

NO: SR-107
DATE: April 2021

PRODUCT: TL8012-S Locking Tongue Switch
TYPE: Discontinuation Notice

TL8012-S – Locking Tongue Switch Discontinuation Notice

Discontinuation Date: March 31st, 2023

Last Order Date: December 31st, 2022

TL8012-S SERIES



Difference between recommended replacement and discontinued model

Recommended replacement Model	Appearance	Dimensions	Wire connection	Mounting Dimensions	Characteristics	Operation ratings	Operation methods
D4NL series	-	-	-	-	*	*	*
D4JL series	-	-	-	-	*	*	*

** : Compatible

* : The change is almost compatible

-- : Not compatible

- : No corresponding specification

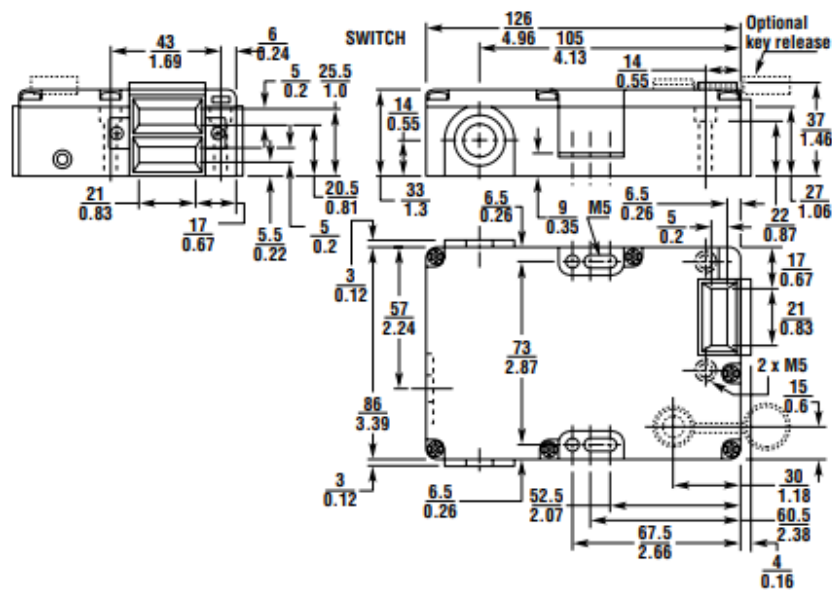
Discontinued Product

Discontinued Model			Recommended
Omron Product Code	ORT P/N	Model	Replacement Model
SL0A1598B	44519-1190	TL8012-S1024FKM	D4NL or D4JL Series
SL0A1569R	44519-1100	TL8012-S1024FM	D4NL or D4JL Series
SL0A2947R	44519-2080	TL8012-S1024M	D4NL or D4JL Series
SL0A1571M	44519-1160	TL8012-S1024SKM	D4NL or D4JL Series
SL0A5709M	44519-4221	TL8012-S1024SKM-GM1	D4NL or D4JL Series
SL0A5710C	44519-4222	TL8012-S1024SKML-GM1	D4NL or D4JL Series
SL0A2937A	44519-1630	TL8012-S3024TKM	D4NL or D4JL Series
SL0A1561C	44519-1460	TL8012-S3024TM	D4NL or D4JL Series
SL0A2934G	44519-1440	TL8012-S3110FM	D4NL or D4JL Series
SL0A2951G	44519-2410	TL8012-S3110M	D4NL or D4JL Series
SL0A2941M	44519-1410	TL8012-S3110SM	D4NL or D4JL Series
SL0A2940A	44519-1470	TL8012-S3110TM	D4NL or D4JL Series
SL0A1550H	44519-1270	TL8012-S2110TM	D4NL or D4JL Series
SL0A2938M	44519-1610	TL8012-S3024FKM	D4NL or D4JL Series
SL0A2936C	44519-1430	TL8012-S3024FM	D4NL or D4JL Series
SL0A2953C	44519-2400	TL8012-S3024M	D4NL or D4JL Series
SL0A2939H	44519-1600	TL8012-S3024SKM	D4NL or D4JL Series
SL0A2935E	44519-1400	TL8012-S3024SM	D4NL or D4JL Series
SL0A2950R	44519-2040	TL8012-S2024M	D4NL or D4JL Series
SL0A1548F	44519-1040	TL8012-S2024SM	D4NL or D4JL Series
SL0A1549D	44519-1260	TL8012-S2024TM	D4NL or D4JL Series
SL0A1560E	44519-1250	TL8012-S2110FM	D4NL or D4JL Series
SL0A2948G	44519-2050	TL8012-S2110M	D4NL or D4JL Series
SL0A1539G	44519-1050	TL8012-S2110SM	D4NL or D4JL Series
SL0A2946M	44519-2030	TL8012-S1220M	D4NL or D4JL Series
SL0A2930D	44519-1180	TL8012-S1220SKM	D4NL or D4JL Series

