

SUBMINIATURE MICROSWITCHES - STANDARD

V4D - 8327

- › Flexible leaf snap-action mechanism with wiping contacts
- › Ratings from 0.02 A 24 V $\overline{\sim}$ to 12(6) A 250 V $\sim$ and 1/4 hp 125-250 V $\sim$
- › ENEC and cURus approved up to +150°C
- › Housing material complying with IEC 60335-1 for unattended appliances: GWFI 850°C / GWIT 775°C
- › Mushroom-head button variant for lateral approach up to 45°
- › Choice of connections with symmetric and asymmetric pinning
- › Choice of pre-assembled actuators



Main specifications

		Standard 83272	High current 83270	Very high current 83271	Low current 83278
Function	Connections				
I (changeover)	W2 (solder)	83272001	83270001	83271001	83278001
I (changeover)	W7A5 (QC 2.8x0.5)	83272011	83270011	83271011	83278011
I (changeover)	X1A (PCB, straight, asym)	83272021	83270021	83271021	83278021
I (changeover)	X1S (PCB, straight, sym)	83272031	83270031	83271031	83278031
I (changeover)	X2A (PCB, rear, asym)	83272041	83270041	83271041	83278041
I (changeover)	X3A (PCB, front, asym)	83272061	83270061	83271061	83278061
I (changeover)	W7S (QC 2.8x0.5)	83272081	83270081	83271081	83278081
R (normally closed)	W2 (solder)	83272601	83270601	83271601	83278601
R (normally closed)	W7A5 (QC 2.8x0.5)	83272611	83270611	83271611	83278611
C (normally open)	W2 (solder)	83272801	83270801	83271801	83278801
C (normally open)	W7A5 (QC 2.8x0.5)	83272811	83270811	83271811	83278811
Electrical characteristics					
Rating nominal / 250 V AC (A)		5	10	12	-
Rating thermal / 250 V AC (A)		6	12	15	-
Operating range / 5 → 24 V AC/DC (A)		-	-	-	0.001 → 0.02
Rating ENEC / 250 V AC (A)		5(1)	10(2)	12(6)	0.1(0.04)
Rating UL / 125/250 V AC (A)		-	10.1 GP -1/4 hp	-	-
Rating UL / 250 V AC (A)		5 GP - 1/4 hp	-	-	-
Rating UL / 125 V AC (A)		-	-	-	0.1 GP
Mechanical characteristics					
Maximum operating force (N)		1.5	1.5	1.5	1.5
Min. Release force (N)		0.3	0.3	0.3	0.3
Maximum total travel force (N)		3	3	3	3
Max. Allowable overtravel force (N)		10	10	10	10
Rest position max. (mm)		9.2*	9.2*	9.2*	9.2*
Operating position (mm)		8.4 ±0.3**	8.4 ±0.3**	8.4 ±0.3**	8.4 ±0.3**
Maximum differential travel (mm)		0.15	0.15	0.15	0.15
Min. overtravel (mm)		0.5	0.5	0.5	0.5
Ambient operating temperature (°C)		-25 → +125	-25 → +85	-25 → +85	-25 → +150
Mechanical life for 2/3 OT (operations)		100 000	100 000	100 000	100 000
Contact gap (mm)		0.3	0.3	0.3	0.3
Weight (g)		2	2	2	2

* 10.8 for mushroom-head button

** 9.9 for mushroom-head button

Additional specifications

- Case, Button: PET GF (UL 94-V0 / GWFI 960°C / GWIT 775°C)
- Moving blade: beryllium copper
- Contacts: silver alloy or gold plated (83278)
- Terminals: silver-plated brass
- Levers: stainless steel, polyamide roller

- Degree of protection: IP40 (mechanism)
- Proof tracking index: PTI 250
- Recommended min actuating speed: 0.1 mm/s

- Certification marks:

