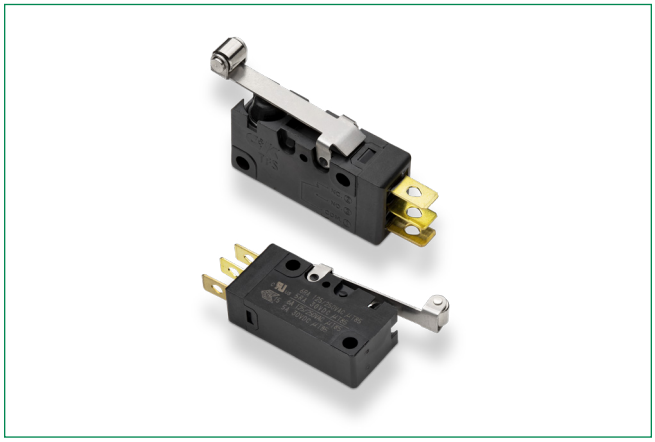
TFS Series

Splash Proof Mid Size Snap-acting Switches



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

Agency Approvals

Agency	Agency File Number
c UL us	E42363
15	ENEC-03368

Specifications

Contact Rating/ Electrical Life	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
Electrical Operating Frequency	10-30 operations per min.	
Mechanical Life	1,000,000 operations	
Mechanical Operating Frequency	120 operations per min.	
Insulation Resistance	(at 500 VDC/minute) 100 M ohm min.	
Dielectric Strength	1500 VAC (50-60 Hz)	
Operating Temperature	-40˚C to 85˚C (with no icing)	
Operating Force	200 grams	

Materials

Case	Nylon
Cover/Actuator	PBT
Movable Contacts	Silver alloy
Terminals	Brass
Lever	Stainless steel
Wire	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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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.

TFS - xx - x - xxx - 40 - x - x

Electrical Rating:
See Table Below

Operating Force
S: 200 grams
D: 50 grams
J: 100 grams
L: 150 grams
H: 300 grams

Actuator Lever
Fixed
P00: Pin plunger
T10: Lever, high force
T20: Lever, low force
A05: Lever roller - high force, short lever
A10: Lever roller - high force
A20: Lever roller - low force
A25: Lever roller - low force, short lever

Terminal Type
40: 0.187" quick connect

Circuit Arrangement
C: SPDT
W: SPST N.C.
Y: SPST N.O.

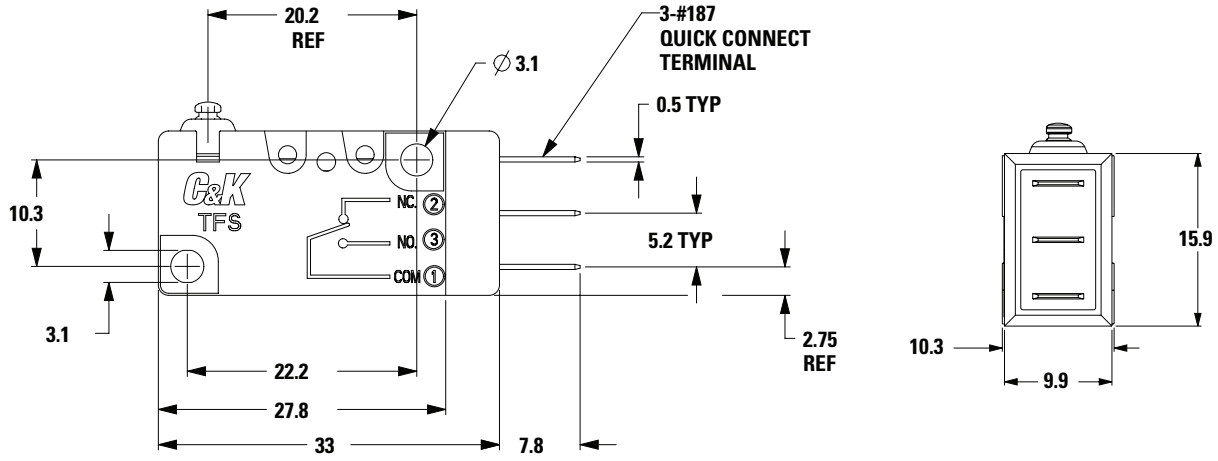
Mounting Hole Size
None: 3.1 mm (3 mm screw clearance hole)
S: 2.9 mm (4-40 screw clearance hole)

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



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TFS Series
Splash Proof Mid Size Snap-acting Switches

