



TIMA



Automation and drive solutions for the **automotive** industry

More than 75 years experience in the **automotive industry.** As one of the leading specialists in drive and automation technology, with extensive know-how and a worldwide network of automotive experts, we always work with you closely to find the very best solution. We set your ideas in motion with great enthusiasm and an eye for what works. Irrespective of whether you want to improve existing equipment or develop a completely new machine.

We cooperate with you in all phases of your projects in accordance with your individual requirements and aims. And when you devise an innovative overall concept, we are there to help you make it a concrete reality.

With our regional companies, our experts are active in over 45 countries around the world, working with you to develop the best solution for your application in the automotive industry. Around the globe, well-known customers from this sector are among our customers.

Develop innovative solutions together and benefit from the industry know-how of global experts:

- Efficient and reliable mechatronic drive packages for typical and challenging applications
- Holistic automation systems from the drive to the cloud
- Use of open standards
- Integrated engineering
- Machine transparency through consistent data usage
- Global production with uniform Lenze quality standards
- Global service network and training program





A comprehensive Lenze Automation Platform: Scalable for your machine

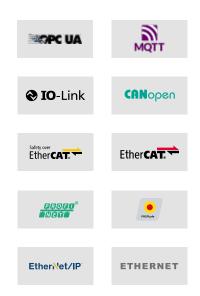
Comprehensive and open

Our automation platform offers you everything from the control level to electromechanics for the implementation of a wide range of tasks. Thanks to our energyefficient mechatronic portfolio you benefit from long-lasting quality and easy handling of all our products.

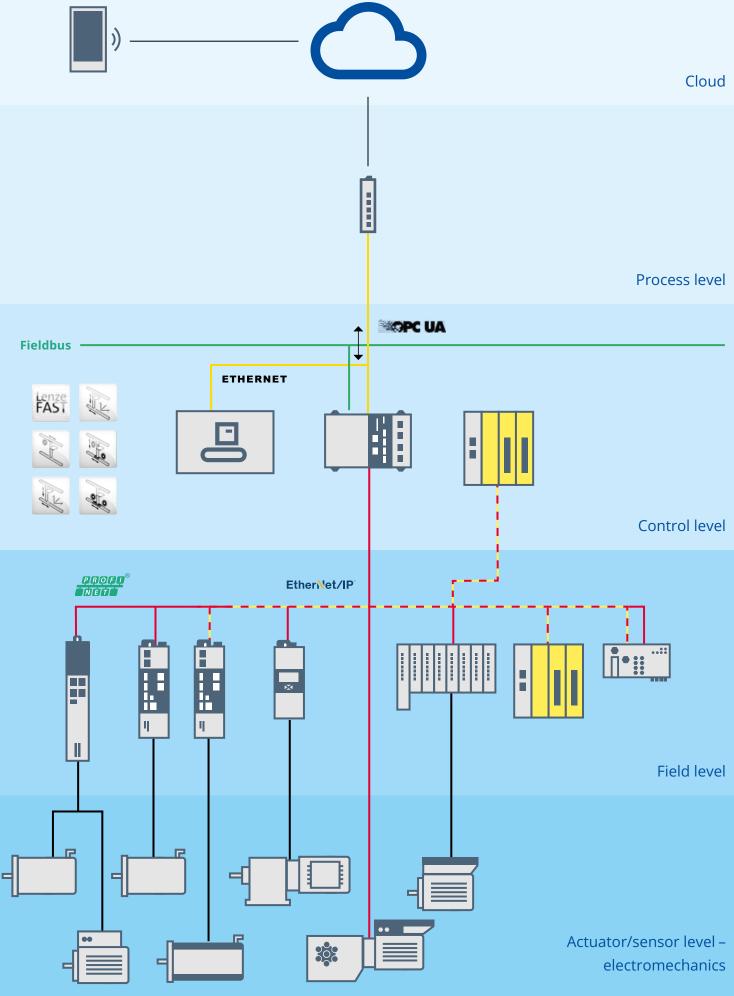
Furthermore, our platform is open for the efficient integration of components from various partners.

