LEO custom

The self-guided transport system

LEO custom – Your autonomous load carrier system

LEO custom is the solution for your transport requirements in manufacturing and warehouse environments. This transporter is the power unit for all LEO versions which can be fitted with a customised on-top support structure.

Support structures can be easily fitted using pre-cut mounting plates.

The standard 64-pin Harting connector allows to

- connect electronic consumers to LEO.
- read sensor signals or add your own sensors.
- connect your own control panels.
- Serial interfaces allow to transmit more complex control commands.

Easy to use

Compatible with other LEO versions

LEO locative accessories can be used

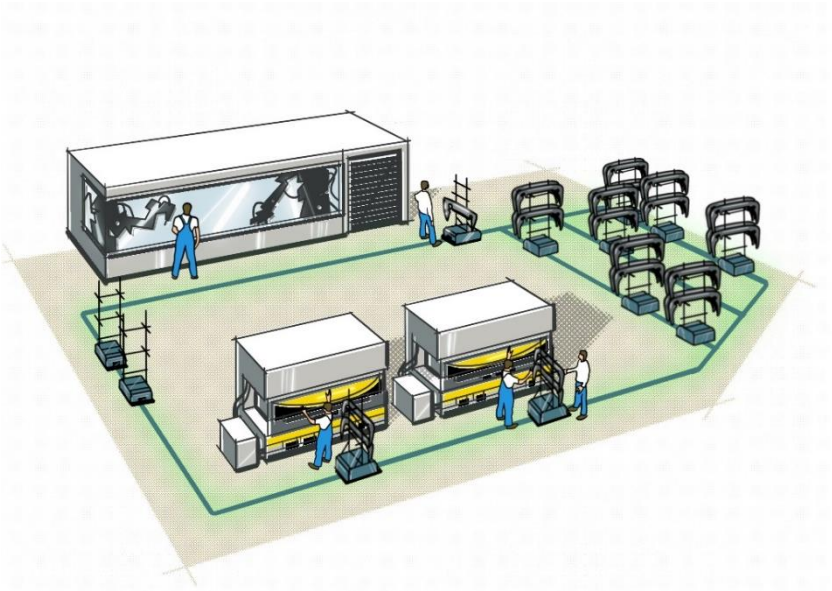
Can be retro-fitted at any time to adapt to new requirements

Perfect for customisation

LEO custom – Applications

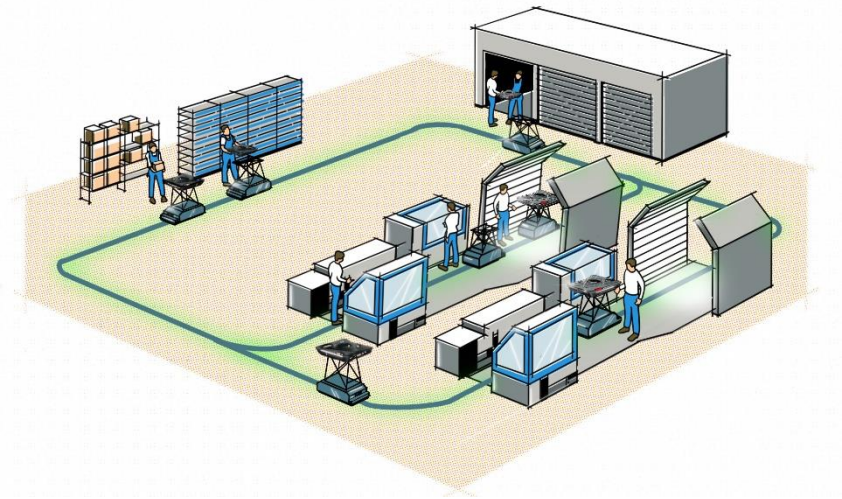
LEO is ideal for mobile buffering

LEO moves products between two manufacturing steps, thereby assuming the function of an intermediate buffer
on its way to the next manufacturing station. By bridging the time span between two production steps, LEO custom helps to decouple processes.
LEO vehicles can be re-sorted for subsequent work steps.



LEO custom is an excellent alternative to conveyors/assembly lines

LEO custom does the same job as a conventional assembly lane – the advantage is that products are moved without blocking or dividing space between machines and workstations.
Processes can be easily adapted or variants created.
At the same time, LEO is significantly more affordable than conventional solutions.

