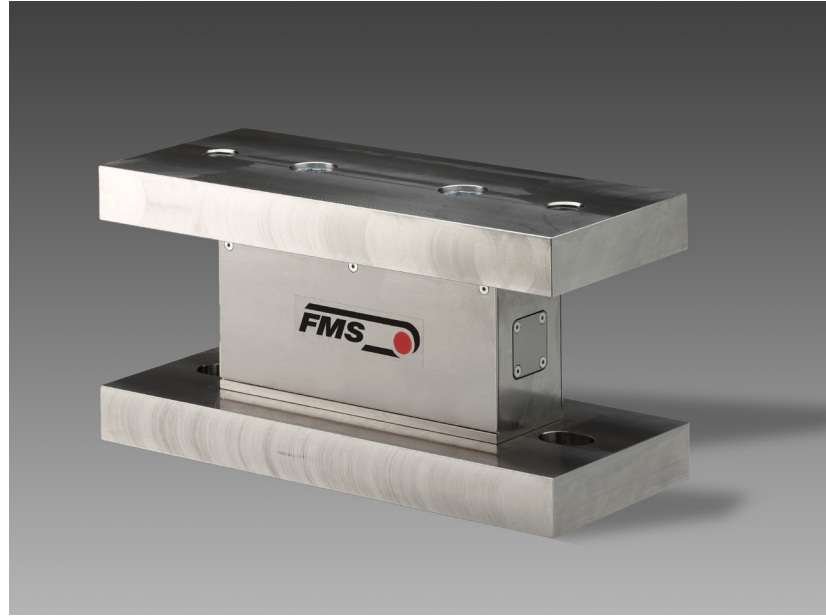


FMS Tension Control / Force Sensors

UMGZP-Series Force measuring block with increased stiffness as drop-in replacement for Philips series PR 9951

- **Direct replacement of Philips PR 9951**
No mechanical changes on machine frame
- **Durability, corrosion resistant**
Overload capacity at 10-times nominal force, stainless steel construction
- **Highest reliability**
2 year FMS warranty

