

Pressure sensors SDE3, with display

FESTO



Pressure sensors SDE3

Key features

FESTO

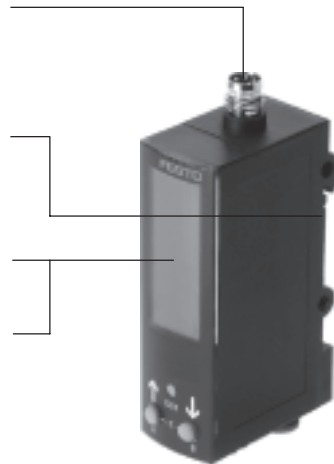
At a glance

SDE3-...-M...
plug version,
plug M8x1 and M12x1

Fast H-rail, wall or surface
mounting

High-contrast, two-colour
LCD display

Pressure display:
– Alphanumeric
– Bar chart



SDE3-...-FQ...,
cable with plug

Fast front panel mounting

Greater ease of use
– Easy teach-in
– Intuitive user guidance via
LCD display



Product description

The pressure sensor SDE3 is a slim, space-optimised pressure sensor. It can be used wherever information about the current pressure is required and the focus is on space-saving mounting combined with ease of use.

Main applications

- Compressed air monitoring
- Regulator monitoring
- Suction confirmation in vacuum technology
- Leak tests
- Object detection via back pressure
- Differential pressure measurement

Key features

- Fastest possible H-rail and front panel mounting in a small space
- Minimal assembly times thanks to QS connections
- Intuitive user guidance via LCD display
- Alphanumeric and bar chart pressure display for dynamic processes
- Individual alphanumeric code lock for protection from manipulation
- Easy teach-in
- Relative pressure, differential pressure or two independent pressure inputs
- Five pressure measuring ranges: 0 ... -1, -1 ... 1, 0 ... 2, 0 ... 6, 0 ... 10 bar
- High-contrast, two-colour LCD display
- Electrical outputs: 2 switching outputs PNP or NPN

Pressure sensors SDE3, with display

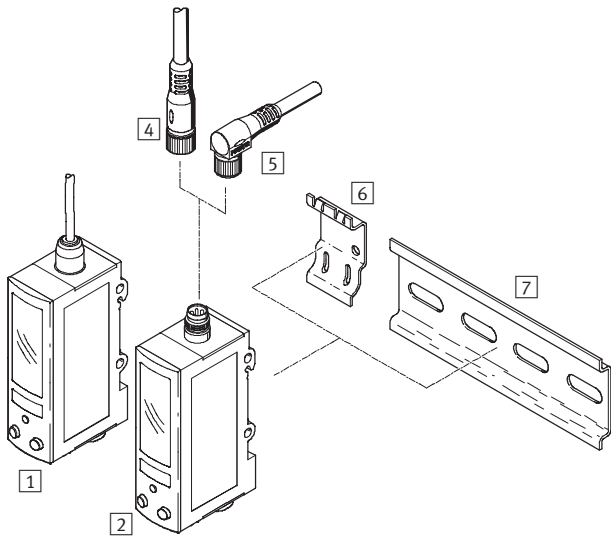
Product range overview

Measured variable	Pressure measuring range [bar]	Switching function	Pneumatic connection	Electrical connection	Type of mounting	Electrical output	
						Digital	Analogue
1x relative pressure, 2x relative pressure, 1x differential pressure 1x relative pressure and 1x differential pressure	0 ... -1, -1 ... +1, 0 ... 2, 0 ... 6, 0 ... 10	Freely programmable	Push-in connector For tubing O.D. Ø 4 mm For tubing O.D. Ø 5/32"	Plug M8x1 Plug M12x1 Cable	Via H-rail, wall bracket, surface bracket, front panel mounting or through-hole	2x PNP	–
						2x NPN	–