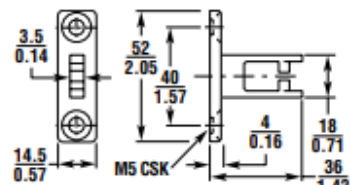
SL0A2925H	44519-1030	TL8012-S1220SM	D4NL or D4JL Series
SL0A2928B	44519-1240	TL8012-S1220TKM	D4NL or D4JL Series
SL0A2923A	44519-1150	TL8012-S1220TM	D4NL or D4JL Series
SL0A1565F	44519-1090	TL8012-S2024FM	D4NL or D4JL Series
SL0A2927D	44519-1170	TL8012-S1110SKM	D4NL or D4JL Series
SL0A1553B	44519-1020	TL8012-S1110SM	D4NL or D4JL Series
SL0A1574E	44519-1230	TL8012-S1110TKM	D4NL or D4JL Series
SL0A1555R	44519-1140	TL8012-S1110TM	D4NL or D4JL Series
SL0A2929M	44519-1210	TL8012-S1220FKM	D4NL or D4JL Series
SL0A2924M	44519-1120	TL8012-S1220FM	D4NL or D4JL Series
SL0A1554M	44519-1080	TL8012-S1024SM	D4NL or D4JL Series
SL0A2931B	44519-1220	TL8012-S1024TKM	D4NL or D4JL Series
SL0A2926F	44519-1130	TL8012-S1024TM	D4NL or D4JL Series
SL0A1579F	44519-1200	TL8012-S1110FKM	D4NL or D4JL Series
SL0A1570B	44519-1110	TL8012-S1110FM	D4NL or D4JL Series
SL0A2945B	44519-2020	TL8012-S1110M	D4NL or D4JL Series
SL0A1034D	44519-0700	SA19-S	N/A
SL0A1065D	44519-0710	SA19-F1	N/A
SL0A1035B	44519-0720	SA19-T	N/A
SL0A1253C	44519-0730	SRH19-30	N/A
SL0A2608R	44519-0750	SAG-SS50	N/A