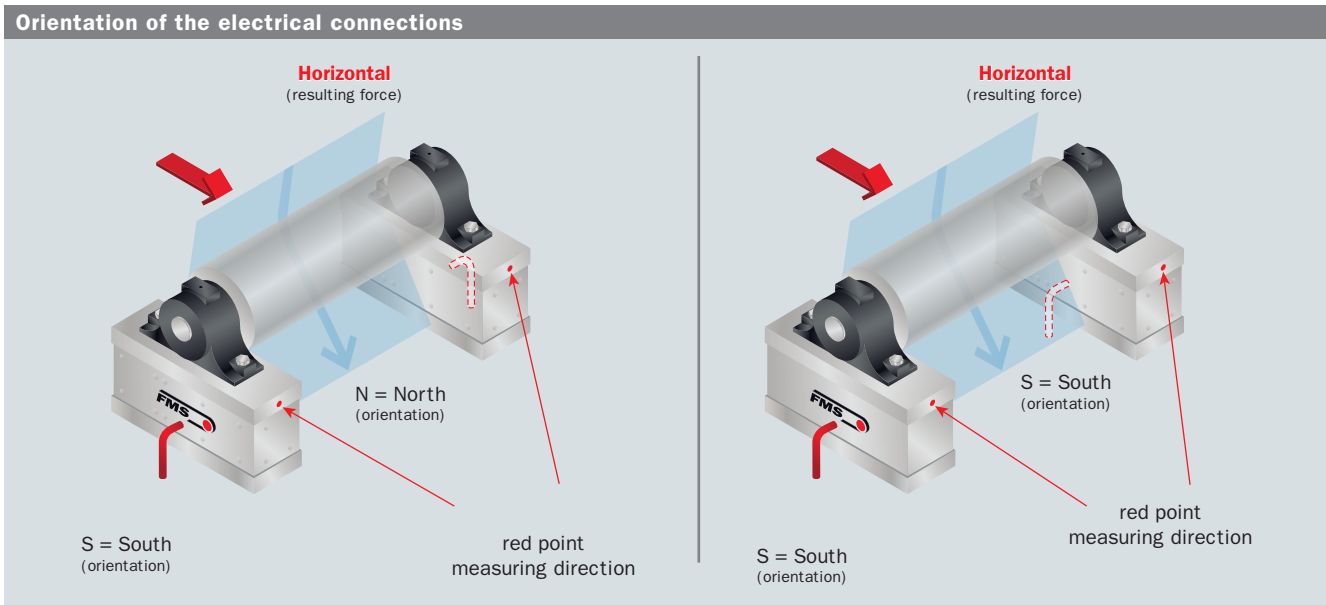
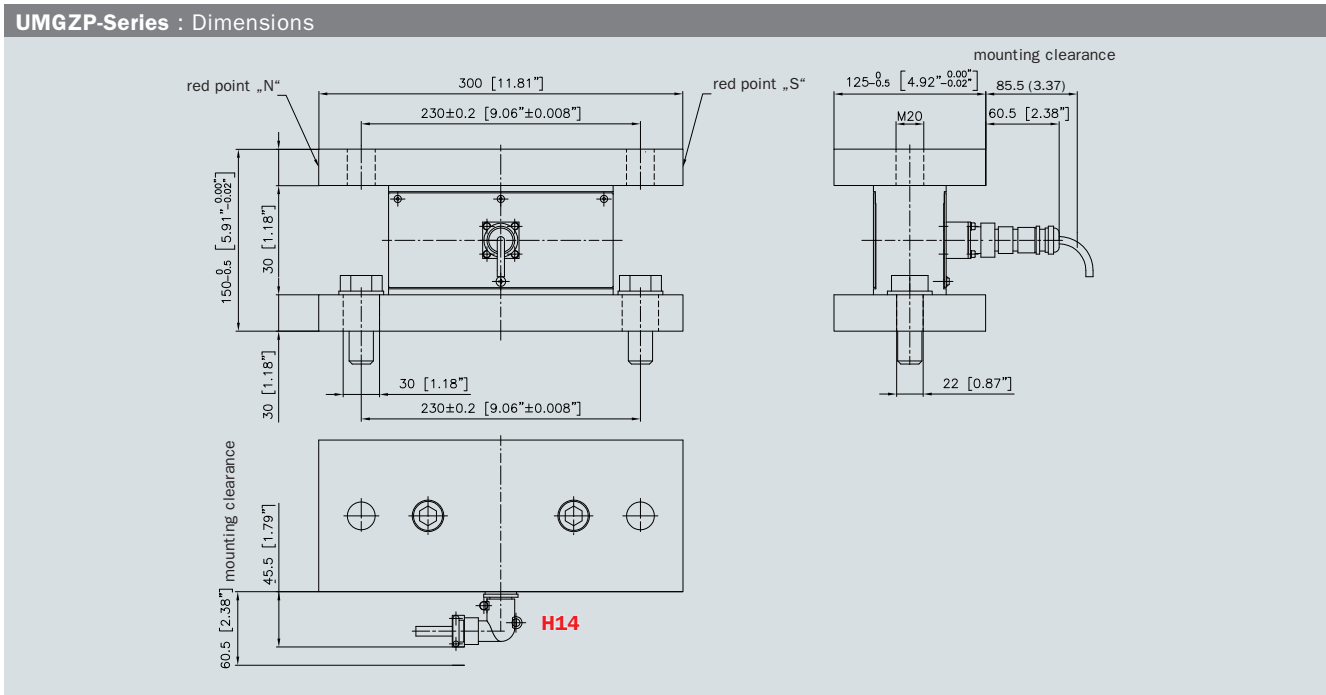


UMGZP-Series

The force sensors of the UMGZP-Series, designed for the measurement of web tension on continuous processing lines, are used in combination with standard pillow blocks. They are designed as drop-in replacement for the discontinued Philips PR 9951 series. Block mounting is simple utilizing four fasteners into the bottom surface. The UMGZP force measuring blocks feature exceptional durability and operational reliability. Constructed of stainless steel and with their high overload protection these rugged products provide accurate web tension measurement even under the most stringent requirements. They are used in any application where an easy access to and fast change of rollers is vital.

