

- **Long life**
More than 10^7 mechanical operations.
- **Great mechanical strength while being compact and lightweight**
Strong plastic outer cover cap with excellent mechanical characteristics.
M4 bolt can be used for mounting.
- **The overtravel (O.T.) is large with great shock absorption**
- **Dust-proof and oil resistant**
Flushed with the diaphragm and the compressed rubber ring
Conforms to UL/CSA TÜV standards.

PRODUCT TYPE

1. Standard type

Actuator	Part No.
Short push plunger	AZ7100
Push plunger	AZ7110
Hinge lever	AZ7120
Roller lever	AZ7121
One-way roller lever	AZ7124
Hinge short lever	AZ7140
Short roller lever	AZ7141
One-way short roller lever	AZ7144
Panel mount push plunger	AZ7310
Panel mount roller plunger	AZ7311
Panel mount cross roller plunger	AZ7312
Flexible rod	AZ7166

Note 1. Cadmium free contact types are available on a custom-made basis.
Please add an "F" to the end of the part number when ordering.

FOREIGN STANDARDS

Standards	Applicable product	Part No.
UL	File No. : E-122222 Ratings : 10A 250V AC Product type : Standard type only	Order by standard part No.
CSA	File No. : LR55880 Ratings : 10A 250V AC Product type : Standard type only	
TÜV	File No. : J9551204 Ratings : AC-15 2A/250V~ Product type : Standard type only	

SPECIFICATIONS

1. Rating

Rated control voltage	Load	Resistive load ($\cos\phi \approx 1$)	Inductive load ($\cos\phi \approx 0.4$)	Motor or lamp load	
				N.C. contact	N.O. contact
125V AC		10A	6A	3A	1.5A
250V AC		10A	4A	1.5A	1A
115V DC		0.4A	0.05A	—	—

2.Characteristics

Contact arrangement	1 Form C	
Initial contact resistance, max.	15mΩ* (By voltage drop 6 to 8V DC at rated current)	
Initial insulation resistance (At 500V DC)	Min. 100 mΩ	
Initial breakdown voltage	1,500 Vrms for 1 min between non-consecutive terminals 2,000 Vrms for 1 min between dead metal parts and each terminal 2,000 Vrms for 1 min between ground and each terminal	
Shock resistance	In the free position	Max. 98m/s ² {10G}
	In the full operating position	Max. 294m/s ² {30G}
Vibration resistance	55 Hz, double amplitude of 1.5 mm	
Expected life (Min. operation)	Mechanical	10 ⁷ (at 50 cpm)
	Electrical	2 x 10 ⁵ (at 20 cpm)
Ambient temperature/Ambient humidity	-20 to +60°C -4 to +140°F/Max. 95% R.H. (at 20°C 68°F)	
Max. operating speed	120 cpm	

*The resistance of a copper wire is not included.

3.EN60947-5-1 performance

Item	Rating
Rated insulation voltage (Ui)	250VAC
Rated impulse withstand voltage (Uimp)	2.5kV
Switching over voltage	2.5kV
Rated enclosed thermal current (Ithe)	10A
Conditional short-circuit current	100A
Short-circuit protection device	10A fuse
Protective construction	IP64 (switch)
Pollution degree	3