Appearance/Dimensions/Specifications

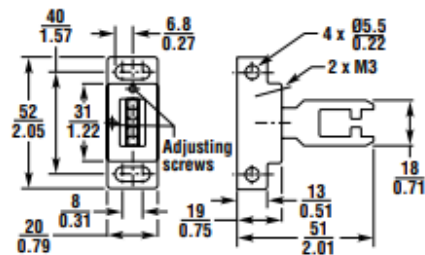
Discontinued Product TL8012-S SERIES



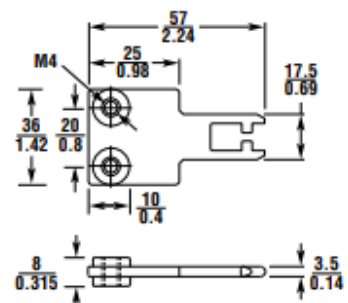
Standard Actuator



Flexible 1 Actuator



Flat Actuator



Discontinued Product

TL8012-S Series Specifications

Electrical	All Models	TL8012-S1 & -S2	TL8012-S3
Contact Configurations:		3 N/C + 2 N/O	4 N/C + 1 N/O
Safety Contacts:		3 N/C positive break	4 N/C positive break
Switching Ability	AC: 500 V–1 A, 250 V–2 A, 100 V–5 A DC: 250 V–0.5 A, 24 V–2 A		
Safety Contact Gap:	> 2 mm (0.079 in.)		
Auxiliary Contacts:		2 N/O (1 solenoid monitoring)	1 N/O
Max Switching Current/Volt/Amp:	500 V/500 VA		
Minimum Current:	5 V 5 mA DC		
Electrical Life:	1 x 10 ⁶ minimum		
Solenoid Supply Voltage:	24 VDC or 24 VAC/DC or 110 VAC or 220 VAC NOTE: 220 VAC not available for S2 and S3 configurations.		
Solenoid Power:	7 W, approx. 900 mA inrush		
Solenoid Rating:	100% duty		
Mechanical			
Mounting:	Any position		
Mounting Hardware:	4 x M5 screws		
Actuator Travel for Positive Opening:	7 mm (0.276 in.)		
Min Operating Radius:	Approximately 80 mm (3.25 in.) with flex actuator Approximately 175 mm (7 in.) with standard actuator		
Max Holding Force:	2000 N (450 lb.)		
Max Actuation Speed:	160 mm/sec (6.3 in./sec)		
Max Activation Frequency:	1 cycle/sec		
Case Material:	UL listed, glass-filled polyester		
Actuator Material:	Stainless steel		
Wiring Entry:	3 x M20 conduit with 0.5 in. NPT adapter		
Weight:	400 g (14 oz.)		
Color:	Red		
Mechanical Life:	1 x 10 ⁶ minimum		
Environmental			
Protection:	IP67 (NEMA 6)		
Operating Temperature:	-20 to 60°C (-4 to 176°F)		
Cleaning:	Water washdown		
Compliance			
Standards:	EN1088, EN60947-5-1, EN292, EN60204-1		

Replacement Product for TL8012-S Series

D4NL Series



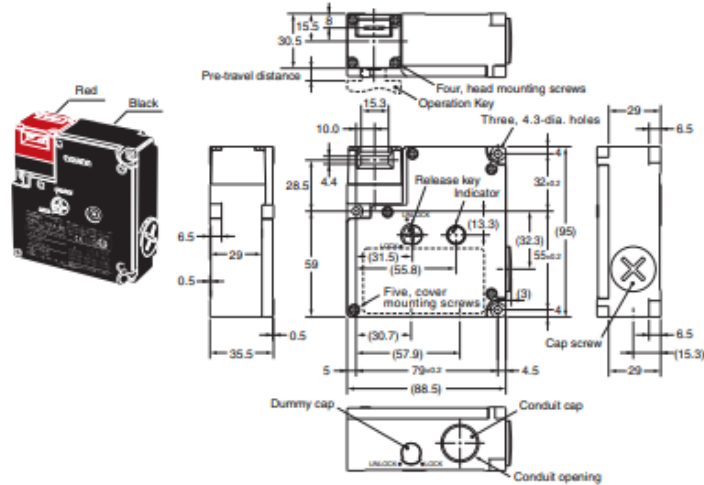
Operation Keys

Type		Model
Horizontal mounting		D4DS-K1
Vertical mounting		D4DS-K2
Adjustable mounting (Horizontal)		D4DS-K3
Adjustable mounting (Horizontal/Vertical)		D4DS-K5

Replacement Product for TL8012-S

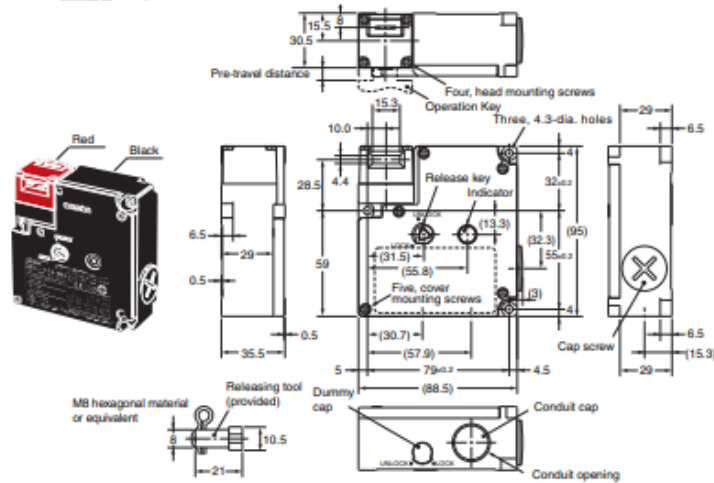
D4NL Series

D4NL-□□□□-BS



Operating characteristics	Model
Key insertion force	15 N max.
Key extraction force	30 N max.
Pre-travel distance	9 mm max.
Movement before being locked	3 mm min.

