

Motor controllers SFC-LACI



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

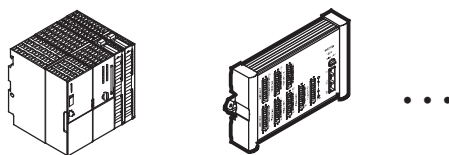
Optimised data profile

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

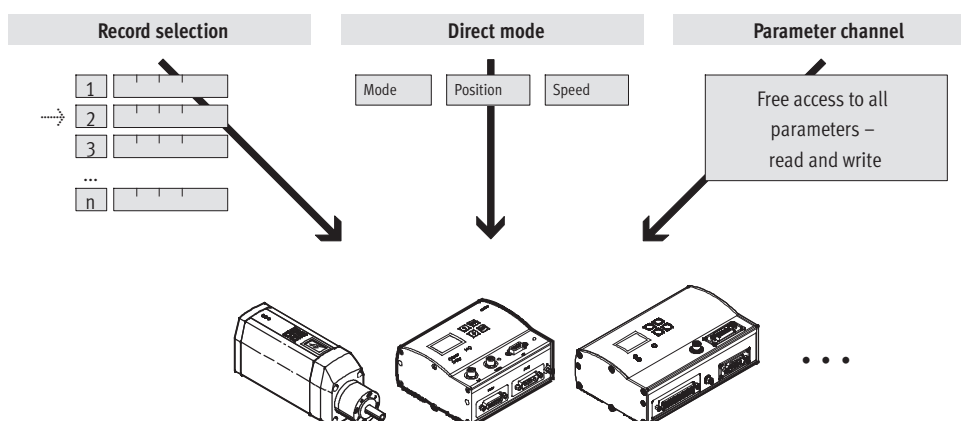
The FHPP data profile permits the actuation of Festo motor controllers, using a fieldbus interface, via standardised control and status bytes.

The following are defined, among others:

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



Fieldbus communication



PROFIBUS®, DeviceNet®, CANopen® is a registered trademark of its respective trademark holder in certain countries.

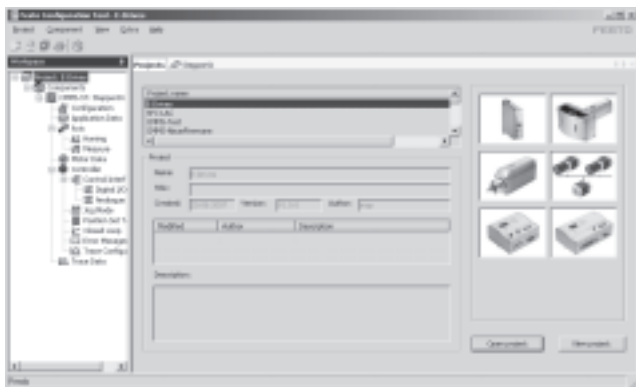
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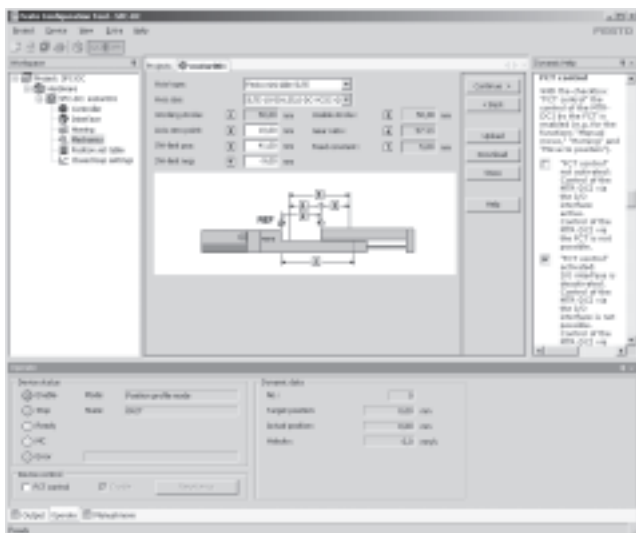
FCT software – Festo Configuration Tool