Electrical Rating

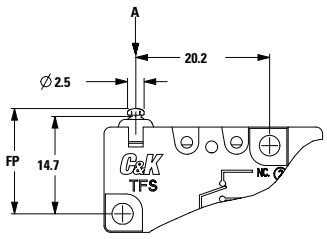
Option Code	RoHS Compliant	RoHS Compatible	Electrical Rating
10	Yes		10A @ 125/250 V AC / 10,000 operations
06	Yes		6A @ 125/250 VAC / 10,000 operations
03	Yes		3A @ 125/250 VAC / 10,000 operations
01	Yes		0.1A @ 125/250 VAC / 10,000 operations

Operating Force

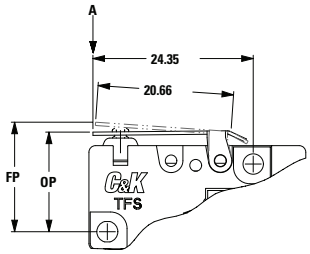
Option Code	Basic Switch Operating Force (grams)
S	200 grams
D	50 grams
J	100 grams
L	150 grams
H	300 grams

Actuator

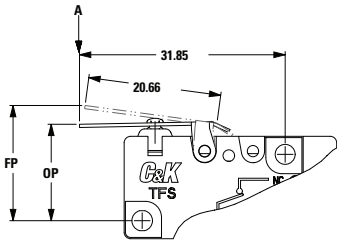
P00 Push Button



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	1.0 mm
Max. pre-travel PT	1.2 mm

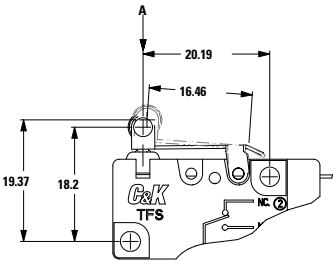
Max. Operating Force	160 grams
Min. Release Force	25 grams
Operating pos. OP	15.1 ± 0.6 mm
Max. movement diff.	0.6 mm
Min. over travel OT	1.1 mm
Max. pre-travel PT	2.6 mm

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	1.2 mm
Max. pre-travel PT	5.1 mm

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TFS Series
Splash Proof Mid Size Snap-acting Switches

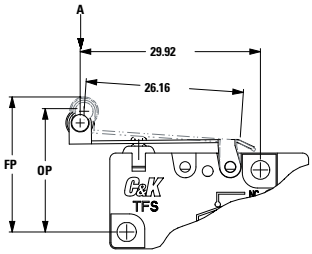
A05 Lever Roller, High Force, Short Lever



Note: Measure at Point "A"

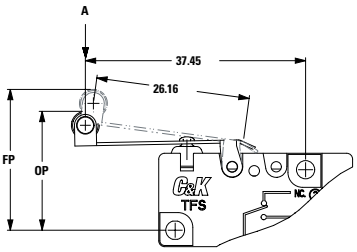
Max. Operating Force	200 grams
Min. Release Force	30 grams
Operating pos. OP	20.6 ± 0.5 mm
Max. movement diff.	0.5 mm
Min. over travel OT	1.0 mm
Max. pre-travel PT	2.1 mm

A10 Lever Roller, High Force



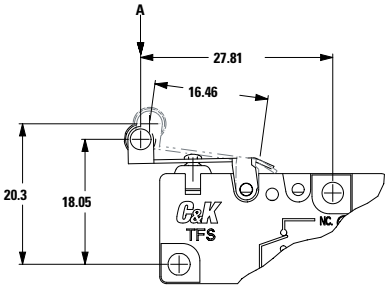
Max. Operating Force	130 grams
Min. Release Force	20 grams
Operating pos. OP	20.4 ± 0.7 mm
Max. movement diff.	0.7 mm
Min. over travel OT	1.3 mm
Max. pre-travel PT	3.3 mm

A20 Lever Roller, Low Force



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

A25 Lever Roller, Low Force, Short Lever



Note: Measure at Point "A"

