



IT3 BELT

W&M Approved Weighing Terminal for Belt Scales

The industrial weighing terminal **IT3 BELT** captures continuously the quantity of bulk material conveyed over a beltweigher for both, batching and receiving operations.

IT3 BELT connects to a beltweigher structure with one load receptor with one or several analog load cells. The weighing terminal is suitable for harsh environment weighing locations.

The A/D converter provides fast update rates together with excellent weighing performance and high immunity against electromagnetic interference.

IT3 BELT operates as stand-alone unit or in combination with a PLC or SCADA system. It can be configured for the simple capturing of quantities, but also for complex batching applications with preset target and adjustable preact correction.

Connection of pulse wheel

IT3 BELT provides a configurable interface for a pulse wheel to capture the belt speed. It can use incremental encoders with push-pull or open collector output. Inductive sensors may be used in applications that are not subject to verification requirements. As an alternative, operation without sensors is also possible for installations that are not subject to verification.

Approved applications

As an option, **IT3 BELT** can be used for installations that are subject to legal control in accordance with OIML R50. In approved mode, up to 1,000,000 counter values are saved in the internal storage.

Counters

IT3 BELT has three counters, e.g. for captured quantity, shift total and total quantity. Two counters can be reset by the operator, the total quantity only by service.

PLC interface

IT3 BELT can be connected to a PLC via the optional analog output, quantity pulse output, digital I/Os or fieldbus (Ethernet/IP, Profibus DP, Profinet or Modbus TCP over Ethernet).

Data transmission

Configurable data output for simple interfacing, transmission in continuous mode or on request.

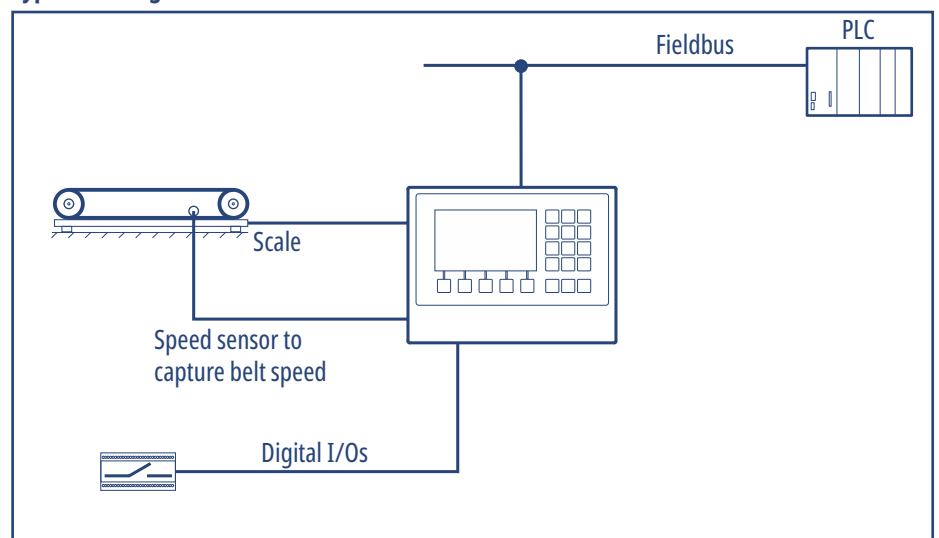
External I/Os

Up to 3 freely configurable inputs and up to 4 freely configurable outputs.

Count pulse

For the connection of external counters.

Typical Setting:



Weighing module for belt scales

IT3 BELT enables interfacing to a beltweigher with one or several analog strain gauge load cells (overall impedance 43–3,300 Ohm), W&M approved resolution of 10,000 d, internal resolution 524,000 d. Update rate 50–800/sec. Accuracy classes 0.5, 1 or 2.

Connection of pulse wheel

IT3 BELT provides a configurable interface for a pulse wheel (frequency range 2–8,000 Hz, min. 30 pulses/m) to measure the belt speed. Incremental encoders with push-pull or open collector output (10 V) are supported. Inductive sensors may be used for non-approved operation. As an alternative, also operation without sensors is possible for applications that are not subject to legal control, e.g. for conveyors running at constant speed.

