



HAMCO MAKING HANDLING EASIER

鸿安, 让搬送变得简单



## ELECTRICAL MONORAIL SYSTEM (EMS)

电动单轨物流输送系统

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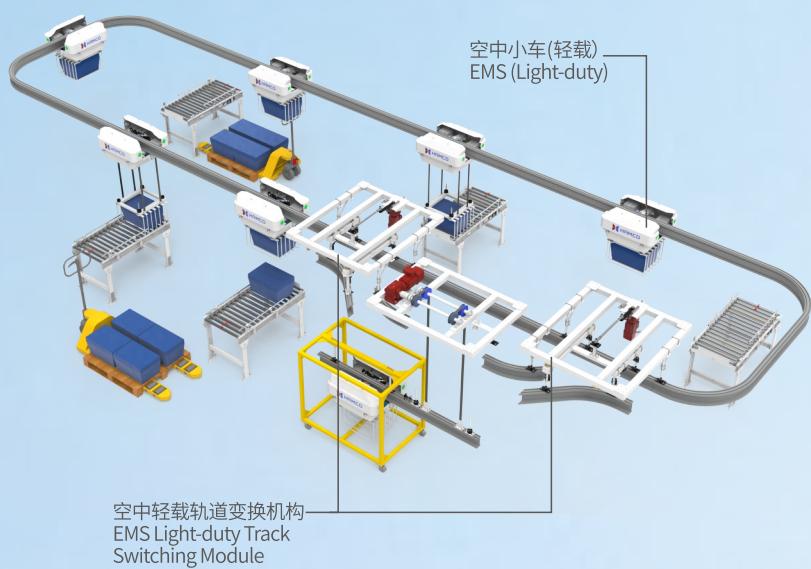
苏州鸿安机械股份有限公司  
SUZHOU HAMCO MACHINERY CO.,LTD.

**产品介绍** PRODUCT INTRODUCTION

EMS输送系统是一种架空运输小车,通过天花板上或立柱架空的轨道进行设备行走,并进行运送货物工作。

The EMS (Electrical Monorail System) logistics transportation system is an overhead transport trolley that operates along tracks installed on the ceiling or on overhead stands to move and deliver goods.

