

X3

- Characteristics
- 8 mm creepage and clearance distance to the actuator
 - long mechanical and electrical life
 - solder, faston and PCB terminal
 - compliant to glow wire requirements IEC 60335-1, 4. ed.

Rating 250 VAC, 21 A max.

Dimensions (mm) 27,8 × 15,9 × 10,3

- Actuator
- plunger
 - straight lever
 - simulated roller levers
 - roller levers

Approvals UL, cUL, CSA, ENEC, CQC



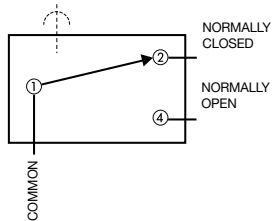
Preferred Range

Ordering Reference	Actuating Force		Operating pos.		Terminal	Circuit	Actuator	Contacts	Electrical rating	
	(N)	(ozf)	(mm)	(Inch)					ENEC	UL/CSA
X3M302N2KA	1,60	5,55	14,7	0,58	Faston	CO	Plunger	Ag/AgNi10	16 (6) A	20,5 A
X3M302N2NAJ32	0,88	3,15	15,6	0,59	Faston	CO	Plain lever	Ag/AgNi10	16 (6) A	20,5 A
X3M302N2NAJ62	0,57	2,05	14,8	0,58	Faston	CO	Plain lever	Ag/AgNi10	16 (6) A	20,5 A
X3M302N2NAT02	2,00	7,19	20,2	0,80	Faston	CO	Roller lever	Ag/AgNi10	16 (6) A	20,5 A
X3M303N2KA	1,60	5,73	14,7	0,58	Solder	CO	Plunger	Ag/AgNi10	16 (6) A	20,5 A
X3M306N2KA	1,60	5,73	14,7	0,58	Faston	CO	Plunger	Ag/AgNi10	16 (6) A	20,5 A
X3C302N2LB	0,80	2,88	14,7	0,58	Faston	CO	Plunger	Ag/AgNi10	10 (3) A	12 A
X3C302N2LBJ32	0,35	1,26	15,0	0,59	Faston	CO	Plain lever	Ag/AgNi10	10 (3) A	12 A
X3C303N2LB	0,80	2,88	14,7	0,58	Solder	CO	Plunger	Ag/AgNi10	10 (3) A	12 A
X3C306N2LB	0,80	2,88	14,7	0,58	Faston	CO	Plunger	Ag/AgNi10	10 (3) A	12 A
X3L302N6DD	1,50	5,40	14,7	0,58	Faston	CO	Plunger	Ag/AgCdO	21 (8) A	21 A
X3L303N6DD	1,50	5,40	14,7	0,58	Solder	CO	Plunger	Ag/AgCdO	21 (8) A	21 A

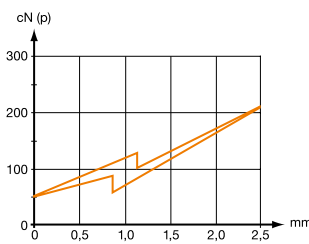
Specifications

Housing	Thermoplastic
Plunger	Thermoplastic
Mechanism	Snap-action, single pole beryllium bronze blade mechanism with wiping contacts
Contact carrier	Brass
Contacts	Fine silver (Ag), silver nickel (AgNi10), gold-plated (Au), silver cadmium oxide (AgCd0)
Terminals	Solder, Faston and RAST 5 terminals
Temperature range °C	Between -40°C and +125°C
Mechanical life	minimum cycles X3L: 105/ X3M: 106/X3C: 2 · 10 ⁶ (Actuation: sinusoidal and maximum up to 80% of the overtravel)
Protection	Enclosure IP40
Mounting	Side mounting via mounting holes
Actuators	Stainless steel (lever)

