Enclosed Switch

D4C

Compact Limit Switch That's Also Thin and Highly Sealed

- Approved by EN, UL, CSA, and CCC (Chinese standard).
  (Ask your OMRON representative for information on approved models.)
- Sealing characteristics that meet IEC IP67 degree of protection.
- Triple-sealed construction:
  Plunger section sealed via nitrile rubber packing seal and diaphragm; switch section sealed via nitrile rubber cap; cable entrance sealed via encapsulating material.
- Cable lengths of 3 and 5 m available on standard models.
  Models also available with UL and CSA-certified cables.
- Multiple mounting possible with Switches with Plungers.
- Models with red LED indicators added to series for easy confirmation of operation.
  (Set by default to light for non-operation.)
- VCTF cables with CE marking.
  (Applicable only to standard models.)

Model Number Structure

Model Number Legend

Standard Models

D4C-□□□
(1)(2)(3)

(1) Rated Current

1: 5 A at 250 VAC, 4 A at 30 VDC
2: 5 A at 125 VAC (with LED indicator)
3: 4 A 30 VDC (with LED indicator)
4: 0.1 A at 125 VAC, 0.1 A at 30 VDC
5: 0.1 A at 125 VAC (with LED indicator)
6: 0.1 A at 30 VDC (with LED indicator)

(2) Cable Specifications

2: VCTF oil-resistant cable (3 m)
3: VCTF oil-resistant cable (5 m)
4: VCTF (3 m)
5: VCTF (5 m)
6: SJT(O) (3 m)
7: SJT(O) (5 m)

(3) Actuator

01: Pin plunger
02: Roller plunger
03: Crossroller plunger
20: Roller lever
24: Roller lever (high-sensitivity model)
31: Sealed pin plunger
32: Sealed roller plunger
33: Sealed crossroller
50: Plastic rod
60: Center roller lever

Pre-wired Models

D4C-□0□□-□□□□□□
(1) (2) (3) (4)

(1) Rated Current

1: 1 A at 125 VAC, 1 A at 30 VDC
(Without operation indicator)
2: 1 A at 125 VAC (with operation indicator)
3: 1 A at 30 VDC (with operation indicator)

(2) Actuator

01: Pin plunger
02: Roller plunger
31: Sealed plunger
32: Sealed roller plunger
24: Roller lever (high-sensitivity model)

(3) Wiring Specifications

DK1EJ: Pre-wired models
(3 conductors: DC specification)
AK1EJ: Pre-wired models
(3 conductors: AC specification)
M1J: Connector models for ASI devices
(2 conductors: NO wiring)

(4) Cable length

03: 0.3 m

Wiring Specifications

Internal switch	Connector
COM	3
NC	2
NO	4

Weather-resistant Models

D4C-□□□-P
(1)(2)(3) (4)

(1) Rated Current

1: 5 A at 250 VAC, 4 A at 30 VDC
2: 5 A at 125 VAC (with LED indicator)
3: 4 A at 30 VDC (with LED indicator)
4: 0.1 A at 125 VAC, 0.1 A at 30 VDC

(2) Cable Specifications

2: VCTF oil-resistant cable (3 m)
3: VCTF oil-resistant cable (5 m)

(3) Actuator

20: Roller lever
24: Roller lever (high-sensitivity model)
27: Adjustable roller lever
29: Adjustable rod lever

