

Limit switch attachments

FESTO



Limit switch attachments DAPZ

FESTO

Type codes

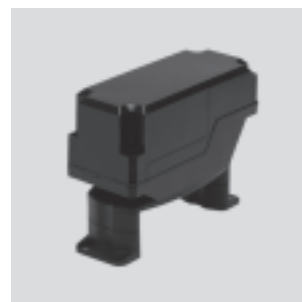
		DAPZ	–	SB	–	M	–	250AC	–	EXS	–	RO
Type												
DAPZ	Limit switch attachment											
Specification												
SB	Sensor box											
Measuring principle												
I	Inductive											
M	Electrical, micro switch											
Operating voltage												
25DC	8 V DC											
30DC	30 V DC											
250AC	250 V AC/DC											
Version												
EX	Explosion-proof											
D	Display											
S	Square design											
R	Round design											
A	AS-interface connection											
M	Solenoid plug											
Variant												
RO	Foot height fixed											
AR	Foot height adjustable											

Limit switch attachments DAPZ, square design

FESTO

Technical data

- Drive interface to Namur VDI/VDE 3845
- Quick and easy assembly and connection
- Integrated solenoid valve actuation
- DAPZ-SB-I-... with AS-interface



General technical data		DAPZ-SB-M-250AC-DSM-RO	DAPZ-SB-M-250AC-EXS-RO	DAPZ-SB-I-30DC-DSAM-RO
Measuring principle		Mechanical, electrical	Mechanical, electrical	Inductive
Based on standard		EN 60947-5-1	EN 60947-5-1	EN 60947-5-6
		VDI/VDE 3845 (NAMUR)		
Design		Square		
Mounting position		Any		
Protection against short circuit		No	No	Yes
Switching element function		Changeover switch	Changeover switch	Normally closed contact
Protection against reverse polarity		No	No	For all electrical connections
Switching position display		No	No	No
Operating voltage range	Direct current DC [V]	0 ... 250	0 ... 250	–
	Alternating current AC [V]	0 ... 250	0 ... 250	–
Nominal operating voltage DC [V]		–	–	30
Insulation voltage [V]		250	250	50
Surge capacity [kV]		4	4	0.8
Max. output current [mA]		16,000	4,000	–
Electrical connection		Screw terminal	Screw terminal	–
Fieldbus interface		–	–	AS-interface: flat cable plug
Cable diameter [mm]		8 ... 13	8 ... 13	–
Cable connector		M20	M20	–

Operating and environmental conditions		DAPZ-SB-M-250AC-DSM-RO	DAPZ-SB-M-250AC-EXS-RO	DAPZ-SB-I-30DC-DSAM-RO
Ambient temperature [°C]		–20 ... +85 °C	–20 ... +60 °C	–20 ... +85 °C
Protection class		IP65		
CE marking (see declaration of conformity)		To EU Low Voltage Directive	To EU Explosion Protection Directive (ATEX)	–
ATEX category for gas		–	II 2G	–
Explosion ignition protection type for gas		–	Ex ed IIC T6	–
Explosion-proof temperature rating		–	–20 °C ≤ Ta ≤ +60 °C	–
Certificate issuing authority		–	PTB 05 ATEX 1087	–
Degree of contamination		3		
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.

Materials		DAPZ-SB-M-250AC-DSM-RO	DAPZ-SB-M-250AC-EXS-RO	DAPZ-SB-I-30DC-DSAM-RO
1	Housing cover	PC	PA	PC
2	Housing socket, bracket	PA	PA	PA
3	Seals	EPDM		
–	Note on materials	RoHS-compliant		