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

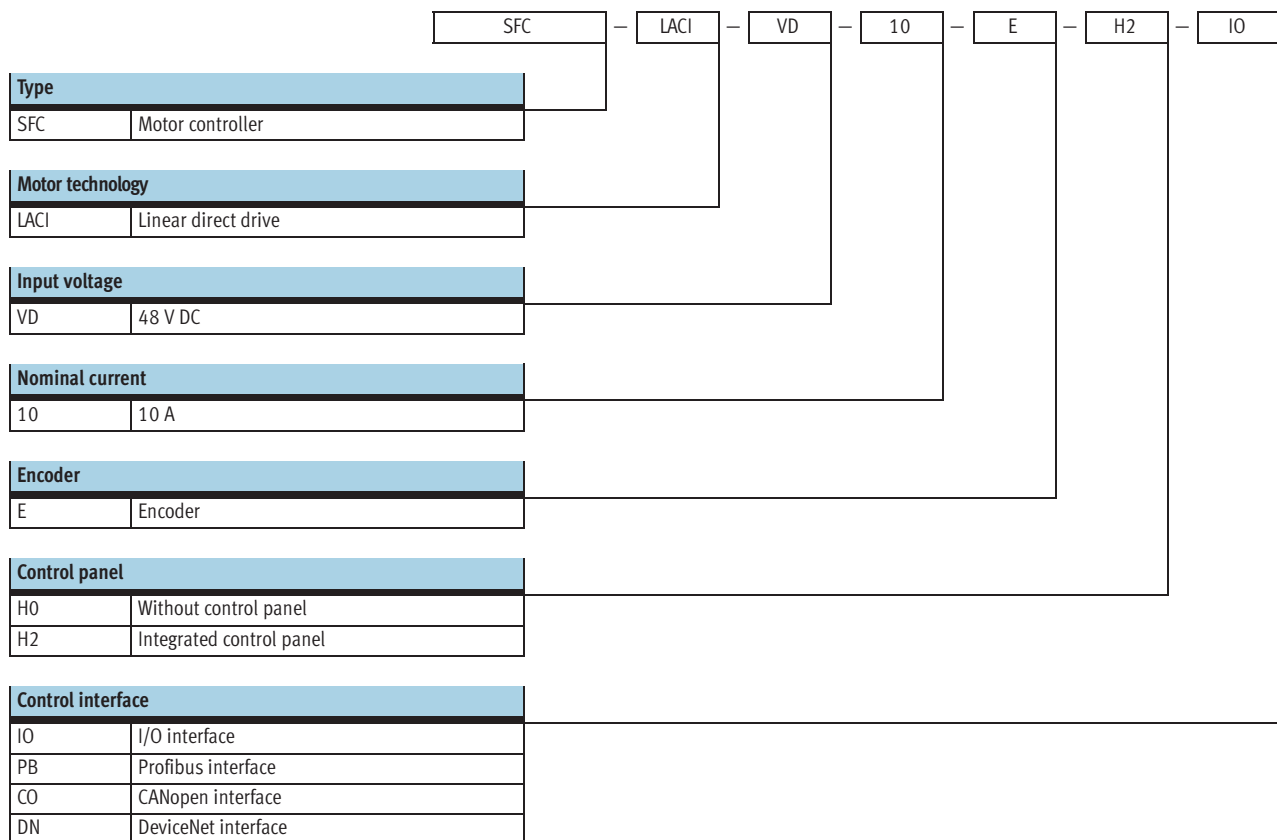


- 31 position sets ensure flexibility in positioning
- Absolute or relative positioning values can be used
- The following parameters can be set flexibly for each application:
 - position
 - speed
 - acceleration
 - braking ramps
- Force control
- Complete function test

Motor controllers SFC-LACI

Type codes

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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

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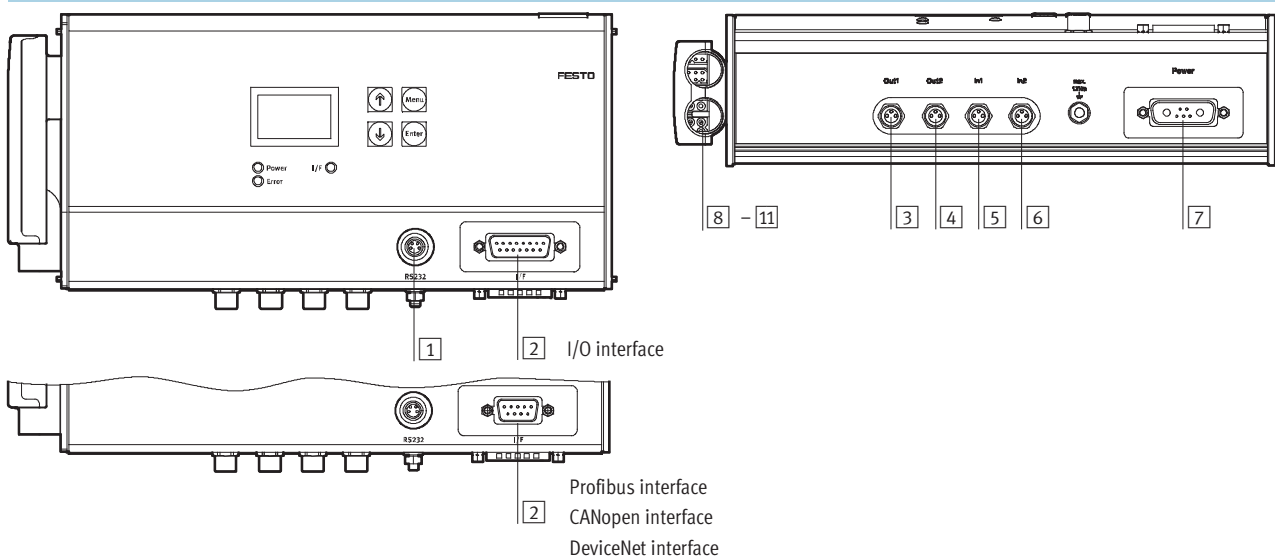
Technical data

