Motor controllers SFC-DC

FESTO

Motor controllers SFC-DC

Key features

Hardware

- The motor controller SFC-DC serves as a positioning controller and closed loop position controller
- Thanks to IP54 protection, the motor controller can be mounted close to the drive

- FCT (Festo Configuration Tool) configuration package:
  – with RS 232 interface
  – Windows-based PC user interface, Festo Configuration Tool

- Easy actuation via:
  – I/O interface (only in combination with mini slide SLTE)
  – PROFIBUS
  – CANopen
  – DeviceNet

For controlling

Mini slide SLTE	Parallel gripper HGPLE
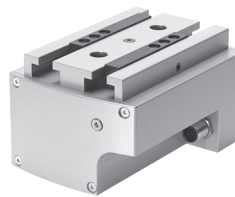
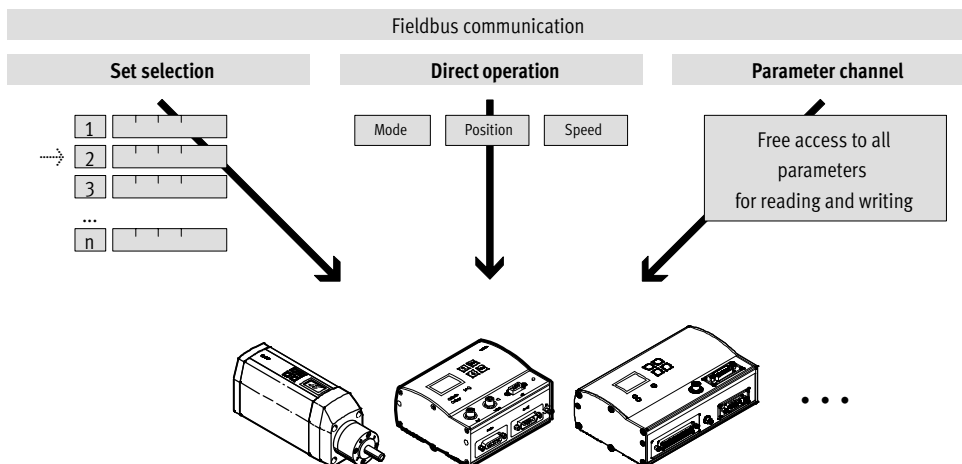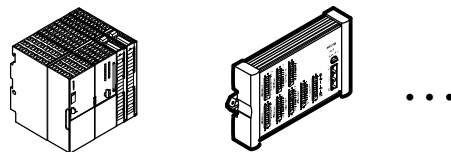## FHPP – Festo Handling and Positioning Profile

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

Fieldbus communication		
Set selection	**Direct operation**	**Parameter channel**

Direct operation: Mode, Position, Speed

Parameter channel: Free access to all parameters for reading and writing

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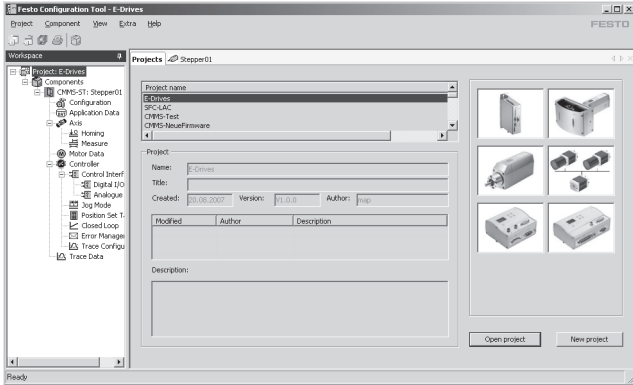
Motor controllers SFC-DC