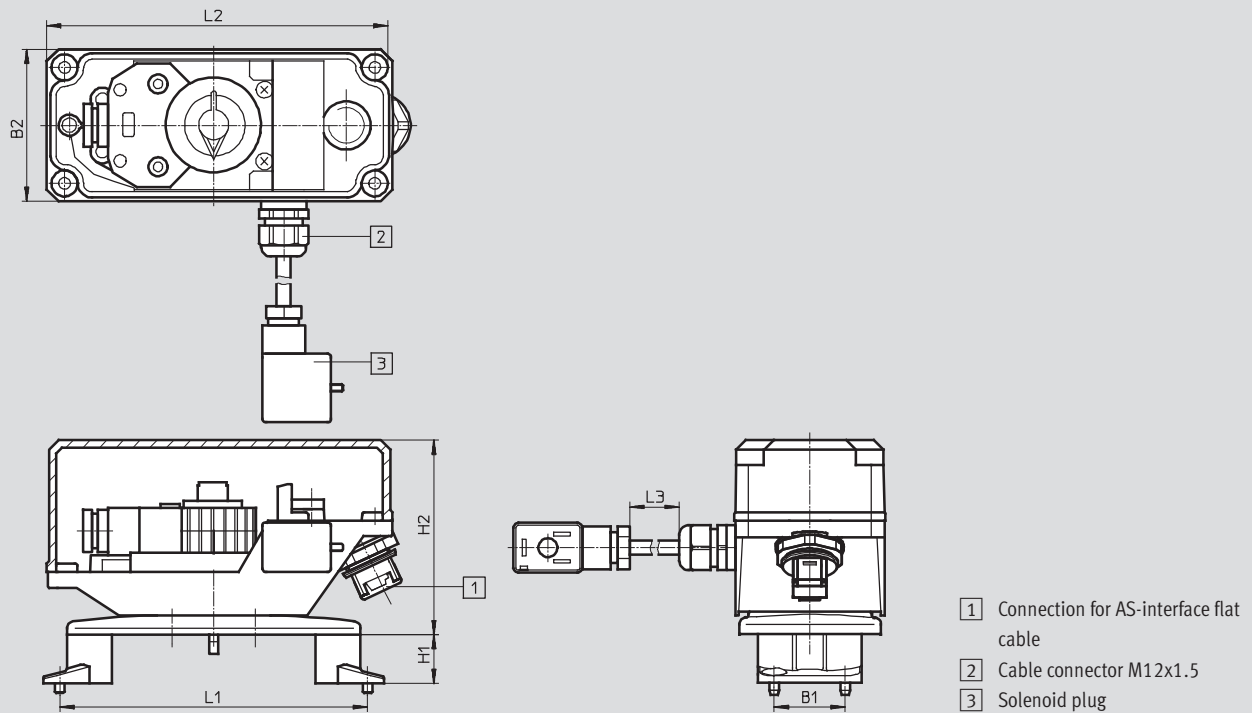
Limit switch attachments DAPZ, square design

Technical data

FESTO

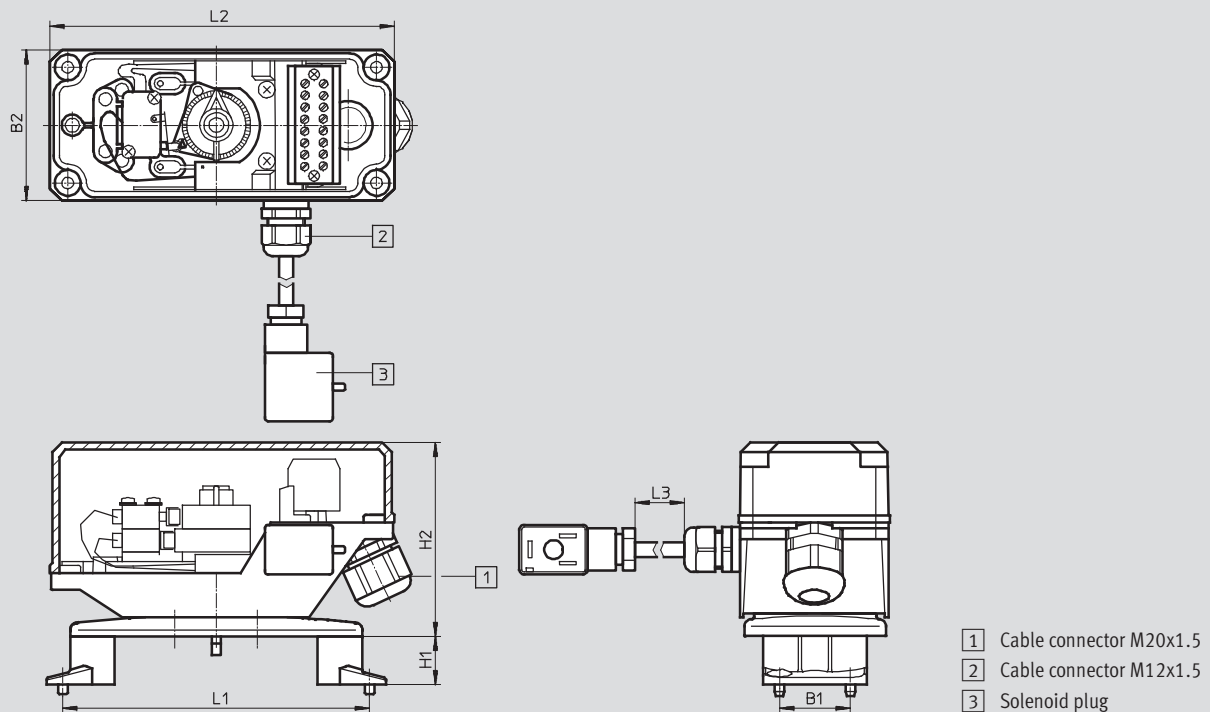
Dimensions – DAPZ-SB-I-30 V/DC-...

