

# Motor controllers SFC-LACI



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Key features



## Hardware

- The motor controller SFC-LACI serves as a closed-loop and open-loop position controller
- Available with or without control panel
- Can be mounted near the drive thanks to IP54 protection
- H-rail mounting possible

Parameterisation possible via:

- Control panel:
  - suitable for simple position sequences
- FCT (Festo Configuration Tool) configuration package:
  - parameterisation via RS 232 interface
  - Windows-based PC user interface, Festo Configuration Tool

Easy actuation via:

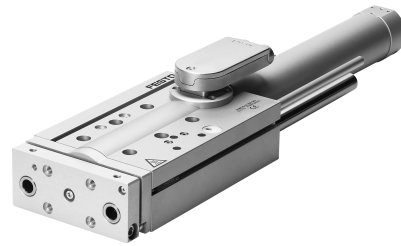
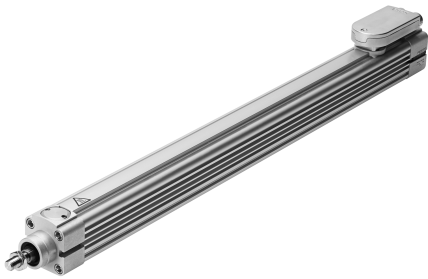
- I/O interface
- Profibus
- CANopen, incl. “Interpolated position mode”
- DeviceNet



## For actuating

Electric cylinder DNCE-LAS

Guided drive DFME-LAS



## FHPP – Festo Handling and Positioning Profile

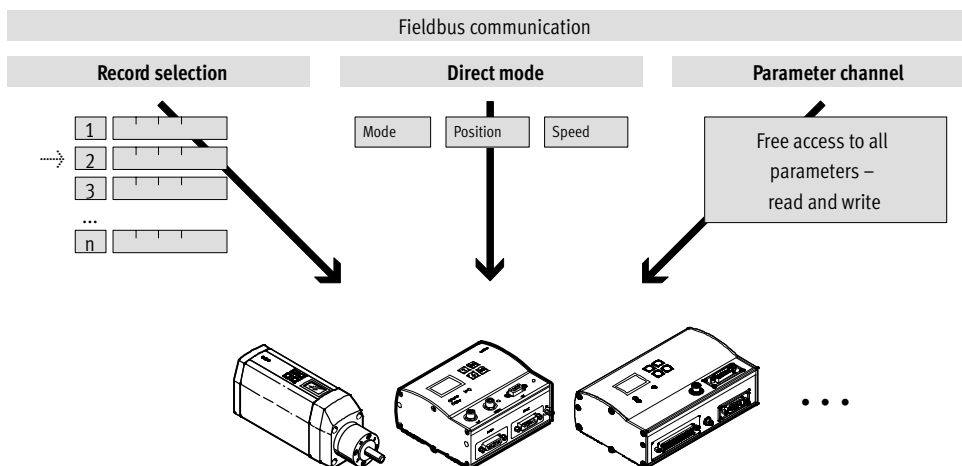
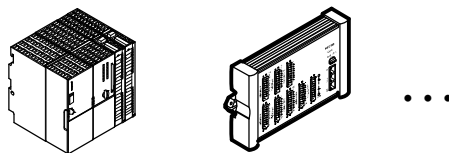
Optimised data profile

Festo has developed an optimised data profile, the “Festo Handling and Positioning Profile (FHPP)”, that is tailored to handling and positioning applications.

The FHPP data profile permits the actuation of Festo motor controllers, using a fieldbus interface, via standardised control and status bytes.