Key features

FCT software – Festo Configuration Tool

### Software platform for electrical drives from Festo

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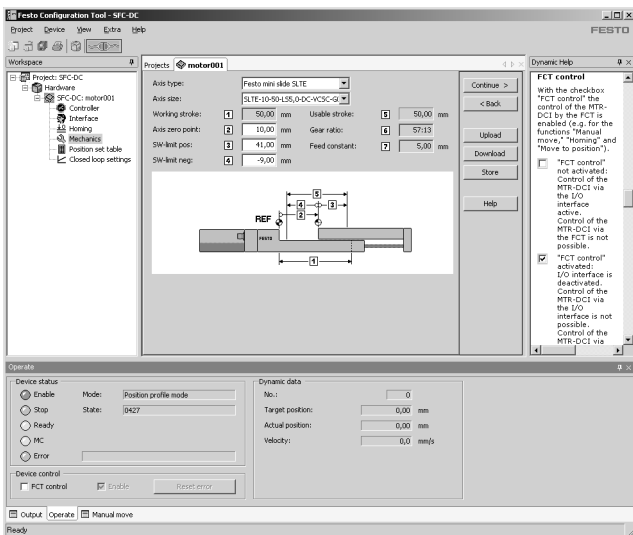
- Reference positions can be either edited or taught in
- Flexible adaptation to installation conditions
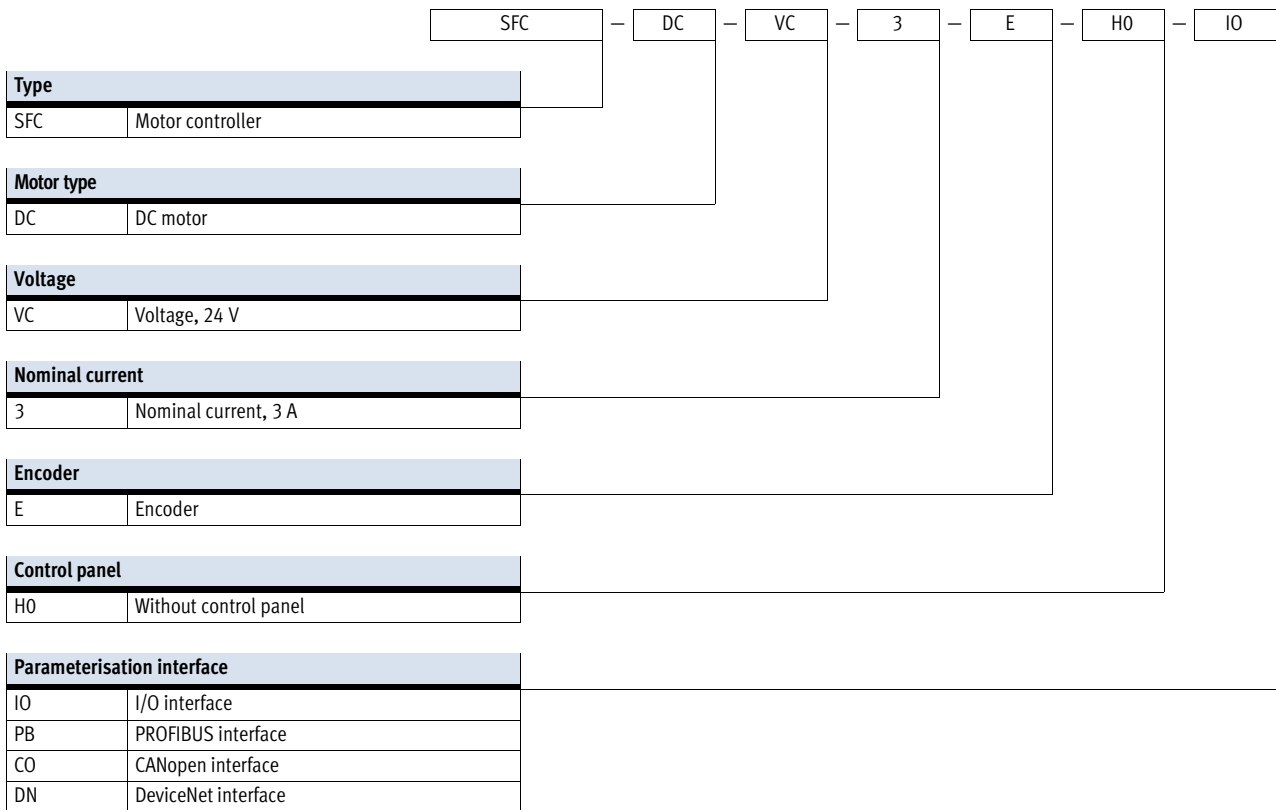- Settings are displayed clearly

