IT8000Ex

SysTec
Discover smart weighing

W1
NET 1506.0kg
Position: 4711

IT8000

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

Stainless steel housing IP65

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

LCD text display

For weight, multi-lingual operator prompts and calibration.
With backlighting, up to four lines of alphanumeric display with up to 20 characters each.

Keyboard

Function keys for zero setting, taring and printing.
Numeric keypad for input of tare weights and IDs.
Alphanumeric entries possible via multiple key assignment.
Application-specific functions directly accessible via function keys.

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

Industrial design, modular concept, proven standard programs and free programmability make the IT8000 Ex the ideal weighing terminal for:
shipping and receiving scales, batching and recipe weighing, filling controllers for drums or IBCs and for weighing installations with customized operating sequences.

Weighing electronics

Scale interface for one scale base with up to 4 load cells with an impedance of 350 Ohm each or 8 load cells with 1,000 Ohm. Weights and Measures approved resolution of 6,000 d with a maximum preload of 80 %. Calibration is possible as single or multiple-range scale (e.g. 3 x 3,000 d) and as single or multi-interval scale.
Internal data archive for the storage of up to 450,000 weighing records.

Modular concept

The modular design provides for several configurations with:

- Up to 2 serial, intrinsically safe interfaces for the connection of printer, PC, PLC, remote display, scanner or fieldbus / Ethernet gateway;
- Flexible I/O concept with 4 digital inputs (5 V, intrinsically safe) and several options for digital outputs:
5 V DC, intrinsically safe to connect piezo-electric valves or potential-free relay contacts to connect intrinsically safe 24 V solenoid valves.

This ensures that the optimal system configuration can be chosen, for stationary as well as mobile use. Specific software modules support the connection of PCs, printers, PLCs and frequency inverters in safe area.
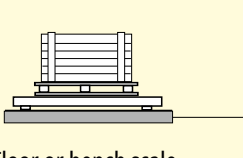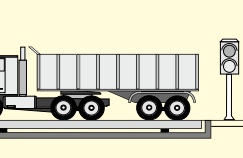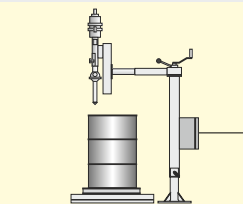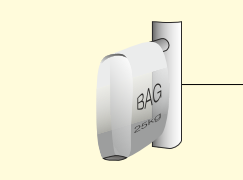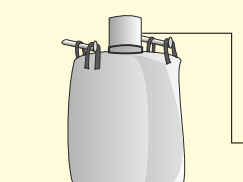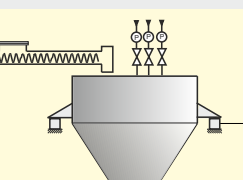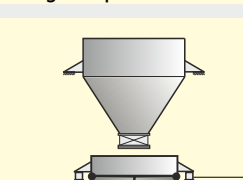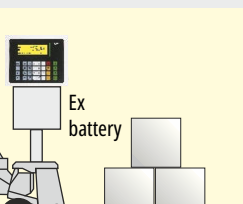
Free programmability

Standard programs can be adapted to the requirements of a specific application. New programs can be designed in a very simple way on a PC with the RTG program development environment.

High operational security

Fast and error-free operation is ensured by a high-contrast alphanumeric, back-lit LCD for the indication of weight, IDs and operator prompts in combination with an easy-to-use tactile keyboard for the entry of manual tare and additional data.

IT8000Ex – Standard Programs (Selection)

BASIC

W&M approved weighing terminal
Input of IDs. e.g. order No. and article No.,
taring, weighing and totalizing, W&M approved
data archive, printout on form or ticket,
data transmission to PC.

Floor or bench scale

Ex zone | Safe area

24 V DC or 230 V AC
10mA Ex"i" — Separating module — Printer
10mA Ex"i" — Separating module — RS232 — PC

TRUCK/ONLINE

W&M approved truck scale terminal
Files for customer, supplier and product
data; internal W&M approved data archive;
configurable print format; switching /
summing function for combined platforms;
full remote control from PC.

Single or combined platform

Ex zone | Safe area

24 V DC or 230 V AC
10mA Ex"i" — Separating module — Printer
10mA Ex"i" — TS Ethernet — Ethernet — PC

FILL

Filling controller for liquids
Operation as automatic weighing instrument,
fast / slow feeding with preact optimization, files for
products and statistics, control of filling lance and
conveyor. Connection to PLC via: Profibus DP,
Profinet, Ethernet/IP, or Modbus® TCP.

Scale to fill drums, pails or cans

Ex zone | Safe area

24 V DC or 230 V AC
10mA Ex"i" — Separating module — Printer
10mA Ex"i" — Separating module TS-...-1 — PLC

BAG

Filling controller for bags
With two-speed filling and preact optimization, files
for product parameters and statistics, filling in
gross or net mode, operation as automatic weighing
instrument.

