

AUTONOMOUS MOBILE ROBOTS

Another step towards automating your production.

Fast. Flexible. Effective.



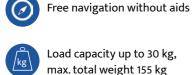
TABLE OF CONTENT

Model	Page
LD90 HVSRG	4/5
LD90 HVSRG-SES	6/7
LD90 RG	8/9
LD90 RG2S	10/11
LD90 RGMZ	12/13
LD90 RGTLA	14/15
LD90 RGTLM	16/17
LD90 TT	18/19
LD90 CRT	20/21
LD250 HVSRG	22/23
LD250 HVSRG-SES	24/25
LD250 RG	26/27
LD250 RG2S	28/29
LD250 RGMZ	30/31
LD250 RGTLA	32/33
LD250 TT	34/35
MIR HVSRG-LP	36/37
MIR HSVRG-SES-LP	38/39
MIR RG-LP	40/41
MIR RGTLA-LP	42/43
MIR RG2S-LP	44/45
MIR RGMZ-LP	46/47
MIR RGTLM-LP	48/49
MIR CRT-LP	50/51
MIR250 HVSRG-MP	52/53
MIR250 HVSRG-SES-MP	54/55
MIR250 RG-MP	56/57
MIR250 RG2S-MP	58/59
MIR250 RGMZ-MP	60/61
MIR250 RGTLA-MP	62/63

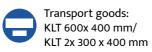


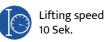
730 mm

Roller conveyor, with lift function, frontal transfer

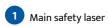














3 Laser lateral

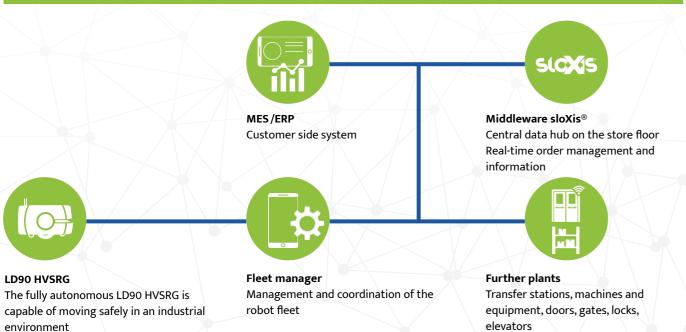
4 Rear sonar



Areas of application

KLT box, tray, blister transport Ideal for connecting machines with different transfer heights. Loading and unloading of material from multi-level racks.

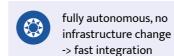
Communication



Details

Mapping	Mapping method	Scanning in which the mobile robot is guided through the environment
Safety functions	Safety laser	Safety laser, 1 at front of platform, 190mm above ground, 240°, PL d safety ISO 13849
	Ground laser	1 at front, class 1, max. 4 m range, 126° field of view
	Vertical obstacle detection	Side laser on each side, class 1, max. 4 m range, 270° Field of view
	Emergency stop	1 on the control panel, 1 on the opposite lifting column
	Rear sonar	2 at the back, 2 m range
	Bumper	1 at the front of the platform, 2 pairs of sensors
	Warning light	on each side round LED strips, top signal lamp
	Loudspeaker & Buzzer	Onboard speaker, buzzer on top signal light
Interface	НМІ	Color TFT, 320 x 240 pixels, 8.89 cm diagonal Backlight
	Manual mode	To move the robot manually, press button
Working environment & Floor condition	Temperature range Humidity Environment	5 – 40°C 10 – 95% (non condensing) For indoor use only
	IP class	IP20
	Floor condition	20
	Min. floor flatness	Linoleum, epoxy or concrete (no water, no oil, no dust) F _F 25
Connection	Wi-Fi	IEEE 802.11 a/b/g/n/ac

Advantages at a glance





Scalable



Adjustments possible



Flexible to use



Version 01/22.02.2023

Version 01/22.02.2023

ISO and CE certified

Options



Automatic Width adjustment



Adjustment height/width/ length of conveyors for other transport goods



Box centering



2. Orientation laser



ESD-version

Battery



1-shift autonomy



24V LiFePO4/72Ah



Operating time ca. 8 Std.



Charging time ca. 1 to 1,5 Std.



Lifetime 2,000 charge cycles

Charging station



AMR for low payloads and containers

Dimension

1.800 mm

724 mm

Roller conveyor with lift function



Load capacity up to 25 kg, max. total weight 155 kg



max. speed up to 1.35 m/s



Transport goods: KLT 600 x 400 mm



Lifting speed 10 Sek.



Transfer height: 800 - 900 mm

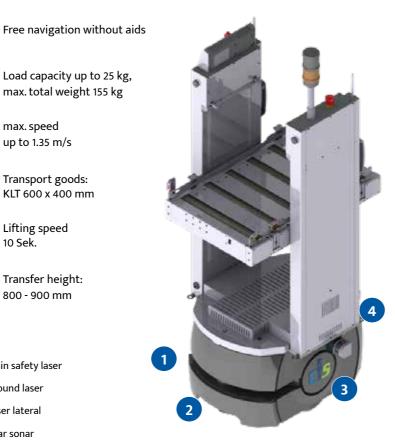


1 Main safety laser



3 Laser lateral

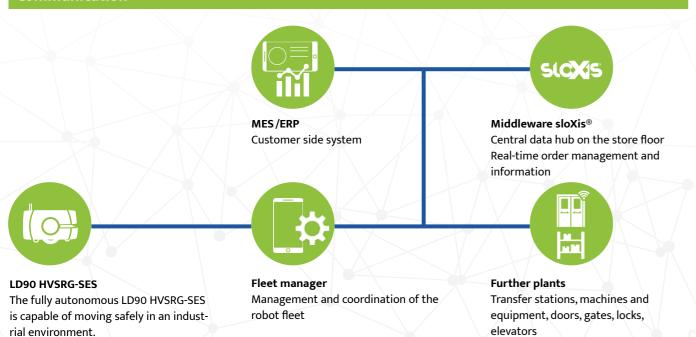




Areas of application

KLT boxes of different types | collection of individual boxes at different locations, delivery as a stack to one destination or separately to different destinations.

Communication



Details

Mapping	Mapping method	Scanning in which the mobile robot is guided through the environment
Safety functions	Safety laser	Safety laser, 1 at front of platform, 190mm above ground, 240°, PL d safety ISO 13849
	Ground laser	1 at front, class 1, max. 4 m range, 126° field of view
	Vertical obstacle detection	Side laser on each side, class 1, max. 4 m range, 270° Field of view
	Emergency stop	1 on the control panel, 1 on the opposite lifting column
	Rear sonar	2 at the back, 2 m range
	Bumper	1 at the front of the platform, 2 pairs of sensors
	Warning light	on each side round LED strips, top signal lamp
	Loudspeaker & Buzzer	Onboard speaker, buzzer on top signal light
Interface	нмі	Color TFT, 320 x 240 pixels, 8.89 cm diagonal Backlight
	Manual mode	To move the robot manually, press button
Working environment &	Temperature range	5 – 40°C
11001 Collation	Humidity Environment	10 – 95% (non condensing)
	IP class	For indoor use only IP20
	Floor condition	
	Min. floor flatness	Linoleum, epoxy or concrete (no water, no oil, no dust)
	Willi. HOOF Hatriess	F _F 25
Connection	Wi-Fi	IEEE 802.11 a/b/g/n/ac

Advantages at a glance



fully autonomous, no infrastructure change -> fast integration



Scalable



Adjustments possible



Flexible to use



Version 01/22.02.2023

Version 01/22.02.2023

ISO and CE certified

Options



Adjustment height/width/ length of conveyors for other transport goods



2. Orientation laser



ESD-version

Battery



1-shift autonomy



24V LiFePO4/72Ah



Operating time ca. 8 Std.



Charging time ca. 1 to 1,5 Std.



Lifetime 2,000 charge cycles

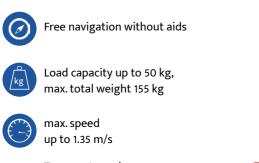
Charging station



Roller based front loader



777 mm





- 1 Main safety laser
- 2 Ground laser
- 3 Laser lateral
- 4 Rear sonar



equipment, doors, gates, locks,

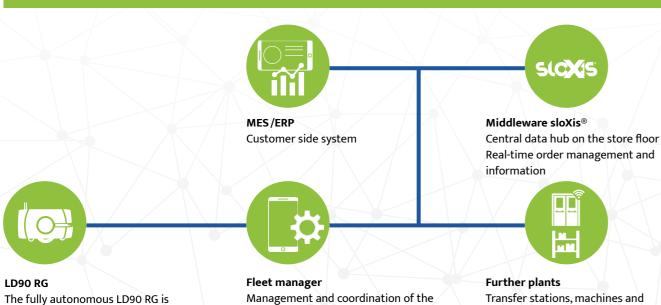
Version 01/22.02.2023

elevators

Areas of application

KLT box, blister, tray, workpiece carrier transport, e.g. SMT reels to the lines, SEMI goods to the back-end, finished goods to the ware-

Communication



robot fleet

Details

Mapping	Mapping method	Scanning in which the mobile robot is guided through the environment
Safety functions	Safety laser	Safety laser, 1 at front of platform, 190mm above ground, 240°, PL d safety ISO 13849
	Ground laser	1 at front, class 1, max. 4 m range, 126° field of view
	Vertical obstacle detection	Side laser on each side, class 1, max. 4 m range, 270° Field of view
	Emergency stop	1 on the control panel, 1 on the opposite lifting column
	Rear sonar	2 at the back, 2 m range
	Bumper	1 at the front of the platform, 2 pairs of sensors
	Warning light	on each side round LED strips, top signal lamp
	Loudspeaker & Buzzer	Onboard speaker, buzzer on top signal light
Interface	нмі	Color TFT, 320 x 240 pixels, 8.89 cm diagonal Backlight
	Manual mode	To move the robot manually, press button
Working environment &	Temperature range	5 – 40°C
Floor condition	Humidity	10 – 95% (non condensing)
	Environment	For indoor use only
	IP class	IP20
	Floor condition	Linoleum, epoxy or concrete (no water, no oil, no dust)
	Min. floor flatness	F _F 25
Connection	Wi-Fi	IEEE 802.11 a/b/g/n/ac

Advantages at a glance



fully autonomous, no infrastructure change -> fast integration





Adjustments possible



Flexible to use



Version 01/22.02.2023

ISO and CE certified

Options



Automatic Width adjustment



Adjustment height/width/ length of conveyors for other transport goods



Box centering



2. Orientation laser



ESD-version

Battery



1-shift autonomy



24V LiFePO4/72Ah



Operating time ca. 8 Std.



Charging time ca. 1 to 1,5 Std.



Lifetime 2,000 charge cycles

Charging station



100-240VAC

environment.

capable of moving safely in an industrial

1.800 mm

Roll-based side loader (L/R)



Free navigation without aids



Load capacity up to 45 kg, max. total weight155 kg



max. speed up to 1.35 m/s



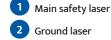
Transport goods: KLT 600 x 400 mm



Transfer height: 800 mm











Areas of application

770 mm

KLT box, tray, blister, workpiece carrier transport. Simultaneous transfer from/to machine, perfect for machine rows in parallel arrangement.

Communication



MES/ERP

Customer side system



Middleware sloXis®

Central data hub on the store floor Real-time order management and information



LD90 RG2S

The fully autonomous LD90 RG2S is capable of moving safely in an industrial environment.



