



WEIGHING AND BATCHING UNIT MODEL LCD

Applications

Weighing, batching, classification, end line weighing and object counting for industrial and residential plants such as:

- Silos and hopper weighing
- Warehouse platforms
- Batching systems
- Truck loading
- Food classification

Main features:

- Front panel mounting
- LCD rear lighted display, 2 lines with 16 digits
- Programmable digital inputs and outputs
- Failure alarm output
- Programmable analog output
- Power supply up to 8 load cells
- Plug-in terminal boards
- Easy to use 6 button key-board
- Total control from supervisor via optoisolated
- RS485 network
- Firmware package complete of all static weighing function

Specification:

Power supply 24 V a.c. 4 VA max
 Load cell supply 5 V d.c, max 120 mA
 Measuring range $\pm 3,2$ mV/V
 A/D converter 24 bit Delta-sigma
 Measuring frequency 200 Hz max
 Combined error 0,01 % f.s.
 Thermal drift Self compensated
 Serial output RS232 or RS485
 Baud rate 2400 ÷ 115200
 Analog output 0/4-20 mA; 0-5/10 V c.c.
 Digital outputs PNP, max 50 mA / 40V
 Digital inputs 8 mA, 24 V
 I/O power supply 24 V c.c. 100 mA
 Operating temperature -20 + 50 °C
 Storing temperature -40 + 80 °C
 Wiring 2,5 mm² terminals
 Front/rear protection IP55 / IP20
 Packed weigh / volume 0,9 kg / 2,1 dm³



Hardware:

The weighing and batching unit model LCD has been designed to satisfy all application needs for electronic weighing on industrial and residential plants.

The unit is equipped with a measuring input for strain-gage load cells, capable to supply up to 8 load cells connected in parallel.

The heart of the unit is made by:

- A 24 bits analog to digital converter which guaranties high resolution and stability.
- "Risc" type microprocessor with "flash" memory allowing the updating of the program through the serial port.
- Eeprom memory to retain all set-up and operating data (recipes, totals, etc.)
- Unit operating conditions save system for power failure to allow operating continuity without the need of security power supply.

An alarm output is provided for electronic circuitry

failure, load cell and wiring failure.

The electronic circuit provides complete galvanic isolation among microprocessor circuits, serial port circuits and I/O ones.

The unit is equipped with following I/O

- N. 6 optoisolated digital inputs.
- N. 11 optoisolated digital output.
- N. 1 optoisolated failure alarm output.
- Optoisolated 16 bit analog output
- Optoisolated serial port which allows writing and reading all instrument parameters



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How to order:

Specify the complete model number plus the required functions to avoid misunderstanding or writing errors

Hardware model		LCD	X	X	X
Serial port	No serial port	-	0		
	RS232		1		
	RS485		2		
I/O board	No			0	
	Yes, without analog output			1	
	Yes, without analog output			2	
Program	Weighing				1
	Batching				2
	Object weighing				3

Software:

The program includes all functions required to perform electronic weighing systems
The main functions are listed below; a complete description is available into the instruction manuals.

Measuring functions (always present)

- Program, data and operating memory control
- Self-calibration based on load cells parameters
- Zero and span automatic calibration
- Zero tracking
- Adjustable measuring time
- Average of adjustable number of measurements
- Trend analysis filter for high speed process
- Characterization of the measurement
- Stable weight signal
- Tare set and reset
- Three language display

Weighing program:

- N. 11 high/low alarms with differential
- Peak measurement
- Reading hold
- Object counting
- Weight and number of weighing totals
- Print
- Weight simulation
- Metrological data lock

Batching program:

Batching by weight, pulses or time
Batching of max 11 components loading or discharging (including total discharge)
Batching of two manual components
Batch program by loading, discharging or mixed
Batching of components measured by pulses
Automatic reloading recipes

Components data:

Pre-set
Flying weight (anticipated stop)
Automatic correction of "flying weight" based on results of the preceding batch.
Batch ending by proportional pulses
Batch restart for negative error
Component humidity compensation with correction of water amount
Time-out alarm per component set by sec/kg
Loading and discharging start delay
Unstable weight alarm delay

Recipes data:

Memory for 30 recipes maximum
Recipes set by kg or %
Component repeat within the same recipe
Up to 14 line per recipe
Error alarm set for each recipe line
Preceding batch error compensation
Memorization of last batch data

Totals:

Total weight for each component
Total weight for each recipe
Total number of batch for each recipe
Total production

Operation:

Setting of recipe number and number of batch.
Continuous run with flow rate calculation.
Commands for Start/stop batching, discharge enable stand-by, restart, and abort.
Check of complete closure of loading and unloading dampers.
Power failure stand-by with automatic restart



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Object weighing program:

This program performs the weighing of objects moving over the scale and includes all functions necessary for production line end plus classification applications

- Output for up to 10 weigh classes
- Selection command delay per class
- Object setting command
- Totals for weight and number of objects per each weight class
- Object travelling alarms

Supervisor:

One or more units (up to 31), may be connected, in a RS495 network and controlled by a PLC/PC. Two programs, operating in Windows environment, are available for this purpose.

- **The Service Program** allows the calibration and complete control of the weighing system.
- **The DDE driver** for direct communication of supervisor programs.