

TR10 Pre-Marking Robot is an automated auxiliary operation robot capable of road measurement, marking, and line drawing. By integrating with high-precision positioning, it achieves efficient, reliable, and precise line operations, with pre-marking accuracy reaching within 2cm. This cutting-edge robot enhances road auxiliary line printing and spraying efficiency while minimizing manual labor and associated costs.



Characteristic

Full Constellation & Full Frequency

The TR10 supports full constellation and full frequency signal tracking with 1408 channels. Its antenna can simultaneously receive signals from BDS, GPS, GLONASS, GALILEO, QZSS and SBAS satellites, enabling full constellation positioning. The robot also supports real-time kinematic (RTK) differential positioning and can access the Beidou ground-based augmentation system for high-precision positioning. By combining high-precision positioning with robotic operations, it achieves reliable and repeatable centimeter-level line marking accuracy.

Smooth Operation

Combining a controller with an Android tablet and our custom-developed app allows field operators to easily learn and operate the device with minimal training.

High Adaptability

The TR10 Pre-Marking Robot is compact and equipped with two 200W hub motors, enabling it to perform operations smoothly on rough surfaces like grass and gravel roads, with the ability to make sharp turns and climb slopes up to 20 degrees.

Multi-functional

The TR10 can accommodate different sizes of spraying devices and can achieve different types of markings, such as dots, lines, curves, numbers, letters, and patterns.

Long Life & High Speed

The TR10 Pre-Marking Robot is equipped with a built-in 24V/20Ah lithium battery, providing a range of 15km and a top speed of 12km/h. Additionally, it supports customization for different battery capacities, offering a maximum range of up to 30km.

Supports Multiple File Formats

The app supports various file formats, including dxf, csv and etc., enabling the TR10 to follow designed construction plans for seamless implementation.



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	ITEM	SPECIFICATION	REMARKS
ROBOT	Dimensions(L*W*H)	1152mm*542mm*658mm	
	Wheelbase	400mm	
	Wheel Track(mm)	465mm	
	Weight (empty)	20kg	
	Weight (85% Payload)	28kg	
	Maximum Speed (m/s)	2m/s	
	Minimum Turning Radius	0°(In-place steering)	
	Slope	20°	
	Battery Type	Lithium 24V/20Ah	Customizable Battery Capacity Supported.
	Charging Time (95%)	4h	
	Range	15km	
	Motor Power	Hub Motor 200W*2	
	Communication	CAN	
	Operating Temperature	-10℃~60℃	
	Storage Temperature	-10℃~45℃	
IP Rating	IP3X		
GNSS	GPS	L1C/A, L1C, L2P(Y), L2C, L5	PPP-B2b, PPP-E6, SBAS supported
	GLONASS	L1, L2, L3	
	BDS	B1I, B2I, B3I, B1C, B2a, B2b	
	GALILEO	E1, E5a, E5b, E6	
	QZSS	L1, L2, L5	
	SBAS	L1	
	NavIC (IRNSS)*	L5*	Requires firmware support
	Channels	1408	
	Data format	NMEA-0183	
	Correction I/O Protocol	RTCM3.X	
	Data Update Frequency	20Hz(Max)	
	Recapture Time	<1s	
POSITIONING ACCURACY	Single (RMS)	Horizontal: 1.5m; Vertical: 2.5m	
	DGPS(RMS)	Horizontal: 0.4m; Vertical: 0.8m	
	RTK(RMS)	Horizontal: ±(8mm+1ppm) Vertical: ±(15mm+1ppm)	
	Time Accuracy (RMS)	20ns	
	Speed Accuracy (RMS)	0.03m/s	
	Tilt compensation Accuracy (within 60°)	≤2cm	
IMU	Acceleration Range	±4g	
	Gyroscope Range	±1000deg/s	
	Attitude Accuracy	±0.05deg	
	Heading Accuracy	±0.5deg	
	Acceleration Bias Accuracy	±5mg	
	Gyroscope Bias Accuracy	±0.2deg/s	



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PRE-MARKINGS	Drawing Speed	0.5m/s~1m/s	
	Drawing Material	Latex paint/Titanium white liquid	
	Material Hopper Capacity	7.5L	
	Drawing Error	≤2cm	
	Type of Markings	Dots, lines, curves, numbers, letters, patterns	

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



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