4. Operating characteristics

Actuator	Characteristics		Pretravel (P.T.), max. mm inch	Movement Differential (M.D.), max. mm inch	Overtravel (O.T.), min. mm inch	Operating Position (O.P.) mm inch
	O.F. (N(gf)) max.	R.F. (N(gf)) min.				
Short push plunger	5.88 {600}	0.98 {100}	2.0 .079	0.8 .031	0.8 .031	30±0.8 1.181±.031
Push plunger	5.88 {600}	0.98 {100}	2.0 .079	0.8 .031	5.0 .197	44±1.2 1.732±.047
Hinge lever	1.47 {150}	0.39 {40}	13.5 .531	3.2 .126	4.0 .157	25±2.0 .984±.079
Roller lever	1.77 {180}	0.49 {50}	11.0 .433	2.4 .094	3.0 .118	40±1.9 1.575±.75
One-way roller lever	1.96 {200}	0.59 {60}	11.0 .433	2.4 .094	3.0 .118	50±2.0 1.969±.079
Hinge short lever	2.16 {200}	0.59 {60}	8.5 .335	2.0 .079	2.5 .098	25±1.3 .984±.051
Short roller lever	2.35 {240}	0.78 {80}	6.5 .256	1.5 .059	2.0 .079	40±1.6 1.575±.063
One-way short roller lever	2.75 {280}	0.98 {100}	6.5 .256	1.5 .059	2.0 .079	50±1.6 1.969±.063
Panel mount push plunger	5.88 {600}	0.98 {100}	2.0 .079	0.8 .031	6.0 .236	21.8±0.8 .858±.031
Panel mount roller plunger	5.88 {600}	0.98 {100}	2.0 .079	0.8 .031	6.0 .236	33.3±1.2 1.311±.047
Panel mount cross roller plunger	5.88 {600}	0.98 {100}	2.0 .079	0.8 .031	6.0 .236	33.3±1.2 1.311±.047
Flexible rod	1.18 {120}	—	25 .984	—	11 .433	36 1.417 (T.T.)

Note) For the operating characteristics, refer to the TECHNICAL INFORMATION.

5. Protective characteristics

Protective construction	Screw terminal type	Epoxy-sealed terminal type
IEC		
IP60	○	○
IP64	—	○

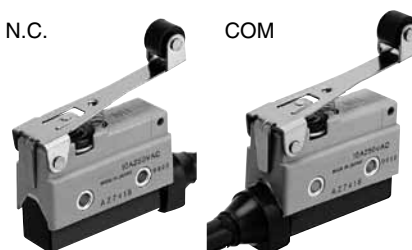
CAUTIONS

- When the switch is to be used in places where oil or is abundant, bore a drain hole in the bottom of the terminal cover.
- Avoid places where highly acid or alkaline fluids are used or high temperatures prevail.
- Wiring



Standard

- Remove the terminal cover with a ⊖ driver.
- Insert the lead wire through the knock-out of the terminal cover.
- Connect the lead wire to the terminal. When connecting the terminals with the fasten lug, those with the insulation sleeve are recommended.
- The terminal cover can be mounted in both directions.



In this case, fasten the terminal cover in the opposite direction.

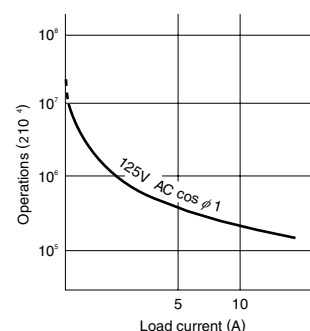
- For epoxy-sealed terminal types, there are two types by the cord outlet direction; N.C. side and COM side.

4. Flexible rod type

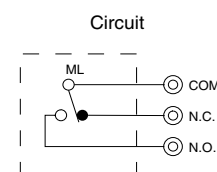
- Put the detective object to the tip of plastic part.
- Avoid pushing the tip of actuating spring in the direction of axis. In the places of oil or water splashes and much dust area, use the limit switch with keeping the actuating spring in the vertical direction.

