

WEIGHT INDICATOR IN IP67 BOX



▼
250
WEIGHT
INDICATOR

Type: **W200BOX**

- 6 DIGITS, 14 mm LED
- IP67 POLYCARBONATE BOX
- 99 BATCHING FORMULAS
- WALL MOUNTING



MODBUS/TCP



PROGRAMS AND ORDER CODES

Order code	Program		Function
W200BOX-B	BASE	BASE	setpoints and hysteresis
W200BOX-C	LOAD	LOAD	filling the weighed structure
W200BOX-S	UNLOAD	UNLOAD	emptying, also with big bags
W200BOX-3 - 6 - 14	MULTI PRODUCT	3 / 6 / 14 PRODUCTS	external 8-relay modules included
W200BOX-MU	MULTI PROGRAM	MULTIPROGRAM	the installer sets the operating mode



OVERVIEW

Weighing and batching where there is no control panel: the same electronics as the panel instrument, but in a polycarbonate box rated IP67 that is screwed to the wall and wired through four cable glands. It reads up to eight 350 Ω load cells with 24 bit and runs the dosing sequence itself — 99 formulas, automatic fall calculation, tolerance control and slow and tapping functions for the last grams. The program is chosen with the type; fieldbus modules and an Ethernet port with web app are available on request.

DESCRIPTION	INPUTS / OUTPUTS AND COMMUNICATION
- Weight indicator in an IP67 polycarbonate box for wall mounting 170 x 140 x 95 mm · 4 fixing holes $\varnothing$ 4 mm, centre distance 152 x 122 mm 4 cable glands + 2 plugs M16 x 1.5 6-digit semi-alphanumeric red LED display, 14 mm 8 signalling LED · 5-key keyboard - Real-time clock and calendar with buffer battery - Removable screw terminal blocks - Configured with the free Instrument Manager PC software	- RS485 and RS232 serial ports · Modbus RTU, ASCII or continuous one way transmission 5 relay outputs, controlled by the setpoints or over the protocol 3 optoisolated PNP digital inputs, state readable over the protocol 4 outputs and 2 inputs remain if the analogue output is fitted 1 dedicated load cell input, up to 8 cells at 350 Ω in parallel 16 bit optoisolated analogue output, current or voltage, on request - Fieldbus and Ethernet modules on request, see the options - TCP/IP web app for remote supervision with the Ethernet option
MAIN FUNCTIONS	PROGRAMS
- Connects to a PLC by analogue output, to a PC or PLC by RS485 / RS232 32 instruments on one line · up to 99 with line repeaters - Remote display and printer over RS485 / RS232 - Up to 8 load cells in parallel through a junction box - With an intelligent junction box or multichannel instrument: digital equalization, load distribution analysis, automatic diagnostics - TCP/IP web app with the Ethernet option: remote supervision and control - Digital filter against weight oscillation - Theoretical calibration by keyboard · real calibration with sample weights, linearisation over up to 8 points - Tare weight zero setting · automatic zero at power-on · gross weight zero tracking - Semi-automatic tare (net / gross) · preset tare · semi-automatic zero - Display of the maximum weight value reached (peak) - Direct connection between RS485 and RS232 without a converter - Weight printing with date and time by keyboard or external contact - Printing header customised with the free JollyPrint PC software - Labelling machine managed, except in the 3 / 6 / 14 PRODUCTS program APPROVED VERSIONS: system parameters protected by qualified access — software password, hardware or fieldbus - Weight subdivisions (1/10 e) · calibration · net weight zero tracking · single interval, multiple range or multi-interval - Alibi memory on request · printable: gross and net weight, tare, preset tare, date, time, ID code	BASE PROGRAM - Hysteresis and setpoint value setting - Can be used as a remote display with setpoints 12 groups of 5 setpoints by external selector switch or contact (option) BATCHING PROGRAM 99 settable formulas · batching resume after a blackout - Automatic fall calculation · tolerance error control - Slow and tapping function for precision batching - Consumption storage · printing of batching data · alarm contact management - First 12 formulas by external selector switch or contact (option) - Batching start by external contact or keyboard - Manual batching with remote displays connected in parallel LOAD and 3 / 6 / 14 PRODUCTS: autotare at batching start · quantity may exceed the scale capacity UNLOAD: automatic loading into the weighed structure · batching with big bags 3 / 6 / 14 PRODUCTS: formulas in fixed or variable steps, set in percentage 3 / 6 / 14 PRODUCTS: intermediate unloadings during batching · partial unloadings at cycle end MULTIPROGRAM: no program set ex works, the installer chooses BASE, LOAD, UNLOAD, 3, 6 or 14 PRODUCTS LEGAL FOR TRADE: working temperature -10 °C ... +40 °C