Fleet manager

Management and coordination of the robot fleet



Further plants

Transfer stations, machines and equipment, doors, gates, locks, elevators

Version 01/22.02.2023

Details

Mapping	Mapping method	Scanning in which the mobile robot is guided through the environment
Safety functions	Safety laser	Safety laser, 1 at front of platform, 190mm above ground, 240°, PL d safety ISO 13849
	Ground laser	1 at front, class 1, max. 4 m range, 126° field of view
	Vertical obstacle detection	Side laser on each side, class 1, max. 4 m range, 270° Field of view
	Emergency stop	1 on the control panel, 1 on the opposite lifting column
	Rear sonar	2 at the back, 2 m range
	Bumper	1 at the front of the platform, 2 pairs of sensors
	Warning light	on each side round LED strips, top signal lamp
	Loudspeaker & Buzzer	Onboard speaker, buzzer on top signal light
Interface	НМІ	Color TFT, 320 x 240 pixels, 8.89 cm diagonal Backlight
	Manual mode	To move the robot manually, press button
Working environment &	Temperature range	5 – 40°C
Floor condition	Humidity	10 – 95% (non condensing)
	Environment	For indoor use only
	IP class	IP20
	Floor condition	Linoleum, epoxy or concrete (no water, no oil, no dust)
	Min. floor flatness	F _F 25
Connection	Wi-Fi	IEEE 802.11 a/b/g/n/ac

Advantages at a glance



fully autonomous, no infrastructure change -> fast integration



Scalable



Adjustments possible



Flexible to use



ISO and CE certified

Options



Adjustment height/width/ length of conveyors for other transport goods



2. Orientation laser



ESD-version

Battery



1-shift autonomy



24V LiFePO4/72Ah



Operating time ca. 8 Std.



Charging time ca. 1 to 1,5 Std.

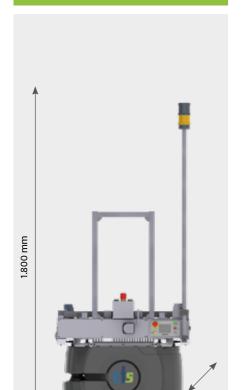


Lifetime 2,000 charge cycles

Charging station

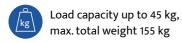


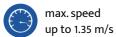
Roller based front and rear loader

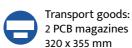


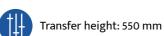
779 mm

Free navigation without aids



















DATASHEET LD90 RGMZ

AMR for low payloads and containers

Areas of application

Designed for the transport of PCB magazines. Automatic feeding to SMT lines, transports for inspection/back-end assembly, delivery of magazines from/to the warehouse. Front and rear transfer ensures correct product alignment.

Communication



Customer side system

SLOXIS

Middleware sloXis®

Central data hub on the store floor Real-time order management and information



LD90 RGMZ

The fully autonomous LD90 RGMZ is capable of moving safely in an industrial environment.

Fleet manager

Management and coordination of the robot fleet

Further plants

Transfer stations, machines and equipment, doors, gates, locks, elevators

Version 01/22.02.2023

Details

Mapping	Mapping method	Scanning in which the mobile robot is guided through the environment
Safety functions	Safety laser	Safety laser, 1 at front of platform, 190mm above ground, 240°, PL d safety ISO 13849
	Ground laser	1 at front, class 1, max. 4 m range, 126° field of view
	Vertical obstacle detection	Side laser on each side, class 1, max. 4 m range, 270° Field of view
	Emergency stop	1 on the control panel, 1 on the opposite lifting column
	Rear sonar	2 at the back, 2 m range
	Bumper	1 at the front of the platform, 2 pairs of sensors
	Warning light	on each side round LED strips, top signal lamp
	Loudspeaker & Buzzer	Onboard speaker, buzzer on top signal light
Interface	НМІ	Color TFT, 320 x 240 pixels, 8.89 cm diagonal Backlight
	Manual mode	To move the robot manually, press button
Working environment & Floor condition	Temperature range Humidity Environment	5 – 40°C 10 – 95% (non condensing) For indoor use only
	IP class	IP20
	Floor condition	20
	Min. floor flatness	Linoleum, epoxy or concrete (no water, no oil, no dust) F _F 25
Connection	Wi-Fi	IEEE 802.11 a/b/g/n/ac

Advantages at a glance



fully autonomous, no infrastructure change -> fast integration





Adjustments possible



Flexible to use



Version 01/22.02.2023

ISO and CE certified

Options



Automatic Width adjustment



Adjustment height/width/ length of conveyors for other transport goods



Magazine centering



2. Orientation laser



ESD-version

Battery



1-shift autonomy



24V LiFePO4/72Ah



Operating time ca. 8 Std.



Charging time ca. 1 to 1,5 Std.



Lifetime 2,000 charge cycles

Charging station



1.800 mm

2-level roller based front loader



Free navigation without aids



Load capacity up to 25 kg, max. total weight 155 kg



max. speed up to 1.35 m/s



Transport goods: KLT 600 x 400 mm





Transfer height: 600/1.000 mm



1 Main safety laser







Areas of application

777 mm

Perfect for feeding assembly lines with KLT box/trays/blisters while picking up the empty container and vice versa.

Communication



MES/ERP

Customer side system



Fleet manager

Management and coordination of the robot fleet

SLOXIS

Middleware sloXis®

Central data hub on the store floor Real-time order management and information



Further plants

Transfer stations, machines and equipment, doors, gates, locks, elevators

Version 01/22.02.2023

Details

Mapping	Mapping method	Scanning in which the mobile robot is guided through the environment
Safety functions	Safety laser	Safety laser, 1 at front of platform, 190mm above ground, 240°, PL d safety ISO 13849
	Ground laser	1 at front, class 1, max. 4 m range, 126° field of view
	Vertical obstacle detection	Side laser on each side, class 1, max. 4 m range, 270° Field of view
	Emergency stop	1 on the control panel, 1 on the opposite lifting column
	Rear sonar	2 at the back, 2 m range
	Bumper	1 at the front of the platform, 2 pairs of sensors
	Warning light	on each side round LED strips, top signal lamp
	Loudspeaker & Buzzer	Onboard speaker, buzzer on top signal light
Interface	нмі	Color TFT, 320 x 240 pixels, 8.89 cm diagonal Backlight
	Manual mode	To move the robot manually, press button
Working environment &	Temperature range	5 – 40°C
Floor condition	Humidity	10 – 95% (non condensing)
	Environment	For indoor use only
	IP class	IP20
	Floor condition	Linoleum, epoxy or concrete (no water, no oil, no dust)
	Min. floor flatness	F _F 25
Connection	Wi-Fi	IEEE 802.11 a/b/g/n/ac

Advantages at a glance



fully autonomous, no infrastructure change -> fast integration



Scalable



Adjustments possible



Flexible to use



ISO and CE certified

Options



Adjustment height/width/ length of conveyors for other transport goods



2. Orientation laser



ESD-version

Battery



1-shift autonomy



24V LiFePO4/72Ah



Operating time ca. 8 Std.



Charging time ca. 1 to 1,5 Std.



Lifetime 2,000 charge cycles

Charging station



100-240VAC

LD90 RGTLA

environment.

The fully autonomous LD90 RGTLA is

capable of moving safely in an industrial

1.800 mm

2-level roller based front loader



Free navigation without aids



Load capacity up to 26 kg lower level, up to 4 kg upper (empty) level max. total weight 155 kg



max. speed up to 1.35 m/s



Transport goods: KLT 600 x 400 mm



Transfer height: 800/1.500 mm





1 Main safety laser





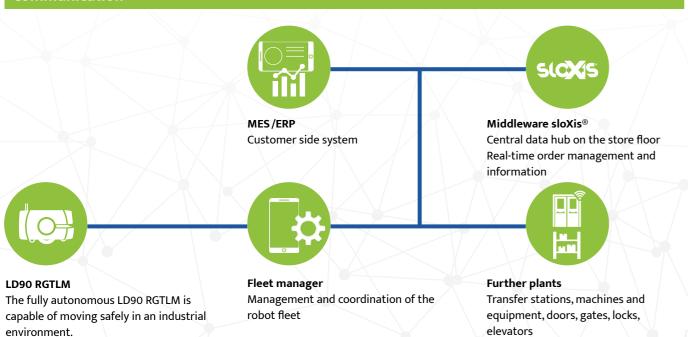


Areas of application

779 mm

Perfect for supplying production and SMT lines with raw/SEMI material with automatic return of empty boxes (e. g. SMT reels for line supply).

Communication



Details

Mapping	Mapping method	Scanning in which the mobile robot is guided through the environment
Safety functions	Safety laser	Safety laser, 1 at front of platform, 190mm above ground, 240°, PL d safety ISO 13849
	Ground laser	1 at front, class 1, max. 4 m range, 126° field of view
	Vertical obstacle detection	Side laser on each side, class 1, max. 4 m range, 270° Field of view
	Emergency stop	1 on the control panel, 1 on the opposite lifting column
	Rear sonar	2 at the back, 2 m range
	Bumper	1 at the front of the platform, 2 pairs of sensors
	Warning light	on each side round LED strips, top signal lamp
	Loudspeaker & Buzzer	Onboard speaker, buzzer on top signal light
Interface	НМІ	Color TFT, 320 x 240 pixels, 8.89 cm diagonal Backlight
	Manual mode	To move the robot manually, press button
Working environment &	Temperature range	5 – 40°C
Floor Colluition	Humidity	10 – 95% (non condensing)
	Environment	For indoor use only
	IP class	IP20
	Floor condition Min. floor flatness	Linoleum, epoxy or concrete (no water, no oil, no dust)
	MIN. HOOF HALNESS	F _F 25
Connection	Wi-Fi	IEEE 802.11 a/b/g/n/ac

Advantages at a glance



fully autonomous, no infrastructure change -> fast integration



Scalable



Adjustments possible



Flexible to use



Version 01/22.02.2023

Version 01/22.02.2023

ISO and CE certified

Options



Automatic Width adjustment



Adjustment height/width/ length of conveyors for other transport goods



Box centering



2. Orientation laser



ESD-version

Battery



1-shift autonomy



24V LiFePO4/72Ah



Operating time ca. 8 Std.



Charging time ca. 1 to 1,5 Std.

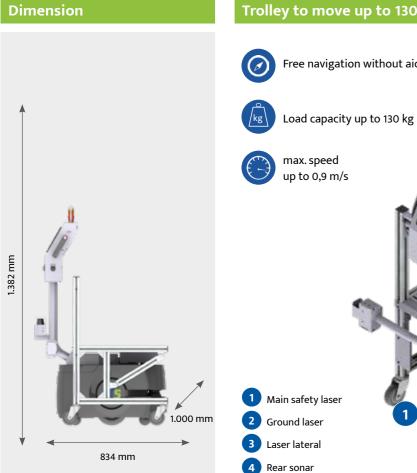


Lifetime 2,000 charge cycles

Charging station



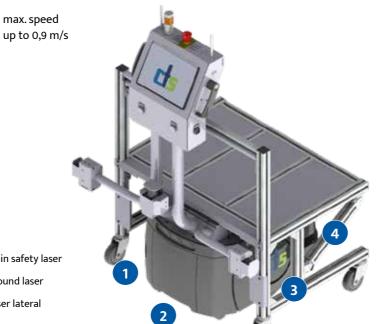
AMR for low payloads and containers



Trolley to move up to 130 kg



Transfer height/platform height trolley: 500 mm



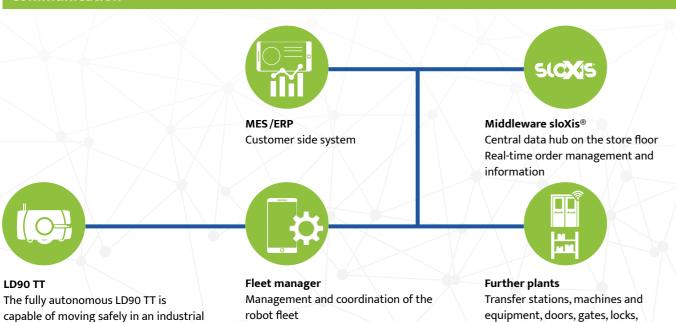
elevators

Version 01/22.02.2023

Areas of application

The AMR drives under the trolley and engages it through a locking mechanism and pushes the trolley to its destination where it unlocks it. We achieve the variety of application possibilities through the customer-specific superstructures.