DATA

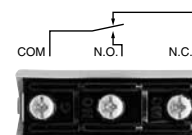
1. Life curve



WIRING DIAGRAM



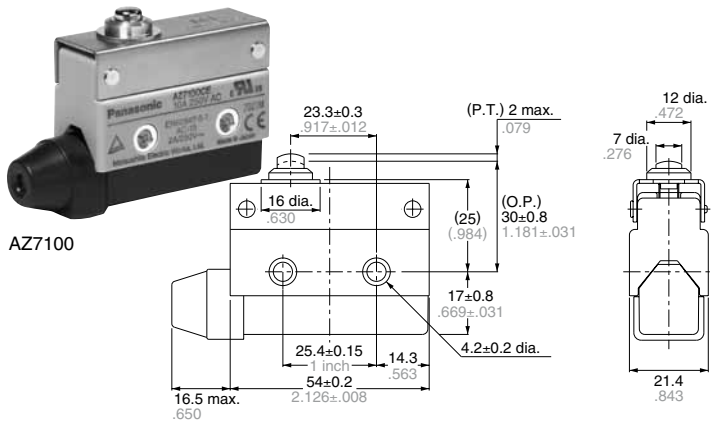
Terminal



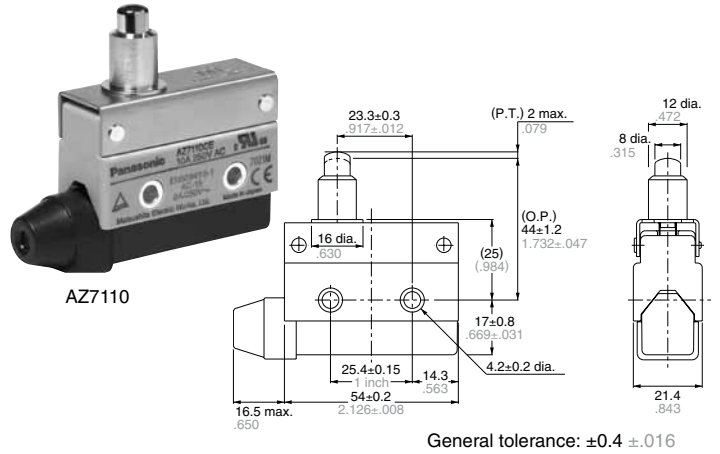
DIMENSIONS

mm inch

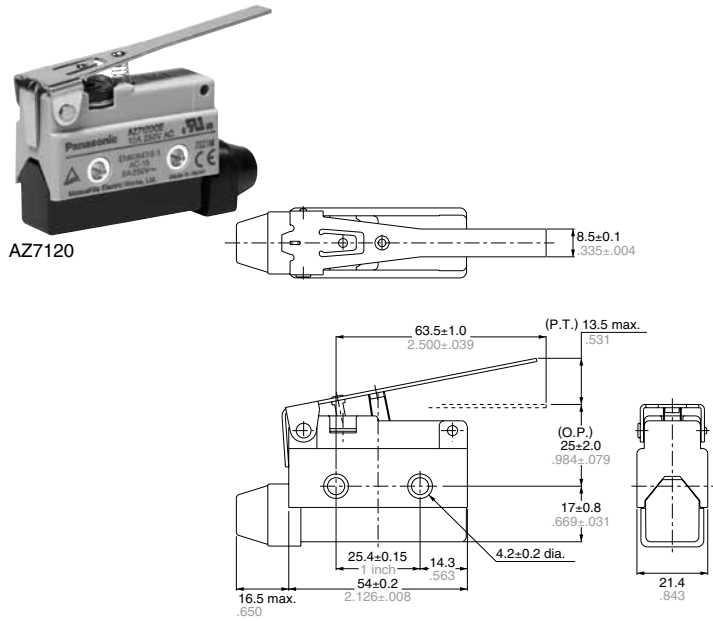
Short push plunger type



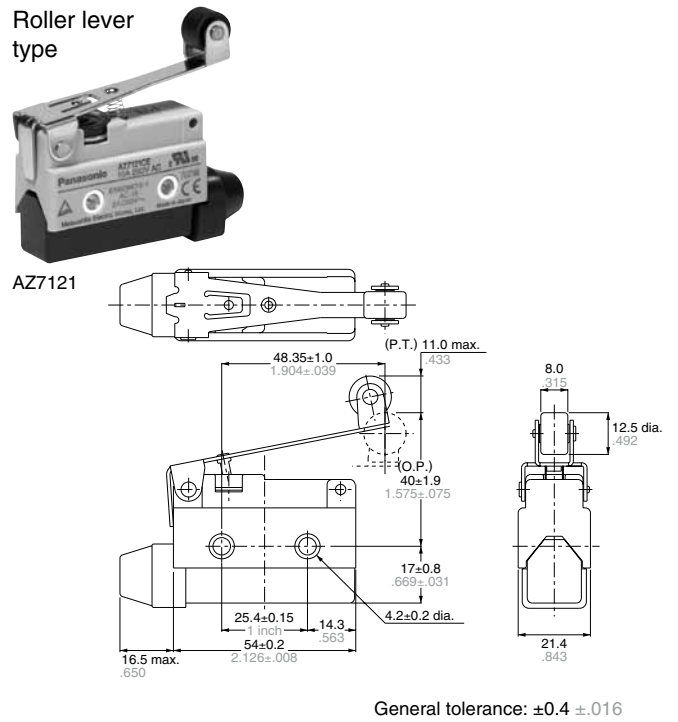
Push plunger type



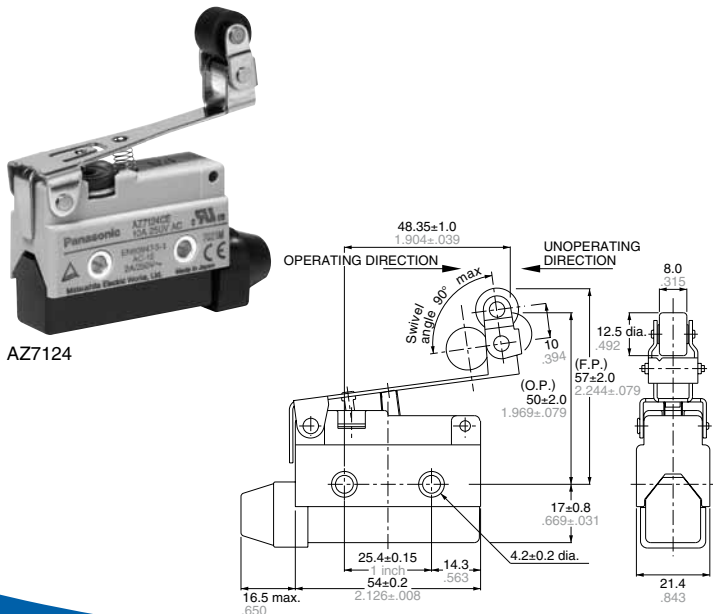
Hinge lever type



