Signal Conditioning
The signal conditioning of both measurement amplifiers can be parameterized per channel. This applies to both the adjustable measuring ranges of the modules and the transducer supply of the MA08.2. The resulting combination possibilities guarantee flexible and thus efficient use of the measurement amplifiers.

Measurement Calculation
The measurement amplifiers are suitable for both linear and non-linear transducers. In the case of linear transfer behavior, measured values are calculated on the basis of transducer sensitivity and offset. For the acquisition of non-linear transducers, polynomials up to the sixth order can be configured with freely selectable coefficients.

Transducer Parameter Memory
If required, all relevant channel parameters can be stored in the electronic data sheet of the transducer. This not only reduces the amount of time required for configuration but also reduces the danger of incorrect parameterization. Typical user errors, such as a transducer supply that has been set incorrectly or resolution loss due to unsuitable measurement ranges, are thus no longer possible.

Areas of Application
- Monitoring of supply voltages
- Acquisition of voltage and current signals (e.g. ECU or sensor outputs)
- Acquisition of IEPE sensors
- Measuring currents using (external) shunts
- Cell voltage monitoring

Advantages
- High safety and flexibility due to galvanically isolated measurement channels
- Versatile sensor support with settable signal conditioning and transducer supply
- Simple parameterization via transducer memory (can also be used in connection with externally- or non-fed transducers such as shunts)
- Optical indication of channel and module state

The MS08.2 is used to acquire up to eight electrical voltages, currents or IEPE sensors. The MA08.2 provides an additional flexible voltage supply per measurement channel and thus supports a large number of standard transducers.
## Technical Data

### General
- **Number of channels**: 8
- **Transducer**: Voltage measuring, current signals, Voltage-fed transducers with voltage output (absolute), IEPE sensors, currents (using external shunts)
- **Sampling rate**: 100 kSPS, time-synchronous over all channels
- **Data rate**: 1 SPS ... 50 kSPS online, can be set per module
- **Transducer memory**: TEDS ready

### Measurement Input
<table>
<thead>
<tr>
<th>Measurement Input</th>
<th>U</th>
<th>I</th>
<th>IEPE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Measurement range</strong></td>
<td>±100 mV ... ±60 V (3 levels per decade)</td>
<td>±20 mA</td>
<td>4 mA from +24 V (internally applied to signal input)</td>
</tr>
<tr>
<td><strong>Input impedance</strong></td>
<td>2.5 MΩ</td>
<td>100 Ω</td>
<td></td>
</tr>
<tr>
<td><strong>High-pass</strong></td>
<td>1 Hz, can be connected per channel</td>
<td></td>
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<td>1 Hz</td>
</tr>
</tbody>
</table>

### Voltage Supply
- **Output voltage**: ±5 V / ±12 V / ±15 V
- **Output current**: 150 mA per individual voltage, 25 mA
- **Supply power over all channels**: 15.0 W, 2.4 W
- **Galvanic isolation**: Per module, Per channel

### Environmental Conditions
- **Storage**: -30 °C ... +85 °C, 10 % ... 90 % rel. humidity, non-condensing
- **Operation**: -30 °C ... +70 °C, 10 % ... 90 % rel. humidity, non-condensing

### Order Numbers
- **MA08.2**: Measurement amplifier for SMT systems for acquiring voltages, currents, IEPE sensors and voltage-fed transducers (8 channels)
- **MA08.2-CAL**: MA08.2 calibration
- **MA08.2-ADJ**: MA08.2 adjustment
- **MS08.2**: Measurement amplifier for SMT systems for acquiring voltages, currents and IEPE sensors (8 channels)
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