

EMGZ 600 Series Digital Tension Measuring Amplifiers

Digital Microprocessor controlled
High performance & speed capability

Up to 4 independent channels
Saves machine space and money

4 key programming
Easy to set-up and operate

BUS interfacing capability
Remote connectability and integration simplicity

Special features built-in
Powerful and user-friendly in one package



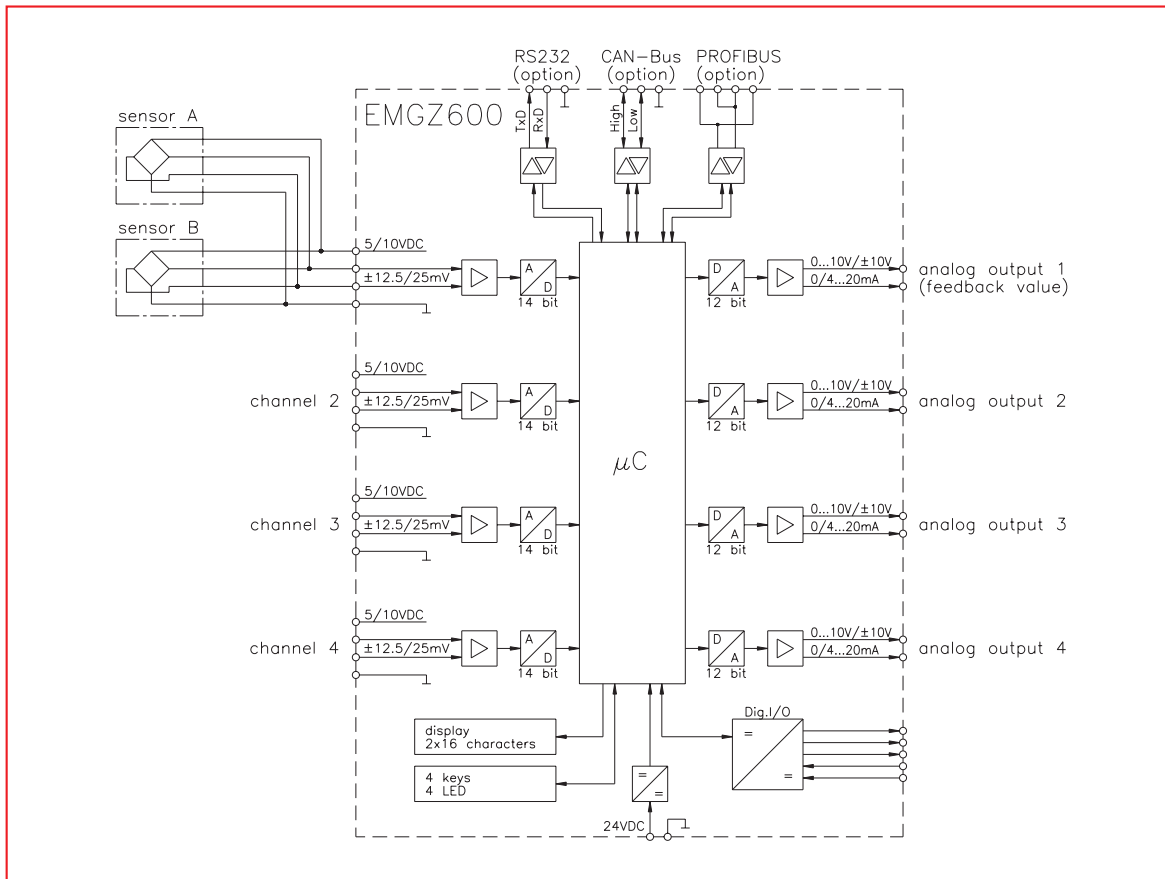
● **EMGZ 600 Series**

The EMGZ 600 Series digital Tension Measuring Amplifier with large dual line LCD display, plain text in different languages, and only 4 programming keys makes this a very easy to set-up and operate measuring unit. All parameters and functions can be set with keys or remotely via PC or BUS interface. Digital signal filtering, automatic offset calculation, automatic short circuit or cable break detection, built in gain switching facility along with all the other features creates a very powerful and userfriendly tension measuring system.

● **Functional Description**

The EMGZ 600 Series digital Tension Measuring Amplifier is available in 1 up to 4 channel versions. They are suitable for tension measurement with almost any kind of strain gauge based force sensors. The EMGZ 600 Series digital Tension Measuring Amplifier is available in wall and panel mount housing. Design and function are optimized for tension measuring applications. The mV signal of the sensors is preamplified with a fixed gain and then fed directly to the A/D converter. Signal conditioning is done digitally. The 14 bit (± 8192 digits) resolution results in high accuracy across a wide force range

EMGZ 600 Series • Block diagram



EMGZ 611...614

One to four channels. One or two sensors per channel can be connected.

