Motor controllers SFC-LACI

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Motor controllers SFC-LACI

Key features

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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

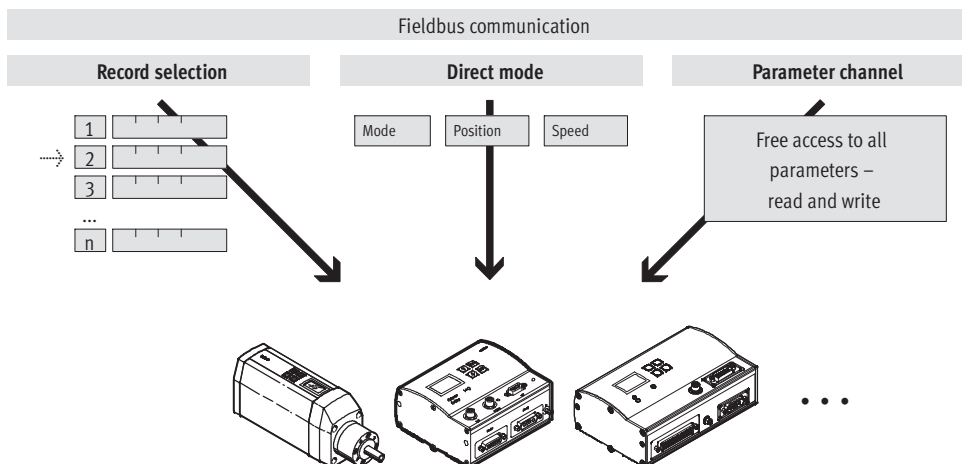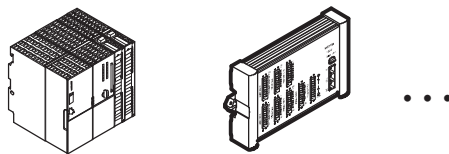| Electric cylinder DNCE-LAS | Guided drive DFME-LAS |

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

| | Fieldbus communication | |
| **Record selection** | **Direct mode** | **Parameter channel** |

1	Mode	Position	Speed	
2			
3			Free access to all parameters – read and write
...		
n		

PROFIBUS®, DeviceNet®, CANopen® is a registered trademark of its respective trademark holder in certain countries.
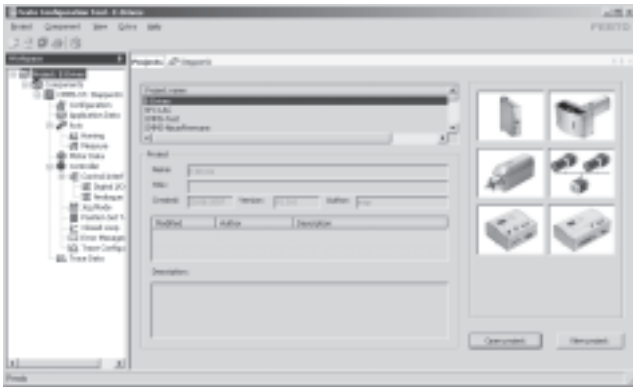
Motor controllers SFC-LACI

