

## M4-4 Series

### Compact Heavy Duty Limit Switch

#### ◆ Features

- ✓ Compact heavy duty aluminum limit switch
- ✓ Complete seal; IP67-rated
- ✓ Positive-opening type available
- ✓ VCTF or SJTO(18 AWG) bottom cable-out 2 or 3 meters; optional side-out
- ✓ AC or DC M12 quick connect type available

#### ◆ Recognition(s)

- ✓ CE – EN60947
- ✓ UL – UL-508
- ✓ CCC – GB14048.5-2008
- ✓ RoHS Compliant
- ✓ Reach Unaffected



#### ◆ Characteristics

Positive Opening	Electrical Contact	Terminal Type	Contact Form(s)	Poles & Throws	Actuation Sequence(s)
Yes & No	3 Points	Wire	Form C	SPDT	Break(1) Make(2)

Operating Temp.	AC Rated	DC Rated	IP	Oil Resist	Dust Resist	Water Resist	Operating Speed
-20 to 70 Celsius	5A 125-250V	0.4A 125V,	67	Yes	Yes	Yes	0.1mm to 0.5m/sec

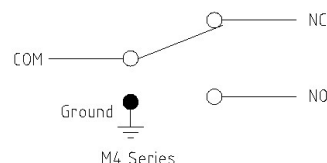
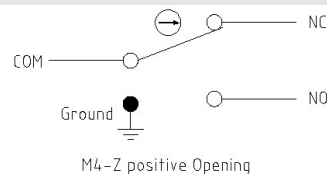
Operation Frequency	Contact Resistance	Insulation Resistance	Vibration
Mechanically: 120/min Electrically: 30/min	300mΩ max. (initial)	100MΩ min. (500VDC)	1.5mm amplitude at 10-55Hz

Storage Humidity	Service Life (min.)	Dielectric Strength
85% RH max	Mechanically: 2,000,000 operations 500,000 (positive opening) Electrically: 200,000 operations	1000VAC, 50/60Hz for 1 minute between non-continuous terminals

#### Recommended tightening forces

Purpose	Screw type	Tightening
Mounting	M5	4.9~5.88N·m

#### Circuitry

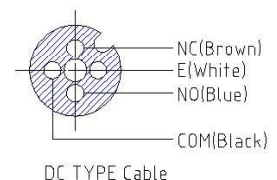
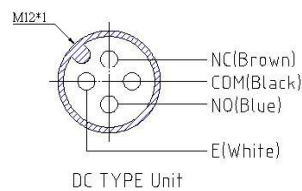
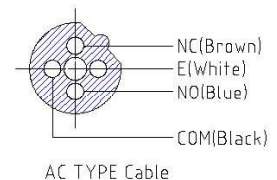
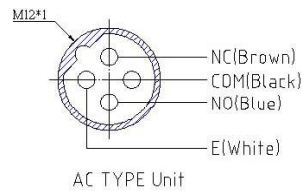
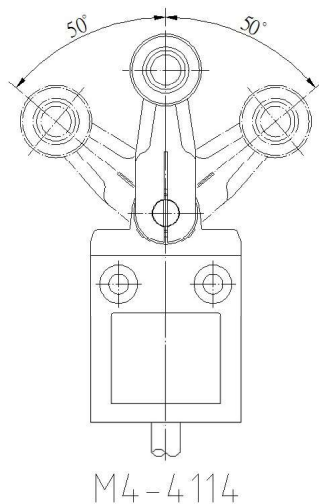
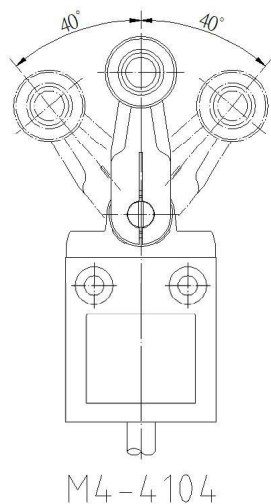


◆ Materials

Actuation touch part	Electrical contact point	Enclosure
Stainless Steel	Silver 99.9%	Aluminum alloy

◆ Nomenclature

Series:	Actuator:	Connection type:	Positive opening:	Cable:
<b>M4 –</b>	<b>4101 –</b>	<b>Q –</b>	<b>Z –</b>	<b>AC</b>
	4101=Plunger 4102=Roller plunger 4102R=Cross roller plunger 4103=Bevel plunger 4104=Side rotary, roller 40° 4114=Side rotary, roller 50° 4106=Spring, coil  <u>Actuator with rubber boot</u> 4111=Plunger 4112=Roller plunger 4112R=Cross roller plunger  <u>Panel mount actuator</u> 4310=Plunger 4311=Roller plunger 4312=Cross roller plunger	Blank=Bottom cable-out S=Side cable-out Q=M12 Quick connect	Blank=None Z=Yes	2=2m VCTF 2L=2m SJTO 3=3m VCTF 3L=3m SJTO  AC=AC Type (only applicable for suffix "Q" M12 quick connect type)  DC=DC Type (only applicable for suffix "Q" M12 quick connect type)