Compliance with market standards

We are able to network ourselves with control and drive systems at any time. This enables easy integration into higher-level line topologies. Design engineers and users can feel confident that this openness makes our platform future-proof, keeping your core expertise in-house.







Automation and suitable drive solutions for the **automotive industry.**

"Just in time" and 'just in sequence' are the processes that are of the utmost importance for the provision of materials in automotive production. Anyone with such a tight schedule can afford neither machine downtimes nor production losses.

One success factor is the use of innovative safe and energy-efficient solutions and products products that can be easily integrated into the smart factory and offer added value.

As a leading drive and automation specialist automation specialist, we not only provide a wide range of tasks in automotive production, we not only provide a broad product portfolio, but also an internationally an international team of experts.



Press shop

- Unwinder

- Stacking belt
- Scrap belt
- Belt end roller
- Cycle outfeed conveyor
- Sliding table

Body shop

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- Rotary accumulator
- Turntables
- Accumulating conveyors
- Skid conveyor technology
- Lifters
- Transfer gantry
- Skid stackers and denesters
- Finish conveyor
- Framer/Geostation
- Safety gate (rigid, rolling gate)
- Technology applications (welding, clinching, gluing)



Paint shop

- Fan drives
- Pump drives
- Skid conveyor technology
- Lifters
- Conveyor technology in the paint shop

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Body sorter

- Storage and retrieval machine
- Skid conveyor technology
- Lifter

Assembly

- Conveyor technology
- Lifter
- Push platform
- (Push-drive package, docking, corner transfer unit, brake drive, discharge drive
- Wedding system
- Conveyor belt (worker-driving belt, double plate belt, etc.)
- Filling system
- Battery assembly (transfer portal)



End-of-Line-Test

Test benches (e.g. brakes, automated adjustment adjustment processes)

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Automated small parts warehouses

- Conveyor technology
- Storage and retrieval machine

Further automation solutions especially for **Battery Production** can be found here:







Preferred products for **automotive production**

Motors	MF three-phase AC motors	MCS synchronous servo motors	o450 motor driven roller
			57/115 Watt
Power range	0.55 22 kW	0.25 15.8 kW	(24/48 V)
Torque	1 60 Nm	0.8 86 Nm	max. 4 Nm
Energy efficiency	IES2*	IES2*	comparable with IE7
Protection class EN 60529	IP55	IP54/65	
	cURus, EAC, CCC,	cURus, EAC,	
Market approvals	UkrSepro	UkrSepro	
Speed setting range	1:24 encoderless		

Inverters	i-series i950 cabinet servo inverter	i-series i550 motec frequency inverter	i-series i650 motec frequency inverter
		Option: Extension Box	Option: Extension Box
	N.		
Design/Mounting	Cabinet	Wall or motor	Wall or motor
Degree of protection	IP20	IP66	IP66
Mains connection/ Power range	0.37 110 kW	0.37 45 kW Extension Box: 0.37 11 kW	0.37 45 kW Extension Box: 0.37 11 kW
Market approvals	CE, UKCA, UL, DOE, CCC	CE, UKCA, UL, DOE, CCC	CE, UKCA, UL, DOE, CCC
		4/0	8/0
Digital input/output	4/1	2/2 Standard I/O	4/4 expandable via IO-Link
Analog input/output	1/0	In planning	In planning
	CANopen EtherCAT Ethernet EtherNet/IP		EtherCAT EtherNet/IP Modbus TCP PROFINET
	PROFINET	EtherCAT	IO-Link-Master
	Safety bus FSoE	EtherNet/IP	Safety bus FSoE**
	PROFIsafe safety bus on	Modbus TCP	Safety bus PROFIsafe**
Communication	PROFINET Operation with safety PLC	PROFINET IO-Link-Master	Safety bus CIP**
	Stop functions: STO, SS1, SS2, SSE, SOS, SBC, CAS	IO-LITK-Master	** planned 2026
	Monitoring functions:		Stop functions:
	SMS, SLS, SSM, SLI, SDI, SLP,	Stop functions:	STO, SS1, SBC, SLS,
Functional safety	PDSS, SCA	STO, SS1	SMS, SSM, SDI
PLC functionality	Logic PLC		Optional: Logic PLC
Positioning			Sensorless with synchronous motor