The following are defined, among others:

- operating modes
- I/O data structure
- parameter objects
- sequence control



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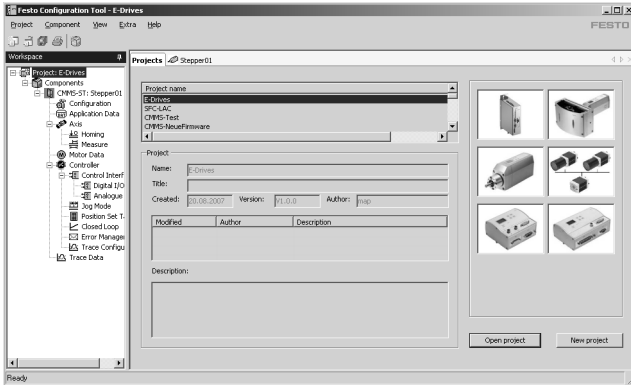
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Key features



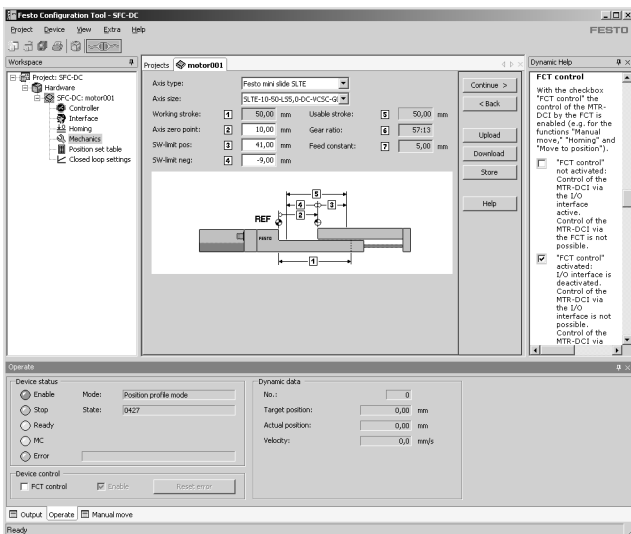
## FCT software – Festo Configuration Tool

Software platform for electric drives from Festo



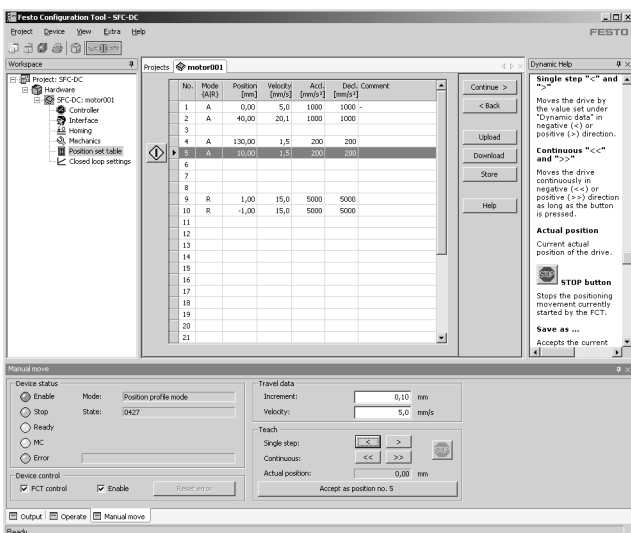
- All drives in a system can be managed and archived in a common project
- Project and data management for all supported device types
- Simple to use thanks to graphically-supported parameter entry
- Universal mode of operation for all drives
- Working offline at your desk or online at the machine

## Mechanical reference positions and limit positions



- Reference positions can be either edited or taught in
- Flexible adaptation to installation conditions
- Settings are displayed clearly

