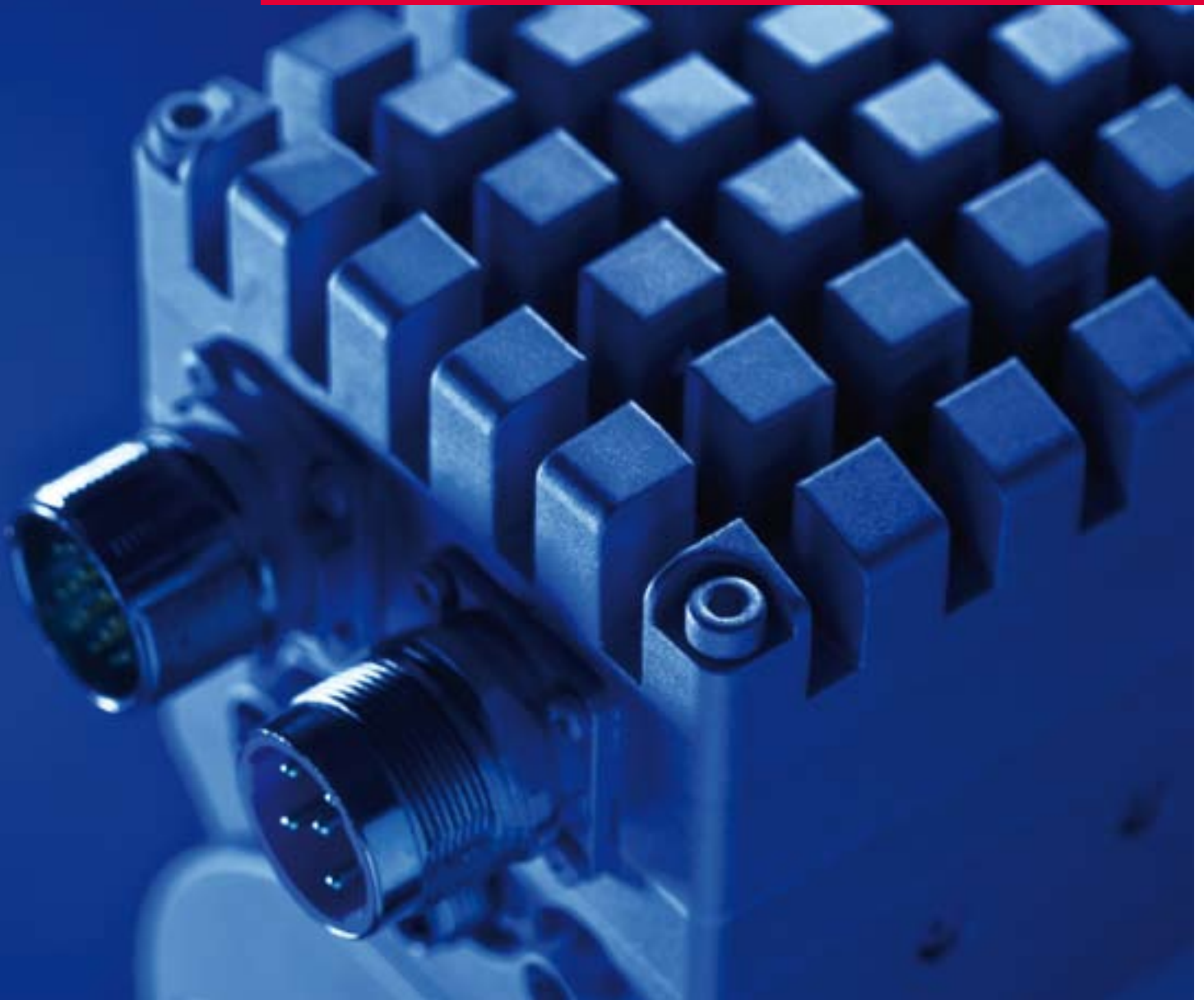


Servo Drives 930K fluxxtorque



decentralised, intelligent, precise



Lenze

Servo Drives 930K fluxxtorque **|** part of your machine

Out of the control cabinet and onto the machine, this is what decentralised drive solutions offer. The Servo Drives 930K fluxxtorque are well suited as modern servo drives, which travel into the machine in a decentralised manner.

These decentralised machine concepts frequently make designs much more cost-effective. High levels of savings can be achieved, for example, from the control cabinet space requirements or in the system cabling. This can result in savings of up to 50% for some applications.

The decentralised 930K servo controllers offer communication via CAN bus, PROFIBUS or EtherCat as standard, in order to comprehensively meet the requirements of integration into the overall machine concept. The connection is established by means of preassembled plug connectors.

Servo Drives 930K fluxxtorque are ideally suited to machines with extra-low voltage (24 or 48 V) or low-voltage supply (1 x 230 V). Servo drives can be integrated into the system in no time at all via pluggable connections and prepared system cables.

These compact servo drives cover a power range of 120 to 440 W and are designed with a smooth surface.

Combined with planetary gearboxes from the SPL series and worm gearboxes from the SSN series, they form a compact drive. The drives with planetary gearboxes cover a torque range of up to 120 Nm, with worm gearboxes up to 36 Nm.