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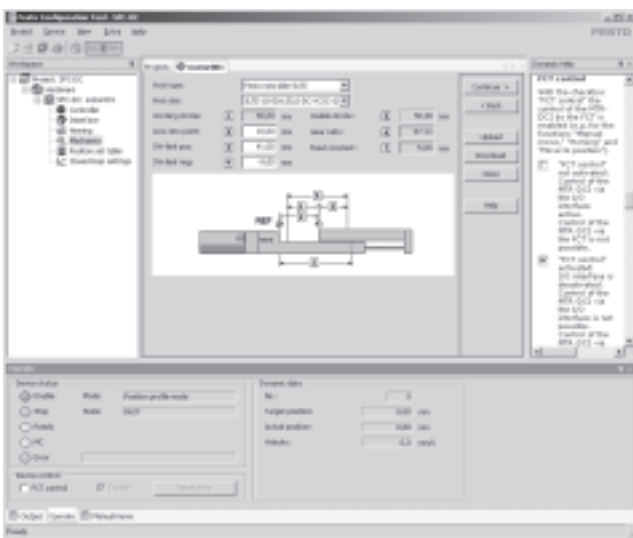
- Reference positions can be either edited or taught in
- Flexible adaptation to installation conditions
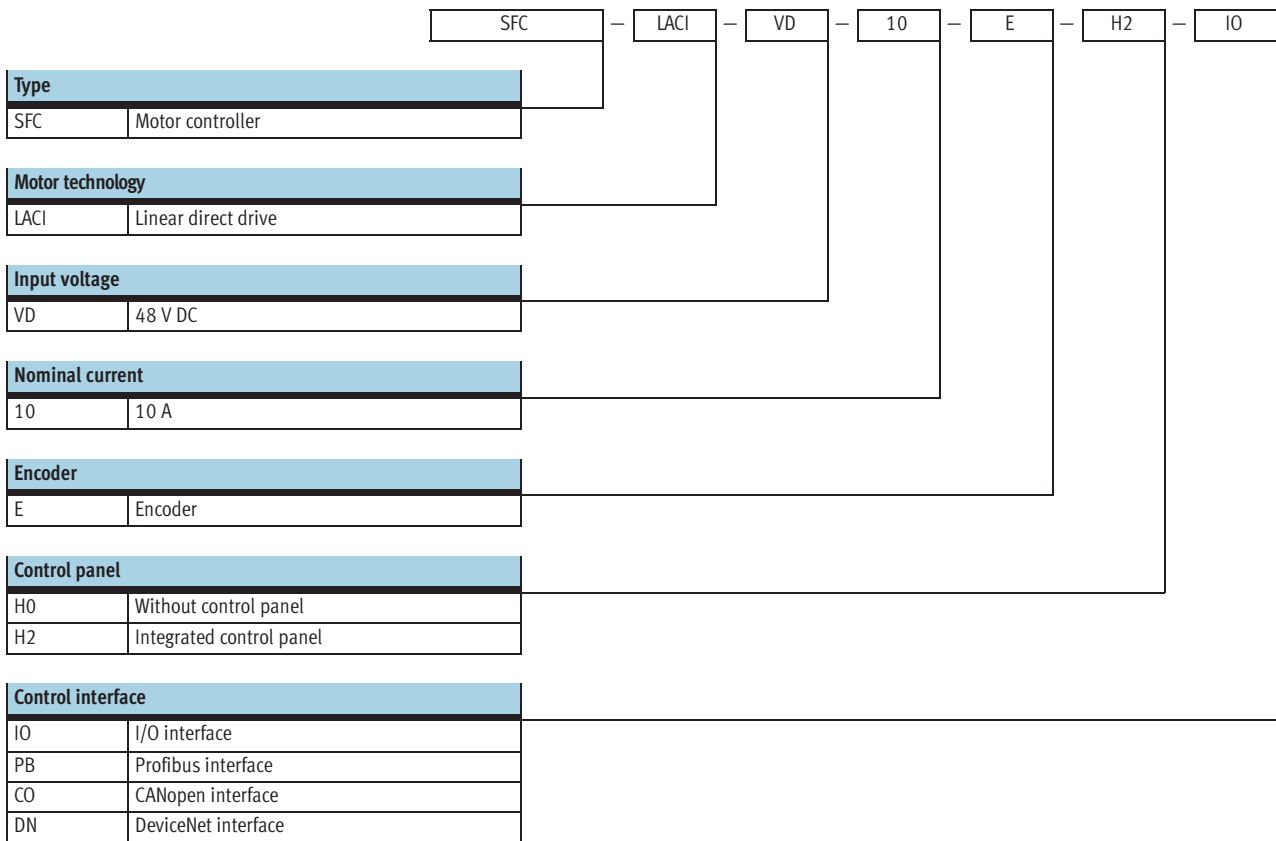- Settings are displayed clearly

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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

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| SFC | – | LACI | – | VD | – | 10 | – | E | – | H2 | – | IO |

Type	
SFC	Motor controller

Motor technology	
LACI	Linear direct drive

Input voltage	
VD	48 V DC

Nominal current	
10	10 A

Encoder	
E	Encoder

Control panel	
H0	Without control panel
H2	Integrated control panel

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

➜ Internet: www.festo.com/catalogue/…

Motor controllers SFC-LACI

Technical data

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Fieldbus interfaces

CANopen

DeviceNet

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[1]	2[2]		
Number of digital logic outputs		4+3[1]	3[2]		
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 $0C_h$
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

