

Customer specific product solution

Measuring Roll ME SA

Scope of Supply

- Measuring roll **ME1SA** with 1 integrated web tension sensor and attached amplifier
- Male cable connector (X1) for external power supply

alternatively:

- Measuring roll **ME2SA** with 2 integrated web tension sensors and attached amplifier
- Male cable connector (X1) for external power supply



Special Features

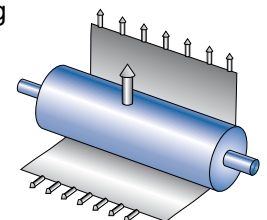
- Complete measuring roll with maintenance-free sensors
- Minimum of wiring effort
- High EMI protection through short signal cable
- Nominal force range 100 to 1000 N

The measuring roll ME SA is designed for measuring web tension forces, e.g. in moving webs of paper, textile, plastics, metal.

The compact design enables quick and cost effective integration into OEM machines or retrofitting into existing equipment.

The measuring roll ME SA has a continuous shaft and can be supplied with either one or two integrated web tension sensors. Mechanical stops provide overload protection. The self-aligning ball bearings are maintenance-free. The shaft ends have threaded bores for optimal mounting to machine frames.

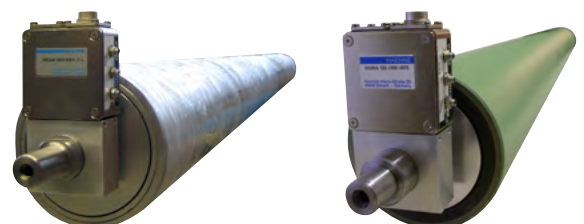
The tension sensors and the amplifiers are internally completely wired. The force values are issued as 4 to 20 mA signals. Zero and gain adjustment are made with externally accessible pots.



Ordering Example:

ME2SA1700-500-X5R

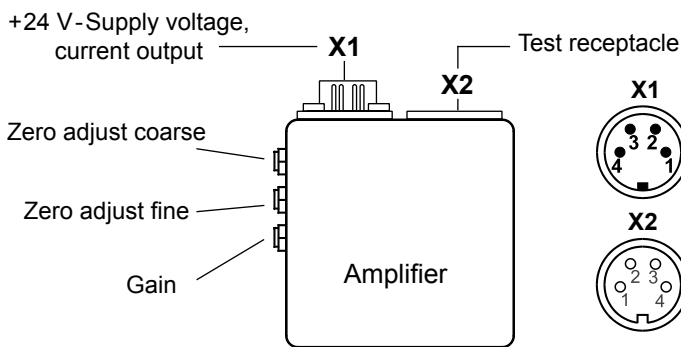
| | |
|--|--|
| 1 or 2 sensors | |
| Effective length | |
| Nominal force | |
| Type X1 ... X10 | |
| Amplifier position "L" left or "R" right | |



| Technical Data | Values (%) based on nominal force |
|-----------------------------|--|
| Nominal force | 100, 250, 500, 800, 1000 N |
| Operating force | 160 % |
| Absolute max. force | 300 % |
| Supply voltage* | 24 V |
| Current output | 4 ...20 mA (0...100 % F _{nom}) |
| Max. external resistance | 700 Ω |
| Zero adjustment | ± 200 % |
| Nominal temperature range | + 10 ... +60° C (+50...+140° F) |
| Operating temperature range | - 10 ... +70° C (+14... +158° F) |
| Enclosure protection | IP50 |

| | |
|--|------------------|
| Diameter D | 120 or 160 mm |
| Overall length | BL + 2 x ZA (mm) |
| Quality of finish | Rz 8 -10 µm |
| Error of concentric run and cylinder tolerance | max. 0,05 mm/m |

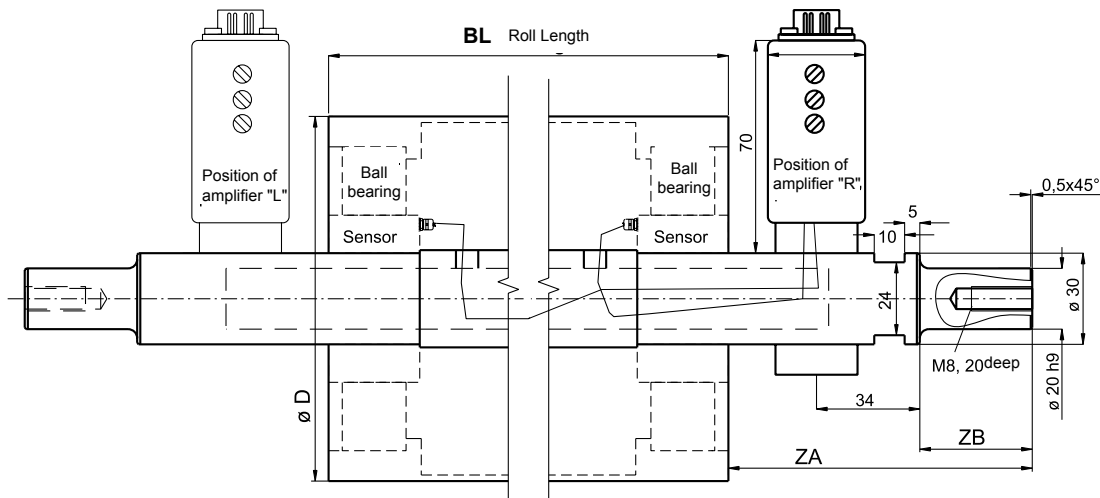
* The voltage between 0 V of the supply voltage and shield PE must not exceed 50 V_{pp}. For this purpose both 0 V and PE should be connected in the equipment.



Pin configuration

| Lead color | Pin-Nr. | X1 (male) | X2 (female) |
|------------|---------|------------------|--------------------------------------|
| white | 1 | +24 V | +V ₁ (U _{sig} +) |
| brown | 2 | GND | -V ₄ (U _{br} -) |
| green | 3 | PE | -V ₁ (U _{sig} -) |
| yellow | 4 | I _{out} | +V ₄ (U _{br} +) |
| | field | enclosure | enclosure |

V₁: bridge output signal V₄: bridge supply voltage



Example solutions measuring rolls:

Dimensions in mm (1 mm = 0.03937 inches)

| Ø | NB Effective Length | BL Roll- Length | ZA Shaft Length | ZB Clamping Shaft Length | Nominal Force [N] | Number of Sensors | |
|-----|---------------------|-----------------|-----------------|--------------------------|-------------------|-------------------|-------------------------|
| 120 | 2300 | NB+100 | 85 | 25 | 500 | 2 | ME2SA-2300-500 X1 R |
| 120 | 1000...2000 | NB+100 | 130 | 35 | 500/1000 | 2 | ME2SA-NB-500-X3 R or L |
| 160 | 2100...3200 | NB+200 | 220 | 35 | 800 | 2 | ME2SA-NB-800-X4 R |
| 120 | 600...2000 | NB+200 | 220 | 35 | 500 | 2 | ME2SA-NB-500-X5 R |
| 120 | 600...1600 | NB+100 | 130 | 35 | 250 | 1 | ME1SA-NB-250-X6 R |
| 120 | 1500 | NB+100 | 85 | 25 | 250 | 2 | ME2SA-NB-250-X9 R or L |
| 120 | 1500 | NB+100 | 85 | 25 | 500 | 2 | ME2SA-NB-500-X10 R or L |
| 120 | 1000 | NB + 100 | 85 | 25 | 250 | 1 | ME1SA-NB-250-X13 L |