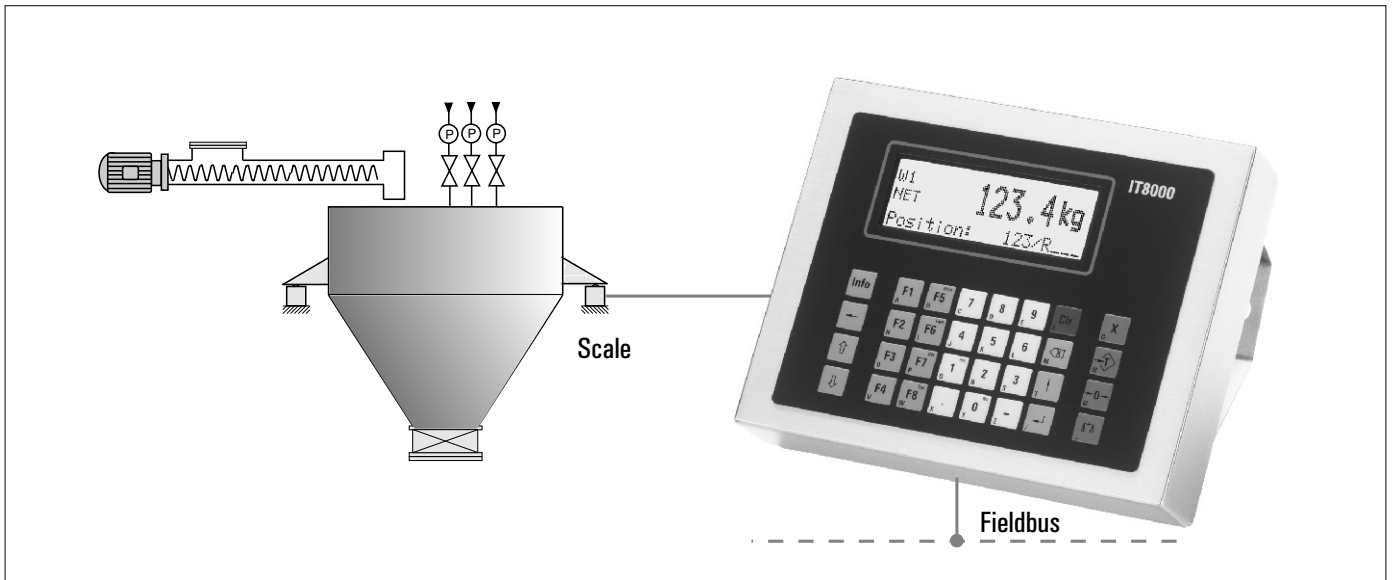


Batchweighing Control for Automatic Batching of Solid and Liquid Bulk Materials



IT8000 BATCH is a batchweighing controller for automatic weighing of solid and liquid bulk materials in the **chemical, pharmaceutical, food and other industries**.

The controller connects to loadcells or scales of all types and weight ranges, including Ex-area applications.

IT8000 BATCH is suitable for:

- Automatic multi-ingredient batchweighing in hoppers, mixers or tanks
- Recipe batchweighing on floor and pit-mounted scales including control of manually added ingredients
- Subtractive batchweighing (weigh-out) from hopper scales.

The system controls fast and dribble feed of **valves, screw feeders or similar for up to 31 materials**.

Batching sequences are recipe-controlled. Recipes contain functions for automatic or manual weighing, weight tolerance check, operator inputs and synchronization steps.

Production and processing procedures can also be included into an automatic cycle, simply, safely and fast.

The 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** in a batch log, totals for raw material usage, production quantities and error reports.

The controller is available in two styles:

- **Compact stainless steel enclosure (IP65)** for desk, floor-column or wall mounting
- **Panel-mount version.**

- **Semi-automatic operation**, as stand-alone batchweighing controller with its own recipe and raw material database
- **Automatic operation**, linked to a process controller or PLC with higher level database maintenance and overall process control.