(4) Structure

P: Weather-resistant

Ordering Information

Switches

Switches with No Operation Indicator

Actuator	Cable length (m)	Standard: 5 A at 250 VAC, 4 A at 30 VDC — VCTF oil-resistant cable *1	Standard: 5 A at 250 VAC, 4 A at 30 VDC — VCTF cable *2	Standard: 5 A at 250 VAC, 4 A at 30 VDC — SJT(O) cable *3	Microload: 0.1 A at 125 VAC, 0.1 A at 30 VDC — VCTF oil-resistant cable *1	Microload: 0.1 A at 125 VAC, 0.1 A at 30 VDC — VCTF cable *2
		Model				
Pin plunger	3	**D4C-1201**	**D4C-1401**	**D4C-1601**	**D4C-4201**	**D4C-4401**
	5	**D4C-1301**	**D4C-1501**	**D4C-1701**	**D4C-4301**	**D4C-4501**
Roller plunger	3	**D4C-1202**	**D4C-1402**	**D4C-1602**	**D4C-4202**	**D4C-4402**
	5	**D4C-1302**	**D4C-1502**	**D4C-1702**	**D4C-4302**	**D4C-4502**
Crossroller plunger	3	**D4C-1203**	**D4C-1403**	**D4C-1603**	**D4C-4203**	**D4C-4403**
	5	**D4C-1303**	**D4C-1503**	**D4C-1703**	**D4C-4303**	**D4C-4503**
Roller lever	3	**D4C-1220**	**D4C-1420**	**D4C-1620**	**D4C-4220**	**D4C-4420**
	5	**D4C-1320**	**D4C-1520**	**D4C-1720**	**D4C-4320**	**D4C-4520**
Roller lever, high -sensitivity	3	**D4C-1224**	**D4C-1424**	**D4C-1624**	**D4C-4224**	**D4C-4424**
	5	**D4C-1324**	**D4C-1524**	**D4C-1724**	**D4C-4324**	**D4C-4524**
Sealed pin plunger	3	**D4C-1231**	**D4C-1431**	**D4C-1631**	**D4C-4231**	**D4C-4431**
	5	**D4C-1331**	**D4C-1531**	**D4C-1731**	**D4C-4331**	**D4C-4531**
Sealed roller plunger	3	**D4C-1232**	**D4C-1432**	**D4C-1632**	**D4C-4232**	**D4C-4432**
	5	**D4C-1332**	**D4C-1532**	**D4C-1732**	**D4C-4332**	**D4C-4532**
Sealed crossroller plunger	3	**D4C-1233**	**D4C-1433**	**D4C-1633**	**D4C-4233**	**D4C-4433**
	5	**D4C-1333**	**D4C-1533**	**D4C-1733**	**D4C-4333**	**D4C-4533**
Plastic rod	3	**D4C-1250**	**D4C-1450**	**D4C-1650**	**D4C-4250**	**D4C-4450**
	5	**D4C-1350**	**D4C-1550**	**D4C-1750**	**D4C-4350**	**D4C-4550**
Center roller lever	3	**D4C-1260**	**D4C-1460**	**D4C-1660**	**D4C-4260**	**D4C-4460**
	5	**D4C-1360**	**D4C-1560**	**D4C-1760**	**D4C-4360**	**D4C-4560**

Note: 1. Models are available separately with resistance to viscous oils (oil drain holes are also available), but only with Plunger Models. Add "-M" to the model number (example: D4C-1202 would be D4C-1202-M).
2. Switches with variable roller levers are also available. Ask your nearest OMRON representative for details.

*1. Oil-resistant vinyl cabtire cables; approved by EN and IEC.
*2. Ordinary vinyl cabtire cables;approved by EN and IEC.
*3. Switches with SJT(O) Cables (cables approved by UL and CSA) are approved by UL and CSA.

Specifications

Approved Standards

Agency	Standard	File No.
TÜV Product Service	EN60947-5-1	*1, 3
UL	UL508	E76675 *2
CSA	CSA C22.2 No.14	LR45746 *2
CCC(CQC)	GB14048.5	2003010305077626 *3

*1. Models with VCTF oil-resistant cables and pre-wired models only. (Applicable only to standard models listed on pages 2 to 4.)
*2. SJT(O)-cable models only. (Applicable only to standard models listed on pages 2 to 3.)
*3. Ask your OMRON representative for information on approved models.

Ratings

Standard Model

Rated voltage	Non-inductive load (A)				Inductive load (A)			
	Resistive load		Lamp load		Inductive load		Motor load	
	NC	NO	NC	NO	NC	NO	NC	NO
125 VAC	5 (0.1)		1.5	0.7	3		2.5	1.3
250 VAC	5		1	0.5	2		1.5	0.8
8 VDC	5 (0.1)		2		5	4	3	
14 VDC	5 (0.1)		2		4	4	3	
30 VDC	4 (0.1)		2		3	3	3	
125 VDC	0.4		0.05		0.4		0.05	
250 VDC	0.2		0.03		0.2		0.03	

Inrush current	NC	20 A max.
	NO	10 A max.

Note: 1. The values given on the left are steady-state currents.
2. Inductive loads have a power factor of 0.4 min. (AC) and a time constant of 7 ms max. (DC).
3. Lamp loads have an inrush current of 10 times the steady-state current.
4. Motor loads have an inrush current of 6 times the steady-state current.
5. The values "0.1" given in parentheses are for micro load models.

