset	Scb is used to shift input to compensate the error caused by transducer, input signal, or auto cold junction compensation of thermocouple. <i>PV_after_compensation = PV_before_compensation + Scb</i>	-199~ +999.0 units/ 0.1 °C			
FIL1/FIL2	Digital Filter	The value of FIL will determine the ability of filtering noise. FIL=0, no filtering; FIL=1, filtering with mean; FIL=2~40, filtering with mean and integral. When a large value is set, the measurement input is stabilized but the response speed is slow. Generally, it can be set to 1 to 3. If great interference exists, then you can increase parameter FIL gradually to make momentary fluctuation of measured value less than 2 to 5. When the instrument is being metrological verified, FIL can be set to 0 or 1 to shorten the response time.	0~40			
OPn	Retransmission Channel Assignment	OPn=1, For 1 input 1 output or 2 inputs 2 outputs retransmission application, OPn=2, For 1 input 2 outputs retransmission (Outputs from input channel 2).	0~2			

## PARAMETER TABLE (cont.)

Code	Parameter	Description	Range
OPL	Low Limit of Current Retransmission of Channel 1	Define the low limit and high limit of current retransmission of channel 1. The engineering unit is 0.1mA. For example, to retransmit 0~600°C in input channel 1 to 4~20mA, then the parameter should be set as below: SCL1=0, SCH1=600, OPn=1, OPL=40, OPH=200.	0~110
OPH	High Limit of Current Retransmission of Channel 1		0~220
OPL2	Low Limit of Current Retransmission of Channel 2	Define the low limit and high limit of current retransmission of channel 2. The engineering unit is 0.1mA. For example, to retransmit 0~1,000°C in input channel 2 to 4~20mA, then the parameter should be set as below: SCL1=0, SCH1=1000, OPn=1, OPL=40, OPH=200.	0~100
OPH2	High Limit of Current Retransmission of Channel 2		0~220
IVF1	OP1 Current Correction (Please record the value in the first use)	For adjusting the current of OP1 output. The greater the value, the greater is the current output. Note: This parameter is calibrated in factory. It is not recommended to alter by user.	0~3000/ Default (     )
IVF2	OP2 Current Correction (Please record the value in the first use)	For adjusting the current of OP2 output. The greater the value, the greater is the current output. Note: This parameter is calibrated in factory. It is not recommended to alter by user.	0~3000/ Default (     )
Loc	Parameter Lock	Loc=808: Allow to display and modify all parameters. Loc=any number: All parameters cannot be modified with only INP1, INP2, SCL1, SCL2, SCH1 and SCH2 showing	0~9999

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If the unit malfunctions, it must be returned to the factory for evaluation. OMEGA's Customer Service Department will issue an Authorized Return (AR) number immediately upon phone or written request. Upon examination by OMEGA, if the unit is found to be defective, it will be repaired or replaced at no charge. OMEGA's WARRANTY does not apply to defects resulting from any action of the purchaser, including but not limited to mishandling, improper interfacing, operation outside of design limits, improper repair, or unauthorized modification. This WARRANTY is VOID if the unit shows evidence of having been tampered with or shows evidence of having been damaged as a result of excessive corrosion; or current, heat, moisture or vibration; improper specification; misapplication; misuse or other operating conditions outside of OMEGA's control. Components in which wear is not warranted, include but are not limited to contact points, fuses, and triacs.

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The purchaser is responsible for shipping charges, freight, insurance and proper packaging to prevent breakage in transit.

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1. Purchase Order number under which the product was PURCHASED,
2. Model and serial number of the product under warranty, and
3. Repair instructions and/or specific problems relative to the product.

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1. Purchase Order number to cover the COST of the repair,
2. Model and serial number of the product, and
3. Repair instructions and/or specific problems relative to the product.

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