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



Dimensions – DAPZ-SB-M-250 V/AC-...

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



Limit switch attachments DAPZ, square design

FESTO

Technical data

	B1	B2	H1	H2	L1	L2	L3
Feet mounted inwards							
Foot 20	30	64	20	80	80	145	300
Foot 30	30	64	30	80	80	145	300
Foot 50 (order accessories separately)	30	64	50	80	80	145	300
Feet mounted outwards							
Foot 20	30	64	20	80	130	145	300
Foot 30	30	64	30	80	130	145	300
Foot 50 (order accessories separately)	30	64	50	80	130	145	300
Mounting via adapter (order accessories separately) → 10							
DAPZ-SBZ-K0-RO	25	64	20	80	50	145	300
DAPZ-SBZ-K3-RO	30	64	30	80	150	145	300

Ordering data				
Sensing type	Variant	Measuring principle	Part No.	Type
Mechanical	Basic version	Mechanical, electrical	534 468	DAPZ-SB-M-250AC-DSM-RO
Mechanical	Explosion-proof	Mechanical, electrical	534 470	DAPZ-SB-M-250AC-EXS-RO
Contactless	Basic version	Inductive	534 473	DAPZ-SB-I-30DC-DSAM-RO

Limit switch attachments DAPZ, round design, variant RO

FESTO

Technical data

- Drive interface to Namur VDI/VDE 3845
- Quick and easy assembly and connection
- Integrated solenoid valve actuation



General technical data			DAPZ-SB-M-250AC-DR-RO	DAPZ-SB-I-30DC-DR-RO	DAPZ-SB-I-25DC-R-RO
Measuring principle			Mechanical, electrical	Inductive	Inductive
Based on standard			EN 60947-5-1	EN 60947-5-2	EN 60947-5-6
			VDI/VDE 3845 (NAMUR)		
Design			Round		
Mounting position			Any		
Protection against short circuit			No	Pulsed	Yes
Switching element function			Changeover switch	Normally open contact	Normally closed contact
Protection against reverse polarity			No	For all electrical connections	For all electrical connections
Switching position display			Yes	Yes	No
Switching output			–	PNP	Namur
Operating voltage range	Direct current DC	[V]	0 ... 250	10 ... 30	–
	Alternating current AC	[V]	0 ... 250	–	–
Nominal operating voltage DC		[V]	–	–	8
Insulation voltage		[V]	250	50	25
Surge capacity		[kV]	4	0.8	0.5
Max. output current		[mA]	9,000	200	–
Switching current	Attenuated	[mA]	–	–	≤1
	Non-attenuated		–	–	≥3
Electrical connection			Screw terminal	Screw terminal, plug-in	Screw terminal, plug-in
Cable diameter		[mm]	8 ... 13		
Cable connector			M20		

Operating and environmental conditions	DAPZ-SB-M-250AC-DR-RO	DAPZ-SB-I-30DC-DR-RO	DAPZ-SB-I-25DC-R-RO
Ambient temperature [°C]	–20 ... +85 °C	–25 ... +70 °C	–25 ... +70 °C
Protection class	IP65		
CE marking (see declaration of conformity)	To EU Low Voltage Directive	–	To EU Explosion Protection Directive (ATEX)
ATEX category for gas	–	–	II 2G
Explosion ignition protection type for gas	–	–	EEx ia IIC T6
Explosion-proof temperature rating	–	–	–25 °C ≤ Ta ≤ +70 °C
Certificate issuing authority	–	–	TÜV 99 ATEX 1479 X
Degree of contamination	3		
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.