EMGZ 621

Two channels. **Separate** processing of left and right force sensor.
Output signals are A, B, A+B, A-B.

EMGZ 622/642

Two or four channels. **Double Range Force Sensors** can be connected.

EMGZ 600 Series • General Technical Data

	EMGZ611	EMGZ612	EMGZ613	EMGZ614	EMGZ621	EMGZ622	EMGZ642
Channels	1	2	3	4	1	1	2
Housing dimensions	small	small	large	large	small	small	large
Additional Functions	–				left / right separately	Double range force sensors	
Force sensors	1...2 x 350 Ω per channel				2 x 350 Ω	2 x 2 x 350 Ω per channel	
Sensor supply	5 VDC ¹⁾ (default) or 10 VDC ¹⁾						
Input signal range	0...9 mV (max. 12.5 mV) or 0...18 mV (max. 25 mV) ²⁾						
Resolution A/D converter	±8192 Digit (14 Bit)						
Measuring error	< 0.05 %						
Output signal range	0...10V / ± 10V / 0...20 mA / 4...20 mA (12 Bit)						
Cycle time	2 ms						
Operation	4 keys, 4 LED's, LCD display 2 x 16 characters (8 mm height)						
Interfaces	RS 232, Profibus [®] DP (EN 50170) ³⁾ , CANopen ³⁾ , DeviceNet™ ³⁾						
Power supply	24VDC (18...36VDC) / 10 W (max. 1 A), 110 VAC ^{3) 4)} , 230 VAC ^{3) 4)} , galvanically isolated						
Temperature range	32...113°F [0...45 °C]						
Protection class	IP 54						
Weight	3.3 lbs [1.5 kg]						

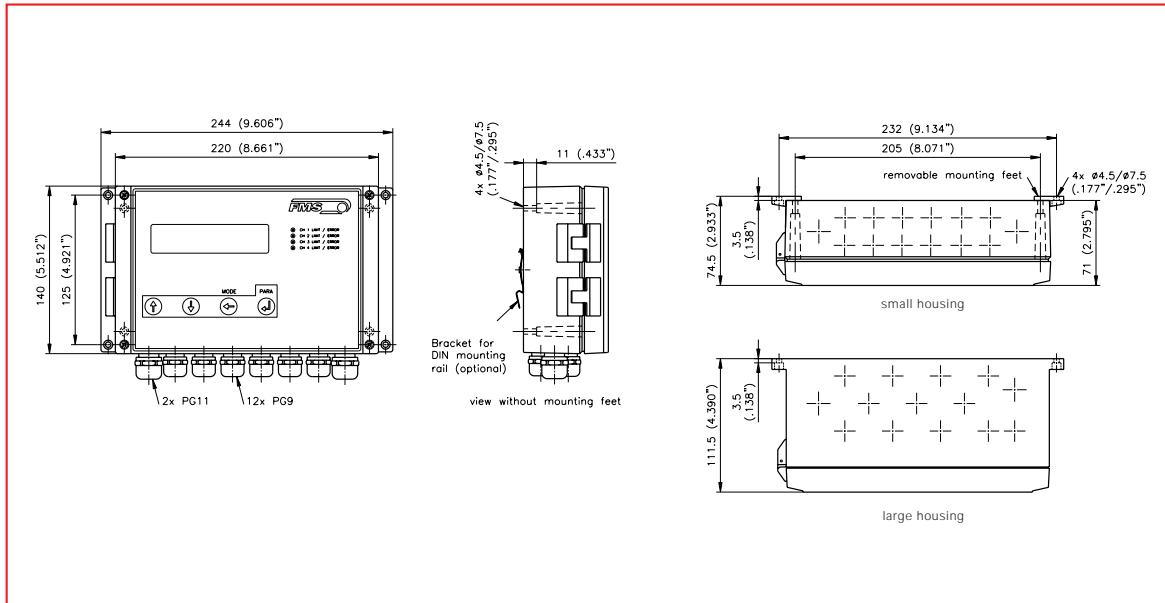
¹⁾ 6 wire circuit also possible ²⁾ depending on force sensor excitation ³⁾ optional ⁴⁾ large housing required

