

Safety Interlock Switches

D4N



Rev. 9.11

Safety Limit Switch

- Upgraded safety limit switches based on the popular D4D, providing a full lineup conforming to international standards
- Lineup includes three contact models with 2NC/1NO and 3NC contact forms in addition to the previous contact forms 1NC/1NO, and 2NC. Models with MBB contacts are also available.
- M12-connector models are available, saving on labor and simplifying replacement
- Standardized gold-clad contacts provide high contact reliability. Can be used with both standard loads and microloads.
- Conforms to EN115, EN81-1, and EN81-2 (slow-action models only)
- Lineup includes both slow-action and snap-action models with Zb contacts
- Certified standards: UL, EN (TÜV), and CCC



G

Specifications

Standards and EC Directives

Conforms to the following EC Directives:

- Machinery Directive
- Low Voltage Directive
- EN50047
- EN60204-1
- EN1088
- GS-ET-15

Certified Standards

Certification body	Standard	File No.
TÜV SÜD	EN 60947-5-1 (certified direct opening)	Consult your representative for details.
UL *1	UL 508, CSA C22.2 No.14	E76675
CQC (CCC) *2	GB14048.5	2004010305105973

*1.Certification for CSA C22.2 No. 14 is authorized by the UL mark.

*2.Only certain models have been certified.

Certified Standard Ratings

TÜV (EN 60947-5-1), CCC (GB14048.5)

Item	Utilization category	AC-15	DC-13
Rated operating current (Ie)		3 A	0.27 A
Rated operating voltage (Ue)		240 V	250 V

Note: Use a 10 A fuse type gI or gG that conforms to IEC 60269 as a short-circuit protection device. This fuse is not built into the Switch.

UL/CSA (UL 508, CSA C22.2 No. 14)
C300

Rated voltage	Carry current	Current (A)		Volt-amperes (VA)	
		Make	Break	Make	Break
120 VAC	10 A	60	6	7,200	720
240 VAC		30	3		

Q300

Rated voltage	Carry current	Current (A)		Volt-amperes (VA)	
		Make	Break	Make	Break
125 VDC	2.5 A	0.55	0.55	69	69
250 VDC		0.27	0.27		

Connections

Contact Form

Model	Contact	Contact form	Operating pattern	Remarks
D4N-□1□	1NC/1NO (Snap-action)			Only NC contacts 31-32 have a certified direct opening mechanism. (→) The terminals 13-14 and 31-32 can be used as unlike poles.
D4N-□2□	2NC (Snap-action)			Only NC contacts 11-12 and 31-32 have a certified direct opening mechanism. (→) The terminals 11-12 and 31-32 can be used as unlike poles.
D4N-□A□	1NC/1NO (Slow-action)			Only NC contacts 11-12 have a certified direct opening mechanism. (→) The terminals 11-12 and 33-34 can be used as unlike poles.
D4N-□B□	2NC (Slow-action)			Only NC contacts 11-12 and 31-32 have a certified direct opening mechanism. (→) The terminals 11-12 and 31-32 can be used as unlike poles.
D4N-□C□	2NC/1NO (Slow-action)			Only NC contacts 11-12 and 21-22 have a certified direct opening mechanism. (→) The terminals 11-12, 21-22, and 33-34 can be used as unlike poles.
D4N-□D□	3NC (Slow-action)			Only NC contacts 11-12, 21-22, and 31-32 have a certified direct opening mechanism. (→) The terminals 11-12, 21-22, and 31-32 can be used as unlike poles.
D4N-□E□	1NC/1NO MBB* (Slow-action)			Only NC contacts 11-12 have a certified direct opening mechanism. (→) The terminals 11-12 and 33-34 can be used as unlike poles.
D4N-□F□	2NC/1NO MBB* (Slow-action)			Only NC contacts 11-12 and 21-22 have a certified direct opening mechanism. (→) The terminals 11-12, 21-22 and 33-34 can be used as unlike poles.

Terminals are numbered according to EN50013 and the contact forms are according to IEC947-5-1.

*MBB (Make Before Break) contacts have an overlapping structure, so that before the normally closed contact (NC) opens, the normally open contact (NO) closes.

Dimensions

Switches

1-conduit Models

Roller Lever (Resin Lever, Resin Roller)

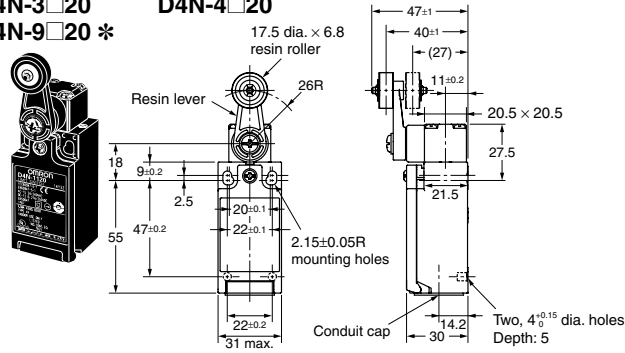
D4N-1□20

D4N-2□20

D4N-3□20

D4N-4□20

D4N-9□20 *



Roller Lever (Metal Lever, Resin Roller)

