FEATURES

- **THE INPUT CAN BE CONFIGURED ON THE FIELD FOR ACTIVE / PASSIVE 2 WIRE 0-20 mA, 4-20 mA, 0-5V, 0-10V, 1-5V, 2-10V**
- **THE INPUT CAN ALSO POWER THE SENSOR – 3 WIRE CONNECTION**
- **THE OUTPUT CAN BE IDEPENDENTLY CONFIGURED ON THE FIELD FOR ACTIVE / PASSIVE 2 WIRE 0-20 mA, 4-20 mA, 0-5V, 0-10V, 1-5V, 2-10V**
- **THE POWER IS ISOLATED FROM BOTH INPUT AND OUTPUT**
- **HIGH ACCURACY AND RESOLUTION**
- **NO PROGRAMMING REQUIRED. ALL CONFIGURATIONS ARE DONE BY JUST CHANGING A FEW DIP SWITCHES AND WIRING**
- **HIGH PROTECTION ON BOTH INPUT AND OUTPUT**
- **ISOLATION VOLTAGE > 1000 VDC**
- **ISOLATION RESISTANCE > 100 Mohm @ 500 VDC**
- **NEEDS 21.6 – 26.4V DC POWER**
- **QUICK AND SIMPLE WIRING**
- **LxWxH = 90x17.5x56 mm (3.55”x0.69”x2.21”)**
- **WEIGHT = 45 g (1.6 oz)**

APPLICATIONS

- **INDUSTRIAL SIGNALS ISOLATION**
- **INDUSTRIAL CONTROL**
- **MEASUREMENT APPLICATIONS**
- **SCADA**

1. DESCRIPTION

GAi33 is a universal analog signal isolator. The input can be configured for active / passive, 0-20 mA, 4-20 mA, 0-5V, 0-10V, 1-5V and 2-10V. The input can also power the sensor with isolated, regulated, filtered and protected 24V DC.

The output can be configured independently from the input for active / passive, 0-20 mA, 4-20 mA, 0-5V, 0-10V, 1-5V and 2-10V. When active the output provides isolated, regulated, filtered and protected 24V DC to the current loop.

All configurations are done by changing a few DIP switches and the wiring. It can be done at any time on the field without the need of any special tools or calibrators.

The power is isolated from the input and from the output. It has to be 21.6 – 26.4V DC.

With its high accuracy, DIN rail mounting, very small size, slim design, high isolation and functionality GAi33 is an excellent choice for isolating standard analog signals.

2. ABSOLUTE MAXIMUM RATINGS *

Power	26.4V DC
Operating temperature	0 to 50 °C
Output voltage, when passive	40 V DC

*** NOTE: Stresses above those ratings may cause permanent damage to the device.**

3. CHARACTERISTICS

Parameter	Conditions	Min	Typical	Max	Units
Power					
Voltage	24V DC regulated and filtered is strongly recommended	21.6	24	26.4	V DC
Consumption					VA
Input					
Input voltage drop	0 to 50 °C, 20 mA		5.1	5.3	V DC
Output, 4-20 mA	Loop power, passive, 2 wire				
Power supply, if passive	0 to 50 °C, Note 1	4.5		36	V DC
Maximum load, passive	36V external power to the loop, Note 1	1575			ohm
Maximum load, active	no external power to the loop, Note 1	925			ohm
Resolution	0 to 50 °C, 4.5 – 36 V		5		uA
Error	250 ohm load, 24 V, 25 °C		0.05		% FS
Temperature coefficient	0 to 50 °C, 24 V		35		ppm/°C
Output, 0–5/10 V	No external power required, 2 wire				
Resolution			1.25 / 2.5		mV
Minimum load for 0-5V		500			kohm
Minimum load for 0-10V		1			Mohm
Isolation voltage	Input to output, input to power, output to power	1000			VDC
Isolation resistance	Input to output, input to power, output to power, @ 500 VDC	100			Mohm

Note 1: The minimum voltage for the 4-20 mA passive output to operate is V = 4.5 + R load [ohm] * 0.020 [V DC]
For a GAi33 with a load of 250 ohm, the minimum voltage would be 9.5 V DC.
When active the output can work with a load up to 925 ohm

4. APPLICATION

4.1. MECHANICAL

Mounting GAi33 on the DIN rail requires an area of 98 x 17.5 mm (3.86” x 0.69”).

4.2. ELECTRICAL

Here are the terminals of GAi33

Power: 4 is NC (no connect)
5 is 24V DC “+”
6 is 24V DC “-”

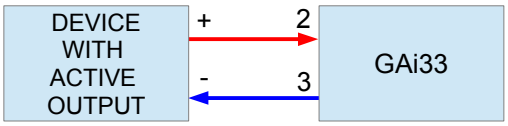
Use regulated 24V DC power. The voltage must be between 21.6 and 26.4V DC.

