



## Application

- Signal conditioning for dynamic measurement with piezoelectric sensors for acceleration, force and pressure or sound
- Front-end with anti-aliasing filter for PC data acquisition systems
- Mobile measuring systems
- Test benches in laboratory and production facilities
- Multichannel measuring systems

## Properties

- Component of instrument family M72
- Module for 19 inch rack mounting
- 5 charge and 4 IEPE/AC voltage ranges with low noise provide a total dynamic range of 140 and 120 dB, respectively
- Output without integration or with single or double integration for the measurement of acceleration, velocity or displacement
- Low-pass filter with 0.1 / 1 / 10 / 50 kHz, high-pass with 0.1 and 3 Hz
- Digital interface for use in the 8 channel case M72R8
- Input of transducer sensitivity with LED display for output scaling
- TEDS support, reads automatically the sensitivity of a connected transducer
- Operation via front panel push buttons

## Technical Data

### Measurands and Ranges

|                                    |  |                  |
|------------------------------------|--|------------------|
| Vibration measurands               | Vibration acceleration   |                  |
|                                    | Vibration velocity/severity                                    |                  |
|                                    | Vibration displacement   |                  |
| Measuring range acceleration       | 0.0001 to 1000 (sensitivity 100 pC/ms-2 )                      | m/s <sup>2</sup> |
|                                    | 0.1 to 1000000 (sensitivity 0.1 pC/ms-2 )                      | m/s <sup>2</sup> |
|                                    | 0.00001 to 5 (sensitivity 1000 mV/ms-2 )                       | m/s <sup>2</sup> |
|                                    | 0.1 to 50000 (sensitivity 0.1 mV/ms-2 )                        | m/s <sup>2</sup> |
| Voltage gain                       | 1; 10; 100; 1000   |                  |
| Charge gain                        | 0.1; 1; 10; 100; 1000  | mV/pC            |
| Gain selection                     | Push button  |                  |
| Input of transducer sensitivity    | 4 digits; 0.001 to 9999; push buttons and display or interface |                  |
| Accuracy                           | ±0.5 (Gain = 0.1/1/10/100; > 10 % full scale; mid-band )       | %                |
|                                    | ±1 (Gain = 1000; > 10 % of full scale; mid-band )              | %                |
| Output noise                       | <6 (charge input; 1 to 50000 Hz; G = 1000 )                    | mVRMS            |
|                                    | <3 (charge input; 1 to 30000 Hz; G = 1000 )                    | mVRMS            |
|                                    | <7 (IEPE input; 1 to 50000 Hz; G = 1000 )                      | mVRMS            |
|                                    | <3 (IEPE input; 1 to 50000 Hz; G = 1000 )                      | mVRMS            |
| Lower frequency limit acceleration | 0.1; 3   | Hz               |
| Lower frequency limit velocity     | 3  | Hz               |
| Lower frequency limit displacement | 3  | Hz               |
| Upper frequency limit acceleration | 100; 1000; 10000; 50000  | Hz               |
| Upper frequency limit velocity     | 100; 1000  | Hz               |
| Upper frequency limit displacement | 200  | Hz               |
| Indicators                         | LED seven-segment display for sensitivity and output level (%) |                  |
|                                    | LED for input type   |                  |
|                                    | LEDs for filters and integration                               |                  |
|                                    | LED for overload   |                  |

### Connectors

|                       |                                  |    |
|-----------------------|----------------------------------|----|
| Input channels        | 1                                |    |
| Input signals         | IEPE                             |    |
|                       | Charge                           |    |
|                       | AC voltage                       |    |
| Input connector       | BNC rear                         |    |
| IEPE constant current | 3.5 to 4.5                       | mA |
| TEDS support          | IEEE 1451.4; templates 25 and 27 |    |
| Output connector      | BNC rear                         |    |
| Digital interfaces    | RS-232 rear                      |    |

### Power Supply

|                         |                      |     |
|-------------------------|----------------------|-----|
| External supply voltage | 8 to 28              | VDC |
| External supply current | 60 to 250            | mA  |
| Supply connection       | Socket D-Sub 9, rear |     |

### Case Data

|                               |   |    |
|-------------------------------|---|----|
| Dimensions without connectors | 8 WU x 3 HU x 170                                   | mm |
| Case material                 | Aluminum, hard anodized                             |    |
| Operating temperature range   | -10 to 55 (95 % rel. humidity without condensation) | °C |

**Optional accessories**    MQ20 Charge attenuator 1:10  
                                      MQ40 Charge attenuator 1:100

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