Motor controllers SFC-LAC

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Motor controllers SFC-LAC

Key features

Hardware

- The motor controller SFC-LAC serves as a positioning controller and closed loop position controller
- Available with or without control panel
- Thanks to IP54 protection, the motor controller can be mounted close to the drive

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

- Easy actuation via:
  - I/O interface
  - Profibus
  - CANopen, “Interpolated position mode” included
  - DeviceNet

For controlling

linear module HME

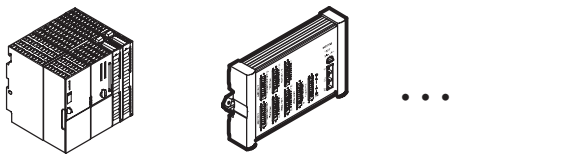
FHPP – Festo Handling and Positioning Profile

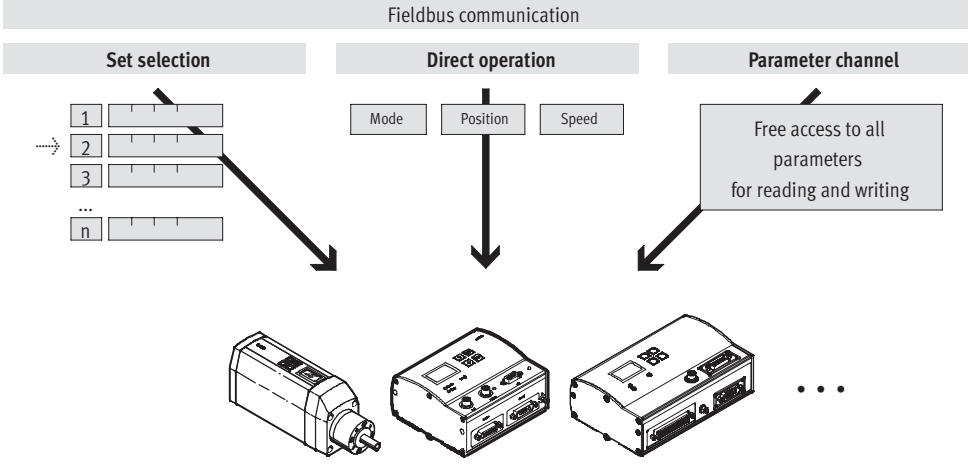
Optimised data profile

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

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





Motor controllers SFC-LAC

Key features

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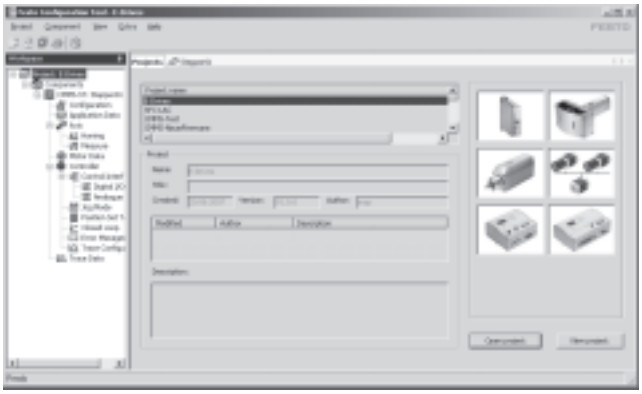
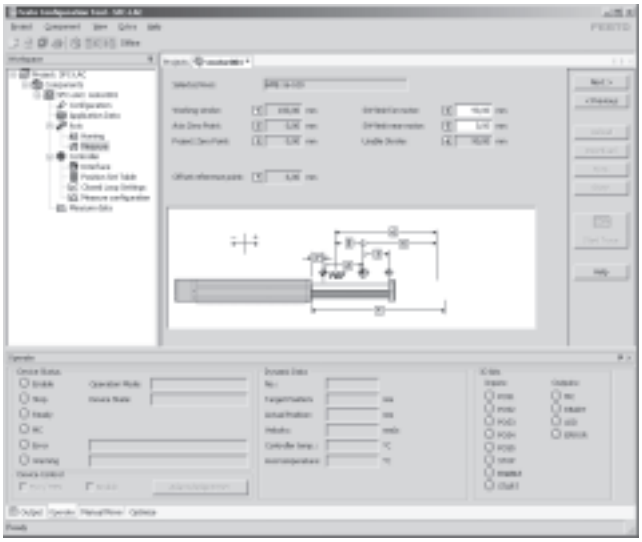
FCT software – Festo Configuration Tool

