

IT3000EX

Systemec
Discover smart weighing



**W&M Approved
Industrial Weighing Terminal
for Use in
Ex Zones 1, 2, 21 and 22**

IT3000Ex – Universal Use in Ex Zone 1, 2, 21 and 22

Stainless Steel Housing IP65

Suitable for harsh environment. With mounting bracket for desk-top or wall-mount installation. All cables connected through tight cable glands.

LCD Text Display

For weight, operator prompts and calibration.

With backlighting, height of characters 14 mm (0.6").



Keyboard

Numeric keyboard with multiple assignment for alphanumeric entries. On/off key, keys for printing, taring and special functions.

Power Supply

230 V AC Ex"e",
24 V DC Ex"e" via external power supply unit or 12 V DC Ex battery.

Universal Use

Suitable for difficult environmental conditions and locations with high hygienic standards, as in the food, pharmaceutical and chemical industry.

High Operational Security

Fast and error-free operation is ensured by a backlit, high-contrast LCD, in combination with an easy-to-use keyboard.

Weighing Electronics

IT3000Ex connects to one scale, with – for instance – 4 x 350 Ohm load cells or 8 x 1,000 Ohm load cells. W&M approved resolution is 6,000 d with max. 80 % preload. Calibration is possible as single or multiple-range (e.g. 3 x 3,000 d) and as single or multi-interval scale.

Weighing Program

Display of net, tare and gross weight. Operator prompting for the capturing of weight and IDs.

Two setpoints can be monitored via the integrated intrinsically safe outputs. Start and taring is possible from external pushbuttons. As an option, the internal I/Os can be used for a filling sequence with start / stop button.

Data Transmission / Printing

Weighing data are transmitted via the intrinsically safe serial interface (option) to an interface module in safe area. Date, time, consecutive No., weight and entered IDs are captured. The format of the printout is configurable.

ONLINE Mode

In ONLINE mode the weighing terminal can be remotely controlled from a PC. Reading of weight, taring, zero setting, operator inputs and reading/setting of inputs and outputs is possible from the PC.

Software Options

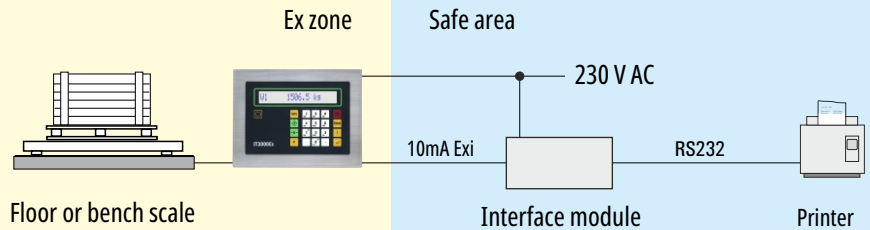
IT3000Ex comes with a selection of default software programs, e.g. for operation as setpoint controller or simple filling controller or for remote control connectivity for a PC. One of the following alternative software options can be installed on request:

- ONLINE P to control the system via the corresponding fieldbus separation module (selectable: Profibus DP, Profinet, Ethernet/IP, or Modbus® TCP).
- FILL for the W&M approved filling of liquids (above-surface, below-surface, or below-bunghole filling)
- GASFILL for the W&M approved filling of gas cylinders

IT3000Ex – Application Examples

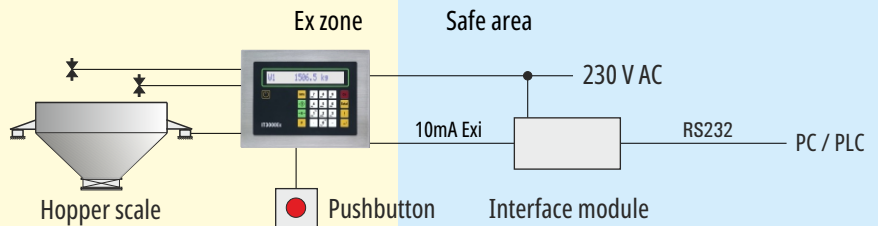
W&M approved scale in Ex area

Manual or automatic taring, weighing and totalizing, configurable printout.