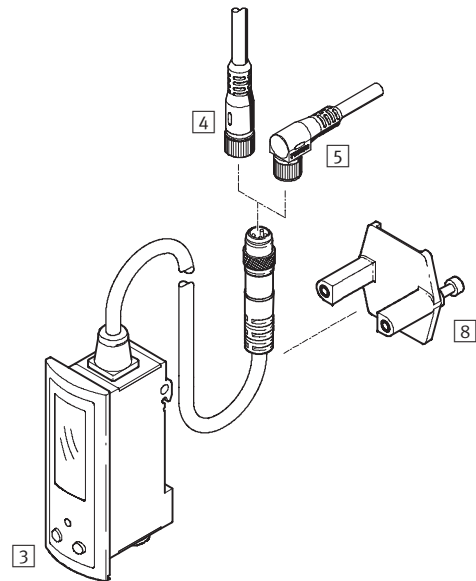
Pressure sensors SDE3, with display

Peripherals overview

FESTO



Accessories	→ Page/ Internet
1 Pressure sensor SDE3-...-K	6
2 Pressure sensor SDE3-...-M...	6
3 Pressure sensor SDE3-...-F...-M...	6
4 Connecting cable NEBU, straight socket	12
5 Connecting cable NEBU, angled socket	12



Accessories	→ Page/ Internet
6 Adapter plate SXE3-W (included in the scope of delivery with SDE3-...-W...)	12
7 Mounting rail to DIN EN 60715	nrh
8 Clamping plate (included in the scope of delivery with SDE3-...-F...-M8)	-

Pressure sensors SDE3, with display

Type codes

FESTO

		SDE3	-	D10	S	-	B	-	HQ4	-	2P	-	M8
Type													
SDE3	Piezoresistive pressure sensor with display												
Pressure measuring range [bar]													
V1	0 ... -1												
B2	-1 ... +1												
D2	0 ... 2												
D6	0 ... 6												
D10	0 ... 10												
Pressure input													
S	1x relative pressure												
D	2x relative pressure												
M	1x relative pressure, 1x differential pressure												
Z	1x differential pressure												
Display													
B	Values in bar												
H	Values in inches of mercury												
Mounting/pneumatic connection													
HQ4	Via H-rail, 4 mm push-in connector												
WQ4	Wall mounting, 4 mm push-in connector												
FQ4	Front panel mounting, 4 mm push-in connector												
Electrical output													
2P	2 switching outputs PNP												
2N	2 switching outputs NPN												
Electrical connection													
M8	Plug M8x1												
M12	Plug M12x1												

Additional variants can be ordered using the modular system → 11

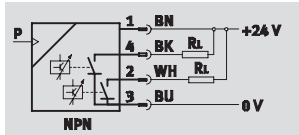
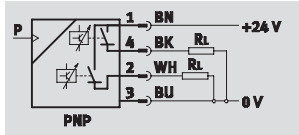
- Display
- Mounting/pneumatic connection
- Electrical connection
- Electrical accessories

Pressure sensors SDE3, with display

Technical data

FESTO

Function



Voltage

15 ... 30 V DC



Pressure
-1 ... +10 bar

Temperature range
0 ... 50 °C



General technical data						
Type SDE3		-V1	-B2	-D2	-D6	-D10
General information						
Certification		cULus recognized (OL)				
		C-Tick				
CE mark (see declaration of conformity)		To EU EMC Directive				
		To EU Explosion Protection Directive (ATEX)				
Note on materials		Free of copper and PTFE				
		RoHS-compliant				
Input signal/measuring element						
Measured variable		Relative pressure				
		2x relative pressure				
		1x relative pressure, 1x differential pressure				
		Differential pressure				
Method of measurement		Piezoresistive pressure sensor with display				
Operating medium		Filtered compressed air, lubricated or unlubricated, grade of filtration 40µm				
Pressure measuring range	[bar]	0 ... -1	-1 ... +1	0 ... 2	0 ... 6	0 ... 10
Temperature of medium	[°C]	0 ... 50				
Ambient temperature	[°C]	0 ... 50				