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



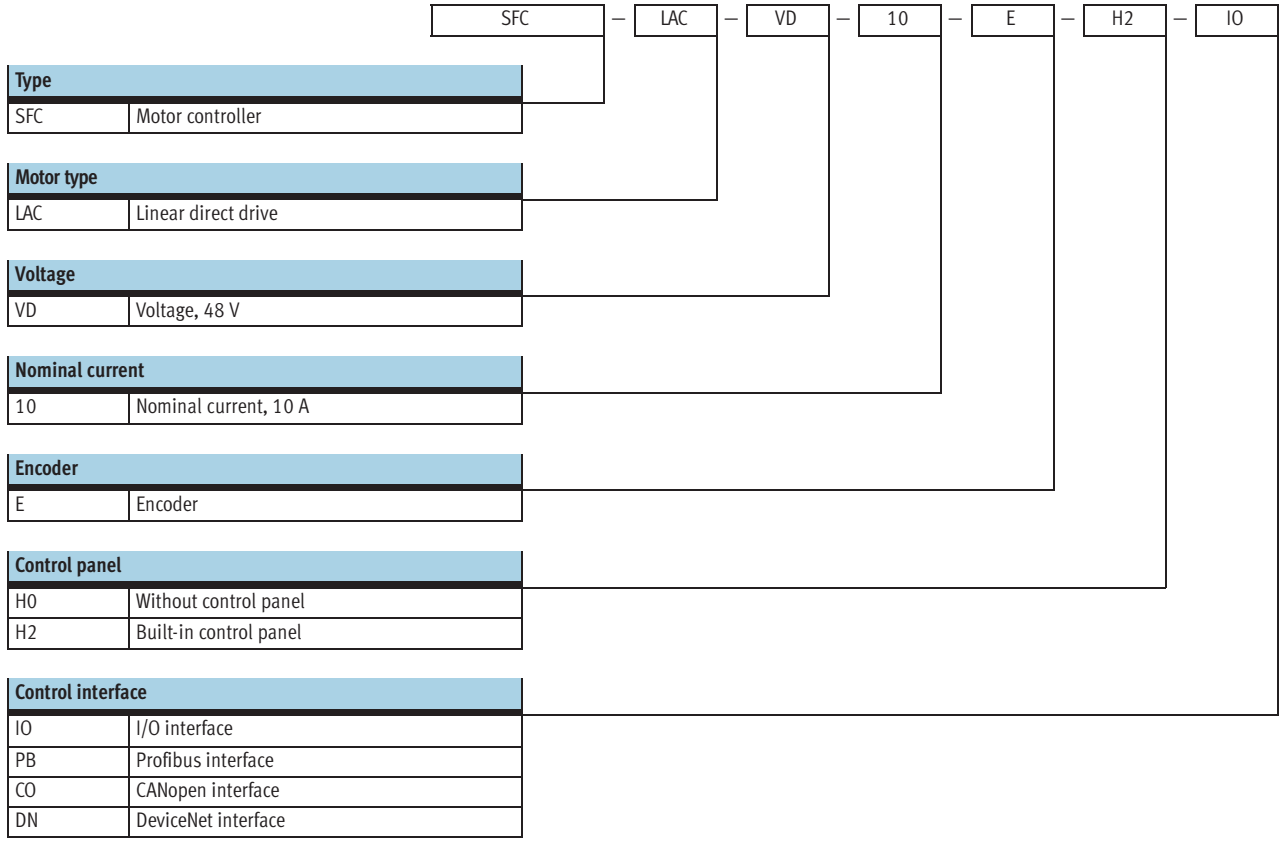
- Reference positions can be either edited or taught in
- Flexible adaptation to installation conditions
- Settings are displayed clearly

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
- Complete function test

Motor controllers SFC-LAC

Type codes



Type	
SFC	Motor controller

Motor type	
LAC	Linear direct drive

Voltage	
VD	Voltage, 48 V

Nominal current	
10	Nominal current, 10 A

Encoder	
E	Encoder

Control panel	
H0	Without control panel
H2	Built-in control panel

Control interface	
IO	I/O interface
PB	Profibus interface
CO	CANopen interface
DN	DeviceNet interface