Functional description

Standard pillow blocks are installed on the force measuring blocks of the UMGZP-Series. This design combines force sensor and bearing seat and allows for easy maintenance or exchange of the blocks, bearings and roll. The substantial overload protection translates to eliminated/minimized calibration issues due to machine upset conditions. The design includes dual bending beams, and this serves to eliminate the load specific influence of torque. The movement of the bending beams, which is proportional to the applied force, is detected by strain gauges arranged in a full bridge circuit and then converted into an electrical signal. This simple measurement principle delivers precise results even with low material tension and small web wrap angles. The Red Point, as located on the sensor body, should be aligned with the direction of the resultant force due to web tension.



Setup with one force measuring block with connection S= South and one force measuring block with connection N = North.

Setup with two identical force measuring blocks with connection S = South.

UMGZP-Series : Nominal forces, Deflection, Weight						
Size Type	Nominal force N (lbf.)		Deflection mm (in.)		Weight kg (lbs.)	
UMGZP080	1000	(225)	0.10	(0.0039)	23	(50)
	2000	(450)	0.10	(0.0039)	23	(50)
	3000	(674)	0.10	(0.0039)	23	(50)
	5000	(1124)	0.10	(0.0039)	23	(50)
	10000	(2248)	0.10	(0.0039)	23	(50)

UMGZP-Series : Technical data	
Sensitivity	0.5 mV / V
Tolerance of sensitivity	< ±0.2%
Accuracy class	±0.5% (F _{Nom})
Temperature coefficient	±0.1% / 10 K
Temperature range	-10 °C to +60 °C (14 F to 140 F)
Input resistance	350 Ω
Power supply	1 to 10 VDC
Overload protection	10-times nominal force F _{Nom}
Material main body	Stainless steel
Protection class	IP 42
Electrical connection	Male flange connector, amphenol, 4-pole
Repeatability error	0.05%
Measuring range	30:1

