

Universal, Auxiliary Powered Strain Gauge Conditioner

ACT20P Bridge



The ACT20P Bridge converts the signal generated by a resistance bridge strain gauge to a standard analogue signal format. It uses ratio-metric noise cancellation to provide an unusually accurate and stable measurement of the bridge signal.

- Built in bridge excitation supply
- Advanced measurement technology
- Can power bridges up to $4 \times 350\Omega$ at 10V
- Simple secure calibration method
- External Tare adjustment button
- Complete Isolation
- Highly accurate (0.05% of span)
- LED power indication
- Auxiliary powered
- Removable, screw-type, terminal blocks

Australia

Weidmüller Pty Ltd.
43 Huntingwood Drive, Huntingwood
NSW 2148
Phone +61 (0) 2 9671 9999
Fax +61 (0) 2 9671 9900
Info@weidmuller.com.au
www.mannindustries.com.au

United Kingdom

Weidmüller Ltd.
1 Abbey Wood Road, Kings Hill
West Malling, Kent ME19 4YT
Phone +44 1732-877032
Fax +44 1732-873873
Info@weidmuller.co.uk
www.weidmueller.com

Other countries

Weidmüller Interface GmbH & Co.
Postfach 3030
32720 Detmold
Phone +495231-14-0
Fax +495231-14-2083
info@weidmueller.com
www.weidmueller.com

ACT20P Bridge Strain Gauge Conditioner

Universal Strain Gauge Transmitter

The ACT20P Bridge uses microprocessor technology to provide a one stop solution to Strain Gauge Signal Conditioning, Excitation and Signal conversion for any Industrial Strain Gauge application. The simple secure calibration method allows you to configure the unit to suit your requirements with the minimum of fuss.

Calibration Low and High points can be programmed independently to allow time for tank filling or weighbridge loading.


Features

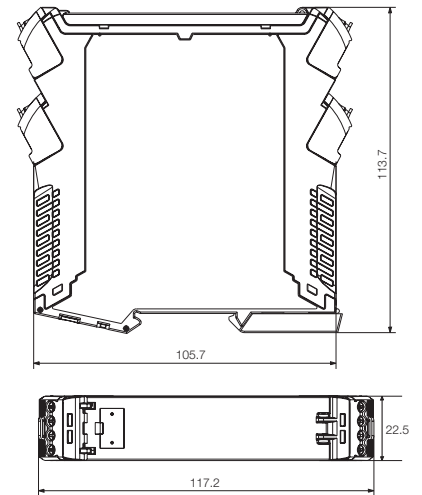
- Active noise cancellation design
- Auxiliary Powered
- Current/Voltage Output
- In-built Bridge Excitation
- Easy Tare Adjustment
- Safe, Secure Calibration
- Complete Isolation



Easy push button calibration

General technical data

| Input | |
|---|---|
| Type | Resistance bridge strain gauge |
| Strain gauge bridge sensitivity | 1.0mV/V to 5.0mV/V |
| Input range limits (switch selectable) | ±10mV / ±20mV / ±30mV / ±50mV |
| Input range | According to calibration |
| Strain gauge bridge resistance | Minimum 87Ω (equivalent to 4 x 350Ω loadcells) |
| Tare Input | External push button (volt free contact closure) |
| Tare Adjustment | Any Tare if the full-loaded mV is within selected range limits |
| Bridge excitation voltage | |
| Type | 4-wire remote sensing |
| Excitation voltage | 5V or 10V (switch selectable) |
| Drive capability | 120mA @ 10V (equivalent to 4 x 350Ω loadcells @ 10V) |
| Output | |
| Type | Analogue Current/Voltage (Calibrate to select) |
| Current range limits | 0 to 22.00mA (maximum 600Ω Load) |
| Voltage range limits | 0 to 11.00V (minimum 600Ω Load) |
| Output range | According to calibration |
| Ripple | < 20mV p-p @ max. Output/Load |
| Power supply | |
| Type | DC powered |
| DC | 10 to 60Vdc |
| Power Usage | 3W at 24Vdc |
| General | |
| Linearity | Typically ±0.05% of span |
| Repeatability | ±0.05% of span |
| Temperature drift | < 0.01% span/°C (Typically 0.005% span/°C) |
| Long term drift | 0.1% per 10,000 hours |
| Overall response time | < 400mS (from input to output) |
| Isolation | |
| Ports | Input / Output / Power Supply |
| Rated Insulation Voltage | 300Vac |
| Measurement Category | III |
| Isolation (Port-to-Port and Port-to-Case) | 5.7kVdc |
| Environmental Conditions | |
| Operating temperature | -40 to +70 °C |
| Storage temperature | -25 to +70 °C |
| Pollution Degree | 2 |
| Relative humidity | 10-90% (non-condensing) |
| Housing | |
| Type | Double Insulated, TS35 DIN Rail Mount |
| Weight | 0.2kg |
| Connection type | Plug in terminal blocks with screw connections |
| Approvals | Mark |
| ACT20P Bridge |  |
| | LV Directive EMC |
| Standard | |
| | IEC61010-1: 2001 BS EN 61326:1998 + A1 + A2 + A3 |



Connections

| Terminal | Signal | |
|----------|------------------|---------------------------|
| 11 | Signal - | Input signal |
| 12 | Signal + | |
| 13 | Sense + | Bridge Excitation Voltage |
| 14 | Sense - | |
| 21 | Excitation + | |
| 22 | Excitation - | |
| 23 | Tare + | External Tare switch |
| 24 | Tare - | |
| 41 | mA Output - | Output signal |
| 42 | Output + | |
| 43 | mA Test Point - | |
| 44 | Voltage Output - | |
| 44 | mA Test Point + | |
| 54 | + | Power Supply |
| 53 | - | |

Front panel DIP Switch settings

| Switch | Action if On | Action if Off |
|--------|--------------------|---------------------------|
| 1 | 10V Excitation | 5V Excitation |
| 2 | mA Output | Voltage Output |
| 3 | 10mV Span | Turn off for other ranges |
| 4 | 20mV Span | |
| 5 | 30mV Span | |
| 6 | 50mV Span | |
| 7 & 8 | 4-wire Measurement | 6-wire Measurement |

Ordering Information

| Type | Cat. No. |
|-----------------|------------|
| ACT20P-BRIDGE-S | 1067250000 |