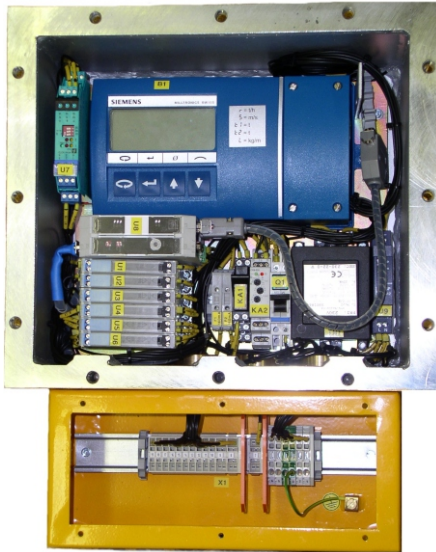




KPV-01 Continuous Belt Scale



Certificate: ATEX, UK



The evaluation unit display can show conveyor output (kg/s, t/hour), conveyor speed (m/s), total weight counter (internal totalizer 1 and 2) (t, kg) or longitudinal conveyor load (kg/m). These data can be read via an intrinsically safe RS485-IS communication interface. The evaluation unit can be programmed that an output (external totalizer 2) switches on after a certain weight of the total passed material. This output switches on a relay, whose contact is led to the Ex e terminal block. The unit has a default setting of the relay which switches a short impulse of 0.3s every tenth tonne. By changing KA2 relay function it is possible to set a switching class to 1:1.

Technical Parameters:

Model	I M2 Ex d e [ib] I
Certificate	FTZÚ 06 ATEX 0287
Nominal supply voltage on terminals 1, 2	230 V AC, 50 Hz, TN-S or IT network
Nominal power input	20 VA
Fuse nominal current	0.16 A
Outputs	Totalizer, RS485-IS communication
Switched totalizer voltage on terminals 5, 6	Max. 250 V AC / 45 V DC, min. 10 V
Switched totalizer current	Max. 5 A, min. 10 mA
Switched totalizer output	Max. 100 VA / 100 W
Measurement preciseness	±0.5% of the measures value, ±0.1% of the range
KPV-01 dist. from MSI scale	150 m @ 2.5 mm ²
Connecting conductor cross-section on ter. 1 - 6	0.5 mm ² - 4 mm ²
Connecting conductor cross-section on ter. 7-19	0.5 mm ² - 2.5 mm ²
Cable cross-section in M20 bushing	6 - 13 mm
Cable cross-section in M40 bushing	17 - 28 mm
Ambient temperature	0°C - +40°C
Relative humidity	Maximum of 95% w/o cond.
Protection	IP 54
Dimensions model with a vane	380 x 510 x 205 mm
Weight	40 kg

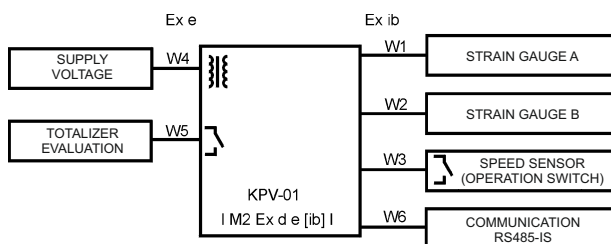
Use:

A KPV-01 continuous belt scale serves for measuring the belt output (mass flow rate) and calculating a total weight. A conveyor output is most often given in t per hour or kg per second. KPV-01 is intended for measuring a weight of loose and cloddy raw materials e.g. coal, coke, gravel sand etc. The weighing stand and the integrator are designed for heavy industrial plants and environments with a methane explosion hazard.

Description:

The continuous belt scale measuring system consists of a MSI weighing stand with a structurally-adjusted roll to a conveyor and a BW100 evaluation unit in a firm KPV-01 enclosure. The weighing stand contains G4-TBSP strain gauges which sense longitudinal conveyor load m_l (kg/m). Another input figure is a conveyor speed v (m/s) measured by a speed sensor (e.g. RBSS-IS, MD-36 IS, induction sensor, etc.) or it can be entered as constant. The evaluation unit calculates conveyor output (or mass flow rate) Q_m (kg/s, t/hour) from these two data.

$$Q_m = m_l \cdot v$$



MSI weighing stand and G4-TBSP strain gauges:

Conveyor gradient	± 20° from the horiz. plane
Maximum conveyor speed	4m/s
Maximum conveyor output	5,000 t/hour at 4 m/s
Dimensions	according to the order
Protection	IP65