Product adaptations

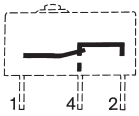


- › Special stainless steel actuators: special shapes and lengths
- › Special connections: for PCB (symmetric rear or front: X2S, X3S), quick connect 4.8X0.5, angled, ...
- › Fastening pins
- › 2.35 mm diameter fixing holes (SP9802)
- › Telescopic plunger with 3 mm overtravel and adjustable fixing by threaded barrel

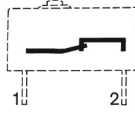
Principles

Single break snap-action switch

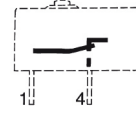
Changeover - SPDT (form C)



Normally closed - SPST-NC (form B)

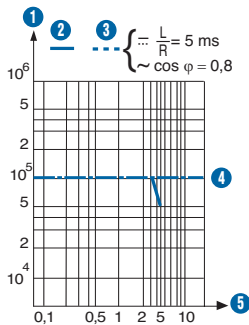


Normally open - SPST-NO (form A)



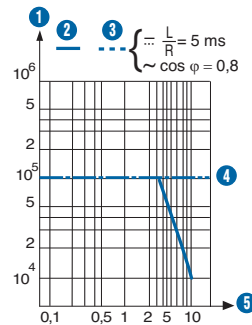
Curves

Operating curve for type 83272



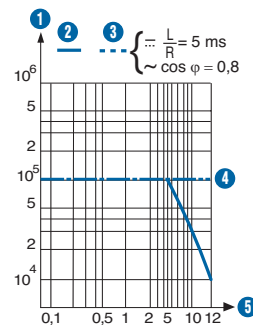
- 1 Number of cycles
- 2 Resistive circuit
- 3 Inductive circuit
- 4 Mechanical life limit
- 5 Current in Amps

Operating curve for type 83270



- 1 Number of cycles
- 2 Resistive circuit
- 3 Inductive circuit
- 4 Mechanical life limit
- 5 Current in Amps

Operating curve for type 83271



- 1 Number of cycles
- 2 Resistive circuit
- 3 Inductive circuit
- 4 Mechanical life limit
- 5 Current in Amps

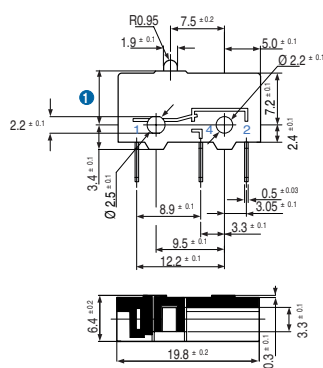
Electrical life for low-current type 83278: 5 V $\sim$ 1 mA resistive 20000 cycles

Dimensions

Products

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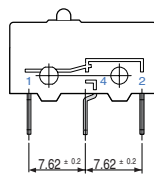
Asymmetrical version



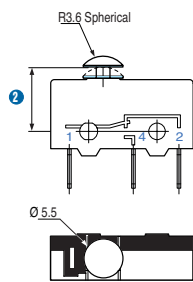
- 1 Total travel position = 7.6 max.

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Symmetrical version (...S connections)

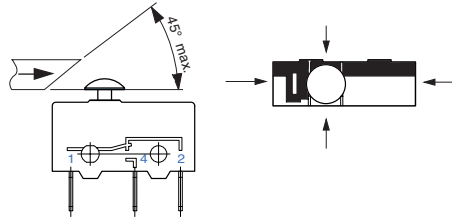


Mushroom-head button



- ② Total travel position = 9.1 max.

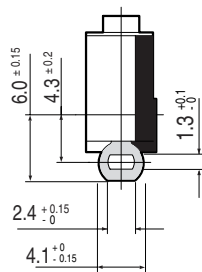
Recommendations for lateral approach



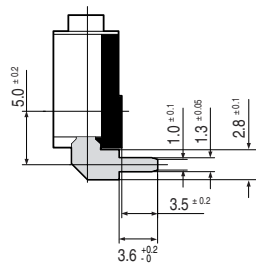
In order to reduce friction and wear, the actuating ramp shall preferably be of POM, PA, or steel, and also be as smooth as possible.
As a general rule, the use of any lubricant substance is not needed nor recommended.
For particular cases, please consult us.

