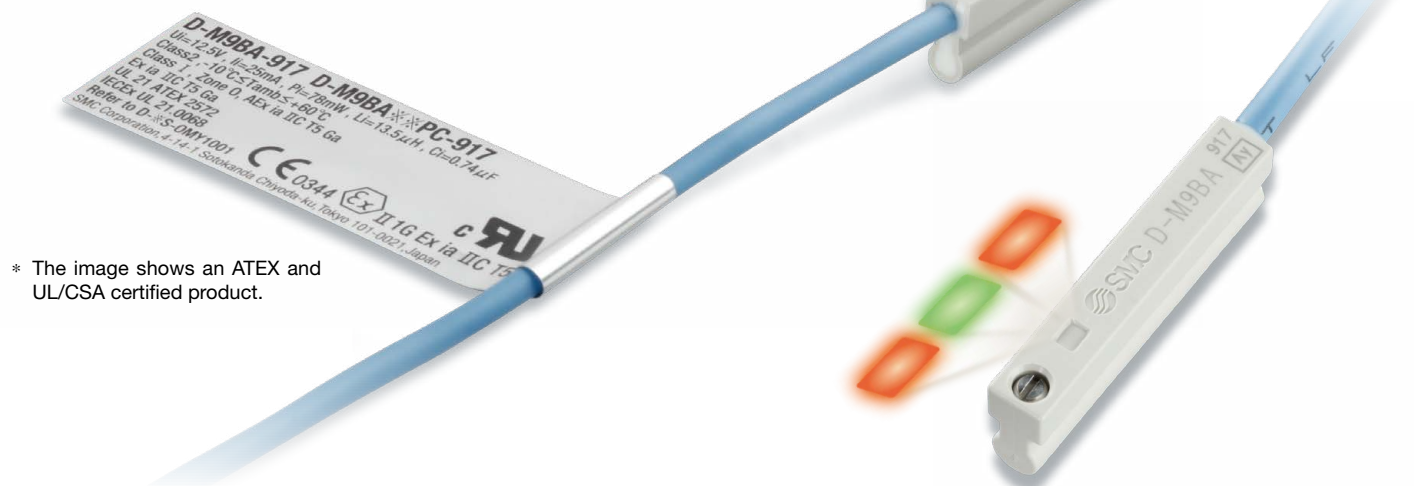


Solid State Auto Switch Intrinsic Safety

- ATEX, UL/CSA, Japan explosion-proof
- 2-color indicator (Red, Green)
The proper operating range can be determined by the color of the light. (Red → Green ← Red)
- Compatible with material restrictions for secondary battery manufacture



* The image shows an ATEX and UL/CSA certified product.

How to Order

⚠ Caution Auto switches must be ordered separately. They will be packaged separately. The auto switch cannot be ordered or shipped together with an actuator.

ATEX, UL/CSA



D - M9BA

● Lead wire specifications and certification type

Symbol	Certification	Target region/country	Lead wire	
			Termination	Length (L)
-917	ATEX, UL/CSA	Europe countries, U.S., Canada	Discrete wires	3 [m]
SAPC-917			M8-3 pin (1-4)	0.5 [m]
SDPC-917			M12-4 pin (1-4)	0.5 [m]

Japan explosion-proof

D - M9BA

● Lead wire specifications and certification type

Symbol	Certification	Target region/country	Lead wire	
			Termination	Length (L)
-924	Japan explosion-proof	Japan	Discrete wires	3 [m]
-925			Discrete wires	7 [m]
SAPC-924			M8-3 pin (1-4)	0.5 [m]
SDPC-924			M12-4 pin (1-4)	0.5 [m]

