AUTONOMOUS MOBILE ROBOT (AMR)
MILES 3500

▶ PRODUCT ADVANTAGES

- 1.5 m/s driving speed at a max. 1% gradient
- Long-lasting battery with 48 V on-board voltage
- User-friendly user interface
- Complete integration into the entire production process
- Planning the hall and the AMR fleet using simulation
- Integrated service and commissioning

▶ EQUIPMENT/OPTIONS

- IP54
- Inductive charging
- VDA 5050-compliant and natural navigation
- 3,500 kg transport load
- Integration into the ERP system
- Safety based on SICK technology

▶ CHALLENGE AND SOLUTION

- AMRs support up to 80% of the in-house transport processes for semi-finished and finished goods
- 24/7 application options for AMRs, very high availability of AMRs
- Material reaches the right place at the right time, employees receive optimal onsite support
- Only the stock actually required for work is on the shop floor. This results in an increase in the shop floor area by up to 20%
- AMRs can be integrated into the existing factory layout without major structural adaptations
- Fluctuations in demand and orders are compensated via the AMRs
- Complex supply and disposal of Kanban cycles can be automated

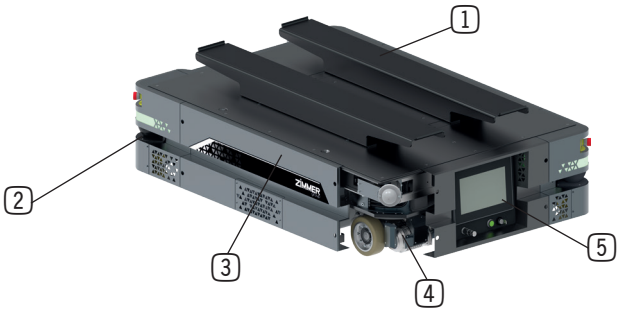
▶ WORKPIECE PARAMETERS

- Transport load of up to 3,500 kg
- Runtime of up to 8 hours, extendable with additional battery packs
- 80 mm stroke to lift the loading carriers
- Customized load carriers, trolleys and superstructures

▶ APPLICATION EXAMPLES

- As an AMR with lifting unit for transporting customized load carriers or tray trolleys with a larger footprint and higher loads
- In conjunction with customized modules and superstructures, e.g. robots or conveyor technology

▶ FUNCTIONS IN DETAIL



1. Lifting unit (80 mm)
2. Safety scanner PL d, SICK Technology, Human-machine safety
3. Batteries, 48 V on-board voltage, up to 8 h of runtime, inductive charging
4. Differential drive: smallest space requirement, turning radius of 0 m
5. HMI and software: Navigation, fleet management, ERP interface

▶ TECHNICAL DATA

Order No.	Miles 3500
Base vehicle transport load [kg]	3500
Navigation	Via laser
Base vehicle length [mm]	2500
Base vehicle width [mm]	1100
Base vehicle height [mm]	400
Speed max. [m/s]	1.5
Protection class	IP54
Vehicle weight [kg]	680
Runtime [h]	8
Charging time from 0 to 100% [h]	2
Gradient max. [%]	1
Chassis type	Differential drive
Turning radius [m]	0
Charging process	Via induction
Communication interface	VDA 5050

▶ **Stroke setup**

Order No.	Miles 3500
Dimensions with lifting unit retracted (LxWxH) [mm]	2500 x 1100 x 360
Lifting unit transport load [kg]	3500
Transport object (examples)	Customized load carriers, EPAL, tray trolleys
Stroke [mm]	80

▶ SOFTWARE ADVANTAGES

- Collaborative system – people and machines operate in a single system without limitations
- Interface for setting up different modules possible
- Complete integration into the entire production process with control architecture from a single source
- Seamless integration into existing structures
- The use of different fleet management systems in one system is possible
- Reprogramming of the AMR travel paths possible at any time
- Fast fleet expansion with additional vehicles when there is increased demand
- Easy troubleshooting via remote support

▶ SOFTWARE FUNCTIONS

- Performance level d (vehicle only)
- VDA 5050-compliant
- Navigation via LiDAR sensors
- Reliable navigation
- Protective field violations are detected by the SICK safety scanner, which stops the vehicle in a timely manner
- Integration into ERP systems and machine interfaces
- Additional AMRs can be integrated into the system later on
- Interface for remote access