

# Lorenz *amplifiers* worldwide

# Lorenz *amplifiers*



Our customers include companies in the following sectors:

Sensor Interfaces  
DIN Mounting Rail Devices  
Built-In Measuring Devices  
Portable Systems  
Tabletop and Laboratory Measuring Devices

Our quality management system ensures quality at the highest level:

- Automotive Industry
- Process Measuring and Control Technology
- Manufacturing and Automation Technology
- Development and Research Institutes
- Aerospace Engineering
- Chemical Industry
- Mechanical Engineering
- Food Industry
- Medical Technology
- Pharmaceutical Industry
- Universities
- Electrical Engineering
- Construction of Apparatus
- Scales Manufacturing
- Metal Industry
- Drive Systems and Components Engineering
- Household Appliance Industry
- Building Industry
- Packaging Technology
- ...



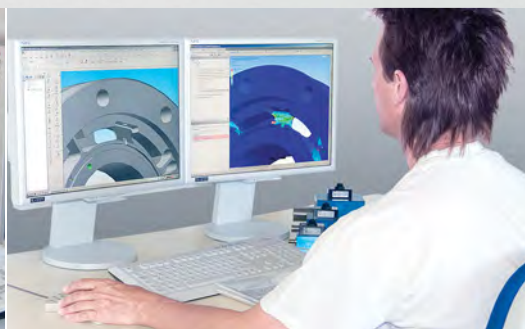
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**Lorenz** *amplifiers and measured data evaluation units*    **Lorenz** *torque sensors*  
**Lorenz** *weighing technology*    **Lorenz** *customized sensor and system solutions*  
**Lorenz** *custom-designed test benches and facilities*    **Lorenz** *force sensors*



Development



Engineering



Application



Production



Calibration

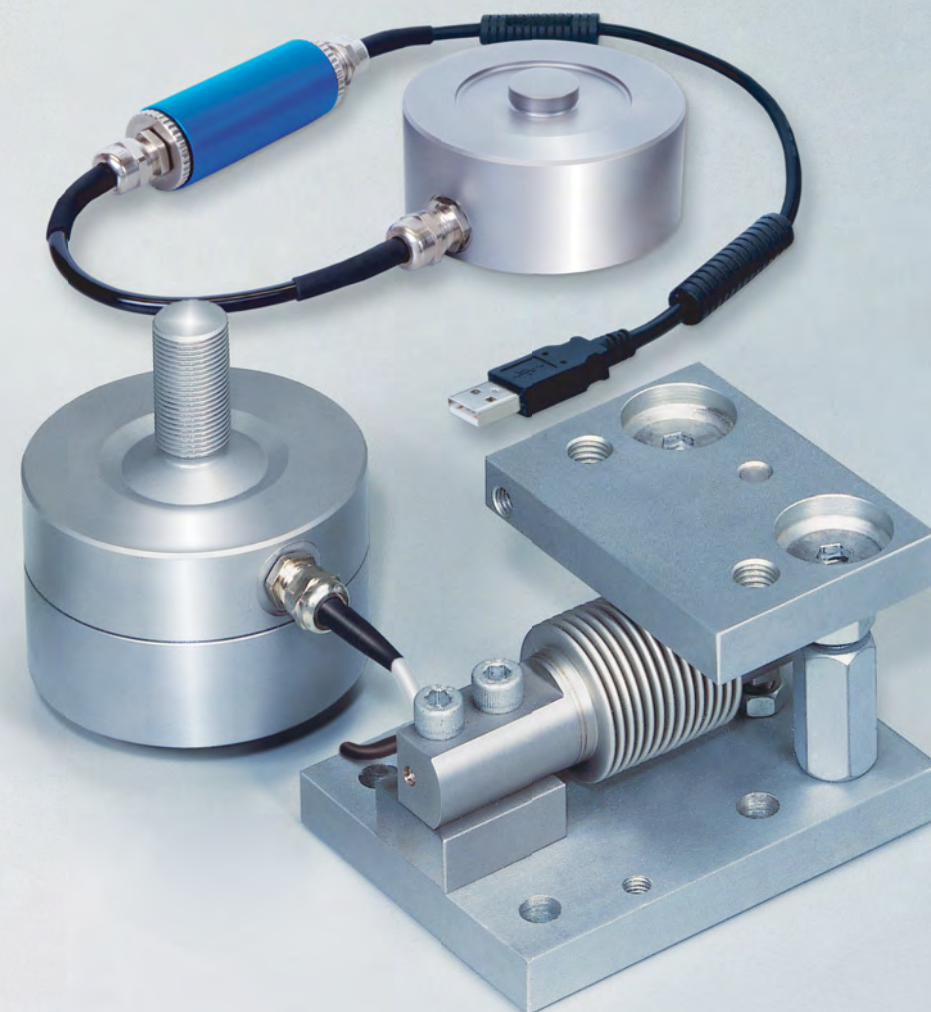


Repair Service

**The Lorenz Messtechnik production spectrum:**

Torque sensors, force sensors, load cells as well as the related measuring amplifiers.