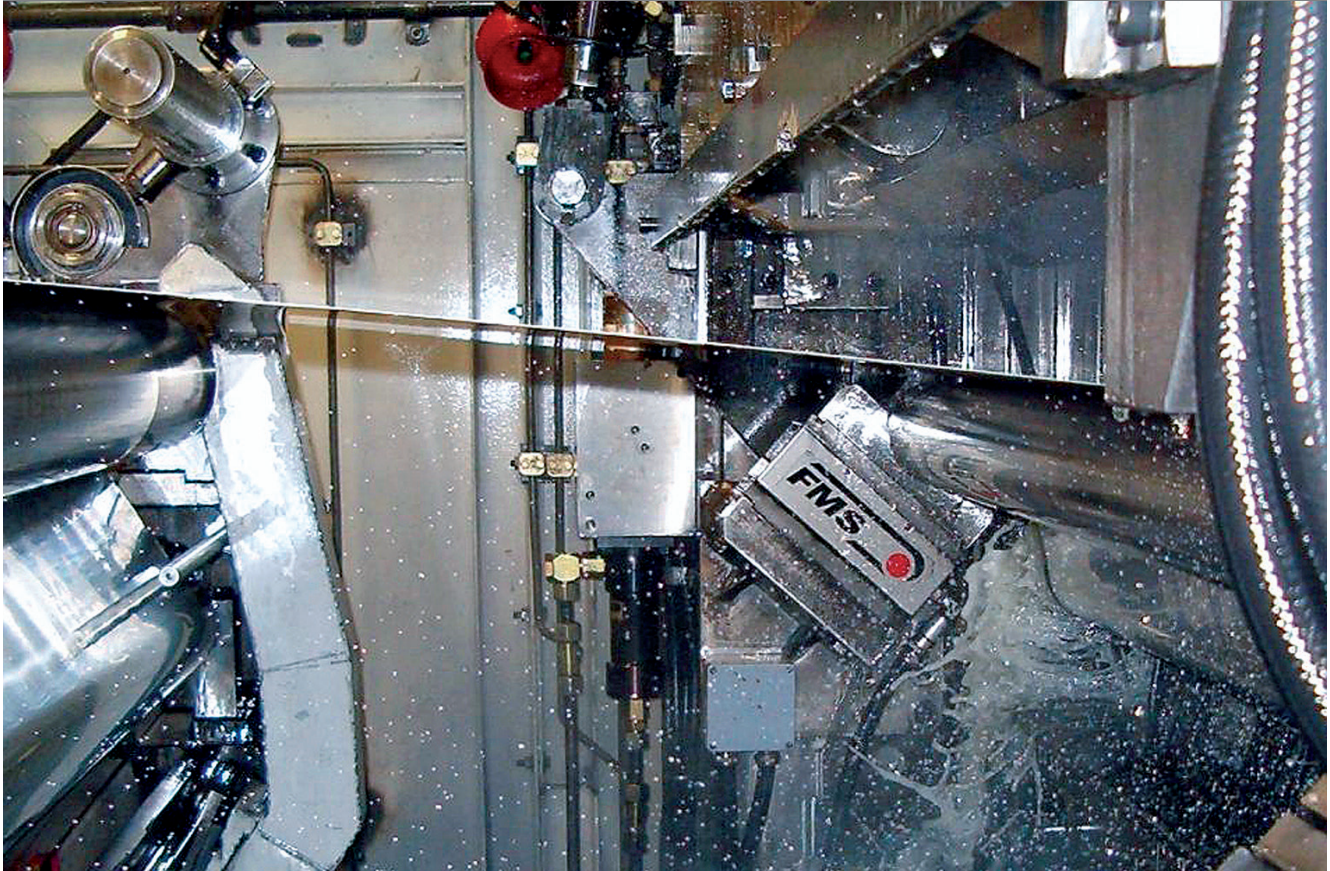
UMGZP-Series : Order code	
UMGZP 080 .2k .H .S .H14.H16	
	Options
	Orientation el. connection
	Measuring direction H (horizontal)
	Nominal force rating in kN
	Size
	Series

UMGZP-Series : Options	
N	electrical connection North, in direction of the moving web/strip
S	electrical connection South in direction of the moving web/strip
H14	right-angle connector in scope of supply, replaces straight connector
H16	temperature range up to 120°C (248°F)
H21	electrical connection with PG gland with 5 m (16.4 ft.) cable, replaces connector
H33	temperature range up to 150°C (302°F), with pg-gland and 5 m (16 ft.) cable

UMGZP-Series : Scope of supply	
● force sensor ● straight, waterproof connector (female)	

UMGZP-Series : Accessories	
● cable, 1 m (3.25 ft.) without connector ● cable, 10 m (32.8 ft.) without connector ● cable, 5 m (16.4 ft.) without connector ● cable, 2 m (6.5 ft.) without connector ● connector amphenol, 4-pole, straight ● connector amphenol, 4-pole, right angle	

UMGZP-Series : Typical application



Other products : Tension Control

Measuring Amplifiers	Tension Controllers	Intrinsically Safe Barrier
		

About us

FMS Force Measuring Systems AG is the market leader in the field of web tension measurement, control and specialist for web guiding solutions. For the wire industry we are the only manufacturer offering a complete range of technologies for force measurement, data processing and radio transmission of signals.

Our in house developed products are used in the manufacturing industry, converting, metals, paper, textiles, as well as in cable and wire rope production. Utilising the latest technology, high quality components and a firm understanding of customer applications, FMS supports customers worldwide in the effort to maximize the productivity of their machines. Since 1993, our highly qualified employees have been creating high-end solutions for machine builders and plant operators. As an owner-managed company, we pride ourselves on being personal and approachable with the ability to make decisive moves fast.

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 • www.fms-technology.com