

# DATASHEET

**FMS**

**EMGZ 421**

**OTHER SYMBOLS:**

EMGZ421, EMGZ 421

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## EMGZ 400/500 Series Digital Tension Measuring Amplifiers

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**Digital microprocessor controlled**  
**High performance & speed capability**

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**Single and double channel versions**  
**Saves cabinet space and money**

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**4 key programming dual line display**  
**Easy to set-up and operate**

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**Galvanically isolated**  
**Protected against electrical noise**

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**Limit switches**  
**Alarm control possibility**

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### ● **EMGZ 400 / 500 Series**

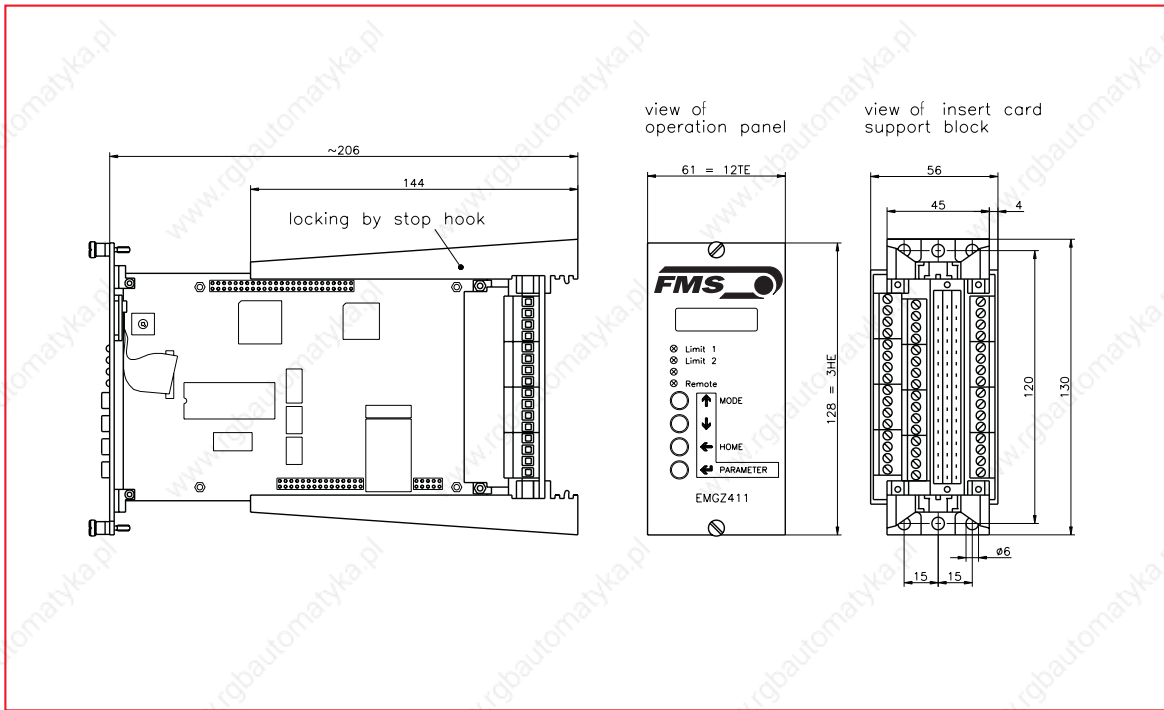
The EMGZ 400/500 Series microprocessor controlled Tension Measuring Amplifier is available in single or double channel versions and suitable for tension measurement with almost any kind of strain gauge based force sensors.

### ● **Functional Description**

The EMGZ 400/500 Series digital Tension Measuring Amplifier offers dual line LCD display, plain text in different languages. Only 4 programming keys make this a very easy to set-up and operate electronic unit. All parameters and functions can be set with keys or remotely via PC interface. Digital signal filtering, automatic offset calculation, built in gain switching facility along with all other features creates a very powerful and user-friendly tension measuring system.