Position set table
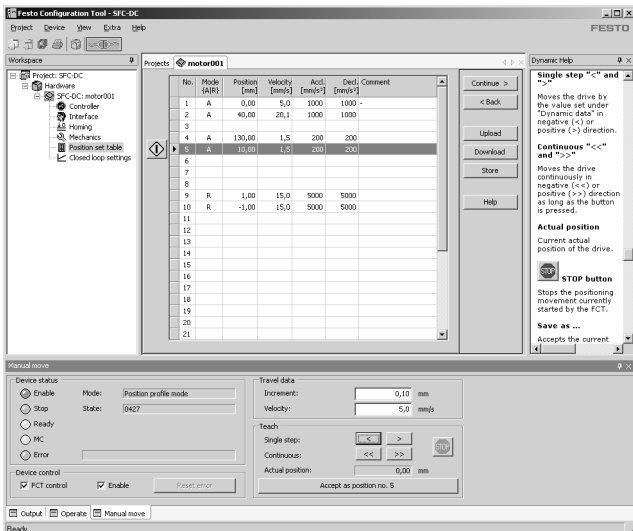
- 31 position sets ensure flexibility in positioning
- Absolute or relative positioning values can be used
- The following parameters can be set flexibly for each application:
  – Position
  – Speed
  – Acceleration
  – Braking ramps
- Complete function test

Motor controllers SFC-DC

Type codes

| SFC | — | DC | — | VC | — | 3 | — | E | — | H0 | — | IO |

Type	
SFC	Motor controller

Motor type	
DC	DC motor

Voltage	
VC	Voltage, 24 V

Nominal current	
3	Nominal current, 3 A

Encoder	
E	Encoder

Control panel	
H0	Without control panel

Parameterisation interface	
IO	I/O interface
PB	PROFIBUS interface
CO	CANopen interface
DN	DeviceNet interface

Motor controllers SFC-DC

Technical data

Fieldbus interfaces

PROFI®
PROCESS FIELD BUS
BUS

CANopen

DeviceNet
CONFORMANCE TESTED

General technical data					
Type		SFC-...-IO	SFC-...-PB	SFC-...-CO	SFC-...-DN
Operating mode		Cascade closed-loop controller with – P current regulator		– PI closed-loop speed controller – P position regulator	
Position sensor		Encoder			
Encoder input		RS485/RS422, A/B signal with index pulse			
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[1]		–	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
Type of mounting		H-rail, wall or surface bracket			
Product weight	[g]	600			

[1] Details of bus terminating resistor ➔ 9

Electrical data		
General		
Rated output	[W]	75
Parameterisation interface		RS232; 9600 baud
Load supply		
Nominal voltage	[V DC]	24 ±10%
Nominal current	[A]	3
Peak current	[A]	5
Logic supply		
Nominal voltage	[V DC]	24 ±10%
Nominal current	[A]	0.1
Peak current	[A]	0.8
Max. current per output (digital logic outputs)	[A]	0.5

Motor controllers SFC-DC

Technical data

FESTO

Operating and environmental conditions

Type	SFC-…-IO	SFC-…-PB	SFC-…-CO	SFC-…-DN
Digital logic outputs	Electrically isolated	–	–	–
Logic inputs	Electrically isolated	–	–	–
Specification, logic input	IEC 61131	–	–	–
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			
CE mark (see declaration of conformity)	In accordance with EU EMC directive			
Ambient temperature [°C]	0 … +40			
Storage temperature [°C]	−25 … +60			
Relative air humidity [%]	0 … 95 (non-condensing)			
Certification	C-Tick			

