Hinge lever	Solder terminals Quick-connect terminals (#110)	SPDT SPST-NC SPST-NO SPDT		SS-10GL SS-10GL-2	SS-5GL SS-5GL-2	SS-01GL SS-01GL-2
Hinge lever	Quick-connect	SPST-NO		SS-10GL-2	SS-5GL-2	SS-01GL-2
Hinge lever						
Hinge lever			-	SS-10GL-3	SS-5GL-3	SS-01GL-3
Hinge lever	terminals (#110)		0.40 N (50	SS-10GLT	SS-5GLT	SS-01GLT
Hinge lever		SPST-NC	0.49 N {50 gf}	SS-10GL-2T	SS-5GL-2T	SS-01GL-2T
Hinge lever		SPST-NO	-	SS-10GL-3T	SS-5GL-3T	SS-01GL-3T
Hinge lever	DOD to make a la	SPDT	-	SS-10GLD	SS-5GLD	SS-01GLD
Hinge lever	PCB terminals	SPST-NC	-	SS-10GL-2D	SS-5GL-2D	SS-01GL-2D
Hinge lever		SPST-NO		SS-10GL-3D	SS-5GL-3D	SS-01GL-3D
Hinge lever	O al al a sta maria a la	SPDT	-	-	SS-5GL-F	SS-01GL-F
Hinge lever	Solder terminals	SPST-NC	-	=	SS-5GL-F-2	SS-01GL-F-2
		SPST-NO	-	-	SS-5GL-F-3	SS-01GL-F-3
	Quick-connect	SPDT		-	SS-5GL-FT	SS-01GL-FT
	terminals (#110)	SPST-NC	0.16 N {16 gf}	-	SS-5GL-F-2T	SS-01GL-F-2T
<u>~</u> .		SPST-NO		-	SS-5GL-F-3T	SS-01GL-F-3T
	DOD	SPDT		-	SS-5GL-FD	SS-01GL-FD
	PCB terminals	SPST-NC		-	SS-5GL-F-2D	SS-01GL-F-2D
		SPST-NO		-	SS-5GL-F-3D	SS-01GL-F-3D
		SPDT		-	-	SS-01GL-E
	Solder terminals	SPST-NC		-	-	SS-01GL-E-2
		SPST-NO		-	-	SS-01GL-E-3
	Quick-connect	SPDT		-	-	SS-01GL-ET
	terminals (#110)	SPST-NC	0.08 N {8 gf}	-	-	SS-01GL-E-2T
		SPST-NO		-	-	SS-01GL-E-3T
		SPDT		-	-	SS-01GL-ED
	PCB terminals	SPST-NC		-	-	SS-01GL-E-2D
		SPST-NO		-	-	SS-01GL-E-3D
		SPDT		SS-10GL111	SS-5GL111	SS-01GL111
	Solder terminals	SPST-NC		SS-10GL111-2	SS-5GL111-2	SS-01GL111-2
		SPST-NO		SS-10GL111-3	SS-5GL111-3	SS-01GL111-3
		SPDT	SPDT	SS-10GL111T	SS-5GL111T	SS-01GL111T
	Quick-connect	SPST-NC	0.39 N {40 gf}	SS-10GL111-2T	SS-5GL111-2T	SS-01GL111-2T
	terminals (#110) PCB terminals	SPST-NO SPDT		SS-10GL111-3T	SS-5GL111-3T	SS-01GL111-3T
			1	SS-10GL111D	SS-5GL111D	SS-01GL111D
		SPST-NC	IC	SS-10GL111-2D	SS-5GL111-2D	SS-01GL111-2D
		SPST-NO		SS-10GL111-3D	SS-5GL111-3D	SS-01GL111-3D
		SPDT		-	SS-5GL111-F	SS-01GL111-F
	Solder terminals	SPST-NC	-	-	SS-5GL111-F-2	SS-01GL111-F-2
