



# TFS Series

## Splash Proof Mid Size Snap-acting Switches



### Agency Approvals

Agency	Agency File Number
	E42363
	ENEC-03368

### Specifications

<b>Contact Rating/ Electrical Life</b>	0.1A @ 125/250 V AC	10,000 operations
	3A @ 125/250 VAC	10,000 operations
	6A @ 125/250 VAC	10,000 operations
	10A @ 125/250 VAC	10,000 operations
<b>Electrical Operating Frequency</b>	10-30 operations per min.	
<b>Mechanical Life</b>	1,000,000 operations	
<b>Mechanical Operating Frequency</b>	120 operations per min.	
<b>Insulation Resistance</b>	(at 500 VDC/minute) 100 M ohm min.	
<b>Dielectric Strength</b>	1500 VAC (50-60 Hz)	
<b>Operating Temperature</b>	-40°C to 85°C (with no icing)	
<b>Operating Force</b>	200 grams	

### Description

The TFS series are perfect for alarm devices, home security systems, air conditioners and food processors because of their reliability in the face of repeated use and difficult conditions. With a reliable snap action mechanism, TFS series splash proof mid size snap-acting switch offers designers the low cost/high-performance mix they need to be successful.

### Features & Benefits

- Reliable snap action mechanism
- Low cost - high performance
- RoHS compatible
- IP40

### Applications

- Alarm devices / Home security
- Air conditioner
- Food processor
- Water heaters
- Industrial
- Forklifts

### Materials

<b>Case</b>	Nylon
<b>Cover/Actuator</b>	PBT
<b>Movable Contacts</b>	Silver alloy
<b>Terminals</b>	Brass
<b>Lever</b>	Stainless steel
<b>Wire</b>	PVC+CU

#### Notes:

Specifications and materials listed above are for switches with standard options. For information on specific and custom switches, consult Customer Service center.

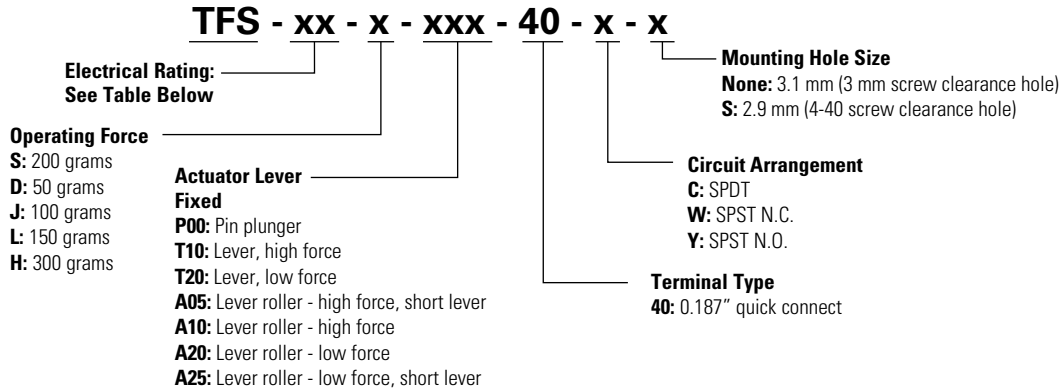
# TFS Series

## Splash Proof Mid Size Snap-acting Switches



### Ordering Number

To order, simply select desired option from each category and place in the appropriate box. For additional options not shown in catalog, consult Customer Service Center.