Connections

W2 solder

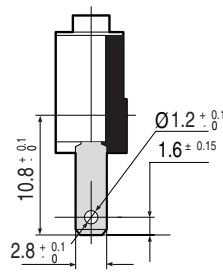


X2A for PCB asymmetrical, rear output

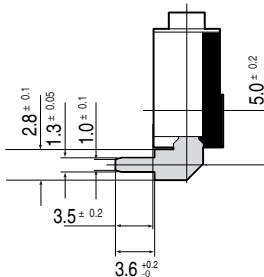


W7A5 quick-connect 2.8 x 0.5

W7S symmetrical quick-connect 2.8 x 0.5

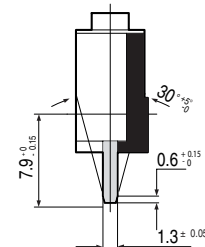


X3A for PCB asymmetrical, front output

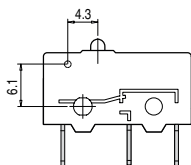


X1A for PCB asymmetrical, straight output

X1S for PCB symmetrical, straight output

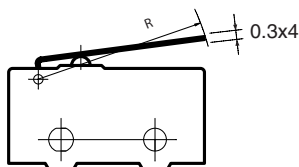


Actuator mounting position

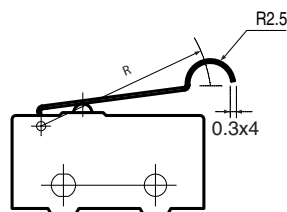


Actuators

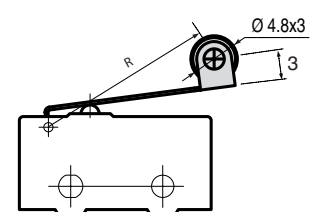
270A flat



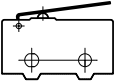
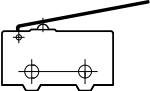
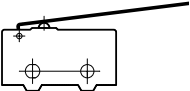
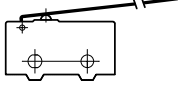
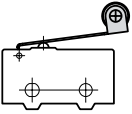
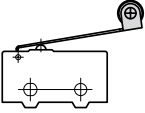
270F dummy roller



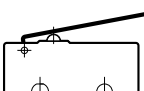
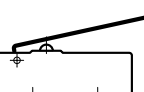
270E roller

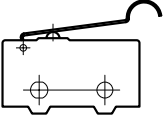
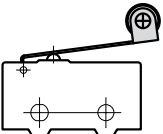
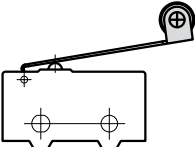
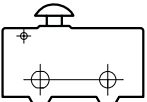


