

ADAM-3017

External Powered IEPE Signal Conditioner

Startup Manual

Overview

ADAM-3017 is an external powered signal conditioner for powering IEPE sensors that is easy to integrate into any measurement chain. Simply connect a cable from the sensor to the input and a cable from the data acquisition system to the output.

Features

- IEPE current support: 4, 6, 10 mA
- Signal amplification of 1x, 10x, and 100x
- LED indicator for sensor open, short and normal

Ordering Information

ADAM-3017-AE External Powered IEPE Signal Conditioner

Accessories

968AG00014 BNC to terminal block adaptor

For more information on this and other Advantech products, please visit our website at:

<http://www.advantech.com>

<http://www.advantech.com/eplatform>

For technical support and service, please visit our support website at:

<http://support.advantech.com>

This manual is for the ADAM-3017.

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Specifications

Integrated Electronic Piezoelectric Excitation (IEPE) Signal Conditioning

- Channels: 1
- IEPE Current : 0, 4, 6, or 10 mA \pm 5%
- Gain: 1, 10, or 100 (for AC signal)
- Gain accuracy: $< \pm 2\%$ for all gain settings
- Couple: DC or AC
- Input voltage: 4 ~ 24 V (normal operation)
- Amplifier output voltage: 4 ~ 24 V (normal operation)
- Compliance: > 24 V
- Upper cut-off frequency (for all couple settings)
 - x1, x10 gain (-5%): 100 kHz
 - x100 gain (-15%): 50 kHz
- Lower cut-off frequency (-5%, 1 M Ω load, for all gain settings)
 - DC couple : DC
 - AC couple (1 μ F): 1.77 Hz
 - AC couple (47 μ F): 0.038 Hz
- Discharge time constant (1 M Ω load, for all gain settings)
 - DC couple: 0 second
 - AC couple (1 μ F): > 0.3 seconds
 - AC couple (47 μ F): > 13 seconds
- DC offset: $< \pm 30$ mV

Isolation Protection

- Input/Output to Power: $2.500 V_{DC}$

Power Requirements

- Supply voltage : $+24 V_{DC} \pm 10\%$
- Current consumption:
 - 35 mA typical
 - 45 mA max. (with 0 mA IEPE current)

Environmental

- Operating temperature: 0 to 60 $^{\circ}$ C (32 to 140 $^{\circ}$ F)
- Storage temperature: -20 to 70 $^{\circ}$ C (-4 to 158 $^{\circ}$ F)
- Storage humidity: 5 to 95% RH, non-condensing

LED Indicators and Switch setting

LED Indicator	Description
PWR	24 V Power
Open (Yellow)	Sensor Open (> 25 V)
Normal (Green)	Normal Operation
Short (Red)	Sensor Short (< 1 V)

DC/AC Couple Setting (SW1)			
Couple	1	2	3
DC Couple	ON	OFF	OFF
*AC Couple (1 μ F)	OFF	ON	OFF
AC Couple (47 μ F)	OFF	OFF	ON

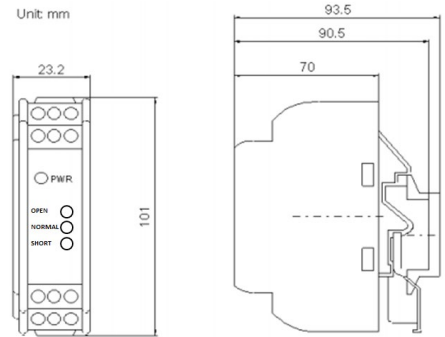
Gain Setting (SW1)		
Gain	5	6
*1	ON	ON
10	OFF	ON
100	ON	OFF

IEPE Setting (SW1)		
Current	7	8
0 mA	OFF	OFF
* 4 mA	ON	OFF
6 mA	OFF	ON
10 mA	ON	ON

* Default setting

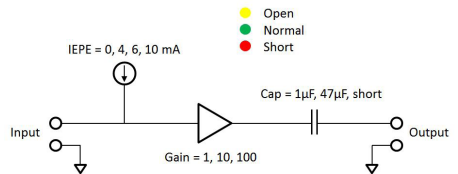
Dimensions

Unit: mm



Note: All dimensions without tolerance ± 0.2 mm

Function Block Diagram



Terminal Wiring Diagram