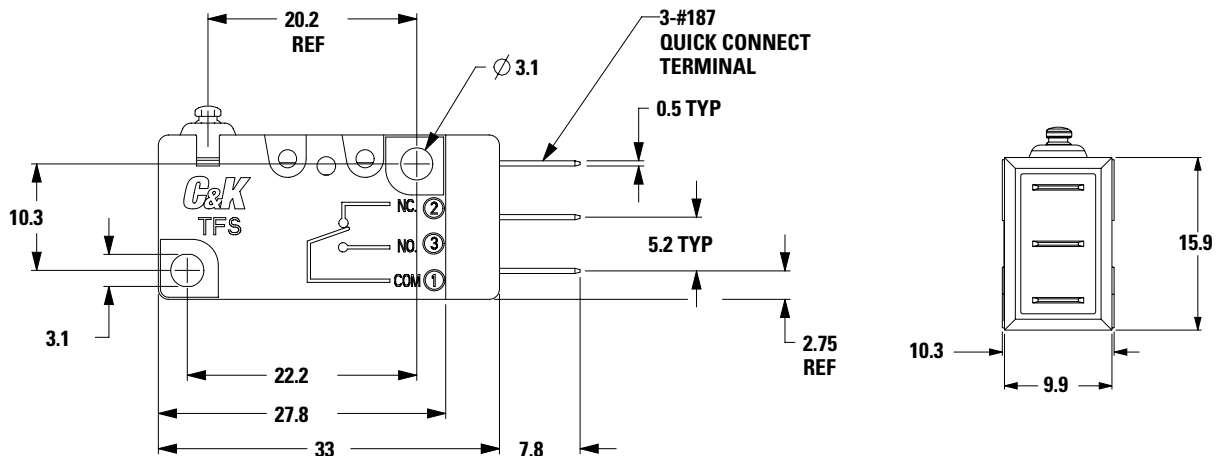


### Electrical Rating

Electrical Rating	AMPS (grams)	Operating Force				
		S (200)	D (50)	J (100)	L (150)	H (300)
01	0.1	•	•	•	•	•
03	3	•	•	•	•	•
06	6	•	•	•	•	•
10	10	•	X	X	X	•

**Note:**  
 • Available  
 X Not Available

### TFS Series Mid Size Snap-Acting Switches



# TFS Series

## Splash Proof Mid Size Snap-acting Switches



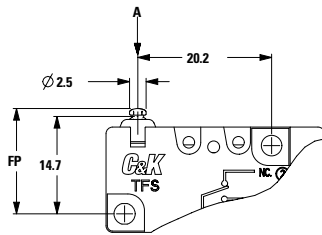
### Electrical Rating

Option Code	RoHS Compliant	RoHS Compatible	Electrical Rating
10	Yes		10A @ 125/250 V AC / 10,000 operations
06	Yes		6A @ 125/250 VAC / 10,000 operations
03	Yes		3A @ 125/250 VAC / 10,000 operations
01	Yes		0.1A @ 125/250 VAC / 10,000 operations

### Operating Force

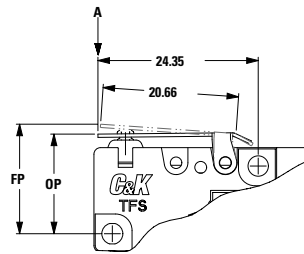
Option Code	Basic Switch Operating Force (grams)
S	200 grams
D	50 grams
J	100 grams
L	150 grams
H	300 grams

### P00 Push Button

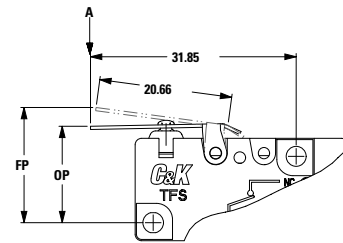


### Actuator

#### T10 Lever, High Force



#### T20 Lever, Low Force



Note: Measure at Point "A"

Max. Operating Force	200 grams
Min. Release Force	30 grams
Operating pos. OP	14.7 ± 0.4 mm
Max. movement diff.	0.4 mm
Min. over travel OT	1.2 mm
Min. pre-travel PT	1.0 mm

Max. Operating Force	160 grams
Min. Release Force	25 grams
Operating pos. OP	15.1 ± 0.6 mm
Max. movement diff.	0.6 mm
Min. over travel OT	2.6 mm
Min. pre-travel PT	1.1 mm