D4NL-□□□□-B4S

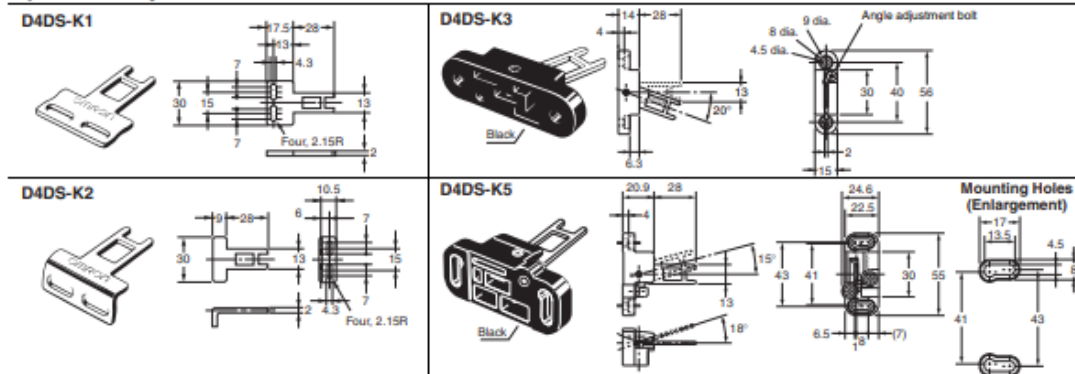


Operating characteristics	Model	D4NL--B4S
Key insertion force		15 N max.
Key extraction force		30 N max.
Pre-travel distance		9 mm max.
Movement before being locked		3 mm min.

Note: 1. Unless otherwise specified, a tolerance of ± 0.4 mm applies to all dimensions.

2. There are fluctuations in the contact ON/OFF timing for Switches with multiple poles (2NC, 2NC/1NO, or 3NC). Confirm performance before application.

Operation Keys



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

Replacement Product for TL8012-S

D4NL Series Specifications

Standards and EC Directives

Conforms to the following EC Directives:

- Machinery Directive
- Low Voltage Directive
- EN ISO 14119
- EN 60204-1
- GS-ET-19

Certified Standards

Standard type

Certification body	Standard	File No.
TÜV SÜD	EN60947-5-1 (certified direct opening)	Consult your OMRON representative for details.
UL #1	UL508, CSA C22.2 No.14	E76675
CQC (CCC)	GB14048.5	2003010305064267
KOSHA #2	EN60947-5-1	Consult your OMRON representative for details.

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

*2. Only certain models have been certified.

Metallic release key type

Certification body	Standard	File No.
TÜV SÜD	EN60947-5-1 (certified direct opening)	Consult your OMRON representative for details.
KOSHA	EN60947-5-1	Consult your OMRON representative for details.

Certified Standard Ratings

TÜV (EN60947-5-1), CCC (GB14048.5)

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

Note: Use a 10 A fuse type gI or gG that conforms to IEC60269 as a short-circuit protection device. This fuse is not built into the Switch.

UL/CSA (UL508, CSA C22.2 No. 14)

A300

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		

Solenoid Coil Characteristics

Item	Type	24 VDC	110 VAC
Rated operating voltage (100% ED)		24 VDC $\pm 10\%$	110 VAC $\pm 10\%$
Current consumption		Approx. 200 mA	Approx. 50 mA
Insulation		Class B (130°C max.)	

Indicator Characteristics

Item	Type	LED
Rated voltage		10 to 115 VAC/VDC
Current leakage		Approx. 1 mA
Color (LED)		Orange

