

# *fluxxtorque* servo drives

Compact drives to reduce installation space



Pluggable, precise, intelligent – and above all compact

A large, abstract background image consisting of several vertical, parallel blue bars of varying heights and widths, creating a rhythmic, architectural pattern. The bars have a slightly textured appearance.

**Lenze**

## Small | Yet powerful

**Powerful and compact: Lenze has decentralised servo technology. Synchronous servo motors are fitted with an integrated servo inverter for low and extra low voltage. Applications for which the new product line has been developed include those in the packaging, wood processing, warehousing and medical technology industries. So for example, limit stops can be reset quickly and precisely in the event of product changes, or food dosed precisely to the gram.**

The “fluxxtorque” product range can deliver powers up to 500 W. Matching servo controllers can be integrated directly.

Advantages for customers: significant reductions in both the amount of wiring required and the size of the control cabinet, resulting in smaller machines that do not take up as much space in production halls.

Plug & Play: the distributed drive system is easy to commission. Simply plug in the supply voltage and communication interface connections and you're ready to go. The parameterisation software paves the way for faster commissioning.



931E



931W

SDSGSSRO56-22

In addition to the integrated variant, Lenze can supply the servo controller with IP54 protection for mounting on the machine frame and with IP20 protection for compact installation in control cabinets.

Gearboxes, including planetary, helical and even right angle type gearboxes, are available to complement the motors. "fluxxtorque" supports flexible communication with higher-level controls via PROFIBUS or CAN.



*SD5GSSRO35-22*



*Dosing machine*

# Product information | Extra low voltage servo drives

## Application characteristics

The control electronics, power stage and power supplies are compactly integrated into a synchronous servo motor. This system offers outstanding advantages in terms of technology and cost in stand-alone or decentralised network operation.

## Advantages

Faster commissioning due to matching of the electronics and drive in the factory

- ▶ Plug and Play
- ▶ Minimum wiring
- ▶ No control cabinet
- ▶ Self cooling
- ▶ Compact design
- ▶ 99 data records for function profiles
- ▶ Positioning
- ▶ Suitable for applications in safety zones



SDSGSSR035-22

## Technical data

	SDSGSSR035-22	SDSGSSR047-22
Type of protection	IP54/IP55	IP54/IP55
Temperature range	-10°C – +40°C	-10°C – +50°C
Permissible installation height	Up to 1000 m amsl	Up to 1000 m amsl
Noise emission	Limit class A to EN55011 (industrial applications)	Limit class A to EN55011 (industrial applications)
Supply voltage	24 V DC or 42 V DC	42 V DC
Power	140 W	170 W
Rated speed	3000 rpm	2500 rpm
Rated torque	0.45 Nm	0.8 Nm
Interfaces	CANopen (DSP402) RS232, PROFIBUS-DP	CANopen (DSP402) RS232, PROFIBUS-DP
Digital inputs	Reference switch Expansion box option	Reference switch Expansion box option
Options	Optional holding brake	Optional holding brake
Feedback	Resolver	Resolver

# Product information | Extra low voltage servo inverters

## Application characteristics for the 931E

This system with a control cabinet mounted servo controller offers numerous advantages. It is installed directly in the control cabinet.

## Advantages

Faster commissioning due to matching of the electronics and drive in the factory

- ▶ Plug and Play
- ▶ Flash card memory
- ▶ Absolute value encoder
- ▶ Master/slave operation
- ▶ Positioning
- ▶ Suitable for applications in safety zones

## Technical data

931E	
Type of protection	IP20
Temperature range	-10°C – +50°C
Noise emission	Limit class A to EN55011 (industrial applications)
Supply voltage	24 V-48 V DC
Rated current	13 A
Interfaces	CANopen (DSP402) RS232
Feedback	Resolver
Digital inputs	6 Din, 2 Dout
Analog inputs	2 Ain, 2 Aout



931E



SDSGSR5047-22

# Product information | Low voltage servo drives

## Application characteristics

The control electronics, power stage and power supplies are compactly integrated into a synchronous servo motor. This system offers outstanding advantages in terms of technology and cost in stand-alone or decentralised network operation.