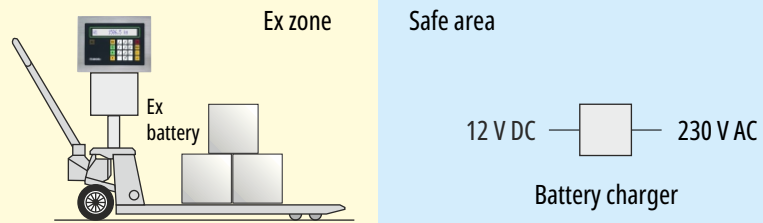
ONLINE operation in Ex area

Weight capturing, taring, zero setting, reading of inputs and setting of outputs via ONLINE interface.



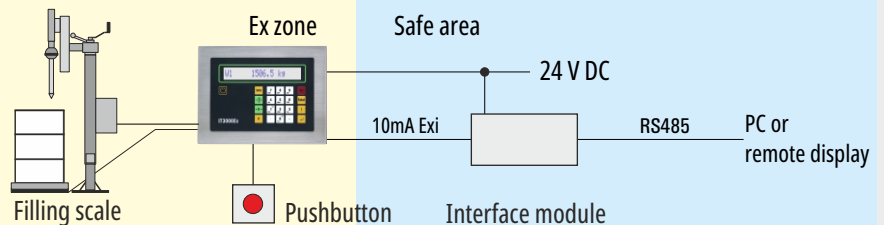
Mobile weighing in Ex area

Weighing terminal with power supply via Ex battery. Operating time 50–100 h with fully charged battery.



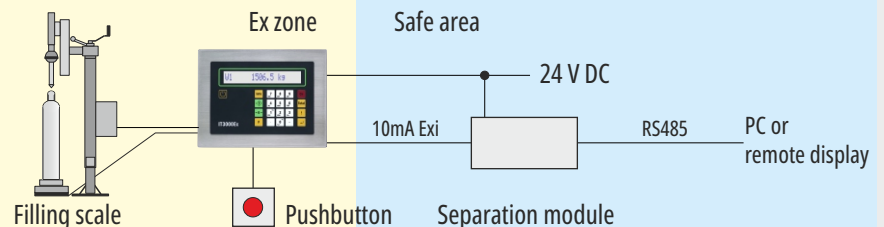
W&M approved filling in Ex area (software option FILL)

Above-surface, below-surface, or below-bunghole filling with piezo valves. Start / stop via external pushbuttons. Data transfer to PC via separation module.



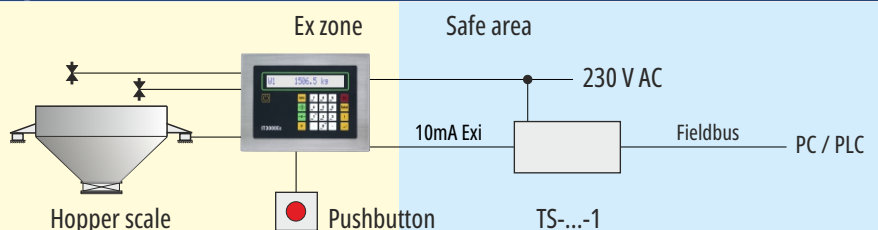
W&M approved filling of gas cylinders (software option GASFILL)

W&M approved filling of gas cylinders via connectable piezo valves. Data transfer to PC via separation module.



Fieldbus operation (software option ONLINE P)

Weight capturing, taring, zero setting, reading of inputs and setting of outputs via fieldbus interface. Connection to PLC or SCADA system via: Profibus DP, Profinet, Ethernet/IP, or Modbus® TCP.



IT3000Ex – Technical Data

ATEX Approval

II (2)G Ex eb ib mb [ib] IIC T4 Gb (Gas)
II (2)D Ex ib tb [ib] IIIC T125 °C Db (Dust)

Construction

Stainless steel housing with mounting brackets for desk-top, wall-mount or panel-mount installation.

Display And Keyboard

High-contrast 20-character backlit LCD, height of characters 14 mm (0.6"). Numeric membrane keyboard with multiple key assignment for alpha characters. Function keys for on / off, zero setting, taring, printing.

Weighing Electronics

Connection of load cell(s) with a minimum impedance of 87.5–3,300 Ohm (e.g. 4 x 350 Ohm). W&M approved resolution of 6,000 d, internal resolution 524,000 d, smallest load cell signal 0.33 µV/e. Option: Connection of digital scale base via DWB3000-Exi, e.g. Minebea Intec.