Communication



Details

Mapping	Mapping method	Scanning in which the mobile robot is guided through the environment
Safety functions	Safety laser	Safety laser, 1 at front of platform, 190mm above ground, 240°, PL d safety ISO 13849
	Ground laser	1 at front, class 1, max. 4 m range, 126° field of view
	Vertical obstacle detection	Side laser on each side, class 1, max. 4 m range, 270° Field of view
	Emergency stop	1 on the control panel, 1 on the opposite lifting column
	Rear sonar	2 at the back, 2 m range
	Bumper	1 at the front of the platform, 2 pairs of sensors
	Warning light	on each side round LED strips, top signal lamp
	Loudspeaker & Buzzer	Onboard speaker, buzzer on top signal light
Interface	нмі	10" Touchpanel
	Manual mode	To move the robot manually, press button
Working environment &	Temperature range	5 – 40°C
Floor condition	Humidity	10 – 95% (non condensing)
	Environment	For indoor use only
	IP class	IP20
	Floor condition	Linoleum, epoxy or concrete (no water, no oil, no dust)
	Min. floor flatness	F _F 25
Connection	Wi-Fi	IEEE 802.11 a/b/g/n/ac

Advantages at a glance

fully autonomous, no infrastructure change -> fast integration



Scalable



Adjustments possible



Flexible to use



Version 01/22.02.2023

ISO and CE certified

Options



ESD-version

Battery



1-shift autonomy



24V LiFePO4/72Ah



Operating time ca. 8 Std.



Charging time ca. 1 to 1,5 Std.



Lifetime 2,000 charge cycles

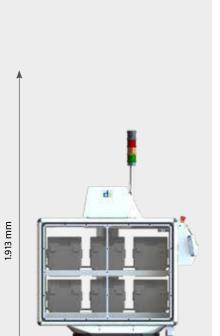
Charging station



100-240VAC

environment.

Cleanroom Transporter/Waferbox Transporter



1.219 mm

Free navigation without aids



Load capacity up to 20 kg max. total weight 155 kg



max. speed up to 1.35 m/s



Transport goods: 6 pieces 200 mm Wafer boxes



1 Main safety laser



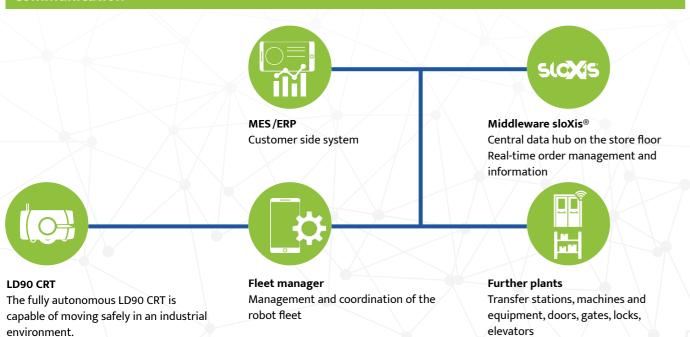




Areas of application

The AMR with cleanroom attachment can be used in semiconductor production and in the pharmaceutical sector to automatically transport goods between cleanrooms of different classes.

Communication



Details

Mapping	Mapping method	Scanning in which the mobile robot is guided through the environment
Safety functions	Safety laser	Safety laser, 1 at front of platform, 190mm above ground, 240°, PL d safety ISO 13849
	Ground laser	1 at front, class 1, max. 4 m range, 126° field of view
	Vertical obstacle detection	Side laser on each side, class 1, max. 4 m range, 270° Field of view
	Emergency stop	1 on the control panel, 1 on the opposite lifting column
	Rear sonar	2 at the back, 2 m range
	Bumper	1 at the front of the platform, 2 pairs of sensors
	Warning light	on each side round LED strips, top signal lamp
	Loudspeaker & Buzzer	Onboard speaker, buzzer on top signal light
Interface	НМІ	10" Touchpanel
	Manual mode	To move the robot manually, press button
Working environment &	Temperature range	5 – 40°C
Floor condition	Humidity	10 – 95% (non condensing)
	Environment	For indoor use only
	IP class	IP20
	Floor condition	Linoleum, epoxy or concrete (no water, no oil, no dust)
	Min. floor flatness	F _F 25
Connection	Wi-Fi	IEEE 802.11 a/b/g/n/ac

Advantages at a glance



fully autonomous, no infrastructure change -> fast integration



Scalable



Adjustments possible



Flexible to use



ISO and CE certified

Options



2. Orientation laser



ESD-version



Inlay adaptation for other transport goods

Battery



1-shift autonomy



24V LiFePO4/72Ah



Operating time ca. 8 Std.



Charging time ca. 1 to 1,5 Std.



Lifetime 2,000 charge cycles

Charging station



1.800 mm

Roller conveyor, 1-sided transfer



Free navigation without aids



Load capacity up to 100 kg, max. total weight 350 kg



max. speed up 1,2 m/s



Transport goods: KLT 800 x 600 mm KLT 2x 600 x 400mm



Lifting speed 15 Sek.



Transfer height: 800 - 1.500 mm



Main safety laser



3 Laser lateral





Areas of application

980 mm

Large trays, crate stacks, metal crate transport for raw and finished part transport. Ideal for connecting machines with different transfer heights. Loading and unloading of material from multi-level racks.

Communication



MES/ERP



Customer side system



Fleet manager

Management and coordination of the robot fleet

SLOXIS

Middleware sloXis®

Central data hub on the store floor Real-time order management and information



Version 01/22.02.2023

Further plants

Transfer stations, machines and equipment, doors, gates, locks, elevators

Details

Mapping	Mapping method	Scanning in which the mobile robot is guided through the environment
Safety functions	Safety laser	Safety laser, 1 at front of platform, 190mm above ground, 240°, PL d safety ISO 13849
	Ground laser	1 at front, class 1, max. 4 m range, 126° field of view
	Vertical obstacle detection	Side laser on each side, class 1, max. 4 m range, 270° Field of view
	Emergency stop	1 on the control panel, 1 on the opposite lifting column
	Rear sensor	Time-of-flight sensors at the back
	Bumper	1 at the front of the platform, 2 pairs of sensors
	Warning light	on each side round LED strips, top signal lamp
	Loudspeaker & Buzzer	Onboard speaker, buzzer on top signal light
Interface	нмі	Color TFT, 320 x 240 pixels, 8.89 cm diagonal Backlight
	Manual mode	To move the robot manually, press button
Working environment & Floor condition	Temperature range Humidity Environment IP class Floor condition Min. floor flatness	5 – 40°C 10 – 95% (non condensing) For indoor use only IP20 Linoleum, epoxy or concrete (no water, no oil, no dust) F _F 25
Connection	Wi-Fi	IEEE 802.11 a/b/g/n/ac

Advantages at a glance



fully autonomous, no infrastructure change -> fast integration



Scalable



Adjustments possible



Flexible to use



ISO and CE certified

Options



Adjustment height/width/ length of conveyors for other transport goods



Box centering



2. Orientation laser



ESD-version



Extended safety package for heavy loads (>80kg)

Battery



1-shift autonomy



24V LiFePO4/72Ah



Operating time ca. 8 Std.



Charging time ca. 1 to 1,5 Std.



Lifetime 2,000 charge cycles

Charging station



100-240VAC

LD250 HVSRG

environment.

The fully autonomous LD250 HVSRG is

capable of moving safely in an industrial

AMR for medium payloads and containers

Dimension

1.800 mm

980 mm

Roller conveyor, Stacker/DeStacker



Free navigation without aids



Load capacity up to 50 kg, max. total weight 350 kg



max. speed up to 1,2 m/s



Transport goods: KLT (3x 800 x 600 x 220 mm) KLT (800 x 600 x 420mm) KLT (4x 800 x 600 x 120 mm) Tablar (7x 800 x 600 x 47 mm)



Lifting speed 10 Sek.



Transfer height: 800 - 900 mm



1 Main safety laser





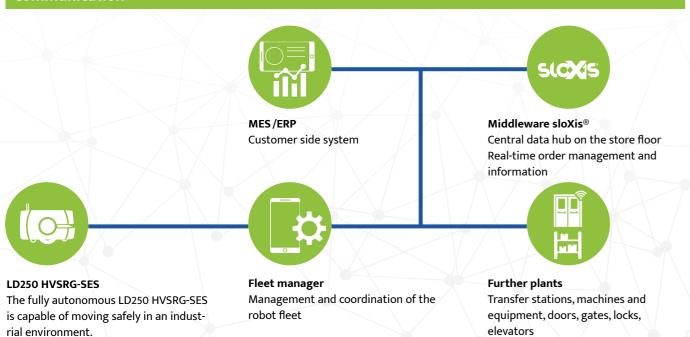




Areas of application

Large trays, crate stacks, metal crate transport for raw and finished part transport. Ideal for connecting machines with different transfer heights. Loading and unloading of material from multi-level racks.

Communication



Details

Mapping	Mapping method	Scanning in which the mobile robot is guided through the environment
Safety functions	Safety laser	Safety laser, 1 at front of platform, 190mm above ground, 240°, PL d safety ISO 13849
	Ground laser	1 at front, class 1, max. 4 m range, 126° field of view
	Vertical obstacle detection	Side laser on each side, class 1, max. 4 m range, 270° Field of view
	Emergency stop	1 on the control panel, 1 on the opposite lifting column
	Rear sensor	Time-of-flight sensors at the back
	Bumper	1 at the front of the platform, 2 pairs of sensors
	Warning light	on each side round LED strips, top signal lamp
	Loudspeaker & Buzzer	Onboard speaker, buzzer on top signal light
Interface	НМІ	Color TFT, 320 x 240 pixels, 8.89 cm diagonal Backlight
	Manual mode	To move the robot manually, press button
Working environment &	Temperature range	5 – 40°C
Floor condition	Humidity	10 – 95% (non condensing)
	Environment	For indoor use only
	IP class	IP20
	Floor condition	Linoleum, epoxy or concrete (no water, no oil, no dust)
	Min. floor flatness	F _F 25
Connection	Wi-Fi	IEEE 802.11 a/b/g/n/ac

Advantages at a glance



fully autonomous, no infrastructure change -> fast integration



Scalable



Adjustments possible



Flexible to use



Version 01/22.02.2023

Version 01/22.02.2023

ISO and CE certified

Options



Adjustment height/width/ length of conveyors for other transport goods



Box centering



2. Orientation laser



ESD-version



Extended safety package for heavy loads (>80kg)

Battery



1-shift autonomy



24V LiFePO4/72Ah



Operating time ca. 8 Std.



Charging time ca. 1 to 1,5 Std.



