

BATCHING UNIT WITH A SELECTOR SWITCH



WEIGHT
INDICATOR

Type: **W200BOXEC**

- RED LED, 6 DIGITS OF 14 mm
- 5 RELAYS · 3 INPUTS
- SELECTOR · START AND STOP
- IP64 · ATEX ZONE 22 ON REQUEST

RS485

Display

IP64

ORDERING

Program	W200BOXEC BASE · -C load · -S unload · -3, -6, -14 products · -MU Multiprogram — the program IS the type
Interfaces	analogue output 16 bit · additional RS485 · CANopen, DeviceNet, Profibus DP, Ethernet/IP, Ethernet TCP/IP, Modbus/TCP, Profinet IO · USB with pen drive
Extensions	option E for twelve groups of five setpoints (or the first twelve formulas) by an external contact, EC by a step switch · external 5- and 8-relay modules
Approved use	type-approved version for legal for trade use, with accuracy class III or IIII

Only one interface option can be fitted; the analogue output and the extra RS485 each take away one input and one output, and neither the fieldbuses nor the USB port go together with the 115 / 230 V AC supply. Not every option fits every program — the manufacturer document carries the compatibility per program. Please state the combination and octogon will check it. An octogon order code has not yet been defined.



OVERVIEW

Batching without opening a menu: the W200BOXEC carries the electronics of the W200 in a polycarbonate housing of 170 × 140 × 95 mm with 4 + 2 caps for M16 × 1.5 cable glands, and puts a selector switch for the setpoint group or the formula, together with start and stop keys, on the front — which is why the housing is IP64 and not IP67. It reads up to eight load cells of 350 Ω and resolves the bridge with 24 bit at three hundred conversions per second. Six red LED digits of 14 mm, eight indicator LEDs and five keys are the whole operation. What the device does is decided by its program, and the program is the type: BASE follows setpoints, while load, unload and the 3, 6 and 14 product programs hold up to ninety-nine formulas, compute the in-flight material themselves, watch the tolerance and resume a batch after a power failure — a Multiprogram version leaves that choice to the installer. Five relay outputs and three optoisolated inputs drive the sequence, RS485 and RS232 carry the value to a PC, a PLC, a printer or a remote display, and a fieldbus or Ethernet module is available on request. For dust zone 22 the manufacturer offers an ATEX version, provided the external relay modules are protected.

MEASUREMENT AND DISPLAY

- A/D 24 bit (16 000 000 digits), 4.8 kHz
- Up to 8 load cells of 350 Ω , 4- or 6-wire
- Cell supply 5 V DC / 120 mA
- Measure range ± 39 mV, sensitivity ± 7 mV/V
- 300 conversions per second
- Linearity < 0.01 % of full scale
- Thermal drift < 0.0005 % of full scale per °C
- Digital filter 10 levels, 5 ... 300 Hz

OUTPUTS, PORTS AND DEVICE

- 5 relay outputs, max. 115 V AC / 150 mA
- 3 optoisolated PNP inputs, 5 ... 24 V DC
- RS485 and RS232 · fieldbuses on request
- Analogue output 16 bit, optoisolated, option
- Red LED, 6 digits of 14 mm, 8 LEDs
- 5 keys, clock with backup battery
- Supply 12 ... 24 V DC ± 10 %, 5 W
- IP64 · selector switch, start and stop



TECHNICAL DATA

LOAD CELLS AND MEASUREMENT

Number of load cells	up to 8 of 350 Ω · 4- or 6-wire · 16 of 700 Ω
Load cell supply	5 V DC / 120 mA
A/D converter	24 bit (16 000 000 digits) · 4.8 kHz · 300 conversions per second
Measure range	± 39 mV · cell sensitivity ± 7 mV/V
Increments	$\pm 999999 \cdot 0.01$ μ V/d at ± 10 mV and 2 mV/V
Linearity	< 0.01 % of full scale · thermal drift < 0.0005 % per °C
Digital filter	10 levels · 5 ... 300 Hz

PROGRAMS AND FUNCTIONS

BASE	setpoints with hysteresis · peak value · use as a remote display with setpoints
Batching	up to 99 formulas · automatic in-flight computation · tolerance check · slow and tapping functions · resume after a power failure · consumption stored
Calibration	theoretical by keyboard, or real with sample weights and linearization over up to 8 points
Zero and tare	tare zero setting · automatic zero at power-on · gross weight zero tracking · semi-automatic and preset tare
Printing	gross, net and tare with date, time and ID code · header set with the free JollyPrint software · labelling machine managed, except in the product programs