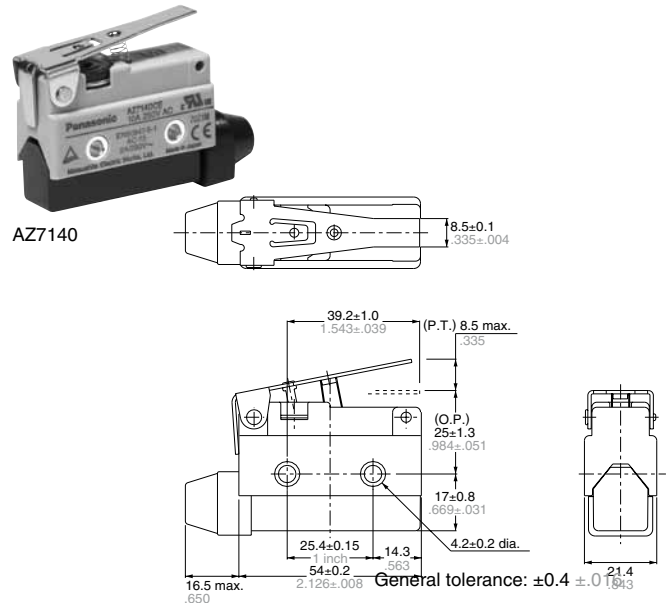
Roller lever type



One-way roller lever type



Hinge short lever type



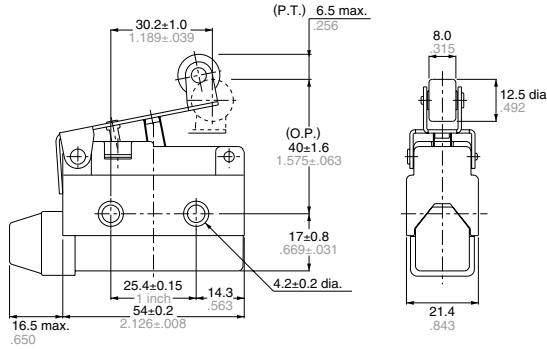
Short roller lever type

One-way short roller lever type

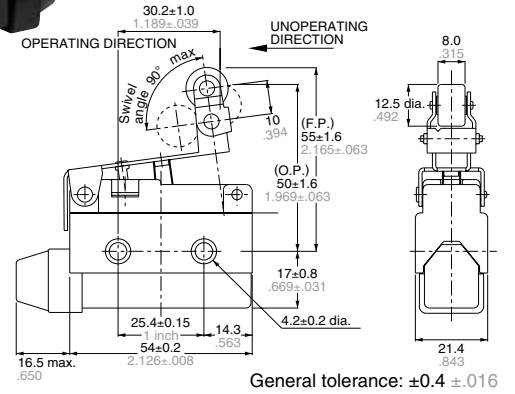
mm inch



AZ7141



AZ7144



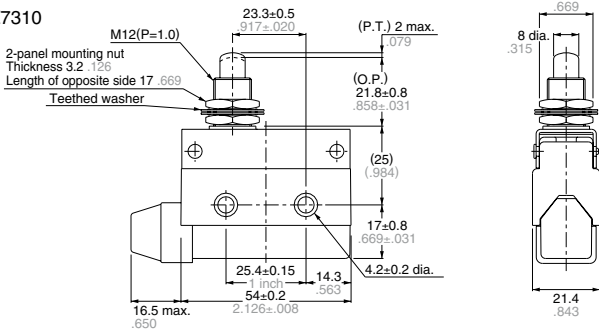
General tolerance: ±0.4 ±.016

Panel mount push plunger type

