

ARD154 Amplifier



- DIN Rail Amplifier
- ± 10 V Analogue or 0/4-20 mA Current Output
- 24 Vdc Isolated Power Supply
- 2 kHz or 20 kHz max. Bandwidth

DESCRIPTION

Measurement Specialties, Inc. offers comprehensive measurement solutions including electronic signal conditioning and display units.

The **ARD154** is a DIN rail mountable amplifier, which adapts to most strain gage-based load cells, pressure transducers and accelerometers. The bridge supply voltage can be set to 5V or 10V ± 10 V analogue output signals or 0/4-20mA current outputs. The covers sensitivity range from 0.1mV/V to 30mV/V. It also allows connecting four 350 Ω sensors in line with 5V excitation.

Through its modular design, the **ARD154** adapts to many different applications. Basic settings, including bridge supply voltage, bandwidth, signal output and fixed zero offset are easily performed with onboard jumpers. Zero and Gain adjusting is facilitated by trimmers on the front panel.

FEATURES

- Suited for 1 to 4 Strain Gage Sensors in parallel
- 120 to 10000 Ω Bridge Impedance
- 10 V or 5 V Bridge Excitation – 4 or 6 wires
- Adjustable Sensitivity Range 0.1 to 30 mV/V
- Calibration Pushbutton from 0.1 to 10 mV/V
- Zero and Gain Fine Tuning by Trimmers
- 0.01% F.S. Accuracy
- 12 Vdc $\pm 10\%$ Isolated Power Supply on request

APPLICATIONS

- Monitoring devices
- Weighing
- Robotic and effectors
- Laboratory and Research
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ARD154 Amplifier

PERFORMANCE SPECIFICATIONS

Ambient Temperature: 20±1°C (unless otherwise specified)

General Characteristics

Dimensions (H x L x D)	99 x 17.5 x 112 mm [4 x .69 x 4.4 in]
DIN rail mountable module	
Operating Temperature	-10 ° C to 60° C [14 to 140° F]
Storage Temperature	-40 ° C to 70 ° C [-40 to 158° F]
Screw Connector Blocs	4 x 3 terminals
Weight	~110 grams [~.25lb]

Electrical Characteristics

Power Supply	24 Vdc (18 to 36 Vdc) 12 Vdc (9 to 18 Vdc) Optional
	Consumption 100 mA max.
Power Supply Isolation	1000 Vdc max. 1 min between 0 V and GND output
	400 V peak 0V input/ ground or GND output/ground

Sensory Input

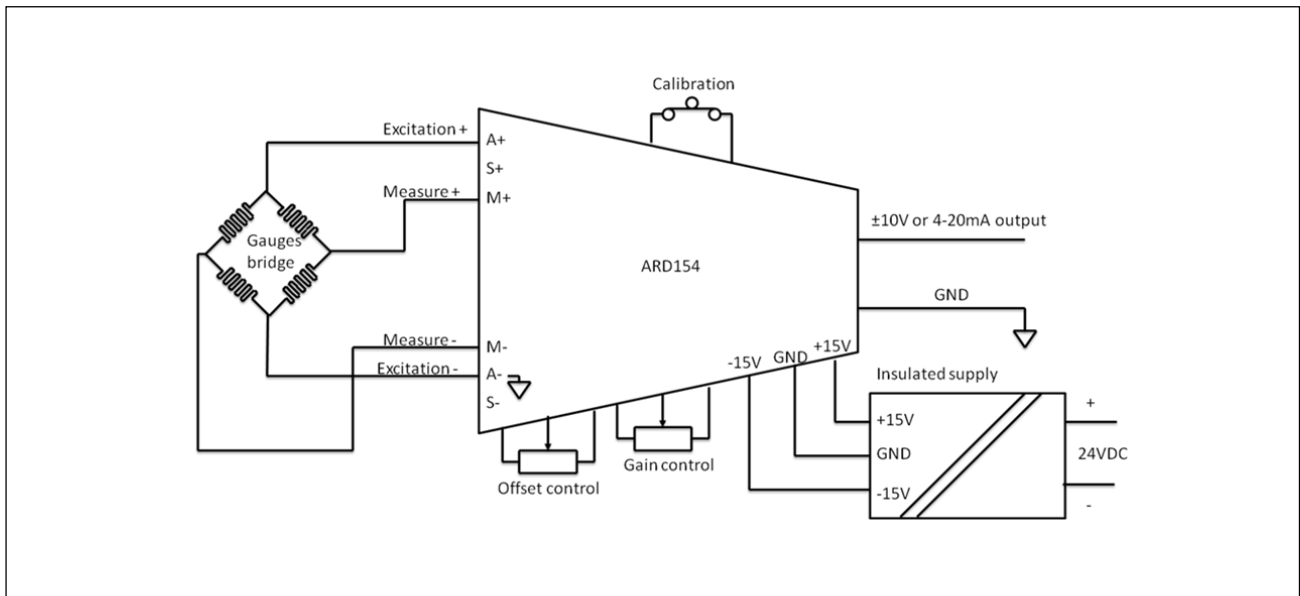
Sensor type	Full bridge, strain gauge-based, 4 or 6 wires. Bridge 350 to 1000Ω (120Ω on request) Max current 60 mA
Bridge Impedance	120 Ω < Z < 10000 Ω (for 120 Ω, bridge excitation 5 V max.)
Bridge Supply Voltage	10 V or 5 V (for 120 Ω select 5 V) I maxi 60 mA
Sensor Cable Rejection	2.10-5 / Ω
Input Sensitivity	5 ranges from 0.1 mV/V to 30 mV/V
Fixed Zero Offset	4 ranges from ±50% to ±100% F.S.
Adjustable Zero Offset	± 50% F.S.
Calibration Levels	0.1 to 10 mV/V
Calibration Level Accuracy	0.01% F.S. for range 1 to 3 mV/V, 0.1% other ranges

Analogue Output

Voltage Output	±10 V max.
Output Current	5 mA max.
Output Impedance	0.2 Ω max.
Current Output	4-20 mA or 0-20 mA
Dynamic of the Current Output	0-10 V (Load Resistance 500 Ω at 20 mA)
Linearity	0.01% F.S.
Maximum Drift at the Input	< 1 μV / ° C
Maximum Noise at the Input	< 3 μV RMS/2 kHz, 10μV RMS/20 kHz (typical)
Common Mode Rejection	100 dB
Rejection of Power Supply Variations	120 dB
Bandwidth	2 kHz or 20 kHz at -3 dB (15 kHz max. for range 0.1mV/V)

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DIMENSIONS & WIRING SCHEMATIC



ORDERING INFO

ARD 154 - 18-36

Power supply (12 Vdc or 18-36 Vdc)

Model

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