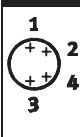
Electrical data		
Type SDE3	-2P	-2N
Output, general ¹⁾		
Accuracy FS	[%]	2
Switching output		
Switching output	2x PNP	2x NPN
Switching function	Freely programmable	
Switching element function	Switchable	
Reproducibility of switching value	[%]	0.3
Max. output current	[mA]	100
Output, additional data		
Protection against short circuit	Pulsed	
Electronic components		
Operating voltage range DC	[V]	15 ... 30
Reverse polarity protection	For all electrical connections	
Linearity error ±FS ¹⁾	[%]	0.3

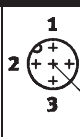
1) % FS = % of the measuring range final value (full-scale)

Pressure sensors SDE3, with display

Technical data

Electrical data		
Type SDE3	-2P	-2N
Electromechanical components		
Electrical connection	Plug M8x1, 4-pin, round design to EN 60 947-5-2	
	Plug M12x1, 5-pin, round design to EN 60 947-5-2	
	Cable with plug M8x1, 4-pin, round design to EN 60 947-5-2	
	Cable 2.5 m, 4-wire, to EN 60 947-5-2	

Pin allocation to EN 60947-5-2			
Plug, 4-pin			
M8x1	Pin	Wire colour	Allocation
	1	Brown	+
	3	Blue	-
	4	Black	Output
	2	White	Output

Pin allocation to EN 60947-5-2			
Plug, 5-pin			
M12x1	Pin	Wire colour	Allocation
	1	Brown	+
	3	Blue	-
	4	Black	Output
	2	White	Output
	5	Unused	

Mechanical components			
Type SDE3	-HQ...	-WQ...	-FQ...
Type of mounting	Via H-rail Via through-hole	Via H-rail Via through-hole Via wall/surface bracket	Front panel mounting
Mounting position	Any		
Pneumatic connection	QS-4		
	QS-5/32"		
Product weight [g]	37	37	61
Adapter plate weight [g]	-	6	-
Cable length [m]	-	-	0.3
Information on housing materials	PA reinforced		
	PC		

Display/operation	
Display type	Illuminated LCD
Switching status display	LCD yellow
Setting options	Teach-in
Tamper protection	PIN code
Threshold value setting range [%]	0 ... 100
Hysteresis setting range [%]	0 ... 90

Immissions/emissions	
Protection class	IP65
Corrosion resistance class CRC ¹⁾	2

1) Corrosion resistance class 2 according to Festo standard 940 070

Components subject to moderate corrosion stress. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Pressure sensors SDE3, with display

