



EX30

GNSS Receiver



EX30

The EX30 is a newly upgraded portable leveling instrument for excavator construction. It integrates a high-precision positioning module, an inertial navigation module, a data radio module, and a long-life lithium battery, supporting construction in network-free environments. With a split-type design, with an independent main unit and base, the instrument is more robust and durable. The base can be left on the stick, enabling easier installation and maintenance. When used with dedicated leveling software, it greatly reduces the skill requirements for on-site operators and cuts down construction and operation costs.

Characteristic

High-precision Positioning

Integrated with a high-precision positioning and an IMU module, it adopts the latest RF baseband technology and high-precision algorithms to improve anti-jamming performance in complex environments, achieving centimeter-level positioning accuracy in all-weather conditions.



Built-in Data Radio Station Module

Compatible with a single base (EX30B Base), it features an operating range of up to a 5 km coverage radius and supports normal construction in network-free areas.

Efficient Construction

With intelligent guidance and graphic indication, it allows independent construction without on-site assistants, improving work efficiency and reducing labor costs.



Ultra-Long Battery Life

Equipped with a high-capacity 9600 mAh lithium battery, the device supports 25 hours of high-intensity operation.

Detachable Design

The instrument features a split-type design with a triple-magnet base that attaches firmly to the excavator's stick, minimizing vibration, sliding and detachment. The main unit is easily detachable for convenient safekeeping and charging after construction, while the base remains on the stick, eliminating re-calibration hassle after re-installation.