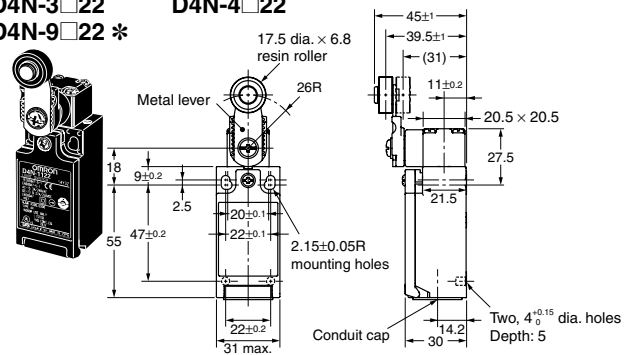
D4N-1□22

D4N-2□22

D4N-3□22

D4N-4□22

D4N-9□22 *



Roller Lever (Metal Lever, Metal Roller)

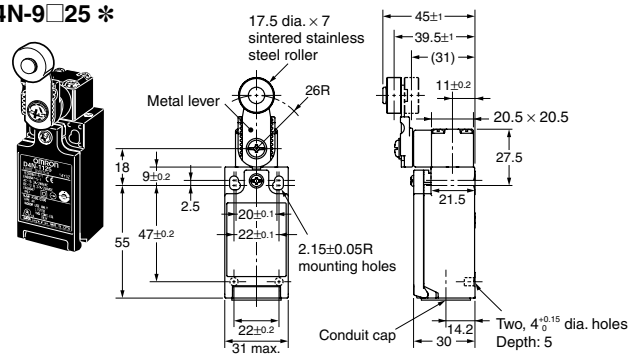
D4N-1□25

D4N-2□25

D4N-3□25

D4N-4□25

D4N-9□25 *



Roller Lever (Metal Lever, Bearing Roller)

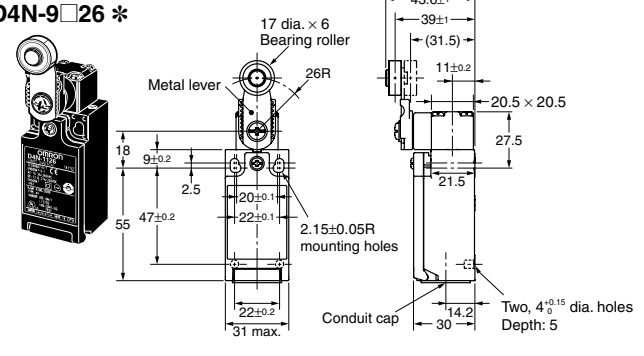
D4N-1□26

D4N-2□26

D4N-3□26

D4N-4□26

D4N-9□26 *



Plunger

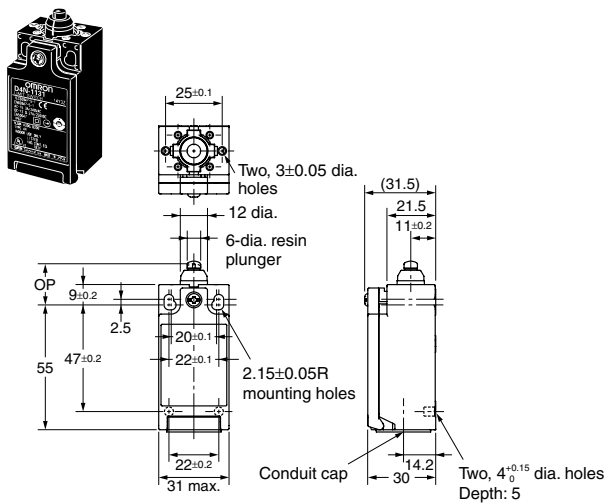
D4N-1□31

D4N-2□31

D4N-3□31

D4N-4□31

D4N-9□31 *



Roller Plunger

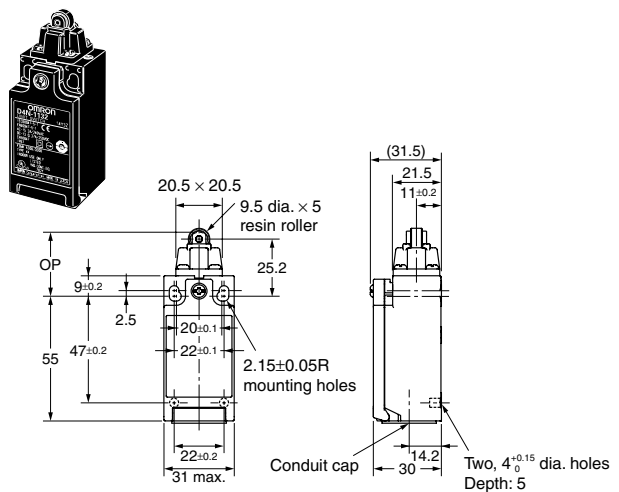
D4N-1□32

D4N-2□32

D4N-3□32

D4N-4□32

D4N-9□32 *



Note: Each dimension has a tolerance of 0.4 mm unless otherwise specified.

Dimensions (continued)

(mm)

Switches

1-conduit Models

One-way Roller Arm Lever (Horizontal)

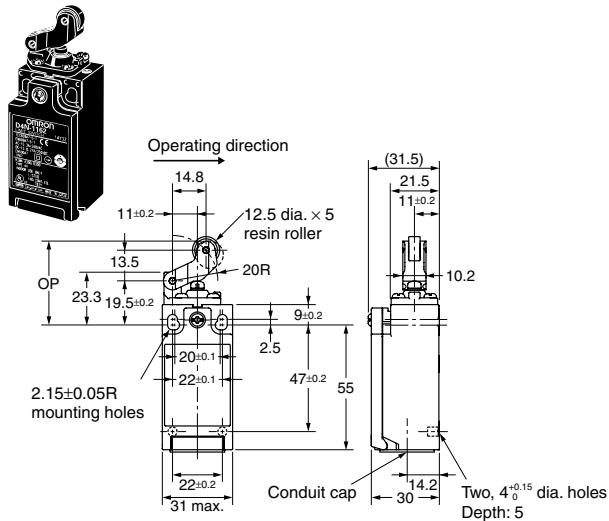
D4N-1 62

D4N-2□62

D4N-3□62

D4N-4□62

D4N-9□62 *



One-way Roller Arm Lever (Vertical)

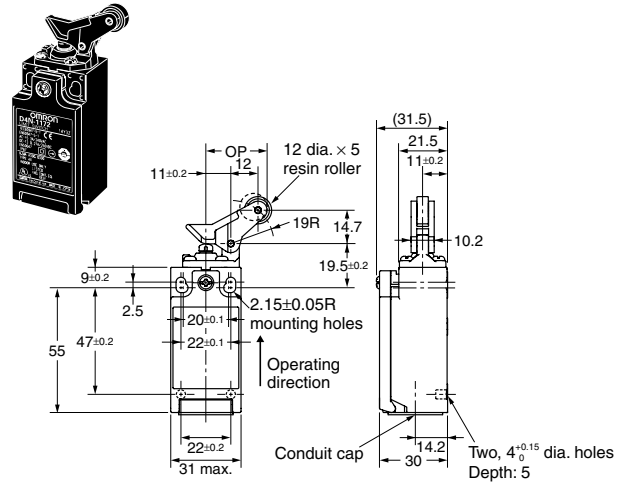
D4N-1□72

D4N-272

D4N-372

D4N-4□72

D4N-9□72 *



Adjustable Roller Lever, Form Lock (with Metal Lever, Resin Roller)

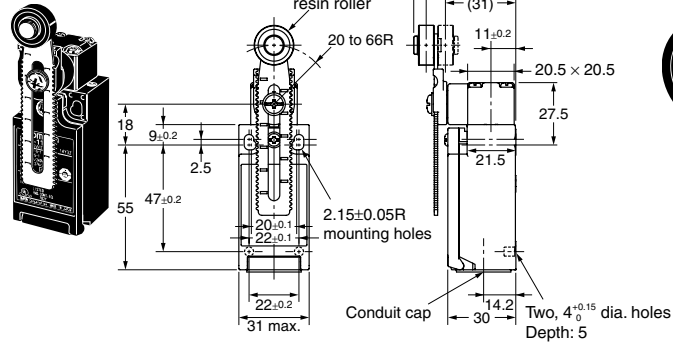
D4N-1□2G

D4N-2□2G

D4N-3□2G

D4N-4□2G

D4N-9□2G *



Adjustable Roller Lever, Form Lock (with Metal Lever, Rubber Roller)

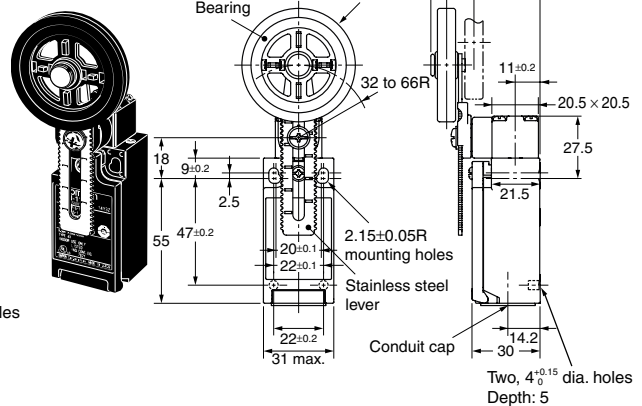
D4N-1□2H

D4N-2□2H

D4N-3□2H

D4N-4□2H

D4N-9□2H *



Note: Each dimension has a tolerance of 0.4 mm unless otherwise specified.

Dimensions (continued)

(mm)

Switches

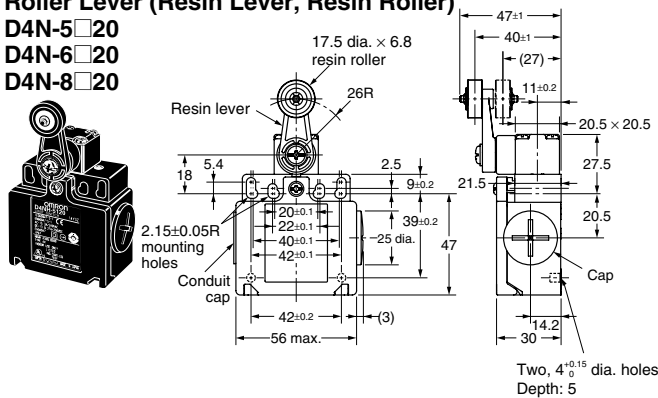
2-conduit Models

Roller Lever (Resin Lever, Resin Roller)

D4N-5□20

D4N-6□20

D4N-8□20

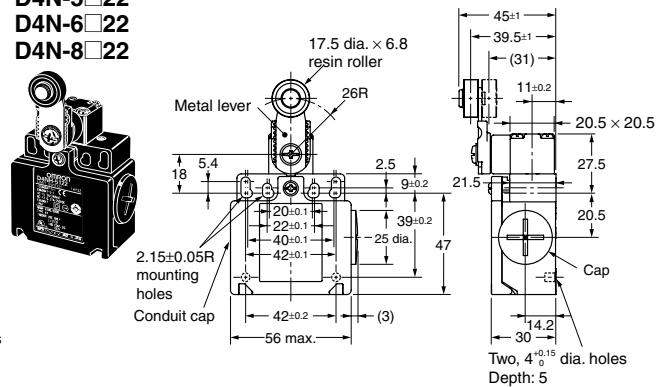


Roller Lever (Metal Lever, Resin Roller)

D4N-5□22

D4N-6□22

D4N-8□22

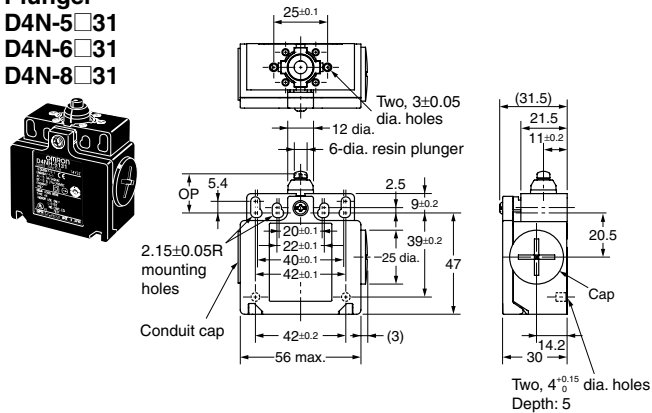


Plunger

D4N-5□31

D4N-6□31

D4N-8□31

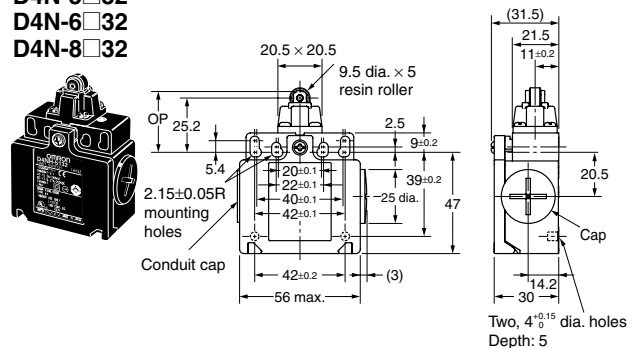


Roller Plunger

D4N-5□32

D4N-6□32

D4N-8□32



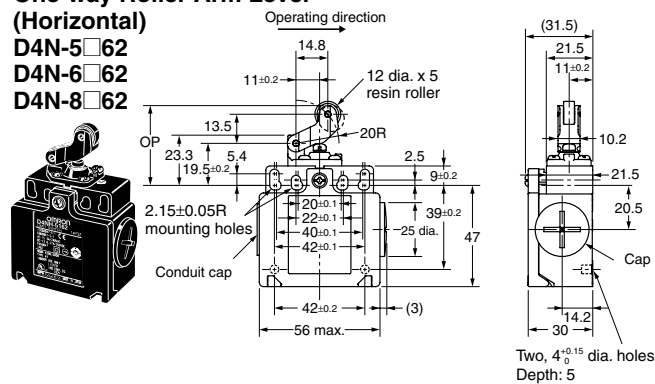
G

One-way Roller Arm Lever
(Horizontal)

D4N-5□62

D4N-6□62

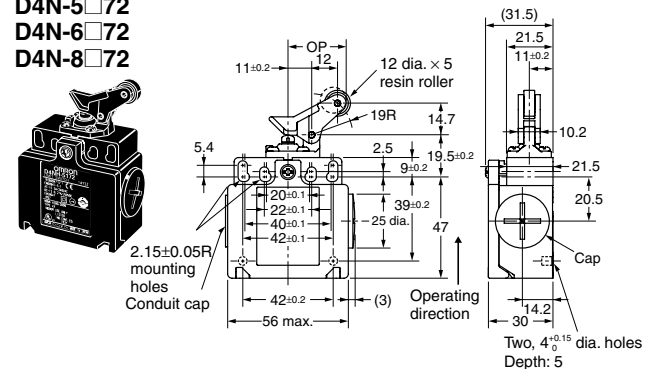
D4N-8□62

One-way Roller Arm Lever
(Vertical)

D4N-5□72

D4N-6□72

D4N-8□72



Note: Each dimension has a tolerance of 0.4 mm unless otherwise specified.

Dimensions (continued)

(mm)

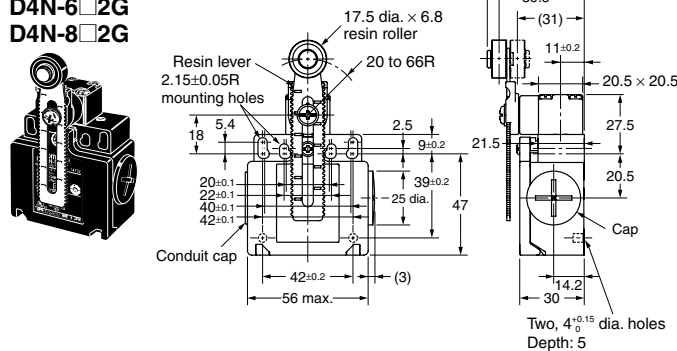
Switches

2-conduit Models

Adjustable Roller Lever, Form Lock
(with Metal Lever, Resin Roller)

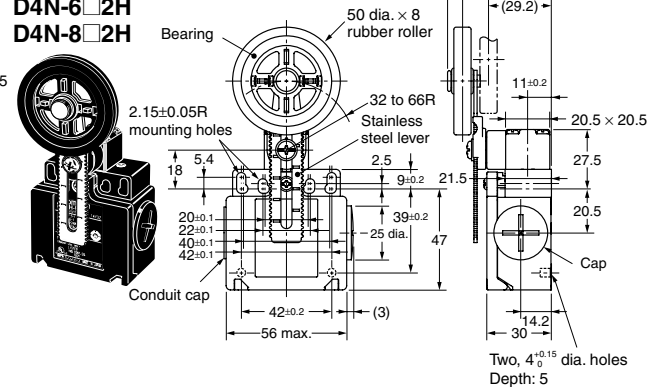
D4N-6□2G

D4N-8□2G

Adjustable Roller Lever, Form Lock
(with Metal Lever, Rubber Roller)

D4N-6□2H

D4N-8□2H



Note: Each dimension has a tolerance of 0.4 mm unless otherwise specified.

G

Ordering

Model Number Structure

D4N - □ □ □

① ② ③

① Conduit size

- 1: Pg13.5 (1-conduit)
- 2: G1/2 (1-conduit)
- 3: 1/2-14NPT (1-conduit)
- 4: M20 (1-conduit)
- 5: Pg13.5 (2-conduit)
- 6: G1/2 (2-conduit)
- 7: 1/2-14NPT (2-conduit)
- 8: M20 (2-conduit)
- 9: M12 connector (1-conduit)

② Built-in Switch

- 1: 1NC/1NO (snap-action)
- 2: 2NC (snap-action)
- A: 1NC/1NO (slow-action)
- B: 2NC (slow-action)
- C: 2NC/1NO (slow-action)
- D: 3NC (slow-action)
- E: 1NC/1NO (MBB contact) (slow-action)
- F: 2NC/1NO (MBB contact) (slow-action)

③ Head and Actuator

- 20: Roller lever (resin roller)
- 22: Roller lever (metal lever, resin roller)
- 25: Roller lever (metal lever, metal roller)
- 26: Roller lever (metal lever, bearing roller)
- 2G: Adjustable roller lever, form lock (metal lever, resin roller)
- 2H: Adjustable roller lever, form lock (metal lever, rubber roller)
- 31: Top Plunger
- 32: Top Roller Plunger
- 62: One-way roller arm lever (horizontal)
- 72: One-way roller arm lever (vertical)
- 80: Cat whisker
- 87: Plastic rod
- RE: Fork lever lock (right operation)
- LE: Fork lever lock (left operation)

Ordering (continued)

List of Models

Switches with Two Contacts (with Direct Opening Mechanism)

Actuator	Conduit size		Built-in switch mechanism							
			1NC/1NO (Snap-action)		2NC (Snap-action)		1NC/1NO (Slow-action)		2NC (Slow-action)	
			Model	Direct opening	Model	Direct opening	Model	Direct opening	Model	Direct opening
Roller lever (resin lever, resin roller) 	1-conduit	1/2-14NPT	D4N-3120		D4N-3220		D4N-3A20		D4N-3B20	
		M20	D4N-4120		D4N-4220		D4N-4A20		D4N-4B20	
		M12 connector	D4N-9120		D4N-9220		D4N-9A20		D4N-9B20	
	2-conduit	M20	D4N-8120		D4N-8220		D4N-8A20		D4N-8B20	
Roller lever (metal lever, resin roller) 	1-conduit	1/2-14NPT	D4N-3122		D4N-3222		D4N-3A22		D4N-3B22	
		M20	D4N-4122		D4N-4222		D4N-4A22		D4N-4B22	
		M12 connector	D4N-9122		D4N-9222		D4N-9A22		D4N-9B22	
	2-conduit	M20	D4N-8122		D4N-8222		D4N-8A22		D4N-8B22	
Roller lever (metal lever, metal roller) 	1-conduit	1/2-14NPT	D4N-3125		D4N-3225		D4N-3A25		D4N-3B25	
		M20	D4N-4125		D4N-4225		D4N-4A25		D4N-4B25	
		M12 connector	D4N-9125		D4N-9225		D4N-9A25		D4N-9B25	
	2-conduit	M20	D4N-8125		D4N-8225		D4N-8A25		D4N-8B25	
Roller lever (metal lever, bearing roller) 	1-conduit	1/2-14NPT	D4N-3126		D4N-3226		D4N-3A26		D4N-3B26	
		M20	D4N-4126		D4N-4226		D4N-4A26		D4N-4B26	
		M12 connector	D4N-9126		D4N-9226		D4N-9A26		D4N-9B26	
	2-conduit	M20	D4N-8131		D4N-8231		D4N-8A31		D4N-8B31	
Plunger 	1-conduit	1/2-14NPT	D4N-3131		D4N-3231		D4N-3A31		D4N-3B31	
		M20	D4N-4131		D4N-4231		D4N-4A31		D4N-4B31	
		M12 connector	D4N-9131		D4N-9231		D4N-9A31		D4N-9B31	
	2-conduit	M20	D4N-8131		D4N-8231		D4N-8A31		D4N-8B31	
Roller plunger 	1-conduit	1/2-14NPT	D4N-3132		D4N-3232		D4N-3A32		D4N-3B32	
		M20	D4N-4132		D4N-4232		D4N-4A32		D4N-4B32	
		M12 connector	D4N-9132		D4N-9232		D4N-9A32		D4N-9B32	
	2-conduit	M20	D4N-8132		D4N-8232		D4N-8A32		D4N-8B32	
One-way roller arm lever (horizontal) 	1-conduit	1/2-14NPT	D4N-3162		D4N-3262		D4N-3A62		D4N-3B62	
		M20	D4N-4162		D4N-4262		D4N-4A62		D4N-4B62	
		M12 connector	D4N-9162		D4N-9262		D4N-9A62		D4N-9B62	
	2-conduit	M20	D4N-8162		D4N-8262		D4N-8A62		D4N-8B62	
One-way roller arm lever (vertical) 	1-conduit	1/2-14NPT	D4N-3172		D4N-3272		D4N-3A72		D4N-3B72	
		M20	D4N-4172		D4N-4272		D4N-4A72		D4N-4B72	
		M12 connector	D4N-9172		D4N-9272		D4N-9A72		D4N-9B72	
	2-conduit	M20	D4N-8172		D4N-8272		D4N-8A72		D4N-8B72	
Adjustable roller lever, form lock (metal lever, resin roller) 	1-conduit	1/2-14NPT	D4N-312G		D4N-322G		D4N-3A2G		D4N-3B2G	
		M20	D4N-412G		D4N-422G		D4N-4A2G		D4N-4B2G	
		M12 connector	D4N-912G		D4N-922G		D4N-9A2G		D4N-9B2G	
	2-conduit	M20	D4N-812G		D4N-822G		D4N-8A2G		D4N-8B2G	
Adjustable roller lever, form lock (metal lever, rubber roller) 	1-conduit	1/2-14NPT	D4N-312H		D4N-322H		D4N-3A2H		D4N-3B2H	
		M20	D4N-412H		D4N-422H		D4N-4A2H		D4N-4B2H	
		M12 connector	D4N-912H		D4N-922H		D4N-9A2H		D4N-9B2H	
	2-conduit	M20	D4N-812H		D4N-822H		D4N-8A2H		D4N-8B2H	

Note: It is recommended that M20 be used for Switches to be exported to Europe and 1/2-14NPT be used for Switches to be exported to North American countries.

Ordering (continued)

List of Models

Switches with Three Contacts and MBB Contacts (with Direct Opening Mechanism)

Actuator	Conduit size		Built-in switch mechanism							
			2NC/1NO (Slow-action)		3NC (Slow-action)		1NC/1NO MBB (Slow-action)		2NC/1NO MBB (Slow-action)	
			Model	Direct opening	Model	Direct opening	Model	Direct opening	Model	Direct opening
Roller lever (resin lever, resin roller) 	1-conduit	1/2-14NPT	D4N-3C20		D4N-3D20		D4N-3E20		D4N-3F20	
		M20	D4N-4C20		D4N-4D20		D4N-4E20		D4N-4F20	
		M12 connector	---		---		D4N-9E20		---	
	2-conduit	M20	D4N-8C20		D4N-8D20		D4N-8E20		D4N-8F20	
		M20	D4N-8C20		D4N-8D20		D4N-8E20		D4N-8F20	
		M20	D4N-8C20		D4N-8D20		D4N-8E20		D4N-8F20	
Roller lever (metal lever, resin roller) 	1-conduit	1/2-14NPT	D4N-3C22		D4N-3D22		D4N-3E22		D4N-3F22	
		M20	D4N-4C22		D4N-4D22		D4N-4E22		D4N-4F22	
		M12 connector	---		---		D4N-9E22		---	
	2-conduit	M20	D4N-8C22		D4N-8D22		D4N-8E22		D4N-8F22	
		M20	D4N-8C22		D4N-8D22		D4N-8E22		D4N-8F22	
		M20	D4N-8C22		D4N-8D22		D4N-8E22		D4N-8F22	
Roller lever (metal lever, metal roller) 	1-conduit	1/2-14NPT	D4N-3C25		D4N-3D25		D4N-3E25		D4N-3F25	
		M20	D4N-4C25		D4N-4D25		D4N-4E25		D4N-4F25	
		M12 connector	---		---		D4N-9E25		---	
	2-conduit	M20	D4N-8C25		D4N-8D25		D4N-8E25		D4N-8F25	
		M20	D4N-8C25		D4N-8D25		D4N-8E25		D4N-8F25	
		M20	D4N-8C25		D4N-8D25		D4N-8E25		D4N-8F25	
Roller lever (metal lever, bearing roller) 	1-conduit	1/2-14NPT	D4N-3C26		D4N-3D26		D4N-3E26		D4N-3F26	
		M20	D4N-4C26		D4N-4D26		D4N-4E26		D4N-4F26	
		M12 connector	---		---		D4N-9E26		---	
	2-conduit	M20	D4N-8C26		D4N-8D26		D4N-8E26		D4N-8F26	
		M20	D4N-8C26		D4N-8D26		D4N-8E26		D4N-8F26	
		M20	D4N-8C26		D4N-8D26		D4N-8E26		D4N-8F26	
Plunger 	1-conduit	1/2-14NPT	D4N-3C31		D4N-3D31		D4N-3E31		D4N-3F31	
		M20	D4N-4C31		D4N-4D31		D4N-4E31		D4N-4F31	
		M12 connector	---		---		D4N-9E31		---	
	2-conduit	M20	D4N-8C31		D4N-8D31		D4N-8E31		D4N-8F31	
		M20	D4N-8C31		D4N-8D31		D4N-8E31		D4N-8F31	
		M20	D4N-8C31		D4N-8D31		D4N-8E31		D4N-8F31	
Roller plunger 	1-conduit	1/2-14NPT	D4N-3C32		D4N-3D32		D4N-3E32		D4N-3F32	
		M20	D4N-4C32		D4N-4D32		D4N-4E32		D4N-4F32	
		M12 connector	---		---		D4N-9E32		---	
	2-conduit	M20	D4N-8C32		D4N-8D32		D4N-8E32		D4N-8F32	
		M20	D4N-8C32		D4N-8D32		D4N-8E32		D4N-8F32	
		M20	D4N-8C32		D4N-8D32		D4N-8E32		D4N-8F32	
One-way roller arm lever (horizontal) 	1-conduit	1/2-14NPT	D4N-3C62		D4N-3D62		D4N-3E62		D4N-3F62	
		M20	D4N-4C62		D4N-4D62		D4N-4E62		D4N-4F62	
		M12 connector	---		---		D4N-9E62		---	
	2-conduit	M20	D4N-8C62		D4N-8D62		D4N-8E62		D4N-8F62	
		M20	D4N-8C62		D4N-8D62		D4N-8E62		D4N-8F62	
		M20	D4N-8C62		D4N-8D62		D4N-8E62		D4N-8F62	
One-way roller arm lever (vertical) 	1-conduit	1/2-14NPT	D4N-3C72		D4N-3D72		D4N-3E72		D4N-3F72	
		M20	D4N-4C72		D4N-4D72		D4N-4E72		D4N-4F72	
		M12 connector	---		---		D4N-9E72		---	
	2-conduit	M20	D4N-8C72		D4N-8D72		D4N-8E72		D4N-8F72	
		M20	D4N-8C72		D4N-8D72		D4N-8E72		D4N-8F72	
		M20	D4N-8C72		D4N-8D72		D4N-8E72		D4N-8F72	
Adjustable roller lever, form lock (metal lever, resin roller) 	1-conduit	1/2-14NPT	D4N-3C2G		D4N-3D2G		D4N-3E2G		D4N-3F2G	
		M20	D4N-4C2G		D4N-4D2G		D4N-4E2G		D4N-4F2G	
		M12 connector	---		---		D4N-9E2G		---	
	2-conduit	M20	D4N-8C2G		D4N-8D2G		D4N-8E2G		D4N-8F2G	
		M20	D4N-8C2G		D4N-8D2G		D4N-8E2G		D4N-8F2G	
		M20	D4N-8C2G		D4N-8D2G		D4N-8E2G		D4N-8F2G	
Adjustable roller lever, form lock (metal lever, rubber roller) 	1-conduit	1/2-14NPT	D4N-3C2H		D4N-3D2H		D4N-3E2H		D4N-3F2H	
		M20	D4N-4C2H		D4N-4D2H		D4N-4E2H		D4N-4F2H	
		M12 connector	---		---		D4N-9E2H		---	
	2-conduit	M20	D4N-8C2H		D4N-8D2H		D4N-8E2H		D4N-8F2H	
		M20	D4N-8C2H		D4N-8D2H		D4N-8E2H		D4N-8F2H	
		M20	D4N-8C2H		D4N-8D2H		D4N-8E2H		D4N-8F2H	

Note: It is recommended that M20 be used for Switches to be exported to Europe and 1/2-14NPT be used for Switches to be exported to North American countries.

Ordering (continued)

List of Models

General-purpose Switches with Two Contacts

(See D4N installation manual at www.sti.com for more details.)

Actuator	Conduit size		Built-in switch mechanism							
			1NC/1NO (Snap-action)		2NC (Snap-action)		1NC/1NO (Slow-action)		2NC (Slow-action)	
			Model	Direct opening	Model	Direct opening	Model	Direct opening	Model	Direct opening
Fork lever lock (right operation) 	1-conduit	1/2-14NPT	---	---	---	---	D4N-3ARE	---	D4N-3BRE	---
		M20		---		---	D4N-4ARE	---	D4N-4BRE	---
	2-conduit	M20		---		---	D4N-8ARE	---	D4N-8BRE	---
Fork lever lock (left operation) 	1-conduit	1/2-14NPT		---		---	D4N-3ALE	---	D4N-3BLE	---
		M20		---		---	D4N-4ALE	---	D4N-4BLE	---
	2-conduit	M20		---		---	D4N-8ALE	---	D4N-8BLE	---
Cat whisker 	1-conduit	1/2-14NPT	D4N-3180	---	D4N-3280	---	---	---	D4N-3B80	---
		M20	D4N-4180	---	D4N-4280	---		---	D4N-4B80	---
	2-conduit	M20	D4N-8180	---	D4N-8280	---		---	D4N-8B80	---
Plastic rod 	1-conduit	1/2-14NPT	D4N-3187	---	D4N-3287	---		---	D4N-3B87	---
		M20	D4N-4187	---	D4N-4287	---		---	D4N-4B87	---
	2-conduit	M20	D4N-8187	---	D4N-8287	---		---	D4N-8B87	---

Notes:

1. It's recommended that M20 be used for Switches to be exported to Europe and 1/2-14NPT be used for Switches to be exported to North American countries.
2. Mechanically speaking, these models are general-purpose switches with no direct opening mechanism.

General-purpose Switches with Three Contacts and MBB Contacts

(See D4N installation manual at www.sti.com for more details.)

Actuator	Conduit size		Built-in switch mechanism							
			2NC/1NO (Slow-action)		3NC (Slow-action)		1NC/1NO MBB (Slow-action)		2NC/1NO MBB (Slow-action)	
			Model	Direct opening	Model	Direct opening	Model	Direct opening	Model	Direct opening
Fork lever lock (right operation) 	1-conduit	1/2-14NPT	D4N-3CRE	---	D4N-3DRE	---	D4N-3ERE	---	D4N-3FRE	---
		M20	D4N-4CRE	---	D4N-4DRE	---	D4N-4ERE	---	D4N-4FRE	---
	2-conduit	M20	D4N-8CRE	---	D4N-8DRE	---	D4N-8ERE	---	D4N-8FRE	---
Fork lever lock (left operation) 	1-conduit	1/2-14NPT	D4N-3CLE	---	D4N-3DLE	---	D4N-3ELE	---	D4N-3FLE	---
		M20	D4N-4CLE	---	D4N-4DLE	---	D4N-4ELE	---	D4N-4FLE	---
	2-conduit	M20	D4N-8CLE	---	D4N-8DLE	---	D4N-8ELE	---	D4N-8FLE	---
Cat whisker 	1-conduit	1/2-14NPT	---	---	D4N-3D80	---	---	---	---	---
		M20		---	D4N-4D80	---		---		---
	2-conduit	M20		---	D4N-8D80	---		---		---
Plastic rod 	1-conduit	1/2-14NPT		---	D4N-3D87	---		---		---
		M20		---	D4N-4D87	---		---		---
	2-conduit	M20		---	D4N-8D87	---		---		---

Notes:

1. It's recommended that M20 be used for Switches to be exported to Europe and 1/2-14NPT be used for Switches to be exported to North American countries.
2. Mechanically speaking, these models are general-purpose switches with no direct opening mechanism.