

L-force

The Lenze I/O system to IP20



Compact and modular



Lenze

L-force | Your future is our drive

Demands are increasing all the time. In future, key challenges will lie in the areas of cost efficiency, time-saving and quality improvements. Faster project planning and commissioning, improved performance and increased flexibility in production are expected. New ideas are therefore needed for the machines of the future.

Lenze has risen to this challenge and, with L-force, we can now not only offer you an innovative family of drive and automation products, but also a new, comprehensive portfolio of solutions.

Driven by innovation – New ideas for new possibilities

Always on the lookout: Our idea of innovation is working on even better solutions for our users, every day.

Driven by flexibility – High degree of scalability for individual solutions

Scaleability is an important aspect of the L-force philosophy. Power, functions, software and services – you get the exact combination you need.

Driven by usability – Simple solutions even for complex applications

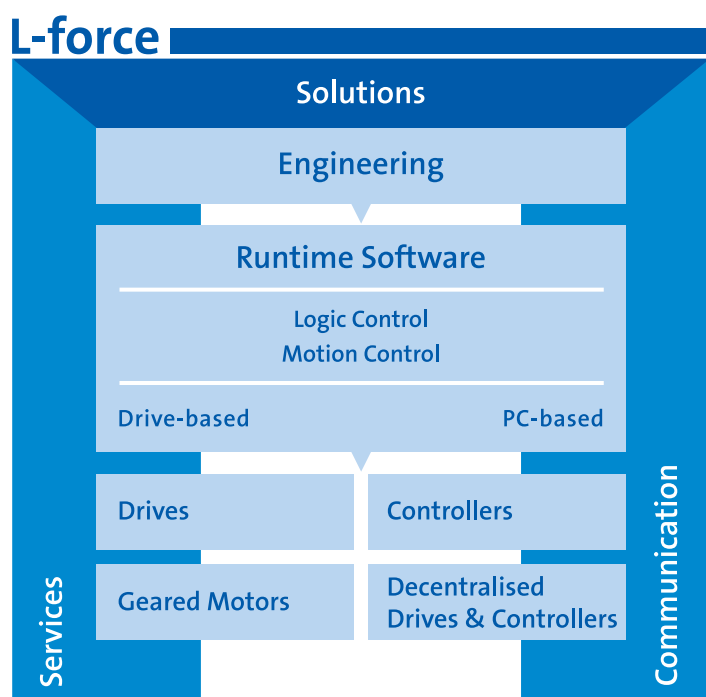
We always focus on the user. Therefore, when we developed L-force, we made sure that people with plenty of practical experience were involved, right from the start.

Driven by compatibility – Universal products and solutions

Don't waste any more time searching for suitable components and the right interfaces. With L-force, everything is compatible.

Direct signal processing on site

Reduce wiring with the I/O system from the L-force portfolio.



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I/O system | The ideal solution for every customer

Lenze offer two product concepts with IP20 protection, which are suitable for both smaller digital applications as well as for larger automation tasks. These concepts provide a flexible system offering precisely the functionality you require to implement your tasks.

The compact system

The product design concept has a compact layout with a fixed number of digital inputs or outputs. The CAN-based Lenze system bus is integrated as the communication interface.

Four variants of this compact system are available, so you can choose whichever one best suits your application. We offer a choice of 8-, 16- and 32-channel modules with single or three-wire conductors with up to 24 inputs and eight outputs. The modules are equipped with a SUB-D plug for connection of the system bus, plug-in terminal strips with tension spring technology for fast wiring and a switch for the node address. The compact system operates reliably and is quick and easy to mount on 35 mm DIN rails, plus it is very straightforward to configure. All in all, this speeds up the start-up process.

The modular system

If you need to realise more complex automation applications then we can provide you with a complete I/O portfolio comprising the three components of the gateway, electronic modules and backplane bus. The key element here is the gateway, via which all process data traffic is processed on the Lenze system bus. In addition, it also ensures the internal communications of process and parameter data and diagnostic information within the station by means of an internal backplane bus. The electronic modules are electrically isolated and contain the actual I/O functions. Up to 32 elements can be freely combined to form an overall station which is perfectly matched to the application in hand. The backplane bus ensures the data connection to the gateway.