	Conder terminals	SPST-NO	-	-	SS-5GL111-F-3	SS-01GL111-F-3
Long hinge lever			SPDT SPST-NC 0.12 N {12 gf} SPST-NO SPDT SPST-NC SPST-NC SPST-NO		SS-5GL111-FT	SS-01GL111-FT
	Quick-connect			-	SS-5GL111-F-2T	SS-01GL111-F-2T
	terminals (#110) PCB terminals			-	SS-5GL111-F-3T	SS-01GL111-F-3T
				-	SS-5GL111-FD	
		SPD1				SS-01GL111FD
				=	SS-5GL111-F-2D	SS-01GL111-F-2D
				-	SS-5GL111-F-3D	SS-01GL111-F-3D
	O a lata a ta masia a la	SPDT	-	-	-	SS-01GL111-E
	Solder terminals	SPST-NC		-	-	SS-01GL111-E-2
		SPST-NO		-	-	SS-01GL111-E-3
	Quick-connect	SPDT		-	-	SS-01GL111-ET
	terminals (#110)	SPST-NC	0.06 N {6 gf}		-	SS-01GL111-E-2T
		SPST-NO		-	-	SS-01GL111-E-3T
	PCB terminals	SPDT		-	-	SS-01GL111-ED
		SPST-NC		-	-	SS-01GL111-E-20
		SPST-NO		-	-	SS-01GL111-E-30
		SPDT		SS-10GL13	SS-5GL13	SS-01GL13
	Solder terminals	SPST-NC		SS-10GL13-2	SS-5GL13-2	SS-01GL13-2
		SPST-NO		SS-10GL13-3	SS-5GL13-3	SS-01GL13-3
	Quick-connect	SPDT		SS-10GL13T	SS-5GL13T	SS-01GL13T
	terminals (#110)	SPST-NC	0.49 N {50 gf}	SS-10GL13-2T	SS-5GL13-2T	SS-01GL13-2T
		SPST-NO		SS-10GL13-3T	SS-5GL13-3T	SS-01GL13-3T
	DOD	SPDT		SS-10GL13D	SS-5GL13D	SS-01GL13D
	PCB terminals	SPST-NC		SS-10GL13-2D	SS-5GL13-2D	SS-01GL13-2D
		SPST-NO		SS-10GL13-3D	SS-5GL13-3D	SS-01GL13-3D
		SPDT		-	SS-5GL13-F	SS-01GL13-F
	Solder terminals	SPST-NC		-	SS-5GL13-F-2	SS-01GL13-F-2
Simulated roller lever		SPST-NO		-	SS-5GL13-F-3	SS-01GL13-F-3
Circulated Toller level	Quick-connect	SPDT		-	SS-5GL13-FT	SS-01GL13-FT
~	terminals (#110)	SPST-NC	0.16 N {16 gf}	-	SS-5GL13-F-2T	SS-01GL13-F-2T
<u>~</u>		SPST-NO		-	SS-5GL13-F-3T	SS-01GL13-F-3T
		SPDT		-	SS-5GL13-FD	SS-01GL13-FD
	PCB terminals	SPST-NC		-	SS-5GL13-F-2D	SS-01GL13-F-2D
		SPST-NO		-	SS-5GL13-F-3D	SS-01GL13-F-3D
		SPDT		-	-	SS-01GL13-E
	Solder terminals	SPST-NC		-	-	SS-01GL13-E-2
		SPST-NO		-	-	SS-01GL13-E-3
	0.4	SPDT		-	-	SS-01GL13-ET
	Quick-connect	SPST-NC	0.08 N {8 gf}	-	-	SS-01GL13-E-2T
	terminals (#110)	SPST-NO		-	-	SS-01GL13-E-3T
		SPDT		-	-	SS-01GL13-ED
	PCB terminals	SPST-NC		-	-	SS-01GL13-E-2D
	i ob terminais	SPST-NO	-	-	-	SS-01GL13-E-3D