Pre-wired Model

Rated voltage	Non-inductive load(A)				Inductive load(A)			
	Resistive load		Lamp load		Inductive load		Motor load	
	NC	NO	NC	NO	NC	NO	NC	NO
125 VAC	1	1	1	0.7	1	1	1	1
30 VDC	1	1	1	1	1	1	1	1

Approved Standard Ratings

TÜV(EN60947-5-1),CCC(GB14048.5)

Model	Applicable category and ratings	I the
D4C-1□□□	AC-15 2 A/250 V DC-12 2 A/30 V	5 A 4 A
D4C-2□□□	AC-15 2 A/125 V	5 A
D4C-3□□□	DC-12 2 A/30 V	4 A
D4C-4□□□	AC-14 0.1 A/125 V DC-12 0.1 A/30 V	0.5 A 0.5 A
D4C-5□□□	AC-14 0.1 A/125 V	0.5 A
D4C-6□□□	DC-12 0.1 A/30 V	0.5 A

UL/CSA

B300 (D4C-16□□, -17□□)
B150 (D4C-26□□, -27□□)

B300

Rated voltage	Carry current	Current(A)		Volt-amperes(VA)	
		Make	Break	Make	Break
120 VAC	5 A	30	3	3,600	360
240 VAC		15	1.5	3,600	360

B150

Rated voltage	Carry current	Current(A)		Volt-amperes(VA)	
		Make	Break	Make	Break
120 VAC	5 A	30	3	3,600	360

Characteristics

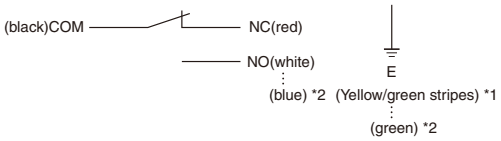
Degree of protection		IP67
Durability *1	Mechanical *3	10,000,000 operations min.
	Electrical *2	200,000 operations min. (5 A at 125 VAC, resistive load)
Operating speed		0.1 mm/s to 0.5 m/s (in case of plunger) 1 mm/s to 1 m/s (in case of roller lever)
Operating frequency	Mechanical	120 operations/min
	Electrical	30 operations/min
Rated frequency		50/60 Hz
Insulation resistance		100 MΩ min. (at 500 VDC)
Contact resistance (initial)		250 mΩ max. (initial value with 2-m VCTF cable) 300 mΩ max. (initial value with 3-m VCTF cable) 400 mΩ max. (initial value with 5-m VCTF cable)
Dielectric strength	Between terminals of the same polarity	1,000 VAC,50/60 Hz for 1 min
	Between current-carrying metal part and ground	1,500 VAC,50/60 Hz for 1 min Uimp: 2.5 kV(EN60947-5-1)
	Between each terminal and non-current-carrying metal part,	1,500 VAC,50/60 Hz for 1 min Uimp: 2.5 kV(EN60947-5-1)
Rated insulation voltage (Ui)		300 V (EN60947-5-1) *5
Pollution degree (operating environment)		3 (EN60947-5-1)
Short-circuit protective device (SCPD)		10 A fuse type gI or gG (IEC60269)
Conditional short-circuit current		100 A (EN60947-5-1)
Conventional enclosed thermal current (I the)		5 A, 4 A, 0.5 A (EN60947-5-1)
Protection against electric shock		Class I (with grounding wire) *6
Vibration resistance	Malfunction	10 to 55 Hz, 1.5-mm double amplitude *4
Shock resistance	Destruction	1,000 m/s² min.
	Malfunction	500 m/s² min. *4
Ambient operating temperature		-10°C to +70°C (with no icing)
Ambient operating humidity		35% to 95%RH
Weight (D4C-1202)		With 3-m VCTF cable: 360 g With 5-m VCTF cable: 540 g

Note: The above figures are initial values.
*1. The values are calculated at an operating temperature of +5°C to +35°C, and an operating humidity of 40% to 70%RH. Contact your OMRON sales representative for more detailed information on other operating environments.
*2. Pre-wired Models: 1,000,000 operations min. (DC specifications, switching current: 0.1 A)
*3. Outdoor specifications: 500,000 operations min.
*4. Excluding Plastic Rods.
*5. Pre-wired models: 250 V
*6. Pre-wired models: class III

Contact Form

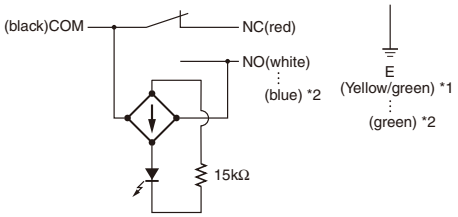
Standard Models/Weather-resistant Models

Without Operation Indicator

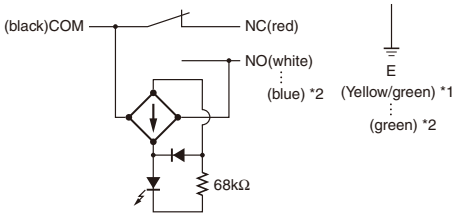


With Operation Indicator (Lit when Not Actuated)

