汇博机器人
HUIBO ROBOTICS

移动式侧臂机器人



产品介绍

该光伏电站清扫机器人采用高精度导航与多传感器融合技术，实现自主环境感知与路径规划，配备机械臂、高速滚刷及精准水洗系统，支持干湿双模清扫并适配复杂光伏阵列。创新平行四边形履带结构配合智能调平技术，通过弹簧平衡器实现刷体柔性接触，搭载锂电池快充和远程控制系统，在保障99.9%清扫效率的同时，显著提升复杂地形适应性与运维智能化水平。

产品优势

- 每日清扫面积提升5-10倍
- 独立运行不易故障
- 大幅减少投资成本
- 清扫效率从干挂的80%提升到99.9%
- 可以增加扩展检测，提供拓展接口等功能

技术参数

类别	指标名称	指标含义	备注
功能	自动运行	能够自主运动到工作空间并实施作业	
	避障	能够检测障碍物并绕开，并保证一定的安全距离	
	防撞	机器人具有机械式的防撞结构，当触碰到障碍物时可立即停机	
	自动导航	机器人可按规划的路径到达指定位置，完成作业任务点的工作	
	组件位置识别	识别机器人与组件间的相对位置	
	组件清洁	能够清扫组件表面灰尘	清洁效果≥99.9%，每天清扫
	组件倾角	机器人可清扫组件倾角	0-60°(1P)　20-50°(2P)
性能	机器人尺寸	长*宽*高	5200*2000*4300mm
	刷子长度	清扫毛刷的长度	3米/5米
	清扫效率	作业清扫效率	≥2km/h
	清扫作业域	清扫工作范围	组件最低高度＜2m
	上装自由度	上装能够独立移动的方向或角度	≥3
	机器人续航	机器人续航能力	8h/4h
	底盘最大行走速度	底盘直线行驶最大速度	3km/h
	爬坡能力	最大爬坡角度	15°
	越障能力	能够越过障碍物的最大垂直高度	200mm
	动力源	机器人动力来源	混动/纯电
可靠性	工作温度范围	机器人正常工作温度范围	-30°C~60°C
	储存温度范围	机器人储存温度范围	-30°C~60°C
	盐雾等级	机器人抗盐雾能力	≥C4
	防护等级	整机防护等级	核心部件防护等级IP65，整机IP54
	机器人寿命	整机寿命	＞5年

全球服务热线
Global service hotline
400-114-1377

汇博机器人公众号　汇博机器人视频号

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Mobile Cleaning Robot



Product Introduction

The photovoltaic (PV) power plant cleaning robot adopts high-precision navigation and multi-sensor fusion technology to achieve autonomous environmental perception and path planning. Equipped with a mechanical arm, high-speed roller brush, and precise water washing system, it supports wet and dry dual-mode cleaning and is compatible with complex PV arrays. The innovative parallelogram crawler structure, combined with intelligent leveling technology, realizes flexible contact of the brush body through a spring balancer. With lithium battery fast charging and a remote control system, it ensures a 99.9% cleaning efficiency while significantly enhancing adaptability to complex terrains and the intelligent level of operation and maintenance.

Product Advantages

· No need for hypothetical track bridges, enabling autonomous movement.

· Efficiently cleans photovoltaic modules to ensure optimal cleanliness.

· Long daily operation time significantly increases the cleaning area per unit.

· Supports extended detection functions and provides expansion interfaces foradditional capabilities.

技术参数

Category	Index Name	Index Meaning	Remarks
Function	Automatic Operation	Capable of autonomously moving to the workspace and implementing operations	–
	Obstacle Avoidance	Capable of detecting obstacles and bypassing them, while ensuring a certain safety distance	–
	Collision Prevention	The robot is equipped with a mechanical collision prevention structure, which can immediately stop when touching an obstacle	–
	Automatic Navigation	The robot can reach the specified position according to the planned path and complete the work at the task points	–
	Module Position Recognition	Recognizes the relative position between the robot and the modules	–
	Module Cleaning	Capable of cleaning dust on the surface of modules	Cleaning effect ⩾99.9%, daily cleaning
	Module Inclination Angle	The inclination angle of modules that the robot can clean	0-60° (1P)20-50° (2P)
Performance	Robot Dimensions	Length * Width * Height	520020004300mm
	Brush Length	Length of the cleaning brush	3m / 5m
	Cleaning Efficiency	Operational cleaning efficiency	⩾2km/h
	Cleaning Workspace	Cleaning work range	Minimum module height < 2m
	Upper Mount Freedom	Directions or angles where the upper mount can move independently	⩾3
	Robot Endurance	Robot endurance capacity	8h / 4h
	Maximum Chassis Walking Speed	Maximum linear driving speed of the chassis	3km/h
	Climbing Ability	Maximum climbing angle	15°
	Obstacle-Crossing Ability	Maximum vertical height of obstacles that can be crossed	200mm
	Power Source	Power source of the robot	Hybrid / Pure electric
Reliability	Operating Temperature Range	The temperature range in which the robot can work normally	-30°C~60°C
	Storage Temperature Range	The temperature range for robot storage	-30°C~60°C
	Salt Spray Grade	The robot's resistance to salt spray	⩾C4
	Protection Level	Protection level of the whole machine	Core components: IP65, whole machine: IP54
	Robot Service Life	Service life of the whole machine	>5 years

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