Separator (Sold Separately), Terminal Connector (Sold Separately) Defer to "Basic Switch Common Accessories"

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			Ratings			
Actuator	Terminals	Contact Form	Maximum Operating Force (OF)	10.1 A	5 A	0.1 A
		SPDT		SS-10GL2	SS-5GL2	SS-01GL2
	Solder terminals	SPST-NC		SS-10GL2-2	SS-5GL2-2	SS-01GL2-2
		SPST-NO		SS-10GL2-3	SS-5GL2-3	SS-01GL2-3
	Quick-connect	SPDT		SS-10GL2T	SS-5GL2T	SS-01GL2T
	terminals (#110)	SPST-NC	0.49 N {50 gf}	SS-10GL2-2T	SS-5GL2-2T	SS-01GL2-2T
	terminais (#110)	SPST-NO		SS-10GL2-3T	SS-5GL2-3T	SS-01GL2-3T
		SPDT		SS-10GL2D	SS-5GL2D	SS-01GL2D
	PCB terminals	SPST-NC		SS-10GL2-2D	SS-5GL2-2D	SS-01GL2-2D
		SPST-NO		SS-10GL2-3D	SS-5GL2-3D	SS-01GL2-3D
		SPDT	0.16 N {16 gf}	-	SS-5GL2-F	SS-01GL2-F
	Solder terminals	SPST-NC		-	SS-5GL2-F-2	SS-01GL2-F-2
Hinge roller lever		SPST-NO		-	SS-5GL2-F-3	SS-01GL2-F-3
i ilige tellet letter	Quick-connect terminals (#110)	SPDT		-	SS-5GL2-FT	SS-01GL2-FT
Q		SPST-NC		-	SS-5GL2-F-2T	SS-01GL2-F-2T
		SPST-NO		-	SS-5GL2-F-3T	SS-01GL2-F-3T
		SPDT		-	SS-5GL2-FD	SS-01GL2-FD
	PCB terminals	SPST-NC		-	SS-5GL2-F-2D	SS-01GL2-F-2D
		SPST-NO		-	SS-5GL2-F-3D	SS-01GL2-F-3D
		SPDT		-	-	SS-01GL2-E
	Solder terminals	SPST-NC		-	-	SS-01GL2-E-2
		SPST-NO		-	-	SS-01GL2-E-3
	Out also and a state	SPDT		-	-	SS-01GL2-ET
	Quick-connect	SPST-NC	0.08 N {8 gf}	-	-	SS-01GL2-E-2T
	terminals (#110)	SPST-NO		-	-	SS-01GL2-E-3T
		SPDT		-	-	SS-01GL2-ED
	PCB terminals	SPST-NC	1	-	-	SS-01GL2-E-2D
		SPST-NO		-	-	SS-01GL2-E-3D

•Heat Resistant Models

			Ratings	10.1 A	5 A	0.1 A
Actuator	Terminals	Contact Form	Maximum Operating Force (OF)	10.1 A	37	0.1 A
	Solder terminals			SS-10-T	SS-5-T	SS-01-T
Pin plunger	Quick-connect terminals (#110)		1.47 N {150 gf}	SS-10T-T	SS-5T-T	SS-01T-T
	PCB terminals			SS-10D-T	SS-5D-T	SS-01D-T
	Solder terminals	SS-10GL-T	SS-5GL-T	SS-01GL-T		
Hinge lever	 Quick-connect terminals (#110) 		0.49 N {50 gf}	SS-10GLT-T	SS-5GLT-T	SS-01GLT-T
	PCB terminals	-		SS-10GLD-T	SS-5GLD-T	SS-01GLD-T
Long hinge lever	Solder terminals	SPDT	0.39 N {40 gf}	SS-10GL111-T	SS-5GL111-T	SS-01GL111-T
	Quick-connect terminals (#110)			SS-10GL111T-T	SS-5GL111T-T	SS-01GL111T-T
	PCB terminals			SS-10GL111D-T	SS-5GL111D-T	SS-01GL111D-T
	Solder terminals			SS-10GL13-T	SS-5GL13-T	SS-01GL13-T
Simulated roller	 Quick-connect terminals (#110) 		0.49 N {50 gf}	SS-10GL13T-T	SS-5GL13T-T	SS-01GL13T-T
	PCB terminals			SS-10GL13D-T	SS-5GL13D-T	SS-01GL13D-T
Hinge roller lever (Roller material:	Solder terminals	1		SS-10GL02-T	SS-5GL02-T	SS-01GL02-T
	Quick-connect terminals (#110)		0.49 N {50 gf}	SS-10GL02T-T	SS-5GL02T-T	SS-01GL02T-T
stainless steel)	PCB terminals	1		SS-10GL02D-T	SS-5GL02D-T	SS-01GL02D-T

●1 mm MIN Contact Gap Models

Actuator	Terminals	Contact Form	Ratings Maximum Operating Force (OF)	10.1 A	5 A	0.1 A
	Solder terminals			-	SS-5FL111-3	-
Long hinge lever	Quick-connect terminals (#110)	SPST-NO	0.54 N {55 gf}	-	SS-5FL111-3T	-

Contact Form



Contact Specifications

Item	Model	SS-10 models	SS-5 models	SS-01 models	SS-5F models
	Specification	Riv	vet	Crossbar	Rivet
Contact	Material	Silveralloy	Silver	Gold alloy	Silver
Contact	Gap (standard value)	0.5	mm	0.25 mm	1mm min.
Inrush	NC	20 A	max.	1 A max.	-
current	NO	15 A max. 10 A max.		1 A max.	10 A max.
Minimum applicable load (reference value)*		5 VDC 160 mA		5 VDC 1 mA	5 VDC 160 mA

* Please refer to "**OUsing Micro Loads**" in "**Precautions**" for more information on the minimum applicable load.

