EMGZ 309 Tension Measuring Amplifier

Digital microprocessor controlled
High performance at fastest speeds

3 key operation and two-line LCD
Easy to setup and operate

3 housing/mounting types
DIN Rail, wall mount (IP 65),
and panel mount

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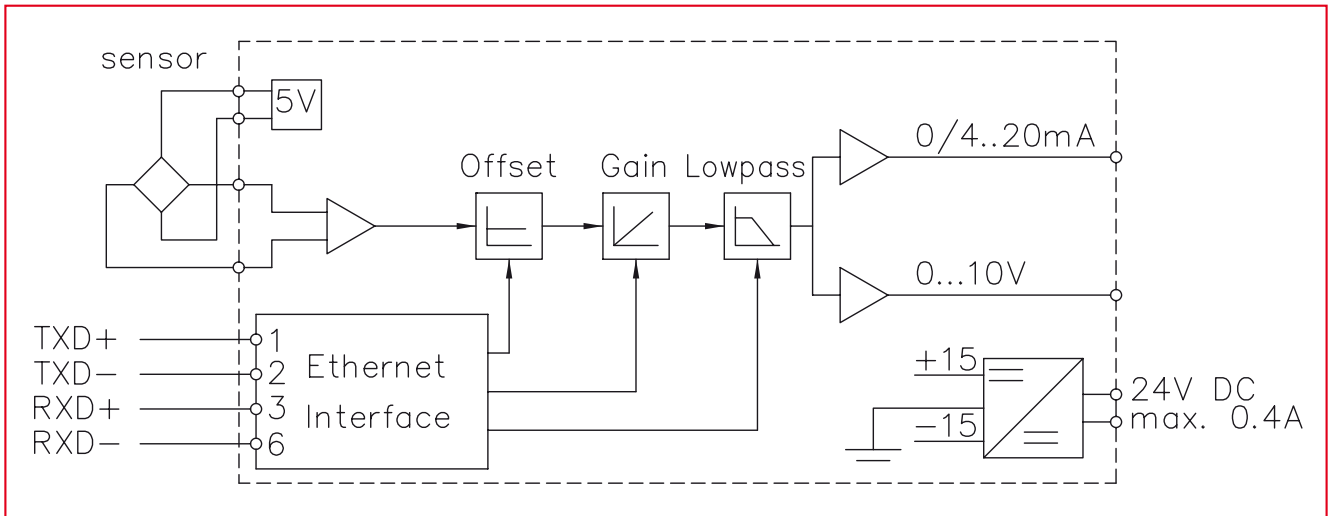Easy to operate and provides flexible set-up

● **EMGZ 309**

The digital tension measuring amplifiers of the EMGZ 309 Series are suitable for tension measurement with all FMS force sensors. This versatile product comes as a plug & play replacement for analogue pot twisting units and is very easy to setup. More advanced users can access all the internal parameters via the 3 keys or through a Web Browser.