- ▶ Positioning
- ▶ Plug and Play
- ▶ Direct 230 V AC or 320 V DC mains connection

## Advantages

Faster commissioning due to matching of the electronics and drive in the factory

- ▶ Minimum wiring
- ▶ No control cabinet
- ▶ Self cooling
- ▶ Compact design
- ▶ 99 data records for function profiles



SDSGSSR056-22

## Technical data

	SDSGSSR047-22	SDSGSSR056-22
Type of protection	IP54/IP55	IP54/IP55
Temperature range	-10°C – +50°C	-10°C – +50°C
Permissible installation height	Up to 1000 m amsl	Up to 1000 m amsl
Noise emission	Limit class A to EN55011 (industrial applications)	Limit class A to EN55011 (industrial applications)
Supply voltage	Single-phase 230 V AC/ 50 Hz or 320 V DC	Single-phase 230 V AC/ 50 Hz or 320 V DC
Power	250 W	500 W
Rated speed	3000 rpm	3000 rpm
Rated torque	0.8 Nm	1.6 Nm
Peak torque	5.8 Nm	10 Nm
Interfaces	CANopen (DSP402) RS232, PROFIBUS-DP	CANopen (DSP402) RS232, PROFIBUS-DP
Digital inputs	Reference switch Expansion box option	Reference switch Expansion box option
Options	Brake	Brake
Feedback	Resolver	Resolver
Ballast	Internal up to 10 % duty External up to 100 % duty	Internal up to 100 % duty External up to 100 % duty

# Product information | Low voltage servo inverters

## Application characteristics of the 931 W

This system offers outstanding advantages in terms of technology and cost in stand-alone or decentralised network operation. It is mounted directly on the machine frame.

## Advantages

Faster commissioning due to versatile matching of the electronics and drive

- ▶ Minimum wiring
- ▶ No control cabinet
- ▶ Self cooling
- ▶ Compact design
- ▶ 99 data records for function profiles
- ▶ Positioning
- ▶ Plug and Play
- ▶ Direct 230 V AC or 320 V DC mains connection

## Technical data

	931W
Type of protection	IP54/IP55
Temperature range	-10°C - +50°C
Noise emission	Limit class A to EN55011 (industrial applications)
Supply voltage	230 V AC or 320 V DC
Rated current	4 A
Interfaces	CANopen DSP402 RS232, PROFIBUS-DP
Feedback	Resolver
Digital inputs	Reference switch Expansion box option
Ballast	Internal up to 10 % duty External up to 100 % duty