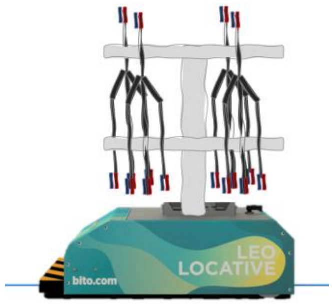


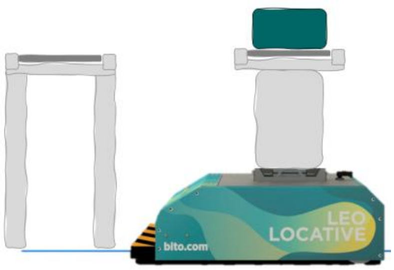
LEO custom – On-top support structures

The following illustrations are to provide suggestions for using LEO custom. LEO custom can be fitted with on-top support structures for perfect adaptation to your products and processes.

This opens up a wide array of applications.

Easy to use	No external help needed for set-up and operation.
Affordable	In most cases, LEO yields a return on investment of less than one year.
Speedy delivery	LEO can be delivered within a few weeks.





LEO custom – Components & Services

Lithium battery:	LiFePo4 batteries have a long service life and can be charged quickly.
Automatic charging:	No staff attention needed.
High-precision stops:	This function provides a stop accuracy of at least +/-10 mm.
Customised software:	Optional service to integrate your customised on-top support structure into the LEO system.
Interface service:	Optional service to create interfaces, such as to a PLC.
Start-up service:	Start-up and programming of your system for fast project realisation.
Leasing:	Attractive monthly instalments for a very fast ROI.

LEO custom data sheet*

LEO custom transporter

LEO transporter dimensions (WxLxH)	500 x 830 x 280 mm
Weight incl. lithium battery	25 kg
Maximum speed	0.7 m/s
Minimum speed	0.3 m/s
Voltage:	24V
DC Power supply	40W
IP code (Ingress Protection Code)	IP 21
Noise emission:	<60dB

LEO custom battery

Dimensions (W×L×H	370 × 80 × 225 mm
Battery type	LiFePo4
Weight	7 kg
Capacity	20 Ah
Working time (fully charged battery)	12 - 16 h
Charging time	6 – 8 h

LEO custom charger

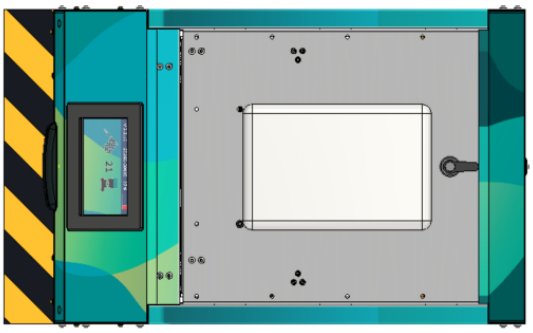
Dimensions (W×L×H)	120 × 190 × 70 mm
Primary voltage	230 V / AC 50 Hz
Charging current	4 to 5 A
IEC Protection class	III

Route planning data

Path width (straight)	550 mm
Minimum path width	1,000 – 1,100 mm
Curve radius - centre to outer path boundary line at 0.5 m/s:	500 mm
Curve radius - centre to outer path boundary line at 0.7 m/s:	700 mm
Envelope radius of a 700 mm curve (outside/inside)	1.150 / 400 mm
Maximum stop accuracy on the X and Y axis in mm:	10 mm

Load capacity

Maximum load capacity:	55 kg
Dimensions of load centre of gravity (X-Y-Z axis):	300 x 200 x 500 mm
Location of load centre (X-Y-Z axis):	150 x 150 x 770 mm



