

IDEM Micro Switches

Plunger Series Limit Switches

- A high precision, 15A-rated micro switch available in a wide variety of styles
- Plunger Series models are available with a choice of actuator types including pin plunger, spring plunger, and roller plunger
- Panel mount options available
- Screw terminals for easy connection
- Suitable for a wide range of operating conditions
- Terminal enclosure available



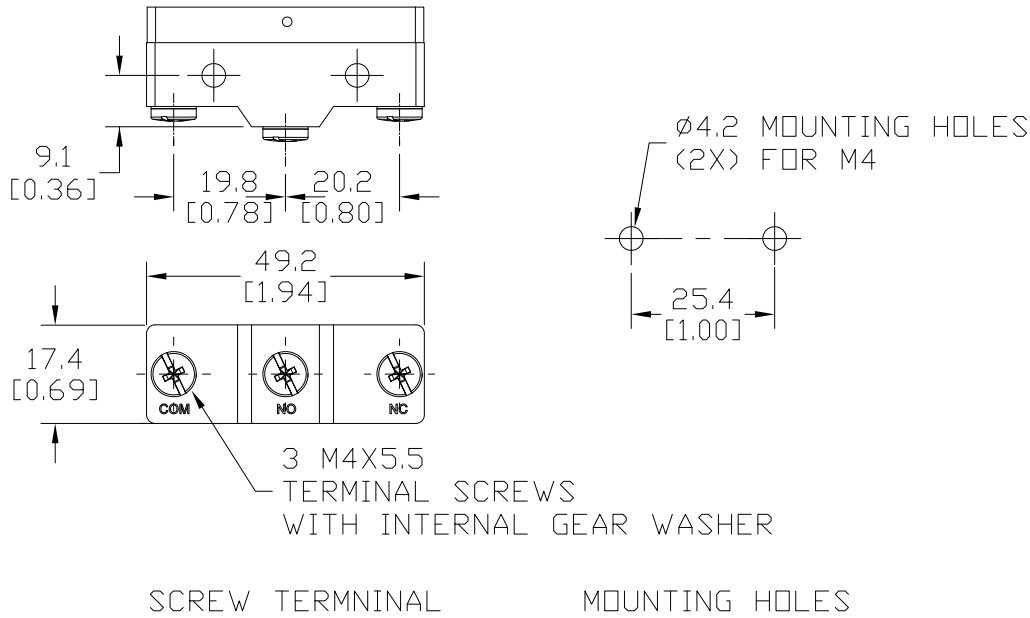
IDEM Plunger Series Micro Switches						
Part Number	Price	Actuator Type	Snap Action Contacts	Pretravel (max)	Over Travel	Force to Operate Contacts
176101-1	\$8.50	Metal pin plunger	1NO, 1NC	0.4 mm (0.016 in)	0.13 mm (0.005 in)	250-350 g (0.55-0.77 lb)
176101-5	\$39.50	Metal pin plunger (pack of 5)				
176104-1	\$9.50	Metal pin plunger long	1NO, 1NC	0.4 mm (0.016 in)	1.6 mm (0.063 in)	250-350 g (0.55-0.77 lb)
176104-5	\$45.00	Metal pin plunger long (pack of 5)				
176105-1	\$9.75	Metal plunger	1NO, 1NC	0.4 mm (0.016 in)	1.6 mm (0.063 in)	250-350 g (0.55-0.77 lb)
176105-5	\$46.00	Metal plunger (pack of 5)				
176106-1	\$12.00	Metal plunger with fixing nuts	1NO, 1NC	0.4 mm (0.016 in)	5.5 mm (0.217 in)	250-350 g (0.55-0.77 lb)
176106-5	\$57.00	Metal plunger with fixing nuts (pack of 5)				
176107-1	\$15.00	Metal plunger with metal roller and fixing nuts	1NO, 1NC	0.4 mm (0.016 in)	3.58 mm (0.141 in)	250-350 g (0.55-0.77 lb)
176107-5	\$72.00	Metal plunger with metal roller and fixing nuts (pack of 5)				
176108-1	\$15.00	Metal plunger with metal cross roller and fixing nuts	1NO, 1NC	0.4 mm (0.016 in)	3.58 mm (0.141 in)	250-350 g (0.55-0.77 lb)
176108-5	\$72.00	Metal plunger with metal cross roller and fixing nuts (pack of 5)				