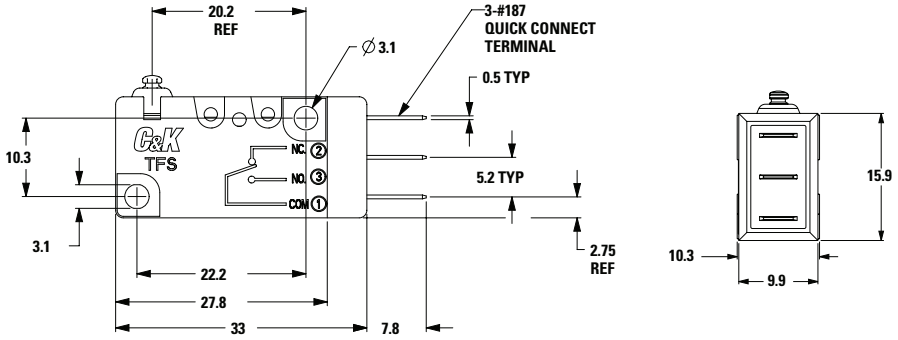
Max. Operating Force	200 grams
Min. Release Force	30 grams
Operating pos. OP	20.6 ± 0.5 mm
Max. movement diff.	0.5 mm
Min. pre-travel PT	2.1 mm
Max. over travel OT	1.0 mm

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TFS Series
Splash Proof Mid Size Snap-acting Switches

Terminal Type

40 0.187" Quick Connect

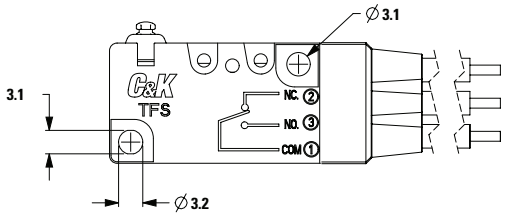


Circuitry

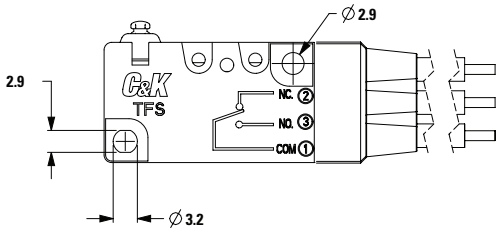
C SPDT (Single Pole, Double Throw)
W SPST N.C. (Single Pole, Single Throw Normally Closed)
Y SPST N.O. (Single Pole, Single Throw Normally Open)

Mounting Hole Size

None 3.1 mm (3mm Screw Clearance Hole



S 2.9 mm (4-40 Screw Clearance Hole)

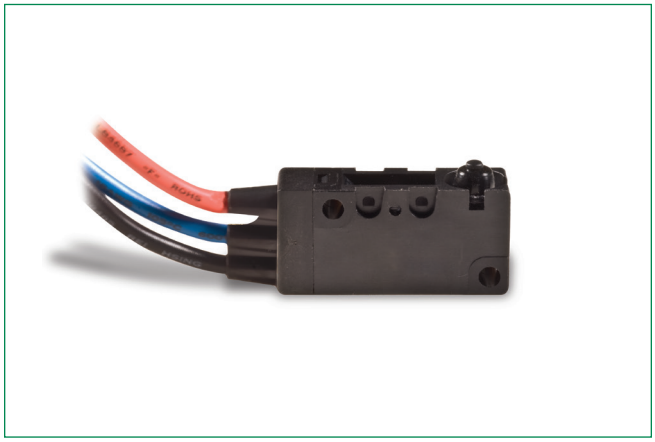


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TFS Series

Water Proof Mid Size Snap-acting Switches



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

Agency Approvals

Agency	Agency File Number
c UL us	E42363
15	ENEC-03368

Specifications

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

Materials

Case	Nylon
Cover/Actuator	PBT
Movable Contacts	Silver alloy
Terminals	Brass
Lever	Stainless steel
Wire	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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TFS Series
Water 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.

TFS - xx - x - xxx - W - x - x - B - x

Electrical Rating
see chart below

Operating Force
S: 200 grams
D: 50 grams
J: 100 grams
L: 150 grams
H: 300 grams

Actuator Lever
Fixed
P00: Button
T10: Lever, high force
T20: Lever, low force
A05: Lever roller - high force, short lever
A10: Lever roller - high force
A20: Lever roller - low force
A25: Lever roller - low force, short lever

Terminal Type
W: Wire

Circuit Arrangement
C: SPDT
W: SPST N.C.
Y: SPST N.O.

