

## EMGZ 321 Left/Right Tension Measuring Amplifier

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

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

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**Freely configurable digital inputs and**  
**outputs**

**Provides special monitoring functions**  
**and flexibility for application changes**

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

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### ● 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.

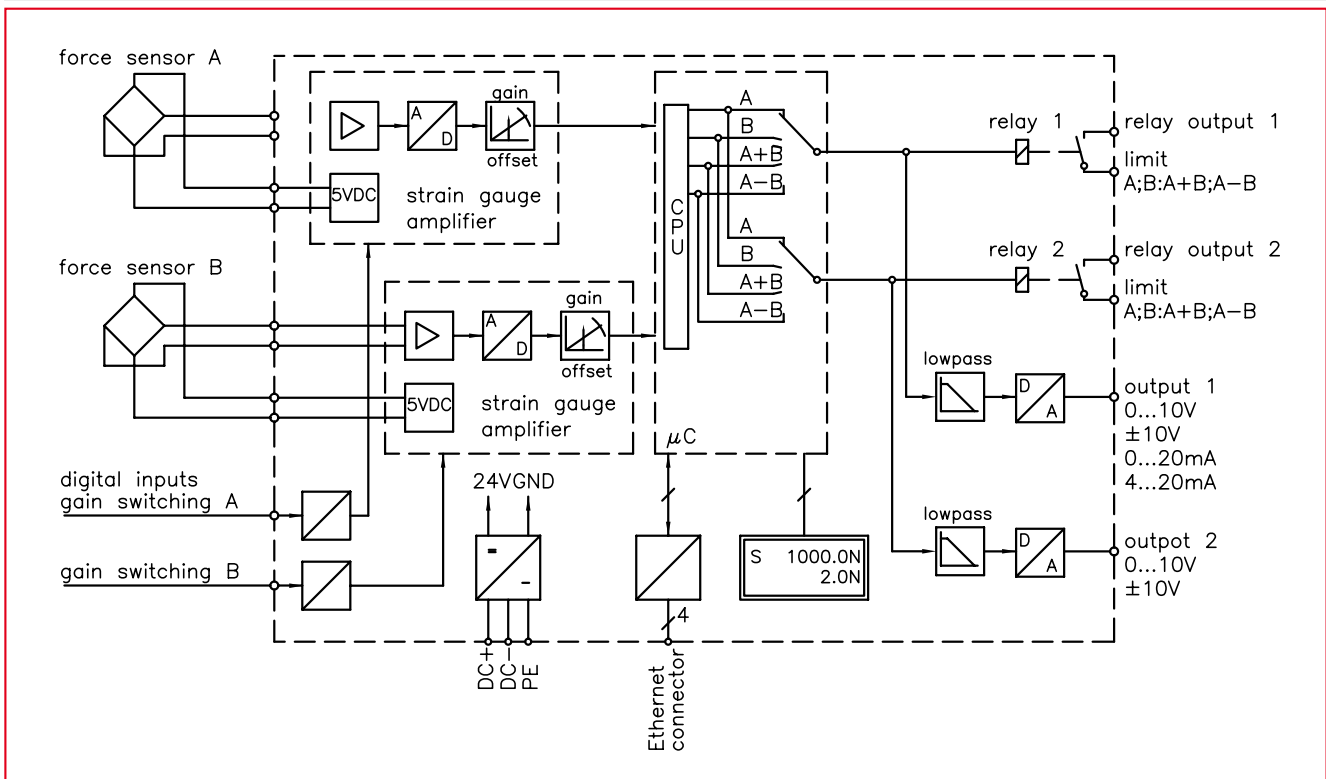
### ● Functional Description

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**