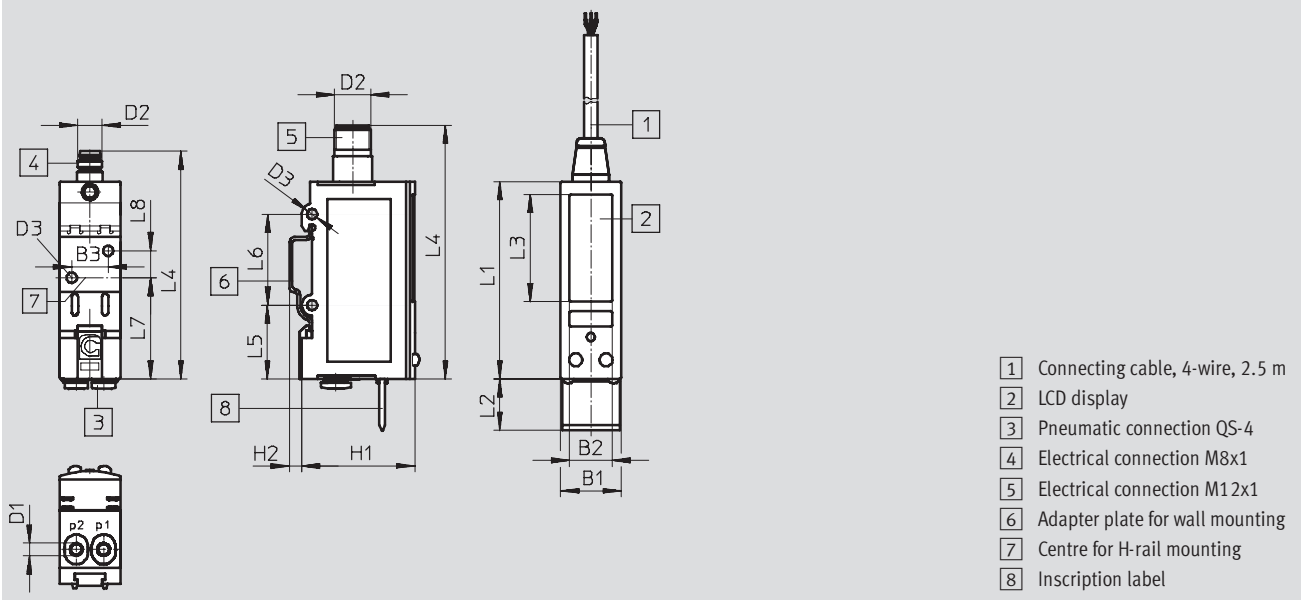
Technical data

FESTO

Dimensions

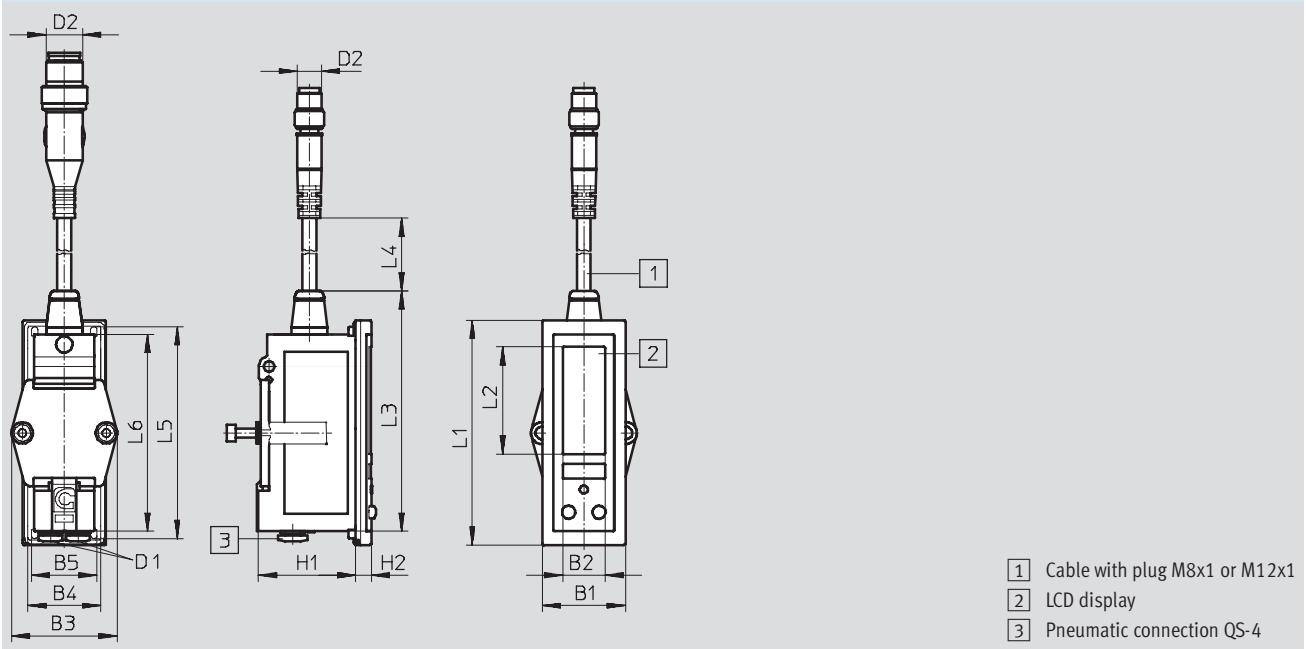
Download CAD Data → www.festo.com/us/cad