Pin allocation

3 I/O interface

3 PROFIBUS interface
CANopen interface
DeviceNet interface
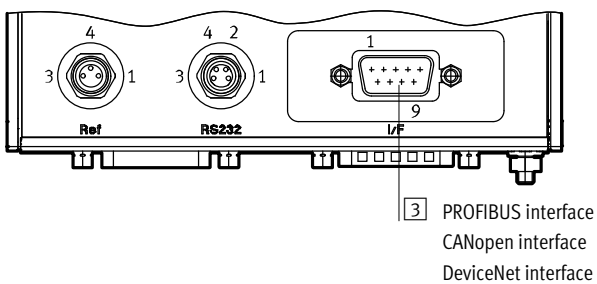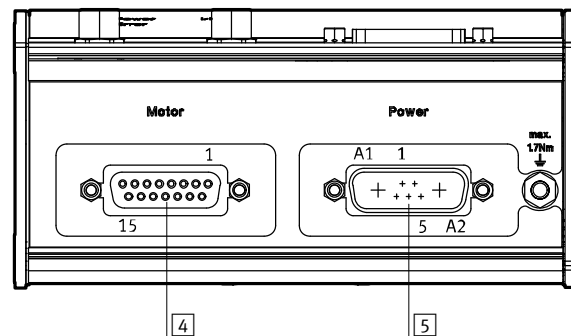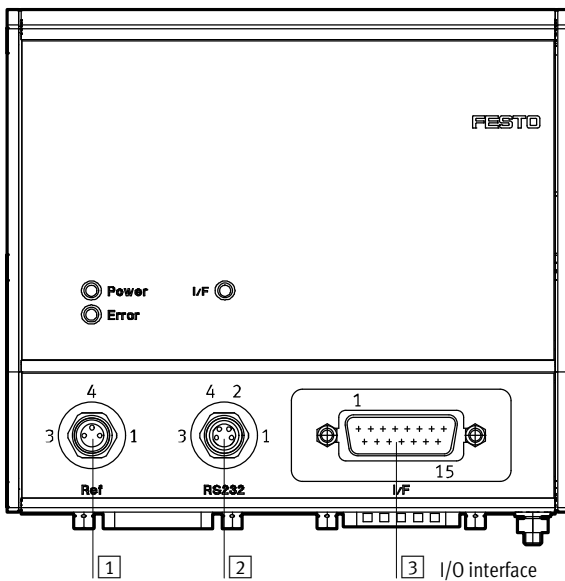
1 Reference switch, 3-pin M8 socket	
Pin	Function
1	24 V
4	Reference input
3	0 V
–	

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

→ **Internet: www.festo.com/catalog/...**

Subject to change – 2019/05

Motor controllers SFC-DC

Technical data

3 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

3 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	–

3 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+

3 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+

4 Motor interface, 15-pin Sub-D socket

Pin	Function
1	VCC logic
2	Encoder channel A
3	Encoder channel A/
4	Encoder channel B
5	Encoder channel B/
6	Encoder channel C
7	Encoder channel C/
8	Logic 0 V
9	0 V
10	0 V
11	0 V
12	Motor +
13	Motor–
14	0 V
15	0 V

5 Power supply, 7-pin plug

Pin	Function
A1	24 V (load)
A2	0 V (load)
1	24 V (logic)
2	0 V (logic)
3	–
4	PE
5	–

Dimensions

Download CAD data ➜ **www.festo.com**
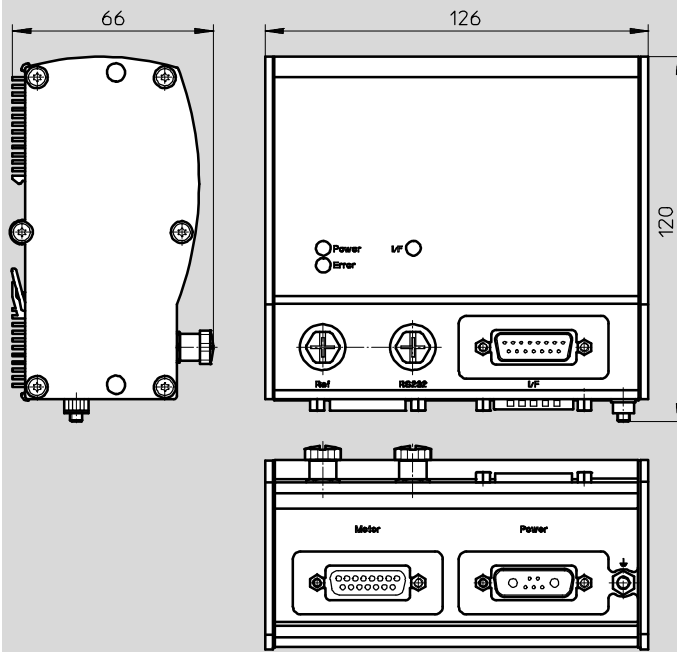
Ordering data
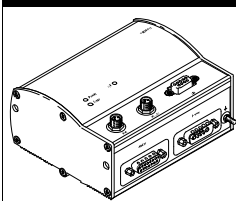
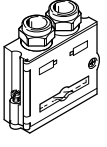|	Description	Part No.	Type
	With I/O interface[1]	**538912**	**SFC-DC-VC-3-E-H0-IO**
	With PROFIBUS interface	**540366**	**SFC-DC-VC-3-E-H0-PB**
	With CANopen interface	**540364**	**SFC-DC-VC-3-E-H0-CO**
	With DeviceNet interface	**540368**	**SFC-DC-VC-3-E-H0-DN**
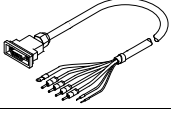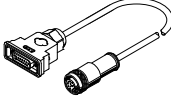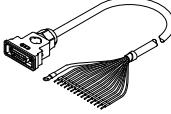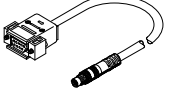
- 🔩 - Note
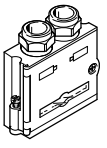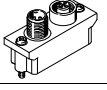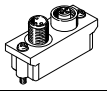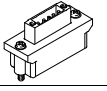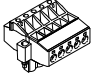
1) The variant with I/O interface is not suitable for force or speed adjustment.