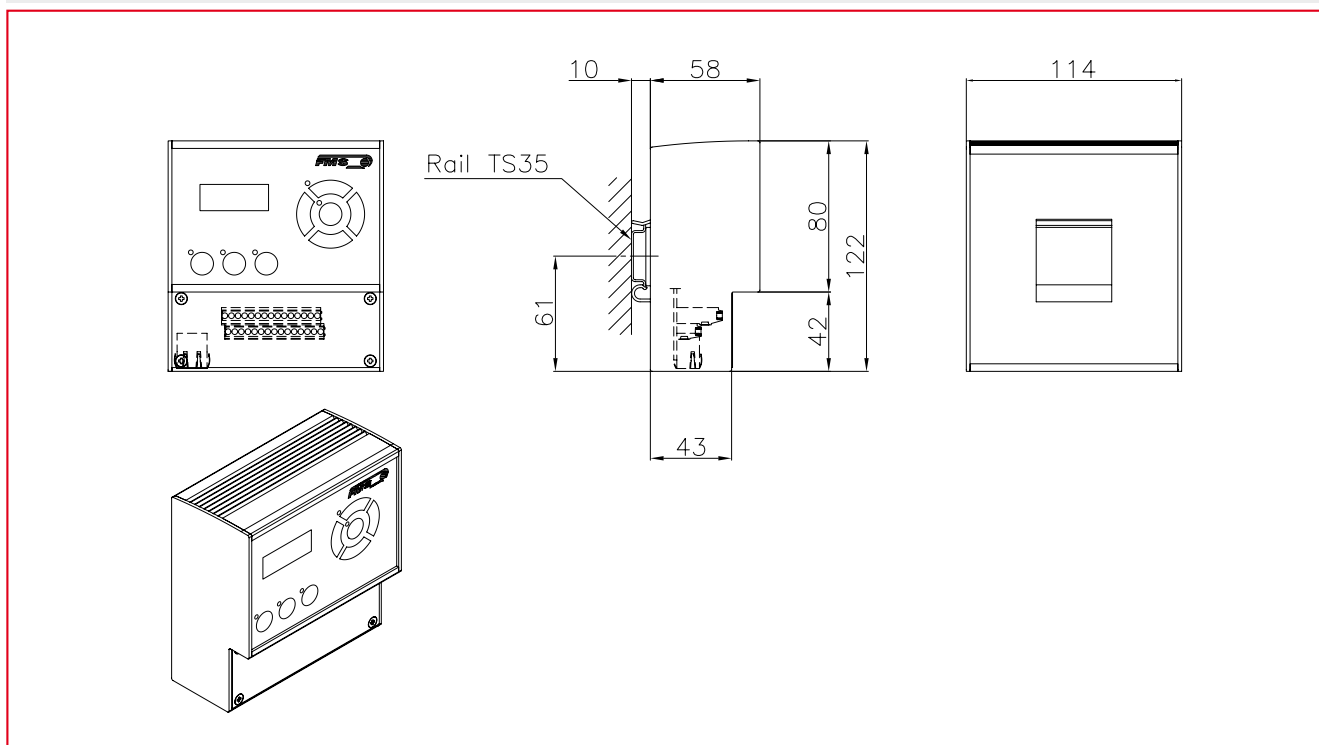
**EMGZ 321 Series • Technical Data**

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

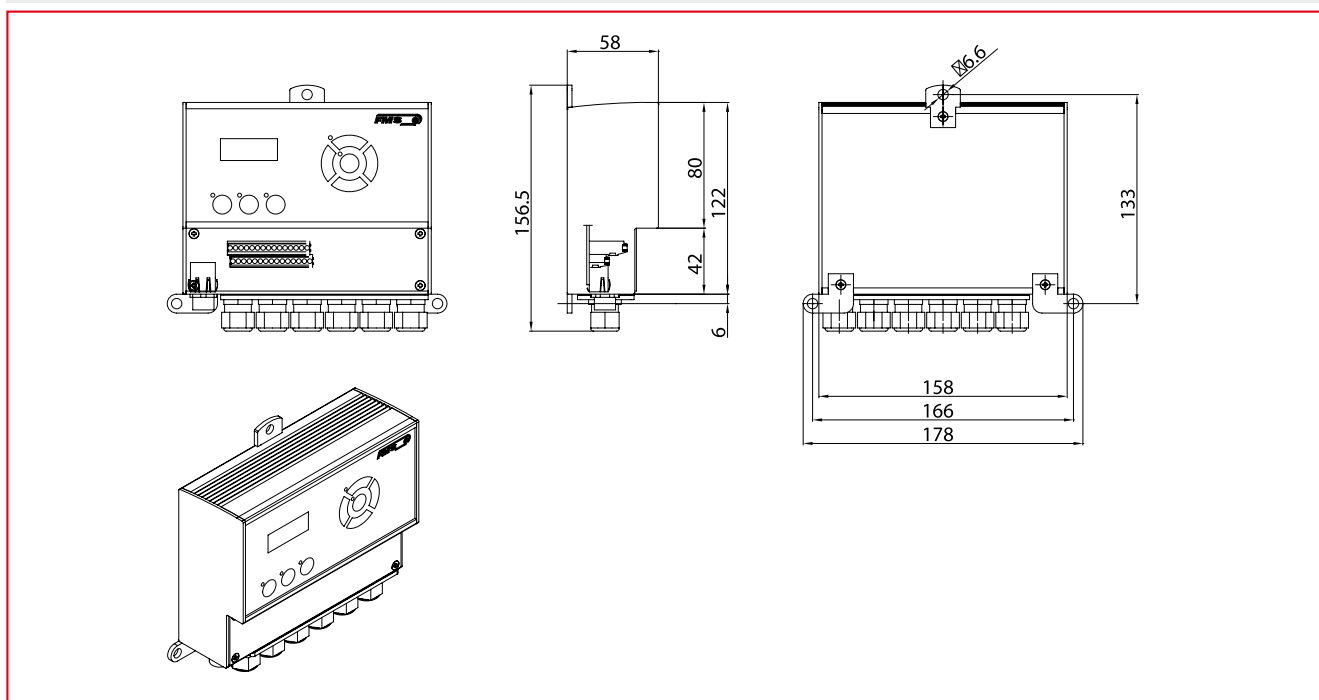
<b>Analogue input 1</b>	1 sensor with strain gauges @ 350 Ω (0...9 mV, max. 12.5 mV)
<b>Analogue input 2</b>	1 sensor with strain gauges @ 350 Ω (0...9 mV, max. 12.5 mV)
<b>Analogue output 1</b>	0...10 VDC; ±10 VDC, min. 1.2 k Ω or 0/4...20 mA, max. 500 Ω
<b>Analogue output 2</b>	0...10 VDC; ±10 VDC, min. 1.2 k Ω
<b>Digital Inputs</b>	2 inputs @ 24 VDC galvanically isolated
<b>Relay outputs</b>	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**



