

## EMGZ 310 Series Tension Measuring Amplifier

---

**Digital microprocessor controlled**  
**High performance at fastest speeds**

---

**3-key operation with alpha-numeric LCD**  
**Easily readable, concise display**

---

**Buttons for fast calibration and offset compensation**  
**Easy to setup and operate**

---

**Standardised analogue outputs**  
**Connectivity with most industrial PLCs**

---



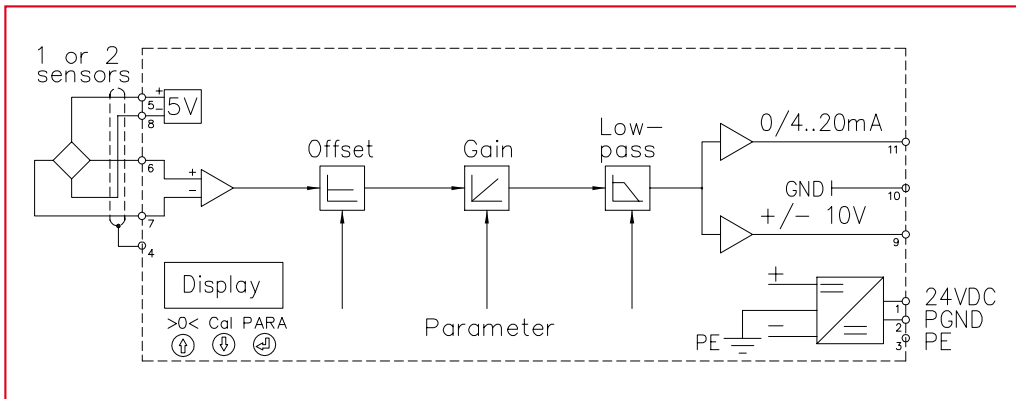
- **EMGZ 310 Series**

The digital tension measuring amplifiers of the EMGZ 310 Series are suitable for tension measurement with all FMS force sensors. This versatile product includes latest technology and can replace the previous generation of analogue pot adjustment units. Setup is straightforward. All parameters are via three easily accessible keys. Parameter setting and value reading is extremely efficient with the alpha-numeric display.

- **Functional Description**

The mV signal generated by the force sensors is amplified and fed directly to a high resolution A/D-converter. Both Voltage and Current outputs are provided as standard. Functions like signal filtering, automatic offset compensation, and gain calculation are all part of the versatility of the EMGZ 310 Series digital amplifier.

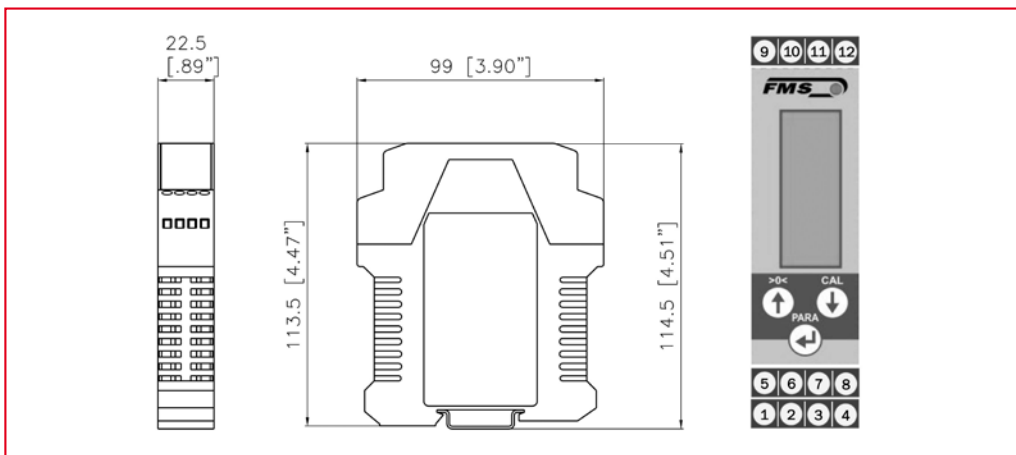
**EMGZ 310 Series • Block diagram**



**EMGZ 310 Series • Technical Data**

<b>Number of channels</b>	1 channel for 1 or 2 sensors @ 350 Ω
<b>Sensor excitation</b>	5 VDC; max. 30 mA; high precision
<b>Linearity error</b>	< 0.1%
<b>Processor cycle time</b>	1 ms
<b>Operation / parameter setting</b>	3 keys, 4-digit LCD display (alpha-numeric)
<b>Resolution A/D converter</b>	± 8192 digit (14 bit)
<b>Voltage output</b>	± 10 V; min. 1.0 k Ω (12 bit)
<b>Current output</b>	0/4...20 mA; max. 500 Ω (12 bit)
<b>Power supply</b>	24 VDC (18...36 VDC); max. 0.2 A
<b>Power consumption</b>	max. 3.0 W
<b>Temperature range</b>	0...+50 °C (32...122 °F)
<b>Protection class</b>	IP 20
<b>Special functions</b>	Buttons for calibration and offset compensation

**EMGZ 310 Series DIN Rail Mount Housing • Dimensions in mm or [inch]**



**World Headquarters:**

**FMS Force Measuring Systems AG**  
 Aspstrasse 6  
 8154 Oberglatt (Switzerland)  
 Phone + 41 44 852 80 80  
 Fax + 41 44 850 60 06  
 info@fms-technology.com

**FMS USA, Inc.**  
 2155 Stonington Avenue  
 Suite 119  
 Hoffman Estates, IL 60169  
 Phone + 1 847 519 4400  
 Fax + 1 847 519 4401  
 fmsusa@fms-technology.com

**FMS UK**  
 Highfield, Atch Lench Road  
 Church Lench  
 Evesham WR 11 4UG  
 Phone + 44 1386 871023  
 Fax + 44 1386 871021  
 fmsuk@fms-technology.com

**FMS Italy**  
 Via Baranzate 67  
 20026 Novate Milanese  
 Phone + 39 02 39487035  
 Fax + 39 02 39487035  
 fmsit@fms-technology.com