

EMGZ 321 Left/Right Tension Measuring Amplifier

Separate force evaluation for left and right
Precise tension monitoring over the
measuring roller

Plug & Play or utilize Ethernet connection
Easy to operate and provides flexible set-up

Freely configurable digital inputs and
outputs

Provides special monitoring functions
and flexibility for application changes

3 housing/mounting options
DIN Rail, Wall Mount (IP 65),
and panel mount



● EMGZ 321

The EMGZ 321, a left/right strain gauge amplifier, measures the material tension on both sides of the roller independently. Thus it is possible to monitor the load distribution over the measuring roller with great accuracy. The EMGZ 321 series can be used in connection with all FMS force sensors. This high-grade product comes as a plug & play unit and is easy to setup. More advanced users can access all the internal parameters via a clearly arranged front panel, through an Ethernet/IP interface, or in a peer-to-peer configuration from a laptop or local PC.

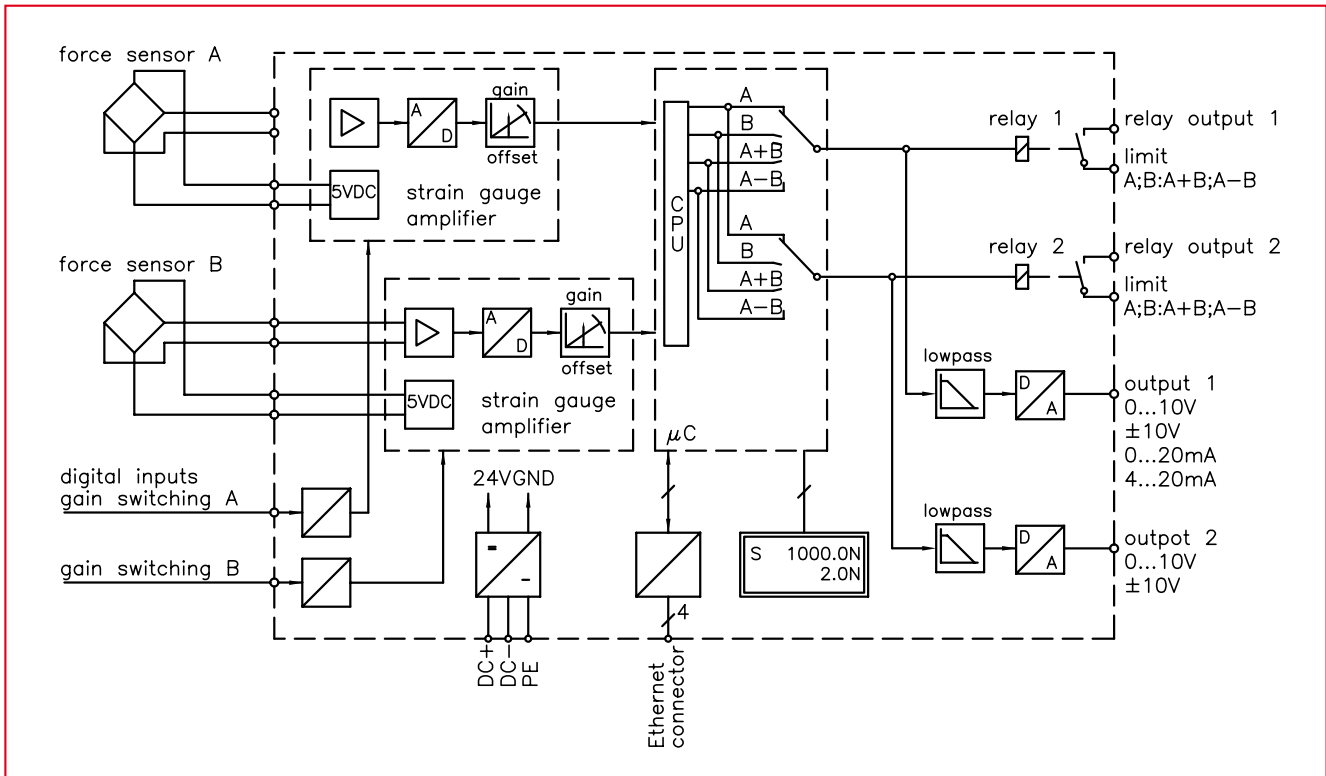
● Functional Description

The mV signal generated by the sensors is amplified and fed directly to a high resolution A/D-converter. The electronic unit amplifies the mV signal of each force sensor independently.