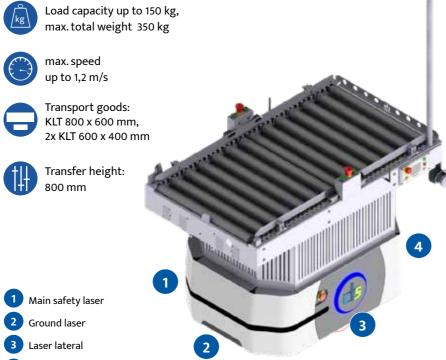
Lifetime 2,000 charge cycles

Charging station



Dimension **Roller conveyor** Free navigation without aids Load capacity up to 150 kg, max. total weight 350 kg max. speed up to 1,2 m/s

1.800 mm 1.260 mm



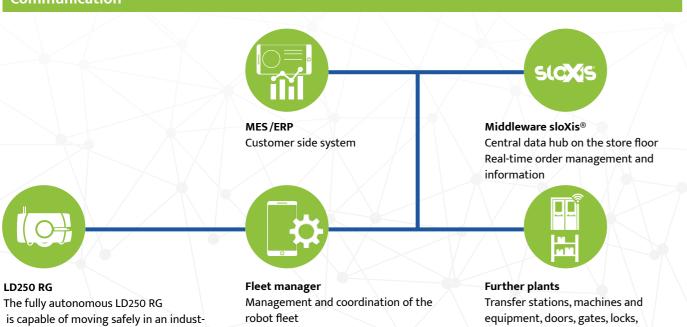
elevators

Areas of application

Large trays, crate stacks, metal crate transport for raw and finished part transport.

4 Rear sensor

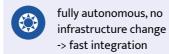




Details

Mapping	Mapping method	Scanning in which the mobile robot is guided through the environment
Safety functions	Safety laser	Safety laser, 1 at front of platform, 190mm above ground, 240°, PL d safety ISO 13849
	Ground laser	1 at front, class 1, max. 4 m range, 126° field of view
	Vertical obstacle detection	Side laser on each side, class 1, max. 4 m range, 270° Field of view
	Emergency stop	1 on the control panel, 1 on the opposite lifting column
	Rear sensor	Time-of-flight sensors at the back
	Bumper	1 at the front of the platform, 2 pairs of sensors
	Warning light	on each side round LED strips, top signal lamp
	Loudspeaker & Buzzer	Onboard speaker, buzzer on top signal light
Interface	НМІ	Color TFT, 320 x 240 pixels, 8.89 cm diagonal Backlight
	Manual mode	To move the robot manually, press button
Working environment &	Temperature range	5 – 40°C
Floor condition	Humidity	10 – 95% (non condensing)
	Environment	For indoor use only
	IP class	IP20
	Floor condition	Linoleum, epoxy or concrete (no water, no oil, no dust)
	Min. floor flatness	F _F 25
Connection	Wi-Fi	IEEE 802.11 a/b/g/n/ac

Advantages at a glance





Scalable



Adjustments possible



Flexible to use



Version 01/22.02.2023

ISO and CE certified

Options



Automatic Width adjustment



Adjustment height/width/ length of conveyors for other transport goods



Box centering



Bluespot



2. Orientation laser



ESD-version



Extended safety package for heavy loads (>80kg)

Battery



1-shift autonomy



24V LiFePO4/72Ah



Operating time ca. 8 Std.



Charging time ca. 1 to 1,5 Std.



Lifetime 2,000 charge cycles

Charging station



100-240VAC

rial environment.



Roll-based side loader (L/R)



2

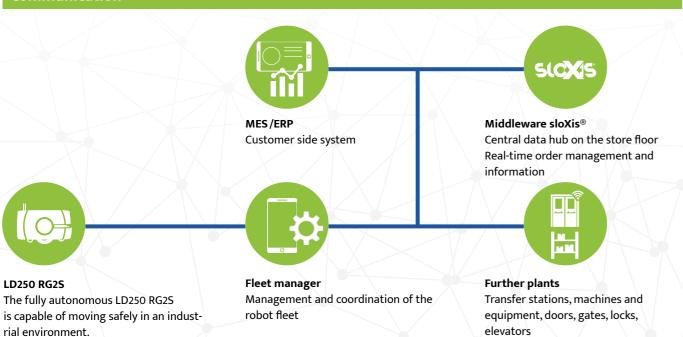
Areas of application

Large trays, crate stacks, metal crate transport for raw and finished part transport. Simultaneous transfer to/from machine, perfect for rows of machines in parallel arrangement.

3 Laser lateral

4 Rear sensor

Communication



Details

Mapping	Mapping method	Scanning in which the mobile robot is guided through the environment
Safety functions	Safety laser	Safety laser, 1 at front of platform, 190mm above ground, 240°, PL d safety ISO 13849
	Ground laser	1 at front, class 1, max. 4 m range, 126° field of view
	Vertical obstacle detection	Side laser on each side, class 1, max. 4 m range, 270° Field of view
	Emergency stop	1 on the control panel, 1 on the opposite lifting column
	Rear sensor	Time-of-flight sensors at the back
	Bumper	1 at the front of the platform, 2 pairs of sensors
	Warning light	on each side round LED strips, top signal lamp
	Loudspeaker & Buzzer	Onboard speaker, buzzer on top signal light
Interface	НМІ	Color TFT, 320 x 240 pixels, 8.89 cm diagonal Backlight
	Manual mode	To move the robot manually, press button
Working environment &	Temperature range	5 – 40°C
Floor condition	Humidity	10 – 95% (non condensing)
	Environment	For indoor use only
	IP class	IP20
	Floor condition	Linoleum, epoxy or concrete (no water, no oil, no dust)
	Min. floor flatness	F _F 25
Connection	Wi-Fi	IEEE 802.11 a/b/g/n/ac

Advantages at a glance



fully autonomous, no infrastructure change -> fast integration



Scalable



Adjustments possible



Flexible to use



Version 01/22.02.2023

Version 01/22.02.2023

ISO and CE certified

Options



Adjustment height/width/ length of conveyors for other transport goods



Bluespot



2. Orientation laser



ESD-version



Extended safety package for heavy loads (>80kg)

Battery



1-shift autonomy



24V LiFePO4/72Ah



Operating time ca. 8 Std.



Charging time ca. 1 to 1,5 Std.



Lifetime 2,000 charge cycles

Charging station



100-240VAC

www.group-cts.de

DATASHEET LD250 RGMZ

1.800 mm

Roller based front and rear loader



Areas of application

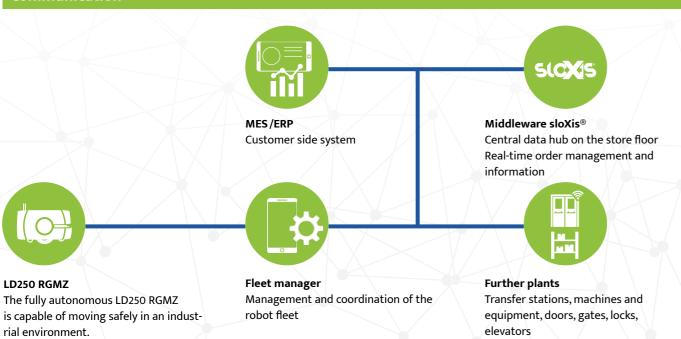
1.280 mm

Transport of large and heavy PCB magazines, stacks and trays. Automatic loading of SMT lines, transports for inspection/back-end assembly, magazines from/to storage, front and rear transfers ensure correct product alignment.

Main safety laser 2 Ground laser 3 Laser lateral

4 Rear sensor

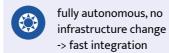
Communication



Details

Mapping	Mapping method	Scanning in which the mobile robot is guided through the environment
Safety functions	Safety laser	Safety laser, 1 at front of platform, 190mm above ground, 240°, PL d safety ISO 13849
	Ground laser	1 at front, class 1, max. 4 m range, 126° field of view
	Vertical obstacle detection	Side laser on each side, class 1, max. 4 m range, 270° Field of view
	Emergency stop	1 on the control panel, 1 on the opposite lifting column
	Rear sensor	Time-of-flight sensors at the back
	Bumper	1 at the front of the platform, 2 pairs of sensors
	Warning light	on each side round LED strips, top signal lamp
	Loudspeaker & Buzzer	Onboard speaker, buzzer on top signal light
Interface	НМІ	Color TFT, 320 x 240 pixels, 8.89 cm diagonal Backlight
	Manual mode	To move the robot manually, press button
Working environment & Floor condition	Temperature range Humidity Environment IP class Floor condition Min. floor flatness	5 – 40°C 10 – 95% (non condensing) For indoor use only IP20 Linoleum, epoxy or concrete (no water, no oil, no dust) F _F 25
Connection	Wi-Fi	IEEE 802.11 a/b/g/n/ac

Advantages at a glance





Scalable



Adjustments possible



Flexible to use



Version 01/22.02.2023

ISO and CE certified

Options



Automatic Width adjustment



Adjustment height/width/ length of conveyors for other transport goods



Box centering



Bluespot



2. Orientation laser



ESD-version



Extended safety package for heavy loads (>80kg)

Battery



1-shift autonomy



24V LiFePO4/72Ah



Operating time ca. 8 Std.



Charging time ca. 1 to 1,5 Std.



Lifetime 2,000 charge cycles

Charging station



1.800 mm

2-level roller based front loader





Load capacity up to 150 kg, max. total weight 350 kg



max. speed up to 1,2 m/s

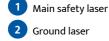


Transport goods: KLT 800 x 600 mm KLT 2x 600 x 400 mm je Ebene



Transfer height: 600 mm/1.000 mm









Areas of application

960 mm

Perfect for feeding assembly lines with KLT box/trays/blister stacks while picking up empty containers and vice versa.

Communication



MES/ERP

Customer side system



Fleet manager Management and coordination of the robot fleet

Middleware sloXis®

Central data hub on the store floor Real-time order management and information



Further plants

Transfer stations, machines and equipment, doors, gates, locks, elevators

Version 01/22.02.2023

Details

Mapping	Mapping method	Scanning in which the mobile robot is guided through the environment
Safety functions	Safety laser	Safety laser, 1 at front of platform, 190mm above ground, 240°, PL d safety ISO 13849
	Ground laser	1 at front, class 1, max. 4 m range, 126° field of view
	Vertical obstacle detection	Side laser on each side, class 1, max. 4 m range, 270° Field of view
	Emergency stop	1 on the control panel, 1 on the opposite lifting column
	Rear sensor	Time-of-flight sensors at the back
	Bumper	1 at the front of the platform, 2 pairs of sensors
	Warning light	on each side round LED strips, top signal lamp
	Loudspeaker & Buzzer	Onboard speaker, buzzer on top signal light
Interface	НМІ	Color TFT, 320 x 240 pixels, 8.89 cm diagonal Backlight
	Manual mode	To move the robot manually, press button
Working environment &	Temperature range	5 – 40°C
Floor condition	Humidity	10 – 95% (non condensing)
	Environment	For indoor use only
	IP class	IP20
	Floor condition	Linoleum, epoxy or concrete (no water, no oil, no dust)
	Min. floor flatness	F _F 25
Connection	Wi-Fi	IEEE 802.11 a/b/g/n/ac

Advantages at a glance

fully autonomous, no infrastructure change -> fast integration



Scalable



Adjustments possible



Flexible to use



Version 01/22.02.2023

ISO and CE certified

Options

Adjustment height/width/ length of conveyors for other transport goods





2. Orientation laser



ESD-version



Extended safety package for heavy loads (>80kg)

Battery



1-shift autonomy



24V LiFePO4/72Ah



Operating time ca. 8 Std.