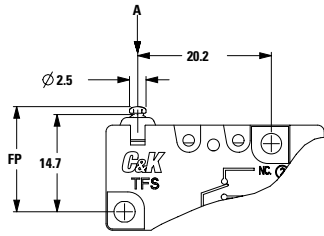
Max. Operating Force	90 grams
Min. Release Force	10 grams
Operating pos. OP	15 ± 1.1 mm
Max. movement diff.	1.1 mm
Min. over travel OT	5.1 mm
Min. pre-travel PT	1.2 mm

# TFS Series

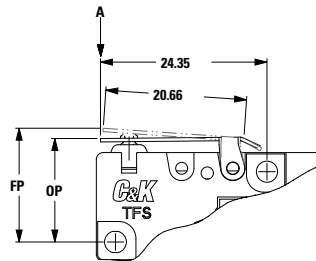
## Splash Proof Mid Size Snap-acting Switches



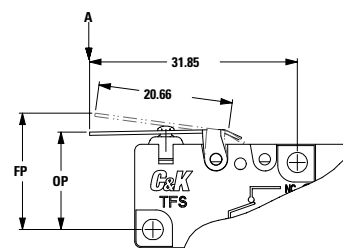
**A05 Lever Roller, High Force, Short Lever**



**A10 Lever Roller, High Force**



**A20 Lever Roller, Low Force**



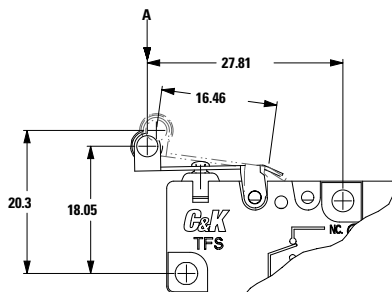
Note: Measure at Point "A"

<b>Max. Operating Force</b>	200 grams
<b>Min. Release Force</b>	30 grams
<b>Operating pos. OP</b>	20.6 ± 0.5 mm
<b>Max. movement diff.</b>	0.5 mm
<b>Min. over travel OT</b>	2.1 mm
<b>Min. pre-travel PT</b>	1.0 mm

<b>Max. Operating Force</b>	130 grams
<b>Min. Release Force</b>	20 grams
<b>Operating pos. OP</b>	20.4 ± 0.7 mm
<b>Max. movement diff.</b>	0.7 mm
<b>Min. over travel OT</b>	3.3 mm
<b>Min. pre-travel PT</b>	1.3 mm

<b>Max. Operating Force</b>	70 grams
<b>Min. Release Force</b>	10 grams
<b>Operating pos. OP</b>	20.2 ± 1.2 mm
<b>Max. movement diff.</b>	1.4 mm
<b>Min. over travel OT</b>	6.5 mm
<b>Min. pre-travel PT</b>	1.5 mm

**A25 Lever Roller, Low Force, Short Lever**



Note: Measure at Point "A"

<b>Max. Operating Force</b>	200 grams
<b>Min. Release Force</b>	30 grams
<b>Operating pos. OP</b>	20.6 ± 0.5 mm
<b>Max. movement diff.</b>	0.5 mm
<b>Min. pre-travel PT</b>	1.0 mm
<b>Min. over travel OT</b>	2.1 mm