The microprocessor does then all application specific calculations automatically such as offset, gain, low-pass filter, limit switches, etc.

The individual sensor values A or B as well as the sum A+B and difference (A-B) values are processed and the resulting feedback values are shown on the display in [N], [lbs] or another chosen unit. Two voltage and one current outputs can be evaluated by analogue instruments, a PLC or equivalent devices.

EMGZ 321 Series • Block Diagram



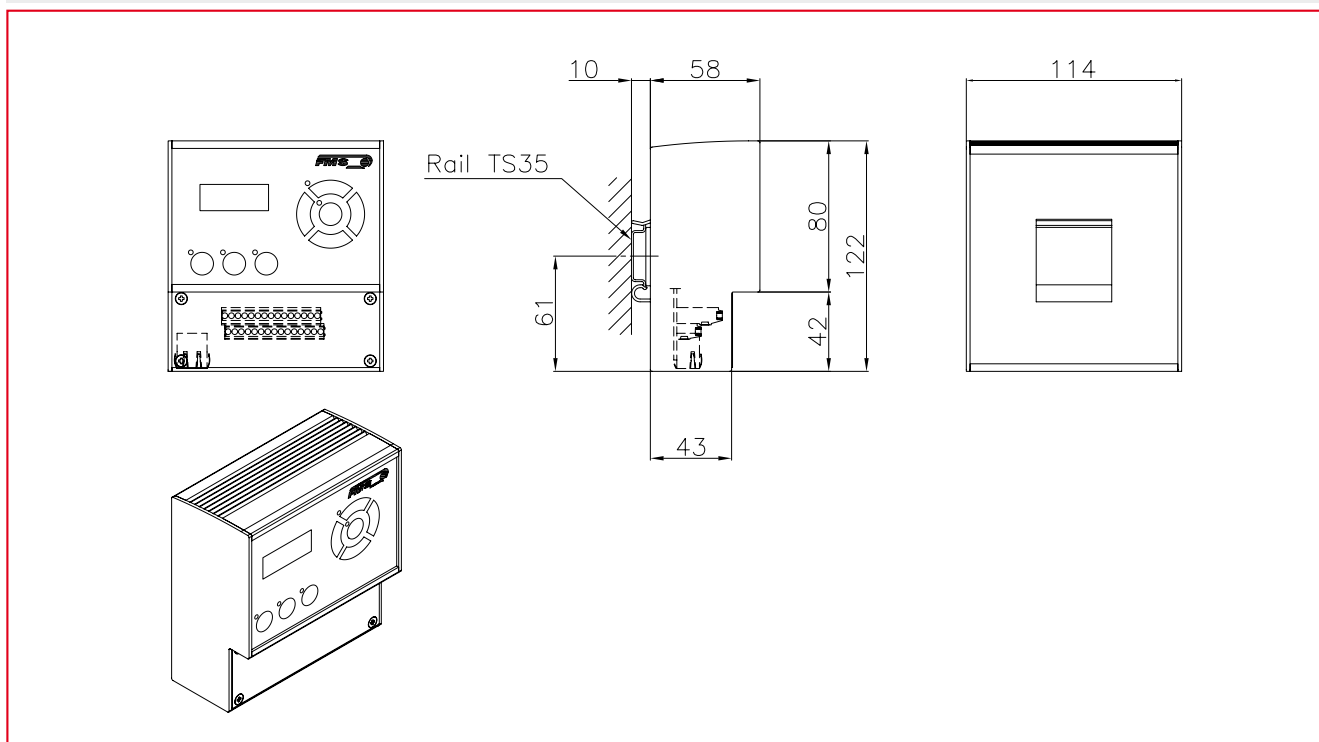
EMGZ 321 Series • Technical Data

Number of Channel	2 channels for 2 sensors
Sensor Supply	5 VDC; max. 60 mA; high stability
Input signal range	0...9 mV (max. 12.5 mV)
Resolution A/D converter	± 8192 Digit (14 Bit)
Measuring error	< 0.05% FS
Operation	3 buttons, 5 buttons wind rose, LCD-display 2 x 8 characters (size 8 mm)