Charging time ca. 1 to 1,5 Std.



Lifetime 2,000 charge cycles

Charging station



100-240VAC

LD250 RGTLA

environment.

The fully autonomous LD250 RGTLA is

capable of moving safely in an industrial

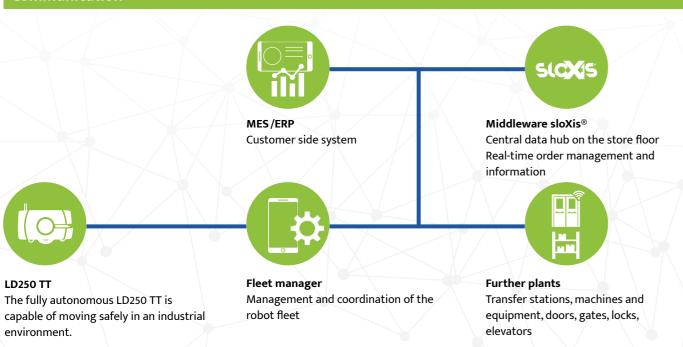
AMR for medium payloads and containers

Dimension Trolley for moving up to 200 kg Transport goods: Depending on Free navigation without aids the trolley structure Transfer height/ platform Load capacity up to 200 kg height trolley: 500 mm max. speed up to 0,9 m/s 1 Main safety laser 2 Ground laser 1.360 mm 3 Laser lateral 1.382 mm 4 Rear sensor

Areas of application

The AMR drives under the trolley and engages it through a locking mechanism and pushes the trolley to its destination where it unlocks it. We achieve the variety of application possibilities through the customer-specific superstructures.

Communication



Details

Mapping	Mapping method	Scanning in which the mobile robot is guided through the environment
Safety functions	Safety laser	Safety laser, 1 at front of platform, 190mm above ground, 240°, PL d safety ISO 13849
	Ground laser	1 at front, class 1, max. 4 m range, 126° field of view
	Vertical obstacle detection	Side laser on each side, class 1, max. 4 m range, 270° Field of view
	Emergency stop	1 on the control panel, 1 on the opposite lifting column
	Rear sensor	Time-of-flight sensors at the back
	Bumper	1 at the front of the platform, 2 pairs of sensors
	Warning light	on each side round LED strips, top signal lamp
	Loudspeaker & Buzzer	Onboard speaker, buzzer on top signal light
Interface	HMI	10" Touchpanel
	Manual mode	To move the robot manually, press button
Working environment &	Temperature range	5 – 40°C
Floor condition	Humidity	10 – 95% (non condensing)
	Environment	For indoor use only
	IP class	IP20
	Floor condition	Linoleum, epoxy or concrete (no water, no oil, no dust)
	Min. floor flatness	F _F 25
Connection	Wi-Fi	IEEE 802.11 a/b/g/n/ac

Advantages at a glance

fully autonomous, no infrastructure change -> fast integration



Scalable



Adjustments possible



Flexible to use



ISO and CE certified

Optionen



2. Orientation laser



ESD-version

Battery



1-shift autonomy



24V LiFePO4/72Ah



Operating time ca. 8 Std.



Charging time ca. 1 to 1,5 Std.



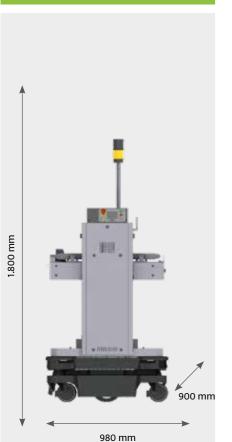
Lifetime 2,000 charge cycles

Charging station



100-240VAC

Roller conveyor, 1-sided transfer (lateral)

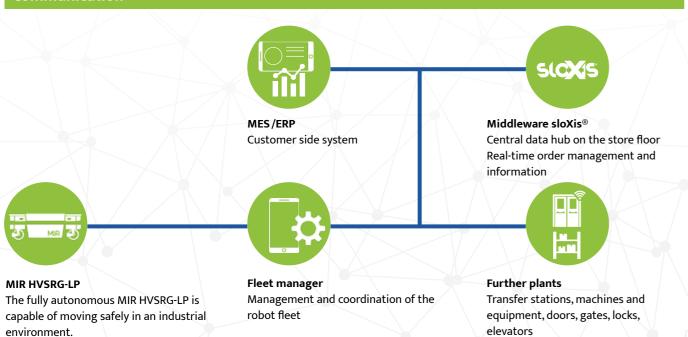




Areas of application

KLT box, tray, blister transport Ideal for connecting machines with different transfer heights. Loading and unloading of material from multi-level racks.

Communication



Details

Mapping	Mapping method	Scanning in which the mobile robot is guided through the environment
Safety functions	Safety laser	2 pieces detection range 360° 3D camera: object detection up to 1,800 mm up to a distance of 1.200 mm in front of the robot, 114° horizontal detection range
	Emergency stop	2 on robot assembly
	Warning light	Light on each side, top LED strips
	Loudspeaker & Buzzer	Onboard speaker, signal tower with traffic light and buzzer
Interface	Manual mode	To move the robot manually, turn switch on robot platform
Working environment &	Temperature range	5 – 50°C
Floor condition	Humidity	10 – 95% (non condensing)
	Environment	For indoor use only
	IP class	IP20
	Floor condition	Linoleum, epoxy or concrete (no water, no oil, no dust)
	Min. floor flatness	F _F 25
Connection	Wi-Fi	2.4 GHz 802.11 g/n 5 GHz 802.11 a/n/ac

Advantages at a glance



fully autonomous, no infrastructure change -> fast integration



Scalable



Adjustments possible



Flexible to use



ISO and CE certified

Options



Adjustment height/width/ length of conveyors for other transport goods



Kistenzentrierung



Box centering



ESD-version

Battery



1-shift autonomy



Li-NMC, 47.7 V



Operating time ca. 8 Std.



Charging time ca. 1 to 1,5 Std.



Lifetime 3.000 charge cycles

Charging station



100-240VAC

AMR for low payloads and containers

Dimension

1.800 mm 800 mm

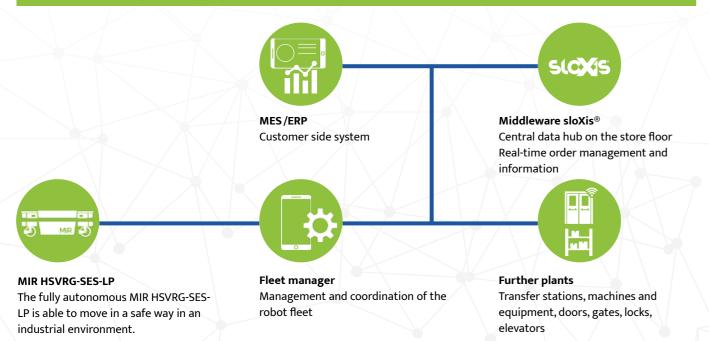
Roller conveyor with lift function



Areas of application

KLT boxes of different types | collection of individual boxes at different locations, delivery as a stack to one destination or separately to different destinations.

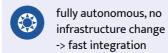
Communication



Details

Mapping	Mapping method	Scanning in which the mobile robot is guided through the environment
Safety functions	Safety laser	2 pieces detection range 360° 3D camera: object detection up to 1,800 mm up to a distance of 1.200 mm in front of the robot, 114° horizontal detection range
	Emergency stop	2 on robot assembly
	Warning light	Light on each side, top LED strips
	Loudspeaker & Buzzer	Onboard speaker, signal tower with traffic light and buzzer
Interface	Manual mode	To move the robot manually, turn switch on robot platform
Working environment &	Temperature range	5 – 50°C
Floor condition	Humidity	10 – 95% (non condensing)
	Environment	For indoor use only
	IP class	IP20
	Floor condition	Linoleum, epoxy or concrete (no water, no oil, no dust)
	Min. floor flatness	F _F 25
Connection	Wi-Fi	2.4 GHz 802.11 g/n 5 GHz 802.11 a/n/ac

Advantages at a glance





Scalable



Adjustments possible

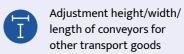


Flexible to use



ISO and CE certified

Options





Box centering



Bluespot



ESD-version

Battery



1-shift autonomy



Li-NMC, 47.7 V



Operating time ca. 8 Std.



Charging time ca. 1 to 1,5 Std.



Lifetime 3.000 charge cycles

Charging station



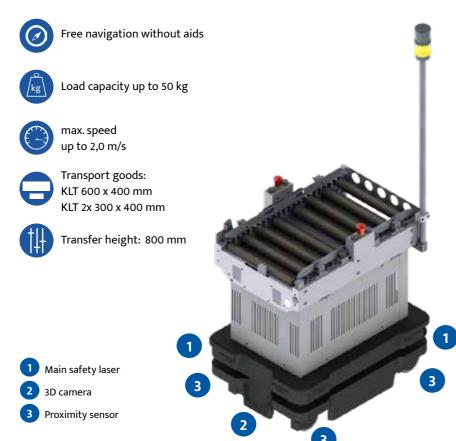
100-240VAC

DATASHEET MIR RG-LP

AMR for low payloads and containers

Dimension 1.800 mm

Rollenbasierter Frontlader

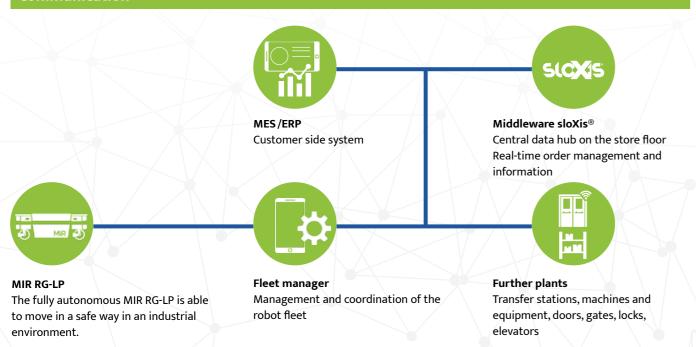


Areas of application

900 mm

KLT box, blister, tray, workpiece carrier transport, e.g. SMT reels to the lines, SEMI goods to the back-end, finished goods to the warehouse.

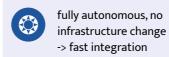
Communication



Details

Mapping	Mapping method	Scanning in which the mobile robot is guided through the environment
Safety functions	Safety laser	2 pieces detection range 360° 3D camera: object detection up to 1,800 mm up to a distance of 1.200 mm in front of the robot, 114° horizontal detection range
	Emergency stop	2 on robot assembly
	Warning light	Light on each side, top LED strips
	Loudspeaker & Buzzer	Onboard speaker, signal tower with traffic light and buzzer
Interface	Manual mode	To move the robot manually, turn switch on robot platform
Working environment &	Temperature range	5 – 50°C
Floor condition	Humidity	10 – 95% (non condensing)
	Environment	For indoor use only
	IP class	IP20
	Floor condition	Linoleum, epoxy or concrete (no water, no oil, no dust)
	Min. floor flatness	F _F 25
Connection	Wi-Fi	2.4 GHz 802.11 g/n 5 GHz 802.11 a/n/ac

Advantages at a glance





Scalable



Adjustments possible



Flexible to use



Version 01/22.02.2023

Version 01/22.02.2023

ISO and CE certified

Options



Automatic Width adjustment



Adjustment height/width/ length of conveyors for other transport goods



Box centering



Bluespot



ESD-version

Battery



1-shift autonomy



Li-NMC, 47.7 V



Operating time ca. 8 Std.