EMGZ 600 Series • Technical Data analog input / output

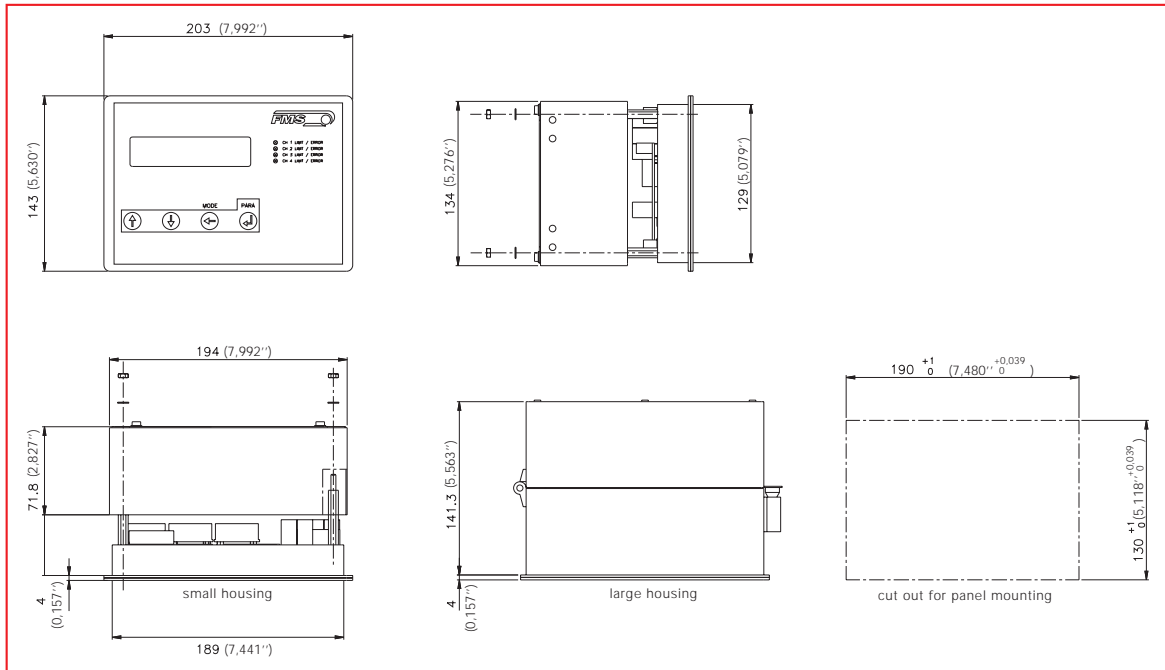
	EMGZ611	EMGZ612	EMGZ613	EMGZ614	EMGZ621	EMGZ622	EMGZ642
Analog input 1	Roller 1	Roller 1	Roller 1	Roller 1	A (left)	Roller 1 / Range 1	Roller 1 / Range 1
Analog input 2	–	Roller 2	Roller 2	Roller 2	B (right)	Roller 1 / Range 2	Roller 1 / Range 2
Analog input 3	–	–	Roller 3	Roller 3	–	–	Roller 2 / Range 1
Analog input 4	–	–	–	Roller 4	–	–	Roller 2 / Range 2
Analog output 1	Feedback 1	Feedback 1	Feedback 1	Feedback 1	A+B	Roller 1 / Range 1	Roller 1 / Range 1
Analog output 2	–	Feedback 2	Feedback 2	Feedback 2	A–B	Roller 1 / Range 2	Roller 1 / Range 2
Analog output 3	–	–	Feedback 3	Feedback 3	A (left)	–	Roller 2 / Range 1
Analog output 4	–	–	–	Feedback 4	B (right)	–	Roller 2 / Range 2
Digital inputs ^{1) 3)}	2 per channel: Find offset Switch gain				4 in total: Find offset L Find offset R Switch gain L Switch gain R	4 per channel: Find offset range 1 Find offset range 2 Switch gain range 1 Switch gain range 2	
Digital outputs ^{2) 3)}	2 per channel: Min. limit ⁴⁾ , Max. limit ⁴⁾ , Error ⁴⁾ , OK ⁴⁾				4 in total: Limit 1 Limit 2 Limit 3 Error ⁴⁾ , OK ⁴⁾	4 per channel: Limit 1 range 1 Limit 2 range 1 Limit 1 range 2 Limit 2 range 2 ⁴⁾ Error ⁴⁾ , OK ⁴⁾	

¹⁾ 24VDC via opto coupler ²⁾ Open collector ³⁾ galvanically isolated ⁴⁾ alternatively

EMGZ 600 Series • Dimensions in mm [inch] wall mounting version



EMGZ 600 Series • Dimensions in mm [inch] panel mounting version



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