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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^2t 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

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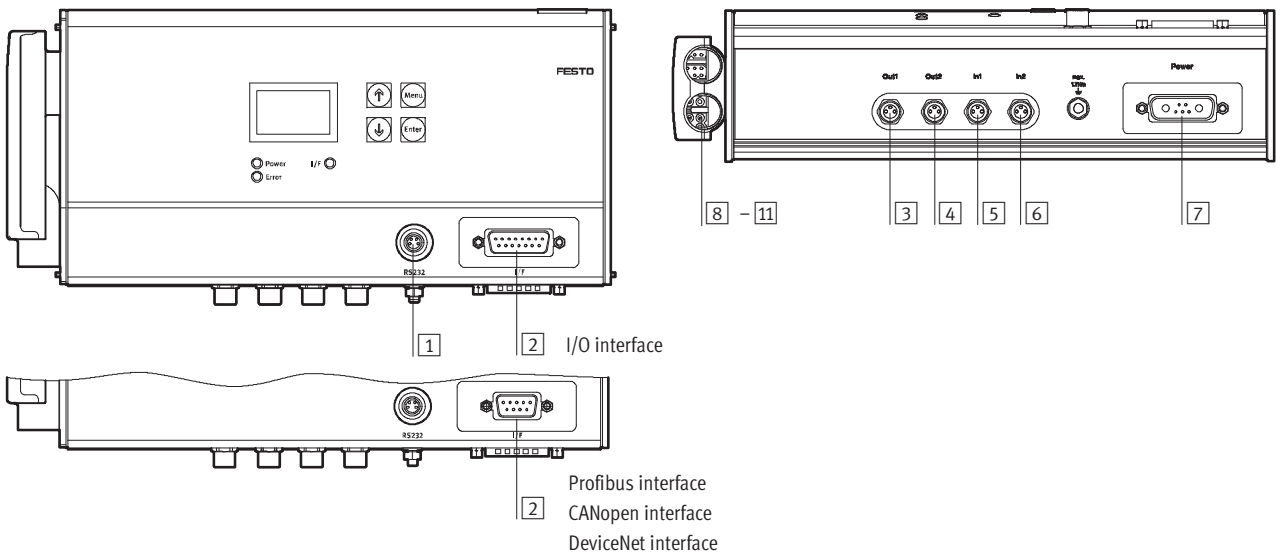
1 RS 232 interface, 4-pin M8 socket	
Pin	Function
1	0 V
2	Transmitted data (TxD)
3	Received data (RxD)
4	–

CoDeSys®, Rockwell Automation® is a registered trademark of its respective trademark holder in certain countries.

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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
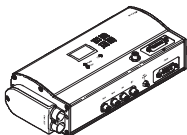
Technical data and accessories

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Dimensions Download CAD data ➔ **www.festo.com**
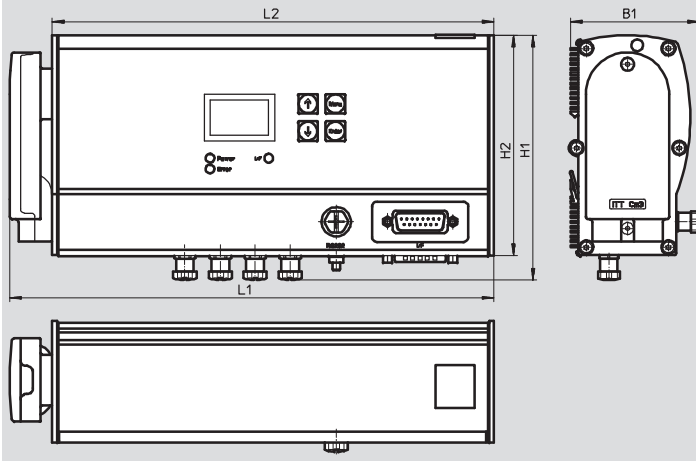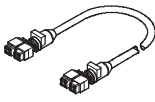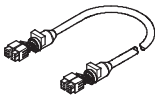
Type	B1	H1	H2	L1	L2
SFC-LACI-...	66	125.5	112.8	248.3	226.5