Separator (Sold Separately), Terminal Connector (Sold Separately) → Refer to "Basic Switch Common Accessories"

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Ratings

	Item	Resistive load
Model	Rated voltage	Resistive load
SS-10 models	250 VAC	10.1 A
SS-5 models	125 VAC 250 VAC	5 A 3 A
SS-01 models	125 VAC	0.1 A
33-01 models	30 VDC	0.1 A
SS-5F models	250 VAC	3 A
	30 VDC	5 A

Note. The above rating values apply under the following test conditions.

(1) Ambient temperature: 20±2°C

- (2) Ambient humidity: 65±5%
- (3) Operating frequency: 30 operations/min

Approved Safety Standards

Models shown in the "**List of Models**" are UL and CSA approved models. Note. Note that heat resistant models are not standard approved models.

UL (UL1054)/CSA (CSA C22.2 No.55)

Model	00.40	00 F	00.01	00 55
Model Rated voltage	55-10	55-5	55-01	SS-5F

125 VAC 250 VAC	- 10.1 A	5 A 3 A	0.1 A -	- 3 A	
30 VDC	-	-	0.1 A	5 A	

Consult your OMRON sales representative for specific models with VDE standard approvals. VDE (EN61058-1)

Model Rated voltage	SS-10	SS-5	SS-5F
250 VAC	10 A	5 A	3 A
250 VAC	10 A	5 A	3

Testing conditions: 5E4 (50,000 operations) T85 (0°C to 85°C)

Characteristics

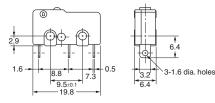
Item		Model	SS-10 models	SS-5 models	SS-01 models	SS-5F models
-	operating spe		0.1 mm to 1 m/s (for pin plunger models)			
Permissible	Mechanical		400 operations/min			
operating frequency	Electrical		60 operations/min			
Insulation resistance			100 MΩ mir	n. (at 500 VDC	with insulatio	n tester)
<u> </u>		OF 1.47 N models	30 mΩ ma	х.	50 m Ω max.	30 m Ω max.
Contact res (initial value		OF 0.49 N models	-	50 m Ω max.	$100 \text{m}\Omega$ max.	-
(แกและงิลเมช	-)	OF 0.25 N models	-		$150 \mathrm{m}\Omega$ max.	-
	Between terminals of the same polarity		1,000 VAC 50/60 H	z for 1 min	600 VAC 50/60 Hz for 1 min	1,000 VAC 50/60 Hz for 1 min
Dielectric strength *1	Between cu metal parts	irrent-carrying and ground	1,	500 VAC 50/60) Hz for 1 min	
	Between each terminals and non-current-carrying metal parts		1,	500 VAC 50/60) Hz for 1 min	
Vibration resistance *2	Malfunction		10 to 55 Hz, 1.5 mm double amplitude			
		OF 1.47 N models	1,000 m/s ² {approx. 100G} max.			
	Durability	OF 0.49 N models	500 m/s² {a	pprox. 50G} ma	ax.	-
Shock		OF 0.25 N models	500 m/s ² {approx. 50G} max.		-	
resistance	Malfunction	OF 1.47 N models	3	300 m/s ² {approx. 30G} max.		
	*2	OF 0.49 N models		pprox. 20G} ma		-
	2	OF 0.25 N models	200 m/s² {a	pprox. 20G} max.		-
Durability	Mechanical		10,000,000 operations min. (60 operations/min)		perations min. tions/min)	100,000 operations min. (60 operations/min)
*3	Electrical		50,000 operations min. (30 operations/min)		erations min. tions/min)	100,000 operations min. (30 operations/min)
Degree of protection			IEC IP40			
Degree of protection against electric shock			Class I			
Proof tracking index (PTI)			175			
Ambient operating temperature			-25°C to +85°C (at ambient humidity of 60% max.) (with no icing or condensation)			
Ambient operating humidity			85% max. (for +5°C to +35°C)			
Weight			Approx. 1.6g (pin plunger models)			
Note The d	ata niven ah	ove are initial valu	185		- /	

Note. The data given above are initial values.