Replacement Product for TL8012-S

D4NL Series Specifications

Degree of protection *1		IP67 (EN60947-5-1)
Durability *2	Mechanical	1,000,000 operations min.
	Electrical	500,000 operations min. (3 A resistive load at 250 VAC) *3
Operating speed		0.05 to 0.5 m/s
Operating frequency		30 operations/minute max.
Direct opening force *4		60 N min. (EN60947-5-1)
Direct opening travel *4		10 mm min. (EN60947-5-1)
Holding force *5		1,300 N min.
Contact resistance		25 mΩ max. (per contact)
Minimum applicable load *6		1 mA resistive load at 5 VDC (N-level reference value)
Rated insulation voltage (U_i)		300 V (EN60947-5-1)
Rated frequency		50/60 Hz
Protection against electric shock		Class II (double insulation)
Pollution degree (operating environment)		3 (EN60947-5-1)
Impulse withstand voltage (EN60947-5-1)	Between terminals of same polarity	2.5 kV
	Between terminals of different polarity	4 kV
	Between each terminal and non-current carrying metallic parts	6 kV
Insulation resistance		100 MΩ min. (at 500 VDC)
Contact gap		2 × 2 mm min.
Vibration resistance	Malfunction	10 to 55 Hz, 0.75 mm single amplitude
Shock resistance	Destruction	1,000 m/s ² min.
	Malfunction	100 m/s ² min.
Conditional short-circuit current		100 A (EN60947-5-1)
Conventional free air thermal current (I_m)		10 A (EN60947-5-1)
Ambient operating temperature		−10 to 55°C (with no icing)
Ambient operating humidity		95% max.
Weight		Approx. 370 g (D4NL-1AFA-B)

Note: 1. The above values are initial values.

2. The Switch contacts can be used with either standard loads or microloads. Once the contacts have been used to switch a load, however, they cannot be used to switch smaller loads. The contact surfaces will become rough once they have been used and contact reliability for smaller loads may be reduced.

*1. The degree of protection is tested using the method specified by the standard (EN60947-5-1). Confirm that sealing properties are sufficient for the operating conditions and environment beforehand. Although the switch box is protected from dust or water penetration, do not use the D4NL in places where foreign material may enter through the key hole on the head, otherwise Switch damage or malfunctioning may occur.

*2. The durability is for an ambient temperature of 5 to 35°C and an ambient humidity of 40% to 70%. For more details, consult your OMRON representative.

*3. Do not pass the 3 A, 250 VAC load through more than 2 circuits.

*4. These figures are minimum requirements for safe operation.

*5. This figure is based on the GS-ET-19 evaluation method.

*6. This value will vary with the switching frequency, environment, and reliability level. Confirm that correct operation is possible with the actual load beforehand.

