

Multiple component batch weighing controller

DOS 2000M



The DOS 2000M is a versatile batch controller for multiple component mixing processes. The system can be used for discontinuous proportioning of solid or fluid products into a weighing vessel. The processing is carried out in accordance with a stored formula / recipe.

- Recipe configuration max. 99 recipes, max. 30 components or silos, total quantity, target weights as percentage or in kg, mixing time, manual adding of material (4 modes), intermediate discharge
- Recipe selection selection of max. 99 recipes (31 via parallel inputs)
- Batch pre-selection number of batches or total quantity
- Reports and statistics per recipe, silo consumption
- Batching monitor display of weights, status and error messages diagnostic information
- Regulator functions proportional control for free-fall compensation per component
- Automatic pulse feeding on weight below tolerance limit
- Configurable weighing range multi-range or multi-interval scale
- Alphanumeric operator panel operation and parametrizing in plain text, 4 languages
- Process IO 16 outputs (24 VDC/0.1 A), 16 inputs (24 VDC)
- Communication serial interface access to all parameters and stored data, parallel or serial printer
- Master terminal operation of multiple scales with one terminal

Technical data of DOS 2000M

Operating Modes

- Single batch
- Batch via pre-selected count
- Batch via pre-selected total weight
- Operation standalone or with master computer

Features of the Weighing Electronics

- EC approved up to 6000 d
- Multi-range or multi-interval
- 20 bits analog / digital converter with fast conversion rate (50 Hz)
- Input signal range 1 to 31 mVDC
- Input sensitivity 1 μ V/digit
- Digital calibration and parameter set-up per interactive dialogs for weighing ranges of 1 kg to 990 000 kg and divisions of 100 d to 99 000 d
- Switch-off accuracy better than 2 ms
- Application of the newest measurement and signal processing technology
- Selectable three-stage digital filter for the effective suppression of scale vibrations
- Load cell supply 10 VDC or 15 VDC
- Connection of up to 6/350 (8/450) ohms load cells
- Real time multitasking operating system
- Real-time clock
- Battery backed memory

Functions

- Configuration of recipes: number of recipes, components and silos, mixing times, intermediate discharge, 4 modes of manual addition of material to recipe, total quantity, target weights as percentage or kg (parameters stored in EEPROM)
- Copy function for recipes and silo parameters
- Silo selection within the recipe
- Silo parameters: fine-feed, free-fall, P-factor, Tol+, Tol-, filling level
- dual feeding speeds for best accuracy
- Free-fall compensation for each component
- Pulse dosing if below tolerance limit
- Empty- and full advance delay
- Silo filling level management
- Outputs for control of up to 30 components (5 directly or 30 binary coded)
- Stop and break function
- 3 levels of password protection for parameter entry
- Operation of multiple scales via master terminal

Checking Functions

- Minimum and maximum fill weight limits
- Automatic check weighing with tolerance evaluation
- Material timeout
- Signalizing system for process errors

Data Processing Functions

- Total memory for recipe and silo balance
- Total memory per batch
- Reports for batch start and end
- Report of actual weight per component
- Process reports
- Printout of all parameters
- 4 languages for the reports (dialog selectable)

Inputs and Outputs for peripheral units

- Parallel IO for control signals, 16 inputs and 16 outputs (24 V level)
- Max. 2 serial channels for weight, remote display, serial printer or computer (RS422, RS485, RS232 or CL20 mA)
- Various protocols for serial communication:
 - simple point-to-point protocol (ASCII)
 - point-to-point protocol process-compatible with 3964R and RK512
 - simple multi-drop protocol (ASCII)
 - Profibus DP
- Large set of commands to control all functions and parameters from remote systems
- Different printers (EPSON-compatible) parallel or serial
- Analog output 4 to 20 mA
- Second display i.e. Mini-terminal MT25 or LED large display via serial channel

Operator Panel AT25

- 13 mm digits, 7 digits (bright, green VFD)
- Alphanumeric LCD, 4 lines
- Alphanumeric membrane keypad
- Function keys, status indicators

Supply Voltage

- 24 VDC nominal voltage (18 to 32 VDC) or
- 18 VAC nominal voltage (13 to 23 VAC) or
- 230 VAC via plug power supply (SELV)
- PWR consumption approx. 7 VA

Dimensions/Weight

DOS 2000-M (Black Box):

- LxWxD 280 x 230 x 70 mm
- Weight approx. 2,0 kg
- Protection IP20

Terminal AT25:

- LxW = 205 x 160 mm (or 130 mm for 3 HU)
- Weight = approx. 1,1 kg
- Protection IP65 (Front)

ISO 9001 Quality Certificate CE