931W



SDSGSR5056-22

# Technical data | Servo motors

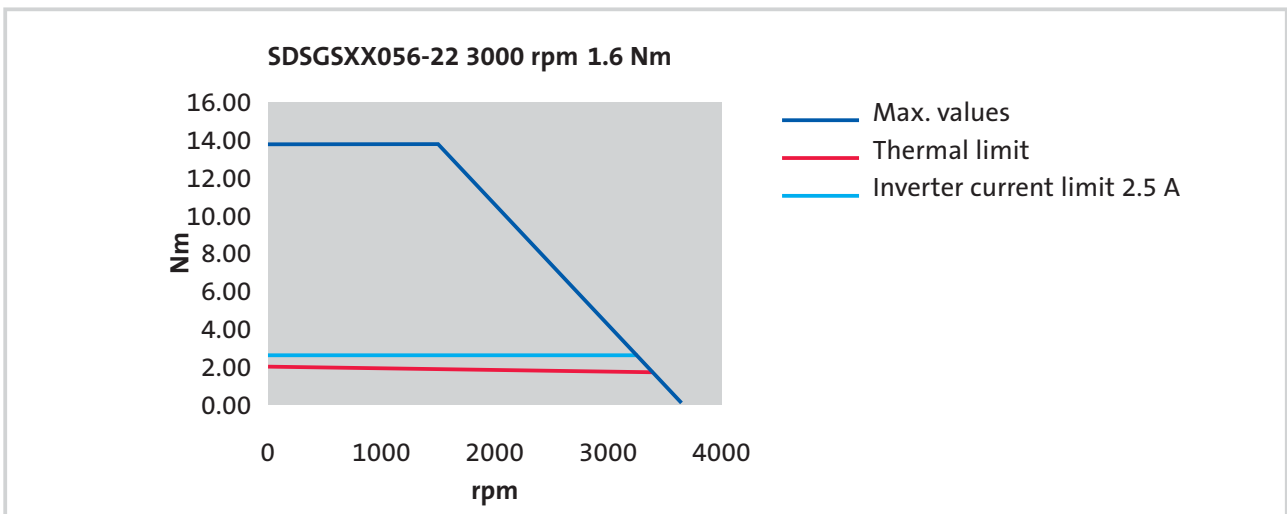
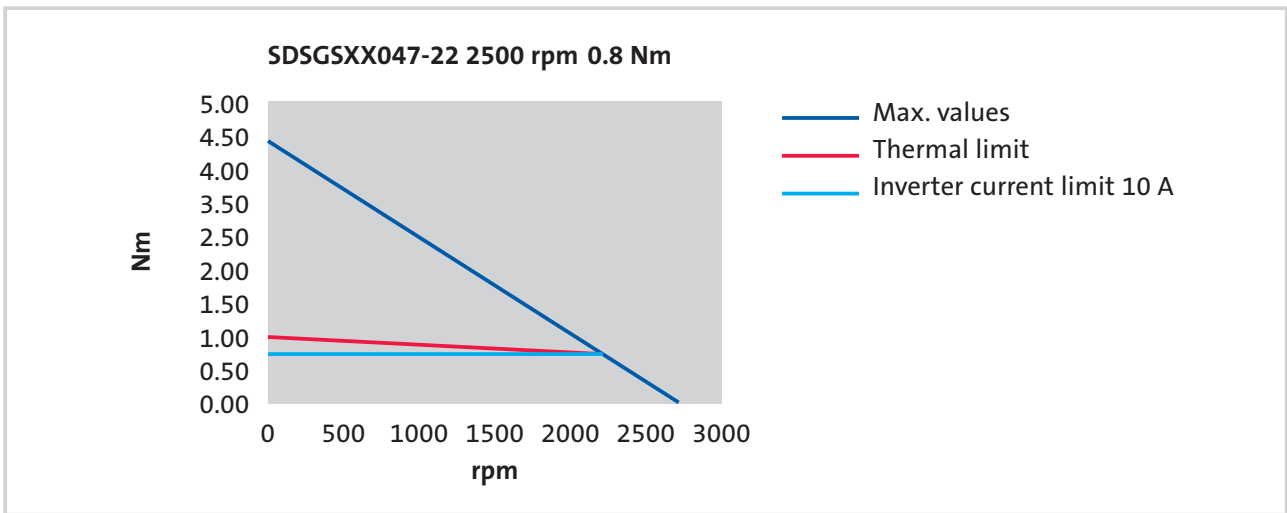
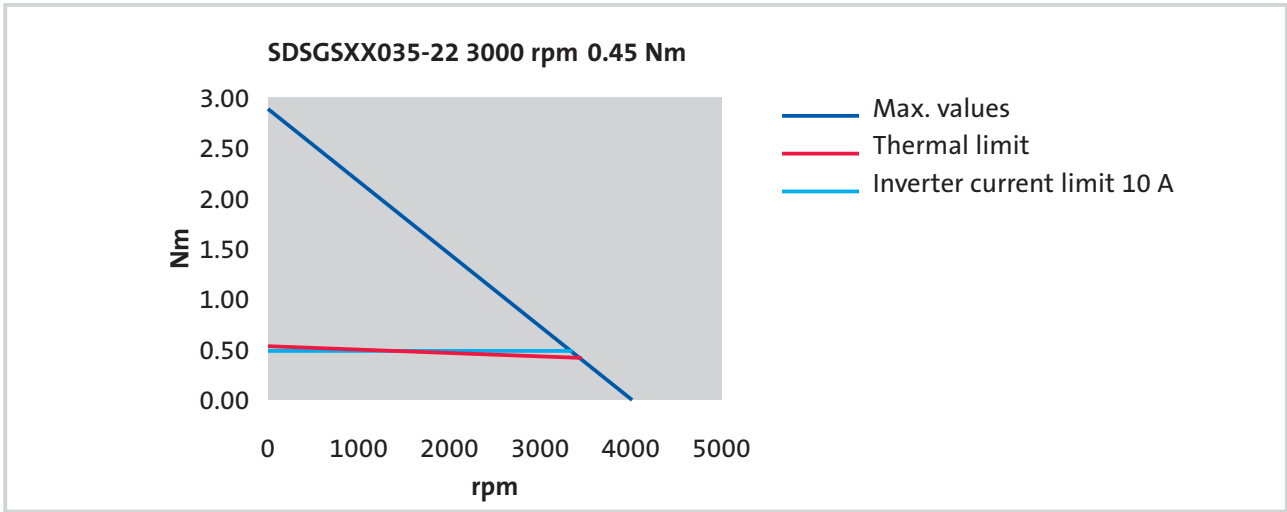
## Technical data for motors