<24 VDC LED>

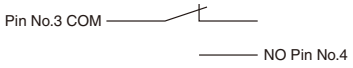


<100 VAC LED>

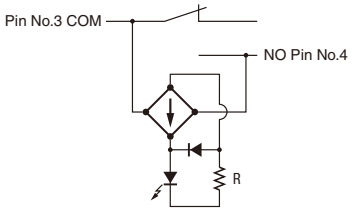


Connector Models for ASI Devices (-M1J)

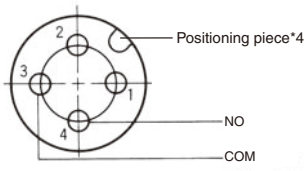
Without Operation Indicator



With Operation Indicator (Lit when Not Actuated)

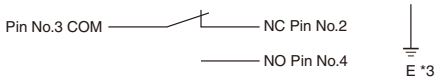


For DC



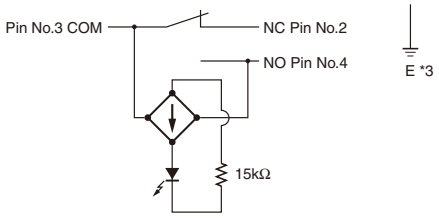
Pre-wired Models (-AK1EJ□, -DK1EJ□)

Without Operation Indicator

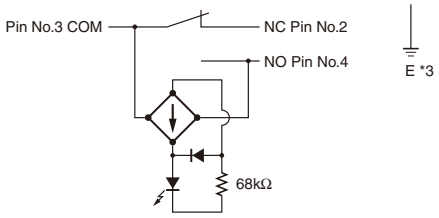


With Operation Indicator (Lit when Not Actuated)

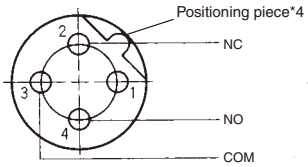
<24 VDC LED>



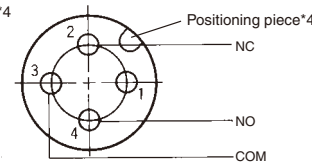
<100 VAC LED>



For AC

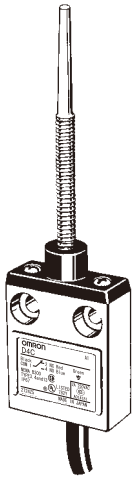


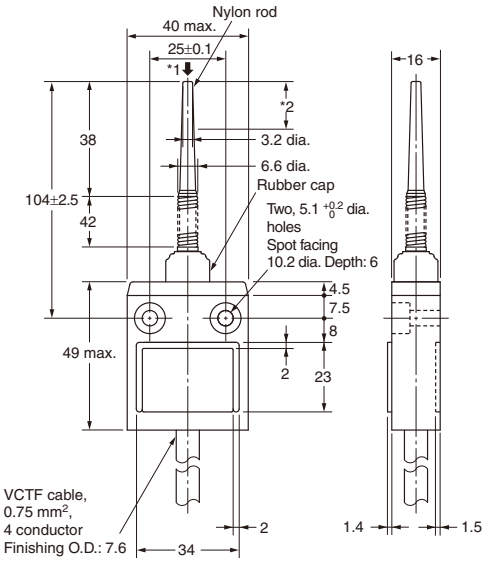
For DC



*1. Yellow/green: VCTF oil-resistant cable
Green: VCTF cable
*2. SJT(O) cable approved by UL and CSA.
*3. E (ground) is not grounded.
*4. The position of the positioning piece is not fixed. Using an L-shaped connector may result in failure. Use only a straight connector.
Note: "Lit when not Actuated" means that when the actuator is in the free position, the indicator is lit, and when the actuator is turned or pushed and the contact comes into contact with the NO side, the indicator turns OFF.