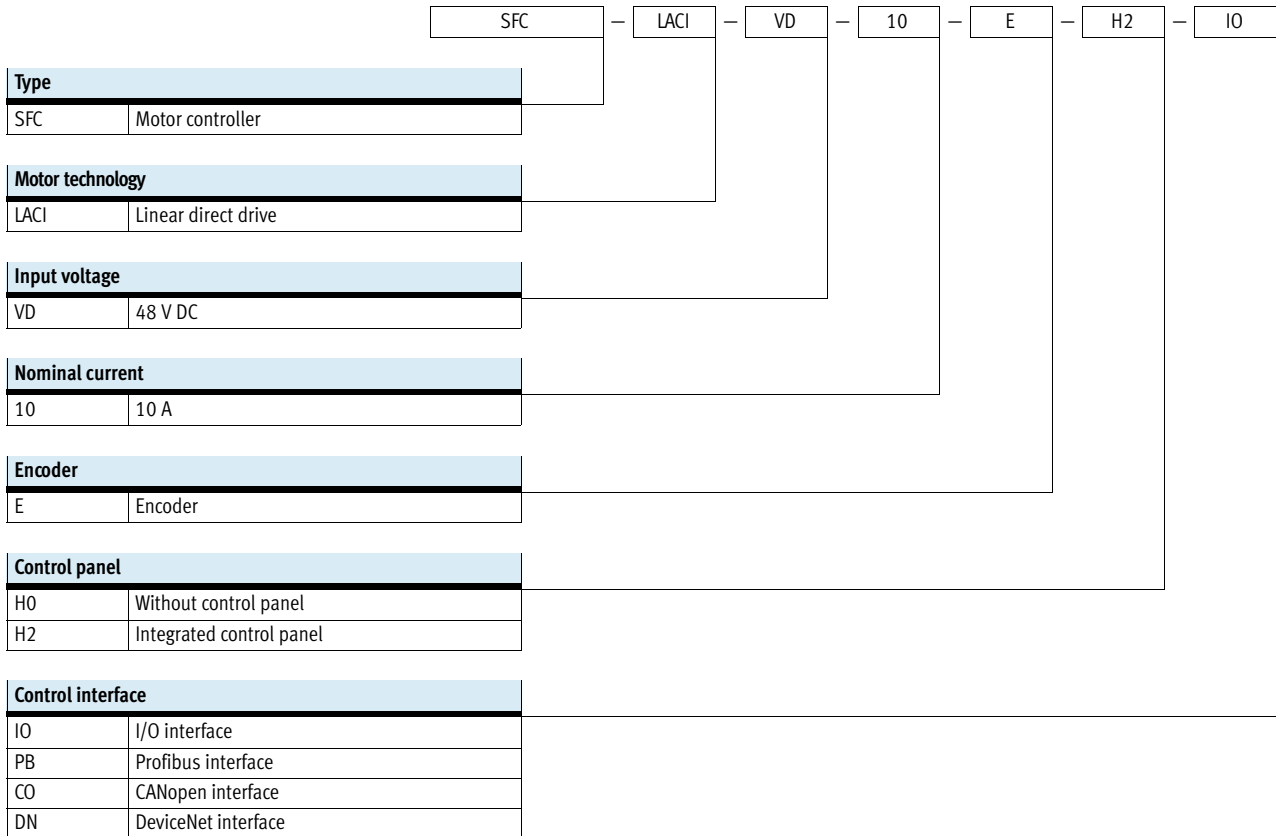
## Position set table



- 31 position sets ensure flexibility in positioning
- Absolute or relative positioning values can be used
- The following parameters can be set flexibly for each application:
  - position
  - speed
  - acceleration
  - braking ramps
- Force control
- Complete function test

# Motor controllers SFC-LACI

Type codes



# Motor controllers SFC-LACI

Technical data

Fieldbus interfaces



General technical data				
Type	SFC-...-IO	SFC-...-PB	SFC-...-CO	SFC-...-DN
Operating mode	Adaptive status controller			
Position sensor	Encoder			
Display (optional)	Interface with full-text display via graphic LCD display (128 x 64 pixels)			
Control elements (optional)	4 keys			
Interface	I/O interface for 31 position sets and homing	Profibus DP	CANopen	DeviceNet
Number of digital logic inputs	8+2 <sup>1)</sup>	2 <sup>2)</sup>		
Number of digital logic outputs	4+3 <sup>1)</sup>	3 <sup>2)</sup>		
Characteristics of digital logic outputs	Configurable			
Bus terminating resistor [Ω]	–	120 (not integrated in the device)		
Communication profile	–	DP-V0/V1, FHPP	DS301, FHPP	FHPP
	–	Step7 functional modules	DS301, DSP402	Device type 0C <sub>h</sub>
Max. fieldbus transmission rate [Mbps]	–	12	1	0.5
Encoder interface	RS485/RS422, BiSS			
Mains filter	Integrated			
Type of mounting	H-rail, wall or surface bracket			
Product weight [g]	1,300			

1) Control interface + local inputs/outputs.

