



IT2000M PROCESS

Weighing Terminal for Process Scales

IT2000M PROCESS is a universal weighing controller for discontinuous feeding of bulk material in a process. The material is led into the process via a bulk scale.

IT2000M PROCESS captures the fed quantity over a specified number of tips and calculates the current throughput from this value and the time elapsed (volume over time).

IT2000M PROCESS can also be used to control the incoming material flow of a process by delaying the individual tips so the performance matches the set target throughput rate.

The target throughput rate can be determined manually by the operator or over fieldbus by a PLC / SCADA system.

IT2000M PROCESS connects to one bulk scale with analog force transducers.

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

IT2000M PROCESS operates as stand-alone unit or in combination with a PLC or SCADA system.

Counters

IT2000M PROCESS has three independent counters, e.g. for captured quantity, shift total and total quantity. Two counters can be reset by the operator or the supervisory control system, the total quantity only by authorized service.

PLC interface

IT2000M PROCESS can be connected to a PLC via the optional fieldbus. Fieldbus options are: Profibus DP, Profinet, Ethernet/IP or Modbus TCP.

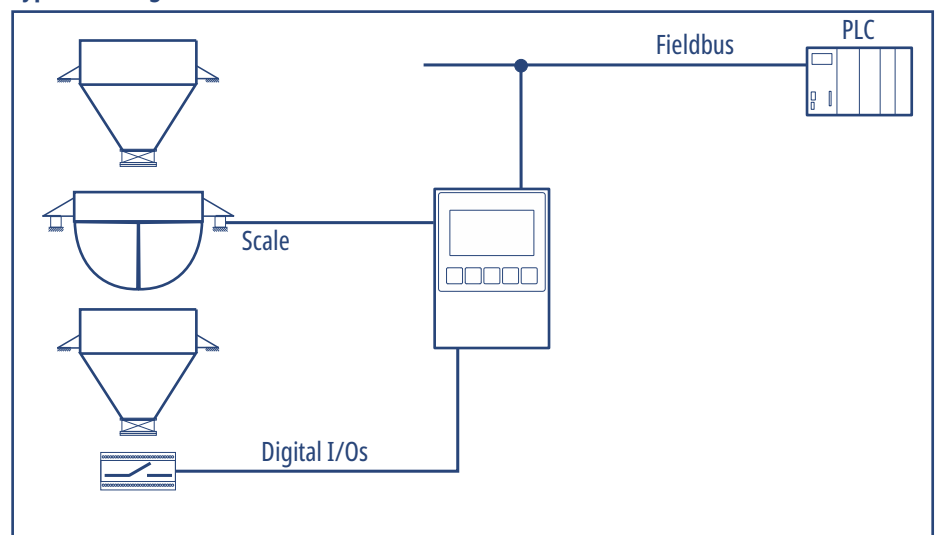
Digital I/Os

IT2000M PROCESS provides up to 8 freely configurable digital inputs and outputs to control the process scale.

Analog output

IT2000M PROCESS provides an optional analog output for current throughput rate.

Typical Setting:



Weighing electronics

Integrated factory calibrated signal amplifier to connect up to 8 strain gauge load cells (350 Ohm) in 4- or 6-wire mode.

Resolution 30,000 d, internal resolution 524,000 d, W&M approved resolution 10,000 d with a max. of 80 % preload. Smallest load cell signal 0.33 µV/e, update rate 225 filtered weight values / sec.

Calibration as single or multiple-range and as single or multi-interval scale. Option for the linearization of the load curve.

Security

Power-fail-safe storage of data, password protection, securing of calibration parameters with switch. Fast replacement without recalibration possible for applications that are not subject to Weights & Measures acceptance.

Simple integration

- Stand-alone or remote-controlled operation possible
- Accept, Start, Interrupt functions are possible from external switches.
- Freely configurable I/Os.

Transmission

Of weight and process data via fieldbus to PLC possible.

Data words to PLC / SCADA system

- Throughput rate
- Current quantity, shift total, total quantity
- Tip count (number of weighing cycles)
- Weight in weigh hopper
- I/O status

Standard interfaces

USB, Ethernet and 2 digital outputs.

Data words from PLC / SCADA system

- Start, Stop, Release, Reset counters
- Target material flow
- Tip weight

Simple and secure operation

- Operator is guided on a high-contrast display. Clear-text prompts on backlit display for performance monitoring (size of characters 15 mm) and scale status. 2 additional display lines for captured values (switchable to show current quantity, shift total, or total quantity) and operator prompts.
- Data word monitor

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

- Start
- Stop
- Feed gate closed
- Dump gate closed
- Air pressure OK
- Material OK (feed hopper)
- Discharge release
- Clear total

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

- Feeding
- Discharging
- Error (negative logic)
- Ready to start
- Busy
- Weigh hopper empty
- Feed hopper empty (no material)

Add-on modules

- Plug-on board SPU2000M with 2 sockets for:
 - Digital I/Os 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 material throughput rate
- Plug-on board PIO2000M 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 the connection to Profinet, Profibus DP, Ethernet/IP or Modbus® TCP
- Grounding rail to connect the shield of connection cables.

Electrical connections

Supply voltage: 12–30 V DC, power consumption max. 17 VA.

Operating temperature

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

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, 2014/31/EU, 2014/32/EU

Standards: EN 61000-6-2, NAMUR NE21, EN 61000-6-4, EN 45501, OIML R 76-1, OIML R 61

CE EU Type-examination Certificate as non-automatic weighing instrument, AGFI

NTEP NTEP approval as indicating element

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

FC EMI compliance with FCC Part 15

Canada Measurement Canada: Approval as indicating element

UK CA Type-examination Certificate as non-automatic weighing instrument, AGFI

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