H-rail, wall or surface mounting



Type	B1	B2	B3	D1	D2	D3	H1	H2	L1	L2	L3	L4	L5	L6	L7	L8
SDE3-...-HQ4-M8	20	14	-	QS4	M8x1	3.4	37	4	65	14	35.4	75	24.3	30	33.2	-
SDE3-...-HQ4-M12					M12x1							84				
SDE3-...-WQ4-M8	20	14	12	QS4	M8x1	3.4	37	4	65	14	35.4	75	24.3	30	33.2	9
SDE3-...-WQ4-M12					M12x1							84				


Front panel mounting






Type	B1	B2	B3	B4	B5	D1	D2	H1	H2	L1	L2	L3	L4	L5	L6
SDE3-...-FQ4-M8	27.4	14	35	24	21.6	QS-4	M8x1	32	5	79	35.4	74	300	69.8	65
SDE3-...-FQ4-M12							M12x1								

Pressure sensors SDE3, with display

Technical data

Ordering data – H-rail mounting						
Version	Pressure measuring range [bar]	Switching output	Electrical connection	Display	Part No.	Type
	Relative pressure					
	0 ... -1	2x PNP	Plug M8x1, 4-pin	Bar	540193	SDE3-V1S-B-HQ4-2P-M8
				Inches of mercury	540194	SDE3-V1S-H-HQ4-2P-M8
	0 ... 10	2x PNP	Plug M8x1, 4-pin	Bar	540207	SDE3-D10S-B-HQ4-2P-M8
	2x relative pressure					
	0 ... -1	2x PNP	Plug M8x1, 4-pin	Bar	540196	SDE3-V1D-B-HQ4-2P-M8
			Plug M12x1, 5-pin		568663	SDE3-V1D-B-HQ4-2P-M12
			Plug M8x1, 4-pin	Inches of mercury	540197	SDE3-V1D-H-HQ4-2P-M8
	0 ... 2	2x PNP	Plug M8x1, 4-pin	Bar	540203	SDE3-D2D-B-HQ4-2P-M8
	0 ... 10	2x PNP	Plug M8x1, 4-pin	Bar	540209	SDE3-D10D-B-HQ4-2P-M8
			Plug M12x1, 5-pin		568662	SDE3-D10D-B-HQ4-2P-M12
	1x relative pressure, 1x differential pressure					
	0 ... -1	2x PNP	Plug M8x1, 4-pin	Bar	568667	SDE3-V1M-B-HQ4-2P-M8
	0 ... 6	2x PNP	Plug M12x1, 5-pin	Bar	568668	SDE3-D6M-B-HQ4-2P-M12
			Plug M8x1, 4-pin		568669	SDE3-D6M-B-HQ4-2P-M8
	0 ... 10	2x PNP	Plug M8x1, 4-pin	Bar	568665	SDE3-D10M-B-HQ4-2P-M8
	Differential pressure					
	0 ... -1	2x PNP	Plug M8x1, 4-pin	Bar	540199	SDE3-V1Z-B-HQ4-2P-M8
				Inches of mercury	540200	SDE3-V1Z-H-HQ4-2P-M8
		2x NPN		Bar	540202	SDE3-V1Z-B-HQ4-2N-M8
	0 ... 2	2x PNP	Plug M8x1, 4-pin	Bar	540205	SDE3-D2Z-B-HQ4-2P-M8
	0 ... 10	2x PNP	Plug M8x1, 4-pin	Bar	540211	SDE3-D10Z-B-HQ4-2P-M8
		2x NPN			540213	SDE3-D10Z-B-HQ4-2N-M8