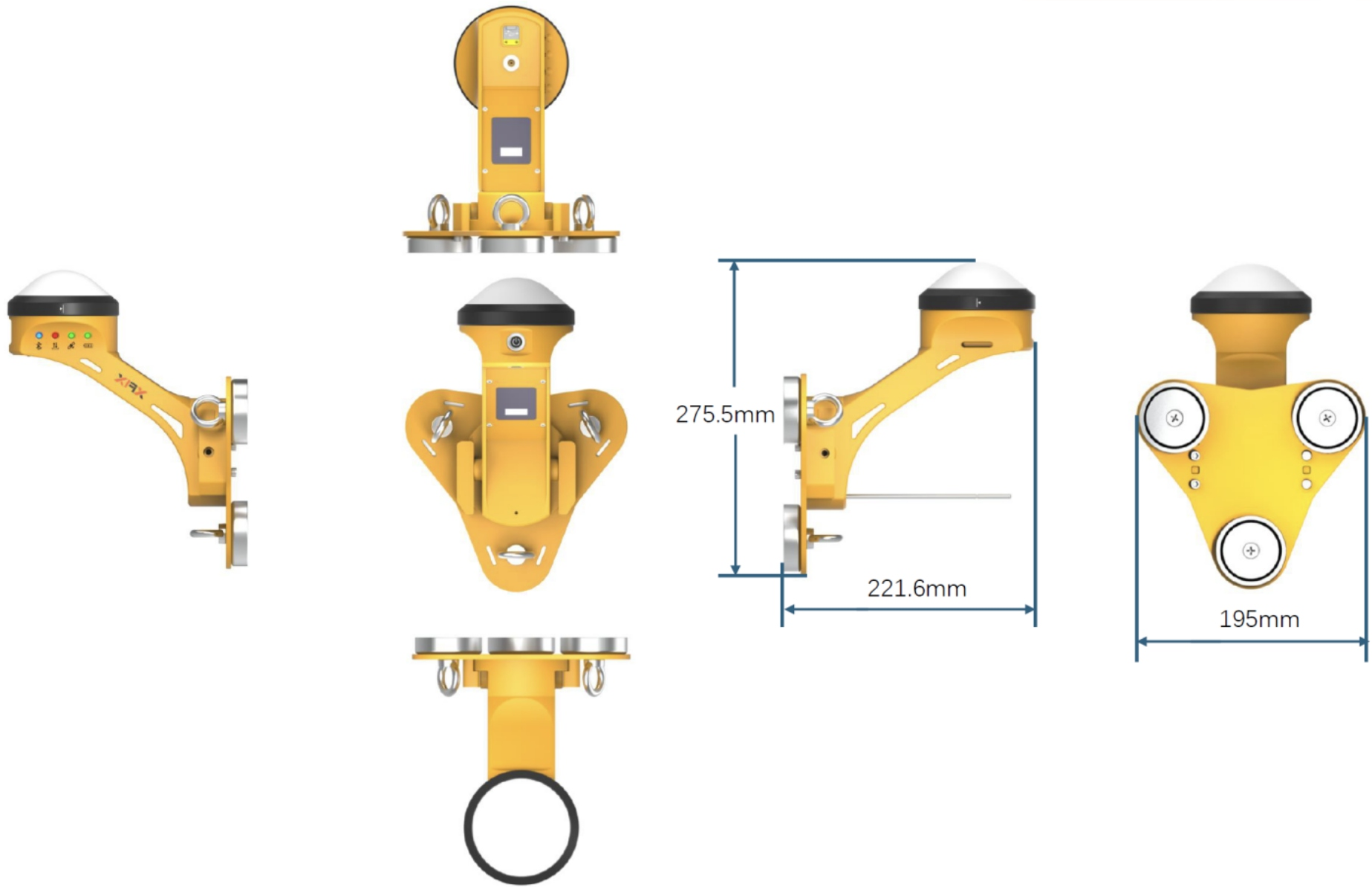
Industrial-Grade Protection

Constructed with an aluminum alloy housing and an industrial-grade protective design, the instrument is IP68-rated for dust and water resistance, withstanding a 1.5m free fall and operating reliably within a temperature range of -20°C to +60°C.



Structural Dimension Drawing

(Dimension tolerance: $\pm 0.3\text{mm}$)





ITEM		SPECIFICATION
Hardware Platform	Hardware Platform	ESP32
Software Platform	Software Platform	FreeRTOS
GNSS	GPS	L1C/A、 L1C、 L2P(Y)、 L2C、 L5
	GLONASS	G1、 G2、 G3
	BDS	B1I、 B2I、 B3I、 B1C、 B2a、 B2b
	GALILEO	E1、 E5a、 E5b、 E6
	QZSS	L1C/A、 L1C、 L2C、 L5
	SBAS	L1C/A
	NavIC	L5
	Channel Number	1408
Positioning Accuracy	Single (RMS)	Horizontal: 1.5m; Vertical: 2.5m
	RTK (RMS)	Horizontal: 8mm+1ppm Vertical: 15mm+1ppm
Measurement Performance	Acceleration Range	±8g
	Acceleration Accuracy	25ug
	Pitch & Roll Accuracy	≤0.1°
	Bucket Tip Guidance Accuracy	< 3cm
System Platform	Bluetooth	BR+EDR+BLE
	Radio Station	Transceiver-integrated radio station Frequency: 863~870MHz or 902~928MHz Modulation: FSS Air Rate: 11000bps、 62500bps
Indicator Light	Power Indicator	Steady green light (Operation): Normal operation Flashing red light (Operation): Low battery Steady green light (Charging): Charging completed Steady red light (Charging): Charging in progress
	Bluetooth Indicator	Steady on: Bluetooth Connected Successfully
	Data Link Indicator	Flashing:Differential Data Received
	Satellite Indicator	Flashing:Satellite Signal Acquired
Environmental Characteristics	Operating Temperature	-20℃~+60℃
	Storage Temperature	-40℃~+85℃
	Drop Proof	1.5m Free-Fall Resistant
	IP Rating	IP68-rated (dust and water resistance)



Electrical Characteristics	Battery	3.7V 9600 mAh
	Battery Life	More than 25 Hours
	Charging Specification	Supports QC 12V/2A Supports 5V/3A Supports fast-charge adapters and adaptively dynamically adjusts the charging current
	Charging Time	4.5 Hours
Physical Characteristics	Material	Aluminum Alloy
	Dimensions	275.5mm * 221.6mm * 195mm
	Weight	2.40kg (including magnetic base)
Accessories	EX30 Main Unit	1 Unit
	EX30 Magnetic Base	1 Piece
	T-Handle Screw	4 Pieces
	USB Fast Charger(Option: EU/GB)	1 Piece
	USB 2.0 to Type-C Data Cable	1 Piece
	5m Tape Measure	1 Piece
	Plumb Bob	1 Piece
	Plumb Bob Pole	1 Piece
	Anti-Slip Pad	2 Pieces
	Tape Measure Aid	1 Piece
	Warranty Card	1 Piece
	QC Certificate	1 Piece

Manufacturers may update parameters at any time, please refer to the latest product information.