176000-1	\$1.50	Terminal enclosure for IDEM micro limit switches. Polyvinyl chloride (PVC).
176000-5	\$7.25	Terminal enclosure for IDEM micro limit switches (pack of 5). Polyvinyl chloride (PVC).



IDEM Micro Switches, Plunger Series

Screw Terminal and Mounting Holes Dimensions (mm [inches])

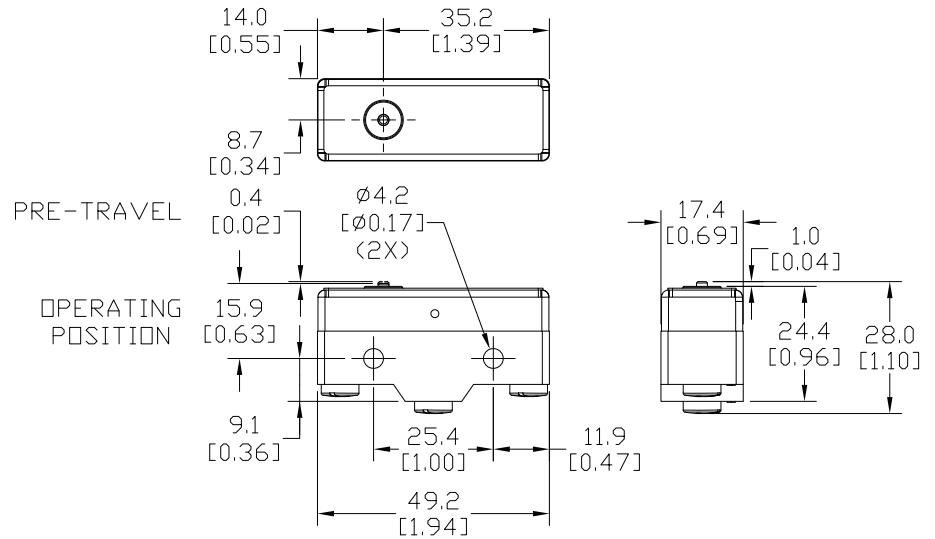


Operating Characteristics and Dimensions (mm [inches])

Micro Switch – Metal Pin Plunger (176101)



Operating Characteristics	
Operating Force	250-350 g (0.55-0.77 lb)
Release Force (min)	114g (0.25 lb)
Pre-Travel (max)	0.4 mm (0.016 in)
Over-Travel (min)	0.13 mm (0.005 in)
MD (max)	0.05 mm (0.002 in)
Operating Position	15.9 ± 0.4 mm (0.626±0.016 in)



Operating Characteristics definitions:

Operating Force: Force required to cause “snap.”

Release Force: Force still applied to plunger or lever when the contacts snap back from the operated position.

Pre-Travel: Distance from free position to operating position.

Over-Travel: The extra travel for the plunger or lever to travel safely beyond the operating position.

MD (Max): Maximum differential (plunger or lever travel from the point where the contacts snap to the point where they snap back).

FP (max): Extra distance relative to mounting holes that the plunger or lever travels to the snap position, including loose flex.

Operating Position: Distance relative to mounting holes that the plunger or lever travels to the snap position.

See our website www.AutomationDirect.com for complete engineering drawings.