2) Local inputs/outputs.

Electrical data		
General		
Rated output [VA]		480
Parameterisation interface		RS232; 38,400 baud
Max. intermediate circuit voltage [V DC]		48
Peak output [VA]		960
Nominal current per phase, effective		10
Peak current per phase, effective [A]		15
Load supply		
Nominal voltage [V DC]		48 +5/-10%
Nominal current [A]		10
Peak current [A]		20
Logic supply		
Nominal voltage [V DC]		24 ±10%
Nominal current [A]		0.5
Peak current [A]		3.8
Max. current per output (digital logic outputs) [A]		0.5

# Motor controllers SFC-LACI

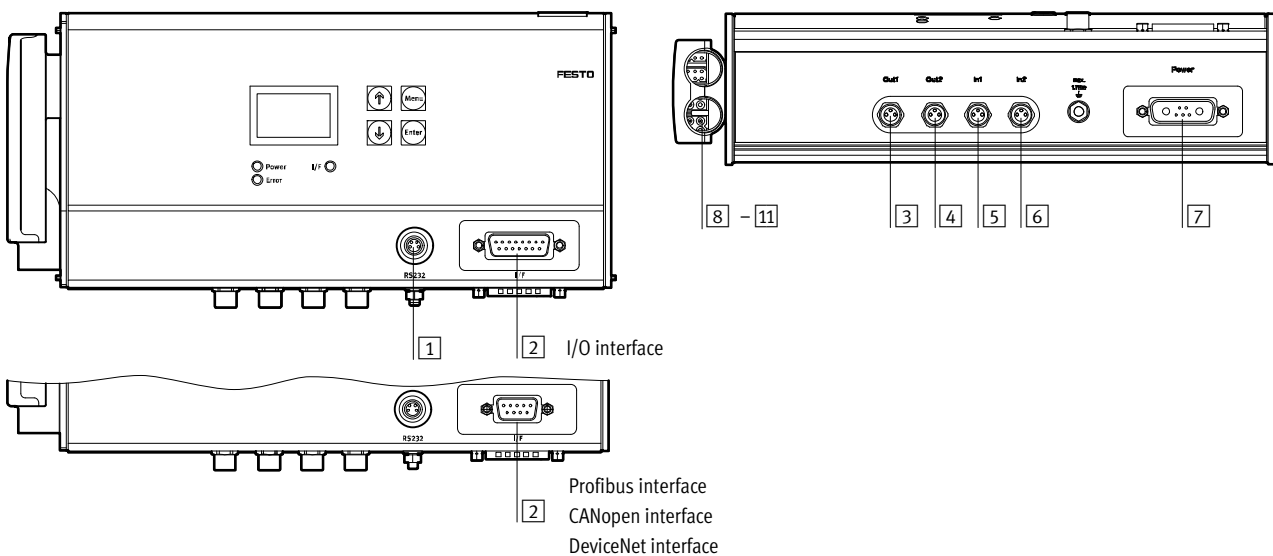
Technical data



Function blocks for PLC programming				
Programming software	Controller manufacturer	Interfaces		
		CANopen	Profibus DP	DeviceNet
CoDeSys	Festo			
	Beckhoff	■	■	■
	Other manufacturers			
RSLogix5000	Rockwell Automation	-	-	■
Step 7	Siemens	-	■	-

