



KPV – 02 conveyor scale

 **Certificate: ATEX**



Application:

The KPV-02 conveyor scale is used to measure the output of the conveyor belt (material flow) and to calculate the total weight of the transported material. The output of the conveyor is usually expressed in Uh or kg / sec. The KPV-02 is designed to measure the weight of bulky material such as coal, coke, gravel, etc. The scale bench and integrator are designed for heavy industrial plants and in potentially explosive atmospheres.

Description:

The KPV-02 system consists of a scale bench (adapted to the specific conveyor belt and BW500 integrator, supplemented by additional electronics located in KPV02-A and KPV-02-B cabinets. The scale bench is equipped with G4-TBSP strain gauges for detecting the longitudinal loading of the belt. Belt speed information is necessary for subsequent calculations – this is measured by a speed sensor (e.g., MD-36, inductive sensor, etc.) or it can be specified as a constant. The BW500 integrator calculates the output of the belt based on this data: (material flow) Qm (kg / sec or Uh).

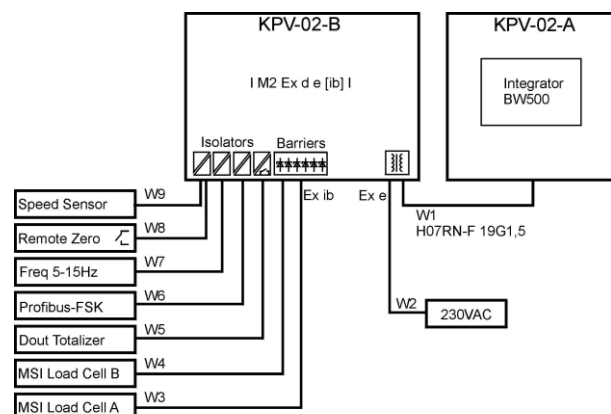
The display shows the output of the belt, belt speed, total weight counter or the longitudinal load of the belt. Output, belt speed and belt load can be generated as a frequency output of 5-15Hz for other equipment. The integrator can be programmed so that the output switches at a certain weight of the passing material. The parameters of the integrator and thus the measurement can be controlled via a Profibus interface.

The electrical and electronic equipment are located in two solid enclosures, KPV-02-A and KPV-02-B. The KPV02-A cabinet contains the BW500 integrator; the KPV-02-B cabinet contains other devices and transmitters for JB level Ex ib. Both cabinets are connected by a 19-core cable of heavy rubber.

Specifications of KPV-02

Design	I M2 Ex d e [ib] I
Voltage	TNS or IT 230VAC/50Hz
Power	30VA
Conductor cross section of terminals X1-1 to 23 X2-1 to 20	0.5mm ² to 4mm ²
Conductor cross section of terminals X1-24 to 40	0.5mm ² to 2.5mm ²
Diameter of cable gland M20	6 to 13 mm
Diameter of cable gland M40	17 to 28 mm
Temperature range	0 to +40°C
Relative humidity (max.)	95% without condensation
Case	IP54
Dimensions of each from the cabinet	380x510x205 mm
Weight of each from the cabinet	40kg

Powering the KPV-02 is supplied from the terminals of the Ex e terminal area via a switch and fuses to the transformer, safeguarded with galvanic isolation between the integrator and supply voltage. The integrator powers the strain gauges via Ex ib converters. Signals come back from the strain gauges via the Ex ib converters. Information about the belt speed and autozero switch also comes to the integrator through the Ex ib converters. The output signal of the integrator in the form of 4-20mA is converted to a frequency of 5-15Hz by the Ex ib converter. Communication is carried out via the JB communications Profibus-FSK. The external totalizer switches the KA2 relay (contact connected to the terminals). The KPV-02 is factory set so that the relay quickly closes (0.3 sec) per ton. By changing the KA25 relay, the switching cycle can be set to 1:1.



The catalogue has only those selected important parameters for your final decision. For project designs always ask for the user's guide for this product and any engineering consultation about possible uses.