Decentralised | Servo Drives 930K fluxxtorque

fluxxtorque is the servo system that takes the drive directly out of the cabinet and positions it on the motor. This reduces wiring expenses as well as assembly and commissioning times.

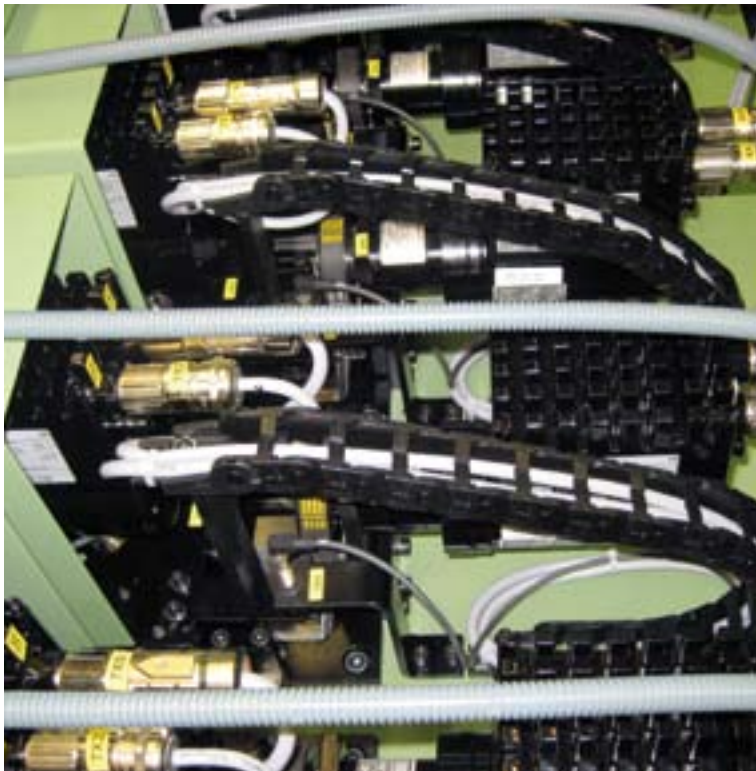
- ▶ smooth motor surface, no dirt traps
- ▶ no fan, so particularly high running smoothness and no accumulation of dust
- ▶ brushless, maintenance-free motors
- ▶ simple wiring and plug connections save time
- ▶ prefabricated system cables
- ▶ PROFIBUS, CAN bus or EtherCAT communication
- ▶ energy efficiency ensured through synchronous motors

In the case of compact drives, the servo inverter is integrated on the synchronous motor in a similar way to a terminal box connection. Supply voltages of 24 and 48 V DC or 230 V AC, single-phase. Output torques up to a nominal value of 1.4 Nm and a peak of 4.5 Nm.

- ▶ IP54 or IP55 enclosure
- ▶ brakes
- ▶ resolver feedback
- ▶ outstanding smooth running characteristics
- ▶ absolute value encoder feedback available as an option

Positioning

Compact drives also offer a cost-effective solution for positioning tasks. Up to 64 position data records can be stored in the controllers.