Ordering data – Wall mounting ¹⁾						
Version	Pressure measuring range [bar]	Switching output	Electrical connection	Display	Part No.	Type
	2x relative pressure					
	0 ... -1	2x PNP	Plug M8x1, 4-pin	Bar	568664	SDE3-V1D-B-WQ4-2P-M8 
	1x relative pressure, 1x differential pressure					
	0 ... 10	2x PNP	Plug M12x1, 5-pin	Bar	568666	SDE3-D10M-B-WQ4-2P-M12 

1) Adapter plate SXE3-W included in the scope of delivery

Note

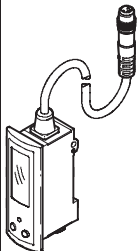
Additional variants and accessories can be configured and ordered through the SDE3 modular system
→ 11.

Configurator for types to ATEX directive for explosive atmospheres
→ Internet: sde3

Pressure sensors SDE3, with display

Technical data

FESTO

Ordering data – Front panel mounting						
Version	Pressure measuring range [bar]	Switching output	Electrical connection	Display	Part No.	Type
	Relative pressure					
	0 ... -1	2x PNP	Cable with plug M8x1, 4-pin	Bar	540195	SDE3-V1S-B-FQ4-2P-M8
	0 ... 10				540208	SDE3-D10S-B-FQ4-2P-M8
	2x relative pressure					
	0 ... -1	2x PNP	Cable with plug M8x1, 4-pin	Bar	540198	SDE3-V1D-B-FQ4-2P-M8
	0 ... 2				540204	SDE3-D2D-B-FQ4-2P-M8
	0 ... 10				540210	SDE3-D10D-B-FQ4-2P-M8
	Differential pressure					
	0 ... -1	2x PNP	Cable with plug M8x1, 4-pin	Bar	540201	SDE3-V1Z-B-FQ4-2P-M8
	0 ... 2				540206	SDE3-D2Z-B-FQ4-2P-M8
	0 ... 10				540212	SDE3-D10Z-B-FQ4-2P-M8

Note

Additional variants and accessories can be configured and ordered through the SDE3 modular system
→ 11.

Configurator for types to ATEX directive for explosive atmospheres
→ Internet: sde3

Pressure sensors SDE3

Ordering data – Modular products

Ordering table			Conditio ns	Code	Enter code
M	Module No.	539679			
	Function	Pressure sensor		SDE3	SDE3
	Pressure measuring range [bar]	0 ... -1		-V1	
		-1 ... 1		-B2	
		0 ... 2		-D2	
		0 ... 6		-D6	
		0 ... 10		-D10	
	Pressure input	1x relative pressure		S	
		2x relative pressure, independent		D	
		1x relative pressure, 1x differential pressure		M	
		1x differential pressure		Z	
	Display	Values in bar		-B	
		Values in psi		-P	
		Values in kPa		-K	
		Values in inches of mercury		-H	
		Values in inches of water	1	-W	
	Mounting/pneumatic connection	H-rail mounting, 4 mm push-in connector		-HQ4	
		H-rail mounting, $\frac{5}{32}$ " push-in connector		-HT532	
		Wall mounting, 4 mm push-in connector		-WQ4	
		Wall mounting, $\frac{5}{32}$ " push-in connector		-WT532	
		Front panel mounting, 4 mm push-in connector		-FQ4	
		Front panel mounting, $\frac{5}{32}$ " push-in connector		-FT532	
	Electrical output	2 switching outputs PNP		-2P	
		2 switching outputs NPN		-2N	
	Electrical connection	Plug M8		-M8	
		Plug M12, A-coded		-M12	
		Cable, 2.5 m		-K	
0	Connecting cable (accessory)	Connecting cable, straight socket, 2.5 m	2	-G	
		Connecting cable, angled socket, 2.5 m	2	-W	
		Connecting cable, straight socket, 5 m	2	-G5	
		Connecting cable, angled socket, 5 m	2	-W5	

