EX-GB-G Series Explosion-Proof Electronic Ground Balance

Large-display weighing for Zone 1 and Zone 2 hazardous areas

Product Manual · Description, Features & Specifications



ABSTRACT

The EX-GB-G series is a large-display explosion-proof electronic balance for hazardous areas where flammable gases, vapours or combustible dust rule out ordinary balances. Capacity and readability combinations span **110 g × 0.001 g** to **320 kg × 1 g**, backed by a certified **Ex db IIB T6 Gb** flameproof enclosure, **IP65** sealing, a SUS304 stainless-steel platform and a **24-month** manufacturer warranty.

Product Overview

Intelligent explosion-proof weighing, engineered for hazardous areas.

The EX-GB series is an intelligent electronic balance built around a high-stability strain-gauge sensor and a single-chip microcontroller. On-board digital signal conditioning eliminates the creep and linearity errors that affect ordinary strain-gauge cells, so results stay accurate, fast to stabilise and repeatable, shift after shift.

Everything runs from a single five-key sealed panel: weighing, tare, self-calibration, parts counting, unit conversion and fault display. Weighing platform and column are brushed SUS304 stainless steel, and the large backlit display sits on a tilting head for easy reading at floor level. The flameproof enclosure carries the marking **Ex db IIB T6 Gb** (certificate ZJEx23.1422) and is sealed to IP65, so the balance installs directly in Zone 1 and Zone 2 hazardous areas.



EX-GB series — tilting large-display head, five-key sealed keypad and Ex marking.

Ex db IIB T6 Gb	0.001 g	IP65	320 kg
Protection marking	Finest readability	Ingress protection	Maximum capacity

Seven Key Advantages

Why the EX-GB is specified where ordinary balances cannot go.

Explosion-Proof

Certified **Ex db IIB T6 Gb** flameproof enclosure (certificate ZJEx23.1422) with a sealed 6 V / 5 Ah flameproof battery — installs directly in Zone 1 and Zone 2 areas.

Rugged Construction

SUS304 stainless-steel column and platform over a rigid load frame, with an impact-resistant display head, sealed keys and lockable casters.

Long-Term Reliability

Self-test at power-up, overload and low-battery alarms, automatic shutdown protection, plus a rechargeable pack for cordless operation.

Two-Year Warranty

24-month manufacturer warranty on parts and workmanship, with technical support for the service life of the instrument.

High Precision

Readability down to **0.001 g** with Class III verification (e = 10 d) and ± 3 d repeatability. Digital filtering suppresses creep and linearity drift.

Corrosion Resistant

SUS304 surfaces resist water, acids, alkalis and chemical vapours — and wipe clean in seconds.

IP65 Waterproof

Sealed to **IP65** — dust-tight and protected against low-pressure water jets; withstands washdown, spillage and humid process areas.

The Balance at a Glance

Platform, column and display — every angle built for the plant floor.



Display panel — model plate EX-GB-30K (30 kg × 0.1 g) above the five-key sealed keypad.



Front view — tilting display head with backlit LCD, five sealed keys and the Ex marking.



Side view — SUS304 column and low-profile platform on lockable casters.



Rear view — flameproof battery enclosure and routed cable set.

Standard Supply

EX-GB balance main unit	1 pc
SUS304 stainless-steel platform	1 pc
Flameproof rechargeable battery 6 V / 5 Ah	1 pc
Battery charger	1 pc
Weighing pan	1 pc
Product manual	1 pc

Options. Optional: RS-232 data interface · on-site flameproof power supply.

Display & Controls

Large backlit LCD, six status indicators and five sealed keys.

LCD indicator layout



Indicator legend

Zero indicator	Displayed value is at the zero reference.
Tare indicator	Tare mode active — container weight subtracted.
Negative sign	Displayed value is below zero.
Stability indicator	Reading is stable and valid for recording.
Low-battery warning	Battery low — recharge before use.
Unit display	Active weighing unit — g, ct, oz or ozt.

Keypad legend

Key	Function
On / Off	Power the balance on or off.
Unit	Step through the weighing units.
Calibrate	Calibrate with a standard weight.
Print	Send the reading to a printer or host.
Tare	Tare off a container, or zero.