Materials		DAPZ-SB-M-250AC-DR-RO	DAPZ-SB-I-30DC-DR-RO	DAPZ-SB-I-25DC-R-RO
1	Housing cover	PC	PC	PA
2	Housing socket, bracket	PA	PA	PA
3	Seals	EPDM		
–	Note on materials	RoHS-compliant		

Limit switch attachments DAPZ, round design, variant RO

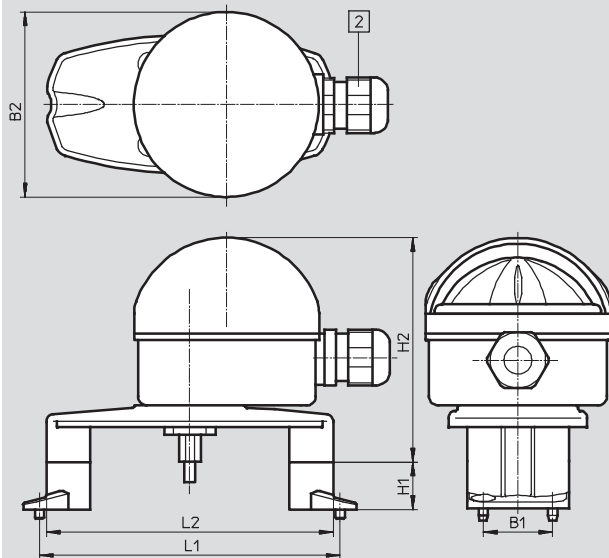
FESTO

Technical data

Dimensions

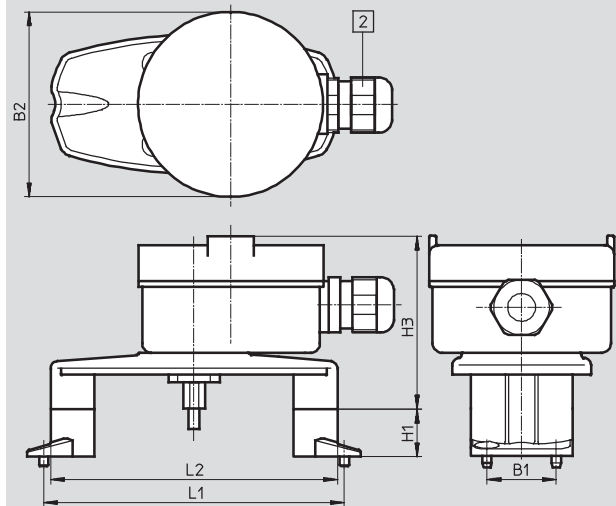
Download CAD Data → www.festo.com/us/cad

Basic version



2 Cable connector M20x1.5

Explosion-proof version



2 Cable connector M20x1.5

	B1	B2	H1	H2	H3	L1	L2
Feet mounted inwards							
Foot 20	30	80	20	97	75	80	122
Foot 30	30	80	30	97	75	80	122
Foot 50 (order accessories separately)	30	80	50	97	75	80	122
Feet mounted outwards							
Foot 20	30	80	20	97	75	130	122
Foot 30	30	80	30	97	75	130	122
Foot 50 (order accessories separately)	30	80	50	97	75	130	122
Mounting via adapter (order accessories separately) → 10							
DAPZ-SBZ-K0-RO	25	80	20	97	75	50	122
DAPZ-SBZ-K3-RO	30	80	30	97	75	150	122

Ordering data

Sensing type	Variant	Measuring principle	Part No.	Type
Mechanical	Basic version	Mechanical, electrical	534 469	DAPZ-SB-M-250AC-DR-RO
Contactless	Basic version	Inductive	534 471	DAPZ-SB-I-30DC-DR-RO
Contactless	Explosion-proof	Inductive	534 472	DAPZ-SB-I-25DC-R-RO

Limit switch attachments DAPZ, round design, variant AR

FESTO

Technical data

- Drive interface to Namur
VDI/VDE 3845
- Quick and easy assembly
and connection
- Integrated solenoid valve actuation