A high level of modularity and a compact design in one: the Lenze I/O system manages to combine a wide variety of market requirements at a competitive price.



The compact system



The modular system

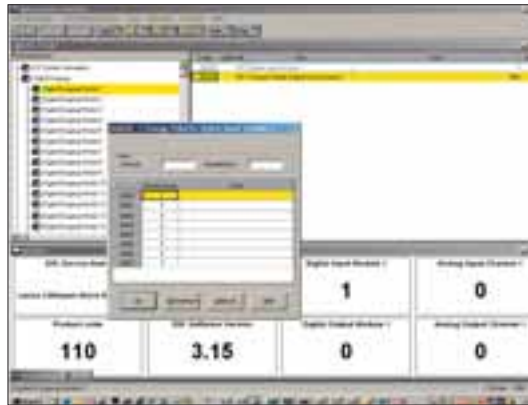
System | Tailor-made, and yet versatile

Maximum reliability

Lenze is your one-stop shop for all your automation needs. A tailor-made system with standard software for all components combined with fully tested, well thought out software solutions will provide you with maximum reliability. Why waste time interfacing different systems when there is a quicker way? Shorter project planning phases save money – and we are right behind you with our customer service, throughout the entire organisation.

Lenze offer a complete design concept for your automation requirements, comprising a variety of hardware components and associated software. Whether for applications in inverter or servo technology, with pre-programmed technology packages or in conjunction with Lenze drives, we will provide you with a comprehensive solution which is individually tailored to your needs.

The Global Drive Control (GDC) configuration tool offers the same type of configuration support for the Lenze I/O System as it does for Lenze controllers. This means that you only have to learn how to use the software once.



System | Saving time by reducing training needs

Easy replacement

Electronic modules can be removed and replaced in just three steps. The terminal strip ensures that the field level wiring remains intact. The process: pull off the terminal strip, swap the electronic module, push the terminal strip back on – ready! It is really that easy. Whether during commissioning or when performing service repairs, with a Lenze system you will always be first past the post.

Optimising the use of space

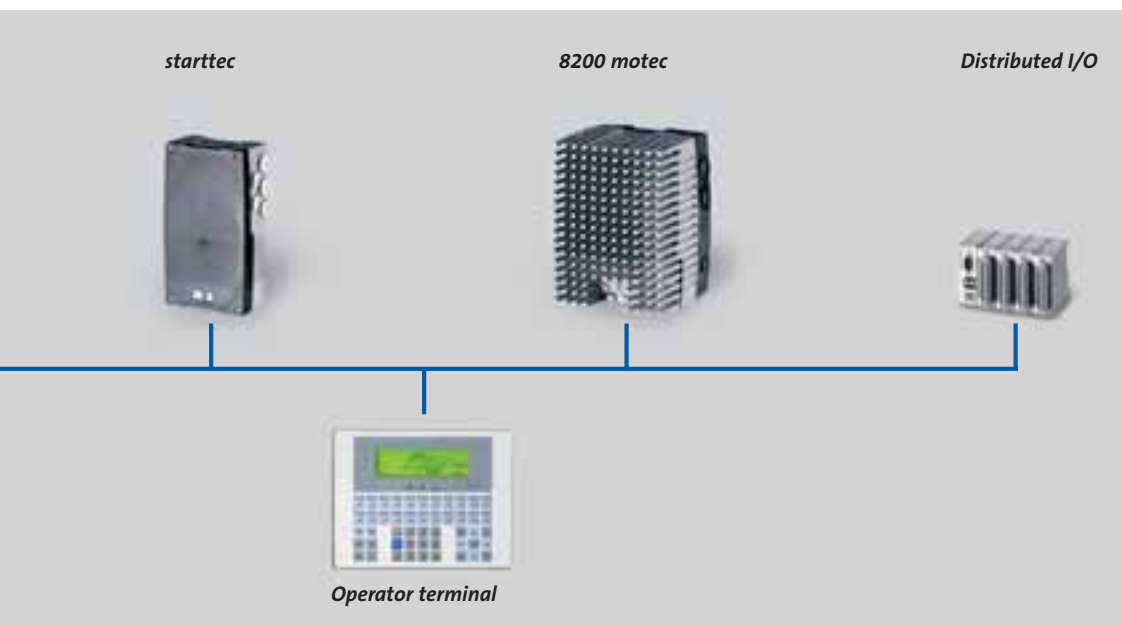
The compact design will enable you to save space in your control cabinet. The single or three-wire design can also be expanded as required, and it uses a fixed number of channels as standard. This leaves it completely up to you to decide which product will best suit your application.

