

Weighing technology at work

Safety in automatic warehouses with VKIA405

Long-term stable solutions for weighing and monitoring tasks

Scales have numerous tasks in an automatic warehouse: they protect against overloading, help in selection and contribute towards safety.

For active overload protection, all storage supports are weighed and evaluated by a connected electronic system before the warehouse is filled. Standard scales are too expensive for this application: it is better to use the VKIA405 digital amplifier.



The stability of an automatic warehouse requires that the weight is evenly and symmetrically distributed over the shelves and that the maximum bearing capacity of the high bays is not exceeded. A scale in the material flow monitors the weight and thereby protects personnel and the stored goods. This scale must be stable and maintenance free in operation because any readjustment of the scale means that the stock must be removed. Standard scales are not suitable for load monitoring in high bays as extreme long-term stability is required. HBM has specially developed the VKIA405 digital amplifier for these requirements. This allows a scale for storage spaces of between 200 kg (440 lbs) and 2000 kg (4400 lbs) to be set up with up to four SG load cells.

Equipped for power failures

All VKIA405 parameters can be stored safe from power failure in an internal EEPROM. The IP65-protected VKIA405 is suitable for simple weighing and monitoring tasks that lie outside the required legal-for-trade requirements.

Simple installation

The amplifier is supplied with a basic factory calibration which is adjusted to the application either via software commands or through actual adjustment using weights.

Fast, simple and precise

The off-center load errors are compensated for and the instrument is scaled during commissioning. Previously prepared resistor networks are available for the off-center load compensation and are activated by opening a wire bridge. Tolerances in the mechanical construction of the

installation site generally lead to an off-center load error. The necessary off-center load compensation and adjustment during commissioning can be implemented rapidly in four simple steps:

1. Load the corners
2. Read the correction value from the diagram
3. Activate the balancing resistor
4. Place a defined load on the scale and accept the measured value via software

Computer connection

The VKIA405 can transmit the measured values via the RS485 two-wire interface to a superordinate computer. This enables computer-supported order selection and storage placement.

■ Reiner Schrod, HBM

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