Display and operation

Bright 5" (13 cm) color screen to indicate feed rate or fed quantity (height 28 mm / 1.1") and scale status. 2 additional display lines (switchable between feed rate, counters for fed quantity and total quantity, belt speed, belt load; in batching mode also target and remaining quantity) as well as operator entries. 1 additional line to display the assignment of function keys.

Sealed membrane keyboard with tactile feedback, with function keys and numeric keys to enter batch target and parameters.

Calibration

Calibration of beltweigher by entry of load cell and sensor data. Verification or fine adjustment through comparison of conveyed quantity on a reference scale.

Interfaces

Optional interface for connection to supervisory control system, protocol printer or remote display via RS232, 20mA (passive), RS422, RS485, USB or Ethernet.

Format / protocol selectable for the transmission of conveyed quantity and/or feed rate.

Alternatively, transmission on request with additional commands to reset counters or to set the scale to zero.

Optional PIM module with 2 digital inputs and 2 digital outputs, optoisolated, 24 V DC, 500 mA and/or

Optional SIO module with 1 digital input (inverted) and 2 digital outputs, optoisolated, 24 V DC, 500 mA

Each digital output can be configured for one of the signals:

- Ready to start
- Batching active
- Pre-signal (for batching)
- Done
- Zero setting
- Error (negative logic)
- Quantity pulse
- Operation running
- Warning
- Watchdog (timed).

Each digital input can be configured for one of the signals:

- Release start
- Start/stop feeding
- Set scale to zero
- Reset batch counter
- Reset shift counter
- Request data transmission / release print.

Optional analog output 0–20 mA, 4–20 mA, 0–10 V or 2–10 V, 32,000 divisions, for analog output of feed rate.

Optional fieldbus to connect Ethernet/IP, Profinet, Profibus DP or Modbus TCP.

Data words to PLC / host system

- Feed rate
- Counter for batch total and total quantity
- Belt load and speed
- I/O status
- Process status.

Data words from PLC / host system

- Start, stop, release
- Set zero, reset counters
- Batch target weight and preact.

Electrical connection

110–240 V AC, 50/60 Hz or 12–30 V DC via integrated power supply unit, or 12–30 V DC for power supply via external battery.

Operating temperature

–10 °C (+14 °F) to +40 °C (+104 °F) at max. 95 % relative humidity, non-condensing.

Options

Internal W&M approved weight storage

For approx. 32,000 counter values.

Speed sensor

Complete speed sensor kits consisting of wheel, suspension and encoder can be supplied on request.

Construction:

Desk / wall version



- Stainless steel housing, IP69K, NEMA 4X
- Suitable for desk-top or wall-mount installation
- Dimensions W x H x D: 278 x 214 x 124 mm (10.9" x 8.4" x 4.9")

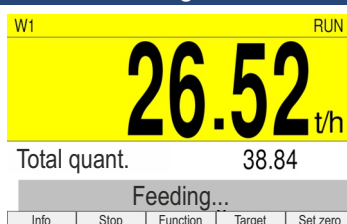
Panel-mount version



- Stainless steel housing, fascia plate protected to IP69K, NEMA 4X
- Dimensions W x H x D: 241 x 180 x 47 mm (9.5" x 7.1" x 1.9")
- Cut-out in panel: 223 x 162 mm (8.8" x 6.4")

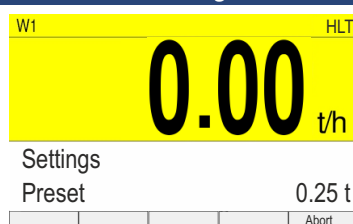
Display / operation:

Batching mode



Display of feed rate (large characters) and quantities. Display of operational and process status.

Entries / configuration



User-friendly input menus. Comprehensive configuration options, e.g. for feeding parameters.

Directives: 2014/30/EU, 2014/32/EU, 2014/35/EU

Standards: EN 45501, OIML R 76-1, EN 61000-6-2, EN 61000-6-4, NAMUR NE21, EN 62368-1, OIML R 50



EU type-examination certificate as continuous totalizing automatic weighing instrument



NTEP approval as indicating element



ETL certified in accordance with UL 62368-1 and CSA C22.2 No. 62368-1



EMI compliance with FCC Part 15



Measurement Canada: Approval as indicating element



Type-examination certificate as continuous totalizing automatic weighing instrument

EtherNet/IP