Reducing training needs

It makes no difference - as all of the modules from both concepts can be operated in exactly the same way, you are free to combine them with each other. So why waste time learning how to use two different products? During commissioning the same connection system is used for the bus, field wiring and power supply. This saves time.



The modular system



I/O system | Modular and compact systems

Modular: Gateway






Type	CAN gateway
Electrical data	
Voltage supply	24 V DC (-15%/+20%)
CAN bus interface	
Connections	9-pole SUB-D
Transfer rate	10 kBit/s to 1 MBit/s
Number of nodes	63 max.
Dimensions	
Dimensions (WxHxD) [mm]	25.4x76x76
Order number	EPM-T110




Modular: Digital input/output modules



Type	8xdigital inputs	16xdigital inputs	8xdigital outputs 1 A	8xdigital outputs 2 A	
Electrical data					
Number of inputs/ outputs	8/-	16/-	-/8	-/8	
Rated input voltage	24 V (18 ... 28.8 V) DC	24 V (18 ... 28.8 V) DC	-	-	
Rated load voltage	-	-	24 V (18 ... 35 V) DC	24 V (18 ... 35 V) DC	
Signal voltage "0"/"1"	0...5 V DC/ 15...30 V DC	0...5 V DC / 15...30 V DC	-	-	
Output current per channel	-	-	1 A	2 A max.summation current 10 A	
Dimensions					
Dimensions (WxHxD) [mm]	25.4x76x76	25.4x76x76	25.4x76x76	25.4x76x76	
Order number	EPM-T210	EPM-T211	EPM-T220	EPM-T221	

Modular: Analog input/output modules

			
Type	4xanalog inputs	4xanalog outputs	4xanalog input/output
Electrical data			
Number of inputs/ outputs	4 or 2 (4-wire conductor)/-	-/4	2/2
Input area/ Output area			
Voltage	±10 V, ±4 V, ±400 mV, 0 ... 50 mV DC	±10 V, 0 ... 10 V, 1 ... 5 V DC	0 ... 10 V, ±10 V, 1 ... 5 V DC
Current	4 ... 20 mA, ±20 mA	0/4 ... 20 mA, ±20 mA	0/4 ... 20 mA, ±20 mA
Temperature	PT100, PT1000, NI100, NI1000	-	-
Thermoelement	J, K, N, R, S, T	-	-
Dimensions			
Dimensions (WxHxD) [mm]	25.4x76x76	25.4x76x76	25.4x76x76
Order number	EPM-T310	EPM-T320	EPM-T330

			
	4xrelays	16xdigital outputs 1 A	8xdigital input/output
	-/4 via relay	-/16	0 ... 8/8 ... 0 (total number of channels: 8)
	-	-	24 V (18...35 V) DC
	230 V AC or 30 V DC max.	24 V (18 ... 35 V) DC	24 V (18 ... 35 V) DC
	-	-	0...5 V DC / 15...30 V DC
	230 V AC: 5 A 30 V DC: 5 A	1 A max.summation current 10 A	1 A
	25.4x76x76	25.4x76x76	25.4x76x76
	EPM-T222	EPM-T223	EPM-T230

