

IT1000 Ex2/22 Universal Weighing Terminal, W&M

Approved, for Industrial Use



Universal Use: Suitable for difficult environmental conditions and locations with

High Operational Security: Fast and error-free operation is ensured by a high-contrast alphanumeric LCD for the indication of weight, IDs and operator prompts in combination with an easy-to-use keyboard.

Weighing Electronics: IT1000 connects to one scale with up to 16 loadcells and provides a W&M approved resolution of up to 6000d with max. 80% preload. Calibration is possible as single or multiple-range (eg 3x3000d) and as single or multi-interval scale.

Weighing Program: Display of net, tare and gross weight. Operator prompting for capturing of weight or piece count. Totalizing is also possible. Plug-on modules are used to set IT1000 up for applications of varying complexity:

Data Logging: Via optional printer interface. The print layout for labels or forms is configurable. Printout of weights, totals, date, time and consecutive-No.

Data Transmission To PC: Via optional PC interface. Transmission of date, time, consecutive-No. after each weighing cycle.

PC ONLINE Mode via optional PC interface. Reading of weight, taring, zero setting and other functions can be remotely controlled from a PC. Weights can be stored in a W&M approved data archive on the PC's harddisk for verification. Data transmission is possible through serial interface or Ethernet LAN via EtherPort.

Switching And Filling: With an optional input/output module two weight thresholds can be monitored, eg for max. or min. values. Start of weighing cycle and taring is possible from external switches. Alternatively the inputs and outputs can be used for a filling sequence with start/stop/interrupt and two-speed cut-off.



IT3000 Ex2/22 W&M Approved Industrial Weighing Terminal for Use in Ex-Zones 1, 2, 21 and 22



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 off 350 Ohm loadcells or Ohm loadcells. W&M approved resolution is 6000d with max. 90% preload. Calibration is possible as single multiple-range (e.g. 3x3000d) 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 aring is possible from external pushbuttons. As an option, the internal I/Os can be used for a filling sequence with start / stop function.

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 I 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.

ExtensionBox: The external ExtensionBox in safe area considerably enhances the versatility of the IT3000Ex. The freely programmable ExtensionBox permits the use of programs for weighing and filling applications and provides multiple interface options in safe area, eg Profibus DP, Ethernet, 3 serial interfaces and up to 64 transistor or relay outputs.



IT3000A Ex2/22 W&M Approved Industrial Weighing Terminal for Use



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 IT3000A Ex connects to one scale, with -for instance- 4 off 350 Ohm loadcells or 8 off 1000 Ohm loadcells. W&M approved resolution is 6000d with max. 90% preload. Calibration is possible as single or multiple-range (e.g. 3x3000d) 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 ending is possible from external pushbuttons. As an option, the internal I/Os can be used for a filling sequence with start / stop function.

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.

ExtensionBox: The external ExtensionBox in safe area considerably enhances the versatility of the IT3000A Ex. The freely programmable ExtensionBox permits the use of programs for weighing and filling applications and provides multiple interface options in safe area, eg Profibus DP, Ethernet, 3 serial interfaces and up to 64 transistor or relay outputs.



IT3000AP Ex2/22 W&M Approved Industrial Weighing Terminal for Use



IT3000AP Ex2/22 is a universal industrial weighing terminal with Profibus DP fieldbus interface for the integration into decentralized control systems.

The **IT3000AP Ex2/22** terminal provides a very simple way to combine the weighing application on process level with the control functions of a PLC and/or visualization system on a higher level. In this configuration the PLC is always in full control of the complete process. Together with other fieldbus participants up to 126 devices can be connected via a bus cable.

Housed in a compact and robust stainless steel desk-top / wall-mount enclosure (IP67) the **IT3000AP Ex2/22** enables the data capture, display and recording of weighing and associated operational data direct in harsh environment weighing locations. Alternatively a panel-mount version is available.

One scale of any type can be connected to the terminal, eg hopper or floor scale or roller conveyor on loadcells, etc. High resolution of weight and fast signal processing of the **IT3000AP Ex2/22** enable rapid and precise weight measurements and fillings. The communication between PLC and **IT3000AP Ex2/22** is made in both directions via the exchange of data words. Weight values, entries, status messages and digital inputs can be read by the PLC from the corresponding data words. In the other direction the following functions, among others, can be controlled by the PLC:

- Batching (weigh-in or weigh-out)
- Discharging
- Taring / Clear tare / Set zero.

Fieldbus terminal

IT3000AP Ex2/22 enables the simple connection of a weighing terminal / batching controller to a PLC for process control and visualization. The terminal is connected and configured via Profibus DP fieldbus. The network communication automatically updates specified data words of the network participants. Commands and information are exchanged through writing and reading of these data words. The host system is always in full control of the operating sequence. The following example shows how a PLC controls the automatic batching into a hopper scale:

- The PLC writes the data words for target weight, preact and tolerance
- The PLC sets the command bit 'Start Filling'
- **IT3000AP Ex2/22** sets the status bit 'Filling Ready'.