Calibration

Setup as single or multiple-range scale or as multi-interval scale. Calibration with test weight or digitally through entry of rated output signal of load cell(s). Option to linearize weight curve.

Electrical Connection

Power supply options:

- Internal 230 V AC power supply unit
- External 24 V DC power supply for installation in safe area
- External 12 V DC Ex battery.

Operating Temperature

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

Internal Interfaces

2 intrinsically safe digital inputs (5 V) and 2 intrinsically safe digital outputs to connect piezo-electric valves (5 V). Option for 1 plug-on intrinsically safe serial interface, SIM10mA Exi, to connect printer, PC or remote display via the SysTec interface module. Alternative option for an intrinsically safe optical interface SIMLWL-Ex to connect to several IT3000Ex units to a fiber-optic system located in the hazardous area. Connection to PC in safe area via SysTec separation module.

Separation Modules For Installation In Safe Area

With optional 24 V power supply coming from the safe area for an IT3000Ex (except with TS3000) and with integrated intrinsically safe interface TS10mAEx. ATEX approval:

II (2)G [Ex ib Gb] IIC (Gas)
II (2)D [Ex ib Db] IIIC (Dust)

- **Separation module TS3000**, with RS232, 20mA, or RS485 interface.
- **Fieldbus-separation module TS-...-1**, with:
 - Profibus DP (TS-Profibus-1) or
 - Profinet (TS-Profinet-1) or
 - Ethernet/IP (TS-Ethernet/IP-1) or
 - Modbus® TCP (TS-Modbus-1)
- **Analog output separation module TS-DAM-1**, configurable for current output 0/4–20 mA or voltage output 0/2–10 V DC.
- **8 I/O relay module TS-REL485** with 8 opto-isolated inputs and 8 relay outputs.

Separation Modules For Installation In Ex Area


Ex-d housing for installation in Ex zones 1, 2, 21, 22 with integrated separation module in the following versions:

- **TS-RDIT1-Ex**: Ex-i separation module with IT1 remote display
- **TS-WLAN-Ex**: WLAN separation module to connect to a local network and optional voltage supply for an IT3000Ex
- **TS-Scanner-Ex**: Ex-i separation module with battery guard to connect a handheld scanner BCS 3608Ex-IS and optional voltage supply for an IT3000Ex.


Other Options

- Ex load cell / data cable
- Ex load cell junction box (JunctionBox Ex)
- Battery guard for the installation in Ex zone 1, 21, 21, and 22 (TS-Guard-Ex)
- Fiber-optic separation module (RS232 or RS485) for installation in safe area.


Dimensions and accessories:

Desk / wall version	Panel-mount version	Ex battery, charger
 <ul style="list-style-type: none">• Stainless steel housing, IP65• Suitable for desk-top or wall-mount installation• Dimensions W x H x D: 252 x 190 x 154 mm (9.9" x 7.5" x 6.1")	 <ul style="list-style-type: none">• Stainless steel housing, fascia plate protected to IP65• Dimensions W x H x D: 282 x 220 x 96 mm (11.1" x 8.7" x 3.8")• Cut-out in panel: 255 x 193 mm (10.0" x 7.6")	 <p>Dimensions W x H x D: 275 x 225 x 116 mm (10.8" x 8.9" x 4.6")</p>
Separation module	Fieldbus separ. module	JunctionBox Ex
 <p>Dimensions W x H x D: 230 x 47 x 165 mm (9.1" x 1.9" x 6.5")</p>	 <p>Dimensions W x H x D: 400 x 242 x 121 mm (15.7" x 9.5" x 4.8")</p>	 <p>Dimensions W x H x D: 227 x 80 x 53 mm (8.9" x 3.1" x 2.1")</p>

Directives: 2014/30/EU, 2014/31/EU, 2014/32/EU, 2014/34/EU

 EU Type-examination Certificate as non-automatic weighing instrument, automatic gravimetric filling instrument

Standards: EN 45501, OIML R 76-1, OIML R 61
EN 61000-6-2, NAMUR NE21,
EN 62368-1, EN 61000-6-4,
IEC 60079-0, EN 60079-7,
EN 60079-11, EN 60079-18,
EN 60079-31, EN 55011

 ATEX approval for Ex zone 1, 2, 21 and 22

 UKEX approval for Ex zone 1, 2, 21 and 22

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Sales and service

Subject to change without notice

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