1 W Not with pressure measuring range D6 and pressure input M or pressure measuring range D10 and pressure input M.

2 G, W, G5; W5
Not with electrical connection K

Transfer order code

539679 **SDE3** - - - - - - -

Pressure sensors SDE3, with display

Accessories

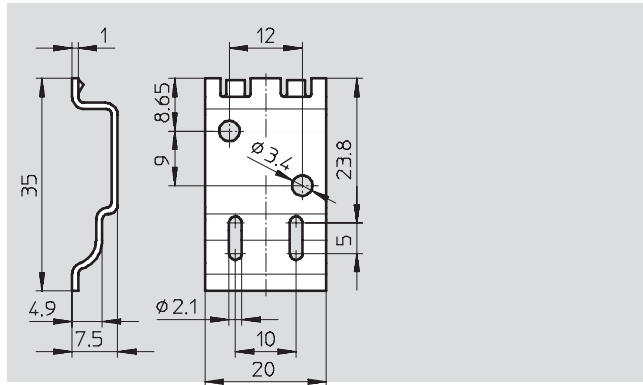
FESTO

Adapter plate SXE3-W

For wall or surface mounting





Material:


Steel



Ordering data		Part No.	Type
Adapter plate ¹⁾		540214	SXE3-W

1) Included in the scope of delivery with SDE3-...-W...

Ordering data – Connecting cables				Technical data ➔ Internet: nebu	
	Designation	Number of wires	Cable length [m]	Part No.	Type
M8x1					
	Straight socket	4	2.5	541342	NEBU-M8G4-K-2.5-LE4
			5	541343	NEBU-M8G4-K-5-LE4
	Angled socket	4	2.5	541344	NEBU-M8W4-K-2.5-LE4
			5	541345	NEBU-M8W4-K-5-LE4
M12x1					
	Straight socket	4	2.5	550326	NEBU-M12G5-K-2.5-LE4
			5	541328	NEBU-M12G5-K-5-LE4
	Angled socket	4	2.5	550325	NEBU-M12W5-K-2.5-LE4
			5	541329	NEBU-M12W5-K-5-LE4

Ordering data – Safety clip		Part No.	Type
	Size		
	M8	548067	NEAU-M8-GD
	M12	548068	NEAU-M12-GD

Product Range and Company Overview

A Complete Suite of Automation Services

Our experienced engineers provide complete support at every stage of your development process, including: conceptualization, analysis, engineering, design, assembly, documentation, validation, and production.



Custom Automation Components
Complete custom engineered solutions



Custom Control Cabinets
Comprehensive engineering support and on-site services



Complete Systems
Shipment, stocking and storage services

The Broadest Range of Automation Components

With a comprehensive line of more than 30,000 automation components, Festo is capable of solving the most complex automation requirements.



Electromechanical
Electromechanical actuators, motors, controllers & drives



Pneumatics
Pneumatic linear and rotary actuators, valves, and air supply



PLCs and I/O Devices
PLC's, operator interfaces, sensors and I/O devices

Supporting Advanced Automation... As No One Else Can!

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.

Quality Assurance, ISO 9001 and ISO 14001 Certifications

Festo Corporation is committed to supply all Festo products and services that will meet or exceed our customers' requirements in product quality, delivery, customer service and satisfaction.

To meet this commitment, we strive to ensure a consistent, integrated, and systematic approach to management that will meet or exceed the requirements of the ISO 9001 standard for Quality Management and the ISO 14001 standard for Environmental Management.