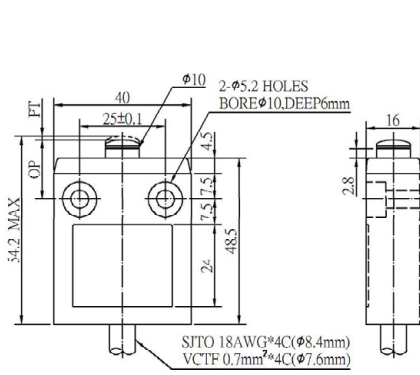
M12 Quick Connectors (AC/DC)

### ◆ Dimensions & Operating Characteristics

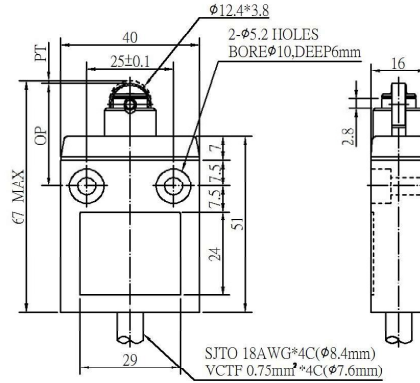
\*Measurements are in millimeters

\*Connection types and cable lengths do not affect dimensions and operating characteristics

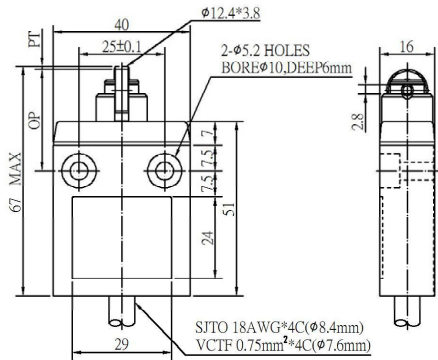
\*MD=Movement Differential=DT=Differential Travel



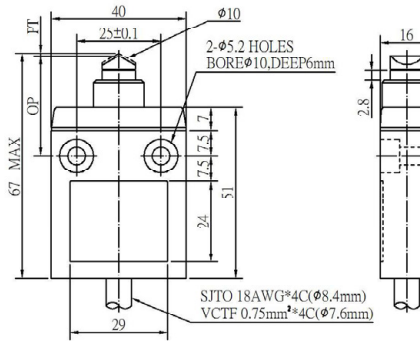
M4-4101	
OF MAX	1200g
RF MIN	450g
PT MAX	1.8mm
OT MIN	3mm
MD MAX	0.2mm
OP	15.7±1mm



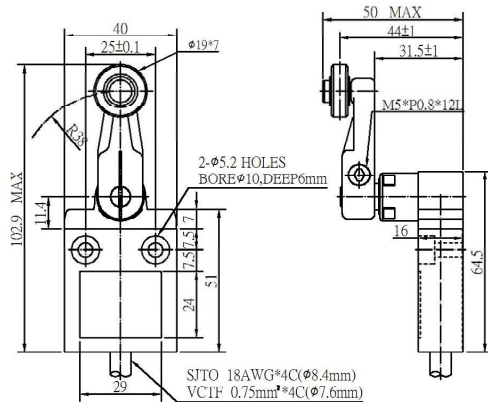
M4-4102	
OF MAX	1200g
RF MIN	450g
PT MAX	1.8mm
OT MIN	3mm
MD MAX	0.2mm
OP	28.5±1mm



M4-4102R	
OF MAX	1200g
RF MIN	450g
PT MAX	1.8mm
OT MIN	3mm
MD MAX	0.2mm
OP	28.5±1mm



M4-4103	
OF MAX	1200g
RF MIN	450g
PT MAX	1.8mm
OT MIN	3mm
MD MAX	0.2mm
OP	28.5±1mm