Ordering data – Cables

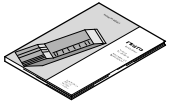|	Brief description	Cable length [m]	Part No.	Type
	Supply cable, for connecting load and logic supply	2.5	538914	KPWR-MC-1-SUB-15HC-2,5
		5	538915	KPWR-MC-1-SUB-15HC-5
		10	538916	KPWR-MC-1-SUB-15HC-10
	Motor cable, for connecting motor and controller	2.5	538917	KMTR-DC-SUB-15-M12-2,5
		5	538918	KMTR-DC-SUB-15-M12-5
		10	539316	KMTR-DC-SUB-15-M12-10
	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 switch 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 switch 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 on 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-2x5PIN

Motor controllers SFC-DC

Accessories

Ordering data – Central supports

	Brief description	Part No.	Type
	Centre supports for mounting controller	**160909**	**MUP-8/12**

Ordering data – Documentation[1]

	Language	Part No.	Type		Part No.	Type
		For I/O interface			For PROFIBUS interface	
	DE	**540417**	**P.BE-SFC-DC-IO-DE**		**540411**	**P.BE-SFC-DC-PB-DE**
	EN	**540418**	**P.BE-SFC-DC-IO-EN**		**540412**	**P.BE-SFC-DC-PB-EN**
	ES	**540419**	**P.BE-SFC-DC-IO-ES**		**540413**	**P.BE-SFC-DC-PB-ES**
	FR	**540420**	**P.BE-SFC-DC-IO-FR**		**540414**	**P.BE-SFC-DC-PB-FR**
	IT	**540421**	**P.BE-SFC-DC-IO-IT**		**540415**	**P.BE-SFC-DC-PB-IT**
		For CANopen interface			For DeviceNet interface	
	DE	**540423**	**P.BE-SFC-DC-CO-DE**		**555879**	**P.BE-SFC-DC-DN-DE**
	EN	**540424**	**P.BE-SFC-DC-CO-EN**		**555880**	**P.BE-SFC-DC-DN-EN**
	ES	**540425**	**P.BE-SFC-DC-CO-ES**		**555881**	**P.BE-SFC-DC-DN-ES**
	FR	**540426**	**P.BE-SFC-DC-CO-FR**		**555882**	**P.BE-SFC-DC-DN-FR**
	IT	**540427**	**P.BE-SFC-DC-CO-IT**		**555883**	**P.BE-SFC-DC-DN-IT**

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

Festo - Your Partner in Automation

1 **Festo Inc.**

5300 Explorer Drive
Mississauga, ON L4W 5G4
Canada

Festo Customer Interaction Center
Tel: 1 877 463 3786
Fax: 1 877 393 3786
Email: customer.service.ca@festo.com

2 **Festo Pneumatic**

Av. Ceylán 3,
Col. Tequesquináhuac
54020 Tlalnepantla,
Estado de México

Multinational Contact Center
01 800 337 8669

ventas.mexico@festo.com

3 **Festo Corporation**

1377 Motor Parkway
Suite 310
Islandia, NY 11749

Festo Customer Interaction Center
1 800 993 3786
1 800 963 3786
customer.service.us@festo.com

4 **Regional Service Center**

7777 Columbia Road
Mason, OH 45040

Connect with us

www.festo.com/socialmedia

www.festo.com