OUTPUTS, INPUTS AND PORTS

Relay outputs	5 — max. 115 V AC / 150 mA, or max. 30 V AC and 60 V DC / 150 mA · driven by setpoints or by protocol · 4 outputs with the analogue output
Digital inputs	3 optoisolated PNP, 5 ... 24 V DC · 2 inputs with the analogue output
Analogue output	optoisolated, 16 bit = 65535 increments — 0 ... 20 mA, 4 ... 20 mA up to 300 Ω , 0 ... 10 V, 0 ... 5 V, ± 10 V, ± 5 V from 10 k Ω (option)
Serial ports	RS485 and RS232 · ModBus RTU, ASCII or continuous one way transmission · direct RS485 to RS232 without a converter
Baud rate	1200, 2400, 4800, 9600, 19200, 38400, 115200 bit/s
Fieldbus, on request	CANopen · DeviceNet · Profibus DP · Ethernet/IP · Ethernet TCP/IP with web app · Modbus/TCP · Profinet IO · USB port with pen drive

SUPPLY AND ENVIRONMENT

Supply and consumption	12 ... 24 V DC ± 10 % · 5 W
Power supply	external LPS or class 2 unit
Humidity	85 %, no condensation
Storage temperature	-30 ... +80 °C
Working temperature	-20 ... +60 °C · -10 ... +40 °C for the approved use
Protection	IP64 · polycarbonate housing with 4 + 2 caps for M16 $\times$ 1.5 cable glands · the front carries the operating elements

DISPLAY AND MECHANICS

Display and operation	red LED, 6 semi-alphanumeric digits of 14 mm · 8 indicator LEDs · 5 keys · selector switch and start and stop keys on the front · clock with backup battery
Display range	$\pm 999999 \cdot 0$... 4 decimals · increments x1 x2 x5 x10 x20 x50 x100
Dimensions	170 $\times$ 140 $\times$ 95 mm · 4 fixing holes $\varnothing$ 4 mm, 152 $\times$ 122 mm apart · wall mounting
Terminals	removable screw terminal blocks, 24 poles



TERMINALS

1	+Power supply (12 / 24 V DC)	13	— not used
2	—Power supply · shield and GND RS232/RS485 · GND option E/EC	14	Input no. 3 · or +analogue output (0...20 / 4...20 mA)
3	RS232: TXD	15	Output no. 5 · or +analogue output (0...10 V)
4	RS232: RXD	16	Option E/EC · or —common of the analogue output
5	Output no. 1	17	RS485: —
6	Output no. 2	18	RS485: +
7	Output no. 3	19	—Load cell excitation (—Exc) · shield
8	Output no. 4	20	+Load cell excitation (+Exc)
9	Outputs common	21	+REF / SENSE load cell
10	Input no. 1 (+5 ... 24 V DC)	22	—REF / SENSE load cell
11	Input no. 2 (+5 ... 24 V DC)	23	—Signal load cell (—Sig)
12	Inputs common (0 V)	24	+Signal load cell (+Sig)
		L · N	only on the 115 / 230 V AC version

Manual page 11 — the electronics are those of the W200. Terminal 13 is not used. For 4-wire cells jumper EX– with REF– and EX+ with REF+. With the analogue output the terminals 14, 15 and 16 carry it instead, so input 3, output 5 and the option E/EC are then not available. On the 115 / 230 V AC version the terminals 1 and 2 become a 24 V DC output and the mains goes to L, N and earth. Ground the negative pole of the supply; in an RS485 network of more than 100 m or above 9600 bit/s fit 120 Ω terminating resistors at both ends of the line.

ACCESSORIES AND OPTIONS

Supply 115 / 230 V AC	50 / 60 Hz · 6 VA — not with the fieldbuses, the USB port or the EAC approvals
Weight reading	from a 0 ... 10 V input (15 k Ω) or a 4 ... 20 mA input (120 Ω)
Relay modules	external 5-relay module up to 115 V AC / 2 A · 8-relay modules for 1 ... 6 and 7 ... 14 products, included with those models
Software	free Instrument Manager and JollyPrint · PROG-DB with the USB and PC data options · alibi memory on request

E and EC are alternatives and neither goes with the additional RS485; the 5-relay module does not fit the 6 and 14 product models.

COMPLIANCE

 RS485	Serial ports	RS485 up to 1000 m and RS232 up to 15 m — ModBus RTU, ASCII, continuous transmission
 Display	Display	red LED, 6 digits of 14 mm · 8 indicator LEDs · 5 keys
 IP64	Protection	IP64 polycarbonate housing · 4 + 2 caps for M16 x 1.5 glands

The manufacturer names OIML R76:2006 class III with 3 x 10000 increments and 0.2 μ V/VSI, OIML R61 (MID), UL for the USA and Canada, NTEP with nmax 10000 in class III/IIIL, INMETRO for Brazil, and the rules of the Eurasian customs union, Australia, New Zealand, China and the United Kingdom. On request ATEX for the zone 22 — the external relay modules must then be protected.



DIMENSIONS (mm)

