Isolated Analog Signal Converter ±300V to 10V

Bipolar ±300V to 10V isolated converter

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Key Features

- **2-Way Galvanic Isolation**: Up to 1 kV RMS isolation barrier between input and output/power circuits
- **True Analog Signal Isolation**: Preserves original analog waveform fidelity with a pure linear amplifier stage
- **No PWM or Digital Reconstruction**: Pure continuous analog processing without sampling ripple, ADC quantization, or conversion artifacts
- **Fast Dynamic Response**: Minimal signal processing latency for real-time tachogenerator speed and direction tracking
- **High Noise Immunity**: Exceptional rejection of high-frequency inverter switching noise and common-mode transients
- **Excellent Signal Fidelity**: High linear accuracy (< ±0.5% F.S.) across the full bidirectional ±300V DC input span
- **Compact Industrial Enclosure**: 35 mm DIN rail and wall-mount compatible housing (110 mm × 74 mm × 22 mm)
- **1-Year Warranty**: Full 1-year warranty against manufacturing defects

- **Factory Customizable**: Custom input and output voltage spans available on request

Ordering Information

Product Code	Description
AC-B300V-10V	**Isolated Analog Signal Converter ±300V to 10V**
AC-300V-10V	Isolated Analog Signal Converter 300V to 10V
AC-150V-10V	Isolated Analog Signal Converter 150V to 10V
SPD-24V-DC	Surge Protection Device 24V DC SPD
USS10V24V-D	Voltage Source Simulator 0-10V

Applications

- **DC Tachogenerator Speed & Direction Monitoring**: Converts bipolar DC voltage output (±300V DC) from tachogenerators into standard 0–10V DC for PLC/SCADA speed and direction measurement.
- **Bidirectional DC Motor Drives & Regenerative Braking**: Provides safe galvanic isolation for motor armature voltage sensing across forward, reverse, and regenerative braking modes.
- **Industrial Automation & Process Control**: Reliable high-voltage signal interfacing and equipment protection in heavy industrial environments.
- **SCADA & PLC Integration**: Seamless communication between high-voltage DC field equipment and low-voltage automation control systems.
- **Control Panel Building**: Compact 35 mm DIN rail mounting for clean and space-efficient cabinet installation.

Specifications

Parameter	Value
Mounting Type	35 mm DIN Rail Mounting
Dimensions	110 mm x 74 mm x 22 mm (L x W x H)
Enclosure Material	Industrial ABS plastic
Operating Temperature	−10 °C to +60 °C
Storage Temperature	−40 °C to +85 °C
Relative Humidity	5% to 95% RH (non-condensing)

Electrical Specifications

Parameter	Specification
Power Supply	24V DC (15 ~ 28V DC)
Conversion Accuracy	< ±0.5% of Full Scale @ 25 °C
Temperature Drift	< 100 ppm / °C
Galvanic Isolation	1,000 V RMS (Input / Output)

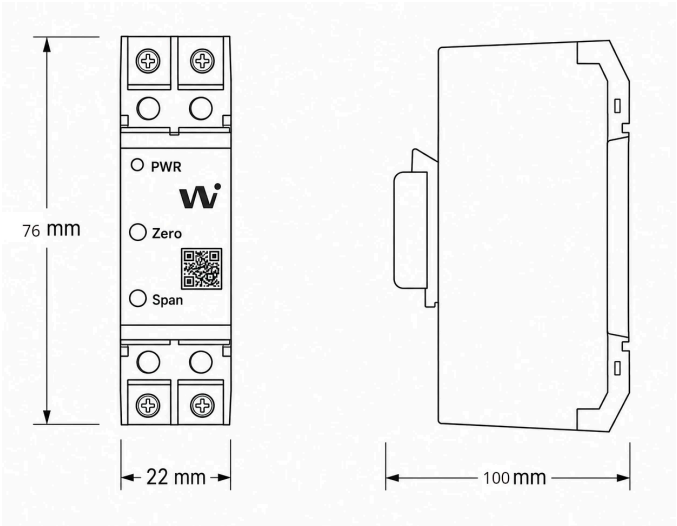
Input/Output Specifications

Parameter	Value
Input Signal Range	±300V DC (Bidirectional High Voltage DC)
Output Signal Range	0–10 V DC (Load >= 2 kΩ)
Response Time	< 1 ms