**产品应用** PRODUCT APPLICATIONS



**产品分类/ Classification of EMS**

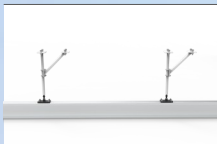


轻载EMS  
Light-Duty

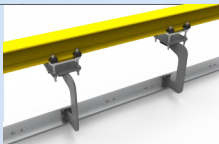


重载EMS  
Heavy-Duty

**轨道类型/ Types of Rails**



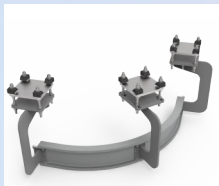
直线悬杆型轨道  
Straight Overhead Pole Track



直线吊钩型轨道  
Straight Hook-type Overhead Track

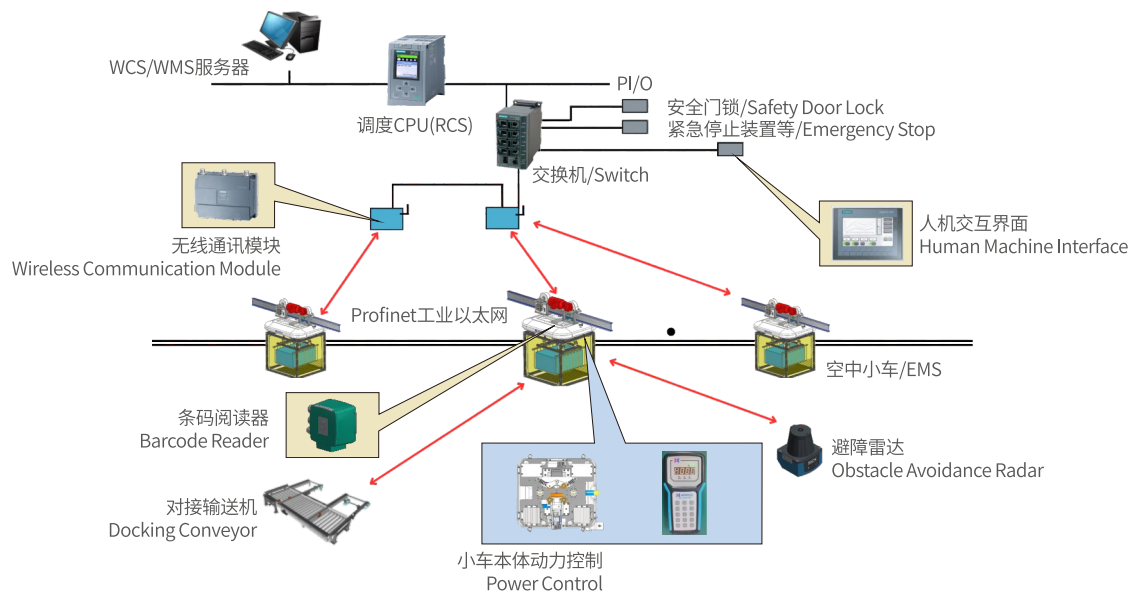


弯曲悬杆型轨道  
Curved Overhead Pole Track



弯曲吊钩型轨道  
Curved Hook-type Overhead Track

系统拓扑 SYSTEM TOPOLOGY



设备参数 EQUIPMENT PARAMETERS

	轻载 Light-Duty	重载 Heavy-Duty
最大载重/Max. load	100kg	1000kg
行走速度/Travel speed	260m/min	60m/min
加速度/Acceleration	1m/s <sup>2</sup>	0.5m/s <sup>2</sup>
定位精度/Positioning accuracy	±2mm	±2mm
升降速度/Lifting speed	60m/min	—
升降加速度/Lift acceleration	1m/s <sup>2</sup>	—
最大升降行程/Max.lifting stroke	4.5m	3m

应用行业 INDUSTRY APPLICATIONS



食品饮料  
Food and beverage



医药化工  
Pharmaceutical and chemical



新能源  
New energy



液晶半导体  
LCD semiconductor



电商新零售  
E-commerce



汽车  
Automobile



## 产品特点 PRODUCT FEATURES

### 智能调度Intelligent dispatching control

基于排队策略的调度法。  
Scheduling based on queuing strategy.

任务找车调度策略(当存在多任务的时候,系统智能调度最优小车承接任务)。  
Task-to-vehicle matching and dispatching strategy(In scenarios with multiple tasks, the system intelligently dispatches the optimal vehicle to undertake each task.)

近车取远货,减少轨道中车辆的拥堵及降速行为,提高效率。  
Dispatch nearby vehicles for remote loads, reducing congestion and delays, enhancing overall efficiency.

系统稳定可靠,出错率低。  
Stable and reliable with low error rates.

### 智能排队Intelligent queuing system

前车距离动态计算。  
Dynamic calculation of lead vehicle distance.

根据需求任意增减台车数量,系统可根据当前台车位置信息,自动排序台车编号。  
The number of trolleys can be increased or decreased according to demand, and the system can automatically sort the trolley numbers based on the current position information of the trolleys.

特有的直道及弯道速度控制技术,可实现弯道10cm排队间距。  
Unique straight and curve speed control technology, achieving 10cm queuing distance in curves.

车辆速度跟随技术。  
Vehicle speed synchronization technology.

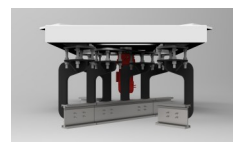
### 智能追赶Intelligent pursuit

无任务追赶:卸货完成优先在取货点待机。  
No task chasing: Upon completion of unloading, vehicles prioritize standing by at pickup points.

动态追赶:领先的动态追赶机制,不会造成后车的降速。  
Dynamic pursuit: The advanced dynamic pursuit mechanism ensures no speed reduction for following vehicles.

被追赶的过程中仍可接收调度任务。  
Continuous dispatch task reception under dynamic pursuit.

### 智能变轨Track switch



路径最优选择  
Path Optimization Selection



缓存积放  
Temporary Storage

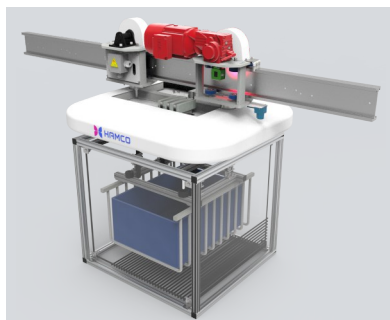


任务灵活分配  
Dynamic Task Allocation



快速维修  
Rapid Maintenance

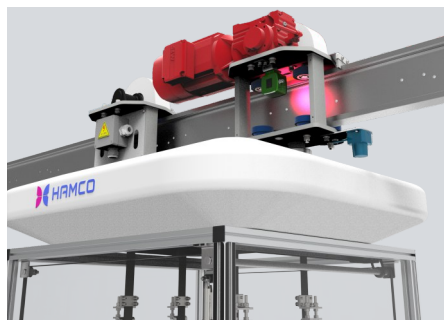
### 货物防坠保护 Cargo Anti-Drop Protection



在EMS上下货完成后,电动卷帘通过链条移动至EMS正下方,能够有效避免货物垂直坠落的风险。

Once the loading and unloading operations on the EMS are finished, the electric roller shutter is driven by a chain to move into position right beneath the EMS, effectively preventing the risk of vertical cargo drop.