Furthermore testing devices and system solutions which act for the acquisition, processing and analyses of torque, speed and angle of rotation as well as other physical and electrical sizes.


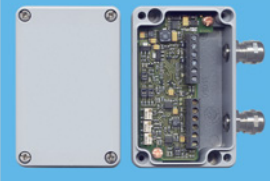
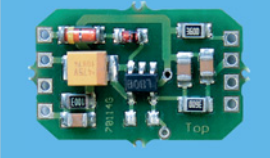

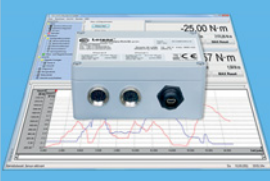



**Calibration:**  
 DAkkS- Calibration  
 Proprietary Calibration





Sensor Interfaces

Analog	Type	Technical Details
	LCV	SG-Sensor-Interface for the Conversion of SG-based Sensor (e.g. Force and Torque Sensors or Load Cells) Output Signals to normed Voltage Signals of $\pm 5\text{ V}$ , $\pm 10\text{ V}$ , $0/4\dots 20\text{ mA}$ , $10\pm 10\text{ mA}$ or $12\pm 8\text{ mA}$ for the direct Connection to e.g. a PLC or Production Machine. By the high Level of Protection IP67 of the Housing, the Measuring Amplifier is also suitable for rough Industry Applications. The Measuring Amplifier is also available as a Board without Housing which allows direct integration in many Sensors.
	SI	SG Measuring Amplifier for the Conversion of SG-based Sensor (e.g. Force and Torque Sensors or Load Cells) Output Signals to normed Voltage Signals of $\pm 5\text{ V}$ , $\pm 10\text{ V}$ , $0/4\dots 20\text{ mA}$ , $10\pm 10\text{ mA}$ or $12\pm 8\text{ mA}$ for the direct Connection to e.g. a PLC or Production Machine. Through its robust Aluminum Die Cast Housing with high Level of Protection IP66, this Measuring Amplifier is also very suitable for heavy Industry Applications.
	LMV	SG Measuring Amplifier for the Conversion of SG-based Sensor (e.g. Force and Torque Sensors or Load Cells) Output Signals to normed Voltage Signals of $1\dots 9\text{ V}$ or $5\pm 4\text{ V}$ for the direct Connection to e.g. a PLC or Production Machine. Through the very small Dimensions of the Amplifier Board, this Measuring Amplifier allows direct Integration in many Sensors.
Digital		
	LCV-USB2	USB-Sensor-Interface with freely available Configuration and Evaluation Software VS2. The Evaluation and Excitation of the connected Sensor occurs via the USB Interface of the PC. Sensors with Output Signals of $\text{mV/V}$ , $\pm 5\text{ V}$ , $\pm 10\text{ V}$ , $0/4\dots 20\text{ mA}$ , $10\pm 10\text{ mA}$ or $12\pm 8\text{ mA}$ are suitable for the Connection. Through the Measuring Rate of up to $5000/\text{s}$ , high-dynamic Measurements are realizable. This Measuring Amplifier is also very suitable for rough Industry Applications by the high Level of Protection IP67 of the Housing, It is also available as a Board without Housing which allows direct Integration in many Sensors.
	SI-USB	2-Channel-USB-Sensor-Interface with freely available Configuration and Evaluation Software VS2. The Evaluation and Excitation of the connected Sensor occurs via the USB Interface of the PC. Sensors with Output Signals of $\text{mV/V}$ , $\pm 5\text{ V}$ , $\pm 10\text{ V}$ or $0/4\dots 20\text{ mA}$ are suitable for the Connection. Through the Measuring Rate of up to $2500/\text{s}$ , high-dynamic Measurements are realizable. This Measuring Amplifier is also very suitable for heavy Industry Applications by its robust Aluminum Die Cast Housing.
	SI-RS485	2-Channel-RS485-Sensor-Interface with freely available Configuration and Evaluation Software VS2. The Evaluation and Excitation of the connected Sensor occurs via the RS485 Interface. Sensors with Output Signals of $\text{mV/V}$ , $\pm 5\text{ V}$ , $\pm 10\text{ V}$ or $0/4\dots 20\text{ mA}$ are suitable for the Connection. Through the Measuring Rate of up to $2500/\text{s}$ , high-dynamic Measurements are realizable. This Measuring Amplifier is also very suitable for heavy Industry Applications by its robust Aluminum Die Cast Housing.






