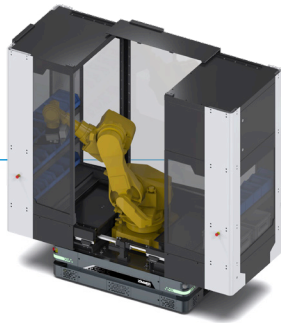# AUTONOMOUS MOBILE ROBOT (AMR)
MILES 2000 WITH ROBOT MODULE

▶ PRODUCT ADVANTAGES

- ▶ 1.6 m/s driving speed at a max. 7% gradient
- ▶ With omnidirectional drive
- ▶ 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

▶ HIGHLIGHTS AND TECHNICAL DATA

54 IP54	approx. 500 kg transport load
Inductive charging	Integration into the ERP system
VDA 5050-compliant and natural navigation	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
- ▷ Our AMRs can navigate the tightest of spaces, which results in an additional increase in the shop floor area depending on the layout
- ▷ 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 approx. 500 kg
- ▷ Range of approx. 1,400 mm
- ▷ Robots with up to 50 kg handling weight

- ▷ Customer-specific tool
- ▷ Small SLCs and customer-specific transport boxes

▶ APPLICATION EXAMPLES

- ▷ As AMR with robot module for handling and transporting Kanban containers

▶ FUNCTIONS AND DETAILS
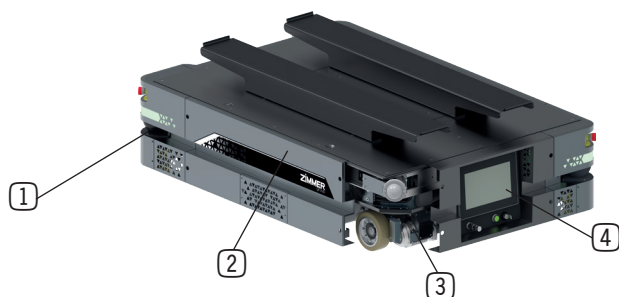
1. Safety scanner PL d, SICK Technology, Human-machine safety
2. Batteries, 48 V on-board voltage, up to 10 h of runtime, inductive charging
3. Omnidirectional drive: smallest space requirement, turning radius of 0 m
4. HMI and software: Navigation, fleet management, ERP interface
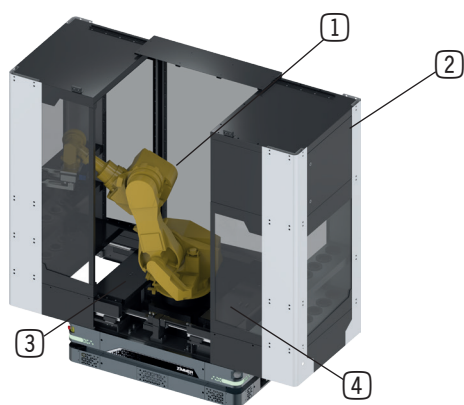
1. Industrial robot: up to 50 kg handling weight, versatile
2. Protective cabin and material storage unit: low interference contour, intervention protection, intake of goods / SLCs
3. Optional batteries: increased runtime, coupled with AMR
4. Inverter: Voltage supply 400 V

► TECHNICAL DATA

Order No.	Miles 2000
Base vehicle transport load [kg]	2000
Navigation	Via laser
Base vehicle length [mm]	1480
Base vehicle width [mm]	990
Base vehicle height [mm]	360
Speed max. [m/s]	1.6
Protection class	IP54
Vehicle weight [kg]	750
Runtime [h]	10
Charging time from 0 to 100% [h]	1.5
Gradient max. [%]	7
Chassis type	Pivot drive
Turning radius [m]	0
Charging process	Via induction
Communication interface	VDA 5050