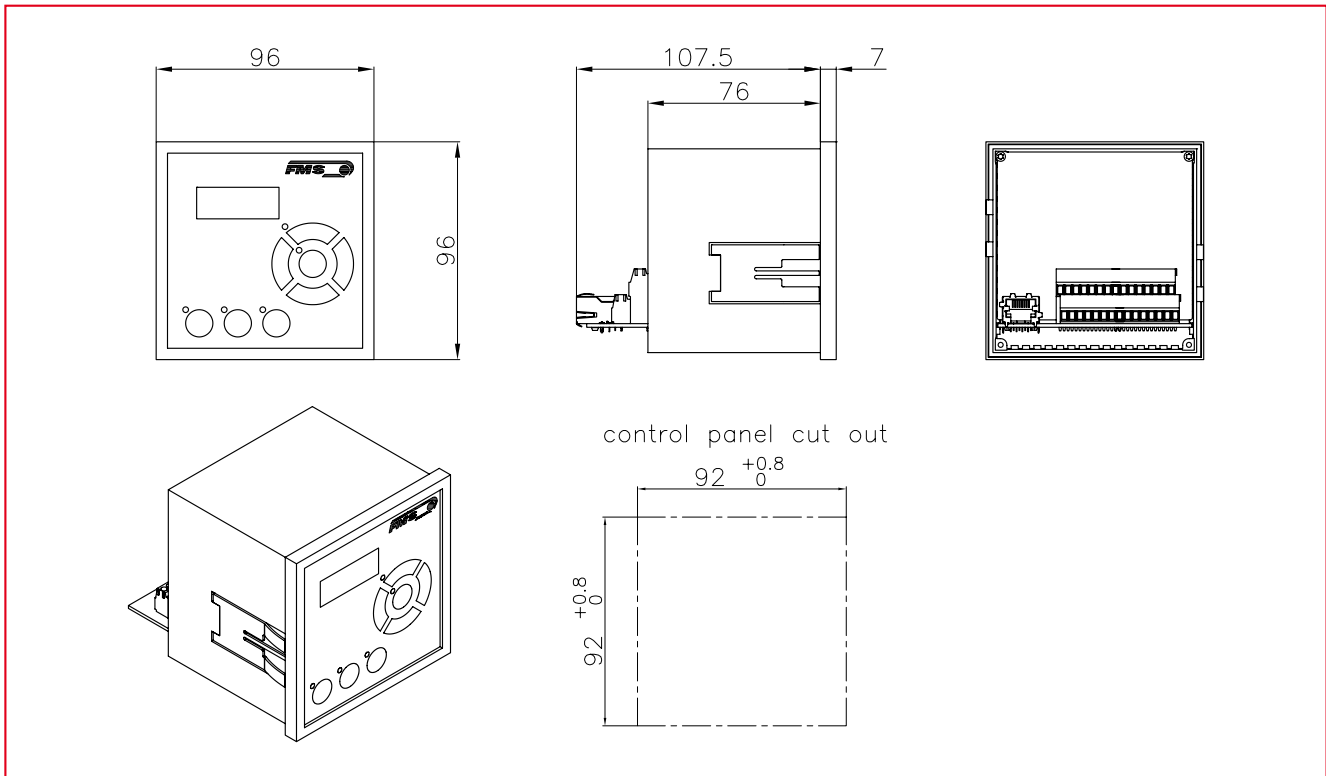
Wiring is realised via cable terminals.

**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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