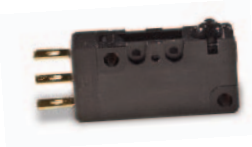


# TFS Series

## Sealed Miniature Snap-acting Switches



### Features/Benefits

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

### Typical Applications

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



### Specifications

CONTACT RATING / ELECTRICAL LIFE:

- 0.1A @ 125/250 V AC / 100,000 operations
- 3A @ 125/250 VAC / 25,000 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: 10,000,000 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)

STORAGE TEMPERATURE: -25°C to 85°C (with no icing)

STORAGE HUMIDITY: At 40°C max. 85% RH

OPERATING FORCE: 200 grams.

### Materials

CASE: Nylon

COVER: PBT

ACTUATOR: Brass

MOVABLE CONTACTS: Silver alloy.

TERMINALS: Brass.

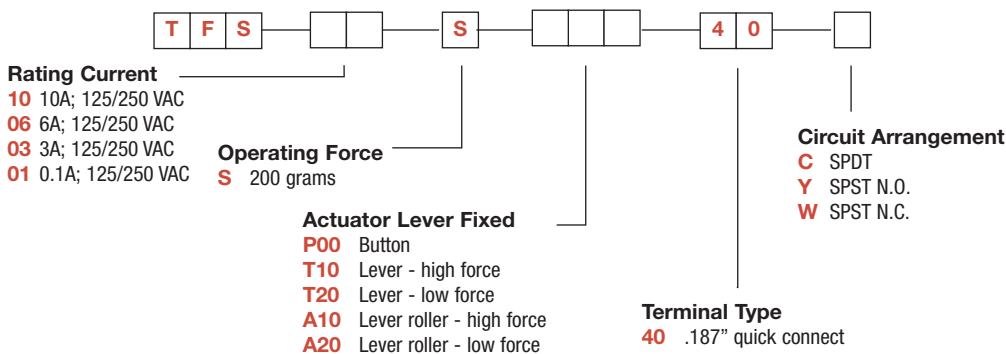
LEVER: Stainless steel

WIRE: PVC+CU

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

### Build-A-Switch

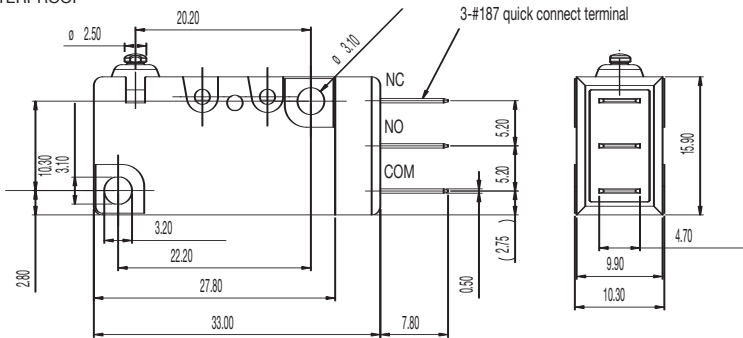
To order, simply select desired option from each category and place in the appropriate box. Available options are shown and described on pages J-73 thru J-75. For additional options not shown in catalog, consult Customer Service Center.



# TFS Series Sealed Miniature Snap-acting Switches

## SERIES

**TFS** SUB-MINIATURE SNAP-ACTING SWITCHES – WATERPROOF



## ELECTRICAL RATING

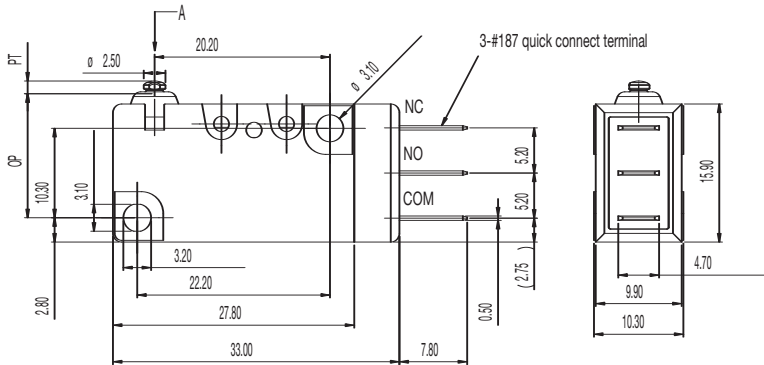
| OPTION CODE | RoHS COMPLIANT | RoHS COMPATIBLE | ELECTRICAL RATING                       |
|-------------|----------------|-----------------|-----------------------------------------|
| <b>10</b>   | Yes            | Yes             | 10A @ 125/250 V AC / 10,000 operations  |
| <b>06</b>   | Yes            | Yes             | 6A @ 125/250 VAC / 10,000 operations    |
| <b>03</b>   | Yes            | Yes             | 3A @ 125/250 VAC / 25,000 operations    |
| <b>01</b>   | Yes            | Yes             | 0.1A @ 125/250 VAC / 100,000 operations |