D-M9BA -917/-924/-925

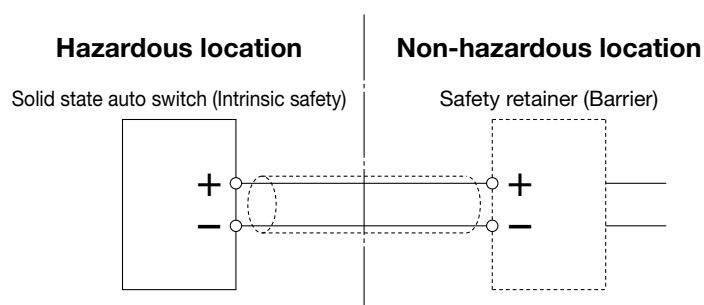


D-M9BA□-917/-924/-925

Specifications

Model		D-M9BA□-917/-924/-925
Load voltage		8.2 V (7 to 12.5 V)
Output current when ON (Load current)		≥ 2.1 mA
Output current when OFF (Leakage current)		≤ 1.2 mA
Operating time		1 ms or less
Indicator light		Operating range: Red LED illuminates. Proper operating range: Green LED illuminates.
Electrical entry		Grommet
Lead wire		Oilproof heavy-duty vinyl cord, ø2.6, 0.15 mm ²
Impact resistance		1000 m/s ²
Enclosure		IP67
Insulation resistance		≥ 100 MΩ (500 VDC measured via megohmmeter)
Withstand voltage		1000 VAC for 1 min (Between the lead wire and case)
Ambient temperature		-10 to 60°C
Intrinsically safe circuit parameters	Allowable voltage (Ui)	12.5 V
	Allowable current (Ii)	25 mA
	Allowable power (Pi)	78 mW
	Internal capacitance (Ci)	0.74 μF
	Internal inductance (Li)	13.5 μH

This product must be connected to an appropriate barrier (certified product) at the max. intrinsically safe circuit parameter values or to a certified intrinsically safe circuit.



Explosion-proof Specification

Certification	Symbol
ATEX	II 1G Ex ia IIC T5 Ga
UL/CSA	Class 1, Zone 0 AEx ia IIC T5 Ga
Japan explosion-proof	Ex ia IIC T5 Ga

[What is an "Intrinsic Safety" ?]

It is a product with a structure that limits the amount of electrical energy to a safe level in order to prevent equipment or wiring located in explosive atmospheres from igniting due to sparks or heat.

Hazardous Location

Applicable actuators for intrinsically safe solid state auto switches

Applicable zone	Zone 1	Zone 2
Applicable actuator	ATEX target regions/countries (Europe countries): ATEX actuator U.S., Canada, Japan: Standard actuator	

CDQ2

CDS1

JMB

JMGP

C96

CP96

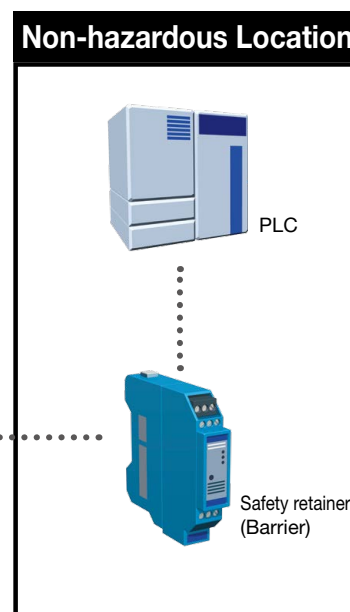
MY

CDRQ2

etc.