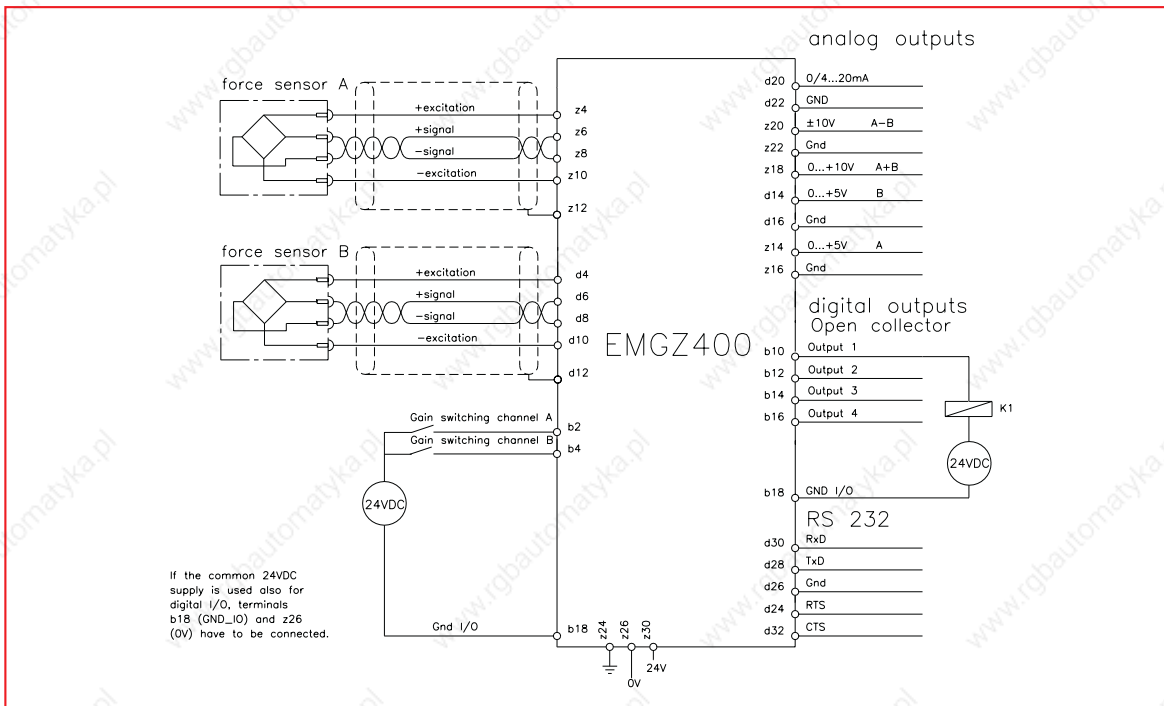
The EMGZ 400/500 Series digital Tension Measuring Amplifier is based on a European standard size PC board. Design and function are optimised for tension measuring applications. The mV signal of the sensors is pre-amplified with a fixed gain and then fed directly to the A/D converter. Signal conditioning is done digitally. The 13 bit ( $\pm 4096$  digits) resolution results in high accuracy across a wide force range

EMGZ 400/500 Series • Dimensions in mm



Note: The insert card support block EMGZ555959 must be ordered separately.

EMGZ 400/500 Series • Wiring diagram



**EMGZ 411**

Single channel.

**EMGZ 421**

For one measuring roller.

Separate processing of left and right force sensor.

Output signals are A, B, A+B, A-B.

**EMGZ 521**

Double channel.

For two independent channels.

**EMGZ 522**

Double channel. For one set of

Double range force sensors.

**EMGZ 400 / 500 Series • General Technical Data**

	EMGZ 411	EMGZ 421	EMGZ 521	EMGZ 522
<b>Channels</b>	1	1	2	1
<b>Additional functions</b>	-	left/ right separately	-	Double range force sensors
<b>Force sensors</b>	1...2x 350 Ω	2x 350 Ω	1...2x 350 Ω per channel	2 x 2 x 350 Ω
<b>Sensor supply voltage</b>	4 VDC			
<b>Input signal range</b>	0...7.7 mV (max. 9.92 mV) (0...10 V for correction input)			
<b>Resolution A/D converter</b>	13 Bit (± 4096 Digit)			
<b>Measuring error</b>	< 0.05 %			
<b>Cycle time</b>	4 ms			
<b>Operation</b>	4 keys, 4 LED's, LCD display 2 x 16 characters (3 mm height)			
<b>Interfaces</b>	RS 232			
<b>Power supply</b>	24 VDC (18...36 VDC) 0.15 A, galvanically isolated			
<b>Connector</b>	DIN 41612 type F b+d+z			
<b>Temperature range</b>	0...50 °C			

**EMGZ 400 / 500 Series • Technical Data Input / Output**

	EMGZ 411	EMGZ 421	EMGZ 521	EMGZ 522
<b>Analogue output 1</b> ±10V / 0...10V / 0/4...20mA (12 Bit)	Feedback 1	Feedback A-B	Feedback 1	Feedback range 1
<b>Analogue output 2</b> 0...10V (12 Bit)	Feedback 1	Feedback A+B	Feedback 2	Feedback range 2
<b>Analogue output 3</b> 0...5V (8 Bit)	-	Feedback A (left)	Feedback 1	Feedback range 1
<b>Analogue output 4</b> 0...5V (8 Bit)	-	Feedback B (right)	Feedback 2	Feedback range 2
<b>Digital inputs <sup>1)</sup></b>	Switch gain 1	Switch gain left	Switch gain 1	Switch gain range 1
	Switch gain 2	Switch gain right	Switch gain 2	Switch gain range 2
	Find offset	Find offset left	Find offset 1	Find offset range 1
		Find offset right	Find offset 2	Find offset range 2
<b>Digital outputs <sup>2)</sup></b>	Min. limit	Min. limit A+B	Min. limit 1	Min. limit range 1
	Max. limit	Max. limit A+B	Max. limit 1	Max. limit range 1
	Error	A-B  > limit	Min. limit 2	Min. limit range 1
		Error	Max. limit 2 <sup>3)</sup>	Max. limit range 2 <sup>3)</sup>
			Error <sup>3)</sup>	Error <sup>3)</sup>

<sup>1)</sup> 24VDC galvanically isolated <sup>2)</sup> 24VDC Open Collector <sup>3)</sup> alternatively

● **The Point is Technology**



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