Motor controllers SFC-LAC

Technical data

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Fieldbus interfaces

General technical data					
Type		SFC-...-IO	SFC-...-PB	SFC-...-CO	SFC-...-DN
Operating mode		Adaptive status controller			
Position sensor		Encoder			
Encoder input		CAN bus			
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	–		
Number of digital logic outputs		4	–		
Bus terminating resistor		–	Not integrated in the device		
Communication profile		–	DP-V0/V1 / FHPP	DS301 / FHPP	FHPP
		–	Step7 functional modules	DS301, DSP402	Device type $0C_h$
Max. fieldbus baud rate	[Mbit/s]	–	12	1	0.5
Mains filter		Integrated			
Type of mounting		H-rail, wall or surface bracket			
Product weight	[g]	1,200			

Electrical data		
General		
Rated output	[VA]	480
Parameterisation interface		RS232; 38,400 baud
Max. intermediate circuit voltage	[V DC]	48
Peak power	[VA]	960
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]	0.8
Max. current per output (digital logic outputs)	[A]	0.5

Motor controllers SFC-LAC

Technical data

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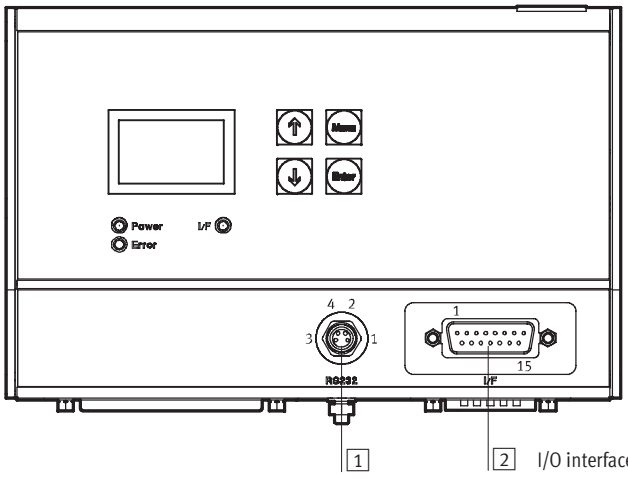
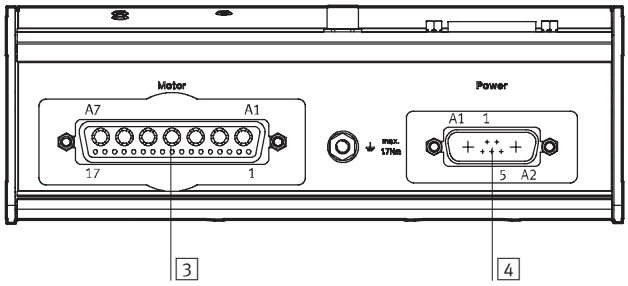
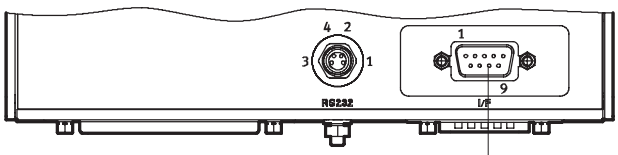
Operating and environmental conditions					
Type		SFC-...-IO	SFC-...-PB	SFC-...-CO	SFC-...-DN
Digital logic outputs		Electrically isolated	–	–	–
Logic inputs		Electrically isolated	–	–	–
Logic input specification		IEC 61131	–	–	–
Mains filter		Integrated			
Protection class		IP54			
Vibration resistance		To DIN EN 60068-2-6			
Shock resistance		To DIN EN 60068-2-27			
Protective function		I^2t monitoring			
		Current monitoring			
		Voltage failure detection			
		Lag error monitoring			
		Software end position detection			
		Temperature monitoring			
CE mark (see declaration of conformity)		In accordance with EU EMC directive			
Ambient temperature	[°C]	0 ... +40			
Relative air humidity	[%]	0 ... 95 (non-condensing)			
Certification		C-Tick			

Pin allocation



1 2 I/O interface





2 Profibus interface
CANopen interface
DeviceNet interface

Motor controllers SFC-LAC

Technical data

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1 RS232 interface, 4-pin M8 socket	
Pin	Function
1	0 V
2	Transmitted data (TxD)
3	Received data (RxD)
4	–

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 Motor interface, 24-pin plug connector	
Pin	Function
A1	String 1+
A2	String 1–
A3	String 2+
A4	0 V
A5	String 2–
A6	String 3+
A7	String 3–
1	24 V
2	–
3	–
4	CAN-H line
5	CAN-L line
6	CAN ground
7	–
8	–
9	–
10	–
11	–
12	–
13	–
14	–
15	–
16	0 V
17	–