TECHNICAL DATA

MEASUREMENT

Load cells	up to 8 at 350 Ω · 4 or 6 wire
Load cell supply	5 V DC / 240 mA
Usable sensitivity	± 7 mV/V
Measurement range	± 39 mV
A/D converter	24 bit · 16 000 000 points · 4.8 kHz
Conversions per second	300
Divisions	$\pm 999999 \cdot 0.01 \mu\text{V/d}$ at ± 10 mV range and 2 mV/V
Linearity · thermal drift	$< 0.01 \% \text{ FS} \cdot < 0.0005 \% \text{ FS}/^\circ\text{C}$
Analogue output linearity · drift	$< 0.01 \% \text{ FS} \cdot < 0.003 \% \text{ FS}/^\circ\text{C}$

DISPLAY AND OPERATION

Display	6 digits, red LED, 14 mm
Display range	$\pm 999999 \cdot 0 \dots 4$ decimals
Increments	x1 x2 x5 x10 x20 x50 x100
Signalling	8 LED · 5-key keyboard
Digital filter	10 levels · 5 ... 300 readings/s
Clock	real time clock with buffer battery

INPUTS AND OUTPUTS

Relay outputs	5 · max 115 V AC / 150 mA
Digital inputs	3 · 5 ... 24 V DC, PNP, optoisolated
Analogue output, on request	16 bit = 65535 divisions · 0 ... 20 mA · 4 ... 20 mA (up to 300 Ω) · 0 ... 10 V · 0 ... 5 V · ± 10 V · ± 5 V (min 10 k Ω)
With analogue output	4 relay outputs and 2 inputs remain
Terminals	removable screw terminal blocks

COMMUNICATION AND FIELDBUS

Serial ports	RS485 · RS232
Protocols	Modbus RTU · ASCII · continuous transmission
Baud rate	1 200 ... 115 200 bit/s
Fieldbus, on request	CANopen · DeviceNet · Profibus DP
Ethernet, on request	Ethernet/IP · TCP/IP with web app · Modbus/TCP · Profinet IO
PC software	Instrument Manager · JollyPrint · PROG-DB

ENVIRONMENT AND MECHANICS

Power supply	12 ... 24 V DC $\pm 10 \% \cdot 5$ W
Working temperature	$-20^\circ\text{C} \dots +60^\circ\text{C}$ · legal for trade $-10^\circ\text{C} \dots +40^\circ\text{C}$
Storage temperature	$-30^\circ\text{C} \dots +80^\circ\text{C}$
Humidity, condensate free	85 %
Protection	IP67 · polycarbonate box
Dimensions	170 x 140 x 95 mm · hole pattern 152 x 122 mm, 4 x $\varnothing 4$ mm
Mounting	wall · 4 cable glands + 2 plugs M16 x 1.5

VALUES FOR UL RECOGNIZED OPERATION (cULus)

Relay outputs	5 · 4 with analogue output · max 30 V AC, 60 V DC / 150 mA
Working temperature	$-20^\circ\text{C} \dots +50^\circ\text{C}$
Power source	the equipment must be powered from a 12 ... 24 V DC LPS or Class 2 power source



CERTIFICATIONS

	CE	European conformity
	UKCA	equivalent of the CE marking for the United Kingdom
	OIML	R76:2006, class III, 3 x 10000 divisions, 0.2 μ V/VSI · R61 · WELMEC Guide 8.8:2011 (MID)
	NTEP	n max 10000, class III / IIIL — United States regulations for legal for trade use
	UL	recognized component — United States and Canada regulations
	EAC	Eurasian Customs Union regulations
	NMI	trade approved — Australian market regulations for legal for trade use
	New Zealand	regulations for legal for trade use
	Brazil	INMETRO — regulations for legal for trade use
	China	market regulations for legal for trade use
	On request	conformity assessment (initial verification) in combination with a weighing module
	On request	ATEX zone 2-22 · the external relay modules have to be protected
	On request	Eurasian Customs Union standards for use in potentially explosive atmospheres
	On request	Chinese market regulations for use in potentially explosive atmospheres
	On request	Russian Federation, legal for trade



METROLOGICAL DATA, APPROVED VERSIONS

Standards, OIML	EU 2014/31/EU · OIML R76:2006 · EN 45501:2015 · Russian Federation GOST OIML R76-1-2011 · United Kingdom Non-automatic Weighing Instrument Regulations 2016 · Australia National Measurement Regulations 1999 · New Zealand Weights and Measures Regulations 1999 · China Law on Metrology
Standards, NTEP	USA NIST Handbook 44, 2020 · NCWM Publication 14, 2021
Standards, INMETRO	Brazil Portaria Inmetro N° 157/2022
Operation mode	single interval · multi-interval · multiple range, under all three schemes
Accuracy class	OIML III or IIII · NTEP III or IIII · INMETRO III
Verification divisions	OIML 10000 (class III), 1000 (class IIII) · NTEP 10000 · INMETRO 10000
Min. input signal per division	0.2 μ V/VSI (OIML and INMETRO)
Working temperature	-10 °C ... +40 °C · +14 °F ... +104 °F



OPTIONS: INTERFACES AND FIELD BUSES

 4...20 mA 0...10 V	Analogue output	optoisolated, 16 bit · one input and one output are then not available
 RS485	Additional RS485 port	one input and one output are then not available · not combinable with the E / EC option
	CANopen	fieldbus protocol
	DeviceNet	fieldbus protocol
	Profibus DP	fieldbus protocol
	EtherNet/IP	Ethernet port · internal crimp wiring
	Ethernet TCP/IP	Ethernet port · integrated web app for remote supervision · internal crimp wiring
	Modbus/TCP	Ethernet port · internal crimp wiring
	PROFINET IO	Ethernet port · internal crimp wiring
 4...20 mA 0...10 V	Weight input 0 ... 10 V	reading of the weight from a 0 ... 10 V DC input (15 k Ω)
 4...20 mA 0...10 V	Weight input 4 ... 20 mA	reading of the weight from a 4 ... 20 mA input (120 Ω)

Only one of the interface options listed above can be fitted.