Charging time ca. 1 to 1,5 Std.



Lifetime 3.000 charge cycles

Charging station



DATASHEET MIR RG-TLA-LP

AMR for low payloads and containers

Dimension 2-level roller based front loader Free navigation without aids Load capacity up to 50 kg max. speed up to 2,0 m/s

1.800 mm 900 mm



Transport goods: KLT 600 x 400 mm

Transfer height: 600/1.000 mm

1 Main safety laser 2 3D camera



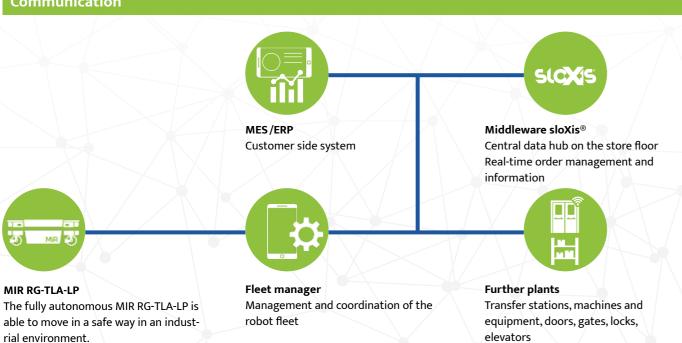
Details

Mapping	Mapping method	Scanning in which the mobile robot is guided through the environment
Safety functions	Safety laser	2 pieces detection range 360° 3D camera: object detection up to 1,800 mm up to a distance of 1.200 mm in front of the robot, 114° horizontal detection range
	Emergency stop	2 on robot assembly
	Warning light	Light on each side, top LED strips
	Loudspeaker & Buzzer	Onboard speaker, signal tower with traffic light and buzzer
Interface	Manual mode	To move the robot manually, turn switch on robot platform
Working environment &	Temperature range	5 – 50°C
Floor condition	Humidity	10 – 95% (non condensing)
	Environment	For indoor use only
	IP class	IP20
	Floor condition	Linoleum, epoxy or concrete (no water, no oil, no dust)
	Min. floor flatness	F _F 25
Connection	Wi-Fi	2.4 GHz 802.11 g/n 5 GHz 802.11 a/n/ac

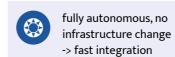
Areas of application

Perfect for feeding assembly lines with KLT box/trays/blisters while picking up the empty container and vice versa.

Communication



Advantages at a glance





Scalable



Adjustments possible



Flexible to use



Version 01/22.02.2023

ISO and CE certified

Options



Adjustment height/width/ length of conveyors for other transport goods



Bluespot



ESD-version

Battery



1-shift autonomy



Li-NMC, 47.7 V



Operating time ca. 8 Std.



Charging time ca. 1 to 1,5 Std.



Lifetime 3.000 charge cycles

Charging station



1.800 mm

Roll-based side loader (L/R)







Load capacity up to 50 kg



max. speed up to 2,0 m/s



Transport goods: KLT 600 x 400 mm





Transfer height: 800 mm











Areas of application

800 mm

KLT box, tray, blister, workpiece carrier transport Simultaneous transfer from/to machine, perfect for machine rows in parallel arrangement.

Communication



MES/ERP

Customer side system



MIR RG2S-LP

The fully autonomous MIR RG2S-LP is able to move in a safe way in an industrial environment.



Central data hub on the store floor Real-time order management and information



Fleet manager

Management and coordination of the robot fleet

Middleware sloXis®

SLOXIS

Further plants

Transfer stations, machines and equipment, doors, gates, locks, elevators

Version 01/22.02.2023

Details

Mapping	Mapping method	Scanning in which the mobile robot is guided through the environment
Safety functions	Safety laser Emergency stop Warning light Loudspeaker & Buzzer	2 pieces detection range 360° 3D camera: object detection up to 1,800 mm up to a distance of 1.200 mm in front of the robot, 114° horizontal detection range 2 on robot assembly Light on each side, top LED strips Onboard speaker, signal tower with traffic light and buzzer
Interface	Manual mode	To move the robot manually, turn switch on robot platform
Working environment & Floor condition	Temperature range Humidity Environment IP class Floor condition Min. floor flatness	5 – 50°C 10 – 95% (non condensing) For indoor use only IP20 Linoleum, epoxy or concrete (no water, no oil, no dust) F _F 25
Connection	Wi-Fi	2.4 GHz 802.11 g/n 5 GHz 802.11 a/n/ac

Advantages at a glance



fully autonomous, no infrastructure change -> fast integration



Scalable



Adjustments possible



Flexible to use



ISO and CE certified

Options



Adjustment height/width/ length of conveyors for other transport goods



Bluespot



ESD-version

Battery



1-shift autonomy



Li-NMC, 47.7 V



Operating time ca. 8 Std.



Charging time ca. 1 to 1,5 Std.



Lifetime 3.000 charge cycles

Charging station



Roller based front and rear loader Free navigation without aids Load capacity up to 50 kg max. speed up to 2,0 m/s Transport goods: 2 PCB Magazines 320 x 355 mm bis 535 x 535 mm bis 535 x 535 mm Transfer height: 550 mm

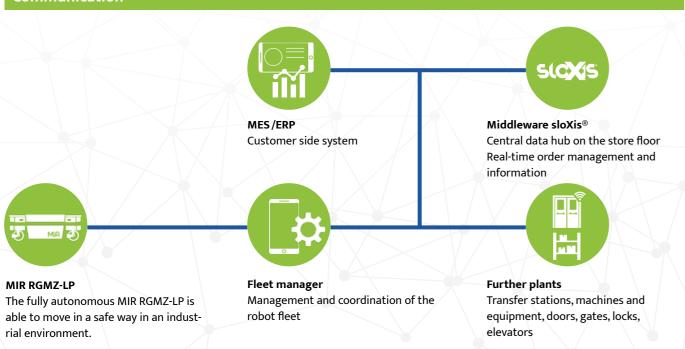
Areas of application

900 mm

Transport of large and heavy PCB magazines, stacks and trays. Automatic loading of SMT lines, transports for inspection/back-end assembly, magazines from/to storage, front and rear transfers ensure correct product alignment.

2 3D camera3 Proximity sensor

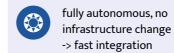
Communication



Details

Mapping	Mapping method	Scanning in which the mobile robot is guided through the environment
Safety functions	Safety laser	2 pieces detection range 360° 3D camera: object detection up to 1,800 mm up to a distance of 1.200 mm in front of the robot, 114° horizontal detection range
	Emergency stop	2 on robot assembly
	Warning light	Light on each side, top LED strips
	Loudspeaker & Buzzer	Onboard speaker, signal tower with traffic light and buzzer
Interface	Manual mode	To move the robot manually, turn switch on robot platform
Working environment &	Temperature range	5 – 50°C
Floor condition	Humidity	10 – 95% (non condensing)
	Environment	For indoor use only
	IP class	IP20
	Floor condition	Linoleum, epoxy or concrete (no water, no oil, no dust)
	Min. floor flatness	F _F 25
Connection	Wi-Fi	2.4 GHz 802.11 g/n 5 GHz 802.11 a/n/ac

Advantages at a glance





Scalable



Adjustments possible



Flexible to use



ISO and CE certified

Options



Automatic
Width adjustment



Adjustment height/width/ length of conveyors for other transport goods



Box centering



Bluespot



ESD-version

Battery



1-shift autonomy



Li-NMC, 47.7 V



Operating time ca. 8 Std.



Charging time ca. 1 to 1,5 Std.



Lifetime 3.000 charge cycles

Charging station

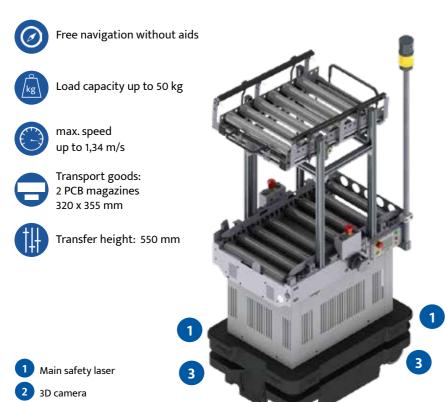


100-240VAC

www.group-cts.de

Roller based front and rear loader



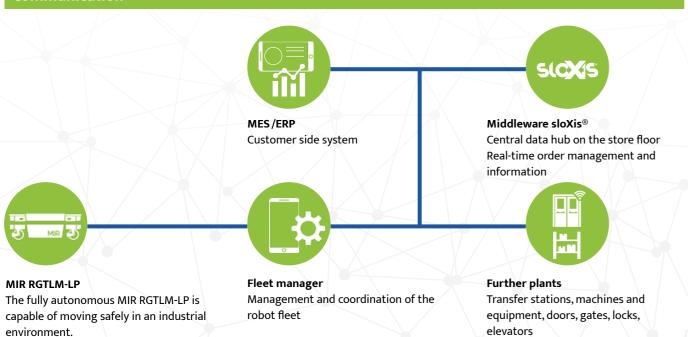


Areas of application

Designed for the transport of PCB magazines. Automatic feeding to SMT lines, transports for inspection/back-end assembly, delivery of magazines from/to the warehouse. Front and rear transfer ensures correct product alignment.

3 Proximity sensor

Communication



Details

Mapping Mapping method Scanning in which the mobile robot is guided through the environment Safety functions Safety laser Sa			
functions 3D camera: object detection up to 1,800 mm up to a distance of 1.200 mm in front of the robot, 114° horizontal detection range Emergency stop Warning light Loudspeaker & Buzzer Interface Manual mode To move the robot manually, turn switch on robot platform Working environment & Temperature range Humidity 10 - 95% (non condensing) Environment IP class IP20 Floor condition Min. floor flatness Fig. 25 Connection Wi-Fi A graduative to a distance of 1.200 mm up to 1,800 mm up to a distance of 1.200 mm up to 1,800 mm up to a distance of 1.200 mm up to 1,800 mm up to a distance of 1.200 mm up to 1,800 mm up to a distance of 1.200 mm up to 1,800 mm up to a distance of 1.200 mm in front of the robot, 114° horizontal detection range 2 on robot assembly Light on each side, top LED strips Onboard speaker, signal tower with traffic light and buzzer To move the robot manually, turn switch on robot platform For indoor use only IP class IP20 Linoleum, epoxy or concrete (no water, no oil, no dust) Min. floor flatness F _p .25 Connection	Mapping	Mapping method	
Warning light Loudspeaker & Buzzer Interface Manual mode To move the robot manually, turn switch on robot platform Working environment & Temperature range Humidity Environment IP class Floor condition Floor condition Floor condition Min. floor flatness Light on each side, top LED strips Onboard speaker, signal tower with traffic light and buzzer To move the robot manually, turn switch on robot platform 5 - 50°C Humidity 10 - 95% (non condensing) For indoor use only IP class IP20 Linoleum, epoxy or concrete (no water, no oil, no dust) Fr _F 25 Connection Wi-Fi 2.4 GHz 802.11 g/n	,	Safety laser	3D camera: object detection up to 1,800 mm up to a distance of 1.200 mm in front of the robot, 114° horizontal detection
Loudspeaker & Buzzer Onboard speaker, signal tower with traffic light and buzzer Interface Manual mode To move the robot manually, turn switch on robot platform Working environment & Temperature range		Emergency stop	2 on robot assembly
Interface Manual mode To move the robot manually, turn switch on robot platform Working environment & Temperature range		Warning light	Light on each side, top LED strips
Working environment & Temperature range 5 – 50°C Humidity 10 – 95% (non condensing) Environment For indoor use only IP class IP20 Floor condition Linoleum, epoxy or concrete (no water, no oil, no dust) Min. floor flatness F _F 25 Connection Wi-Fi 2.4 GHz 802.11 g/n		Loudspeaker & Buzzer	Onboard speaker, signal tower with traffic light and buzzer
Floor condition Humidity Environment IP class Floor condition Floor condition Linoleum, epoxy or concrete (no water, no oil, no dust) Min. floor flatness F _F 25 Connection Wi-Fi 2.4 GHz 802.11 g/n	Interface	Manual mode	To move the robot manually, turn switch on robot platform
Environment IP class Floor condition Min. floor flatness Linoleum, epoxy or concrete (no water, no oil, no dust) F _F 25 Connection Wi-Fi 2.4 GHz 802.11 g/n	Working environment &	Temperature range	5 – 50°C
IP class Floor condition Linoleum, epoxy or concrete (no water, no oil, no dust) Min. floor flatness F _F 25 Connection Wi-Fi 2.4 GHz 802.11 g/n	Floor condition	Humidity	10 – 95% (non condensing)
Floor condition Min. floor flatness Linoleum, epoxy or concrete (no water, no oil, no dust) F _F 25 Connection Wi-Fi 2.4 GHz 802.11 g/n		Environment	For indoor use only
Min. floor flatness F _F 25 Connection Wi-Fi 2.4 GHz 802.11 g/n		IP class	IP20
Connection Wi-Fi 2.4 GHz 802.11 g/n		Floor condition	Linoleum, epoxy or concrete (no water, no oil, no dust)
21. 21. 2021 8/		Min. floor flatness	F _F 25
	Connection	Wi-Fi	o de la companya de