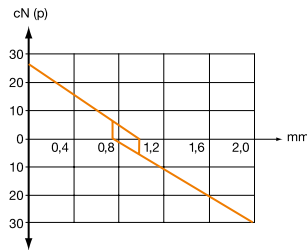
Circuit diagram



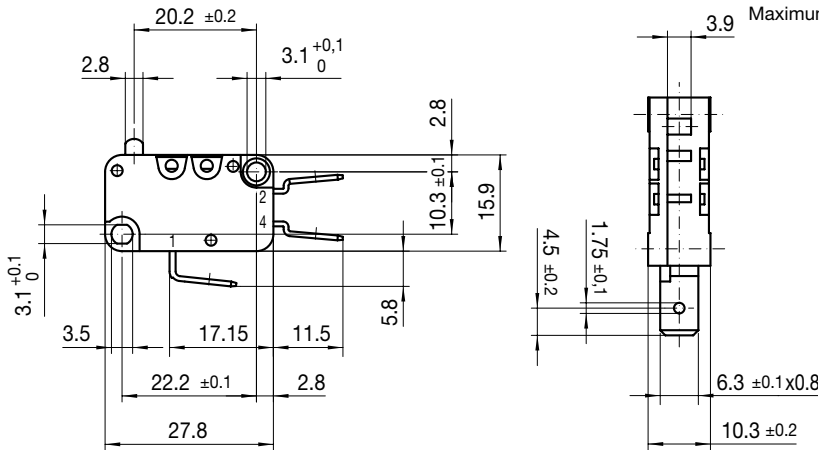
Actuating force/travel



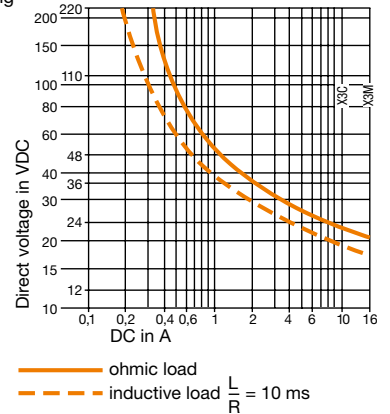
Contact force/travel



Dimensions



Maximum DC rating

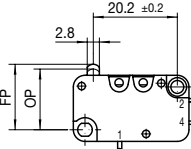
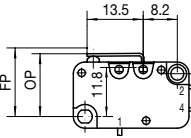
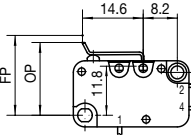
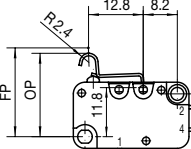
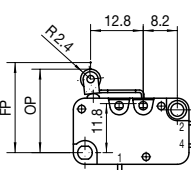


Recommended maximum electrical ratings

Voltage (VAC)	Resistive load (A)	Motor load (A)	Approvals ENEC (A)	(VAC)	Approvals UL (A)	(VAC)	Motor load
X3M 250	16	6	16 (6) 5E4	250	20,5 250	250	1½ HP
X3C 250	10	3	10 (3) 5E4	250	20,5 125	125	½ HP
X3L 250	21	8	21 (8) 1E4	250	12 250	250	¾ HP
					12 125	125	2 HP
					21 125	125	1 HP

Current breaking capacities in the tables refer to Ag/AgNi10 contacts with the exception of X3L Ag/AgCd0

Operating Characteristics

Actuator	Reference	Actuating Force Maximum		Release Force Minimum		Free FP Position Maximum		Operating OP Position		Movement Differential Maximum		Full overtravel Position	
		(N)	(ozf)	(N)	(ozf)	(mm)	(in)	(mm)	(in)	(mm)	(in)	(mm)	(in)
Plunger 	X3C	0,80	2,88	0,050	0,179	15,75	0,620	14,7	0,58	0,25	0,009	13,2	0,519
	X3M	1,60	5,76	0,200	0,719	15,75	0,620	14,7	+0,2 -0,4	0,25	0,009	13,2	0,519
	X3L	1,50	5,40	0,150	0,540	15,75	0,620	14,7	0,58	0,25	0,009	13,2	0,519
J02 Lever 	X3C ..	0,80	2,88	0,045	0,162	16,50	0,649	15,1 ± 0,5	0,59 ± 0,019	0,35	0,014	14,0	0,550
	X3M ..	2,00	7,19	0,180	0,647	16,50	0,649	15,1 ± 0,5	0,59 ± 0,019	0,35	0,014	14,0	0,550
	X3L ..	1,90	6,83	0,140	0,500	16,50	0,649	15,1 ± 0,5	0,59 ± 0,019	0,35	0,014	14,0	0,550
Width of lever 7,0 mm/0,28 in – also available with width 4 mm/0,16 in													
M02 Lever 	X3C ..	0,65	2,34	0,045	0,162	19,20	0,755	17,5 ± 0,7	0,69 ± 0,028	0,35	0,014	16,4	0,646
	X3M ..	1,65	5,93	0,160	0,576	19,20	0,755	17,5 ± 0,7	0,69 ± 0,028	0,35	0,014	16,4	0,646
	X3L ..	1,55	5,58	0,140	0,500	19,20	0,755	17,5 ± 0,7	0,69 ± 0,028	0,35	0,014	16,4	0,646
Width of lever 7,0 mm/0,28 in													
L02 Lever 	X3C ..	0,80	2,88	0,045	0,162	21,80	0,858	20,5 ± 0,6	0,81 ± 0,024	0,35	0,014	19,5	0,768
	X3M ..	2,00	7,19	0,190	0,683	21,80	0,858	20,5 ± 0,6	0,81 ± 0,024	0,35	0,014	19,5	0,768
	X3L ..	1,90	6,83	0,140	0,500	21,80	0,858	20,5 ± 0,6	0,81 ± 0,024	0,35	0,014	19,5	0,768
Width of lever 7,0 mm/0,28 in													
T02 Lever 	X3C ..	0,80	2,88	0,045	0,162	21,80	0,858	20,2 ± 0,7	0,79 ± 0,028	0,35	0,014	19,3	0,760
	X3M ..	2,00	7,19	0,190	0,683	21,80	0,858	20,2 ± 0,7	0,79 ± 0,028	0,35	0,014	19,3	0,760
	X3L ..	1,90	6,83	0,140	0,500	21,80	0,858	20,2 ± 0,7	0,79 ± 0,028	0,35	0,014	19,3	0,760
Width of roller 6,6 mm/0,26 in													