Operating and environmental conditions	
Digital logic outputs	Galvanically isolated
Digital logic inputs (control interface)	Galvanically isolated
Logic input specification	IEC 61131
Mains filter	Integrated
Protection class	IP54
Vibration resistance	To DIN EN 60068-2-6
Shock resistance	To DIN EN 60068-2-27
Protective function	I <sup>2</sup> t monitoring
	Current monitoring
	Voltage failure detection
	Following error monitoring
	Software end-position detection
	Temperature monitoring
CE mark (see declaration of conformity)	To EU EMC Directive
Ambient temperature	[°C] 0 ... +40
Relative air humidity	[%] 0 ... 95 (non-condensing)
Note on materials	Contains PWIS (paint-wetting impairment substances)
	RoHS-compliant
Certification	C-Tick

## Pin allocation



1 RS 232 interface, 4-pin M8 socket	
Pin	Function
1	0 V
2	Transmitted data (TxD)
3	Received data (RxD)
4	-

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# Motor controllers SFC-LACI

Technical data

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2 I/O interface, 15-pin Sub-D plug	
Pin	Function
1	24 V (supply for output)
2	Position set coding, bit 1
3	Position set coding, bit 2
4	Position set coding, bit 3
5	Position set coding, bit 4
6	Position set coding, bit 5
7	Stop bit
8	0 V
9	Enable bit
10	Start bit
11	MC
12	Ready
13	Acknowledge
14	Error
15	0 V

2 Profibus interface, 9-pin Sub-D socket	
Pin	Function
1	–
2	–
3	RxD/TxD-P
4	CNTR-P
5	DGND
6	VP
7	–
8	RxD/TxD-N
9	–

2 CANopen interface, 9-pin Sub-D plug	
Pin	Function
1	–
2	CAN_L
3	CAN_GND
4	–
5	CAN_SHLD
6	CAN_V–
7	CAN_H
8	–
9	CAN_V+

2 DeviceNet interface, 9-pin Sub-D plug	
Pin	Function
1	–
2	CAN_L
3	CAN_GND
4	–
5	CAN_SHLD
6	CAN_V–
7	CAN_H
8	–
9	CAN_V+

3 – 6 Local digital inputs and outputs, 3-pin M8 socket	
Pin	Function
3 Out 1	
1	0 V
2	Signal
3	+24 VDC logic voltage output
4 Out 2	
1	0 V
2	Signal A
3	Signal /A
5 In 1	
1	0 V
2	Proximity sensor contact
3	24 VDC voltage output for proximity sensor
6 In 2	
1	0 V
2	Proximity sensor contact
3	24 V voltage output for proximity sensor

7 Power supply, 7-pin plug	
Pin	Function
A1	48 V (load)
A2	0 V (load)
1	24 V (logic)
2	0 V (logic)
3	24 V hardware enable
4	FE
5	0 V hardware enable

8 – 11 Motor interface, plug	
Pin	Function
8 Black plug	
1	String U
2	String V
3	String W
9 Black plug	
1	String U/
2	String V/
3	String W/
10 Yellow plug	
1	VCC +24 VDC
2	VCC GND
3	Temperature sensor
4	Temperature sensor GND
5	Reference switch +
6	Reference switch –
11 Red plug	
1	Data output SLO+
2	Data output SLO –
3	Displacement encoder GND
4	Displacement encoder VCC
5	Pulse input –
6	Pulse input +

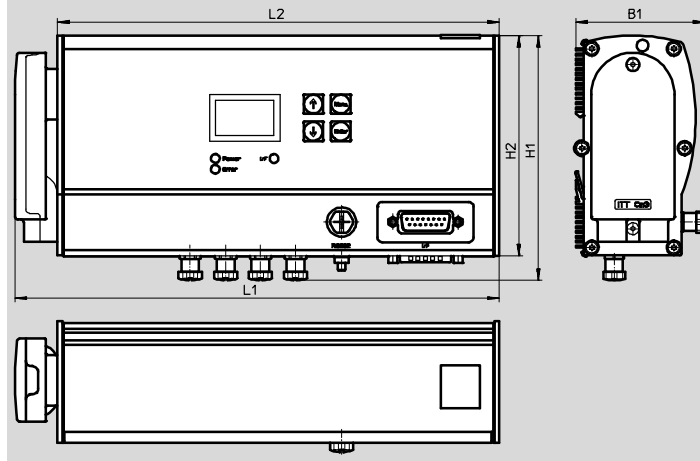
# Motor controllers SFC-LACI

Technical data and accessories

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## Dimensions

Download CAD data → [www.festo.com](http://www.festo.com)