Advantages at a glance



fully autonomous, no infrastructure change -> fast integration



Scalable



Adjustments possible



Flexible to use



Version 01/22.02.2023

Version 01/22.02.2023

ISO and CE certified

Options



Automatic Width adjustment



Adjustment height/width/ length of conveyors for other transport goods



Box centering



Bluespot



ESD-version

Battery



1-shift autonomy



Li-NMC, 47.7 V



Operating time ca. 8 Std.



Charging time ca. 1 to 1,5 Std.

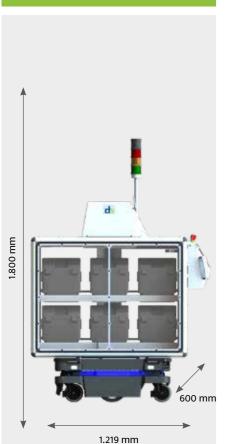


Lifetime 3.000 charge cycles

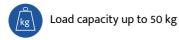
Charging station



Cleanroom Transporter/Waferbox Transporter

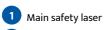


Free navigation without aids



max. speed up to 2,0 m/s

Transport goods: 6 pieces 200 mm Wafer boxes



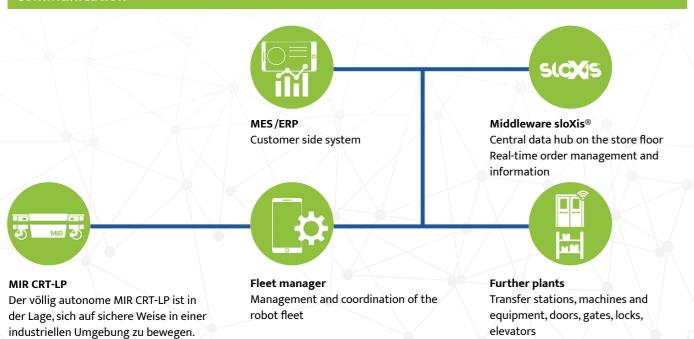
2 3D camera 3 Proximity sensor



Areas of application

The AMR with cleanroom attachment can be used in semiconductor production and in the pharmaceutical sector to automatically transport goods between cleanrooms of different classes.

Communication



Details

Mapping	Mapping method	Scanning in which the mobile robot is guided through the environment
Safety functions	Safety laser	2 pieces detection range 360° 3D camera: object detection up to 1,800 mm up to a distance of 1.200 mm in front of the robot, 114° horizontal detection range
	Emergency stop	2 on robot assembly
	Warning light	Light on each side, top LED strips
	Loudspeaker & Buzzer	Onboard speaker, signal tower with traffic light and buzzer
Interface	Manual mode	To move the robot manually, turn switch on robot platform
Working environment &	Temperature range	5 – 50°C
Floor condition	Humidity	10 – 95% (non condensing)
	Environment	For indoor use only
	IP class	IP20
	Floor condition	Linoleum, epoxy or concrete (no water, no oil, no dust)
	Min. floor flatness	F _F 25
Connection	Wi-Fi	2.4 GHz 802.11 g/n 5 GHz 802.11 a/n/ac

Advantages at a glance



fully autonomous, no infrastructure change -> fast integration



Scalable



Adjustments possible



Flexible to use



Version 01/22.02.2023

ISO and CE certified

Options





ESD-version

Battery



1-shift autonomy



Li-NMC, 47.7 V



Operating time ca. 8 Std.



Charging time ca. 1 to 1,5 Std.



Lifetime 3.000 charge cycles

Charging station



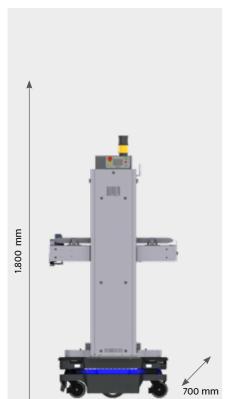
100-240VAC

www.group-cts.de

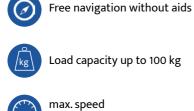
AMR for medium payloads and containers

Dimension

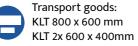
Roller conveyor, 1-sided transfer



800 mm









Lifting speed 15 Sek.



Transfer height: 800 - 1.500 mm



1 Main safety laser



3 Proximity sensor



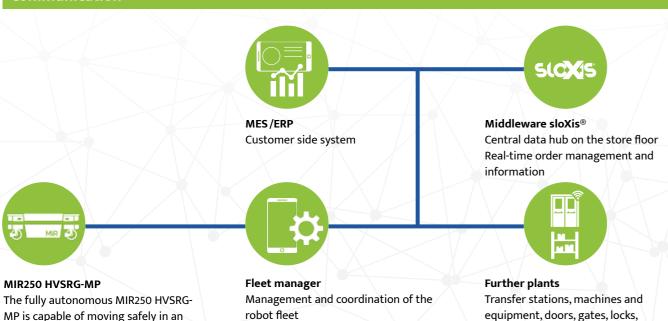
elevators

Version 01/22.02.2023

Areas of application

Large trays, crate stacks, metal crate transport for raw and finished part transport. Ideal for connecting machines with different transfer heights. Loading and unloading of material from multi-level racks.

Communication



Details

Mapping	Mapping method	Scanning in which the mobile robot is guided through the environment
Safety functions	Safety laser	2 pieces detection range 360° 3D camera: object detection up to 1,800 mm up to a distance of 1.200 mm in front of the robot, 114° horizontal detection range
	Emergency stop	2 on robot assembly
	Warning light	Light on each side, top LED strips
	Loudspeaker & Buzzer	Onboard speaker, signal tower with traffic light and buzzer
Interface	Manual mode	To move the robot manually, turn switch on robot platform
Working environment &	Temperature range	5 – 50°C
Floor condition	Humidity	10 – 95% (non condensing)
	Environment	For indoor use only
	IP class	IP20
	Floor condition	Linoleum, epoxy or concrete (no water, no oil, no dust)
	Min. floor flatness	F _F 25
Connection	Wi-Fi	2.4 GHz 802.11 g/n 5 GHz 802.11 a/n/ac

Advantages at a glance



fully autonomous, no infrastructure change -> fast integration



Scalable



Adjustments possible



Flexible to use



ISO and CE certified

Options



Adjustment height/width/ length of conveyors for other transport goods



Box centering



Bluespot



ESD-version



Extended safety package for heavy loads (>80kg)

Battery



1-shift autonomy



Li-NMC, 47.7 V



Operating time ca. 8 Std.



Charging time ca. 1 to 1,5 Std.



Lifetime 3.000 charge cycles

Charging station



100-240VAC

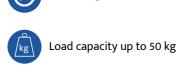
industrial environment.

AMR for medium payloads and containers

Dimension

1.800 mm

Roller Conveyor, Stacker/DeStacker





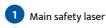




Lifting speed 10 Sek.

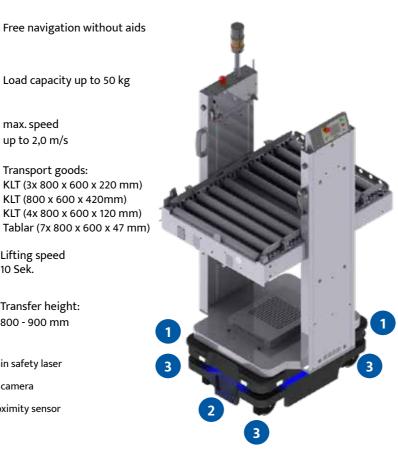


Transfer height: 800 - 900 mm







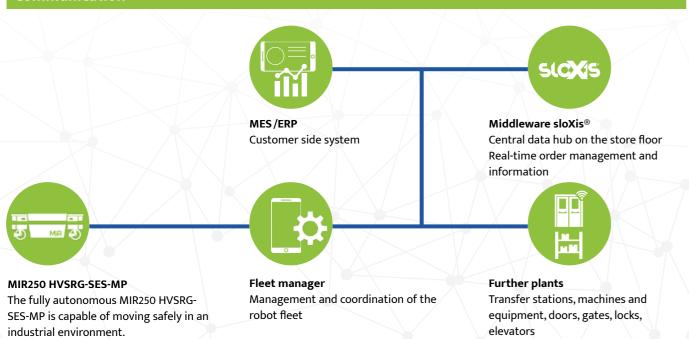


Areas of application

800 mm

Large trays, crate stacks, metal crate transport for raw and finished part transport. Ideal for connecting machines with different transfer heights. Loading and unloading of material from multi-level racks.

Communication



Details

Mapping	Mapping method	Scanning in which the mobile robot is guided through the environment
Safety functions	Safety laser	2 pieces detection range 360° 3D camera: object detection up to 1,800 mm up to a distance of 1.200 mm in front of the robot, 114° horizontal detection range
	Emergency stop	2 on robot assembly
	Warning light	Light on each side, top LED strips
	Loudspeaker & Buzzer	Onboard speaker, signal tower with traffic light and buzzer
Interface	Manual mode	To move the robot manually, turn switch on robot platform
Working environment &	Temperature range	5 – 50°C
Floor condition	Humidity	10 – 95% (non condensing)
	Environment	For indoor use only
	IP class	IP20
	Floor condition	Linoleum, epoxy or concrete (no water, no oil, no dust)
	Min. floor flatness	F _F 25
Connection	Wi-Fi	2.4 GHz 802.11 g/n 5 GHz 802.11 a/n/ac

Advantages at a glance



fully autonomous, no infrastructure change -> fast integration



Scalable



Adjustments possible



Flexible to use



Version 01/22.02.2023

ISO and CE certified

Options



Adjustment height/width/ length of conveyors for other transport goods



Box centering



ESD-version



Extended safety package for heavy loads (>80kg)

Battery



1-shift autonomy



Li-NMC, 47.7 V



Operating time ca. 8 Std.