Actuators and mounting accessories

Mechanical characteristics		Length of actuator (mm)	Maximum operating force (N)	Minimum release force (N)	Operating position (mm)	Minimum overtravel (mm)	Maximum differential travel (mm)	Maximum total travel (mm)
 Lever 270A R16.8	83270	16.8	0.5	0.09	9.7 ± 1.4	0.8	0.6	5.5
	83271	16.8	0.5	0.09	9.7 ± 1.4	0.8	0.6	5.5
	83272	16.8	0.5	0.09	9.7 ± 1.4	0.8	0.6	5.5
	83278	16.8	0.5	0.09	9.7 ± 1.4	0.8	0.6	5.5
 Lever 270A R22.5	83270	22.5	0.35	0.06	10.1 ± 1.7	1.2	1.1	7
	83271	22.5	0.35	0.06	10.1 ± 1.7	1.2	1.1	7
	83272	22.5	0.35	0.06	10.1 ± 1.7	1.2	1.1	7
	83278	22.5	0.35	0.06	10.1 ± 1.7	1.2	1.1	7
 Lever 270A R41	83270	41	0.20	0.03	11.1 ± 3	3.1	2.1	15
	83271	41	0.20	0.03	11.1 ± 3	3.1	2.1	15
	83272	41	0.20	0.03	11.1 ± 3	3.1	2.1	15
	83278	41	0.20	0.03	11.1 ± 3	3.1	2.1	15
 Lever 270A R60	83270	60	0.13	0.02	11.6 ± 5	3.6	3.5	23
	83271	60	0.13	0.02	11.6 ± 5	3.6	3.5	23
	83272	60	0.13	0.02	11.6 ± 5	3.6	3.5	23
	83278	60	0.13	0.02	11.6 ± 5	3.6	3.5	23
 Lever 270F R18	83270	18	0.45	0.08	12.6 ± 1.5	0.8	0.7	6
	83271	18	0.45	0.08	12.6 ± 1.5	0.8	0.7	6
	83272	18	0.45	0.08	12.6 ± 1.5	0.8	0.7	6
	83278	18	0.45	0.08	12.6 ± 1.5	0.8	0.7	6
 Lever 270E R18.5	83270	18.5	0.45	0.08	15.2 ± 1.4	0.9	0.7	6
	83271	18.5	0.45	0.08	15.2 ± 1.4	0.9	0.7	6
	83272	18.5	0.45	0.08	15.2 ± 1.4	0.9	0.7	6
	83278	18.5	0.45	0.08	15.2 ± 1.4	0.9	0.7	6
 Lever 270E R24.1	83270	24.1	0.35	0.06	15.7 ± 1.8	1.3	1.2	8
	83271	24.1	0.35	0.06	15.7 ± 1.8	1.3	1.2	8
	83272	24.1	0.35	0.06	15.7 ± 1.8	1.3	1.2	8
	83278	24.1	0.35	0.06	15.7 ± 1.8	1.3	1.2	8

V4D - 8327 microswitches with referenced actuators

Actuators	Type		83270	83271	83272	83278
	Function	Connection				
 Lever 270A R16.8	I	W2	83270002	83271002	83272002	83278002
	I	W7A5	83270012	83271012	83272012	83278012
	I	X1A	83270022	83271022	83272022	83278022
	I	X1S	83270032	83271032	83272032	83278032
	I	X2A	83270042	83271042	83272042	83278042
	I	X3A	83270062	83271062	83272062	83278062
	I	W7S	83270082	83271082	83272082	83278082
	R	W2	83270602	83271602	83272602	83278602
	R	W7A5	83270612	83271612	83272612	83278612
	C	W2	83270802	83271802	83272802	83278802
 Lever 270A R22.5	I	W2	83270003	83271003	83272003	83278003
	I	W7A5	83270013	83271013	83272013	83278013
	I	X1A	83270023	83271023	83272023	83278023
	I	X1S	83270033	83271033	83272033	83278033
	I	X2A	83270043	83271043	83272043	83278043
	I	X3A	83270063	83271063	83272063	83278063
	I	W7S	83270083	83271083	83272083	83278083
	R	W2	83270603	83271603	83272603	83278603
	R	W7A5	83270613	83271613	83272613	83278613
	C	W2	83270803	83271803	83272803	83278803
 Lever 270A R41	I	W2	83270004	83271004	83272004	83278004
	I	W7A5	83270014	83271014	83272014	83278014
	I	X1A	83270024	83271024	83272024	83278024
	I	X1S	83270034	83271034	83272034	83278034
	I	X2A	83270044	83271044	83272044	83278044
	I	X3A	83270064	83271064	83272064	83278064
	I	W7S	83270084	83271084	83272084	83278084
	R	W2	83270604	83271604	83272604	83278604
	R	W7A5	83270614	83271614	83272614	83278614
	C	W2	83270804	83271804	83272804	83278804
 Lever 270A R60	I	W2	83270005	83271005	83272005	83278005
	I	W7A5	83270015	83271015	83272015	83278015
	I	X1A	83270025	83271025	83272025	83278025
	I	X1S	83270035	83271035	83272035	83278035
	I	X2A	83270045	83271045	83272045	83278045
	I	X3A	83270065	83271065	83272065	83278065
	I	W7S	83270085	83271085	83272085	83278085
	R	W2	83270605	83271605	83272605	83278605
	R	W7A5	83270615	83271615	83272615	83278615
	C	W2	83270805	83271805	83272805	83278805
	C	W7A5	83270815	83271815	83272815	83278815