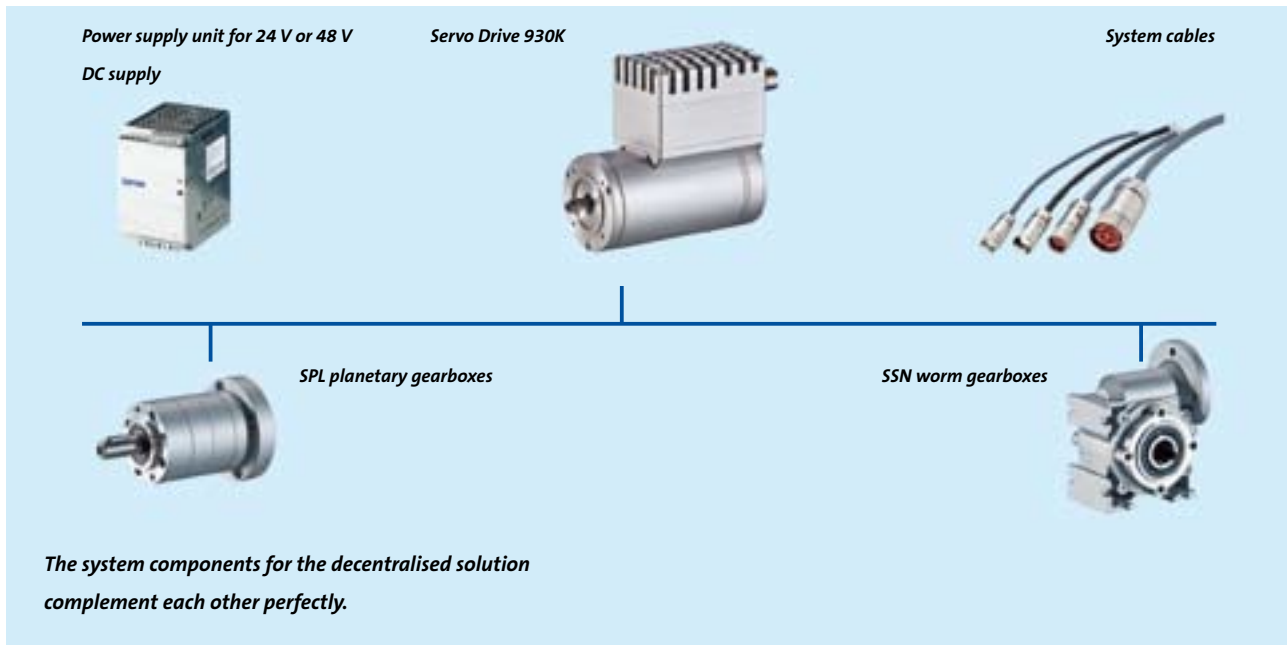


*Wire drawing machine
with fluxxtorque*

*Schmidt Maschinenbau:
"Finally, we have found a
machine with a control cabinet –
and not a control cabinet
with a machine".*

System overview

Servo Drives 930K fluxxtorque



	Version					
	MRS08-C	MRS08-E	MRS08-E	MRS09-E	MRS09-G	MRS10-F
Rated data						
P_N [kW]	0.12	0.14	0.18	0.25	0.37	0.44
M_N [Nm]	0.38	0.45	0.55	0.8	1.18	1.4
n_N [rpm]	3000	3000	3000	3000	3000	3000
Supply voltage						
24 V DC	●	●	●	●		
48 V DC	●		●	●		
230 V AC	●		●	●	●	●
Feedback						
Resolver ¹⁾	●	●	●	●	●	●
Absolute value encoder single-turn ²⁾	●	●	●	●	●	●
Absolute value encoder multi-turn ²⁾	●	●	●	●	●	●
Resolver + permanent magnetic brake	●	●	●	●	●	●
Motor design						
IEC56 B14C80	●	●	●		●	●
IEC63 B14C90				●	●	●
Communication / inputs outputs						
CANbus	●	●	●	●	●	●
PROFIBUS	●	●	●	●	●	●
PROFIBUS	●	●	●	●	●	●
PC interface RS232	●	●	●	●	●	●
Digital/analog I/Os	●	●	●	●	●	●
Gearbox assignment						
SSN31 $i = 5-100$ $M_{max.} = 16 \text{ Nm}^3$	●	●	●			
SSN40 $i = 6.75-80$ $M_{max.} = 36 \text{ Nm}^3$				●	●	
SPL52 $i = 3.75-168.84$ $M_{max.} = 25 \text{ Nm}^3$	●	●	●			
SPL62 $i = 3.75-123.97$ $M_{max.} = 50 \text{ Nm}^3$				●	●	
SPL81 $i = 3.75-123.97$ $M_{max.} = 120 \text{ Nm}^3$				●	●	●
Prepared connecting cables						
Power connection 24 or 48 V (5m)	●	●	●	●	●	●
Power connection 230 V (5m)	●	●	●	●	●	●
CAN bus (5 m)	●	●	●	●	●	●
PROFIBUS (5 m)	●	●	●	●	●	●
EtherCat (5 m)	●	●	●	●	●	●
PC interface RS 232 (3 m)	●	●	●	●	●	●
Digital I/Os (5 m)	●	●	●	●	●	●

Power supply units, mains filters and bus terminating resistors on request

¹⁾ Standard feedback

²⁾ Optional

³⁾ Dependent on ratio i

Rated data | Servo Drives 930K fluxxtorque

Brake assignment

		Version				
		MRS08-C	MRS08-E	MRS09-E	MRS09-G	MRS10-F
Rated power	[W]	120	140/180	250	370	440
Rated torque	[Nm]	0.38	0.45/0.55	0.8	1.18	1.4
Maximum starting torque	[Nm]	1.65	2.5	4.0	4.5	4.5
Rated frequency	[Hz]	100	100	100	100	100
Rated speed	[rpm]	3000	3000	3000	3000	3000
Brake		PMB02	PMB02	PMB03	PMB03	PMB05
Voltage	[V DC]	24 (± 10%)	24 (± 10%)	24 (± 10%)	24 (± 10%)	24 (± 10%)
Current	[A]	0.42	0.42	0.46	0.46	0.5
Holding torque	[Nm]	1	1	2	2	4.5

I/O and bus systems

Digital inputs	10
Digital outputs	4
Analog inputs	2
Analog outputs	1
CAN bus	125, 250, 500 kBaud
PROFIBUS	9.6 kBaud ... 12 MB
EtherCAT	Communication cycle 1.6 ms task

Open and closed loop control

Control procedure	Speed, position, torque
Cycle times	[ms] 1.6
Current control	[μs] 100
Speed control	[μs] 200
Position controller	[μs] 400
Saveable positions	64
Monitoring	Temperature of motor/electronics; over/undervoltage



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"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."



"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 60 years now we have been gathering experience in various fields and implementing it consistently and rigorously in our products, motion functions and pre-configured solutions for industry."



"The world is our marketplace. Wherever you are in the world, we are nearby, providing you with our drive and automation solutions."

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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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