Weighing electronics

Integrated signal amplifier for connection of up to 16 strain gauge loadcells (up to 6 for DC version), using 4- or 6-wire technology

Calibration as single or multiple-range and as single or multi-interval scale

Weights and Measures approved resolution of 6000d with a maximum preload of 80%, 524,000d internal resolution 50 filtered updates / sec alibration is either made via keyboard and display or over the Profibus interface.

Operation

Clear operator prompting via 20-character high-contrast display.
Data entry is via numeric tactile acid-resistant membrane keyboard.

Commands

- Read weight with or without motion detector
- Batching (weigh-in or weigh-out)
- Discharging
- Manual tare
- Auto-tare
- Set zero
- Read digital input.

Security

Data is retained in the event of power loss
Password protection.

Profibus DP protocol

Profibus DP V0 12 MBit or

Profibus DP V1 12 MBit with PNO profile (industry standard for weighing and filling systems).

Serial interface

One optional serial interface (RS232, RS485 or 20mA CL passive) as service interface to connect to a PC.

Digital I/Os

Driver module with 2 digital 24V inputs and 2 digital 24V outputs as option.

Electrical connection

110 (-15%) – 240 (+10%) VAC, wide range input, 50/60 Hz,
power consumption max. 15 VA
Option: 12 – 30 VDC.

Operating temperature

-10°C to +40°C, 95% relative humidity, non-condensing.



IT3000E Ex2/22 W&M Approved Industrial Weighing Terminal with Integrated Ethernet Interface and Web Server



IT3000E Ex2/22 is a universal industrial weighing terminal ready for the integration in Ethernet networks. It includes the well proven configurable standard programs:

BASIC for simple weighing systems

COUNT for parts counting

CHECK for simple check scales

FILL for simple filling systems

ONLINE for remote controlled systems

TRUCK/ONLINE for truck scale systems with online PC connection.

Parameters can be edited via PC with the **IT3000 Configurator** PC tool or by means of a web browser **directly over the network**.

After each weighing cycle **weight, date/time** and the entered IDs can be stored via Ethernet **in a file on a PC's harddisk**. This does not require any specific PC program. In **ONLINE Mode** the **IT3000E Ex2/22** can be controlled from the PC via the Ethernet interface.

The instruction set permits capturing of weight, taring, zero setting and dialog functions. Any error condition, such as overload, along with date and time is recorded in a log file that can be viewed via web browser. Storage of data in an internal W&M approved data archive or in a W&M approved file on the PC's harddisk.

Operation

Operator prompting via 20-character back-lit alphanumeric display. Data entry via sealed membrane keyboard with numeric and function keys.

Weighing electronics

- Integrated signal amplifier for connection of up to 8 strain gauge loadcells using 4- or 6-wire technology
- Calibration as single or multiple-range and as single or multi-interval scale
- Weights and Measures approved resolution of 6000d with a maximum preload of 80%, 524,000d internal resolution
- 50 filtered updates / sec

Ethernet interface

- Integrated Ethernet interface, with selectable IP address for 10/100BASE-T networks, RJ45 connector
- Configuration with PC program 'EtherPort Tool' over the network.

Security:

- Data is retained in the event of power loss
- Password protection.

Interfaces

One optional serial interface (RS232, RS485 or 20mA CL passive) to connect a printer, remote display or reference scale..

Digital inputs and outputs

Optional PIM module with 2 digital 24V inputs and 2 digital 24V outputs.

Electrical connection

110 (-15%) – 240 (+10%) VAC, wide range input, 50/60 Hz, power consumption max. 15 VA;
Option: 12 – 30 VDC.

Operating temperature

-10°C to +40°C, 95% relative humidity, non-condensing.

ATEX Approval

for installation in Ex zones 2 and 22.



IT4000E Ex2/22 W&M Approved Industrial Weighing Terminal For Weighing And Filling Applications



Universal use: The W&M approved IT4000E is designed for applications in the chemical and pharmaceutical industry, in the food industry and in many other sectors of industry. The industrial design with the modular hardware and the powerful standard programs make the IT4000E the ideal choice for: Weigh and print applications

- Parts counting
- Vehicle weighing
- Checkweighing
- Filling
- Mobile data capture systems.

Modular concept

- Enclosures for wall-mount, desk-top or panel-mount installation
- DC or AC power supply
- Connection of scales with analog or digital force transducers
- 10/100 Mbps Ethernet interface with integrated web server, WLAN as option
- Integrated USB 2.0 host interface for printer, scanner and USB stick
- Up to 2 serial interfaces, RS232, RS485, RS422 or 20mA CL, for connection of remote displays, label printers, etc.

Weighing electronics: For the connection of max. 16 analog loadcells in 4- or 6-wire mode, W&M approved resolution of upto 6000d at a max. of 80% preload, internal resolution 524,000d, update rate selectable 50 - 800 updates / second, smallest loadcell signal 0.33mV/e. Optional connection of two scale bases via DUAL-ADM. Optional connection of digital scales.