Modular: Function modules



Type	2/4xcounters
Electrical data	
Number of counters	2/4 (32/16-bit counter width)
Operating modes	Incrementer/Decrementer Compare/Auto Reload function Encoder pulses Period length measurement Frequency measurement
Counter frequency	1 MHz
Dimensions	
Dimensions (WxHxD) [mm]	25.4x76x76
Order number	EPM-T410




Type	SSI interface
Electrical data	
Number of channels	1
Inputs/outputs	
Quantity	2, optionally parameterisable
Signal voltage "0"/"1"	-5...7 V DC/ 13...36 V DC
Dimensions	
Dimensions (WxHxD) [mm]	25.4x76x76
Order number	EPM-T411









Type	1xcounter/16xdigital inputs
Electrical data	
Number of inputs/ outputs	16/-
Rated input voltage	24 V DC (18 ... 28.8 V)
Signal voltage "0"/"1"	0 ... 5 V/DC 15 ... 30 V DC
Number of counters	1 (32-bit counter width)
Operating modes	Incrementer/Decrementer Encoder pulses Period length measurement Frequency measurement
Counter frequency	100 kHz
Dimensions	
Dimensions (WxHx D) [mm]	25.4x 76x 76
Order number	EPM-T430

Compact: digital input/output modules

			
Type	8x digital I/O compact	16x digital I/O compact	32x digital I/O compact
Electrical data			
Number of inputs/outputs	0 ... 8/8... 0 (total no. of channels: 8)	8 ... 12/8 ... 4 (total no. of channels: 16)	24/8 (total no. of channels: 32)
Rated input voltage	24 V DC (18 ... 35 V)	24 V DC (18 ... 35 V)	24 V DC (18 ... 35 V)
Rated load voltage	24 V DC (18 ... 35 V)	24 V DC (18 ... 35 V)	24 V DC (18 ... 35 V)
Signal voltage "0"/"1"	0 ... 5 V/15 ... 30 V DC	0 ... 5 V/15 ... 30 V DC	0 ... 5 V/15 ... 30 V DC
Output current per channel	1 A	1 A	1 A
Dimensions			
Dimensions (WxHxD) [mm]	101.6x76x46	101.6x76x46 (single-wire) 152.4x76x46 (three-wire)	152.4x76x46
Order number	EPM-T830 (three-wire)	EPM-T831 (single-wire) EPM-T833 (three-wire)	EPM-T832 (single-wire)

Accessories

						
	T910-T913	T920	T930	T931	T940	T950-T951
Type	Backplane bus, 1-way 2-way 4-way 8-way	Terminal strip*	Label card*	Label sheet	Terminal module	CAN bus connector node CAN bus connector termination
I/O system	modular	modular; compact	modular	modular	modular	modular; compact
Order number	EPM-T910 (1-way) EPM-T911 (2-way) EPM-T912 (4-way) EPM-T913 (8-way)	EPM-T920	EPM-T930	EPM-T931	EPM-T940	EPM-T950 (node) EPM-T951 (termination)

* Included in the scope of supply

It's good to know | why we are there for you



"Our customers come first. Customer satisfaction is what motivates us. By thinking in terms of how we can add value for our customers we can increase productivity through reliability."



"The world is our marketplace. We develop and manufacture internationally. Wherever you are in the world, we are nearby."



"We will provide you with exactly what you need – perfectly co-ordinated products and solutions with the right functions for your machines and installations. That is what we mean by 'quality'."



"Take advantage of our wealth of expertise. For more than 50 years we have been gathering experience in various fields and implementing it consistently and rigorously in our products, motion functions and preprepared solutions for industry."



"We identify with your targets and strive towards a long-term partnership which benefits both sides. Our competent support and consultation process means that we can provide you with tailor-made solutions. We are there for you and can offer assistance in all of the key processes."

You can rely on our service. Expert advice is available 24 hours a day, 365 days a year, in more than 30 countries via our international helpline: 008000 24 Hours (008000 2446877).

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