Bagging scale

Ex zone | Safe area

24 V DC or 230 V AC
10mA Ex"i" — Separating module — Printer
10mA Ex"i" — Separating module — 123,5kg Remote display

BIGBAG

Filling controller for IBCs
With two-speed filling and preact optimization, files
for product parameters and statistics, control of
inflation, compression and aeration equipment,
filltime check, optional fieldbus interface.

Scale integrated in IBC filling structure

Ex zone | Safe area

24 V DC or 230 V AC
10mA Ex"i" — Separating module — Printer
10mA Ex"i" — Separating module — Relay modules

BATCH

Multi-material batchweighing controller
With files for raw materials and recipes,
automatic two-speed or manual batching,
synchronization steps for process control,
batch protocol and material statistics.

Batching of liquid or solid material

Ex zone | Safe area

24 V DC or 230 V AC
10mA Ex"i" — Separating module — Printer
10mA Ex"i" — Separating module TS-...-1 — PLC

BULK

Bulkweighing controller
For shipping and receiving of bulk material via
trucks, freight cars or ships; with product files
and control of silos, remote control possible via
fieldbus (e.g. Profibus DP).

Bulkweigher

Ex zone | Safe area

24 V DC or 230 V AC
10mA Ex"i" — Separating module — Printer
10mA Ex"i" — Separating module — Relay modules

IT8000Ex

Weighing terminal with power supply via
rechargeable Ex battery.
Operating time 40–90 h with
fully charged battery.

Ex battery

Ex zone | Safe area

12 V DC — Battery charger — 230 V AC

IT8000Ex – Technical data

ATEX Approval

⟨Ex⟩ II 2G Ex eb mb [ib] IIB/IIC T4 Gb (Gas)
II 2D Ex tb [ib] IIIC T100 °C Db (Dust)

Construction

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

Display And Keyboard

4 x 20-character alphanumeric back-lit LCD display, height of characters for weight indication 19 mm (0.7"), operator prompts and calibration via 20-character text display.

Keyboard with numeric keys for the input of tare weights and additional information, scale keys for zero setting and taring and function keys. Input of alpha characters via multiple assignment of keys.

Weighing Electronics

For the connection of load cells with an impedance 87.5–3,300 Ohm (e.g. 4 x 350 Ohm). W&M approved resolution 6,000 d, internal resolution 524,000 d, input signal 0.33 μV/e.

Calibration

Setup as single or multiple range scale or as multi-interval scale. Calibration with test weights or through entry of rated signal, option for linearization.

Power Supply

Options:
- 230 V AC power supply unit mounted on back cover
- External 24 V DC power supply unit for installation in safe area
- External 12 V DC rechargeable Ex battery.

Operating Temperature

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

Internal Interfaces

4 intrinsically safe digital inputs (5 V). As option 4 intrinsically safe digital relay outputs (60 V) or transistor outputs (5 V) to connect to piezo-electric valves. Option for two plug-on intrinsically safe serial interfaces RS485-Exi or S10mA-Exi, to connect to printer, PC, relay module or remote display via the SysTec interface module. 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 IT8000Ex (except with TS3000) and with integrated intrinsically safe interface TS10mAEx. ATEX approval:

⟨Ex⟩ 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 IT8000Ex
- **TS-Scanner-Ex:** Ex-i separation module with battery guard to connect a handheld scanner BCS 3608Ex-IS and optional voltage supply for an IT8000Ex.

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).

Free Programmability

Comprehensive, PC-based RTG *WIN* program development and test environment-

Dimensions and accessories:

Desk / wall version

Dimensions W x H x D:
270 x 210 x 170 mm
(10.6" x 8.3" x 6.7")

Panel-mount version

Dimensions W x H x D:
300 x 240 x 79 mm
(11.8" x 9.4" x 3.1")
Cut-out in panel:
273 x 213 mm (10.7" x 8.4")

Ex battery, charger

Dimensions W x H x D:
250 x 232 x 101 mm
(9.8" x 9.1" x 4.0")
Optionally available for installation on DIN rail

Separation module

Dimensions W x H x D:
275 x 225 x 116 mm
(10.8" x 8.9" x 4.6")

Fieldbus separ. module

Dimensions W x H x D:
230 x 47 x 165 mm
(9.1" x 1.9" x 6.5")

JunctionBox Ex

Dimensions W x H x D:
227 x 80 x 53 mm
(8.9" x 3.1" x 2.1")

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

Standards: EN 45501, EN 60079-0, EN 60079-7, EN 60079-11, EN 60079-18, EN 60079-31, EN 61000-6-2, EN 61000-6-4, NAMUR NE21, OIML R 51, OIML R 61, OIML R 76-1, OIML R 107

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

⟨Ex⟩ ATEX-approval for Ex-Zones 1, 2, 21, 22 and IECEx BVS 17.0093