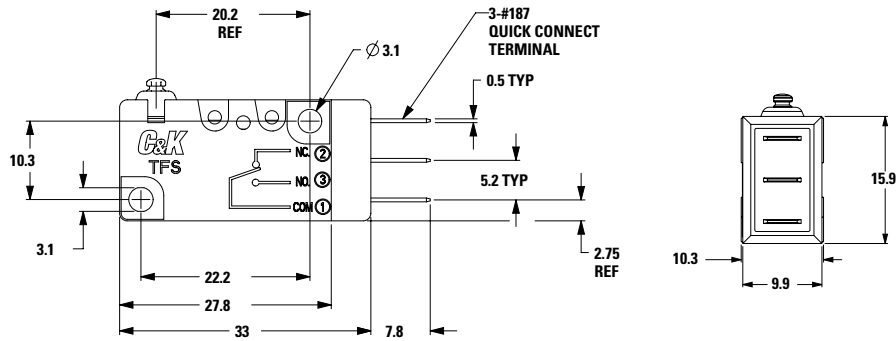
# TFS Series

## Splash Proof Mid Size Snap-acting Switches



### Terminal Type

#### 40 0.187" Quick Connect

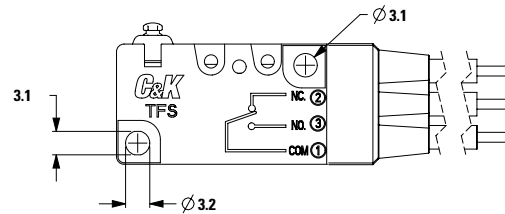


### Circuitry

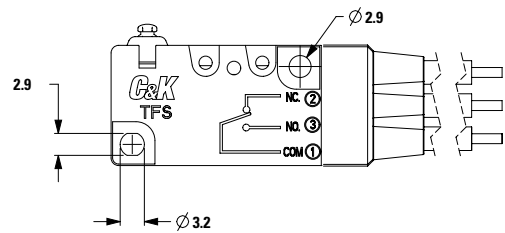
- C** SPDT (Single Pole, Double Throw)
- W** SPST N.C. (Single Pole, Single Throw Normally Closed)
- Y** SPST N.O. (Single Pole, Single Throw Normally Open)

### Mounting Hole Size

#### None 3.1 mm (3mm Screw Clearance Hole)



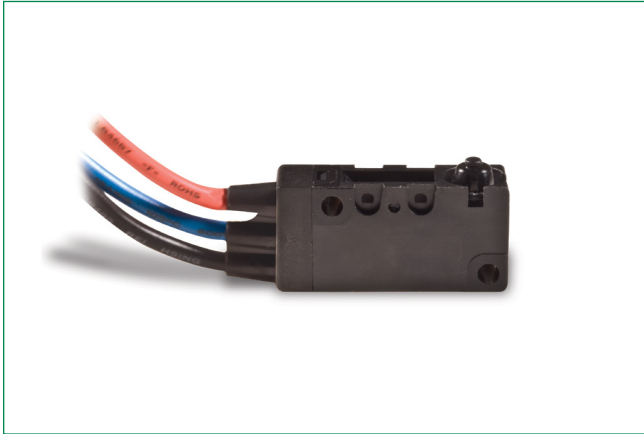
#### S 2.9 mm (4-40 Screw Clearance Hole)





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# TFS Series

## Water Proof Mid Size Snap-acting Switches



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### Specifications

<b>Contact Rating/ Electrical Life</b>	0.1A @ 125/250 V AC	10,000 operations
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	6A @ 125/250 VAC	10,000 operations
	10A @ 125/250 VAC	10,000 operations
<b>Electrical Operating Frequency</b>	10-30 operations per min.	
<b>Mechanical Life</b>	1,000,000 operations	
<b>Mechanical Operating Frequency</b>	120 operations per min.	
<b>Insulation Resistance</b>	(at 500 VDC/minute) 100 M ohm min.	
<b>Dielectric Strength</b>	1500 VAC (50-60 Hz)	
<b>Operating Temperature</b>	See wire type	
<b>Operating Force</b>	200 grams	

### Description

The TFS series are perfect for alarm devices, home security systems, air conditioners and food processors because of their reliability in the face of repeated use and difficult conditions. With a reliable snap action mechanism, the TFS series splash proof mid size snap-acting switch offers designers the low cost/high-performance mix they need to be successful.