Power-on display sequence

Power-on display	Meaning
1.8.8.8.8.8.8	Segment self-test — all segments light up.
V-xxxx	Battery voltage check.
30 kg	Maximum capacity of the model is confirmed.
.....	Sensor stabilising — avoid draughts.
0.0 / 0.00	Weighing mode — the balance is ready.

Status messages

Display	Meaning	Action
----- (top bar)	Overload — above Max + 9 e	Remove load immediately.
---- (bottom bar)	No pan, or zero too low	Fit pan / recalibrate.
Err-o	Load-cell signal fault	Check sensor connection.
Err-L	Calibration data lost	Recalibrate with a standard weight.
Err	Counting sample too light	Add pieces, sample again.

Weighing units

Symbol	Unit	Use
g	Gram	Default weighing unit
ct	Carat	Gemstones & precious stones
oz	Ounce	General weighing
ozt	Troy ounce	Precious metals
CA 10 pcs	Parts counting	Counting, 10 – 1000-piece samples

Technical Specifications

Capacity, performance, power and construction.

Capacity and readability

Capacity class	Max. capacity	Readability (d)	Verification (e)
EX-GB 110 g – 620 g	110 g – 620 g	**0.001 g**	**0.01 g**
EX-GB 510 g – 6200 g	510 g – 6,200 g	**0.01 g**	**0.1 g**
EX-GB 5.1 kg – 32 kg	5.1 kg – 32 kg	**0.1 g**	**1 g**
EX-GB 10 kg – 320 kg	10 kg – 320 kg	**1 g**	**10 g**

Model designation follows the nameplate, e.g. EX-GB-30K = 30 kg × 0.1 g. Verification scale interval e = 10 d on every model.

General specifications

Protection marking	**Ex db IIB T6 Gb** — flameproof enclosure
Explosion-proof certificate	**ZJEx23.1422**
Accuracy class	**Class III** (e = 10 d)
Repeatability	**± 3 d**
Tare range	Up to full capacity
Ingress protection	**IP65** — dust-tight, protected against low-pressure water jets
Display	Large backlit LCD with zero, tare, stability, unit, negative-sign and low-battery indicators
Keypad	Five sealed keys — ON/OFF · UNIT · CAL · PRINT · TARE
Platform & column	Brushed SUS304 stainless steel, lockable casters
Standard functions	Weighing, tare, self-calibration, parts counting, unit conversion, data output
Serial output	RS-232 (optional) · 1200 / 2400 / 4800 / 9600 bps
Power supply	AC 220 V ± 10 % / 50 Hz ± 1 Hz adapter (DC 9 V) · flameproof rechargeable battery **6 V / 5 Ah**
Operating conditions	**5 – 40 °C** · **50 – 85 % RH** · stable, vibration-free surface

Power & Battery

Corded or cordless — a full shift on one charge.

Power supply

Mains adapter
External switched-mode adapter — AC 220 V ± 10 % / 50 Hz ± 1 Hz input, DC 9 V output.

Flameproof battery
Rechargeable 6 V / 5 Ah pack. The indicator shows red while charging and green when fully charged; a full charge takes 8 – 12 hours.

Low-battery protection
The low-battery indicator lights at 5.8 V ± 0.15 V. At 5.1 V ± 0.15 V the balance shuts down automatically to protect the electronics.

Operating environment
5 – 40 °C and 50 – 85 % RH, on a stable, vibration-free surface away from direct sunlight, draughts and strong electromagnetic interference.

Hazardous-area essentials

Never open the enclosure while energized — Isolate the supply before opening any cover — see the warning label on the panel.

Charge only in a safe area — The flameproof battery must be charged in a non-classified (safe) area only, using the supplied charger.

Connect before switching on — Never switch the flameproof battery to its supply position before it is connected to the balance.

Respect the capacity limit — Keep tare plus load below the rated maximum; above Max + 9 e the balance raises an overload alarm — remove the load immediately.

6 V / 5 Ah	8 – 12 h	5 – 40 °C	IP65	24 months
Flameproof pack	Full charge	Operating range	Sealed enclosure	Warranty cover

Two-Year Warranty

Every EX-GB balance is supplied with a 24-month manufacturer warranty covering parts and workmanship from the date of delivery. Defective components are repaired or replaced free of charge, and technical support is available for the service life of the instrument.

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MONTHS

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Specifications are typical and subject to change without notice. Verify model, capacity class and approval marking against the instrument nameplate before installation. Operation, calibration and maintenance instructions are given in the accompanying operation manual.