General technical data			DAPZ-SB-M-250AC-DR-AR	DAPZ-SB-I-30DC-DR-AR	DAPZ-SB-I-25DC-EXDR-AR
Measuring principle			Mechanical, electrical	Inductive	Inductive
Based on standard			EN 60947-5-1	EN 60947-5-2	EN 60947-5-6
			VDI/VDE 3845 (NAMUR)		
Design			Round		
Mounting position			Any		
Protection against short circuit			No	Pulsed	No
Switching element function			Changeover switch	Normally open contact	Normally closed contact
Protection against reverse polarity			No	For all electrical connections	No
Switching position display			Yes		
Switching output			–	PNP	Namur
Operating voltage range	Direct current DC	[V]	4 ... 250	10 ... 30	–
	Alternating current AC	[V]	4 ... 250	–	–
Intrinsic current consumption at operating voltage		[mA]	1 ... 5	0 ... 100	–
Nominal operating voltage DC		[V]	–	–	8
Max. input power Pi		[mW]	–	–	34
Max. input voltage Ui	Direct current DC	[V]	–	–	16
		[mA]	–	–	25
Max. input current Ii					
Insulation voltage		[V]	250	50	25
Surge capacity		[kV]	2.5	0.5	0.5
Max. output current		[mA]	5,000	100	–
Switching current	Attenuated	[mA]	–	–	0 ... 1
	Non-attenuated		–	–	3
Minimum load current			1 mA at 4 V/DC	–	–
Electrical connection			Screw terminal		
Cable diameter		[mm]	7 ... 13		
Cable connector			M20		

Operating and environmental conditions			DAPZ-SB-M-250AC-DR-AR	DAPZ-SB-I-30DC-DR-AR	DAPZ-SB-I-25DC-EXDR-AR
Ambient temperature			–20 ... +70 °C		
Protection class			IP67		
CE marking (see declaration of conformity)			To EU Low Voltage Directive	–	To EU Explosion Protection Directive (ATEX)
ATEX category for gas			–	–	II 2GX
Explosion ignition protection type for gas			–	–	EEx ia IIB T6
Explosion-proof temperature rating			–	–	–20 °C ≤ Ta ≤ +70 °C
Certificate issuing authority			–	–	PTB 00 ATEX 2032 X
PFD			–	–	4,69E-04
PFH			–	–	1,07E-07
Degree of contamination			3		
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.

Limit switch attachments DAPZ, round design, variant AR

FESTO

Technical data

Materials		
1	Housing cover	PC
2	Housing socket, bracket	ABS, PC
3	Seals	NBR
–	Note on materials	RoHS-compliant

Dimensions

[Download CAD Data → www.festo.com/us/cad](http://www.festo.com/us/cad)

2 Cable connector M20x1.5



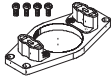
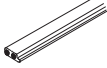




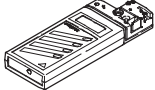
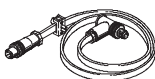
	B1	B2	B3	H1	H2	L1	L2	L3
Feet mounted inwards								
Foot height adjustable	30	62	52.5	20, 30, 50	100	80	144	130
Feet mounted outwards								
Foot height adjustable	30	62	52.5	20, 30, 50	100	130	144	130

Ordering data				
Sensing type	Variant	Measuring principle	Part No.	Type
Mechanical	Basic version	Mechanical, electrical	534 474	DAPZ-SB-M-250AC-DR-AR
Contactless	Basic version	Inductive	534 475	DAPZ-SB-I-30DC-DR-AR
Contactless	Explosion-proof	Inductive	534 476	DAPZ-SB-I-25DC-EXDR-AR

Limit switch attachments DAPZ

Accessories

FESTO

Ordering data		Part No.	Type
Brief description			
Foot			
	Kit for limit switch attachment DAPZ-...-RO Shaft height 50 mm, port pattern 130 x 30 mm	534 477	DAPZ-SBZ-F50-RO
Adapter for foot mounting			
	Kit for limit switch attachment DAPZ-...-RO on the quarter turn actuator DRD/DRE sizes 1 and 2 Foot connection L50 x W25 x H20 mm	534 478	DAPZ-SBZ-K0-RO
	Kit for limit switch attachment DAPZ-...-RO on the quarter turn actuator DRD/DRE sizes 375 ... 880 Foot connection L150 x W30 x H30 mm	534 479	DAPZ-SBZ-K3-RO
Fieldbus connection			
	Flat cable for AS-interface components, yellow, 100 m	18 940	KASI-1,5-Y-100
	Cable distributor for flat cable, cable rotatable	18 786	ASI-KVT-FK
	Cable distributor for flat cable, cable symmetrical	18 797	ASI-KVT-FK-S
	Cable cap for flat cable (50 included in the scope of delivery)	18 787	ASI-KK-FK
	Cable sleeve (20 included in the scope of delivery)	165 593	ASI-KT-FK
Miscellaneous			
	Addressing device for AS-interface stations	18 959	ASI-PRG-ADR
	Addressing cable for addressing device	18 960	KASI-ADR

