Data Sheet

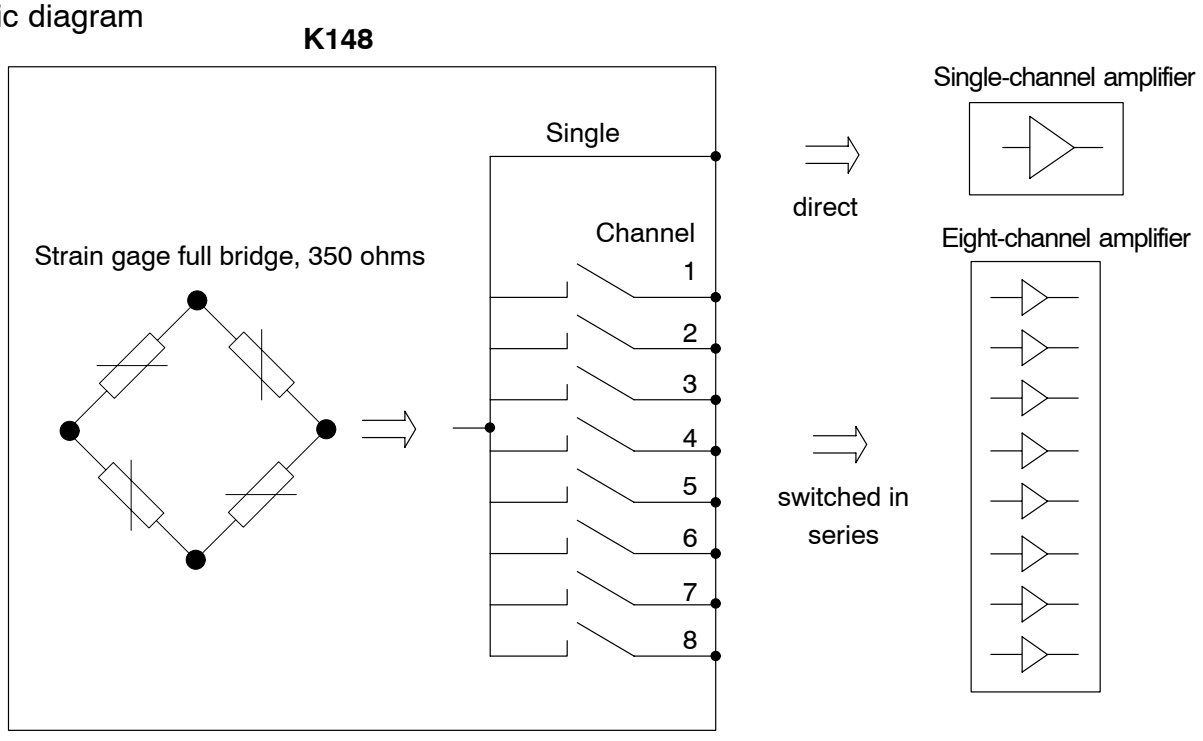
# K148

## Calibration unit for strain gage full bridge measuring amplifiers


### Special features

- **Simulation of the defined output signals of strain gage full bridges**
- **8 channels can be connected in series**
- **Computer control or manual operation**
- **For DC amplifiers and carrier frequency amplifiers up to 5 kHz**
- **Calibration values in 5 x 10 steps of ±0.2 to ±100 mV/V**

Schematic diagram



## Specifications

| Type | | K148 | |
|---|---|---|---|
| **Accuracy class**[1] | | 0.0025 | 0.01 |
| **Permissible frequency range of external excitation voltages** | Hz | 225...600 | DC, >600... 5000 |
| **Strain gage equivalent resistance (full bridge)** | Ω | 350 | |
| **Nominal (rated) value of the excitation voltage** | V | 5 | |
| **Maximum permissible excitation voltage** | V | 10 | |
| **Calibration steps** | | | |
| 5 range steps | mV/V | ±2; ±5; ±10; ±20; ±100 | |
| 11 percentage steps within the range steps | % | 0; 10; 20; ...100 | |
| **Polarity switch** | | Positive[2] or negative output signal | |
| **Absolute calibration of range span**[3] | | | |
| of range step 2 mV/V at 23 °C | % | < ±0.0025 | < ±0.01 |
| **Grading error of range steps** | | | |
| relative to the full-scale value concerned | % | < ±0.0025 | < ±0.01 |
| **Grading error of percentage steps** (linearity deviation) | | | |
| relative to the full-scale value concerned | % | < ±0.0025 | < ±0.01 |
| **Influence of temperature on absolute calibration per 10K,** | | | |
| in the nominal (rated) temperature range | % | < ±0.0025 | < ±0.01 |
| **Nominal (rated) temperature range** | °C | +10...+40 | |
| **Operating temperature range** | °C | 0...+60 | |
| **Storage temperature range** | °C | -25...+70 | |
| **Supply voltage**[4] | V | ±12 | |
| **Dimensions (H x W x D)** | | | |
| K148 calibration unit | mm | 75 x 330 x 270 | |
| Power supply unit | mm | 60 x 120 x 65 | |
| **Weight, approx.** | | | |
| K148 calibration unit | kg | 3 | |
| Power supply unit | kg | 0.5 | |

1) For 6-wire circuit connection only
2) Positive means that measurement diagonal point 1 changes its potential towards diagonal point 3 and measurement diagonal point 4 changes its potential towards diagonal point 2 (1 ≙ PIN8, 2 ≙ PIN5 3 ≙ PIN13 and 4 ≙ PIN15 on the 15-pin SUB-D connector) in the case of unbalancing.
3) Signals for the 0% steps can vary by up to 0.025% of the full-scale value concerned. But this is not relevant to strain gage technology and can be eliminated by a zero balance of the measuring device.
4) Supplied by external power supply unit or USB (see accessories)

## Scope of supply

| | |
|---|---|
| Connection cable, 3 m long, 6-wire to connect to AP01i | 1-KAB268-3 |
| 2 connection cables, 3 m long, 25-wire to connect to AP815i and AP810 | 1-KAB263-3 |
| USB connection cable, 2 m long, | 3-3301.0127 |
| Connection cable for the RS232 serial interface, 2 m long | 3-3301.0111 |
| Power supply unit 110 - 250 V AC, 50 Hz | 3-3318.0021 |
| Mains cable | 3-3134.0020 |

**Accessories,** to be ordered separately**:**

| | |
|---|---|
| DKD calibration certificate, steps -100/-0/0/10/20/...90/100% | K-CAL-VD2 |
| steps -100/-90/...-20/-10/-0/0/10/20...90/100% | K-CAL-VZ2 |
| Adapter cable, 15-pin / MS connector (male), 0.3 m long | 1-KAB160-0.3 |



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