+

D-M9BA□-917/-924/-925

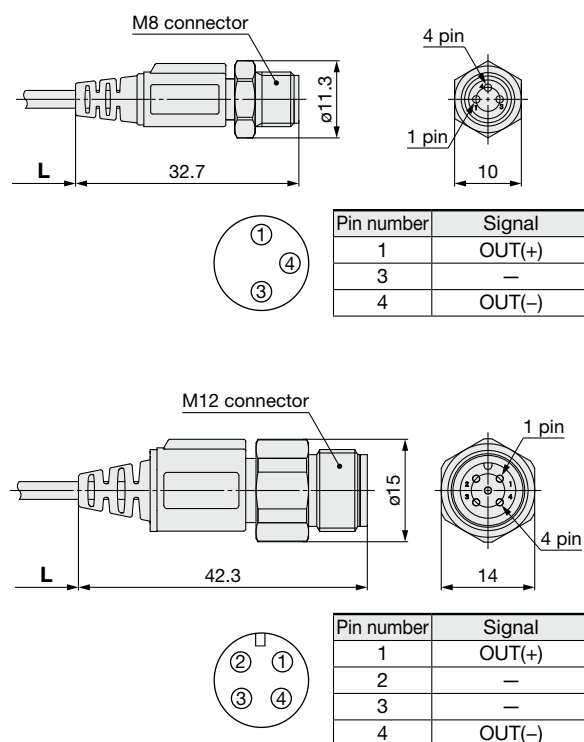
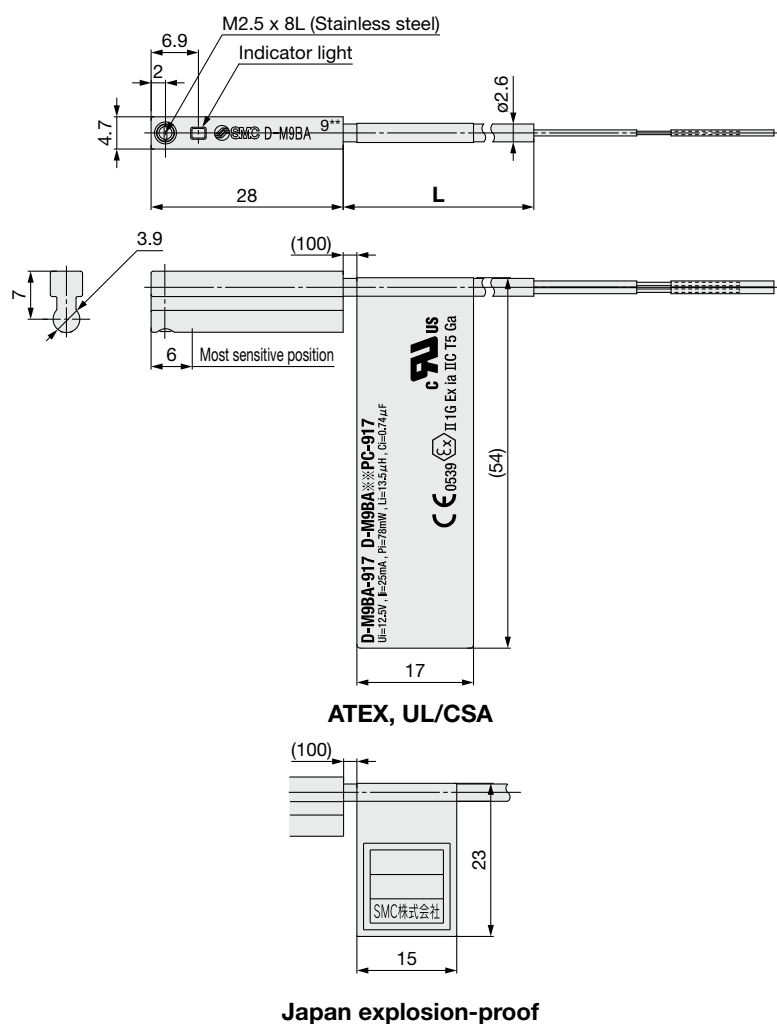


⚠ Caution

SMC accepts no liability for the use of its products in environments classified as Zone 0 or Zone 20.

* This statement supersedes any conflicting provisions in the SMC terms and conditions or in the purchaser's terms and conditions.

Dimensions



Applicable Actuators for Intrinsically Safe Solid State Auto Switches

Intrinsically safe solid state auto switches can be mounted on the following products.

- When installing in a hazardous location, confirm the applicable zone of the actuator as well.
- The operating range, proper mounting position, and mounting brackets are the same as those of the D-M9 series.

■ ATEX target regions/countries (Europe countries)

[When combined with an ATEX certified auto switch]

Applicable actuator: 55-/56-

ATEX target regions/countries

● Cylinders

Description	Series	Bore size [mm]
ISO standard air cylinder	55-C95	ø160, ø200, ø250
ISO standard air cylinder	55-C96	ø125
ISO standard air cylinder	55-C96-C	ø32 to ø100
ISO standard air cylinder	55-CP96	ø125
ISO standard air cylinder	55-CP96-C	ø32 to ø100
ISO standard air cylinder	55-CD55	ø20 to ø100
Air cylinder	55-CDS1	ø125 to ø200
Compact cylinder	55-CDQ2-Z	ø12 to ø100

● Rotary Actuators

Description	Series	Size
Compact rotary actuator	56-CRQ2	10 to 40

D-M9BA□-917/-924/-925

Applicable Actuators for Intrinsically Safe Solid State Auto Switches

■ U.S., Canada, Japan

[When combined with a UL/CSA certified, Japan explosion-proof certified auto switch]

Applicable actuator: Standard part no.

