

FL 151

Multi-channel measuring amplifier



Description

- **16 input channels for processing of analogue strain gauge measuring signals**
- **easy strain gauge connection by multi-pin input port or single ports**
- **suitable for computerised data acquisition**
- **communication with computer via USB**

Stresses and strains occurring in components are determined in experimental stress and strain analysis by measuring strain. In industry, strain is often recorded by strain gauges. Since strain gauges deliver only small analogue measurement signals, the signals must be amplified in measuring amplifiers. Then they are converted into digital pulses and displayed as measured strain. These strains may also be evaluated and processed on computer.

FL 151 is a multi-channel measuring amplifier which supplies the strain gauge bridge circuits with power and processes the received measurement signals. The unit can only be operated with a computer. The measuring amplifier includes 16 input channels. The strain gauge measuring points are connected to associated balance potentiometers either by a 68-pin multiport or 16 (6-pin) single ports.

The multi-channel measuring amplifier is operated via USB using the supplied software. The measured values can be read and saved on computer (using an application such as MS Excel).

Learning objectives/experiments

- amplification and display of signals from strain gauge measuring points
- processing of measured values on computer

Specification

- [1] multi-channel measuring amplifier for processing of strain gauge signals
- [2] strain gauge connection in half or full bridge configuration
- [3] strain gauge connection via 6-pin single ports or 68-pin multiports
- [4] processing of measured values on a PC
- [5] connection to the PC via USB
- [6] GUNT software for data acquisition via USB under Windows 10

Technical data

Amplifier

- number of input channels: 16

Strain gauge connection in half or full bridge configuration

- resistance: min. 3500hm/strain gauge
- zero balancing: 20x spindle trimmer
- strain gauge supply voltage: $\pm 5\text{VDC}$

Frequency range selectable via bridges

- 4Hz/500Hz (-3dB)

Input voltage: max. $\pm 50\text{mV}$

230V, 50Hz, 1 phase
 230V, 60Hz, 1 phase
 120V, 60Hz, 1 phase
 UL/CSA optional
 LxWxH: 370x315x160mm
 Weight: approx. 7kg

Required for operation

PC with Windows

Scope of delivery

- 1 measuring amplifier
- 1 GUNT software + USB cable
- 1 manual