DIN 1x3 Analog Signal Isolation Transmitter

DIN1x3 Series Sensor Signal Isolation Amplifier/Converter

Features:

- Accuracy grade：0.1, 0.2, 0.5.
- The modules already been calibrated before ex-factory, user can use it directly.
- Non-linearity <0.2%，no zero and gain adjustment.
- Isolation among signal input1/ input 2/ output1/output 2/Auxiliary power
- Auxiliary power supply：5VDC，12VDC，24VDC single power supply
- Three-channel output can be uniform or different DC current or voltage signal.
- The isolation, amplification and conversion between 0-75mV//0-5V/0-±100mV/0-±10V,etc voltage signal and 0-10mA/0-±20mA/4-20mA,etc current signal.
- Industrial operating temperature: - 45℃ ~ + 85℃

Applications:

- 1x3 sensor signal display and control.
- Industrial field signal isolation, conversion, amplification and long-term transmission.
- Interference rejection of the ground of1x3 4-20mA signal.
- Data acquisition, interference rejection of the ground of analog signal.
- Electric power control, medical equipment isolation safety bar.
- Instrument and sensor signal receiving, transmission and detection.
- 4-20mA/0-5V, etc signal isolation, distribution and conversion.
- Industrial field analog and digitals signal monitoring, control and transmission.

Generalization

Sunyuan DIN1x3 Analog Signal Isolation Amplifier/Transmitter is a kind of hybrid integrated modules which convert single-channel analog voltage or current signals from the sensor into corresponding standard analog signals with the same accuracy and linearity. Inside the module, it integrates three sets of ISO EM series high isolation analog signal isolation amplifier IC and adopts magneto-electric coupling with low cost, which mainly used in the field with no special requirements for EMC (magneto-electric interference). By using input and output side creep-age distance and inner isolation design, the module realizes the isolation among signal input1, input 2, output 1, output2 and auxiliary power.

Sunyuan DIN1x3 Analog Signal Isolation Amplifier/Transmitter adopts ISO EM-U-P-O series or ISO EM-A-P-O series integrated circuit combination, which can achieve the three channel identical output or different DC voltage and current signal output. The module is convenient to install in the standard DIN35 rail without adjustment and calibration for the zero and gain that means it can achieve the isolation, distribution, conversion of every type of sensor signals in the industrial field and meets the requirements that operating in industrial field wide temperature, humidity, vibration, etc adverse operation conditions.

Model Selection Guide:

DIN 1X3 ISO EM - U(A)□ - P□ - O□

Rate Input Voltage U/（Current A）		Auxiliary Power P	Output O
U1：0-5V	A1：0-1mA	P1：DC24V	O1：4-20mA
U2：0-10V	A2：0-10mA	P2：DC12V	O2：0-20mA
U3：0-75mV	A3：0-20mA	P3：DC5V	O4：0-5V
U4：0-2.5V	A4：4-20mA	P4：DC15V	O5：0-10V
U5：0-±5V	A5：0- ±1mA	P5：AC220V	O6：1-5V
U6：0-±10V	A6：0- ±10mA	P8：Customized	O7：0-±5V
U7：0-±100mV	A7：0- ±20mA		O8：Customized
U8: Customized	A8：Customized		O9：-20-+20mA
			O10：0-±10V

Examples:

E.g.1:Input 0-5V	Auxiliary Power 24VDC	Output 1 4-20mA	Output 2 4-20mA	Output 3 4-20mA	**Model No: DIN 1X3 ISOEM U1-P1-O1**
E.g.2: Input 4-20mA	Auxiliary Power 5VDC	Output 1 4-20mA	Output 2 0-5V	Output 3 0-10V	**Model No: DIN 1X3 ISOEM A4-P3-O1-O4-O5**

Technical Parameter:

Accuracy ---------- 0.1%, 0.2%, 0.5%	Isolation --------- signal input/output/auxiliary power
Auxiliary Power---------- DC5V, 12V, 24V, ±10%	Insulation Resistance ---------- ≥20MΩ
Operating Temp. ---------- -40 ~ +85℃	Withstand Volt. --------- signal input/output/auxiliary power
Operating Humidity-------10 ~ 90% (Non-condensation)	2500VDC，1 minute, leakage current 1mA
Storage Temp.---------- -55 ~ +108℃	Impact Resistance Volt.---------- 3KV, 1.2/50us(peak value)
Storage Humidity ---------10 ~ 95% (Non-condensation)	

Input Specification

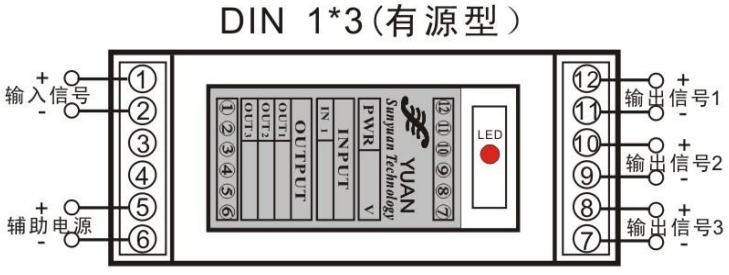
Input	Input Impedance	Power Consumption	Input Overload Capacity
0-5V	≥300KΩ	Volt. Output < 0.8W	2.0 times rated: Continuous
0-10V			
0-1mA	TYP：250Ω or Customized	Current output <2W	1.5imes rated: Continuous 3.0 times rated:1S
0-10mA			
0-20mA			
4-20mA			

Output Specification

Output	Output Overload Capacity	Response Time
4-20mA	Load resistance* ≤ 350Ω	≤1mS
0-20mA		
0-5V	≥2KΩ	
0-10V		
1-5V		

***Note:** User should mention specifically in the order for the current output type products with over 350Ω load resistance.

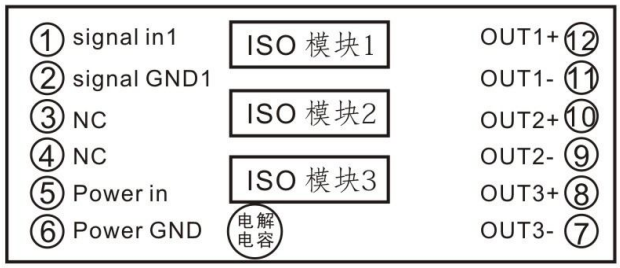
DIN 1X3 Series Dimension and PIN Definition (Trade mark is printed on the product case)



Input Terminal **Output Terminal**

PIN	PIN Definition	
1	Signal In	Signal input +
2	Signal GND	Signal input -
3	NC	Null
4	NC	Null
5	Power In	Auxiliary power +
6	Power GND	Auxiliary power -
7	Out3-	Signal output 3-
8	Out3+	Signal output 3+
9	Out2-	Signal output 2-
10	Out2+	Signal output 2+
11	Out1-	Signal output 1-
12	Out1+	Signal output 1+

Inner Components of the Module



Dimension: