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Selection Guide

General purpose switches	SPDT double break: 10 A max. at 125 VAC, NEMA A600	Side rotary standard and high-precision overtravel switches; plunger switches, flexible rod switches	WL
	SPDT double break: 10 A max. at 125 VAC, NEMA A600	Side rotary standard, high-precision, low-torque and maintained contact switches; plunger switches; flexible rod switches	D4A-1□□□N
Enclosed switches	DPDT double break: 5 A max. at 125 VAC, NEMA B600	Side rotary standard, sequential operation switches; plunger switches	D4A-2□□□N
	Pre-wired miniature switch; SPDT: 5 A max. at 250 VAC, NEMA B300	Plunger; sealed plunger; panel mount plunger; roller lever; flexible rod switches	D4C
	Miniature switch with M12 connector; SPDT, 1 A max. at 125 VAC, NEMA B300 or 1 A max. at 30 VDC	Plunger; sealed plunger; panel mount plunger; roller lever; flexible rod switches	D4CC
	High-capacity AC switch: SPDT, 15 A max. at 125 VAC, NEMA B300 or 1 A max. at 30 VDC	Plunger; roller arm lever; sealed plunger switches	ZE (side mounting) ZV (diagonal side mounting) ZV2 (flanged base)
	Compact AC switch: SPDT, 10 A max. at 125 VAC; NEMA A300	Panel mount plunger; hinge lever; hinge roller lever switches	D4MC
	Slim, compact AC switch: SPDT, 5 A max. at 125 VAC, NEMA A300	Plunger, sealed plunger and roller lever switches	D4E-N
	Coil spring action switches: SPDT, 10 A max. at 125 VAC, NEMA A300	Plunger; panel mount plunger, hinge lever; hinge roller lever	SHL
	2 to 6 switches in single housing: SPDT, 10 A max. at 125 VAC	Roller or bevel plunger	VB
Tactile switch	SPST double break: 1 mA at 5 VDC to 30 mA max. at 30 VDC	Hemispheric, cone-shaped, and wobble-stick actuators in 3 sizes	D5B

General-Purpose Limit Switches WL Series



Robust Single-Pole/Double Break Switches with Built-In Actuators

- Rugged diecast aluminum housing with high mechanical strength
- Rated IP67 with waterproof, oil-tight and dust-proof construction
- Easy to install and maintain
- Wide range of actuators:
 - Roller levers: short, medium, long; flush mounting; flange mounting
 - Adjustable levers: roller lever, rod lever
 - Fork roller levers
 - Plungers: plain top, top roller, top ball, plain side, side roller, side ball
 - Wobble levers: steel wire, nylon rod, coil spring
- Wide variety of standard, high-precision and overtravel models
- LED or neon lamp status indicator models available



Specifications

- Load rating: 10 A max. at 125 VAC, NEMA A600
- Contact configuration: SPDT double break
- Mechanical life: 15 million operations
- High temperature, low temperature, corrosion proof, hermetic, anti-coolant, spatter resistant types available
- Micro-load and “Long-Life” types available
- Class 1 protection against electric shock
- Connection: 1/2-14 NPT conduit entrance, terminal screw connections
- Enclosure rating: IP67; UL 3, 4, and 13

Actuator/Head Features

Type	Basic	High sensitivity overtravel	90-Degree overtravel	High precision overtravel
Action				
Features	<ul style="list-style-type: none"> ■ Used with roller levers. 	<ul style="list-style-type: none"> ■ Operation is highly sensitive with only 10° pretravel. ■ Overtravel is large, making setting the dog easier. ■ Mounting is compatible with basic models. 	<ul style="list-style-type: none"> ■ Overtravel is large, making setting the dog easier. ■ Mounting is compatible with basic models. 	<ul style="list-style-type: none"> ■ Repeat accuracy is twice that of basic models. ■ Operation is highly sensitive with only 5° pretravel. ■ Ideal for positioning, e.g., with machine tools.
One-way operation	Possible	Not possible	Not possible	Not possible
Head mounting	Any of 4 directions	Any of 4 directions	Any of 4 directions	Any of 4 directions

Basic Side Rotary Switches

Actuator type	Appearance	Total travel/switch type	Operating force	Dimensions H x W x D mm	Model
Short roller lever switch		45 degree/basic side rotary, 38 mm radius	1.36 kg-f (3 lb-f)	125 x 40 x 59	WLCA2-TS
Short roller lever switch, LED indicator		45 degree/basic side rotary, 38 mm radius	1.36 kg-f (3 lb-f)	125 x 40 x 59	WLCA2LD
Short roller lever switch		45 degree/high precision, 1-way operation, 38 mm radius	1.36 kg-f (3 lb-f)	125 x 40 x 59	WLGCA2-TS
Adjustable roller lever switch		45 degree/basic side rotary, 25 to 89 mm	1.36 kg-f (3 lb-f)	119.1 to 183.1 x 40 x 67	WLCA12-TS
Adjustable rod lever switch		45 degree/basic side rotary, 25 to 140 mm	142 g-f (5 oz-f)	119.1 to 234.1 x 40 x 55	WLCL-TS

Overtravel Side Rotary Switches

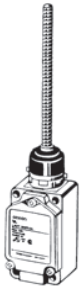

High-precision models, ideal for position control, require a very small movement to operation (approx. 5°) and a repeat accuracy that is twice that of basic models.

Actuator type	Appearance	Total travel/switch type	Operating force	Dimensions H x W x D mm	Model
Short roller lever switch, LED indicator		80 degree/overtravel, 38 mm radius, high sensitivity	1 kg g-f	125 x 40 x 60	WLG2LD
Short roller lever switch		90 degree/overtravel, 38 mm radius	1 kg g-f	125 x 40 x 60	WLCA22-TS
Short roller lever switch, LED indicator		90 degree/overtravel, 38 mm radius	1 kg g-f	125 x 40 x 60	WLCA22LD
Short roller lever switch		90 degree, overtravel, 1-way operation, 38 mm radius	1 kg g-f	125 x 40 x 60	WLCA22N
Adjustable roller lever switch		90 degree/overtravel type, 25 to 89 mm	1 kg g-f	119.1 to 183.1 x 40 x 68	WLCA122-TS

Plunger Switches

Actuator type	Appearance	Total travel/switch type	Operating force	Dimensions H x W x D mm	Model
Plain top plunger switch		29.5 mm	2.72 kg-f (6 lb-f)	99.4 x 40 x 42	WLD-TS
Top roller plunger switch		39.5 mm	2.72 kg-f (6 lb-f)	109.4 x 40 x 42	WLD2-TS

Flexible Rod Switches

Actuator type	Appearance	Total travel/switch type	Operating force	Dimensions H x W x D mm	Model
Coil spring 6.5 m dia. switch		—	150 g-f (5.29 oz-f)	203.7 x 40 x 42	WLNJ-TS
Nylon rod switch		—	150 g-f (5.29 oz-f)	190.1 x 40 x 42	WLNJ-2-TS

Levers for WL Series

Use these levers and actuator heads to modify existing WL switches or to support maintenance.

Description	Model
Short 38 mm radius roller lever	WL-1A100
Medium 50 mm radius roller lever	WL-1A200
Long 63 mm radius roller lever	WL-1A300
Adjustable roller lever	WL-2A111
Adjustable rod lever 140 mm	WL-4A201
Adjustable rod lever 380 mm	WL-3A100
Spring rod lever	WL-3A200
Nylon rod head with actuator	WL-9H300

General-Purpose Limit Switches

D4A-N



Heavy-Duty SPDT and DPDT Switches with Plug-In Construction

- Oil-tight, watertight construction with double seal on the head, a complete gasket cover
- Plug-in construction reduces downtime for maintenance
- Convenient front mounting simplifies installation
- User selectable operating direction for side rotary switches — CW, CCW, or both
- Position and lock the operating head at any of four 90° positions
- Wide operating temperature range: -40° to 100°C (side rotary)
- Side rotary switches accept a wide selection of levers
- DPDT, double-break models available for sequential operation and center neutral switching
- Approved by UL, CSA, and CCC (Chinese standard)



Specifications

- Load rating: SPDT double break: 10 A max. at 125 VAC, NEMA A600
 - DPDT double break: 5 A max. at 125 VAC, NEMA B600
- Mechanical life:
 - SPDT double break: 50 million operations
 - DPDT double break: 30 million operations
- Connection: 1/2-14 NPT conduit entrance, terminal screw connections
- Enclosure rating: IP67; UL NEMA 3, 4, 4X, 6P, 12 and 13
- Class I protection against electrical shock




SPDT Double Break Switches

Side Rotary Switches



Order levers separately.

Actuator type	Appearance	Operating force	Dimensions H x W x D mm	Model
Standard side rotary switch		39.7 g-f (0.088 lb-f)	104.5 x 42 x 59 to 64.5	D4A-1101N
High precision side rotary switch		39.7 g-f (0.088 lb-f)		D4A-1102N
Low torque side rotary switch		20.4 g-f (0.045 lb-f)		D4A-1103N
Maintained contact side rotary switch		39.7 g-f (0.088 lb-f)	108.6 x 42 x 58.5 to 64	D4A-1105N

Plunger Switches

Actuator type	Appearance	Operating force	Dimensions H x W x D mm	Model
Plain top plunger switch		1.8 kg-f (3.97 lb-f)	116.5 x 42 x 44	D4A-1109N
Top roller plunger switch		1.8 kg-f (3.97 lb-f)	126.5 x 42 x 44	D4A-1110N
Adjustable plunger switch		1.8 kg-f (3.97 lb-f)	126 x 42 x 44	D4A-1111N


Flexible Rod Switches

Actuator type	Appearance	Operating force	Dimensions H x W x D mm	Model
Plastic rod switch		149.9 g-f (0.33 lb-f)	220.5 x 42 x 44	D4A-1114N
Coil spring switch		149.9 g-f (0.33 lb-f)	230.5 x 42 x 44	D4A-1116N



DPDT Double Break Switches

Side Rotary Switches

Order levers separately.




Actuator type	Appearance	Operating force	Dimensions H x W x D mm	Model
Standard operation side rotary switch		39.7 g-f (0.088 lb-f)	104.5 x 42 x 59 to 64.5	D4A-2501N
Sequential operation side rotary switch		39.7 g-f (0.088 lb-f)	104.5 x 42 x 59 to 64.5	D4A-2717N
Center neutral operation side rotary switch		39.7 g-f (0.088 lb-f)	104.5 x 42 x 59 to 64.5	D4A-2918N

Plunger Switches

Actuator type	Appearance	Operating force	Dimensions H x W x D mm	Model
Plain top plunger switch		1.8 kg-f (3.97 lb-f)	220.5 x 42 x 44	D4A-2509N
Top roller plunger switch		1.8 kg-f (3.97 lb-f)	230.5 x 42 x 44	D4A-2510N

Levers for D4A-N Series

Use these levers and actuator heads to modify existing D4A-N switches or to support maintenance. A wider selection of levers is available.

Description	Appearance	Model
Roller lever, 11.5 mm depth		D4A-A00
Adjustable roller lever (33 to 91 mm)		D4A-C00
Adjustable rod lever (150 mm max.)		D4A-D00
Standard side rotary operating head	—	D4A-0001N
SPDT double break switch and body	—	D4A-0100N

Enclosed Limit Switches D4C



Sealed, Compact, Slim Pre-Wired Limit Switch




- Rugged diecast aluminum housing
- Rated IP67; triple-sealed construction
- Designed for easy gang mounting
- Standard cable offers high flexibility, outstanding oil and extreme temperature resistance
- Wide range of actuators:
 - Plunger: pin, roller, cross roller, bevel
 - Sealed plunger: pin, roller, cross roller
 - Panel mount plunger: pin, roller, cross roller
 - Roller lever: standard, center mount
 - Plastic rod
- Approved by UL, CSA, CE and CCC (Chinese standard)
- Gang mount up to 6 switches








Specifications

- Load rating: SPDT: 5 A max. at 250 VAC, NEMA B300
- Mechanical life: 10 million operations
- Connection: Pre-wired with 3 or 5 cable
- Enclosure rating: IP67; UL NEMA 3, 4 and 13
- Micro load versions available
- Weather-resistant models available

Pre-Wired Enclosed Switches

Actuator type	Appearance	Operating force	Dimensions H x W x D mm	Cable length	Model
Pin plunger		1.2 kg-f (42.32 oz-f)	54.2 x 40 x 16	3 m	D4C-1601
Roller plunger		1.2 kg-f (42.32 oz-f)	67 x 40 x 16	3 m	D4C-1602
				5 m	D4C-1702
Cross roller plunger		1.2 kg-f (42.32 oz-f)	67 x 40 x 16	3 m	D4C-1603

Actuator type	Appearance	Operating force	Dimensions H x W x D mm	Cable length	Model
Roller lever, R38		580 g-f (20.46 oz-f)	102.7 x 40 x 16	3 m	D4C-1620
				5 m	D4C-1720
Sealed pin plunger		1.8 kg-f (63.49 oz-f)	56 x 40 x 16	3 m	D4C-1631
Sealed roller plunger		1.8 kg-f (63.49 oz-f)	66 x 40 x 16	3 m	D4C-1632
Sealed cross roller plunger		1.8 kg-f (63.49 oz-f)	66 x 40 x 16	3 m	D4C-1633
Plastic rod		150 g-f (5.29 oz-f)	104 x 40 x 16	3 m	D4C-1650

Enclosed Limit Switches D4CC



Sealed, Compact, Slim Limit Switch with Connector





- Center roller lever models enable ganged mounting of up to 6 Switches
- M12 4-pin connector reduces installation and maintenance time
- Rated IP67; triple-sealed construction for plungers provides oil-tight and water-tight protection
- AC and DC switching models
- Wide range of actuators:
 - Plunger: pin, roller, cross roller, bevel
 - Sealed plunger: pin, roller, cross roller
 - Panel mount plunger: pin, roller, cross roller
 - Roller lever: low operating force, center mounted
 - Plastic rod
- Micro-Change® connector cordsets available separately



Specifications

- Load rating: SPDT, 1 A max. at 125 VAC, NEMA B300 or 1 A max. at 30 VDC
- Mechanical life: 10 million operations
- Connection: M12 single keyway 4-pin connector
- Enclosure rating: IP67; UL NEMA 3, 4 and 13

Enclosed Switches with M12 Connectors

Actuator type	Appearance	Operating force	Dimensions H x W x D mm	Switching voltage	Model
Roller plunger		1.2 kg-f (42.32 oz-f)	85.5 x 40 x 16	AC	D4CC-1002
				DC	D4CC-3002
Low force roller lever		0.58 kg-f (20.46 oz-f)	121.2 x 40 x 50	AC	D4CC-1024
Sealed plunger		1.8 kg-f (63.49 oz-f)	81 x 40 x 16	AC	D4C-C1031
Sealed roller plunger		1.8 kg-f (63.49 oz-f)	90.3 x 40 x 16	AC	D4CC-1032
				DC	D4CC-3032

Connector Cordset

M12, 4-Pin Single Key-Way Connector Cordsets*

Connector type	Cable size	Length	Straight connector	Right angle connector
Female 4-pole AC Micro-Change®	22 AWG	6 ft	Y96E-44SA6	Y96E-44RA6
		12 ft	Y96E-44SA12	Y96E-44RA12
		20 ft	Y96E-44SA20	Y96E-44RA20
Female 4-pole DC Micro-Change®	22 AWG	2 m (6.56 ft)	Y96E-44SD2	Y96E-44RD2
		5 m (16.4 ft)	Y96E-44SD5	Y96E-44RD5
		10 m (32.8 ft)	Y96E-44SD10	Y96E-44RD10

* Not available in Canada.

Enclosed Limit Switches ZE/ZV/ZV2



High Capacity AC Switches

- Large 15-amp, 125 VAC switching capacity and long service life
- Wide range of actuators:
 - Plunger: pin, roller, cross roller
 - Roller arm lever: standard and sealed
 - Sealed plunger: pin, roller, cross roller
- Rugged diecast aluminum housing
- Sealed switches rated IP65 (ZE-N), meet NEMA types 1, 2, 3, 4 and 5
- Three mounting styles available:
 - Side mounting (ZE)
 - Diagonal side mounting (ZV2) is ideal for gang mounting several switches
 - Flanged base mounting (ZV)
- ZE, ZV, and ZV2 series are approved by CCC, UL, CSA

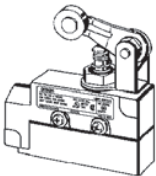
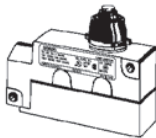
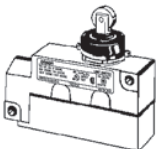
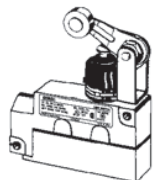
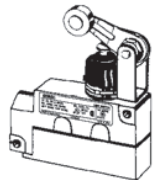


Specifications

- Load rating: SPDT, 15 A max. at 125 VAC, NEMA B300 or 1 A max. at 30 VDC
- Mechanical life: 10 million operations
- Connection: Screw terminals on internal switch face forward when the cover is opened
- Enclosure rating: IP65 (ZE-N); IP60 ZE-Q
- Micro load version available

High Capacity Enclosed Switches

Actuator type	Appearance	Operating force	Dimensions H x W x D mm	Mounting	Model
Plunger		249.8 to 349.8 gram-force 0.55 to 0.77 pound-force	63.7 x 25.4 x 86	Side	ZE-Q-2S
Roller plunger		249.8 to 349.8 gram-force 0.55 to 0.77 pound-force	75.2 x 25.4 x 86	Side	ZE-Q22-2S
Cross roller plunger		249.8 to 349.8 gram-force 0.55 to 0.77 pound-force	75.2 x 25.4 x 86	Side	ZE-Q21-2S

Actuator type	Appearance	Operating force	Dimensions H x W x D mm	Mounting	Model
Roller arm lever		570 gram-force 1.26 pound-force	92.6 x 25.4 x 86	Side	ZE-QA2-2S
Sealed plunger		800.5 gram-force 1.76 pound-force	71.4 x 25.4 x 86	Diagonal side	ZV2-N-2S
Sealed roller plunger		499.7 gram-force 1.1 pound-force	75.2 x 25.4 x 86	Diagonal side	ZV2-N22-2S
Sealed roller arm lever		640.4 gram-force 1.41 pound-force	102.1 x 25.4 x 86	Diagonal side	ZV2-NA2-2S
Sealed roller arm lever		640.4 gram-force 1.41 pound-force	102.1 x 25.4 x 86; base width 54 mm	Flange base	ZV-NA2-2S

Limit Switches D4MC



Compact Enclosed Limit Switch









- Suitable for applications demanding higher mechanical strength, dustproof and drip-proof properties
- Rated IP67; gasket diaphragm seal provides high environmental resistance
- High precision and long life (10,000,000 mechanical operations)
- Wide range of actuators:
 - Panel mount plunger, roller plunger, cross roller plunger
 - Short and standard hinge lever
 - Standard, short and one-way action short hinge roller lever
- Screw terminals or pre-wired with 1 m cable



Specifications

- Control output: SPDT (form C), rated 10 A max. at 125 VAC (inductive load)
- NEMA A300 rated
- Dimensions: 47 H x 21.7 W x 60 D mm (switch body with boot)

List of Models

Actuator	Model
Panel mount plunger 	D4MC-5000
Panel mount roller plunger 	D4MC-5020
Panel mount crossroller plunger 	D4MC-5040
Short hinge lever 	D4MC-1020
Hinge lever 	D4MC-1000
Hinge roller lever 	D4MC-2000
Short hinge roller lever 	D4MC-2020
One-way action short hinge roller lever 	D4MC-3030

Note: Use molded terminal models when using the Switch under one of the following conditions:
 a) dusty, b) high amount of dripping oil, or c) high humidity.
 Models are available with the lead outlet in one of three locations: right-hand, left-hand, and underside.

When placing order for molded terminal types, you must specify the required length of V,C,T cable in addition to the model number of the switch. Available lengths are 1 m and 3 m.

Location of lead outlet model:
 Right-hand D4MC-□□□1
 Left-hand D4MC-□□□2
 Underside D4MC-□□□3

Example:
 Standard type: D4MC-5020
 Location of the lead outlet: Underside
 Length of lead: 1 m (V,C,T, Lead)
 When placing your order for the above switch, specify the model number as D4MC-5023 VCT 1M

Limit Switches D4E-N



Slim and Compact Enclosed Limit Switch with a Long Life

- Ideal for gang mounting
- Rated IP67; NEMA 3, 4 and 13
- Long service life (10,000,000 mechanical operations)
- Wide range of actuators:
 - Plunger, roller plunger, cross roller plunger
 - Sealed plunger, roller plunger, cross roller plunger
 - Standard and one-way action roller lever
- Screw terminals, connector or pre-wired with 1 m cable models
- Micro-load types available



Specifications

- Control output: SPDT (form C), rated 5 A max. at 125 VAC (inductive load)
- NEMA A300 rated
- Dimensions: 36.4 H x 18 W x 43 D mm (switch body)

List of Models

	One-touch connector type		Screw terminal type			
	General-purpose	Micro load	General-purpose without cable	Micro load without cable	General-purpose with cable	Micro load with cable
Actuator						
Roller plunger	D4E-1A□0N	D4E-2A□0N	D4E-1A20N (See note 2)	D4E-2A20N	D4E-1A21N	D4E-2A21N
Crossroller plunger	D4E-1B□0N	D4E-2B□0N	D4E-1B20N (See note 2)	D4E-2B20N	D4E-1B21N	D4E-2B21N
Plunger	D4E-1C□0N	D4E-2C□0N	D4E-1C20N (See note 2)	D4E-2C20N	D4E-1C21N	D4E-2C21N
Sealed roller plunger	D4E-1D□0N	D4E-2D□0N	D4E-1D20N (See note 2)	D4E-2D20N	D4E-1D21N	D4E-2D21N
Sealed crossroller plunger	D4E-1E□0N	—	D4E-1E20N (See note 2)	D4E-2E20N	D4E-1E21N	D4E-2E21N
Sealed plunger	D4E-1F□0N	D4E-2F□0N	D4E-1F20N (See note 2)	D4E-2F20N	D4E-1F21N	D4E-2F21N
Roller lever	D4E-1G□0N	D4E-2G□0N	D4E-1G20N (See note 2)	D4E-2G20N	D4E-1G21N	D4E-2G21N
One-way action roller lever	D4E-1H□0N	D4E-2H□0N	D4E-1H20N (See note 2)	D4E-2H20N	D4E-1H21N	D4E-2H21N

- Note:**
1. When ordering, specify the current type by replacing the blank box of the model number with 0 for AC connector or 1 for DC connector.
 2. Approved by UL and CSA.
 3. For the plunger and lever actuator models, the NC and NO terminal indicators are reversed.

Limit Switches SHL



Enclosed Limit Switch with Coil Spring Action











- Coil spring mechanism extends life of the switch
- Rated IP67; rigid zinc diecast alloy housing
- Hinge lever switches require low operating force similar to precision basic switches (0.53 to 0.88 lbf)
- Long service life (10,000,000 mechanical operations)
- Wide range of actuators:
 - Plunger
 - Panel mount plunger, roller plunger, cross roller plunger
 - Standard and short hinge lever
 - Standard and short hinge roller lever
 - One-way action standard and short hinge roller lever
- Screw terminals or pre-wired with 1 m cable models
- Molded terminal and indicator models available



Specifications

- Control output: SPDT (form C), rated 10 A max. at 125 VAC (inductive load)
- Microload types rated @ 0.1 A
- UL & NEMA A300 rated
- Dimensions: 31.5 H x 17.5 W x 45.6 D mm (switch body)

List of Models

Actuator	Standard model	Micro voltage
Plunger 	SHL-D55	SHL-D55-01
Panel mount plunger 	SHL-Q55	SHL-Q55-01
Panel mount roller plunger 	SHL-Q2255	SHL-Q2255-01
Panel mount crossroller plunger 	SHL-Q2155	SHL-Q2155-01
Short hinge lever 	SHL-W55	SHL-W55-01
Hinge lever 	SHL-W155	SHL-W155-01
Short hinge roller lever 	SHL-W255	SHL-W255-01
Hinge roller lever 	SHL-W2155	SHL-W2155-01
One-way action short hinge roller lever 	SHL-W355	SHL-W355-01
One-way action hinge roller lever 	SHL-W3155	SHL-W3155-01

Limit Switches VB



Multiple Plunger Limit Switch



- Multiple plunger switches are ideal for machine tools and sequential control
- Robust solution offers 2 to 6 switches in one enclosure
- Easy to install and service; switch box has an oil drain
- Rated IP67; rugged diecast aluminum housing
- Ground terminal models have EN/IEC approval (CE marking)
- Long service life (5,000,000 mechanical operations)
- Roller plunger or bevel plunger actuators
- G1/2 conduit entrance; screw terminals