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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 ² 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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[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 +

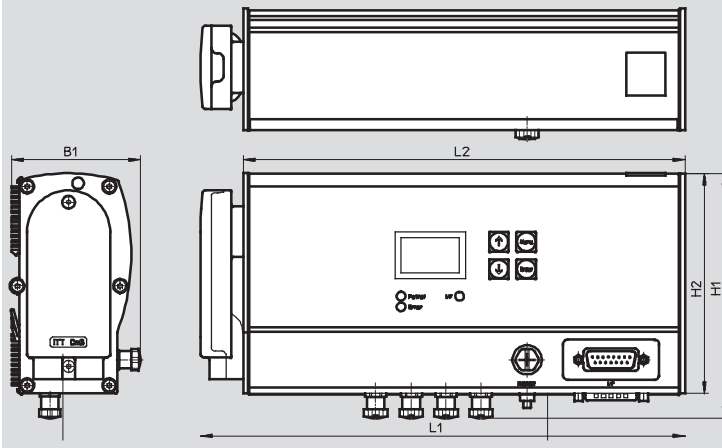
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Technical data and accessories

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Dimensions

Download CAD Data → www.festo.com/us/cad



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

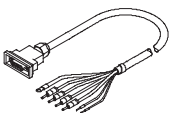
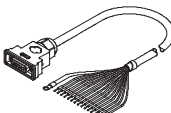
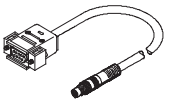
	Brief description	Cable length ¹⁾ [m]	Part No.	Type
	Motor cable, for connecting motor and controller	2.5	556794	NEBM-T1G6-T1G6-2.5
		5	556796	NEBM-T1G6-T1G6-5
		10	556798	NEBM-T1G6-T1G6-10
	Encoder cable, for connecting motor and controller	2.5	556795	NEBM-T1G12-T1G12-2.5
		5	556797	NEBM-T1G12-T1G12-5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

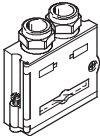
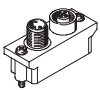
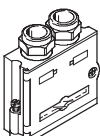
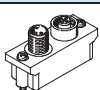
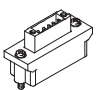
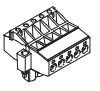
1) Other cable lengths on request.

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Accessories

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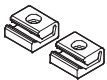
Ordering data – Cables				
	Brief description	Cable length [m]	Part No.	Type
	Supply cable, for connecting load and logic supply	2.5	538914	KPWR-MC-1-SUB-15HC-2,5
		5	538915	KPWR-MC-1-SUB-15HC-5
		10	538916	KPWR-MC-1-SUB-15HC-10
	Control cable, for I/O interface to any controller	2.5	538919	KES-MC-1-SUB-15-2,5
		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

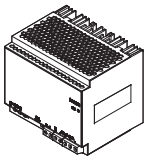
Ordering data – Plugs			
	Brief description	Part No.	Type
Plug for Profibus			
	<ul style="list-style-type: none"> – 9-pin Sub-D connection – Bus terminating resistor integrated – Position of DIL switches can be read externally – IP65 	532216	FBS-SUB-9-GS-DP-B
Bus connection adapter for Profibus			
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

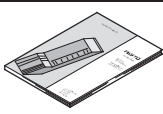
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Ordering data – Central support		
	Brief description	Part No. Type
Central support		
	For mounting the controller on a mounting plate	160909 MUP-8/12

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.

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Festo is a leading global manufacturer of pneumatic and electromechanical systems, components and controls for industrial automation, with more than 12,000 employees in 56 national headquarters serving more than 180 countries. For more than 80 years, Festo has continuously elevated the state of manufacturing with innovations and optimized motion control solutions that deliver higher performing, more profitable automated manufacturing and processing equipment. Our dedication to the advancement of automation extends beyond technology to the education and development of current and future automation and robotics designers with simulation tools, teaching programs, and on-site services.

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