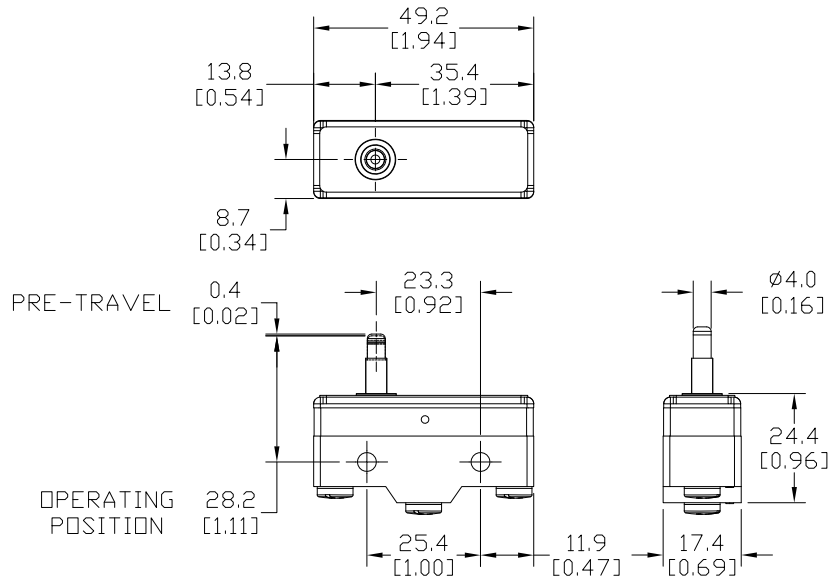
IDEM Micro Switches, Plunger Series

Operating Characteristics and Dimensions (mm [inches]), continued

Micro Switch – Metal Pin Plunger Long (176104)



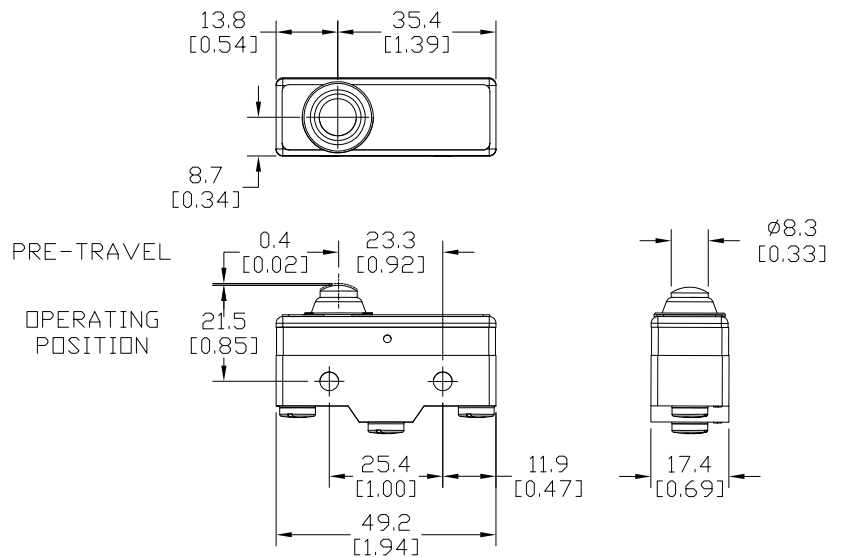
Operating Characteristics	
Operating Force	250-350 g (0.55-0.77 lb)
Release Force (min)	114g (0.25 lb)
Pre-Travel (max)	0.4 mm (0.016 in)
Over-Travel (min)	1.6 mm (0.063 in)
MD (max)	0.5 mm (0.020 in)
Operating Position	28.2 ± 0.5 mm (1.110±0.020 in)



Micro Switch – Metal Plunger (176105)



Operating Characteristics	
Operating Force	250-350 g (0.55-0.77 lb)
Release Force (min)	114g (0.25 lb)
Pre-Travel (max)	0.4 mm (0.016 in)
Over-Travel (min)	1.6 mm (0.063 in)
MD (max)	0.05 mm (0.002 in)
Operating Position	21.5 ± 0.5 mm (0.846±0.020 in)



Operating Characteristics definitions:

Operating Force: Force required to cause “snap.”