	► Robot module setup
Order No.	Miles 2000
Dimensions (with vehicle, closed protective cabin) (LxWxH) [mm]	1,480 x 990 x 2390
Dimensions (with vehicle, open protective cabin) (LxWxH) [mm]	2480 x 990 x 2390
Robot transport load [kg]	50
Workpiece weight max. [kg]	30
Applications	Logistics, material transport, picking
Number of racks/rack positions	Modular
Reference calibration	Camera
Workpiece detection	Via camera system or RFID

Miles 2000 with robot module
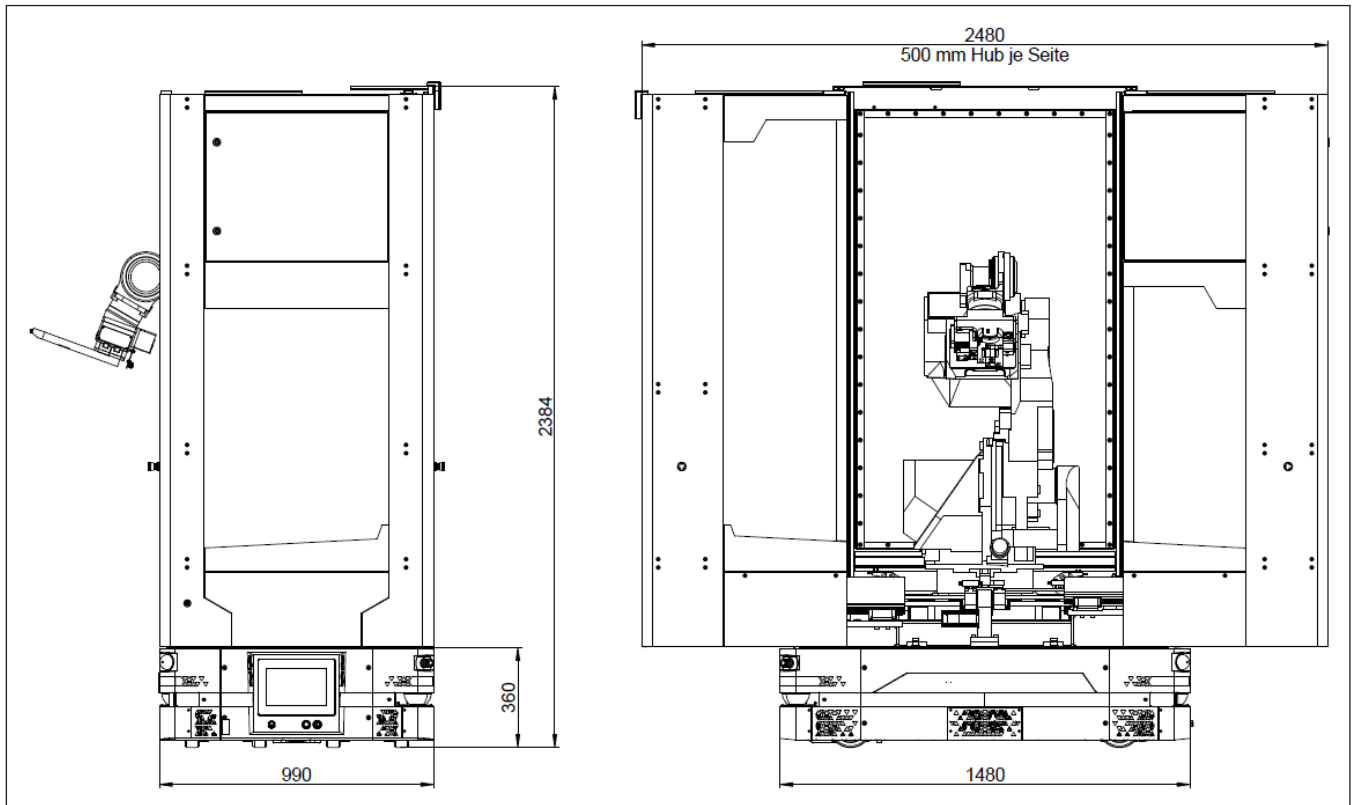
► SOFTWARE ADVANTAGES

▷ 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