

LMU 209

LOAD MONITORING UNIT

MAGTROL's **LMU-Load Monitoring Units** are signal conditioners for strain gauge sensor applications. They provide the excitation voltage, amplify the output signal, and incorporate overload protection. The LMU 21X Series are specifically designed to work with MAGTROL's Load Measuring Pins. The **LMU 209** is versatile and designed for conditioning and interfacing low amplitude signals to industrial programmable logic controllers (PLC). The LMU conditioners can easily be connected to the **GAD Series** and **AN Series** signal displays.

FEATURES

- Signal-conditioning of strain gauge sensors
- Very large zero-adjusting range
- Universal input ranges from 0.5 mV/V to 4 mV/V
- Two calibrated outputs: voltage and current
- Selectable bridge supply voltage
- Polycarbonate housing for mounting on DIN-rails or aluminum housing available for harshness applications
- Frequency Response from 0 Hz to 3 kHz (-3 dB)



Fig. 1: LMU 209 - Polycarbonate housing

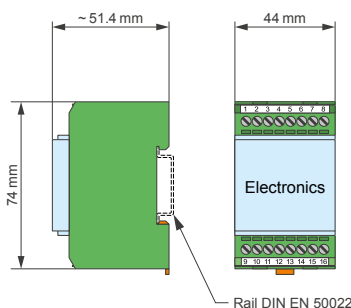
DESCRIPTION

The LMU 209 is a versatile strain gauge amplifier, designed for signal conditioning and interfacing low level signals to programmable logic controllers (PLCs) or any control unit with analog inputs. The LMU 209 features both voltage and current-type outputs with life zero.

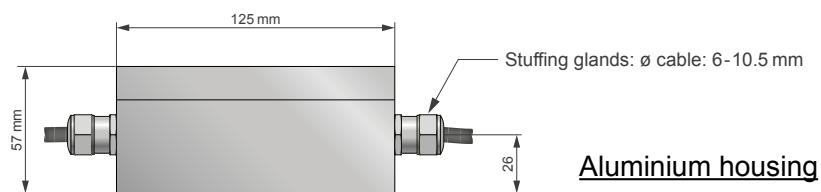
Due to its integrated DIP-switches, the amplifier can be easily configured to the desired input ranges.

This modularized amplifier is ready for snap-on mounting to DIN-rails. All wires are connected to screw terminals.

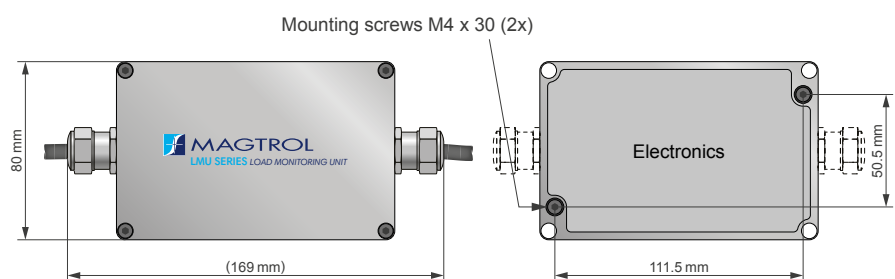
DIMENSIONS



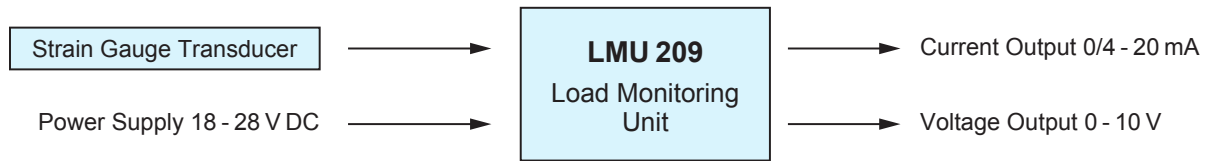
DIN-Rail housing



Aluminium housing



NOTE: 3D STEP files of most of our products are available on our website: www.magtrol.com ; other files are available on request.

SYSTEM CONFIGURATION

SPECIFICATIONS

INPUT CHARACTERISTICS		TRANSFER CHARACTERISTICS	
Power Supply		Adjustment Sensitivity	Adjustment using 10-turn potentiometer
Supply	18-28 VDC / 70 mA	Zero Coarse Adjustment Range	± 75 %, in 5 ranges with switches
Ripple Voltage	max. 1 Vpp / 50 Hz	Zero Fine Adjustment	Adjustment using 10-turn potentiometer
Bridge Signal		Zero Adjustment Range	±10 mV
Sensitivity Ranges	0.5 mV/V to 1.5 mV/V 1.5 mV/V to 4.0 mV/V	Zero Drift vs. Temperature	<0.01 %/°C
Sensitivity (default)	1 mV/V	Linearity Error	<0.05 %
Input-resistance Sensor	5 V: 120 Ω to 10 kΩ 10 V: 330 Ω to 10 kΩ	Noise	max. 20 mVpp (0-5 kHz)
Bridge Supply Voltage	5 VDC or 10 VDC (selectable)	Frequency Response	0 Hz to 3 kHz (-3 dB)
OUTPUT CHARACTERISTICS		F.R. with selectable low-pass filter	0-500 Hz (-3 dB)
Voltage Output	0-10 V @ R _{load} 3 kΩ	ENVIRONMENTAL CHARACTERISTICS	
Current Output	0/4-20 mA @ R _{load} 0-800 Ω	Operating Temperature	-20 °C to +60 °C
Calibration Signal	100 % (10 V or 20 mA) ±0.8 %	Protection Class	IP 52: Polycarbonate housing IP 65: Aluminum housing
		EMC	According to EN61000-4
		MECHANICAL CHARACTERISTICS	
		Housing Material	PC-F, UL94 V-0 polycarbonate or aluminum

ORDERING INFORMATION

ORDERING NUMBER	LMU 209 /	---	-
011: polycarbonate housing			
021: IP 66 aluminium housing			
blank: without calibration			
C: calibrated version			

Example: LMU209 Monitoring Unit, in polycarbonate housing without calibration would be ordered as follows: **LMU209/011**

LMU209 Monitoring Unit, in aluminium housing, with calibration would be ordered as follows: **LMU209/021C**