Release Force: Force still applied to plunger or lever when the contacts snap back from the operated position.

Pre-Travel: Distance from free position to operating position.

Over-Travel: The extra travel for the plunger or lever to travel safely beyond the operating position.

MD (Max): Maximum differential (plunger or lever travel from the point where the contacts snap to the point where they snap back).

FP (max): Extra distance relative to mounting holes that the plunger or lever travels to the snap position, including loose flex.

Operating Position: Distance relative to mounting holes that the plunger or lever travels to the snap position.

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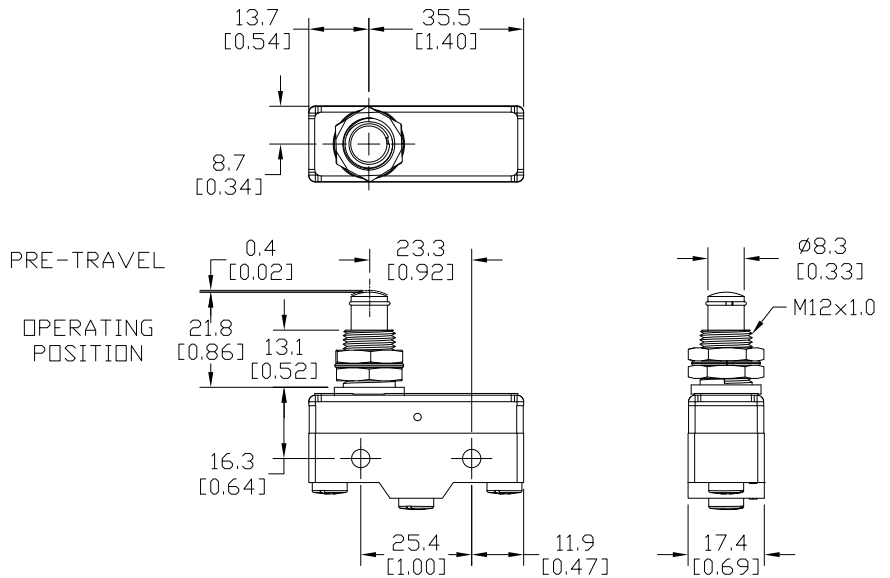
IDEM Micro Switches, Plunger Series

Operating Characteristics and Dimensions (mm [inches]), continued

Micro Switch – Metal Plunger With Fixing Nuts (176106)



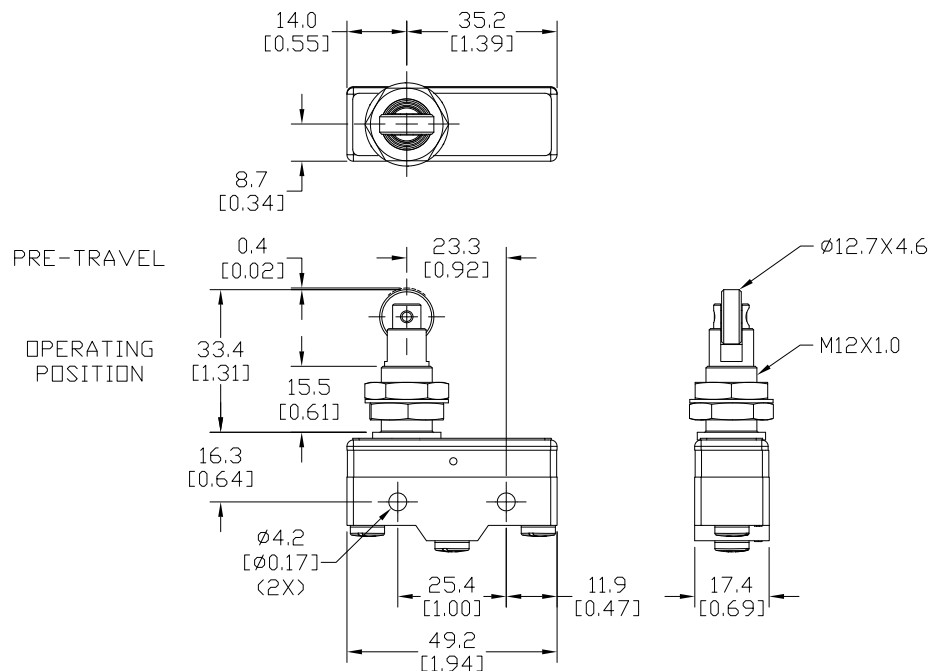
Operating Characteristics	
Operating Force	250-350 g (0.55-0.77 lb)
Release Force (min)	114g (0.25 lb)
Pre-Travel (max)	0.4 mm (0.016 in)
Over-Travel (min)	5.5 mm (0.217 in)
MD (max)	0.05 mm (0.002 in)
Operating Position	21.8 ± 0.8 mm (0.858±0.032in)