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

Motor controllers SFC-LAC

Technical data

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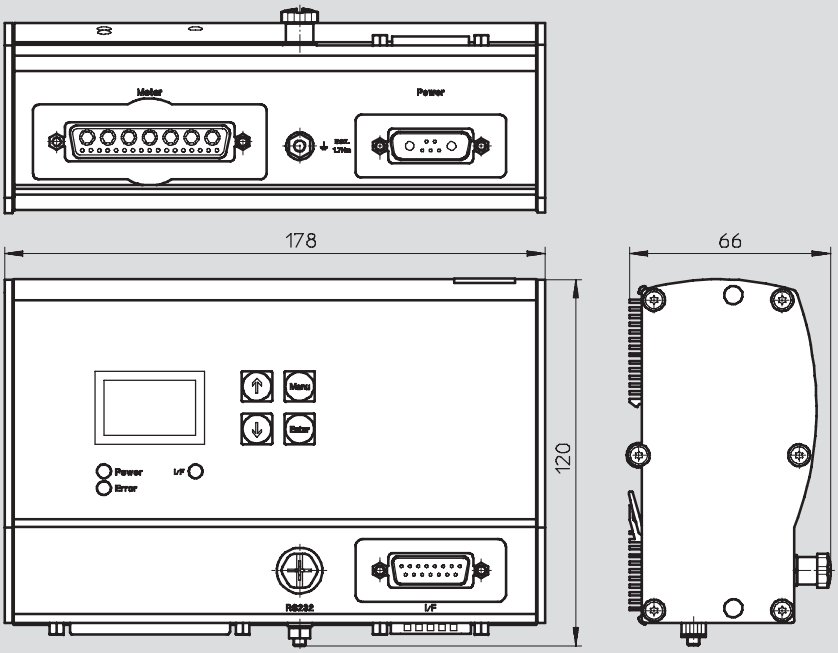
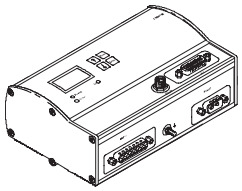
Dimensions

Download CAD data ➔ **www.festo.com**



Ordering data

Motor controller	Brief description	Part No.	Type
	With I/O interface		
	Without control panel	**540 038**	**SFC-LAC-VD-10-E-H0-IO**
	With control panel	**540 039**	**SFC-LAC-VD-10-E-H2-IO**
	With Profibus interface		
	Without control panel	**540 631**	**SFC-LAC-VD-10-E-H0-PB**
	With control panel	**540 632**	**SFC-LAC-VD-10-E-H2-PB**
	With CANopen interface		
	Without control panel	**540 633**	**SFC-LAC-VD-10-E-H0-CO**
	With control panel	**540 634**	**SFC-LAC-VD-10-E-H2-CO**
	With DeviceNet interface		
	Without control panel	**552 346**	**SFC-LAC-VD-10-E-H0-DN**
	With control panel	**552 347**	**SFC-LAC-VD-10-E-H2-DN**

Motor controllers SFC-LAC

Accessories

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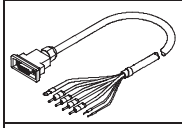
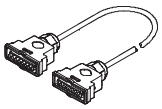
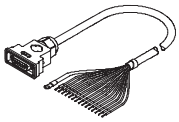
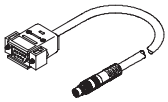
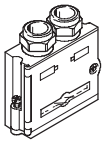
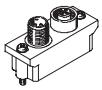
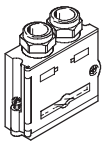
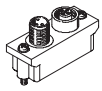
Ordering data – Cables				
	Brief description	Cable length [m]	Part No.	Type
	Supply cable, for connecting load and logic supply	2.5	**538 914**	**KPWR-MC-1-SUB-15HC-2,5**
		5	**538 915**	**KPWR-MC-1-SUB-15HC-5**
		10	**538 916**	**KPWR-MC-1-SUB-15HC-10**
	Motor cable, for connecting motor and controller	2.5	**539 489**	**KMTR-LAC-S50HC-S50HC-2,5**
		5	**539 490**	**KMTR-LAC-S50HC-S50HC-5**
		10	**539 491**	**KMTR-LAC-S50HC-S50HC-10**
	Control cable, for I/O interface to any controller	2.5	**538 919**	**KES-MC-1-SUB-15-2,5**
		5	**538 920**	**KES-MC-1-SUB-15-5**
		10	**538 921**	**KES-MC-1-SUB-15-10**
	Programming cable, for parameterisation and commissioning via RS232 interface using FCT software	2.5	**537 926**	**KDI-MC-M8-SUB-9-2,5**