© Copyright 2008, Festo Corporation. While every effort is made to ensure that all dimensions and specifications are correct, Festo cannot guarantee that publications are completely free of any error, in particular typing or printing errors. Accordingly, Festo cannot be held responsible for the same. For Liability and Warranty conditions, refer to our "Terms and Conditions of Sale", available from your local Festo office. All rights reserved. No part of this publication may be reproduced, distributed, or transmitted in any form or by any means, electronic, mechanical, photocopying or otherwise, without the prior written permission of Festo. All technical data subject to change according to technical update.



Printed on recycled paper at New Horizon Graphic, Inc., FSC certified as an environmentally friendly printing plant.

Festo North America

Festo Regional Contact Center

5300 Explorer Drive
Mississauga, Ontario L4W 5G4
Canada

USA Customers:

For ordering assistance,

Call: 1.800.99.FESTO (1.800.993.3786)

Fax: 1.800.96.FESTO (1.800.963.3786)

Email: customer.service@us.festo.com

For technical support,

Call: 1.866.GO.FESTO (1.866.463.3786)

Fax: 1.800.96.FESTO (1.800.963.3786)

Email: product.support@us.festo.com

Canadian Customers:

Call: 1.877.GO.FESTO (1.877.463.3786)

Fax: 1.877.FX.FESTO (1.877.393.3786)

Email: festo.canada@ca.festo.com

USA Headquarters

Festo Corporation
395 Moreland Road
P.O. Box 18023
Hauppauge, NY 11788, USA
www.festo.com/us

USA Sales Offices

Appleton

North 922 Tower View Drive, Suite N
Greenville, WI 54942, USA

Boston

120 Presidential Way, Suite 330
Woburn, MA 01801, USA

Chicago

1441 East Business Center Drive
Mt. Prospect, IL 60056, USA

Dallas

1825 Lakeway Drive, Suite 600
Lewisville, TX 75057, USA

Detroit – Automotive Engineering Center

2601 Cambridge Court, Suite 320
Auburn Hills, MI 48326, USA

New York

395 Moreland Road
Hauppauge, NY 11788, USA

Silicon Valley

4935 Southfront Road, Suite F
Livermore, CA 94550, USA

United States



USA Headquarters, East: Festo Corp., 395 Moreland Road, Hauppauge, NY 11788

Phone: 1.631.435.0800; Fax: 1.631.435.8026;

Email: info@festo-usa.com

www.festo.com/us

Canada



Headquarters: Festo Inc., 5300 Explorer Drive, Mississauga, Ontario L4W 5G4

Phone: 1.905.624.9000; Fax: 1.905.624.9001;

Email: festo.canada@ca.festo.com

www.festo.ca

Mexico



Headquarters: Festo Pneumatic, S.A., Av. Ceylán 3, Col. Tequesquahuac,
54020 Tlalnepantla, Edo. de México

Phone: 011 52 [55] 53 21 66 00; Fax: 011 52 [55] 53 21 66 65;

Email: festo.mexico@mx.festo.com

www.festo.com/mx

Central USA

Festo Corporation
1441 East Business
Center Drive
Mt. Prospect, IL 60056, USA
Phone: 1.847.759.2600
Fax: 1.847.768.9480



Western USA

Festo Corporation
4935 Southfront Road,
Suite F
Livermore, CA 94550, USA
Phone: 1.925.371.1099
Fax: 1.925.245.1286



Festo Worldwide

Argentina Australia Austria Belarus Belgium Brazil Bulgaria Canada Chile China Colombia Croatia Czech Republic Denmark
Estonia Finland France Germany Great Britain Greece Hong Kong Hungary India Indonesia Iran Ireland Israel Italy Japan Latvia
Lithuania Malaysia Mexico Netherlands New Zealand Norway Peru Philippines Poland Romania Russia Serbia Singapore
Slovakia Slovenia South Africa South Korea Spain Sweden Switzerland Taiwan Thailand Turkey Ukraine United States Venezuela

www.festo.com