



IT2000M *BELT*

Weighing Terminal for Belt Scales

The industrial weighing terminal **IT2000M *BELT*** captures continuously the quantity of bulk material conveyed over a beltweigher for both, batching and receiving operations.

IT2000M *BELT* enables interfacing to a beltweigher structure with one or several analog force transducers. 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.

IT2000M *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

IT2000M *BELT* provides a configurable interface for a pulse wheel to capture the belt speed. Sensors with PNP, NPN or NAMUR output can be connected. As option, operation without sensor is also possible.

Counters

IT2000M *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

IT2000M *BELT* can be connected to a PLC via the optional analog output, Ethernet/IP, Profibus DP, Profinet or with Modbus® TCP over Ethernet.

Data transmission

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

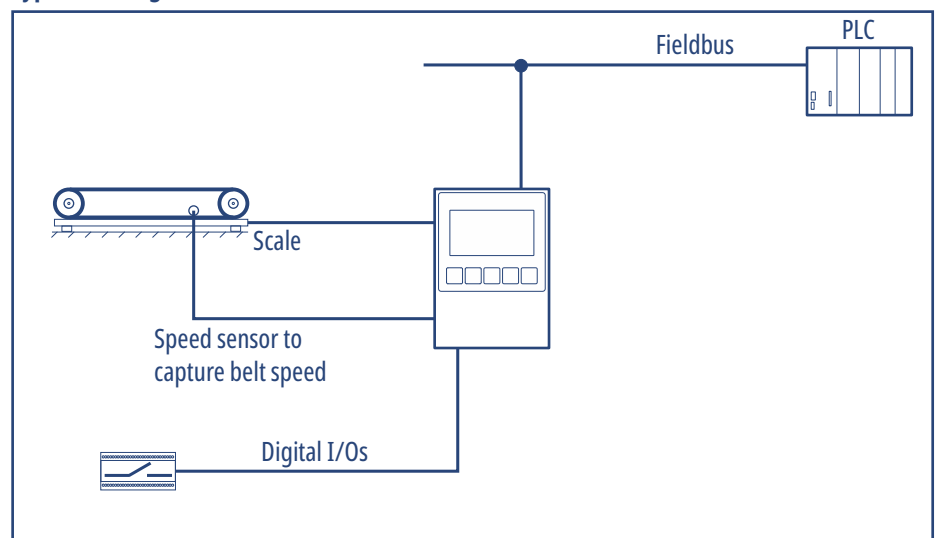
Parallel I/Os

Up to 8 freely configurable inputs and outputs.

Count pulse

For the connection of external counters.

Typical Setting:



Weighing module for belt scales

IT2000M BELT enables interfacing to a beltweigher with one or several analog strain gauge load cells (overall impedance 43–3,300 Ohm). Internal resolution 524,000 d, update rate 225 / sec.

Connection of pulse wheel

IT2000M BELT provides a configurable interface for a pulse wheel (max. 10,000 pulses / sec) to measure the belt speed.

Sensors with PNP and push-pull output (10 V) are supported, also supported are sensors complying with NAMUR standard (without safety functions). As option, also operation without sensor is possible, e.g. for conveyors running at constant speed.

Display and operation

Back-lit plain text display to indicate feed rate (height 15 mm / 0.6") and scale status.

2 additional display lines (switchable between counters for batch total, shift total, total quantity and belt speed / belt load) as well as operator entries.

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.

Standard interfaces

USB, Ethernet and 2 digital outputs.

Add-on modules

Available for **IT2000M BELT** are the following plug-on modules:

Expansion board SPU2000M with 2 digital inputs (24 V DC, 7 mA, optoisolated) and

- 1 socket for dual-channel interface board DUAL-ISM (required for connection of pulse wheel)
- 2 sockets for digital I/O board PIM500, each with 2 inputs (24 V DC, 7 mA, optoisolated) and 2 outputs (24 V DC, 500 mA, optoisolated, short-circuit proof) or
- Analog output module DAU15 (0–10 V or 0/4–20 mA, optoisolated, 15-bit resolution) for feed rate.

Plug-on module PIO with 8 digital inputs (24 V DC, 7 mA, optoisolated) and 8 digital outputs (24 V DC, 500 mA, optoisolated, short-circuit proof).

Plug-on modules for connection to Ethernet/IP, Profinet, Profibus DP or Modbus® TCP.

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

- Done / ready
- Zero setting
- Feeding active
- Pre-signal (for batching)
- Error (negative logic)
- Quantity pulse.

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

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

Data words to PLC / host system

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

Data words from PLC / host system

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

Construction

- Compact stainless steel housing for installation on DIN rail, with display and keyboard, vibration-resistant, protected to IP20, screw terminals at bottom
- Split-mount design consisting of stainless steel blackbox installed on DIN rail and separate stainless steel operator unit for installation in door of switch cabinet, protection of blackbox IP20, protection of fascia plate of operator unit IP69K.

Electrical connection

Voltage supply 12–30 V DC,
Power consumption 17 VA.

Operating temperature

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

Options

- Grounding rail to connect shield of cables
- Complete speed sensor kits consisting of wheel, suspension and encoder can be supplied on request.

Construction:

Module With Display



Dimensions W x H x D:
92 x 120 x 106 mm (3.6" x 4.7" x 4.2")

Display Unit And Blackbox



Display Unit W x H x D:
110 x 107 x 35 mm (4.3" x 4.2" x 1.4")

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

Standards: EN 61000-6-2, NAMUR NE21,
EN 61000-6-4, OIML R 50

CE EU Type-examination Certificate
as beltweigher (pending)

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

UK CA Type-examination Certificate
as beltweigher (pending)

NTEP Approbation NTEP
dispositif indicateur

FC EMI compliance with
FCC Part 15

Canada Mesures Canada : Approbation
dispositif indicateur

EtherNet/IP **Modbus**
PROFI **NET** **PROFI** **BUS**