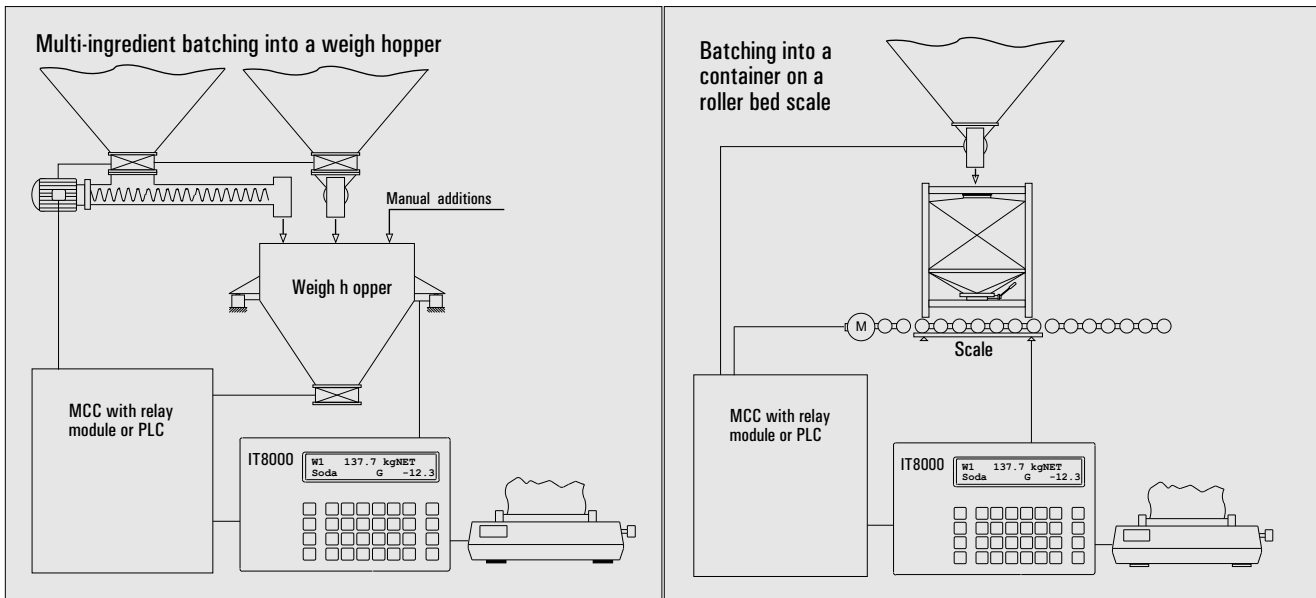
The sequence and operation are configurable to suit particular applications.

Typical sequence in semi-automatic operation:

To start a batch, batch size, number of batches and, possibly, application-specific data are keyboard entered. The sequence is started via the keyboard or from an external switch.

A batch log is printed at the end of each batch.

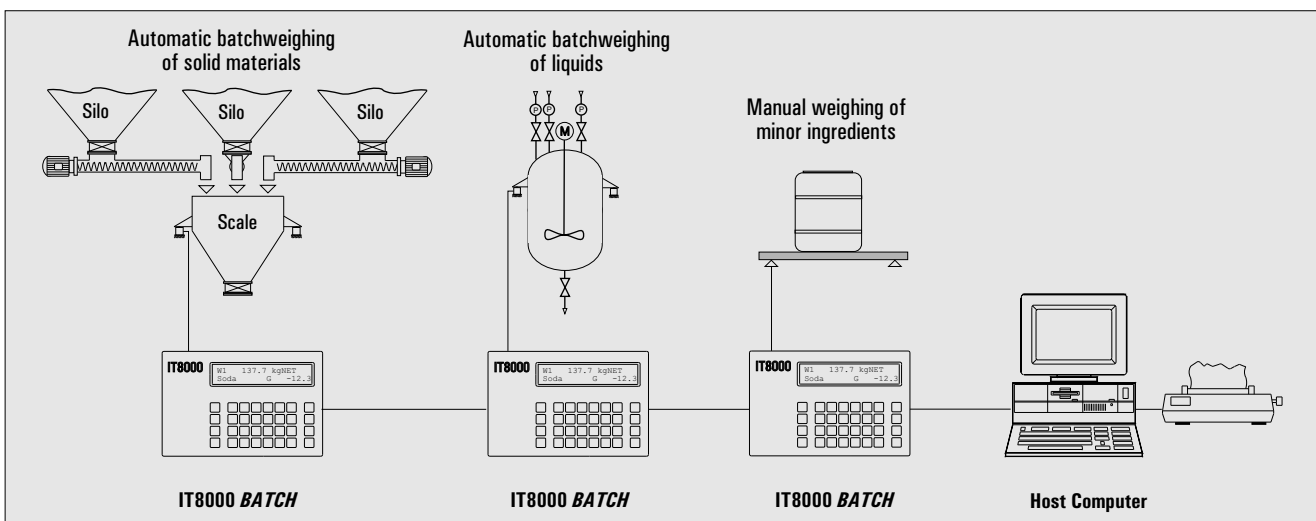
Error messages are displayed in clear language on the 20-character display and printed out on a printer (if connected).