Interfaces	Ethernet via web browser (Ethernet explorer 7 or higher)
Options	EMGZ 321W.AC.V for main supply
Power supply	24 VDC (18...36 VDC) / 10 W (max. 0.5 A) For EMGZ 321 ACV: 85...264 VAC, 50/60 Hz; max. 120 W
Temperature range	-10...+60 °C (14...140 °F)
Protection class	EMGZ 321.R and S: IP40 EMG Z321.W, ACV: IP65
Weight	EMGZ 321.R: 0.57 kg; EMGZ 321.S: 0.40 kg EMGZ 321.W: 0.72 kg; EMGZ 321.W.AC.V: 1.10 kg

EMGZ 321 Series • Input / Output Configuration

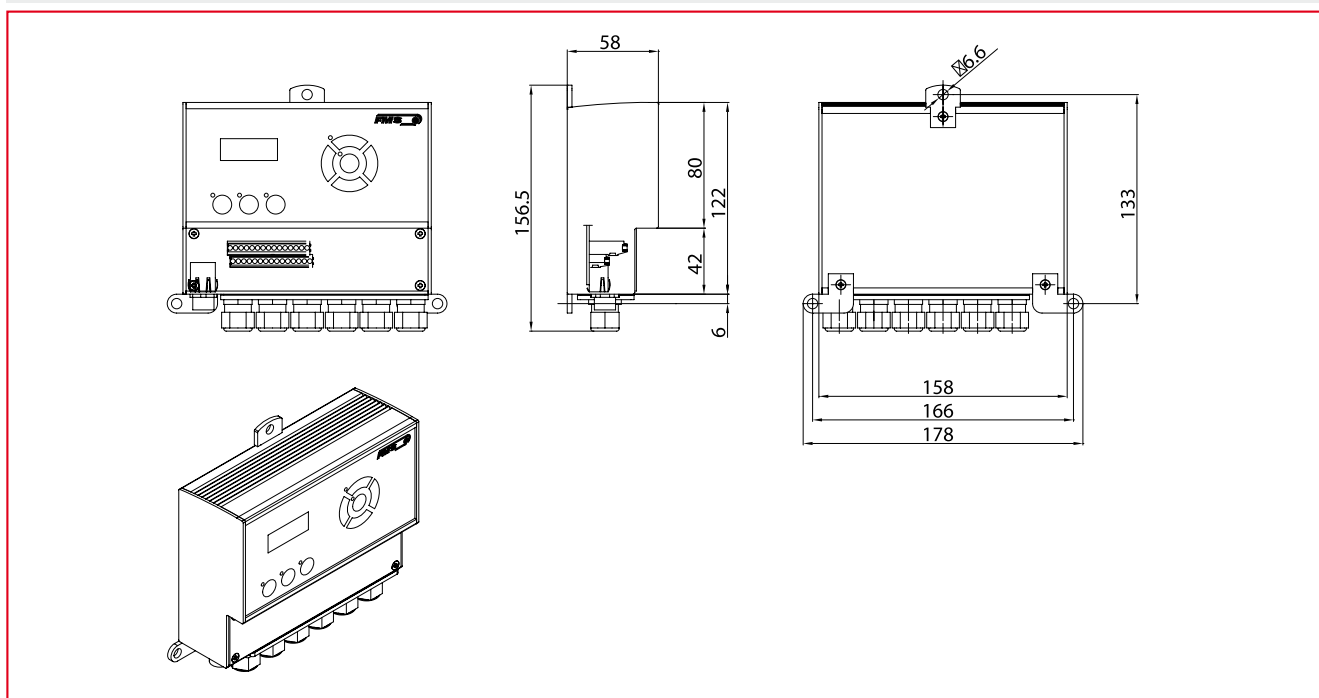
Analogue input 1	1 sensor with strain gauges @ 350 Ω (0...9 mV, max. 12.5 mV)
Analogue input 2	1 sensor with strain gauges @ 350 Ω (0...9 mV, max. 12.5 mV)
Analogue output 1	0...10 VDC; ±10 VDC, min. 1.2 k Ω or 0/4...20 mA, max. 500 Ω
Analogue output 2	0...10 VDC; ±10 VDC, min. 1.2 k Ω
Digital Inputs	2 inputs @ 24 VDC galvanically isolated
Relay outputs	2 outputs (DC: 220 V/2 A/60 W; AC: 250 V/2 A/62.5 VA)