Replacement Product for TL8012-S

D4JL Series Specifications

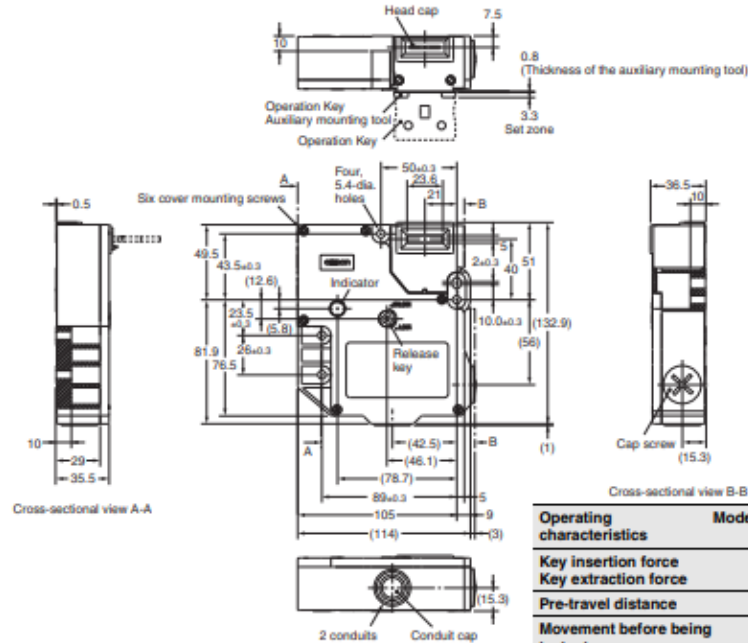


Slide keys

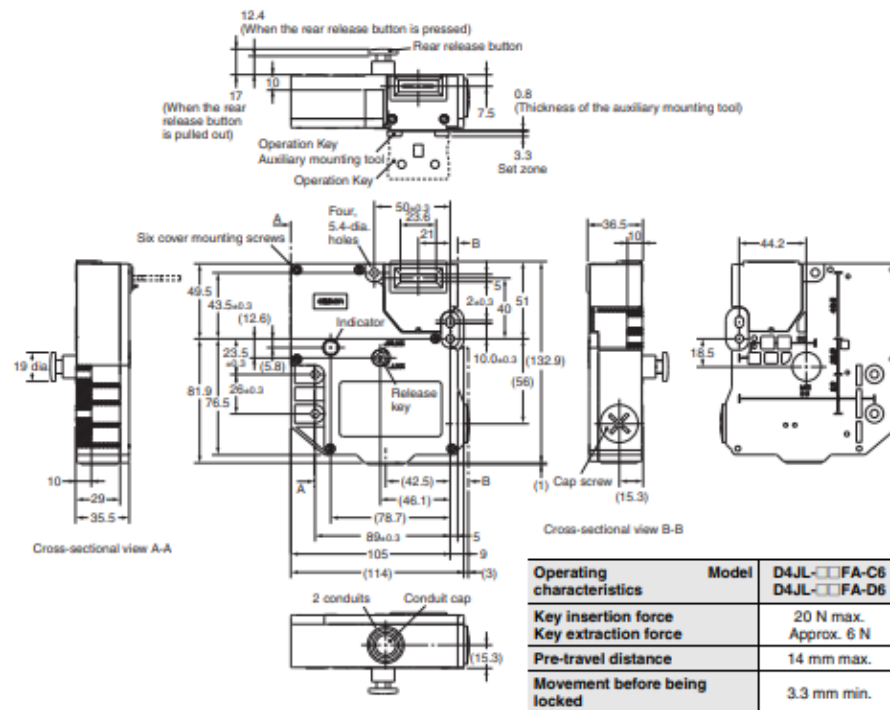
Replacement Product for TL8012-S

D4JL Series Specifications

D4JL-□□F□-C5
D4JL-□□F□-D5

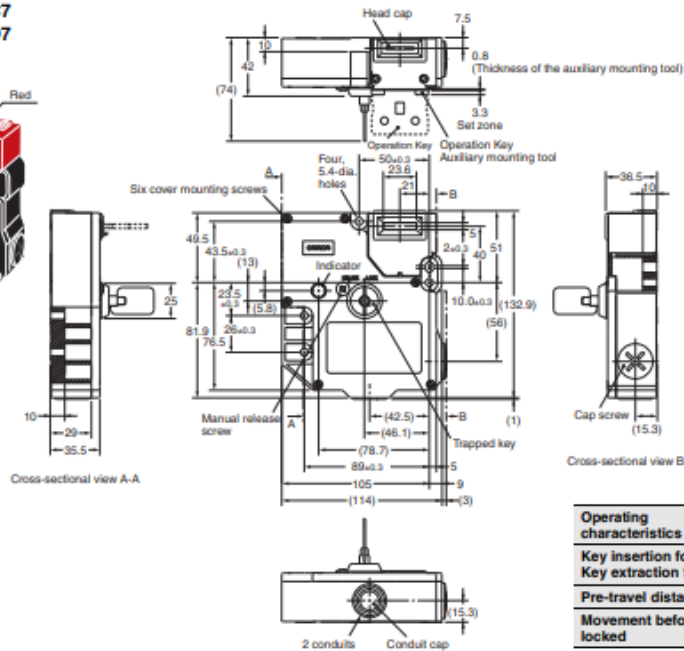


D4JL-□□FA-C6
D4JL-□□FA-D6



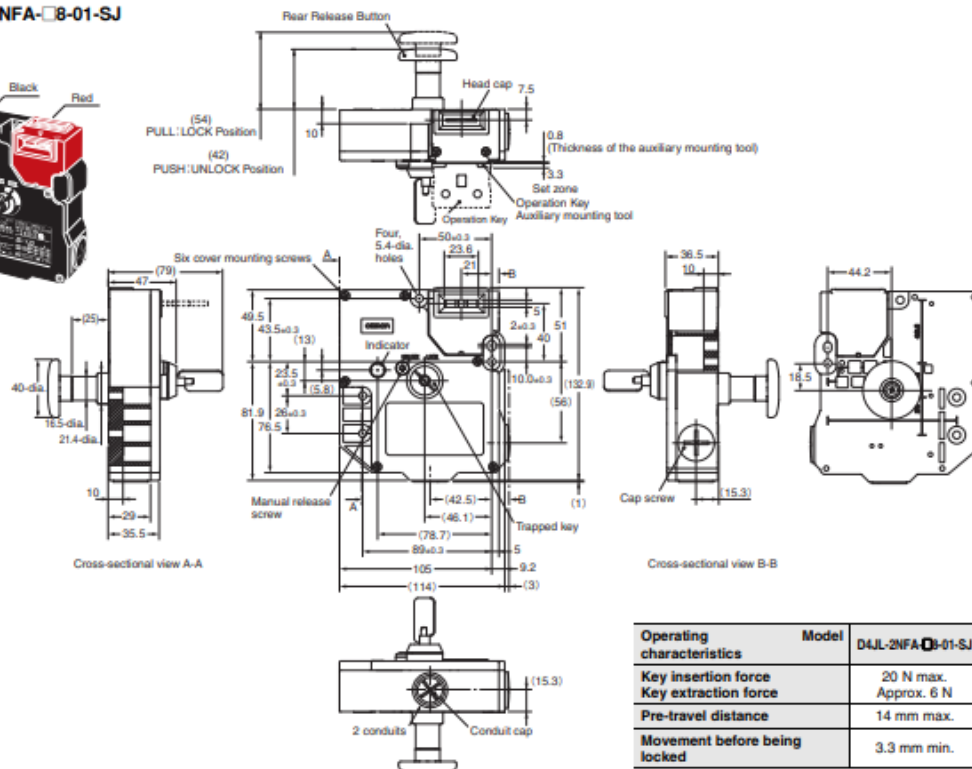
D4JL Series Specifications

D4JL-□□FA-C7
D4JL-□□FA-D7



Operating characteristics	Model	D4JL-FA-C7 D4JL-FA-D7
Key insertion force		20 N max.
Key extraction force		Approx. 6 N
Pre-travel distance		14 mm max.
Movement before being locked		3.3 mm min.

D4JL-2NFA-□8-01-SJ



Operating characteristics	Model
	D4JL-2NFA-01-SJ
Key insertion force	20 N max.
Key extraction force	Approx. 6 N
Pre-travel distance	14 mm max.
Movement before being locked	3.3 mm min.