Regions/countries where the explosion-proof certification of non-electrical devices is not required

● Cylinders

Description	Series	Bore size [mm]
Pin cylinder	CDJP2	ø4 to ø16
Air cylinder	JMDB	ø32 to ø100
Air cylinder	MDB-Z	ø32 to ø100
Air cylinder	CDA2-Z	ø40 to ø100
Air cylinder	CDS1	ø125 to ø200
Air cylinder	CDS2	ø125 to ø160
Mini free mount cylinder	CDUJ	ø6 to ø20 (Only 1 pc.)
Free mount cylinder	CDU	ø6 to ø32
Compact cylinder	CDQS	ø12 to ø25
Compact cylinder	CDQ2-Z	ø12 to ø200
Compact cylinder with air cushion	RDQ	ø20 to ø50
Compact cylinder/Guide rod type	CDQM	ø12 to ø100 (Port side only for 32 to 50)
Compact cylinder/Plate type	CDQU	ø20 to ø40
Compact slide	MXH-Z	ø6 to ø20
Air slide table	MXS	ø6 to ø25
Air slide table	MXQ	ø6 to ø25
Air slide table	MXQ	ø6 to ø25
Low profile slide table	MXF	ø8 to ø20
Air slide table	MXW	ø8 to ø25
Air slide table	MXP	ø6 to ø16
Air slide table/Long stroke type	MXY	ø6 to ø16
Precision cylinder	MTS	ø8 to ø40
Compact guide cylinder	MGP-Z	ø12 to ø100
Compact guide cylinder/Wide type	MGPW	ø20 to ø63
Platform cylinder	CXT	ø12 to ø40
Dual rod cylinder	JMGP	ø12 to ø63
Dual rod cylinder	CXSJ	ø6 to ø32
Smooth cylinder	MBY-Z	ø32 to ø100
Smooth cylinder	CDA2Y-Z	ø40 to ø100
Smooth cylinder	CDS2Y	ø125 to ø160
Smooth cylinder	CDQSY	ø12 to ø25
Smooth cylinder	CDQ2Y-Z	ø32 to ø100
Low speed cylinder	CDQSX	ø12 to ø25
Low speed cylinder	CDQ2X-Z	ø32 to ø100 (Port side only for 32 to 50)
Low speed cylinder	CDUX	ø10 to ø32
3 position cylinder	RZQ	ø32 to ø63 (Port side only for 32 to 50)
Rotary clamp cylinder	MK-Z	ø12 to ø63
Rotary clamp cylinder	MK2T	ø20 to ø63 (Port side only for 32 to 50)

● Cylinders

Description	Series	Bore size [mm]
Stopper cylinder	RSDQ-Z	ø12 to ø50
Heavy duty stopper cylinder	RS2H	ø50 to ø80
Escapements	MIS/MIW	ø8 to ø32
Cylinder with lock	MDNB	ø32 to ø100
Cylinder with lock	CDNA2	ø40 to ø100
Cylinder with lock	CDNS	ø125 to ø160
Cylinder with lock	CDLS	ø125 to ø200
Compact cylinder with lock	CDLQ	ø20 to ø100 (Port side only for 32 to 50)
Compact cylinder with air cushion and lock	RDLQ	ø32 to ø63 (Port side only for 32 to 50)
Fine lock cylinder	CDL1	ø40 to ø160

● Rotary Actuators

Description	Series	Size
Compact rotary actuator	CDRQ2	10 to 40
Mini rotary actuator	CRJ	05, 1
Rotary table/Rack & pinion type	MSQ	1 to 200
3-position rotary table	MSZ	10 to 50
Low-speed rotary actuator	CDRQ2X	10 to 40
Low-speed rotary actuator	MSQX	10 to 50

● Air Grippers

Description	Series	Bore size [mm]
Parallel type air gripper	MHZ2	6 to 40
Parallel type air gripper/Long stroke type	MHZ(L)2	16 to 40
Parallel type air gripper with dust cover	MHZJ2	6 to 25
Low profile air gripper	MHF2	8 to 20
Wide type parallel style air gripper	MHL2-Z	10 to 40
Wedge cam operation slide guide	MHK(L)2	12 to 25
Parallel type air gripper	MHS(L)	16 to 25
Parallel type air gripper	MHSH/MHSJ	16 to 80
Toggle type air gripper	MHT2	32 to 63
180° angular type air gripper	MHY2	10 to 25

⚠ Safety Instructions Be sure to read the “Handling Precautions for SMC Products” (M-E03-3) and “Operation Manual” before use.

SMC Corporation

Specifications are subject to change without prior notice and any obligation on the part of the manufacturer.
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D-G