Specifications

- Control output: SPDT (form C), rated 10 A max. at 125 VAC (resistive load)
- Microload types rated @ 0.1 A
- Dimensions: 68 H x 85 W x 58 D mm (2 switch model); 106 D mm (6 switch model)

List of Models

Actuator	Conduit	Model	
		With flange	Without flange
Roller plunger (with a 6.8-dia. roller) 	Two on the side	VB-2211	VB-2241
		VB-3211	VB-3241
		VB-4211	VB-4241
		VB-5211	VB-5241
		VB-6211	VB-6241
	Four	VB-2221	VB-2251
		VB-3221	VB-3251
		VB-4221	VB-4251
		VB-5221	VB-5251
		VB-6221	VB-6251
Bevel plunger 	Two on the side	VB-2111	VB-2141
		VB-3111	VB-3141
		VB-4111	VB-4141
		VB-5111	VB-5141
		VB-6111	—
	Four	VB-2121	VB-2151
		VB-3121	VB-3151
		VB-4121	VB-4151
		VB-5121	—
		VB-6121	—

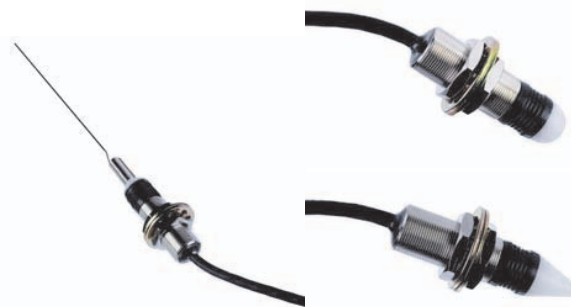
- Note:**
1. Other than the above models, micro load models switching 0.1 A are available. When ordering a micro load model, add the suffix A to the model number (i.e., VB-2211A for example).
 2. SC connectors can be connected to VB models.
 3. Models with ground terminals are also available. When ordering a ground terminal model, add the suffix E to the model number (i.e., VB-2211E for example).
 4. Since the actuator is incorporated into the monoblock switch, the actuator cannot be replaced.

Limit Switches D5B



Tactile Switches Detect Objects from Multiple Directions




- Detects object contact and operates even with a slight force
- Gold-plated contacts provide high contact reliability
- Switches micro current/voltage loads
- Long service life (10 million mechanical operations)
- Rated IP67 for resistance to dust, fine particles and water or oil splash
- Three sizes (M10, M8, and M5) to match total travel and operating force requirements
- Three actuator types: hemispheric, cone-shaped, and wobble-stick type
- Pre-wired with 1, 3 or 5 m cable



Specifications

- Control output: SPST double break; 1 mA at 5 VDC to 30 mA max. at 30 VDC (resistive load)
- Dimensions: M5 x 24.5 L mm (hemispheric); 27 L mm (cone-shaped); 64.1 L mm (wobble stick)
- M8 x 28 L mm (hemispheric); 32.5 L mm (cone-shaped); 92.8 L mm (wobble stick)
- M10 x 33.3 L mm (hemispheric); 39.3 L mm (cone-shaped); 111.1 L mm (wobble stick)

List of Models

Type	Cable length	M5	M8	M10	
Hemispheric actuator 	1 m	D5B-5011	D5B-8011	D5B-1011	
	3 m	D5B-5013	D5B-8013	D5B-1013	
	5 m	D5B-5015	D5B-8015	D5B-1015	
Cone-shaped actuator 	1 m	D5B-5021	D5B-8021	D5B-1021	
	3 m	D5B-5023	D5B-8023	D5B-1023	
	5 m	D5B-5025	D5B-8025	D5B-1025	
Wobble stick actuator 	Short spring	1 m	D5B-5511	D5B-8511	D5B-1511
		3 m	D5B-5513	D5B-8513	D5B-1513
		5 m	D5B-5515	D5B-8515	D5B-1515
	Long spring	1 m	—	—	D5B-1531
		3 m	—	—	D5B-1533
		5 m	—	—	D5B-1535