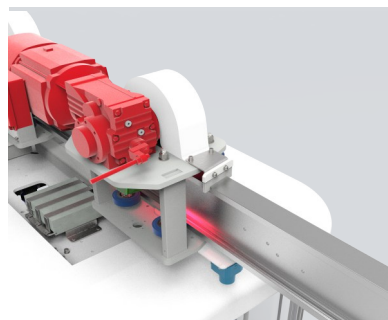
### 前车安全保护 Front Vehicle Safety Protection



在EMS运行前方放置避障雷达,用于检测前车的相对位置,防止距离太近与前车碰撞。

An obstacle avoidance radar is placed in front of the EMS to detect the relative position of the preceding vehicle, preventing collisions due to excessive proximity.

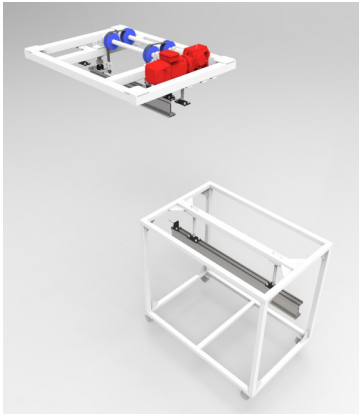
### 轨道清洁 Track Cleaning



在EMS运行前方放置清洁毛刷,用来及时清理轨道上楼板灰尘或其他异物掉落,以此避免EMS因轨道异物发生卡死或脱轨情况。

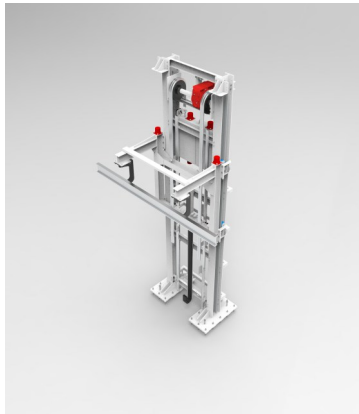
A cleaning brush is placed in front of the EMS to promptly remove dust or other foreign objects that may have fallen onto the track from the ceiling, thereby preventing the EMS from getting stuck or derailed due to obstructions on the track.

方案Name	适用EMS类型 Applicable EMS Type	移动轨道 Travel Track	升降设备 Lifting Equipment	工装架 Tooling Rack	安全光栅 Safety Light Curtain
固定式Fixed Type	直线EMS Straight EMS	—	—	●	—
手动-升降式 Manual Lift Type	直线EMS Straight EMS	—	手动 Manual	—	●
手动-移动轨道 Manual Mobile Track Type	环形EMS Circular EMS	手动 Manual	—	●	—
手动-移动轨道+升降式 Manual Mobile Track with Lift Type	环形EMS Circular EMS	手动 Manual	手动 Manual	●	●
电动移动轨道 Electric Mobile Track Type	环形EMS Circular EMS	电动 Electric	—	●	—
电动移动轨道+手动升降式 Electric Mobile Track with Manual Lift Type	环形EMS Circular EMS	电动 Electric	手动 Manual	—	●
电动移动轨道+升降式 Electric Mobile Track with Lift Type	环形EMS Circular EMS	电动 Electric	电动 Electric	—	●



同步带维修机构/Synchronous Belt Maintenance Agency

- 1、起吊额定载荷为200kg
  - 2、升降方式为同步带升降
  - 3、操作方式为指令控制自动进行
  - 4、电动升降速度为5m/min
  - 5、立柱安装面水泥层厚度 $\geq 300\text{mm}$ ，水泥标号为C30
- > Rated lifting capacity: 200kg  
> Lifting mechanism: synchronous belt lifting  
> Operation mode: automatically controlled by commands  
> Electric lifting speed: 5m/min  
> Thickness of cement layer for column installation surface:  $\geq 300\text{mm}$ , cement grade: C30



提升机维修机构/Lift Maintenance Agency

- 1、升降额定载荷为750kg；升降扬程为3000mm
  - 2、升降方式为提升机升降；操作方式为指令控制自动进行
  - 3、电动升降速度为5m/min
  - 4、立柱安装面水泥层厚度 $\geq 300\text{mm}$ ，水泥标号为C30
  - 5、吊挂承载能力：静载 $=1.45\text{t}/\text{m}^2$ ，动载=静载 $\times 1.4$
- > Rated lifting capacity: 750kg；Lifting height: 3000mm  
> Lifting mechanism: hoist lifting；Operation mode: automatically controlled by commands  
> Electric lifting speed: 5m/min  
> Thickness of cement layer for column installation surface:  $\geq 300\text{mm}$ , cement grade: C30  
> Suspension capacity: static load  $= 1.45\text{t}/\text{m}^2$ , dynamic load = static load  $\times 1.4$



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