## OPERATING FORCE

| OPTION CODE | BASIC SWITCH OPERATING FORCE |
|-------------|------------------------------|
| <b>S</b>    | 200 GRAMS                    |

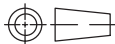
## ACTUATOR

**P00** BUTTON



Measure at Point "A"

|                            |               |
|----------------------------|---------------|
| Max. operating force       | 200 grams     |
| Min. release force         | 30 grams      |
| Operating position OP      | 14.7 ± 0.4 mm |
| Max. movement differential | 0.4 mm        |
| Min. over travel OT        | 1.0 mm        |
| Max. pre-travel PT         | 1.2 mm        |



Third Angle  
Projection

Dimensions are shown: mm  
Specifications and dimensions subject to change

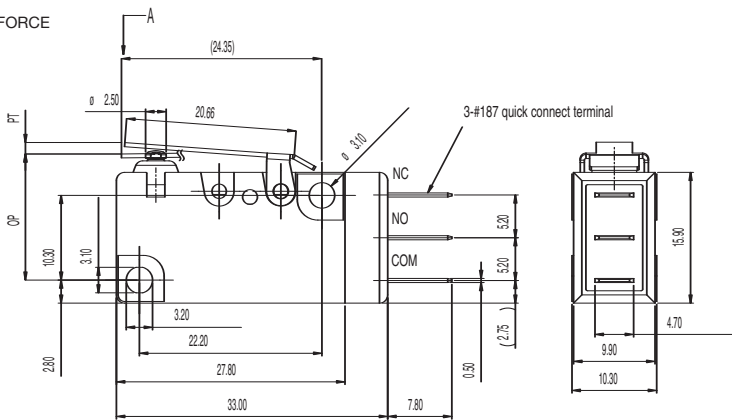


Snap-acting

# TFS Series Sealed Miniature Snap-acting Switches

ACTUATOR

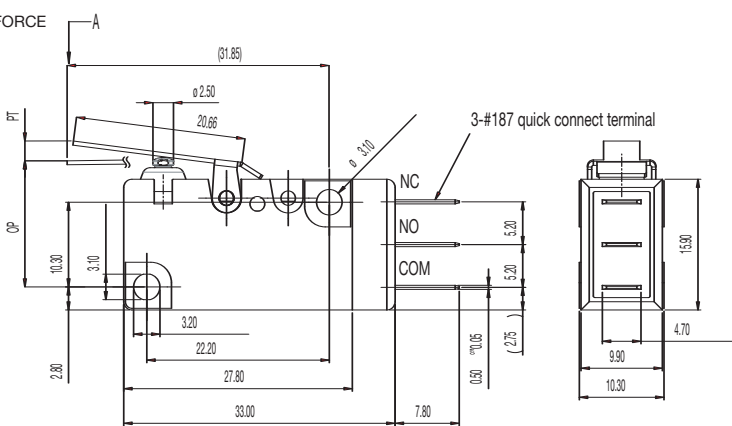
**T10** LEVER, HIGH FORCE



Measure at Point “A”

|                            |               |
|----------------------------|---------------|
| Max. operating force       | 160 grams     |
| Min. release force         | 25 grams      |
| Operating position OP      | 15.1 ± 0.6 mm |
| Max. movement differential | 0.6 mm        |
| Min. over travel OT        | 1.1 mm        |
| Max. pre-travel PT         | 2.6 mm        |

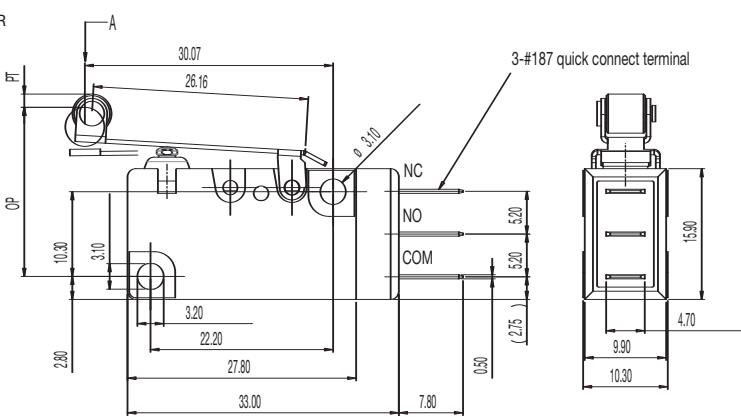
**T20** LEVER, LOW FORCE



Measure at Point “A”