Micro Switch – Metal Plunger With Metal Roller and Fixing Nuts (176107)



Operating Characteristics	
Operating Force	250-350 g (0.55-0.77 lb)
Release Force (min)	114g (0.25 lb)
Pre-Travel (max)	0.4 mm (0.016 in)
Over-Travel (min)	3.58 mm (0.141 in)
MD (max)	0.05 mm (0.002 in)
Operating Position	33.4 ± 1.2 mm (1.315±0.047 in)



Operating Characteristics definitions:

Operating Force: Force required to cause "snap."

Release Force: Force still applied to plunger or lever when the contacts snap back from the operated position.

Pre-Travel: Distance from free position to operating position.

Over-Travel: The extra travel for the plunger or lever to travel safely beyond the operating position.

MD (Max): Maximum differential (plunger or lever travel from the point where the contacts snap to the point where they snap back).

FP (max): Extra distance relative to mounting holes that the plunger or lever travels to the snap position, including loose flex.

Operating Position: Distance relative to mounting holes that the plunger or lever travels to the snap position.

See our website www.AutomationDirect.com for complete engineering drawings.

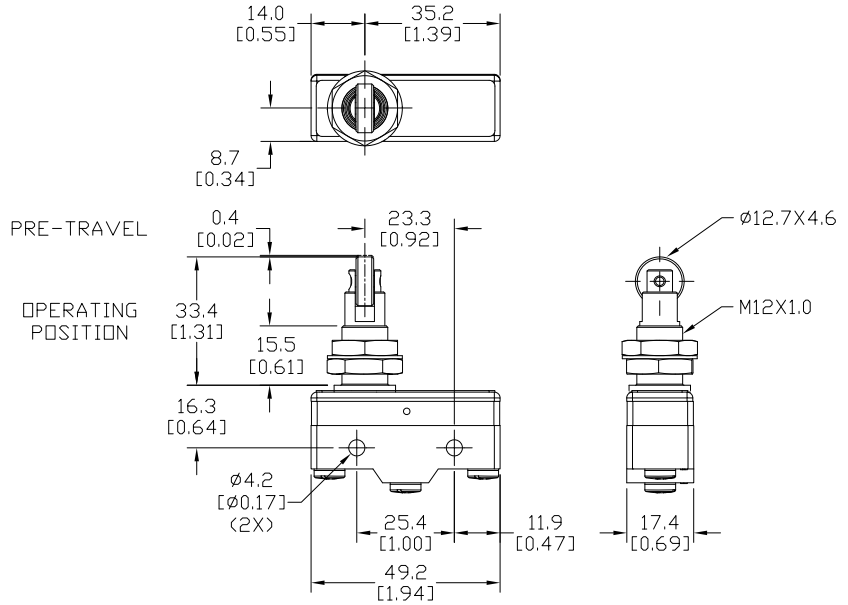
IDEM Micro Switches, Plunger Series

Operating Characteristics and Dimensions (mm [inches]), continued

Micro Switch – Metal Plunger With Cross Roller and Fixing Nuts (176108)