Type	B1	H1	H2	L1	L2
SFC-LACI...	66	125.5	112.8	248.3	226.5

## Ordering data

Motor controller	Brief description	Part No.	Type
	With I/O interface		
	Without control panel	562845	SFC-LACI-VD-10-E-H0-IO
	With control panel	562846	SFC-LACI-VD-10-E-H2-IO
	With Profibus interface		
	Without control panel	562847	SFC-LACI-VD-10-E-H0-PB
	With control panel	562848	SFC-LACI-VD-10-E-H2-PB
	With CANopen interface		
	Without control panel	562849	SFC-LACI-VD-10-E-H0-CO
	With control panel	562850	SFC-LACI-VD-10-E-H2-CO
	With DeviceNet interface		
	Without control panel	562851	SFC-LACI-VD-10-E-H0-DN
	With control panel	562852	SFC-LACI-VD-10-E-H2-DN

## Accessories

### Ordering data – Cables

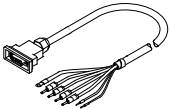
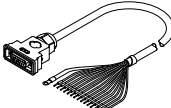
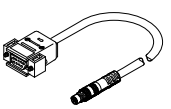
	Brief description	Cable length <sup>1)</sup> [m]	Part No.	Type
	Motor cable, for connecting motor and controller	2.5	556794	NEBM-T1G6-T1G6-2.5
		5	556796	NEBM-T1G6-T1G6-5
		10	556798	NEBM-T1G6-T1G6-10
	Encoder cable, for connecting motor and controller	2.5	556795	NEBM-T1G12-T1G12-2.5
		5	556797	NEBM-T1G12-T1G12-5
		10	556799	NEBM-T1G12-T1G12-10

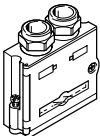
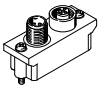
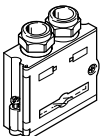
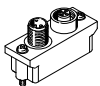
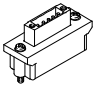
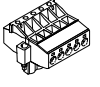
1) Other cable lengths on request.



# Motor controllers SFC-LACI

Accessories


Ordering data – Cables				
	Brief description	Cable length [m]	Part No.	Type
	Supply cable, for connecting load and logic supply	2.5	538914	KPWR-MC-1-SUB-15HC-2,5
		5	538915	KPWR-MC-1-SUB-15HC-5
		10	538916	KPWR-MC-1-SUB-15HC-10
	Control cable, for I/O interface to any controller	2.5	538919	KES-MC-1-SUB-15-2,5
		5	538920	KES-MC-1-SUB-15-5
		10	538921	KES-MC-1-SUB-15-10
	Programming cable, for parameterisation and commissioning via RS232 interface using FCT software	2.5	537926	KDI-MC-M8-SUB-9-2,5