Charging time ca. 1 to 1,5 Std.



Lifetime 3.000 charge cycles

Charging station



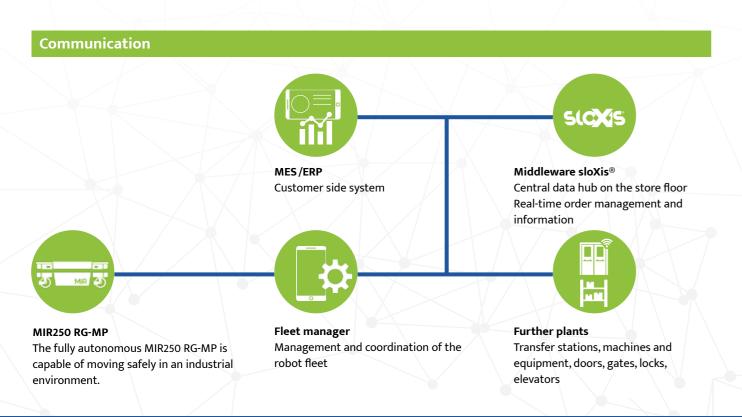
Dimension **Roller conveyor** Free navigation without aids Load capacity up to 150 kg max. speed up to 2,0 m/s Transport goods: KLT 800 x 600 mm, 2x KLT 600 x 400 mm 1.800 mm Transfer height: 800 mm Main safety laser 2 3D camera

3 Proximity sensor

Areas of application

800 mm

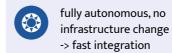
Large trays, crate stacks, metal crate transport for raw and finished part transport.



Details

Mapping	Mapping method	Scanning in which the mobile robot is guided through the environment
Safety functions	Safety laser	2 pieces detection range 360° 3D camera: object detection up to 1,800 mm up to a distance of 1.200 mm in front of the robot, 114° horizontal detection range
	Emergency stop	2 on robot assembly
	Warning light	Light on each side, top LED strips
	Loudspeaker & Buzzer	Onboard speaker, signal tower with traffic light and buzzer
Interface	Manual mode	To move the robot manually, turn switch on robot platform
Working environment &	Temperature range	5 − 50°C
Floor condition	Humidity	10 – 95% (non condensing)
	Environment	For indoor use only
	IP class	IP20
	Floor condition	Linoleum, epoxy or concrete (no water, no oil, no dust)
	Min. floor flatness	F _F 25
Connection	Wi-Fi	2.4 GHz 802.11 g/n 5 GHz 802.11 a/n/ac

Advantages at a glance





Scalable



Adjustments possible



Flexible to use



Version 01/22.02.2023

Version 01/22.02.2023

ISO and CE certified

Options



Automatic Width adjustment



Adjustment height/width/ length of conveyors for other transport goods



Box centering



Bluespot



ESD-version



Extended safety package for heavy loads (>80kg)

Battery



1-shift autonomy



Li-NMC, 47.7 V



Operating time ca. 8 Std.



Charging time ca. 1 to 1,5 Std.



Lifetime 3.000 charge cycles





DATASHEET MIR250 RG2S-MP

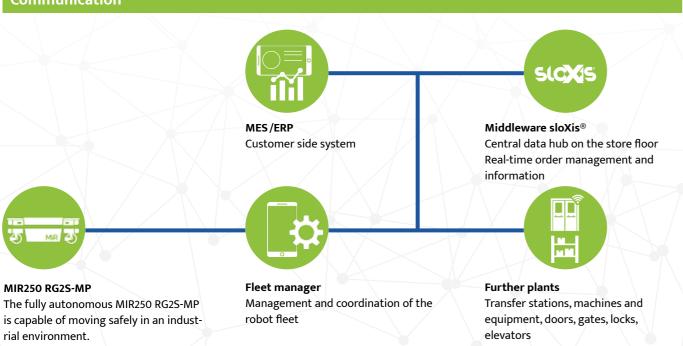
AMR for medium payloads and containers

Dimension Roll-based side loader (L/R) Free navigation without aids Load capacity up to 150 kg max. speed up to 2,0 m/s Transport goods: KLT 800 x 600 mm, 2x KLT 600 x 400 mm 1.800 mm Transfer height: 800 mm Main safety laser 2 3D camera 2 3 Proximity sensor 800 mm

Areas of application

Large trays, crate stacks, metal crate transport for raw and finished part transport. Simultaneous transfer to/from machine, perfect for rows of machines in parallel arrangement.

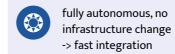
Communication



Details

Mapping	Mapping method	Scanning in which the mobile robot is guided through the environment
Safety functions	Safety laser	2 pieces detection range 360° 3D camera: object detection up to 1,800 mm up to a distance of 1.200 mm in front of the robot, 114° horizontal detection range
	Emergency stop	2 on robot assembly
	Warning light	Light on each side, top LED strips
	Loudspeaker & Buzzer	Onboard speaker, signal tower with traffic light and buzzer
Interface	Manual mode	To move the robot manually, turn switch on robot platform
Working environment &	Temperature range	5 – 50°C
Floor condition	Humidity	10 – 95% (non condensing)
	Environment	For indoor use only
	IP class	IP20
	Floor condition	Linoleum, epoxy or concrete (no water, no oil, no dust)
	Min. floor flatness	F _F 25
Connection	Wi-Fi	2.4 GHz 802.11 g/n 5 GHz 802.11 a/n/ac

Advantages at a glance





Scalable



Adjustments possible



Flexible to use



Version 01/22.02.2023

ISO and CE certified

Options



Adjustment height/width/ length of conveyors for other transport goods



Bluespot



ESD-version



Extended safety package for heavy loads (>80kg)

Battery



1-shift autonomy



Li-NMC, 47.7 V



Operating time ca. 8 Std.



Charging time ca. 1 to 1,5 Std.



Lifetime 3.000 charge cycles

Charging station

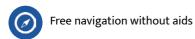


DATASHEET MIR250 RGMZ-MP

Dimension

1.800 mm

Roller based front and rear loader









max. speed up to 2,0 m/s



Transport goods: 2 PCB Magazines 320 x 355 mm bis 535 x 535 mm



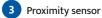
Transfer height: 550 mm

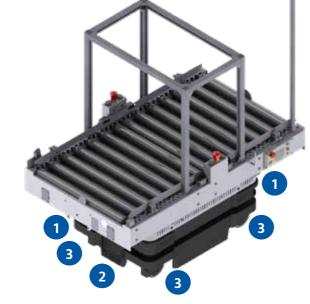












Areas of application

980 mm

Transport of large and heavy PCB magazines, stacks and trays. Automatic loading of SMT lines, transports for inspection/back-end assembly, magazines from/to storage, front and rear transfers ensure correct product alignment.

Communication



MES/ERP

Customer side system



MIR250 RGMZ-MP

The fully autonomous MIR250 RGMZ-MP is capable of moving safely in an industrial environment.

Fleet manager

Management and coordination of the robot fleet

SLOXIS

Middleware sloXis®

Central data hub on the store floor Real-time order management and information



Further plants

Transfer stations, machines and equipment, doors, gates, locks, elevators

Version 01/22.02.2023

Details

Mapping	Mapping method	Scanning in which the mobile robot is guided through the environment
Safety functions	Safety laser Emergency stop Warning light Loudspeaker & Buzzer	2 pieces detection range 360° 3D camera: object detection up to 1,800 mm up to a distance of 1.200 mm in front of the robot, 114° horizontal detection range 2 on robot assembly Light on each side, top LED strips Onboard speaker, signal tower with traffic light and buzzer
Interface	Manual mode	To move the robot manually, turn switch on robot platform
Working environment & Floor condition	Temperature range Humidity Environment IP class Floor condition Min. floor flatness	5 – 50°C 10 – 95% (non condensing) For indoor use only IP20 Linoleum, epoxy or concrete (no water, no oil, no dust) F _F 25
Connection	Wi-Fi	2.4 GHz 802.11 g/n 5 GHz 802.11 a/n/ac

Advantages at a glance



fully autonomous, no infrastructure change -> fast integration



Scalable



Adjustments possible



Flexible to use



ISO and CE certified

Options



Automatic Width adjustment



Adjustment height/width/ length of conveyors for other transport goods



Box centering



Bluespot



ESD-version



Extended safety package for heavy loads (>80kg)

Battery



1-shift autonomy



Li-NMC, 47.7 V



Operating time ca. 8 Std.



Charging time ca. 1 to 1,5 Std.



Lifetime 3.000 charge cycles

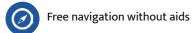
Charging station



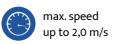
100-240VAC

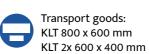
www.group-cts.de

2-level roller based front loader





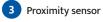


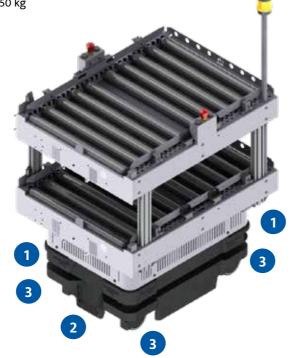










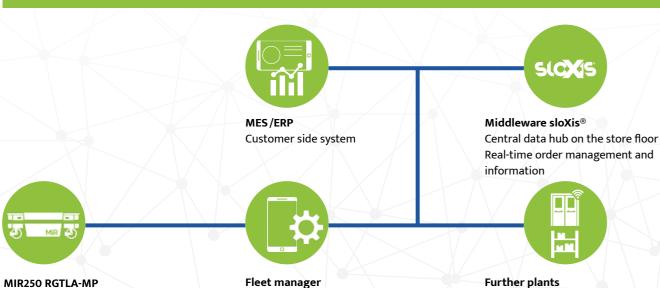


Areas of application

980 mm

Perfect for feeding assembly lines with KLT box/trays/blister stacks while picking up empty containers and vice versa.

Communication



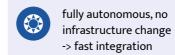
Management and coordination of the

robot fleet

Details

Mapping	Mapping method	Scanning in which the mobile robot is guided through the environment
Safety functions	Safety laser Emergency stop Warning light Loudspeaker & Buzzer	2 pieces detection range 360° 3D camera: object detection up to 1,800 mm up to a distance of 1.200 mm in front of the robot, 114° horizontal detection range 2 on robot assembly Light on each side, top LED strips Onboard speaker, signal tower with traffic light and buzzer
Interface	Manual mode	To move the robot manually, turn switch on robot platform
Working environment & Floor condition	Temperature range Humidity Environment IP class Floor condition Min. floor flatness	5 – 50°C 10 – 95% (non condensing) For indoor use only IP20 Linoleum, epoxy or concrete (no water, no oil, no dust) F _F 25
Connection	Wi-Fi	2.4 GHz 802.11 g/n 5 GHz 802.11 a/n/ac

Advantages at a glance





Scalable



Adjustments possible



Flexible to use



Version 01/22.02.2023

ISO and CE certified

Options



Automatic Width adjustment



Adjustment height/width/ length of conveyors for other transport goods



Box centering



Bluespot



ESD-version



Extended safety package for heavy loads (>80kg)

Battery



1-shift autonomy



Li-NMC, 47.7 V



Operating time ca. 8 Std.



Charging time ca. 1 to 1,5 Std.



Lifetime 3.000 charge cycles

Charging station



100-240VAC

industrial environment.

The fully autonomous MIR250 RGTLA-

MP is capable of moving safely in an

Transfer stations, machines and

equipment, doors, gates, locks,

elevators

