

SWA 2000-C Dosing/Filling Controller

Approved automatic weighing controller for filling & packing machines



SWA 2000-C is a weighing controller for dosing, filling and bagging processes that has been proving its quality and reliability in use for many years and still meets the requirements of fast, modern filling machines today. It controls and monitors the entire dosing process, ensuring outstanding accuracy and repeatability even with difficult materials.

The versatile SWA 2000-C is suitable for a wide range of applications and can be customized to different types of machines and filling goods through parameter settings. Clear, application-oriented menus and dialogs allow intuitive operation. Effective diagnostic tools facilitate commissioning, parameterizing and troubleshooting. In addition, full access to functions, parameters and data is available via the serial interface or the optional Profibus.

Features

- Evaluation electronics for strain gauge load cells
- High internal measurement resolution and stability
- Fast and precise control of the dosing process powered by long-proven algorithms
- High operational reliability due to comprehensive monitoring functions
- Diagnostic tools and support for commissioning, optimization and troubleshooting
- User-friendly weight and status display
- Plain-text operator guidance in 4 languages
- Durable design for industrial use

Filling and dosing control functions

- Two-stage dosing: coarse and fine
- Dosing in filling and dispensing mode
- Switch-off accuracy 2 ms or better
- 32 sets of parameters for filling weights and material parameters
- Automatic zero setting or taring
- Automatic dosing time optimization
- Auto. free-fall compensation in 3 selectable modes: mass-flow dependent, statistic, classic
- Auto. checkweighing with tolerance evaluation
- Automatic topping-up when below tolerance
- Batch mode, preselect by count or total weight
- Refill/complete function for prefilled units
- 2 additional set points, freely usable
- Monitoring of material flow rate, dosing time and faults with alarm
- Totals memory, counter and statistics

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Operating modes

- Filling / dosing
- Dispensing / loss-in-weight mode
- Batch mode with preselection by bag/count
- Batch mode with preselection by total weight, also usable for loading/unloading (discontinuous totalizing)

Measurement & control technology

- EU-approved and verifiable up to 6,000d
- Configurable weighing range, also as multi-range or multi-interval scale, 2 ranges
- 24-bit Delta-Sigma A/D converter (50 Hz)
- Input signal range: 1 to 31 mVDC
- Signal sensitivity: 1 μ V/e (approved for verif.)
- Load cell excitation: 10 VDC for strain gauge load cells, short-circuit proof, 6-wire configuration
- Connection of up to 10/350 Ω load cells
- Digital calibration and parameter set-up via interactive dialog for weighing ranges of 1 kg to 990,000 kg and scale intervals of 100d to 99,000d
- Application of proven measurement and signal processing techniques with 16-bit processor
- Multi-stage, parameterizable digital filters for effective suppression of vibrations on the weighing system, coupled with efficient evaluation and control algorithms

Data processing functions

- Test protocol to facilitate commissioning
- Print protocols for checkweighing, batch start and end; fill and batch protocols with statistics
- Printout of all parameters, total or selective
- Print protocols in the dialog language selected (DE/EN/FR/IT)
- Totals memory of all weighings and for each sort
- Flash memory of all parameters and totals, thus data is retained in the event of power loss

Power supply

- 24 VDC (typical power consumption: 7 W)

Digital I/Os, interfaces & connectivity

- 16 inputs/16 outputs (24 VDC) for control signals, outputs 0.4 A, short-circuit proof
- Serial COM port (RS-422/485) usable for printer, data output, serial communication with full access to all parameters (bus-capable) or as PLC programming interface
- Integrated PLC function
- Optional: Profibus DP

Display and operating terminal AT25

- Bright, self-luminous weight display (LED) with 14 mm digit height, 7 digits
- 4-line plain-text display (LCD), backlit, dialogs in 4 languages (German/English/French/Italian)
- Alphanumeric, tactile membrane keypad
- Function keys, status indicators
- Optional: 19"/3U version for ATEX Zone 22

Mounting

- Control unit can be mounted inside a control cabinet on DIN rail, screw terminal connection
- Display unit can be mounted separately in the cabinet's door or front panel

Environmental conditions

- -10 ... +40 °C (for legal-for-trade applications)
- -20 ... +50 °C (for non-legal-for-trade use)
- -20... +70 °C (storage and transport)
- 0 ... 90 % rel. humidity (con-condensing)

Housing

- Control unit: powder-coated steel; IP20
220 x 135 x 48 mm; approx. 0.6 kg
- Display unit: ABS; IP65 (front, when mounted)
205 x 160 x 30 mm; approx. 0.7 kg

Approvals

The instruments are tested and certified by the National Metrology Institute of Germany (PTB) and approved for official verification in all EU countries.

- 2014/31/EU (NAWID) to OIML R76:
Accuracy Class III 6,000e and Class IIII 1,000e
- 2014/32/EU (MID) to OIML R61, R51, R107
- ISO 9001:2015 QM System and CE conformity

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