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
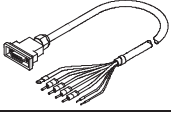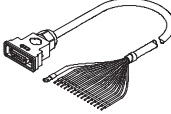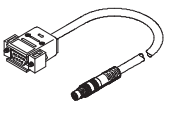
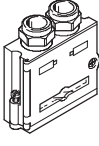|	Brief description	Cable length[1] [m]	Part No.	Type
	Motor cable,	2.5	**556794**	**NEBM-T1G6-T1G6-2,5**
	for connecting motor and controller	5	**556796**	**NEBM-T1G6-T1G6-5**
		10	**556798**	**NEBM-T1G6-T1G6-10**
	Encoder cable,	2.5	**556795**	**NEBM-T1G12-T1G12-2,5**
	for connecting motor and controller	5	**556797**	**NEBM-T1G12-T1G12-5**
		10	**556799**	**NEBM-T1G12-T1G12-10**
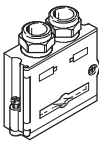
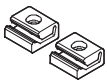1) Other cable lengths on request.

Motor controllers SFC-LACI

Accessories

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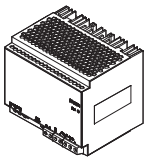
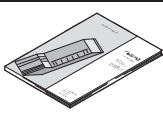| Ordering data – Cables				
	Brief description	Cable length [m]	Part No.	Type
	Supply cable, for connecting load and logic supply	2.5	**538914**	**KPWR-MC-1-SUB-15HC-2,5**
		5	**538915**	**KPWR-MC-1-SUB-15HC-5**
		10	**538916**	**KPWR-MC-1-SUB-15HC-10**
	Control cable, for I/O interface to any controller	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
Plug for Profibus			
	– 9-pin Sub-D connection – Bus terminating resistor integrated – Position of DIL switches can be read externally – IP65	**532216**	**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	**533118**	**FBA-2-M12-5POL-RK**
Plug for CANopen and DeviceNet			
	– 9-pin Sub-D connection – Bus terminating resistor integrated – Position of DIL switches can be read externally – IP65	**532219**	**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	**525632**	**FBA-2-M12-5POL**
	– 9-pin Sub-D plug to 5-pin strip – Bus terminating resistor must be connected externally	**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

Ordering data – Central support			
	Brief description	Part No.	Type
Central support			
	For mounting the controller on a mounting plate	**160909**	**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	10	**542404**	**SVG-1/230VAC-48VDC-10A**
		400 … 500	48	20	**542405**	**SVG-3/400VAC-48VDC-20A**

Ordering data – Documentation[1]					
	Language	Part No.	Type	Part No.	Type
		For I/O interface		For Profibus interface	
	DE	**567362**	**GDCP-SFC-LACI-IO-DE**	**567374**	**GDCP-SFC-LACI-PB-DE**
	EN	**567363**	**GDCP-SFC-LACI-IO-EN**	**567375**	**GDCP-SFC-LACI-PB-EN**
	ES	**567364**	**GDCP-SFC-LACI-IO-ES**	**567376**	**GDCP-SFC-LACI-PB-ES**
	FR	**567365**	**GDCP-SFC-LACI-IO-FR**	**567377**	**GDCP-SFC-LACI-PB-FR**
	IT	**567366**	**GDCP-SFC-LACI-IO-IT**	**567378**	**GDCP-SFC-LACI-PB-IT**
	SV	**567367**	**GDCP-SFC-LACI-IO-SV**	**567379**	**GDCP-SFC-LACI-PB-SV**
		For CANopen interface		For DeviceNet interface	
	DE	**567380**	**GDCP-SFC-LACI-CO-DE**	**567386**	**GDCP-SFC-LACI-DN-DE**
	EN	**567381**	**GDCP-SFC-LACI-CO-EN**	**567387**	**GDCP-SFC-LACI-DN-EN**
	ES	**567382**	**GDCP-SFC-LACI-CO-ES**	**567388**	**GDCP-SFC-LACI-DN-ES**
	FR	**567383**	**GDCP-SFC-LACI-CO-FR**	**567389**	**GDCP-SFC-LACI-DN-FR**
	IT	**567384**	**GDCP-SFC-LACI-CO-IT**	**567390**	**GDCP-SFC-LACI-DN-IT**
	SV	**567385**	**GDCP-SFC-LACI-CO-SV**	**567391**	**GDCP-SFC-LACI-DN-SV**

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