Ordering data – Plugs			
	Brief description	Part No.	Type
Plug for Profibus			
	– 9-pin Sub-D connection – Bus terminating resistor integrated – Position of DIL switch can be read externally – IP65	**532 216**	**FBS-SUB-9-GS-DP-B**
Bus connection adapter for Profibus			
	– 9-pin Sub-D plug to 5-pin round plug/socket M12 – Bus terminating resistor must be connected externally	**533 118**	**FBA-2-M12-5POL-RK**
Plug for CANopen and DeviceNet			
	– 9-pin Sub-D connection – Bus terminating resistor integrated – Position of DIL switch can be read externally – IP65	**532 219**	**FBS-SUB-9-BU-2x5POL-B**
Bus connection adapter for CANopen and DeviceNet			
	– 9-pin Sub-D plug to 5-pin round plug/socket M12 – Bus terminating resistor must be connected externally	**525 632**	**FBA-2-M12-5POL**
	– 9-pin Sub-D plug to 5-pin strip – Bus terminating resistor must be connected externally	**525 634**	**FBA-1-SL-5POL**
	– 5-pin terminal strip for connecting the fieldbus cable to the bus connection adapter FBA-1-SL-5POL	**525 635**	**FBSD-KL-2x5POL**

Motor controllers SFC-LAC

Accessories

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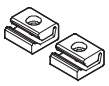
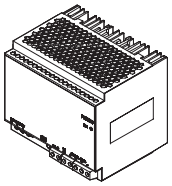
Ordering data – Central support

	Brief description	Part No.	Type
Central support			
	For mounting the controller	**160 909**	**MUP-8/12**

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	5	**542 403**	**SVG-1/230VAC-48VDC-5A**
		100 ... 240	48	10	**542 404**	**SVG-1/230VAC-48VDC-10A**
		400 ... 500	48	20	**542 405**	**SVG-3/400VAC-48VDC-20A**

Ordering data – Documentation and software

	Brief description	Part No.	Type
	Operating package contains: – CD-ROM – with user documentation for SFC-LAC, in the languages de, en, es, fr, it, sv – with FCT (Festo Configuration Tool) configuration software, in the languages de, en – Brief description This operating package is included in the scope of delivery.	**542 004**	**P.BP-SFC-LAC**

Ordering data – Documentation[1)]

	Language	Part No.	Type		Part No.	Type
		For I/O interface			For Profibus interface	
	DE	**540 547**	**P.BE-SFC-LAC-IO-DE**		**540 649**	**P.BE-SFC-LAC-PB-DE**
	EN	**540 548**	**P.BE-SFC-LAC-IO-EN**		**540 650**	**P.BE-SFC-LAC-PB-EN**
	ES	**540 549**	**P.BE-SFC-LAC-IO-ES**		**540 651**	**P.BE-SFC-LAC-PB-ES**
	FR	**540 550**	**P.BE-SFC-LAC-IO-FR**		**540 652**	**P.BE-SFC-LAC-PB-FR**
	IT	**540 551**	**P.BE-SFC-LAC-IO-IT**		**540 653**	**P.BE-SFC-LAC-PB-IT**
	SV	**540 552**	**P.BE-SFC-LAC-IO-SV**		**540 654**	**P.BE-SFC-LAC-PB-SV**
		For CANopen interface			For DeviceNet interface	
	DE	**540 655**	**P.BE-SFC-LAC-CO-DE**		**555 886**	**P.BE-SFC-LAC-DN-DE**
	EN	**540 656**	**P.BE-SFC-LAC-CO-EN**		**555 887**	**P.BE-SFC-LAC-DN-EN**
	ES	**540 657**	**P.BE-SFC-LAC-CO-ES**		**555 888**	**P.BE-SFC-LAC-DN-ES**
	FR	**540 658**	**P.BE-SFC-LAC-CO-FR**		**555 889**	**P.BE-SFC-LAC-DN-FR**
	IT	**540 659**	**P.BE-SFC-LAC-CO-IT**		**555 890**	**P.BE-SFC-LAC-DN-IT**
	SV	**540 660**	**P.BE-SFC-LAC-CO-SV**		**555 891**	**P.BE-SFC-LAC-DN-SV**

1) User documentation in paper form is not included in the scope of delivery