Geared motors	g500-H helical geared motors	g500-S shaft-mounted helical geared motors	g500-B bevel geared motors
			E T
Power range	0.12 55 kW	0.12 55 kW	0.12 55 kW
Torque	3 14000 Nm	6 19000 Nm	6 20000 Nm
Energy efficiency	IE2/IE3*	IE2/IE3*	IE2/IE3*



Preferred products for automated storage systems

Geared servo motors	g500-H + MCS helical geared motors	g500-B + MCS bevel geared motors	g7x0-P/g8x0-P + MCS planetary geared motors
		100 m	A CONTRACT
Power range	0.25 15.8 kW	0.25 15.8 kW	0.25 15.8 kW
Torque	3 3000 Nm	6 4300 Nm	1 1700 Nm
Energy efficiency	IE2, IE3	IE2, IE3	IE2, IE3

Geared servo motors	g500-H + MCA helical geared motors	g500-B + MCA bevel geared motors	g7x0-P/g8x0-P + MCA planetary geared motors
		E	
Power range	0.8 20.3 kW	0.8 20.3 kW	0.8 20.3 kW
Torque	9 3000 Nm	10 4300 Nm	5 1650 Nm
Energy efficiency	IE2, IE3	IE2, IE3	IE2, IE3

*Available in higher energy efficiency classes from 2025

Controllers	c520
CPU technology	Intel® Atom™ 1.6 GHz
Operating system	RT Linux
Retain data	1,024 kB
Interface	1x EtherCAT master 1x Ethernet 1000 Mbps 2x USB 2.0
Optional interface	PROFINET device
Communication	EtherCAT master EtherCAT slave PROFINET IO-Device Ethernet 1000 Mbps

Inverters	i-series i550 cabinet frequency inverter	i-series i950 cabinet servo inverter
Design/Mounting	Cabinet	Cabinet
Degree of protection	IP20	IP20
Mains connection/		
Power range	0.25 132 kW	0.37 110 kW
	CE, UKCA,	CE, UKCA,
Market approvals	UL, DOE, KC, CCC	UL, DOE, CCC
Digital input/output	5/1	4/1
Analog input/output		1/0
	CANopen	
	EtherCAT	CANopen
	EtherNet/IP	EtherCAT
	IO-Link-Slave	Ethernet
	Modbus RTU	EtherNet/IP
	Modbus TCP	PROFINET
	POWERLINK	Safety bus FSoE
	PROFIBUS	PROFIsafe safety bus on PROFINET
Communication	PROFINET	Operation with safety PLC
		Stop functions:
		STO, SS1, SS2, SSE, SOS, SBC, CAS
	Stop functions:	Monitoring functions:
Functional safety	STO, SS1	SMS, SLS, SSM, SLI, SDI, SLP, PDSS, SCA
PLC functionality		Logic PLC



Lenze FAST is based on the experience from several thousand realised applications.

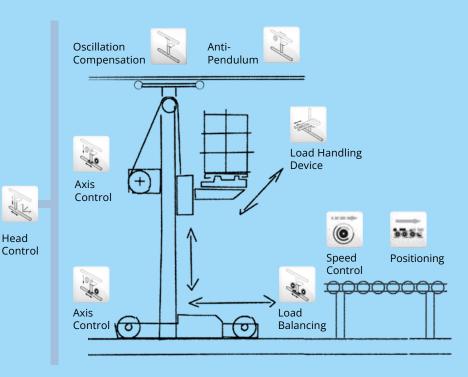
The Lenze FAST machine solution for storage and retrieval units is a ready-made PLC project for automation technology from Lenze, into which all ready-made drive concepts have already been integrated. Selection of the required components and adjustments is performed via simple parameterization.

We made it possible to execute the most important control commands independently of the higher-level controller by means of a graphical user interface which simplifies the commissioning. The open IEC 61131 environment also makes it possible to integrate your specific know-how or additional functions. Auto tuning allows for further simplification during commissioning by automatically calibrating all drive parameters, leading to optimum, dynamic control performance. This applies to all components in the carriage and lifting unit.