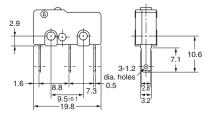
- *1. The values for dielectric strength shown are for models with a Separator (refer to "Micro Switch Common Accessories").
- *2. The values are at Free Position and Total Travel Position values for pin plunger, and Total Travel Position value for lever. Close or open circuit of the contact is 1ms max.
- *3. For testing conditions, consult your OMRON sales representative.

Terminals/Appearances (Unit: mm)

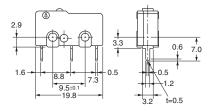
Solder terminals



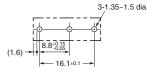
•Quick connect terminals (#110)



PCB terminals



<PCB Mounting Dimensions (Reference)>



Note. SPST-NO terminal models do not have NC terminal.

Mounting Holes (Unit: mm)

2-2.4 dia. mounting holes or M2.3 screw holes

4 Downloaded from Arrow.com.

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Dimensions (Unit: mm) and Operating Characteristics

The illustrations and drawings are for solder terminals models.

Refer to "Terminals/Appearances" of the previous page for details on models with quick connect terminals (#110) or PCB terminals.

Pin plunger **SS-10** SS-5 (-F) SS-01 (-E, -F)

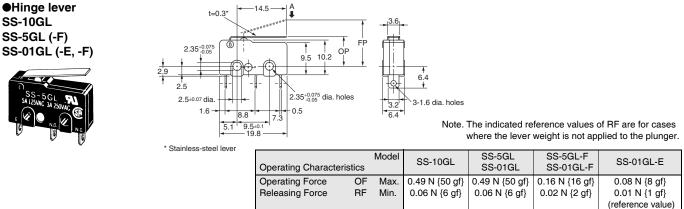


SS-10GL

PT 2-+ -		3.2
		Model
	Operating Characteristics	
	Operating Force OF	Max.
	Releasing Force RF	

	-
;	6.4
3.2 5.4	3-1.6 dia. holes

Mo Operating Characteristics		Model	SS-10	SS-5 SS-01	SS-5-F SS-01-F	SS-01-E	
Operating Force	OF	Max.	1.47 N {150 gf}	1.47 N {150 gf}	0.49 N {50 gf}	0.25 N {25 gf}	
Releasing Force	RF	Min.	0.25 N {25 gf}	0.25 N {25 gf}	0.04 N {4 gf}	0.02 N {2 gf}	
Pretravel	PT	Max.	0.6 mm	0.5 mm	0.5 mm	0.5 mm	
Overtravel	OT	Min.	0.4 mm	0.5 mm	0.5 mm	0.5 mm	
Movement Differential	MD	Max.	0.12 mm	0.1 mm	0.1 mm	0.1 mm	
Operating Position	OP		8.4±0.5 mm				



Operating Force	OF	Max.	0.49 N {50 gf}	0.49 N {50 gf}	0.16 N {16 gf}	0.08 N {8 gf}	
Releasing Force	RF	Min.	0.06 N {6 gf}	0.06 N {6 gf}	0.02 N {2 gf}	0.01 N {1 gf}	
						(reference value)	
Overtravel	OT	Min.	1.0 mm	1.2 mm	1.2 mm	1.2 mm	
Movement Differential	MD	Max.	1.0 mm	0.8 mm	0.8 mm	0.8 mm	
Free Position	FP	Max.		13	.6 mm		
Operating Position	OP		8.8±0.8 mm				

Long hinge lever SS-10GL111 SS-5GL111 (-F) SS-01GL111 (-E, -F) SS-5FL111-3



$\begin{array}{c ccccccccccccccccccccccccccccccccccc$
$2.5_{\pm 0.07} \text{ dia.}$

ote. The indicated reference values of RF are for cases where the lever weight is not applied to the plunger.