Typical sequence in automatic operation:

To start a batch, recipe-No., batch size, No. of batches and the start command are transferred via a serial interface to the IT8000 BATCH. It is possible to continuously output status information and actual weight during a batching

sequence. On completion of a batch, batch information is transferred to the external computer. Automatic operation is typically used when a number of batchweighers equipped with IT8000 BATCH controllers are employed.

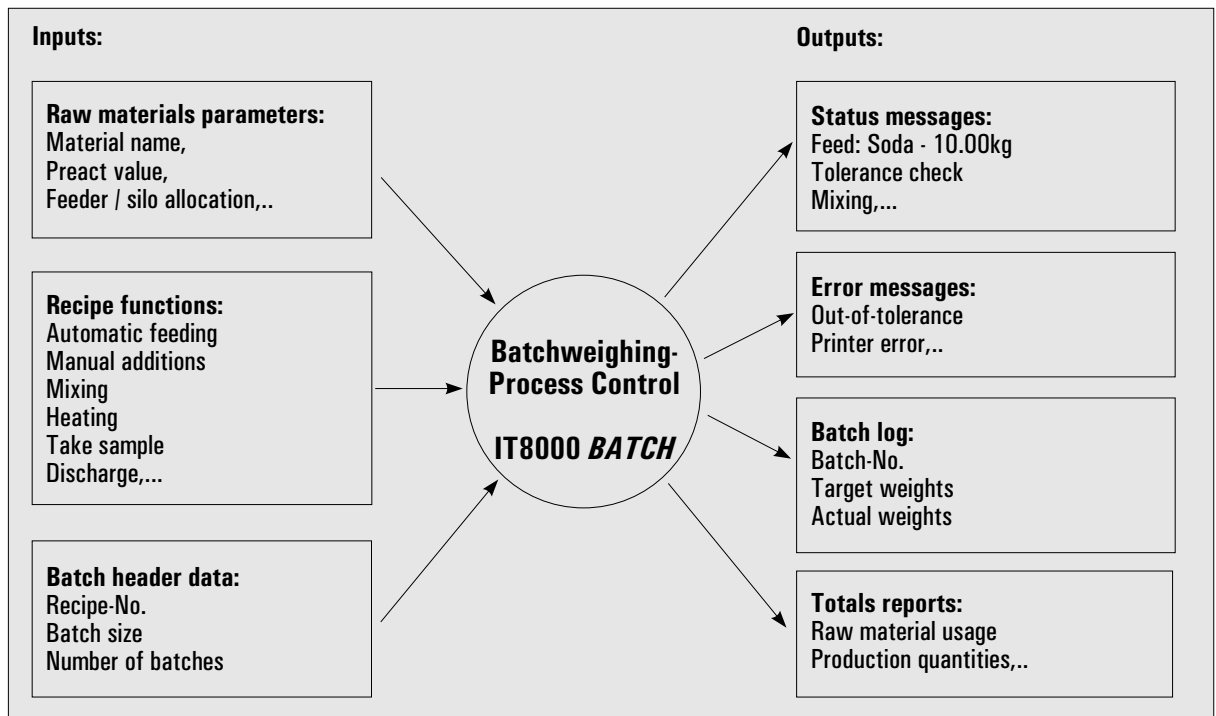


Each recipe line may have one of these functions:

- Automatic fill control
- Manual additions
- Subtractive weighing
- Discharge
- Zero check
- Tare check
- Confirm fixed value
- Read data word
- Write data word
- Text prompts with operator acceptance
- Synchronized step
- Time preset
- Control of mixer, heater, feeder, etc.

Raw materials:

- Automatic feed control of up to 31 raw materials
- Manual batchweighing of a further 69 materials
- Parameter entry of material-No., name, preact value, etc. for each raw material
- Feeder allocation (eg to silos) is changeable
- Capture of raw material usage for each material.