### Features & Benefits

- IP67
- Reliable snap action mechanism
- Low cost - high performance
- RoHS compatible

### Applications

- Alarm devices / Home security
- Air conditioner
- Food processor
- Water heaters
- Industrial
- Forklifts

### Materials

<b>Case</b>	Nylon
<b>Cover/Actuator</b>	PBT
<b>Movable Contacts</b>	Silver alloy
<b>Terminals</b>	Brass
<b>Lever</b>	Stainless steel
<b>Wire</b>	PVC+CU

#### Notes:

Specifications and materials listed above are for switches with standard options. For information on specific and custom switches, consult Customer Service center.

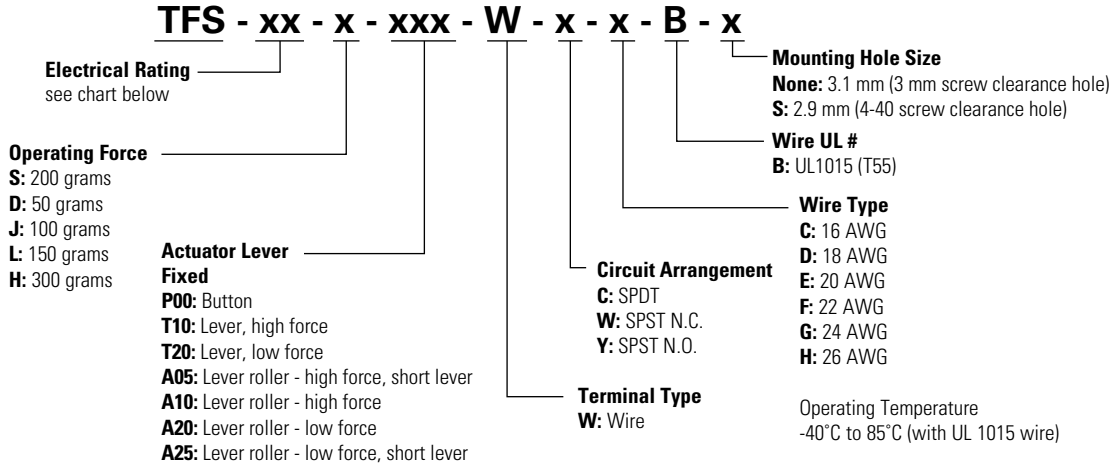
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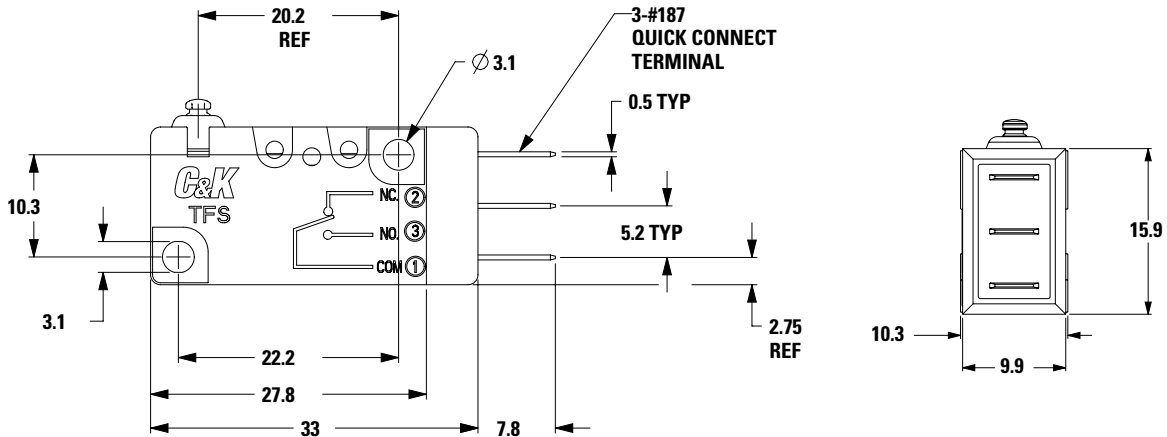
### Electrical Rating