Operating Position	OP		8.8±1.5 mm 8.8±2				
Free Position	FP	Max.	16.8 mm				
Movement Differential	MD	Max.	1.2 mm	1.2 mm	3.0 mm	1.2 mm	1.2 mm
Overtravel	OT	Min.	1.2 mm	1.2 mm	1.0 mm	1.2 mm	1.2 mm
						(reference value)	(reference value)
Releasing Force	RF	Min.	0.03 N {3 gf}	0.03 N {3 gf}	0.01 N {1 gf}	0.02 N {2 gf}	0.003 N {0.3 gf}
Operating Force	OF	Max.	0.39 N {40 gf}	0.39 N {40 gf}	0.54 N {55 gf}	0.12 N {12 gf}	0.06 N {6 gf}
Operating Characteris	tics	Model	SS-10GL111	SS-5GL111 SS-01GL111	SS-5FL111-3	SS-5GL111-F SS-01GL111-F	SS-01GL111-E

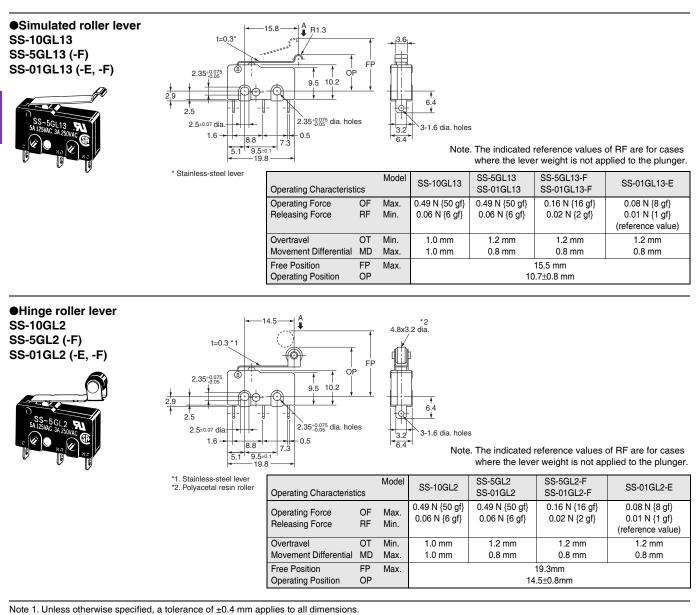
Note 1. Unless otherwise specified, a tolerance of ± 0.4 mm applies to all dimensions.

Note 2. The operating characteristics are for operation in the A direction (\clubsuit).

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* Stainless-steel level

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Note 2. The operating characteristics are for operation in the A direction (\downarrow).

Precautions

★Please refer to "Common Precautions" for correct use.

Cautions

Soldering

- Complete the soldering at the iron tip temperature below 350°C within 5 seconds, and do not apply any external force for 1 minute after soldering. Soldering at an excessively high temperature or soldering for more than 5 seconds may deteriorate the characteristics of the Switch.
- Be sure to apply only the minimum required amount of flux. Switch may have contact failures if flux intrudes into the interior of the Switch.
- If the PCB terminal models are soldered in the solder bath, flux will permeate inside the Switch and cause contact failure. Therefore, manually solder the PCB terminal.

Correct Use

Mounting

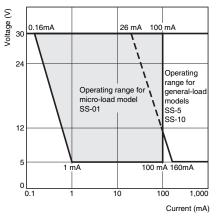
- Use M2.3 mounting screw with plane washers or spring washers to securely mount the Switch. Tighten the screws to a torque of 0.23 to 0.26 N·m {2.3 to 2.7 kgf·cm}.
- Mount the Switch onto a flat surface. Mounting on an uneven surface may cause deformation of the Switch, resulting in faulty operation or breakage in the housing.

Using Micro Loads

Using a model for ordinary loads to open or close the contact of a micro load circuit may result in faulty contact. Use models that operate in the following range. However, even when using micro load models within the following operating range, if inrush current occurs when the contact is opened or closed, it may increase the contact wear and so decrease durability. Therefore, insert a contact protection circuit where necessary. The N-level reference value applies for the minimum applicable load. This value indicates the malfunction reference level for the reliability level of 60% (λ_{60}).

(JIS C5003)

The equation, $\lambda_{60}=0.5\times10^{-6}$ /operation indicates that the estimated malfunction rate is less than $\frac{1}{2,000,000}$ operations with a reliability level of 60%.



Application examples provided in this document are for reference only. In actual applications, confirm equipment functions and safety before using the product.
Consult your OMRON representative before using the product under conditions which are not described in the manual or applying the product to nuclear control systems, railroad systems, aviation systems, vehicles, combustion systems, medical equipment, amusement machines, safety equipment, and other systems or equipment that may have a serious influence on lives and property if used improperly. Make sure that the ratings and performance characteristics of the product provide a margin of safety for the system or equipment, and be sure to provide the system or equipment with double safety mechanisms.

Note: Do not use this document to operate the Unit.

OMRON Corporation ELECTRONIC AND MECHANICAL COMPONENTS COMPANY

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