Additional data is available from: <http://www.lorenz-messtechnik.de>

DIN Mounting Rail Devices

	Type	Technical Details
	GM 40	Amplifier for Strain Gauge Sensors for DIN Mounting Rails, Voltage Output or Voltage and Current Output.
	GM 42-MAX	Minimum and Maximum Value Memory Device for DIN Mounting Rails, with $0\dots \pm 10\text{ V}$ Input Universally Applicable.
	GM 44-GW	The Limit Value Evaluation with 2 Adjustable Limit Values, $0\dots \pm 10\text{ V}$ Input, Universally Applicable.
	CPJ / CPJ2S	Measuring Amplifier for Strain Gauge Sensors in 4- or 6- Wire Circuit for DIN Mounting Rails with Voltage and Current Output, 4 Parallel Sensor Connections, Shunt Calibration Signal Push Button, Low Pass Filter and 2 Adjustable Set Points.
	GM 62	Measuring Amplifier for Strain Gauge Sensors for DIN Mounting Rails with Voltage Output, 2 Parallel Sensor Connections, External Control, Abatable Clamps.
	IPE50 DIN	Digital Weighing Indicator with OIML- Approval for DIN Mounting Rails, Connection of up to 8 Strain Gauge Sensors, RS485, RS232, PROFIBUS DP
	GM 40-NT	PSU (Power Supply Unit) for DIN Mounting Rail Assembly with Overload Protection, Output Adjustable ( $13.5\dots 17.25\text{ V}$ ).




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# Built-In Measuring Devices





	Type	Technical Details
	GM 80-PA	Measuring Amplifier with Data Logger for up to 3000 Measured Values for Active and Passive Sensors, with Adressable RS 232 Bus, 3 Control Inputs for External Control, 10 Sensor Parameter Sets, Fast Measurement of up to 1000/s.
	GM 80 TG/PA-VS	Measuring and Evaluation Software for Easy Analysis and Graphical Presentation on a PC for up to 4 Sensors Simultaneously, and for the Adjustment and Control of the GM80-PA.
	IPE50 Panel	Digital Weighing Indicator with OIML- Approval, Connection of up to 8 Strain Gauge Sensors, RS485, RS232, PROFIBUS DP
	PAX	Programmable Industry- Digital Built-In Measuring Devices.
	PAX-DP	Programmable 2-Channel Industry- Built-In Measuring Devices.

Additional data is available from: <http://www.lorenz-messtechnik.de>

# Portable Systems

	Type	Technical Details
	GM 77	DC Voltage Measuring Amplifier for Strain Gauge Sensors, Mains-Independent, a 4½ Digit LCD-Display, Calibration Control Switch and Maximum Value Memory.
	GM 80	Measuring Amplifier with Data Logger for over 15000 Measured Values for Active and Passive Sensors, USB- Interface, RS 232- Interface, 10 Sensor Parameter Sets, Fast Measurement of up to 1000/s, Mains-Independent.
	GM 80-VS	Measuring and Evaluation Software for Easy Analysis and Graphical Presentation on a PC and for the Adjustment and Control of the Hand-Held Unit GM80.

# Tabletop and Laboratory Measuring Devices

	Type	Technical Details
	GM 80-TG	Measuring Amplifier with Data Logger for up to 3000 Measured Values for Active and Passive Sensors, with Adressable RS 232 Bus, 3 Control Inputs for External Control, 10 Sensor Parameter Sets, Fast Measurement of up to 1000/s.
	GM 80 TG/PA-VS	Measuring and Evaluation Software for Easy Analysis and Graphical Presentation on a PC for up to 4 Sensors Simultaneously, and for the Adjustment and Control of the GM80-TG.
	PAX-LC-TG	Micro- Processor Controlled Display Device in Small Housing, for Passive and Active Signals, RS 232- Interface.
	DD-2002	Dual-Range Digital Display for Torque/Speed, Torque/Angle, or Force/Displacement Measurement.

Additional data is available from: <http://www.lorenz-messtechnik.de>