

Trinabot

Buildex-D

PV module Installation Robot

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Compatible with fixed structure and tracker



Efficiency Revolution

Double the Efficiency of Manual Labor, Ultra-Fast Installation

- Breaking through the efficiency bottleneck of traditional manual labor, automated technology achieves a comprehensive installation efficiency of over 60 modules per hour, with a single-unit efficiency more than twice that of manual labor, injecting powerful momentum into large-scale power station construction.



Superior Compatibility

Conquering Many Terrains and Many Mounting Systems

- The robot arm base features adjustable height, perfectly adapting to fixed mounting systems, tracking mounting systems, and 1P/2P modules. The industry-leading 17° leveling capability of the upper platform ensures high-precision operation on complex slopes.



Safety Redundancy

Multi-Sensor Perception, Fail-Safe Operation

- A comprehensive active safety system is established: LiDAR combined with AI fusion perception avoids operational risks; a redundant dual-circuit vacuum system with power-off pressure retention prevents accidental drops; strategically placed emergency-stop buttons ensure rapid response to unexpected situations, safeguarding continuous operation.



Flexible Material Loading

No Forklift Needed, Compatible with All Packaging

- Innovatively integrated forklift tines and a flipping mechanism eliminate the need for forklift assistance, enabling independent material loading. Fully compatible with both horizontal and vertical module packaging methods, optimizing on-site material flow efficiency.



Vision-Guided

AI-Powered, Precision with Simplicity

- Equipped with an industrial-grade anti-glare 3D camera and a deeply optimized AI positioning algorithm, it achieves high-precision recognition and guidance. The user-friendly interface and rapid deployment reduce personnel training costs.



BASIC PARAMETERS

Overall Dimensions	5450×2590×2530mm (Without robotic arm)
Total Weight	≤9.5t
Power Type	Diesel generator (Standard configuration is National III, and Euro V is optional)
Forklift Load Capacity	≤1.5t

CHASSIS PARAMETERS

Maximum Gradient	30° [Hard surface(no-load)]
Platform Adjustment Angle	-4°~13°
Robotic Arm Base Lifting Height	1600~2500mm (Height of the robotic arm base from the ground)
Chassis Type	Tracked (Steel track, with rubber blocks as an option)
Driving Control	Remote Control

ADAPTABILITY

Compatible Mounting System Height	0.5~2.5m, 2P Fixed structure	(The height of the lower edge of the PV module above the ground)
	1.2~3.0m, 1P Tracker	(The height of the main shaft above the ground)
Compatible Mounting System Tilt Angle	27~45° (2P Fixed Structure)	
	0° (1P Tracker)	
Compatible PV Module Dimensions	Compatible with mainstream PV module sizes on the market	
Operating Temperature	-10°C~55°C	
Storage Temperature	-20°C~60°C	
Terrain Adaptability	Sandy land, grasslands, snowfields, Gobi , gentle hills, etc.	

OPERATING PARAMETERS

Installation Efficiency	60~100 pcs/h (※1)
Vision-Guided Placement Accuracy	±10mm
Suction Cup Grasping Load Capacity	≤100kg
Safe Operating Wind Speed	≤12m/s (Force 6 wind)

SAFETY PROTECTION

Protection Level	IP55 (Key components are IP65 rated)
Safety Protection	Emergency stop buttons, obstacle avoidance lidars, audible and visual alarms etc.

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