Towing load

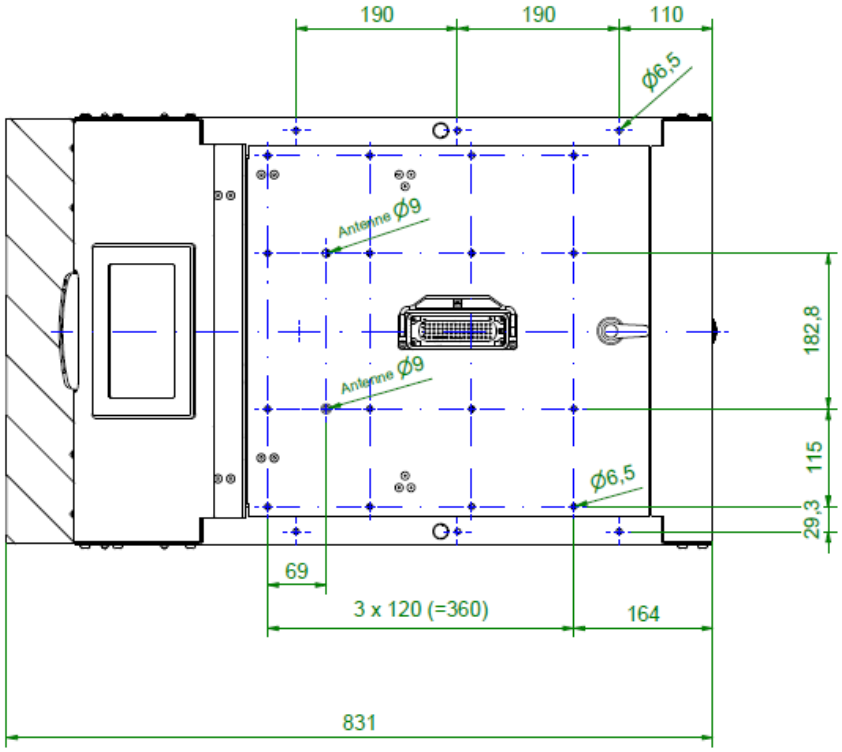
Max. towing load:	55 kg

*The actual dimensions of the system may vary,
as may the required path widths.

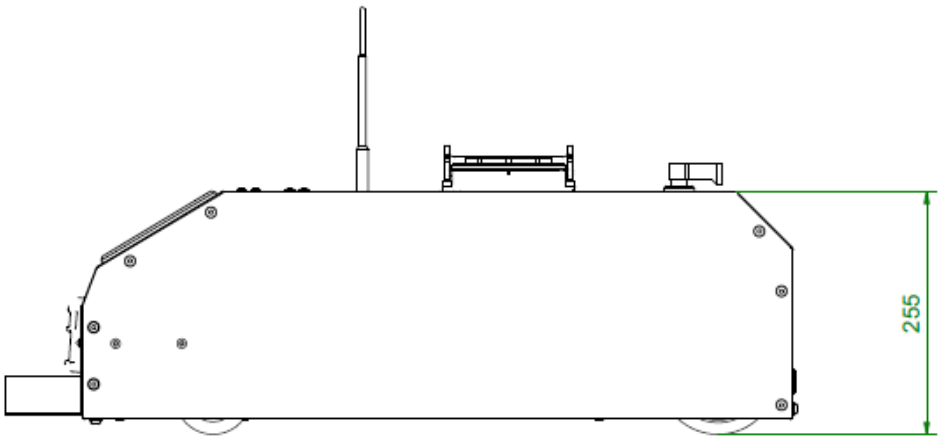
LEO custom interfaces to implement modifications

Mechanical interfaces to integrate customised on-top support structures

Top view LEO custom:



Side view LEO custom:



Electronic interface /
LEO micro-controller features

LEO custom is equipped with a 64-pin Harting connector for integrating custom support structures into LEO custom electronics.
The LEO micro-controller occupies 48 of the available pins. Using these, the LEO system can be programmed to perfectly fit your application. In particular, the digital inputs/outputs allow to integrate a range of individual functions, such as keypads, conveyor technology or lifting mechanisms.
In addition, the LEO micro-controller can be supplied with an optional Bluetooth or WLAN module to enable communication.

Micro-controller standard assignments:

Pin	Assignment
1-4	Emergency stop
5-6	ON-button
7-8	Power LED
9-10	BlueSpot module (optional extra security feature)
11-13	Sensor connection for load pick-up function
14-16	RS232 interface
17-20	Charging socket 1-4
21-23	+ Power supply 5A 24V
24-29	- Power supply 5A 24V
30-31	Analogue input 1 + 2
32	Analogue output 1
33-40	Digital inputs for LEO custom functions
41-48	Digital outputs for LEO custom functions

Example of digital input/output assignments:

Pin	Assignment
33-40	Destinations 1-8
41-48	Display of destinations 1-8

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