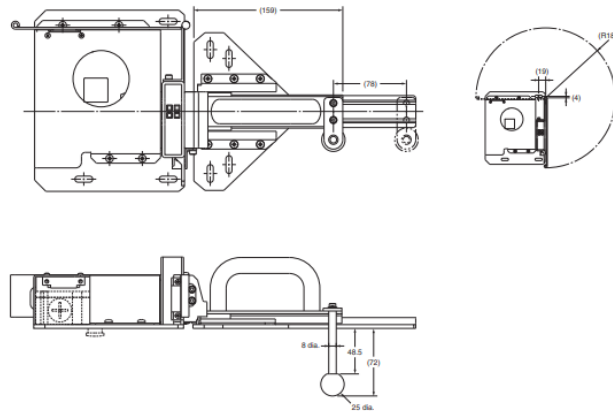
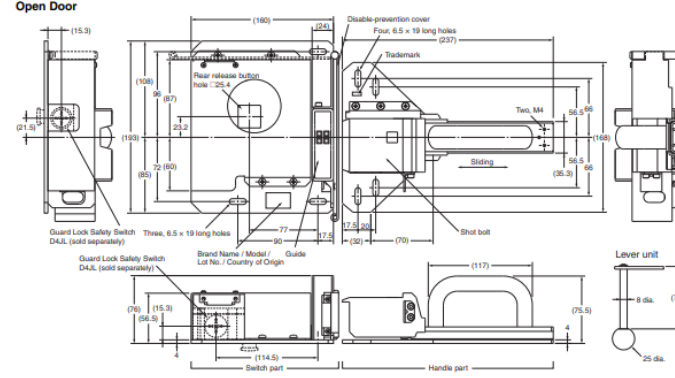
D4JL Series Specifications

D4JL-K1



Note: Unless otherwise specified, a tolerance of ± 0.8 mm applies to all Switch dimensions and a tolerance of ± 0.4 mm applies to Operation Key dimensions.

D4JL-SK40



Replacement Product for TL8012-S

D4JL Series Specifications

Standards and EC Directives

Conforms to the following EC Directives:

- Machinery Directive
- Low Voltage Directive
- EN ISO 14119
- EN 60204-1
- GS-ET-19
- CCC

Certified Standards

Certification body	Standard	File No.
TÜV SÜD *3	EN 60947-5-1 (certified direct opening)	Consult your OMRON representative for details.
UL *1 *3	UL 508, CSA C22.2 No.14	E76675
CQC (CCC) *3	GB14048.5	2005010305167533
KOSHA *2 *3	EN60947-5-1	Consult your OMRON representative for details.