Input: 1 is Sensor power “+”, if GAi33 powers the sensor
2 is Input Signal
3 is Input ground (common)

Output: 10 is Output power "+", when active
11 is Out "+"
12 is Output ground (common)

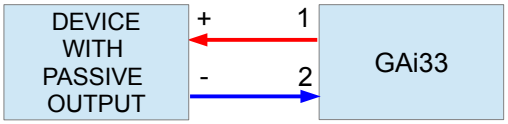
4.2.1. WIRING AND CONFIGURING THE INPUT

4.2.1.1. WIRING THE INPUT TO A DEVICE WITH AN ACTIVE OUPUT



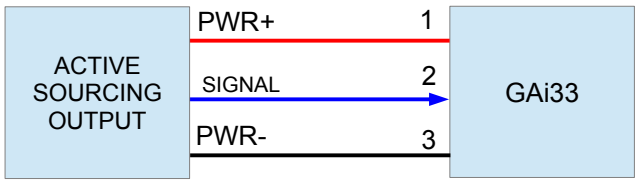
active 0-20 mA, 4-20 mA
or
0-5V, 0-10V, 1-5V, 2-10V

4.2.1.2. WIRING THE INPUT TO A DEVICE WITH AN PASSIVE OUPUT



passive 0-20 mA, 4-20 mA only

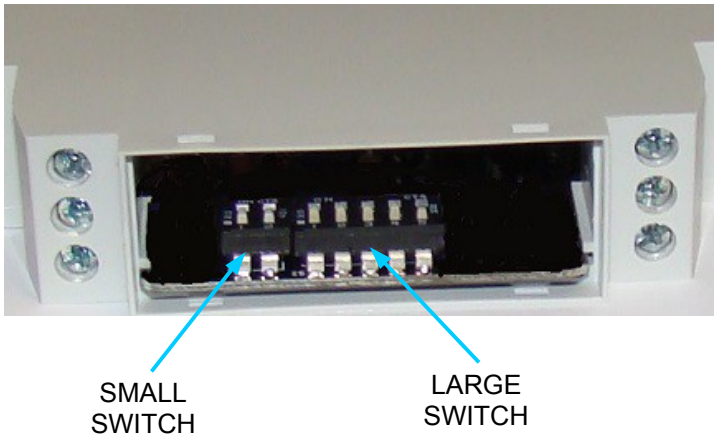
4.2.1.3. GAi33 INPUT CAN POWER AN ACTIVE SOURCING OUTPUT OF A SENSOR

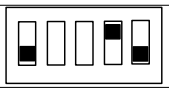
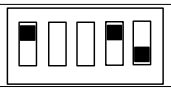
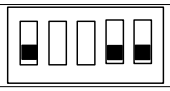
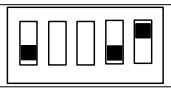
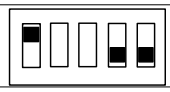
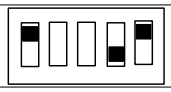


active 0-20 mA, 4-20 mA
or
0-5V, 0-10V, 1-5V, 2-10V

4.2.1.4. DIP SWITCHES RELATED TO THE INPUT

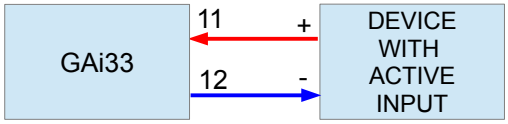
There 2 DIP switches on this device under the small cover of the top of the enclosure.



INPUT SIGNAL	LARGE DIP SWITCH
0-20 mA	
4-20 mA	
0-5 V	
0-10 V	
1-5 V	
2-10 V	

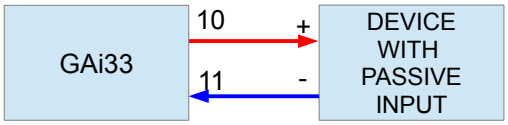
4.2.2. WIRING AND CONFIGURING THE OUTPUT

4.2.2.1. WIRING THE OUTPUT TO A DEVICE WITH AN ACTIVE INPUT



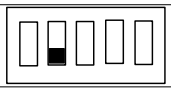
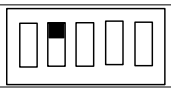
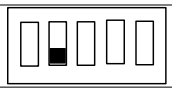
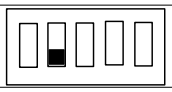
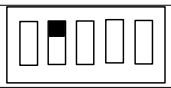
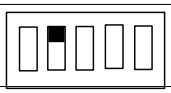
0-20 mA, 4-20 mA only

4.2.2.2. WIRING THE OUTPUT TO A DEVICE WITH AN PASSIVE INPUT



0-20 mA, 4-20 mA, 0-5 V, 0-10 V, 1-5 V, 2-10 V

4.2.2.3. DIP SWITCHES RELATED TO THE OUTPUT

OUTPUT SIGNAL	LARGE DIP SWITCH	SMALL DIP SWITCH
0-20 mA		
4-20 mA		
0-5 V		
0-10 V		
1-5 V		
2-10 V		

5. ORDERING

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