Isolation & Protection Specifications

Parameter	Value	Standard / Notes
Galvanic Isolation	1,000 V RMS	Optical and magnetic isolation barrier
Reverse Polarity Protection	Integrated	Protects internal circuitry against reverse DC wiring
Transient Clamping	600W TVS	Surge and spike suppression across all ports

Mechanical Dimensions



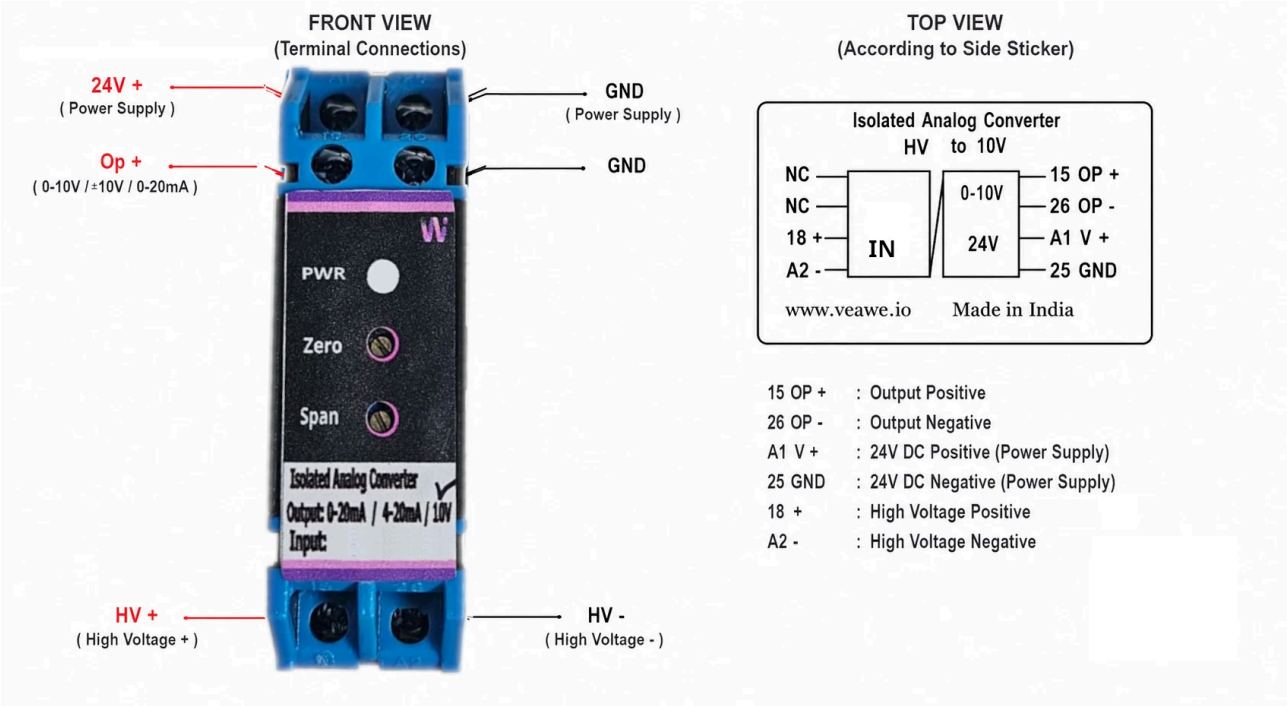
Terminal Details & Wiring

Pluggable industrial screw terminal block connections:

- **Terminal 18 (+)** / **Terminal A2 (-)**: Bidirectional DC Voltage Input (±300V DC)
- **Terminal 15 (OP+)** / **Terminal 26 (OP-)**: Isolated Analog Voltage Output (0–10V DC)
- **Terminal A1 (V+)** / **Terminal 25 (GND)**: 24V DC Auxiliary Power Supply

Wiring Diagrams

Note: All images and connection diagrams shown are for illustrative purposes only and may differ from the actual product.



Revision History

Revision	Date	Description of Change
Rev 1.0	2026-09-12	Initial datasheet release for AC-B300V-10V

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Support

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