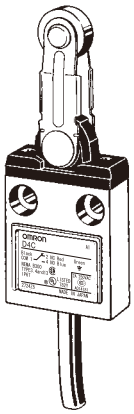
Plastic rod
D4C-□□50

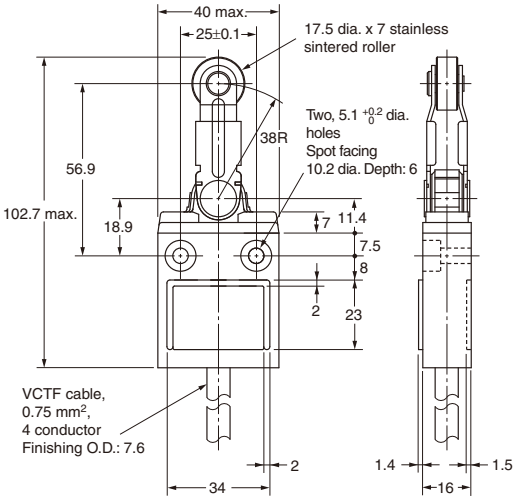




*1 Operation is possible in any direction except in parallel to the axis.
*2 The ideal range for operation is between the tip of the rod and 1/3 of the length of the actuator.

Center Roller Lever Plunger
D4C-□□60



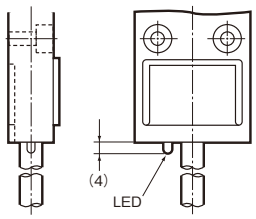


Note: Unless otherwise specified, a tolerance of ±0.4 mm applies to all dimensions.

Operating characteristics	Model		D4C-□□50	D4C-□□60
Operating force	OF	max.	1.47 N	6.67 N
Release force	RF	min.	---	1.47 N
Pretravel	PT	max.	15°	10°±3°
Overtravel	OT	min.	---	50°
Movement Differential	MD	max.	---	3°
Operating Position	OP		---	---
Total travel	TT		---	---

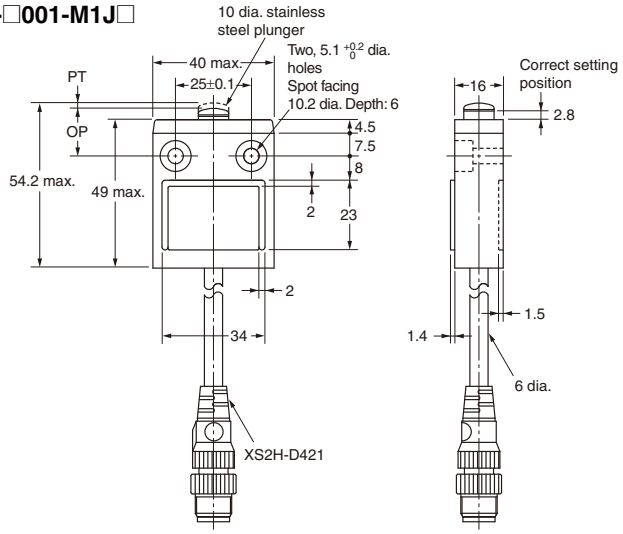
Models with LED Indicator

The dimensions of the LED indicator for models equipped with one are shown below.

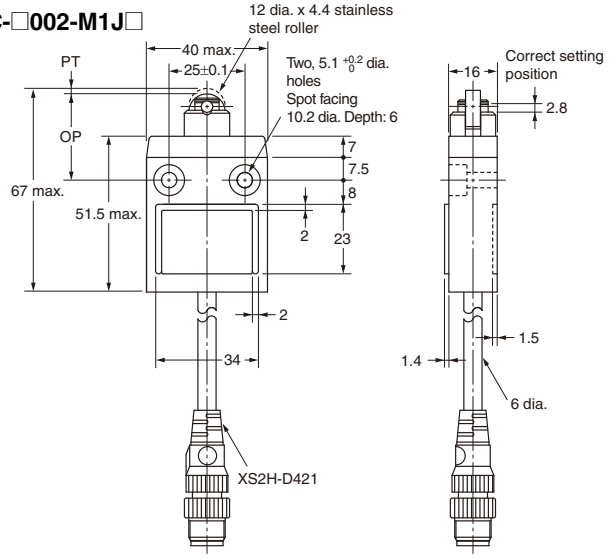


Pre-wired Models

Pin Plunger
D4C-□001-□K1EJ□
D4C-□001-M1J□



Roller Plunger
D4C-□002-□K1EJ□
D4C-□002-M1J□



Note: Unless otherwise specified, a tolerance of ±0.4 mm applies to all dimensions.

Operating characteristics	Model		D4C-□001 -□K1EJ□	D4C-□002 -□K1EJ□
Operating force	OF	max.	11.77 N	11.77 N
Release force	RF	min.	4.41 N	4.41 N
Pretravel	PT	max.	1.8 mm	1.8 mm
Overtravel	OT	min.	3 mm	3 mm
Movement Differential	MD	max.	0.2 mm	0.2 mm
Operating Position	OP		15.7±1 mm	28.5±1 mm

Note: Specifications are the same for -M1J Switches.