Electrical Rating	AMPS	Wire Type				
		C 16 AWG	D 18 AWG	E 20 AWG	F 22 AWG	G 24 AWG, H 26 AWG
01	0.1	•	•	•	•	•
03	3	•	•	•	X	X
06	6	•	•	X	X	X
10	10	•	X	X	X	X

**Note:**  
 • Available  
 X Not Available

### TFS Series

#### Mid Size Snap-Acting Switches - Waterproof



# TFS Series

## Water Proof Mid Size Snap-acting Switches



### Electrical Rating

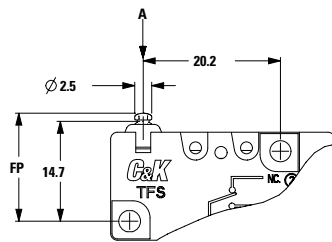
Option Code	RoHS Compliant	RoHS Compatible	Electrical Rating
10	Yes		10A @ 125/250 V AC / 10,000 operations
06	Yes		6A @ 125/250 VAC / 10,000 operations
03	Yes		3A @ 125/250 VAC / 10,000 operations
01	Yes		0.1A @ 125/250 VAC / 10,000 operations

### Operating Force

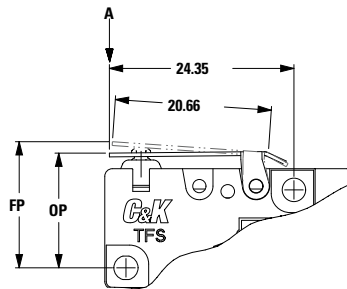
Option Code	Basic Switch Operating Force (grams)
S	200 grams
D	50 grams
J	100 grams
L	150 grams
H	300 grams

### Actuator

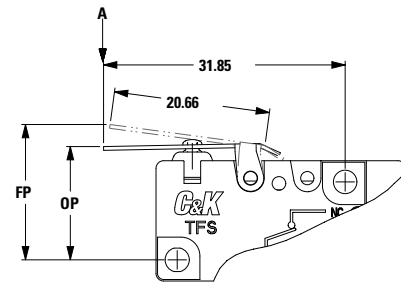
P00 Button



T10 Lever, High Force



T20 Lever, Low Force



Note: Measure at Point "A"

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Min. Release Force	30 grams
Operating pos. OP	14.7 ± 0.4 mm
Max. movement diff.	0.4 mm
Min. over travel OT	1.2 mm
Min. pre-travel PT	1.0 mm

Max. Operating Force	160 grams
Min. Release Force	25 grams
Operating pos. OP	15.1 ± 0.6 mm
Max. movement diff.	0.6 mm
Min. over travel OT	2.6 mm
Min. pre-travel PT	1.1 mm

Max. Operating Force	90 grams
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Operating pos. OP	15 ± 1.1 mm
Max. movement diff.	1.1 mm
Min. over travel OT	5.1 mm
Min. pre-travel PT	1.2 mm

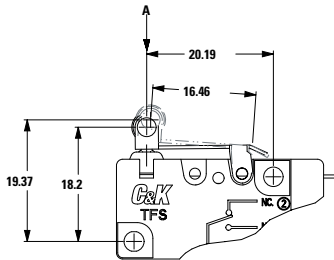


# TFS Series

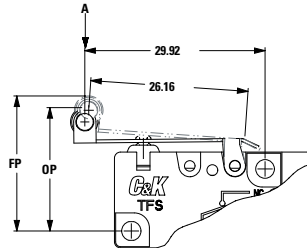
## Water Proof Mid Size Snap-acting Switches



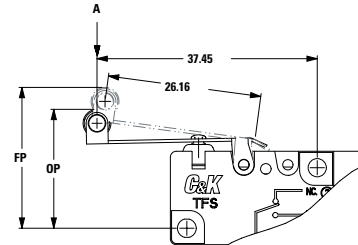
**A05 Lever Roller, High Force, Short Lever**