FAST Technology Modules



FAST machine solution storage and retrieval



EASY Engineering Tools The right software tool for every task

Do you want to plan, build or commission machines?

Adjust existing machines or run diagnostics? Regardless of whether you require simple applications or maximum precision and dynamics:

You can choose the right tools for you and perform your engineering more rapidly and easily.



Developing
ideasImplementing
solutionsImplementing<t



Drafting **concepts**



PLC Designer Program the controller

Manufacturing **machines**



EASY UI Designer Machine visualization

Parameterization | Configuration | Programming Debugging | Setup | Interface design Ensuring **productivity**



EASY Starter Parameterization and operation

Commissioning | Diagnostics | Troubleshooting

We implement your ideas with enthusiasm in motion

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Reduced engineering costs

Shorter innovation cycles, higher customer requirements, a growing demand for tailored products and services as well as the shortest time-to-market are challenges faced by every machine builder. Efficient engineering is essential:

- An engineering tool chain that ensures system continuity is the basis of engineering logic, visualization, safety, security, and motion
- Predefined and tested modules that provide basic functions cut down on engineering costs and market introduction time.
- Modularization and scalability in software and hardware for flexibility and adaptation of the machine design

Future-proof system

For new, upcoming challenges, you require an open and highly modern system:

- Standard interfaces such as OPC UA for horizontal and vertical integration
- Simple integration of intelligent sensors
- Industry-standard interfaces for integrating third party products
- Open operating systems for the use of third-party software
- Simple and popular programming options
- Web-based visualization for use with standard browsers

Smart factory support

Support for connectivity, digitization and efficiency:

- Machine-to-machine communication
- Artificial intelligence with closed control loop for the machine parameters
- Access control and security mechanisms for an open yet secure solution
- Vertical integration into MES, ERP or cloud solutions
- Data collection and informative aggregation
- Big data analytics for performance assessments
- OEE improvement via error and state analysis
- Predictive maintenance and remote machine monitoring

Safe and smart machines

An integrated safety solution offers multiple advantages:

- Reduced space requirements for the machines when the shortest response times for ensuring constant operation are ensured
- Easy expandability and less wiring through the use of a safety bus system
- Lower system costs by reducing the space requirements and wiring complexity.
- Intelligent responses, e.g. reduced speed instead of machine shut down
- Better fault diagnostics thanks to more detailed error descriptions

Rapid and cost-efficient diagnostics and maintenance

Emergencies — how your customers receive rapid and efficient assistance in the event of an unplanned machine stop:

- Clear diagnostics data allowing rapid identification of the cause
- Easy access via remote login with full access to the visualization and the control system
- Automatic download of parameters and firmware when hardware is replaced
- Predictive maintenance for avoiding emergency scenarios
- Use of sensors and data analysis



Worldwide **Services**

You can rely on every aspect of our high quality standards. Our service is designed to ensure the reliability of your machine and to guarantee its availability.

With proactive solutions that rule out any contingencies, as far as possible and structured procedures, the fast and smooth restoration of the machines' functions in an emergency is ensured.

A large number of our services can be used online at any time. You can of course also get personal support and advice from our specialists.



24/7 Lenze expert helpline

Online support

You can directly request support and repairs for specific Lenze products or order spare parts and call up technical data and documentation.

Simply enter the material number or scan the type plate with our integrated scan function. All support information is immediately available to you at a glance.

Replacement requirement

Are you using Lenze equipment and need to replace a complete device or some parts? We send you a corresponding quote quickly with our online service.

Original repairs from Lenze

In some cases, repairing a Lenze drive instead of replacing it could be a better alternative in terms of quality and cost-savings. This helps you minimize costly downtimes in cases of emergency and means that you don't have to keep large stocks of spare parts.

Maintenance with a plan

To ensure maximum machine availability, our maintenance package includes additional services that proactively safeguard your operations. We analyze your requirements together and customize your plan based on our many years of expertise in this field.



Original repair



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