EMGZ 321.R Rail Mount Housing • Dimensions in mm



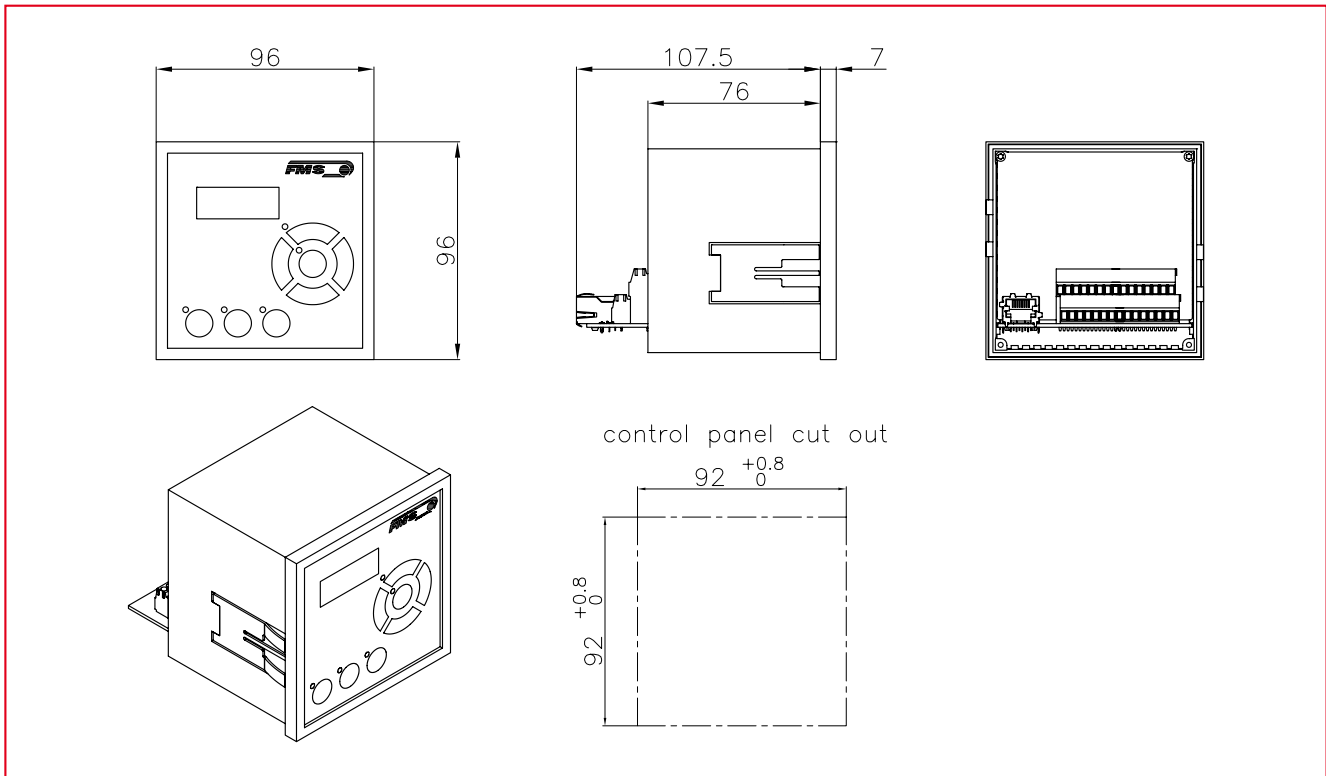
Wiring is realised via cable terminals.

EMGZ 321.W Wall Mount Housing • Dimensions in mm



With PG-Gland cable connector. Protection class IP 65.

EMGZ 321.S Panel Mount Housing • Dimensions in mm



Wiring is realised via cable terminals.

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