Actuators	Type		83270	83271	83272	83278
	Function	Connection				
 Lever 270F R18	I	W2	83270006	83271006	83272006	83278006
	I	W7A5	83270016	83271016	83272016	83278016
	I	X1A	83270026	83271026	83272026	83278026
	I	X1S	83270036	83271036	83272036	83278036
	I	X2A	83270046	83271046	83272046	83278046
	I	X3A	83270066	83271066	83272066	83278066
	I	W7S	83270086	83271086	83272086	83278086
	R	W2	83270606	83271606	83272606	83278606
	R	W7A5	83270616	83271616	83272616	83278616
	C	W2	83270806	83271806	83272806	83278806
	C	W7A5	83270816	83271816	83272816	83278816
 Lever 270E R18.5	I	W2	83270007	83271007	83272007	83278007
	I	W7A5	83270017	83271017	83272017	83278017
	I	X1A	83270027	83271027	83272027	83278027
	I	X1S	83270037	83271037	83272037	83278037
	I	X2A	83270047	83271047	83272047	83278047
	I	X3A	83270067	83271067	83272067	83278067
	I	W7S	83270087	83271087	83272087	83278087
	R	W2	83270607	83271607	83272607	83278607
	R	W7A5	83270617	83271617	83272617	83278617
	C	W2	83270807	83271807	83272807	83278807
	C	W7A5	83270817	83271817	83272817	83278817
 Lever 270E R24.1	I	W2	83270008	83271008	83272008	83278008
	I	W7A5	83270018	83271018	83272018	83278018
	I	X1A	83270028	83271028	83272028	83278028
	I	X1S	83270038	83271038	83272038	83278038
	I	X2A	83270048	83271048	83272048	83278048
	I	X3A	83270068	83271068	83272068	83278068
	I	W7S	83270088	83271088	83272088	83278088
	R	W2	83270608	83271608	83272608	83278608
	R	W7A5	83270618	83271618	83272618	83278618
	C	W2	83270808	83271808	83272808	83278808
	C	W7A5	83270818	83271818	83272818	83278818
 Mushroom-head button	I	W2	83270009	83271009	83272009	83278009
	I	W7A5	83270019	83271019	83272019	83278019
	I	X1A	83270029	83271029	83272029	83278029
	I	X1S	83270039	83271039	83272039	83278039
	I	X2A	83270049	83271049	83272049	83278049
	I	X3A	83270069	83271069	83272069	83278069
	I	W7S	83270089	83271089	83272089	83278089
	R	W2	83270609	83271609	83272609	83278609
	R	W7A5	83270619	83271619	83272619	83278619
	C	W2	83270809	83271809	83272809	83278809
	C	W7A5	83270819	83271819	83272819	83278819

Installation recommendations

See "Basic technical concepts"

How to order

Use the 8 digit part numbers when they are defined

Other cases, precise: Type of microswitch - Function - Connection - Actuator*

* if needed

Example: 83272 R W2 270E R24.1

Examples of special adaptations



Folded lever and fastening pins



4.8 x 0.5 quick-connect terminals



Angled W7A5 terminals



Telescopic plunger with 3 mm overtravel and with M6 x 0.75 threaded barrel

Warning:

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