RBSS-IS speed sensor (NAMUR interface):

Output	0 – 15 mA
Turns	2 – 450 Hz (150.4 pulse/m)
Protection	IP65

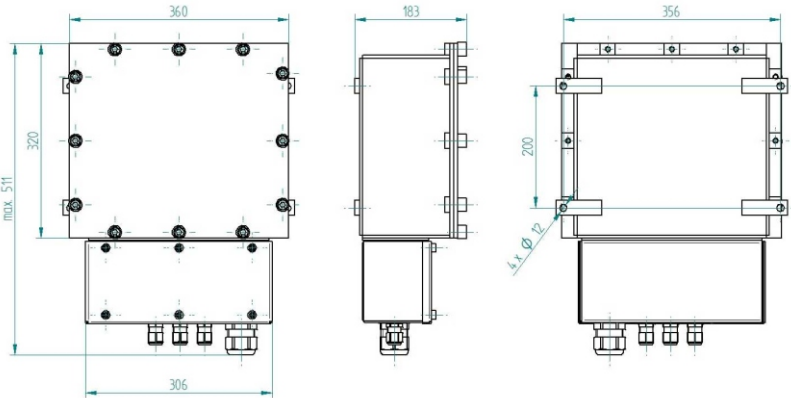
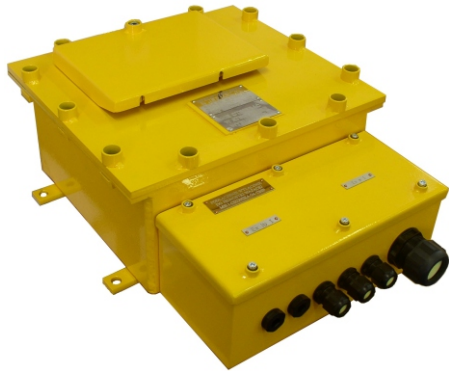
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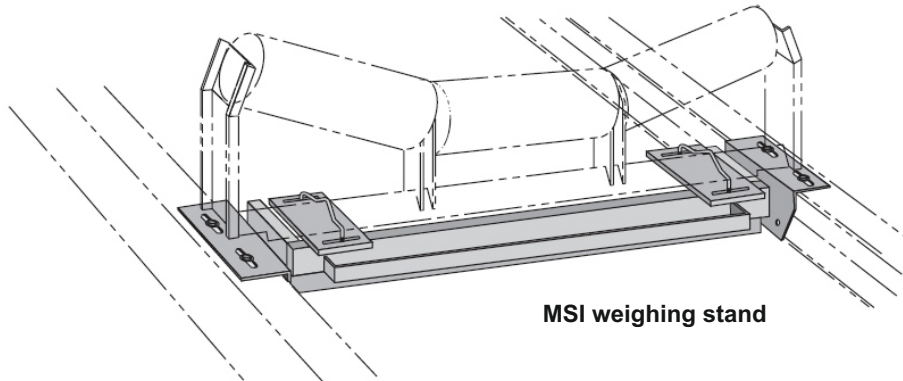
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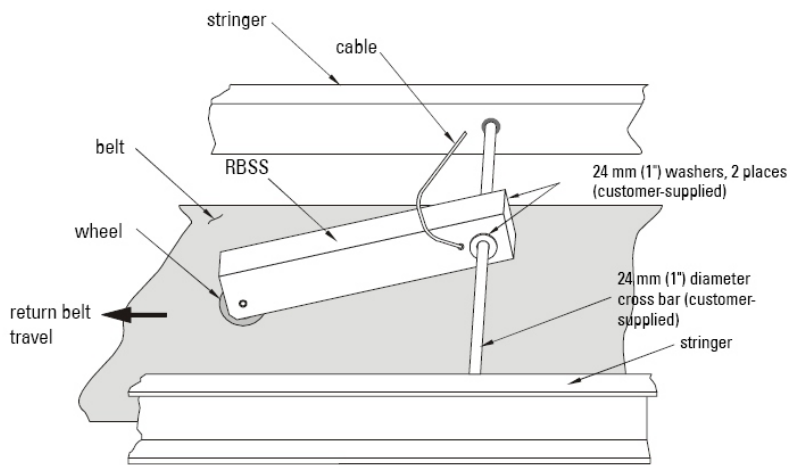
KPV-01 Continuous Belt Scale



KPV-01 evaluation unit case



MSI weighing stand



RBSS-IS conveyor speed sensor



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