Wire Type
C: 16 AWG
D: 18 AWG
E: 20 AWG
F: 22 AWG
G: 24 AWG
H: 26 AWG

Operating Temperature
-40°C to 85°C (with UL 1015 wire)

Wire UL #
B: UL1015 (T55)

Mounting Hole Size
None: 3.1 mm (3 mm screw clearance hole)
S: 2.9 mm (4-40 screw clearance hole)

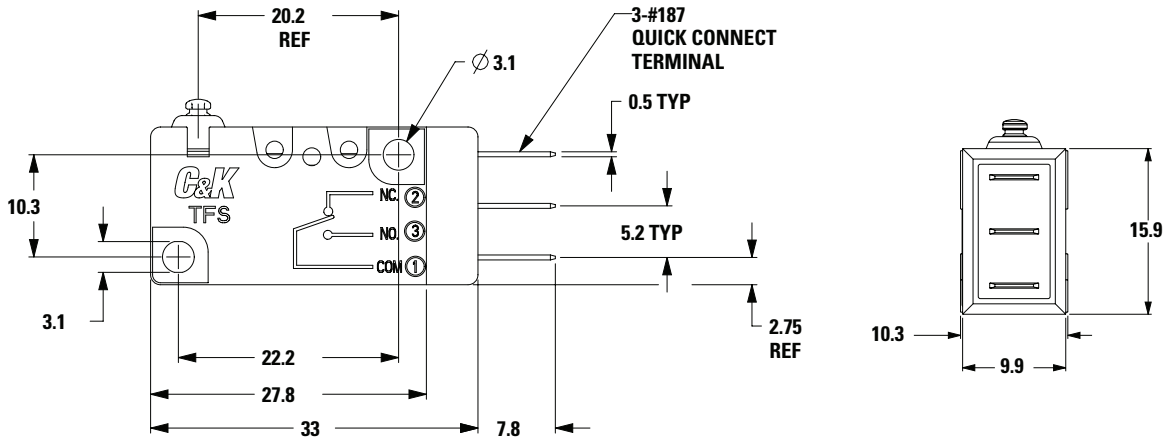
Electrical Rating

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



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TFS Series
Water Proof Mid Size Snap-acting Switches

Electrical Rating

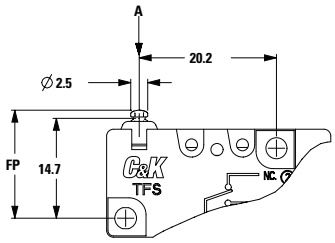
Option Code	RoHS Compliant	RoHS Compatible	Electrical Rating
10	Yes		10A @ 125/250 V AC / 10,000 operations
06	Yes		6A @ 125/250 VAC / 10,000 operations
03	Yes		3A @ 125/250 VAC / 10,000 operations
01	Yes		0.1A @ 125/250 VAC / 10,000 operations

Operating Force

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

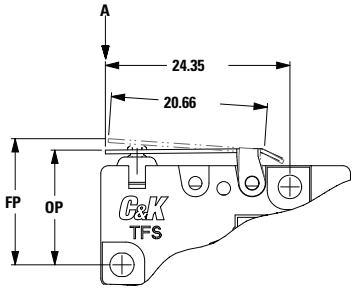
Actuator

P00 Button



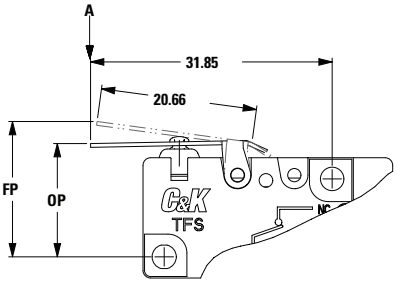
Max. Operating Force	200 grams
Min. Release Force	30 grams
Operating pos. OP	14.7 ± 0.4 mm
Max. movement diff.	0.4 mm
Min. over travel OT	1.2 mm
Min. pre-travel PT	1.0 mm

T10 Lever, High Force



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

T20 Lever, Low Force



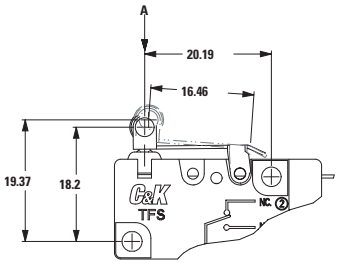
Max. Operating Force	90 grams
Min. Release Force	10 grams
Operating pos. OP	15 ± 1.1 mm
Max. movement diff.	1.1 mm
Min. over travel OT	5.1 mm
Min. pre-travel PT	1.2 mm

Note: Measure at Point "A"

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TFS Series
Water Proof Mid Size Snap-acting Switches

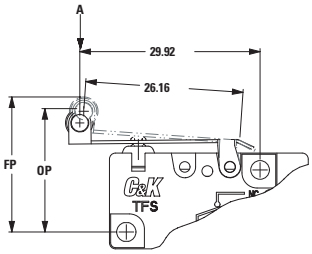
A05 Lever Roller, High Force, Short Lever



Note: Measure at Point "A"