Simple integration: The Linux based operating system with the integrated web server provides the ideal functionality for the integration of the IT4000E into local area networks. WLAN communication and remote access via internet are also possible. This ensures that the optimal system configuration can for stationary as well as mobile use.



IT6000E Ex2/22 W&M Approved Industrial Weighing Terminal For Weighing And Filling Applications



Universal use: The W&M approved IT6000E is designed for applications in the chemical and pharmaceutical industry, in the food industry and in many other sectors of industry. The industrial design with the modular hardware and the powerful standard programs make the IT6000E the ideal choice for:

- Shipping and receiving
- Filling of liquid and solid material
- Vehicle weighing
- Checkweighing
- Dynamic weighing and batching systems
- Mobile data capture systems.

Modular concept: The modular design provides for a variety of configurations and options, such as:

- Enclosures for wall-mount, desk-top or panel-mount installation
- DC or AC power supply
- Connection of scales with analog or digital force transducers
- 10/100 Mbps Ethernet interface with integrated web server, WLAN as option
- Integrated USB 2.0 host interface for printer, scanner and USB stick
- Up to 2 serial interfaces, RS232, RS485, RS422 or 20mA CL, for connection of remote displays .
- Analog I/Os, etc.

Weighing electronics: 1 or 2 internal scale interfaces possible. Adjustable update rate with up to 800 updates / second. High noise immunity of min. 10V/m against radio frequency interference . W&M approved resolution of up to 6000d with max. 80% preload. Calibration is possible as single or multiple-range (eg 3x3000d) and as multi-interval scale. Internal data archive for the storage of up to 120,000 weighing transactions.

Simple integration: The Linux based operating system with the integrated web server provides the ideal functionality for the integration of the IT6000E into local area networks. WLAN communication and remote access via internet are also possible. This ensures that the optimal system configuration can be chosen, for stationary as well as mobile use.

Free programmability: Standard programs can be adapted to the requirements of specific applications. New programs can be designed and tested in a very simple way on a PC with the RTC program development environment.

Bright TFT color display With wide viewing angle, large weight display and 4 to 8 input lines.

IT8000 Ex2/22 W&M Approved Industrial Weighing Terminal W&M Approved, for Industrial Use in Ex-Zones 1 and 21



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 loadcells with an impedance of 350 Ohm each or 8 loadcells with 1000 Ohm. Weights and Measures approved resolution of 6,000d with a maximum preload of 80%. Calibration is possible as single or multiple-range scale (eg 3x 3000d) and as single or multi-interval scale. Internal data archive for the storage of up to 450,000 weighing transactions.

Modular concept: The modular design provides for a variety of configurations and options, such as:

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

Specific software modules support the connection of PCs, PLCs, scanners, transponder systems, printers, frequency inverters and wireless communication. This ensures that the optimal system configuration can be chosen, for stationary as well as mobile use.

ATEX Approval for use in Ex Zone 1 and 21.

Stainless steel housing IP65 Suitable for harsh environment weighing locations. With mounting brackets for desk-top or wall-mount installation. Integrated power supply unit, sealed cable glands for all cable connections.

Keyboard: With function keys for zero setting, taring and printing, numeric keys for the entry of manual tare and IDs. Alphanumeric entries possible via multiple key assignment. Application-specific functions directly accessible via function keys.



IT8000 Ex2/22 W&M Approved Industrial Weighing Terminal For Challenging Weighing And Filling Applications



Universal use: The W&M approved IT8000E is designed for demanding industrial applications in the chemical and pharmaceutical industry, in the food industry and in many other sectors of industry. The industrial design with the powerful modular hardware and the concept of free programmability make the IT8000E the ideal weighing terminal for standard or application-specific solutions, eg for:

- Shipping and receiving
- Filling and batching systems
- Totalizing bulkweighers
- Checkweighers
- Vehicle / axle weighing
- Mobile data capture systems.

Weighing electronics: 1 or 2 internal and up to 6 external scale interfaces possible. Adjustable update rate with up to 800 updates / second. High noise immunity of min. 10V/m against radio frequency interference . W&M approved resolution of up to 6000d with max. 80% preload. Calibration is possible as single or multiple-range (eg 3x3000d) and as multi-interval scale. Internal data archive for the storage of up to 120,000 weighing transactions.

Modular concept: The modular design provides for a variety of configurations and options, such as:

- Enclosures for wall-mount, desk-top or panel-mount installation or as blackbox
- DC or AC power supply
- Connection of scales with analog or digital force transducers
- 10/100 Mbps Ethernet interface with integrated web server
 - WLAN as option
- Integrated USB 2.0 host interface for printer, scanner and USB stick
- Up to 4 serial interfaces, RS232, RS485, RS422, 20mA CL selectable
- Flexible I/O concept for up to 64 inputs and outputs
- Fieldbus interfaces Profibus DP or Modbus TCP Analog I/Os, etc.