● **Functional Description**

The mV signal generated by the sensors is amplified and fed directly to a high resolution A/D-converter. Both Volt and Current outputs are provided standard. Functions like signal filtering, automatic offset compensation, and gain calculation are all part of the versatility of EMGZ 309 digital amplifier series. The Web Browser provides an efficient and fast way for parameter setting.
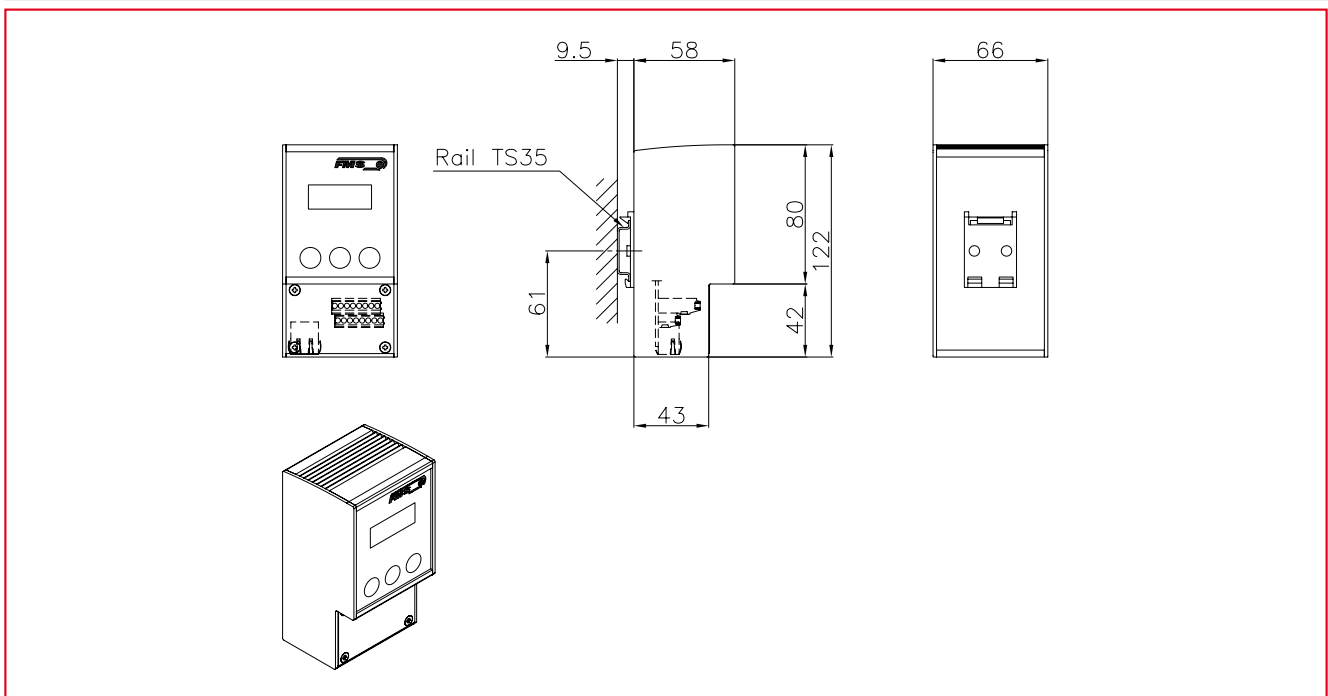
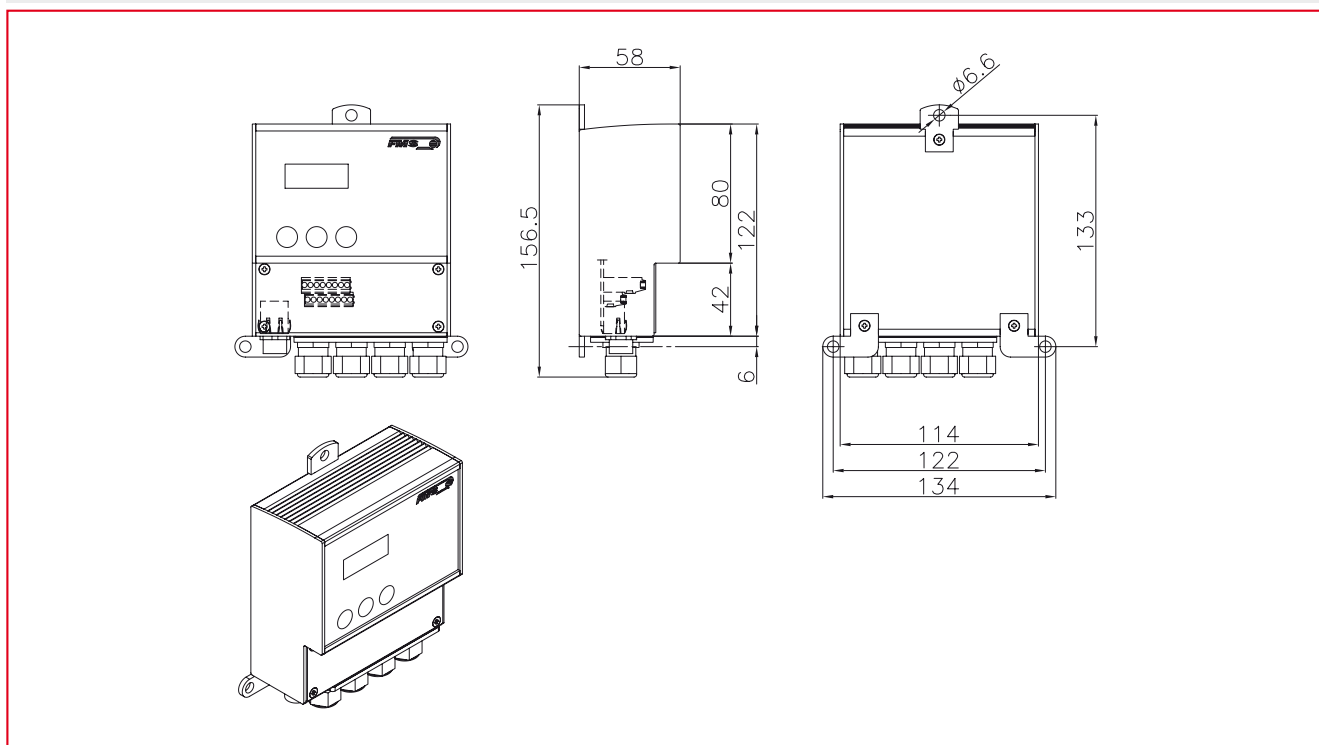SWISSMADE+

EMGZ 309 ● Block Diagram

EMGZ 309 ● Technical Data

Number of channels	1 channel for 1 or 2 force sensors @ 350 Ω
Sensor excitation	5 VDC; max. 60 mA; high precision
Temperature drift offset	< 0.01 % / K [0.006 % / °F]
Linearity error	< 0.1 %
Tension output	0...10 VDC; min. 1.2 k Ω
Current output	0/4...20 mA; max. 500 Ω
Power supply	24 VDC (18...36 VDC) max. 0.3 A
Power consumption	max. 6.0 W
Temperature range	−10...+60 °C [14...140 °F]