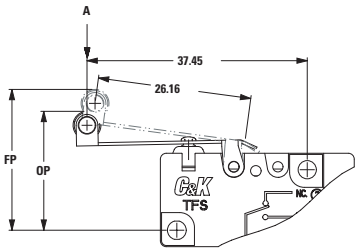
Max. Operating Force	200 grams
Min. Release Force	30 grams
Operating pos. OP	20.6 ± 0.5 mm
Max. movement diff.	0.5 mm
Min. over travel OT	2.1 mm
Min. pre-travel PT	1.0 mm

A10 Lever Roller, High Force



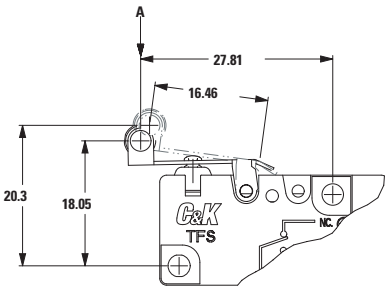
Max. Operating Force	130 grams
Min. Release Force	20 grams
Operating pos. OP	20.4 ± 0.7 mm
Max. movement diff.	0.7 mm
Min. over travel OT	3.3 mm
Min. pre-travel PT	1.3 mm

A20 Lever Roller, Low Force



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

A25 Lever Roller, Low Force, Short Lever



Note: Measure at Point "A"

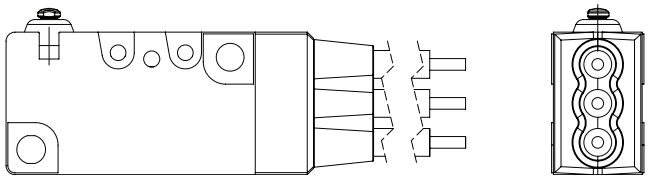
Max. Operating Force	150 grams
Min. Release Force	15 grams
Operating pos. OP	20.4 ± 0.9 mm
Max. movement diff.	0.9 mm
Min. pre-travel PT	1.2 mm
Min. over travel OT	4.2 mm

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TFS Series
Water Proof Mid Size Snap-acting Switches

Terminal Type

W Wire UL 1015



Circuitry

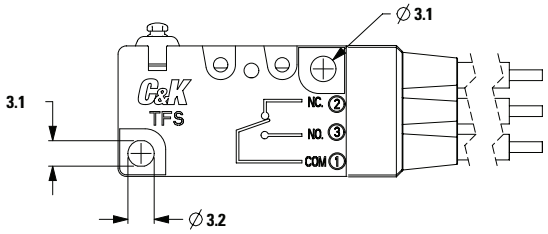
C SPDT (Single Pole, Double Throw)
W SPST N.C. (Single Pole, Single Throw Normally Closed)
Y SPST N.O. (Single Pole, Single Throw Normally Open)

Wire Type

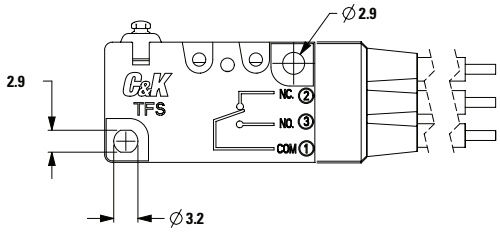
C 16 AWG
D 18 AWG
E 20 AWG
F 22 AWG
G 24 AWG
H 26 AWG

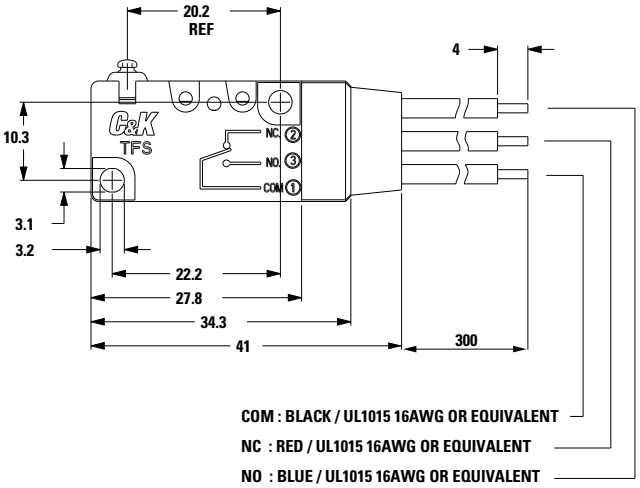
Mounting Hole Size

None 3.1 mm (3mm Screw Clearance Hole)



S 2.9 mm (4-40 Screw Clearance Hole)





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