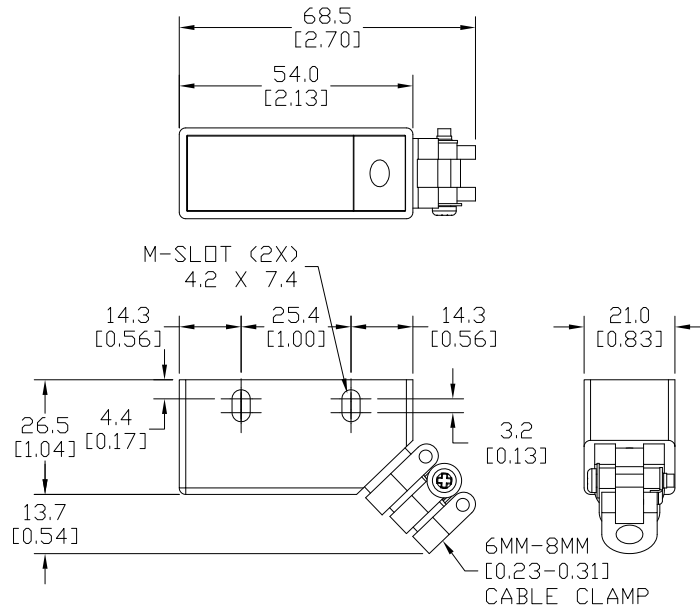
Operating Characteristics	
Operating Force	250-350 g (0.55-0.77 lb)
Release Force (min)	114g (0.25 lb)
Pre-Travel (max)	0.4 mm (0.016 in)
Over-Travel (min)	3.58 mm (0.141 in)
MD (max)	0.05 mm (0.002 in)
Operating Position	33.4 ± 1.2 mm (1.315±0.047 in)



Terminal Enclosure for IDEM Micro Limit Switches (176000)



Operating Characteristics
Designed to cover and protect all varieties of IDEM Micro Switches



Operating Characteristics definitions:

- Operating Force:** Force required to cause "snap."
- Release Force:** Force still applied to plunger or lever when the contacts snap back from the operated position.
- Pre-Travel:** Distance from free position to operating position.
- Over-Travel:** The extra travel for the plunger or lever to travel safely beyond the operating position.
- MD (Max):** Maximum differential (plunger or lever travel from the point where the contacts snap to the point where they snap back).
- FP (max):** Extra distance relative to mounting holes that the plunger or lever travels to the snap position, including loose flex.
- Operating Position:** Distance relative to mounting holes that the plunger or lever travels to the snap position.

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IDEM Micro Switches General Specifications

Environmental	
Degree of Protection	None
Temperature Range	-25°C to 80°C (-13°F to 176°F)
Mechanical Ratings	
Mechanical Life	1,000,000 operations minimum
Switch Body	Phenolic (composite resin)
Enclosure (Part Number 176000)	Polyvinyl chloride (PVC)
Contact Blocks Rating	
Contact Resistance	15m Ohms max (initial)
Electrical Ratings	0.5 A 125VDC 0.25 A 250VDC 0.125 hp 125VDC 0.25 hp 250VDC 20A @ 250VAC EN61058-1 and 15A @ 125VAC or 250VAC UL61058-1
	Make: 0.25 A at 120VDC; 0.125 A at 240VDC
Dielectric Strength	Between terminals of same polarity 100VAC (50/60 Hz for 1 minute)
Electrical Life	100,000 operations at full load
Wiring Connections	M4x5.5 terminal screw
Torque Requirements	Mounting screws: 1.5 N•m (1.11 lb•ft) Connector screws: 1.0 to 1.2 N•m (0.74 to 0.89 lb•ft)
Agency Approvals	
cULus 482215 (Exception: 176000 not UL listed)	
CE/Reach compliant	