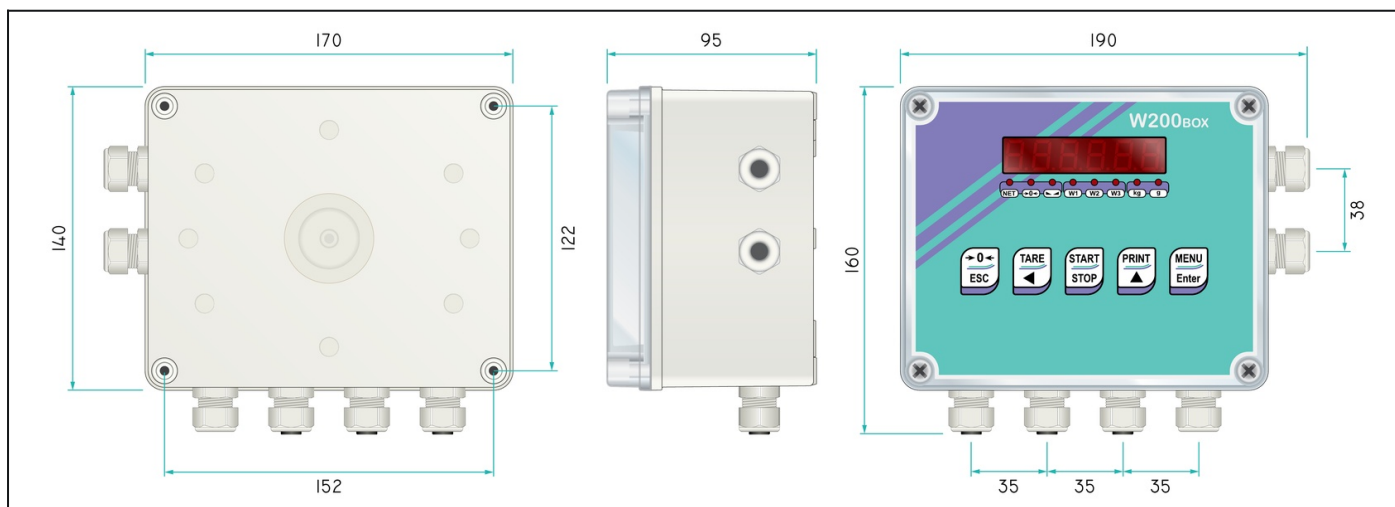


EXPANSIONS AND SOFTWARE

EC	external selector switch — BASE: 12 groups of 5 setpoints; LOAD, UNLOAD and 3 / 6 / 14 PRODUCTS: the first 12 formulas
E	the same by external contact
E / EC with analogue output	simultaneous use is possible
External 5-relay module	raises the SPDT contact rating to 115 V AC / 2 A · not compatible with the 6 / 14 PRODUCTS models
RELE6PROD24V · RELE6PROD230V	external 8-relay module for 1 ... 6 products · 8 relays up to 115 V AC / 2 A · 12 ... 24 V DC or 115 / 230 V AC · included with the 6 / 14 PRODUCTS models
RELE14PROD	external 8-relay module for 7 ... 14 products, added to the RELE6PROD module · included with the 14 PRODUCTS model
Alibi memory	option on request
DATAPC	data transfer to the PC by RS232 directly or RS485 through a converter · PROG-DB PC software included · recommended where the indicator is permanently connected to a PC
Please note	E and EC are alternatives — only one of the two can be fitted



DIMENSIONS



TERMINALS

1	+ Supply 12 ... 24 V DC	13	— not used
2	– Supply · RS232 and RS485 shield, GND	14	Input no. 3 · or + analogue out 0/4 ... 20 mA
3	RS232: TXD	15	Output no. 5 · or + analogue out 0 ... 10 V
4	RS232: RXD	16	E/EC option · or – analogue out common
5	Output no. 1	17	RS485: –
6	Output no. 2	18	RS485: +
7	Output no. 3	19	– Load cell excitation · cell shield
8	Output no. 4	20	+ Load cell excitation
9	Output common	21	+ Load cell sense
10	Input no. 1 (+5 ... 24 V DC)	22	– Load cell sense
11	Input no. 2 (+5 ... 24 V DC)	23	– Load cell signal
12	Input common (0 V)	24	+ Load cell signal

4-wire load cells: link excitation and sense on both poles

Removable screw terminal blocks · ground the negative supply pole

With the analogue output option, input no. 3 and output no. 5 are not available