|                            |             |
|----------------------------|-------------|
| Max. operating force       | 90 grams    |
| Min. release force         | 10 grams    |
| Operating position OP      | 15 ± 1.1 mm |
| Max. movement differential | 1.1 mm      |
| Min. over travel OT        | 1.2 mm      |
| Max. pre-travel PT         | 5.1 mm      |

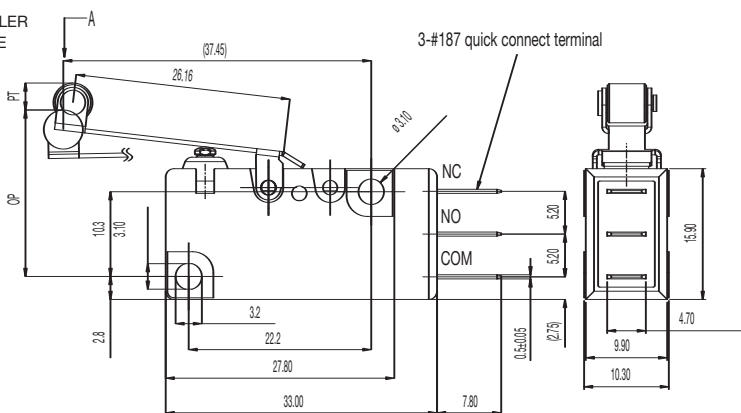
**A10** LEVER ROLLER  
HIGH FORCE



Measure at Point “A”

|                            |               |
|----------------------------|---------------|
| Max. operating force       | 130 grams     |
| Min. release force         | 20 grams      |
| Operating position OP      | 20.4 ± 0.7 mm |
| Max. movement differential | 0.7 mm        |
| Min. over travel OT        | 1.3 mm        |
| Max. pre-travel PT         | 3.3 mm        |

**A20** LEVER ROLLER  
LOW FORCE



Measure at Point “A”

|                            |               |
|----------------------------|---------------|
| Max. operating force       | 70 grams      |
| Min. release force         | 10 grams      |
| Operating position OP      | 20.2 ± 1.2 mm |
| Max. movement differential | 1.4 mm        |
| Min. over travel OT        | 1.5 mm        |
| Max. pre-travel PT         | 6.5 mm        |

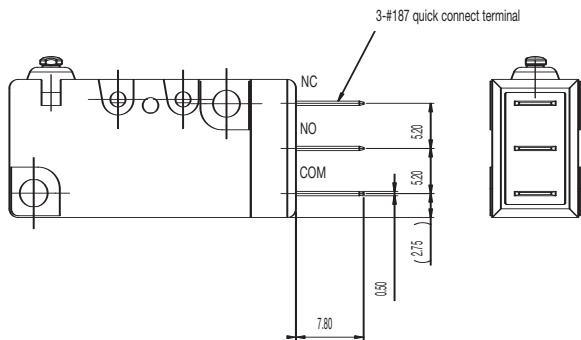


Dimensions are shown: mm  
Specifications and dimensions subject to change

# TFS Series Sealed Miniature Snap-acting Switches

## TERMINAL TYPE

40 .187" QUICK CONNECT



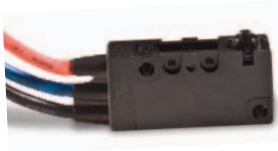
## CIRCUITRY

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

  
Snap-acting

# TFS Series

## Sealed Miniature Snap-acting Switches (Water Proof)



### Features/Benefits

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

### Typical Applications

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



### Specifications

#### CONTACT RATING / ELECTRICAL LIFE:

- 0.1A @ 125/250 V AC / 100,000 operations
- 3A @ 125/250 VAC / 25,000 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: 10,000,000 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

STORAGE TEMPERATURE: -25°C to 85°C (with no icing)

STORAGE HUMIDITY: At 40°C max. 85% RH

OPERATING FORCE: 200 grams.

### Materials

CASE: Nylon

COVER: PBT

ACTUATOR:PBT

MOVABLE CONTACTS: Silver alloy.

TERMINALS: Brass.

