



IT2000M *FILL*

Fill Control for Automatic Liquid Filling

IT2000M FILL is a universal W&M approved filling controller for use as automatic (AGFI) weighing instrument for the gravimetric filling of liquids.

IT2000M FILL connects to one 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 FILL is configurable for various fill lance operations:

- Above-surface
- Below-bunghole
- Partially sub-surface
- Sub-surface.

Single and multi-containers can be filled in semi or fully automatic operation.

The controller is available in two styles:

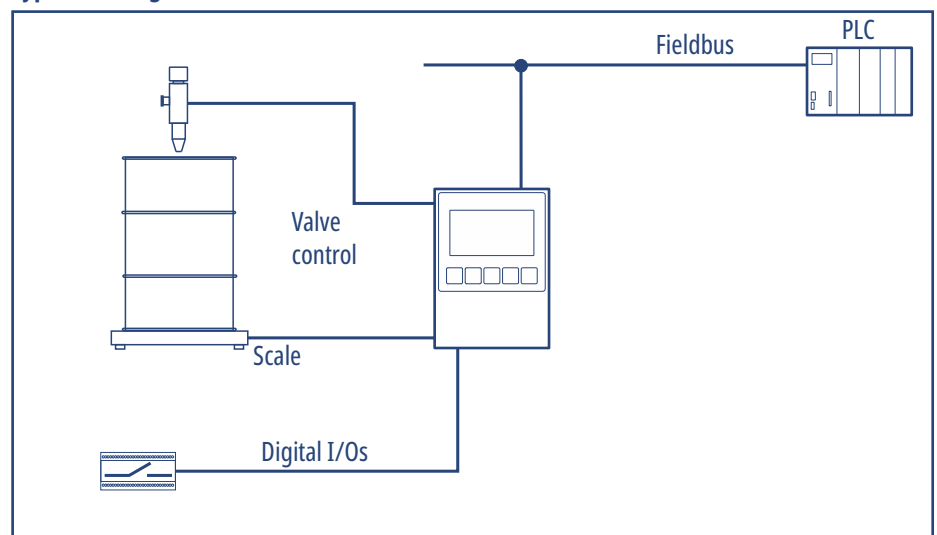
- **Compact module for the installation on DIN rail** with integrated display/keyboard
- **Split-mount version consisting of Blackbox module for the installation on DIN rail** and a separate display/keyboard for the installation in door of switch cabinet.

The fill controller offers functionality to conform with ISO 9001 standards:

- **Accurate fill control** through fast signal processing, trend-sensing preact adjustment and weight tolerance control
- **High operational security** through extensive monitoring functions and simple operator control
- **Recording of all data** of single- or multiple-container fills.

The **IT2000M FILL** controls the filling lance, fill valve and the container movement onto and off the scale providing maximum throughput.

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 μ V/e, update rate 50–800 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.

Monitoring functions

- Fill time and product flow control
- Fill valve collision and end stop control
- Limit switch monitoring.

Transmission

Of weight, product data and process data via fieldbus to PLC possible.

Simple and secure operation

- Operator is guided on a high-contrast display, with symbols for scale status and with keys for taring, zero setting, and other functions
- Display of remaining quantity, mean value, standard deviation, total weight, fills counter and target weight
- Data word monitor
- Up to 99 products with pertaining values for target weight, weight tolerance, parameters etc. can be stored against a 2-digit ident number.

Standard interfaces

USB, Ethernet and 2 digital outputs.

Options

- Plug-on modules for the connection to Profinet, Profibus DP, Ethernet/IP or Modbus® TCP
- Plug-on module with 8 digital inputs (24 V, 7 mA, optoisolated) and 8 digital outputs (24 V, 500 mA, optoisolated, short-circuit proof)
- Plug-on module with 2 digital inputs (24 V, 7 mA, optoisolated) and
 - socket for a serial-interface module (SIM)
 - two sockets for digital I/O modules (PIM500) or analog output module (DAU15)
- Zener barriers for the connection to Exi load cells (max. 15,000 d, 3,000 d for W&M approved applications)
- 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.

Typical drum filling cycle:

- Product selection – input of target weight and number of containers
- Ready status – start fill manually or via external signal
- Tare check and/or auto-tare function
- Lower fill lance (drum with bung-hole)
- Fill in 1 or 2 speeds with simultaneous monitoring of fill time and material flow (when sub-surface operation, fill-lance lift during fill is possible)
- Raise fill lance (drum with bung-hole)
- Tolerance weight check with auto-preact adjustment and automatic fill-jog if underweight
- Capture of statistical data
- End of sequence, ready for next filling cycle.

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

CE EU Type-examination Certificate as AGFI

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

UK CA Type-examination Certificate as AGFI

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

NTEP NTEP approval as indicating element

FC EMI compliance with FCC Part 15

Canada Measurement Canada: Approval as indicating element

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