*1, CSA C22.2 No. 14 was certified by UL.

*2, Only certain models have been certified.

*3, D4JL-□□FA-□8-01-SJ will be certificated soon.

Certified Standard Ratings

TÜV (EN 60947-5-1)

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 IEC60269 as a short-circuit protection device. This fuse is not built into the Switch.

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

A300 (between terminals 12 and 41)

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		

A300 (between all other terminals)

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

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		

Solenoid Coil Characteristics

Item	Type	24 VDC
Rated operating voltage (100% ED)		24 VDC ^{+10%} _{-15%}
Current consumption		Approx. 200 mA
Insulation Class		Class B (130°C max.)

Indicator Characteristics

Item	Type	LED	
Rated voltage	24 VDC	24 VDC	24 VDC
Current consumption	Approx. 1 mA	Approx. 8 mA	Approx. 8 mA
Color (LED)	Orange	Green	Green

Replacement Product for TL8012-S

D4JL Series Specifications

Degree of protection *1		IP67 (EN60947-5-1)
Durability *2	Mechanical	1,000,000 operations min.
		Trapped key 10,000 operations min.
	Rear release button	D4JL-□□FA-□7-□: 3,000 operations min. D4JL-□□FA-□8-01-SJ: 500 operations min.
Electrical		500,000 operations min. (3 A resistive load at 250 VAC) *3
Operating speed		0.05 to 0.5 m/s
Operating frequency		30 operations/minute max.
Direct opening force *4		60 N min. (EN60947-5-1)
Direct opening travel *4		15 mm min. (EN60947-5-1)
Holding force *5		3,000 N min.
Contact resistance		25 mΩ max. (per contact)
Minimum applicable load *6		1 mA resistive load at 5 VDC (N-level reference value)
Rated insulation voltage (Ui)		300 V (EN60947-5-1)
Rated frequency		50/60 Hz
Protection against electric shock		Class II (double insulation)
Pollution degree (operating environment)		3 (EN60947-5-1)
Impulse withstand voltage (EN60947-5-1)	Between terminals of same polarity	2.5 kV
	Between terminals of different polarity	4 kV
	Between other terminals and non-current carrying metallic parts	6 kV
Insulation resistance		100 MΩ min. (at 500 VDC)
Contact gap		2 × 2 mm min.
Vibration resistance	Malfunction	10 to 55 Hz, 0.75 mm single amplitude
Shock resistance	Destruction	1,000 m/s ² min.
	Malfunction	80 m/s ² min.
Conditional short-circuit current		100 A (EN60947-5-1) *7
Conventional free air thermal current (I _n)		10 A (between terminals 12 and 41), 3 A (between all other terminals) (EN60947-5-1)
Ambient operating temperature		-10 to +55°C (with no icing)
Ambient operating humidity		95% max.
Weight		Approx. 650 g (D4JL-4NFA-C7-01)

Note: The above values are initial values.

*1. The degree of protection is tested using the method specified by the standard (EN60947-5-1). Confirm that sealing properties are sufficient for the operating conditions and environment beforehand. Although the switch box is protected from dust or water penetration, do not use the D4JL in places where foreign material may enter through the key hole on the head, otherwise Switch damage or malfunctioning may occur.

*2. The durability is for an ambient temperature of 5 to 35°C and an ambient humidity of 40% to 70%. For further conditions, consult your OMRON sales representative.

*3. Do not pass a 3 A, 250 VAC load through more than two circuits.

*4. These figures are minimum requirements for safe operation.

*5. This figure is based on the GS-ET-19 evaluation method.

*6. This value will vary with the switching frequency, environment, and reliability level. Confirm that correct operation is possible with the actual load beforehand.

*7. Use a 10 A fuse type gI or gG that conforms to IEC 60269 as a short-circuit protection device.

Specifications and prices in this product news are as of the issue date and are subject to change without notice. Only main changes in specifications are described in this document. Please be sure to read the relevant catalogs, product specifications, instructions, and manuals for precautions and necessary information when using products