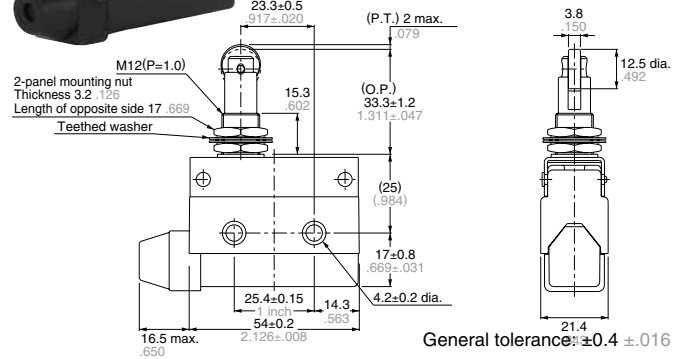
Panel mount roller plunger type



AZ7310



AZ7311



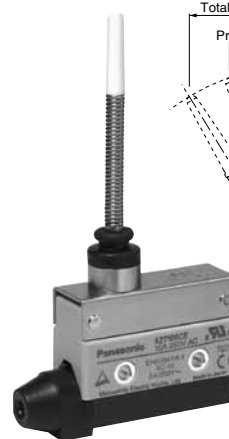
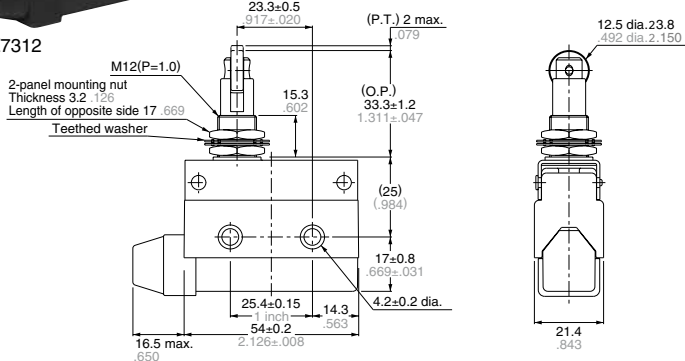
General tolerance: ±0.4 ±.016

Panel mount cross roller plunger type

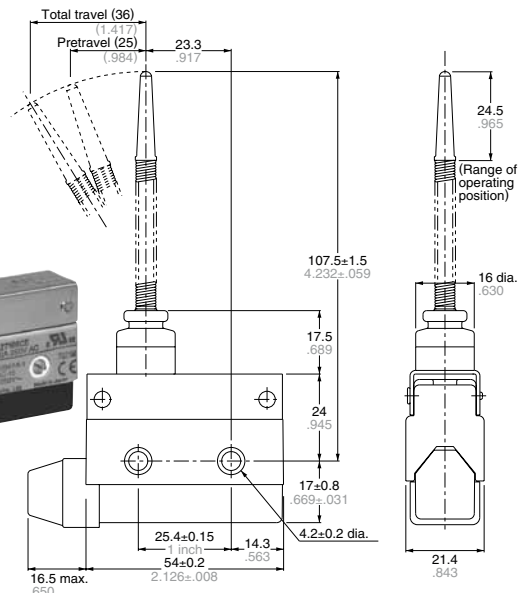
Flexible rod type



AZ7312



AZ7166



General tolerance: ±0.4 ±.016

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