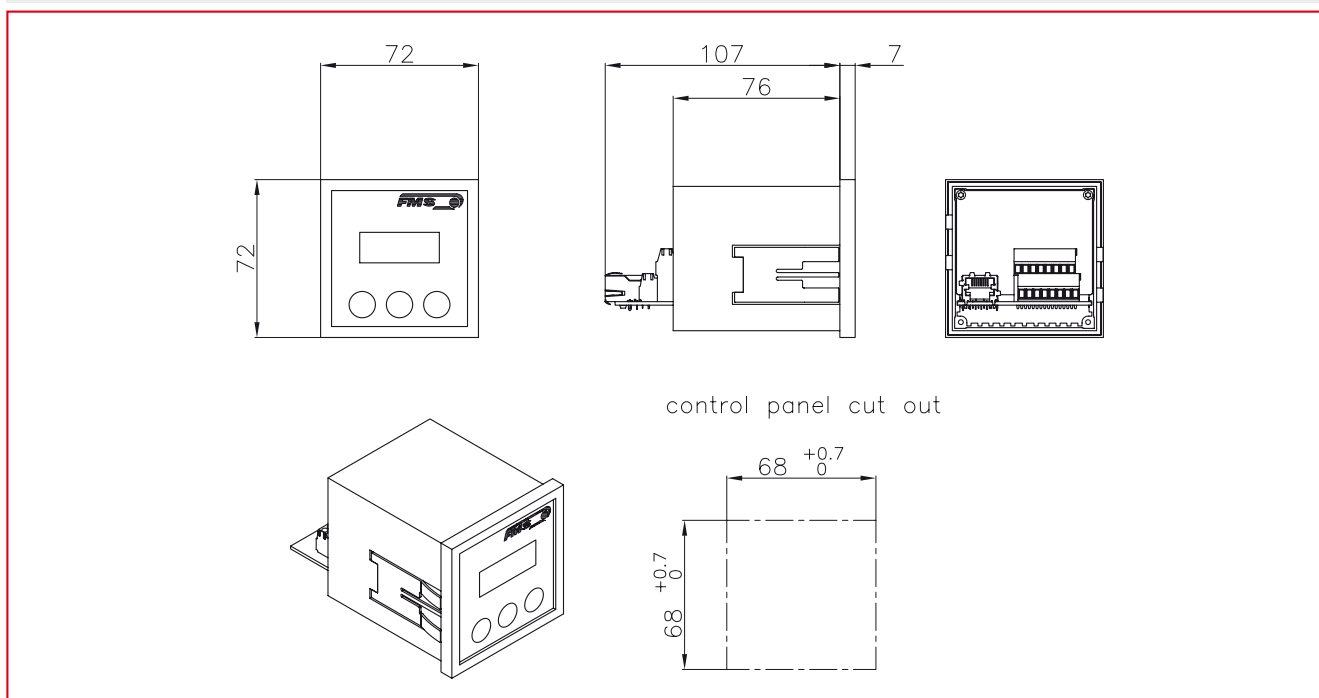**EMGZ 309.R Rail Mount Housing ● Dimensions in mm**

Wiring is realised via cable terminals.

EMGZ 309.W Wall Mount Housing ● Dimensions in mm

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

EMGZ 309.S Panel Mount Housing ● Dimensions in mm

control panel cut out

Wiring is realised via cable terminals.

FMS' Product Portfolio and System Solutions

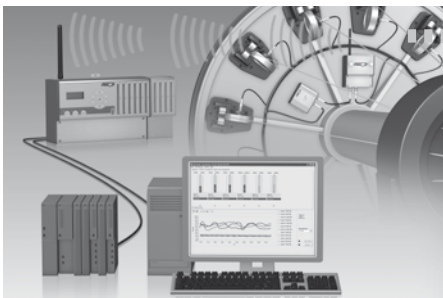**The product line Force Sensors** provides products, solutions and related services that increase industrial productivity, energy efficiency and high quality output. Its force sensors, tension measuring rollers and pillow block based designs are of premium quality and ultra durable.

The product line Electronics facilitates tension monitoring, close loop tension control and web guiding systems. Key technologies include high-performance tension amplifiers and PID-controllers, as well as products to accurately and consistently control material position in continuously manufactured products.

The main focus of the FMS Web Guiding business is to provide customers with products and solutions for web detection and web positioning. Its steering frames, drives, controllers and material sensors provide an excellent coverage of the most important applications. The industries served include converting, printing, label processing and packaging.

RTM (Radio Transmitted Tension Monitoring) delivers system solutions across the cable production value chain. These innovative systems utilise force measuring rollers to capture the tension of individual wires or strands, and then securely transmit this data from the rotating to the static part of the machine. The systems are designed with fully compatible components. Production rates and product quality on rotating strand-handling machinery are significantly improved.

Special Application Fields facilitates solutions in **vacuum** applications or in potentially explosive atmospheres.
A sophisticated range of interface options including systems such as **PROFINET, Ethernet/IP, Profibus** and **CAN-bus** provide quick and efficient integration of FMS products into the existing communication and control infrastructure of your company.

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