	M4-4104	M4-4111
OF MAX	580g	580g
RF MIN	150g	150g
PT MAX	25°	10°±3°
OT MIN	40°	50°
MD MAX	3	3
OP	x	x



M4-4101



M4-4102



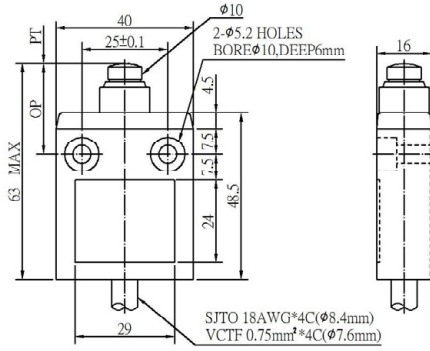
M4-4102R



M4-4103

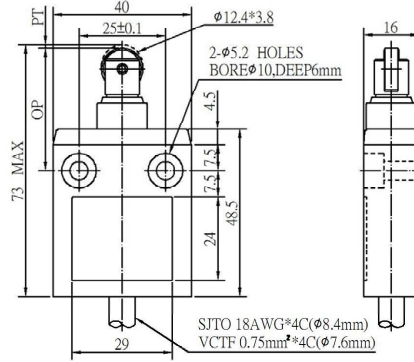


M4-4104/4114



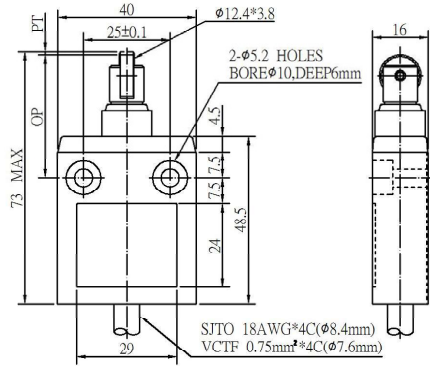
**M4-4111**

OF MAX	1200g
RF MIN	450g
PT MAX	1.8mm
OT MIN	3mm
MD MAX	0.2mm
OP	28.5±1mm



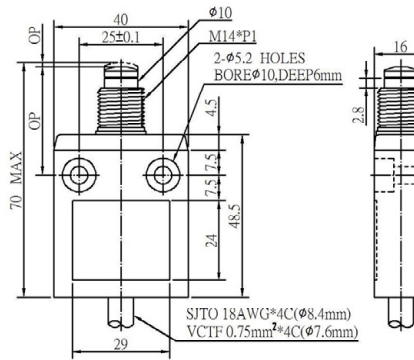
**M4-4112**

OF MAX	1800g
RF MIN	450g
PT MAX	1.8mm
OT MIN	3mm
MD MAX	0.2mm
OP	34.3±1mm



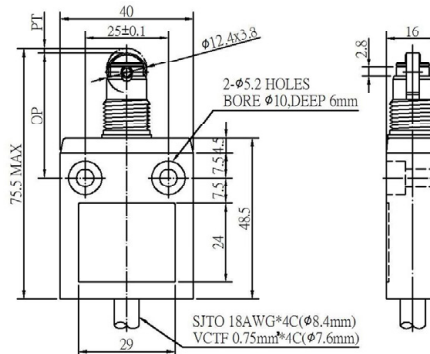
**M4-4112R**

OF MAX	1800g
RF MIN	450g
PT MAX	1.8mm
OT MIN	3mm
MD MAX	0.2mm
OP	34.3±1mm



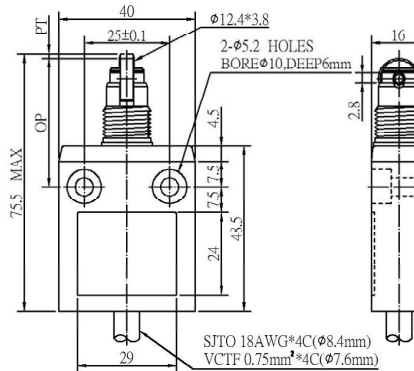
**M4-4310**

OF MAX	1200g
RF MIN	450g
PT MAX	1.8mm
OT MIN	3mm
MD MAX	0.2mm
OP	31.2±1mm



**M4-4311**

OF MAX	1200g
RF MIN	450g
PT MAX	1.8mm
OT MIN	3mm
MD MAX	0.2mm
OP	36.8±1mm



**M4-4312**

OF MAX	1200g
RF MIN	450g
PT MAX	1.8mm
OT MIN	3mm
MD MAX	0.2mm
OP	36.8±1mm


**M4-4111**

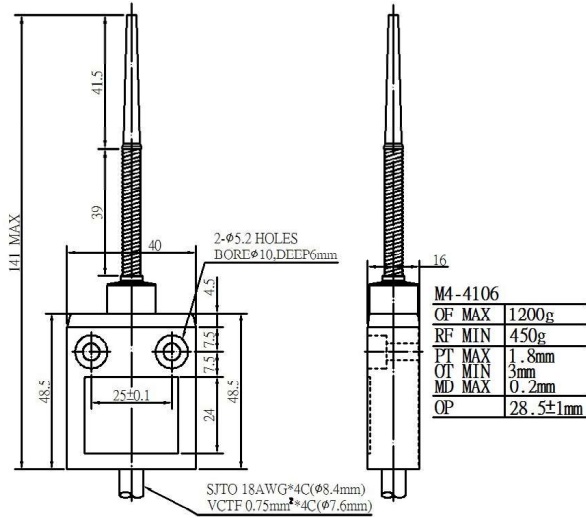
**M4-4112**

**M4-4112R**

**M4-4310**

**M4-4311**

**M4-4312**


**M4-4106**

### ◆ Handling and Usage

The bottom of the Switch at the cable outlet is resin-molded. Secure the cable at a point 5 cm from the Switch bottom to prevent exertion of excess force on the cable.

When bending the cable, provide a bending radius of 45 mm min. so as not to damage the cable insulation or sheath. Excessive bending may cause fire or leakage current.