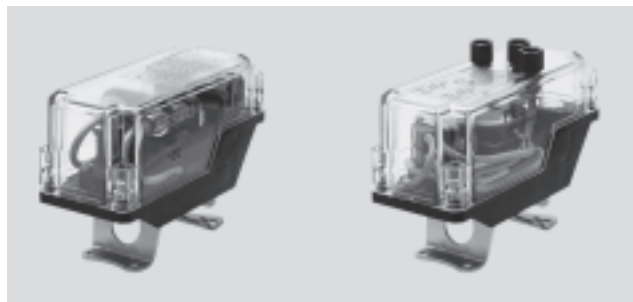
Limit switch attachments QH-DR-E

FESTO

Technical data

Limit switch attachment
with 3 measuring principles:

- Pneumatic
- Mechanical, electrical
- Inductive



General technical data			QH-DR-E-S3-PK-3-B-B	QH-DR-E-S3-E-SW-B	QH-DR-E-SIEN-M12-NB-B
Measuring principle			Pneumatic ¹⁾	Mechanical, electrical ²⁾	Inductive ³⁾
Pneumatic connection			G1/8	–	–
Based on standard			VDI/VDE 3845 (NAMUR)		
			–	EN 60947-5-1	EN 60947-5-2
Design			Square		
Mounting position			Any		
Protection against short circuit			–	No	Pulsed
Switching element function			–	Changeover switch	Normally open contact
Protection against reverse polarity			–	No	For all electrical connections
Switching position display			No	No	No
Switching output			–	–	PNP
Operating voltage range	Direct current DC	[V]	–	0 ... 250	10 ... 30
	Alternating current AC	[V]	–	0 ... 250	–
Insulation voltage		[V]	–	250	50
Surge capacity		[kV]	–	2.5	0.5
Max. output current		[mA]	–	16,000	200
Electrical connection			–	Screw terminal	Screw terminal
Cable diameter		[mm]	–	8 ... 13	8 ... 13
Cable connector			–	M20	M20

1) With stem actuated micro valve S-3-PK-3-B

2) With micro switch with roller lever (splash-proof) S-3-E-SW-B

3) With proximity sensor SIEN-M12-NB-B

Operating and environmental conditions		QH-DR-E-S3-PK-3-B-B	QH-DR-E-S3-E-SW-B	QH-DR-E-SIEN-M12-NB-B
Operating medium		Filtered, unlubricated compressed air	–	
		Filtered, lubricated compressed air		
		Vacuum		
Operating pressure	[bar]	–0.95 ... +8	–	
Ambient temperature	[°C]	–10 ... +60 °C	–20 ... +85 °C	–25 ... +70 °C
Protection class		IP65		
CE marking (see declaration of conformity)		–	To EU Low Voltage Directive	To EU EMC Directive
Degree of contamination		–	3	
Corrosion resistance class CRC ¹⁾		2		

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

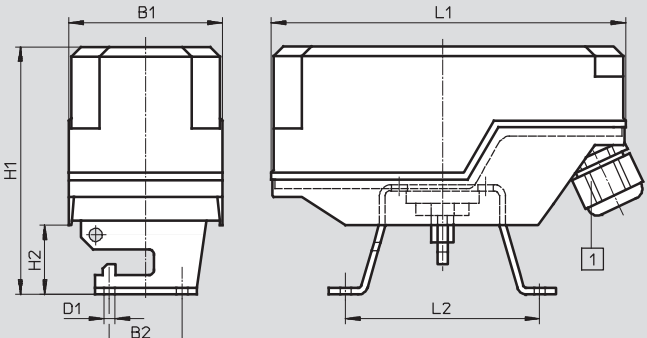
Components subject to moderate corrosion stress. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Limit switch attachments QH-DR-E

FESTO

Technical data

Materials		
1	Bracket	High-alloy stainless steel
2	Housing cover	PC
3	Housing socket	PA
4	Seals	EPDM
–	Note on materials	RoHS-compliant

Dimensions		Download CAD Data → www.festo.com/us/cad
		
		1 Pg13.5

	B1	B2	D1 Ø	H1	H2	L1	L2
QH-DR-E- ...	64	30	5.5	102	28.5	146	80

Ordering data		
Measuring principle	Part No.	Type
Pneumatic with S3-PK-3-B	164 855	QH-DR-E-S3-PK-3-B-B
Electrical with S3-E-SW-B	164 854	QH-DR-E-S3-E-SW-B
Inductive with SIE-M12-NB-B	164 853	QH-DR-E-SIEN-M12-NB-B

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 Tlalneapantla, 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