**A10 Lever Roller, High Force**



**A20 Lever Roller, Low Force**



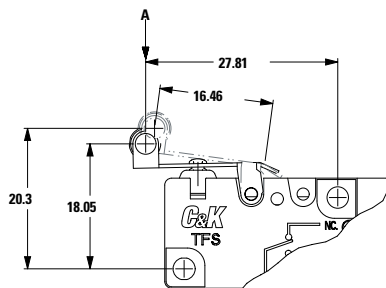
Note: Measure at Point "A"

<b>Max. Operating Force</b>	200 grams
<b>Min. Release Force</b>	30 grams
<b>Operating pos. OP</b>	20.6 ± 0.5 mm
<b>Max. movement diff.</b>	0.5 mm
<b>Min. over travel OT</b>	2.1 mm
<b>Min. pre-travel PT</b>	1.0 mm

<b>Max. Operating Force</b>	130 grams
<b>Min. Release Force</b>	20 grams
<b>Operating pos. OP</b>	20.4 ± 0.7 mm
<b>Max. movement diff.</b>	0.7 mm
<b>Min. over travel OT</b>	3.3 mm
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<b>Max. Operating Force</b>	70 grams
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<b>Operating pos. OP</b>	20.2 ± 1.2 mm
<b>Max. movement diff.</b>	1.4 mm
<b>Min. over travel OT</b>	6.5 mm
<b>Min. pre-travel PT</b>	1.5 mm

**A25 Lever Roller, Low Force, Short Lever**



Note: Measure at Point "A"

<b>Max. Operating Force</b>	150 grams
<b>Min. Release Force</b>	15 grams
<b>Operating pos. OP</b>	20.4 ± 0.9 mm
<b>Max. movement diff.</b>	0.9 mm
<b>Min. pre-travel PT</b>	1.2 mm
<b>Min. over travel OT</b>	4.2 mm

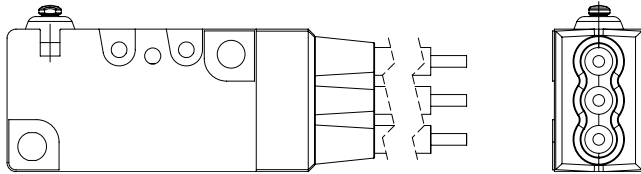
# TFS Series

## Water Proof Mid Size Snap-acting Switches



### Terminal Type

W Wire UL 1015



### Circuitry

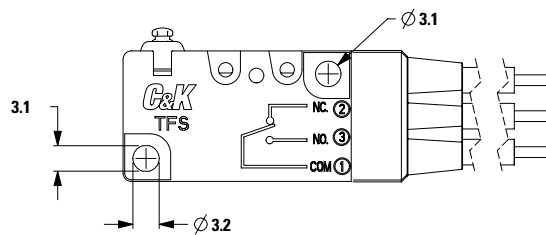
- C** SPDT (Single Pole, Double Throw)
- W** SPST N.C. (Single Pole, Single Throw Normally Closed)
- Y** SPST N.O. (Single Pole, Single Throw Normally Open)

### Wire Type

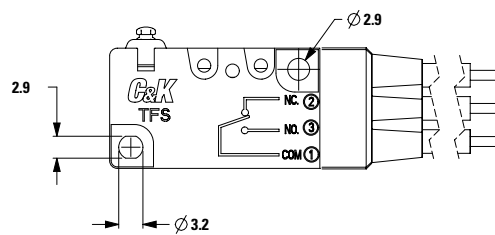
- C** 16 AWG
- D** 18 AWG
- E** 20 AWG
- F** 22 AWG
- G** 24 AWG
- H** 26 AWG

### Mounting Hole Size

#### None 3.1 mm (3mm Screw Clearance Hole)



#### S 2.9 mm (4-40 Screw Clearance Hole)



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