		Motor type		
		SDSGS□□035-22	SDSGS□□047-22	SDSGS□□056-22
Motor diameter	[mm]	65	75	85
DC-bus voltage	[V]	24 48 325 565	24 48 325 565	325 565
Rated voltage	[V]	13 30 210 360	13 30 210 360	210 360
Frequency fn	[Hz]	100 100 100 100	67 83 100 100	100 100
Rated speed	[rpm]	3000 3000 3000 3000	2000 2500 3000 3000	3000 3000
Rated torque	[Nm]	0.45 0.45 0.45 0.45	0.8 0.8 0.8 0.8	1.6 1.6
Rated current	[A]	9.5 4.0 0.62 0.36	12 6.2 1.1 0.72	1.8 1.17
Rated power	[W]	140 140 140 140	170 210 250 250	500 500
Standstill torque	[Nm]	0.55 0.55 0.55 0.55	1.0 1.0 1.0 1.0	1.9 1.9
Standstill current	[A]	10.4 4.4 0.7 0.4	13 6.7 1.3 0.8	2.2 1.38
Maximum torque	[Nm]	3.2 3.2 3.2 3.2	5.8 5.8 5.8 5.8	10 10
Inertia J	[kg cm <sup>3</sup> ]	0.293 0.293 0.293 0.293	0.444 0.444 0.444 0.444	1.465 1.465
Weight m	[kg]	2.2 2.2 2.2 2.2	3 3 3 3	4 4



SDSGSR5056-22

### Characteristics



# Accessories | Servo inverters

## 931M and 931W servo inverters

Voltage supply 931M, 24 or 42 V DC			
Connection to servo inverter X2 M12 socket connector, 8-pin M12 socket connector, 8-pin	Length (m) 3 5	Connection to voltage supply No plug connector No plug connector	Designation 931MKL03KO 931MKL05KO
Voltage supply 931M/W, 230 V AC or 320 V DC			
Connection to servo inverter X2 M23 socket, 8-pin. M23 socket, 8-pin.	Length (m) 3 5	Connection to voltage supply No plug connector No plug connector	Designation 931MKL03NO 931MKL05NO
System cable, power motor -> 931W servo inverter			
Connection to motor M23 socket, 4+4-pin.	Length (m) 3	Connection to servo inverter X3 M23 plug connector, 4+4-pin	Designation
System cable, feedback motor -> 931W servo inverter			
Connection to motor M23 socket, 12-pin.	Length (m) 3	Connection to servo inverter X7 M23 plug connector, 12-pin	Designation
CAN system cable			
CAN input X4.1 M12 socket, 5-pin M12 socket, 5-pin No plug connector No plug connector	Length (m) 3 5 3 5	CAN output X4.2 M12 plug connector 5-pin M12 plug connector 5-pin M12 plug connector, 5-pin M12 plug connector, 5-pin	Designation 931MKC03US 931MKC05US 931MKC03UO 931MKC05UO
PROFIBUS DP system cable			
PROFIBUS input X4.1 M12 socket, 5-pin M12 socket, 5-pin No plug connector No plug connector	Length (m) 3 5 3 5	PROFIBUS output X4.2 M12 plug connector, 5-pin M12 plug connector, 5-pin M12 plug connector, 5-pin M12 plug connector, 5-pin	Designation 931MKP03US 931MKP05US 931MKP03UO 931MKP05UO
RS232 system cable			
Connection to servo inverter X1 M8 socket 3-pin	Length (m) 3	Connection to PC 9-pin SUB-D	Designation 931MKS03US
I/O system cable			
Connection to servo inverter X5 M8 socket 4-pin	Length (m) 3	Connection to PC No plug connector	Designation 931MKI03US
Mounting plate for 931W			
	Dimensions (mm) 130 x 180		Designation 931WB130180

### In preparation:

Application module, operating module, cover for unused interfaces

## 931E servo inverter

System cable, power motor -> 931E servo inverter			
Connection to motor M23 socket, 4+4-pin	Length (m) 3	Connection to servo inverter X3 No plug connector	Designation 931EKL03NS
System cable, feedback motor -> 931E servo inverter			
Connection to motor M23 socket, 12-pin	Length (m) 3	Connection to servo inverter X7 SUB-D, 9-pin	Designation 931EKR03NS
RS232 system cable			
Connection to servo inverter X1 9-pin SUB-D	Length (m) 3	Connection to PC 9-pin SUB-D	Designation 931EKS03UO
CAN system cable			
CAN input X4.1 RJ45 plug connector	Length (m) 3	CAN output X4.2 RJ45 plug connector	Designation 931EKC03US

### On request:

Power supply units, 32 MB multi-media card (MMC)

# Servo geared motors | Assignment

	Motors		
	SDSGS□□035-22	SDSGS□□047-22	SDSGS□□056-22
<b>Gearboxes</b>			
Worm gear type SSN31	●	●	
Worm gear type SSN40		●	●
Planetary gearbox type SPL62	●	●	
Planetary gearbox type SPL81		●	●
Planetary gearbox type SPL12			●
Helical gearbox type GST03	●	●	
Helical gearbox type GST04		●	●
Helical gearbox type GST05			●
Bevel gearbox type GKR03		●	●
Bevel gearbox type GKR04			●



SDSGRS056-22



Worm gearbox



Planetary gearbox



Bevel gearbox



Helical gearbox