Typical batchweighing sequence for a mixer mounted on loadcells:

- Zero check
- Automatic feeding of major materials with tolerance check and preact control
- Manual addition of minor materials with tolerance check
- Mixing
- Wait for request signal
- Discharge
- Transfer and/or print batch log.

Typical example of a recipe batching sequence for a container on a roller bed scale:

- Zero check
- Move container onto scale
- Tare control
- Automatic feeding of materials with tolerance check and preact control
- Move container off scale.

Feed control:

- Fast and dribble feed with countdown display and tolerance check
- Automatic recalculation of target weights based on desired batch size
- Automatic preact adjustment (selectable) to enhance fill accuracy
- Automatic top-up feed (jog) in the event of minus tolerance (selectable)
- Material flow check with violation alarm (selectable)
- Automatic intermediate discharge when batch size is larger than weighing range (selectable).

Operation:

- Clear operator prompting via a high-contrast alphanumeric display. Data entry is via alphanumeric tactile keyboard under an acid-resistant membrane.
- Sequence and operation can be individually configured, this eliminates unnecessary operator steps.
- Input, printout and transfer of application-specific data, eg order-No., batch-No., shift-No. or operator ID.
- Operator prompting in English, French, German or Dutch.

Security:

- Data is retained in the event of power loss
- Continuation of program after power fail possible - power fail recovery
- Password protection for all data
- Battery-backed realtime clock
- Display, printout and transfer of all error messages is possible.

Reporting facilities:

- Batch log
- Error messages
- Files, totals, parameters.

Files:

- Recipe file with 2000 function steps (program lines)
- Raw material file with 100 raw material entries
- Parameter file.

Simple integration:

- Stand-alone or remote-controlled operation possible; material parameters, recipes, etc. can be keyboard entered or downloaded via serial interface
- Accept, Start, Interrupt functions are possible via external switches.

Weighing electronics:

- Integrated signal amplifier for connection of up to 2 x 8 strain gauge loadcells in 4- or 6-wire mode
- Two additional scales can be connected via external ADCBox module
- Calibration as single or multiple-range and as single or multi-interval scale
- Fast signal processing (50 updates/sec)
- Weights and Measures approved resolution of 6,000d with a maximum preload of 80%, 524,000d internal resolution.

Serial interfaces:

- For printer (option), protocol: EPSON or TTY
- For data transfer to PC (option)
- RS232, 20mA CL, RS422 or RS485 selectable, protocol/baudrate configurable.

Ethernet connection:

Optional built-in Ethernet interface.

Digital interfaces:

- 4 internal opto-isolated inputs / outputs (24V) to connect to motor control center / PLC
- Option: External RS485 relay or transistor modules
- Option: Profibus DP or DeviceNet.

Electrical connections:

110 (-15%) – 240 (+10%) VAC, 50/60 Hz, option: 12 – 30VDC, power consumption max. 25VA

Operating temperature:

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

Accessories:

- Support column for floor mounting
- Relay module with secure isolation of inputs/outputs (24V, 3A).

Ex version (option):

Model IT8000Ex with ATEX approval for installation in hazardous area, zone 1 (gas) or zone 21 (dust), with limited interface options (see IT8000Ex leaflet).

Model IT8000 Ex2/22 with ATEX approval for installation in hazardous area, zone 2 (gas) or zone 22 dust).

Construction:

Desk / wall version




- Stainless steel housing, IP65
- Available for desk-top or wall-mount installation or with optional column for floor mounting
- Dimensions WxHxD: 260x210x135mm

Panel-mount version



- Stainless steel housing, fascia plate protected to IP65
- Panel-mount installation
- Dimensions WxHxD: 260x215x70mm
- Cut-out in panel: 243x198mm

Directives: 2009/23/EC, 2004/108/EC, 2006/95/EC

 EC approval as non-automatic weighing instrument


Standards: EN 45501, OIML R76-1, EN 61000-6-2, EN 61000-6-3, NAMUR NE21, EN 60950


 NTEP approval as non-automatic weighing instrument

 ETL-certified in accordance with UL 60950-1 and CSA C22.2 No. 60950-1

 EMI compliance with FCC Part 15

 Mesures Canada: Approval as non-automatic weighing instrument

 Russia: Approval as non-automatic weighing instrument, AGFI, automatic catchweighing instrument, discontinuous totalizer

 Ukraine: Approval as non-automatic weighing instrument, AGFI, automatic catchweighing instrument, discontinuous totalizer