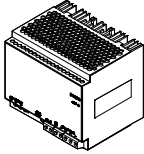
Ordering data – Plugs			
	Brief description	Part No.	Type
<b>Plug for Profibus</b>			
	<ul style="list-style-type: none"> <li>– 9-pin Sub-D connection</li> <li>– Bus terminating resistor integrated</li> <li>– Position of DIL switches can be read externally</li> <li>– IP65</li> </ul>	532216	FBS-SUB-9-GS-DP-B
<b>Bus connection adapter for Profibus</b>			
	<ul style="list-style-type: none"> <li>– 9-pin Sub-D plug to 5-pin round plug/socket M12</li> <li>– Bus terminating resistor must be connected externally</li> </ul>	533118	FBA-2-M12-5POL-RK
<b>Plug for CANopen and DeviceNet</b>			
	<ul style="list-style-type: none"> <li>– 9-pin Sub-D connection</li> <li>– Bus terminating resistor integrated</li> <li>– Position of DIL switches can be read externally</li> <li>– IP65</li> </ul>	532219	FBS-SUB-9-BU-2x5POL-B
<b>Bus connection adapter for CANopen and DeviceNet</b>			
	<ul style="list-style-type: none"> <li>– 9-pin Sub-D plug to 5-pin round plug/socket M12</li> <li>– Bus terminating resistor must be connected externally</li> </ul>	525632	FBA-2-M12-5POL
	<ul style="list-style-type: none"> <li>– 9-pin Sub-D plug to 5-pin strip</li> <li>– Bus terminating resistor must be connected externally</li> </ul>	525634	FBA-1-SL-5POL
	– 5-pin terminal strip for connecting the fieldbus cable to the bus connection adapter FBA-1-SL-5POL	525635	FBSD-KL-2x5POL

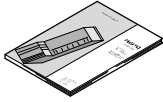
# Motor controllers SFC-LACI

Accessories

**FESTO**

Ordering data – Central support			
	Brief description	Part No.	Type
Central support			
	For mounting the controller on a mounting plate	<b>160909</b>	<b>MUP-8/12</b>

Ordering data – Power supply units						
	Brief description	Input voltage range [V AC]	Nominal output voltage [V DC]	Nominal output current [A]	Part No.	Type
	Power supply for motor controller	100 ... 240	48	10	<b>542404</b>	<b>SVG-1/230VAC-48VDC-10A</b>
		400 ... 500	48	20	<b>542405</b>	<b>SVG-3/400VAC-48VDC-20A</b>

Ordering data – Documentation <sup>1)</sup>					
	Language	Part No.	Type	Part No.	Type
		For I/O interface		For Profibus interface	
	DE	<b>567362</b>	<b>GDCP-SFC-LACI-IO-DE</b>	<b>567374</b>	<b>GDCP-SFC-LACI-PB-DE</b>
	EN	<b>567363</b>	<b>GDCP-SFC-LACI-IO-EN</b>	<b>567375</b>	<b>GDCP-SFC-LACI-PB-EN</b>
	ES	<b>567364</b>	<b>GDCP-SFC-LACI-IO-ES</b>	<b>567376</b>	<b>GDCP-SFC-LACI-PB-ES</b>
	FR	<b>567365</b>	<b>GDCP-SFC-LACI-IO-FR</b>	<b>567377</b>	<b>GDCP-SFC-LACI-PB-FR</b>
	IT	<b>567366</b>	<b>GDCP-SFC-LACI-IO-IT</b>	<b>567378</b>	<b>GDCP-SFC-LACI-PB-IT</b>
		For CANopen interface		For DeviceNet interface	
	DE	<b>567380</b>	<b>GDCP-SFC-LACI-CO-DE</b>	<b>567386</b>	<b>GDCP-SFC-LACI-DN-DE</b>
	EN	<b>567381</b>	<b>GDCP-SFC-LACI-CO-EN</b>	<b>567387</b>	<b>GDCP-SFC-LACI-DN-EN</b>
	ES	<b>567382</b>	<b>GDCP-SFC-LACI-CO-ES</b>	<b>567388</b>	<b>GDCP-SFC-LACI-DN-ES</b>
	FR	<b>567383</b>	<b>GDCP-SFC-LACI-CO-FR</b>	<b>567389</b>	<b>GDCP-SFC-LACI-DN-FR</b>
	IT	<b>567384</b>	<b>GDCP-SFC-LACI-CO-IT</b>	<b>567390</b>	<b>GDCP-SFC-LACI-DN-IT</b>

1) Manual in paper form is not included in the scope of delivery.