Ordering Reference

Basic type	X3	Microswitch according to DIN 41635, Design A				Example: X3	M	3	02	K	2	A	A	J0	2
Operating force	M	Standard force 1													
	L	Standard force 2													
	C	Low force													
Circuit diagram	3	Change-over (CO)													
	4	Normally closed (NC)													
	5	Normally open (NO)													
Terminals	02	Plug terminal 6,3 × 0,8 mm			13	PCB-terminal, Formed to lid									
	03	Solder terminal			14	PCB-terminal, Formed to base									
	06	Plug terminal 4,8 × 0,5 mm			15	Plug terminal RAST 5 6,3 × 0,8 mm									
	10	Plug terminal 4,8 × 0,8 mm													
	12	Solder terminal, short													
Body	N	PA66GF25													
Contacts materials	2	Silver/AgNi10													
	6	AgCd0													
	8	Gold plated													
UL/C-UL ratings	A	20,5 A, 125/250 VAC			M	6 A, 125/250 VAC									
		15 A, 125/250 VAC, 100'000 cy.				1/3 HP, 250 VAC, 1/6 HP, 125 VAC									
		1 1/2 HP, 250 VAC, 1/2 HP, 125 VAC			N	No approvals									
	D	21 A, 125/250 VAC			P	20,5 A, 125/250 VAC									
		2 HP, 250 VAC, 1 HP, 125 VAC				1 1/2 HP, 250 VAC, 1/2 HP, 125 VAC									
	E	21 A, 125/250 VAC				1/4 HP, 250 VDC, 1/2 HP, 125 VDC									
		15 A, 125/250 VAC, 100'000 cy.			Q	12 A, 125/250 VAC									
		2 HP, 250 VAC, 1 HP, 125 VAC				1/3 HP, 250 VAC, 1/6 HP, 125 VAC									
	K	20,5 A, 125/250 VAC				1/4 A, 250 VDC, 1/2 A, 125 VDC									
		1 1/2 HP, 250 VAC, 1/2 HP, 125 VAC			R	6 A, 125/250 VAC									
EN/IEC ratings		12 A, 125/250 VAC				1/3 HP, 250 VAC, 1/6 HP, 125 VAC									
		1/6 HP, 250 VAC, 1/6 HP, 125 VAC				1/4 A, 250 VDC, 1/2 A, 125 VDC									
	A	16 (6) A, 250 V~ 5E4 T125 μ approved													
	B	10 (3) A, 250 V~ 5E4 T125 μ approved													
	C	6 (3) A, 250 V~ 5E4 T125 μ approved													
	D	21 (8) A, 250 V~ 1E4 T105 μ approved													
	M	no approvals													
Type of actuator		No symbol, without lever													
	J0 to J9	Straight lever (width 7 mm)													
	L0 to L9	Simulated roller lever													
	M0 to M9	Customer specified lever (KV)													
	P0 to P9	Straight lever (width 4 mm)													
	T0 to T9	Roller lever													
	Other actuators and lengths available														
Actuator position		No symbol, without lever													
	2	Rear lever													
	4	Front lever													