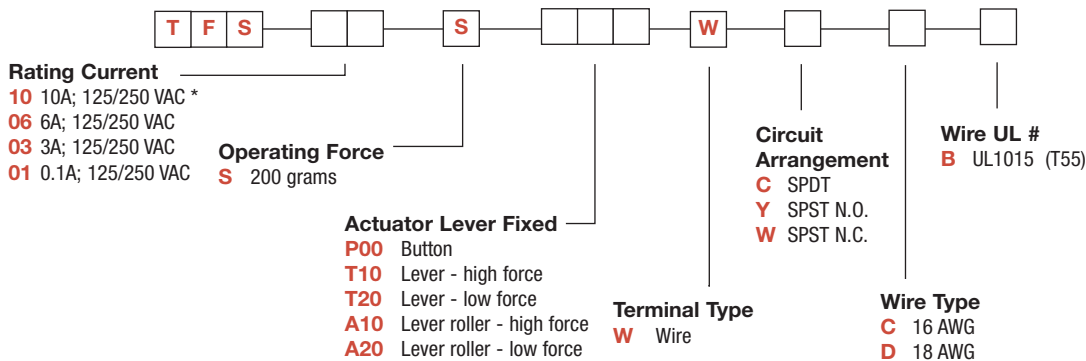
LEVER: Stainless steel

WIRE: PVC+CU

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

### Build-A-Switch

To order, simply select desired option from each category and place in the appropriate box. Available options are shown and described on pages J-77 thru J-79. For additional options not shown in catalog, consult Customer Service Center.



\* Note: 10A rating is only available with 16 AWG wires.

#### OPERATING TEMPERATURE

- 40°C to + 85°C (with UL1007 wire)
- 40°C to + 105°C (with UL1015 wire)
- 40°C to + 105°C (with UL1430 wire)
- 40°C to + 80°C (with UL1061 wire)
- 40°C to + 120°C (with UL1330 wire)

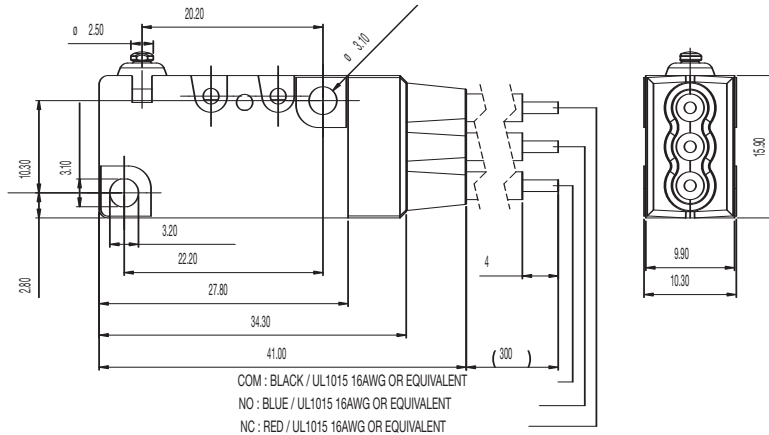


Dimensions are shown: mm  
Specifications and dimensions subject to change

# TFS Series Sealed Miniature Snap-acting Switches (Water Proof)

## SERIES

**TFS** SUB-MINIATURE SNAP-ACTING SWITCHES



## ELECTRICAL RATING

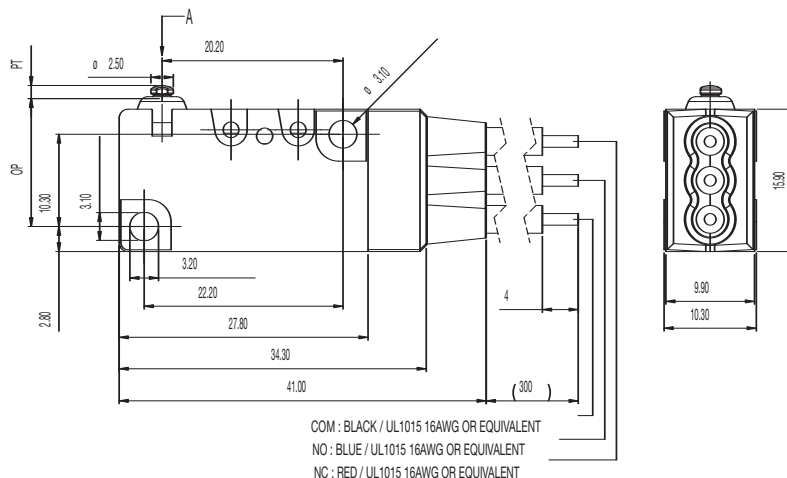
| OPTION CODE | RoHS COMPLIANT | RoHS COMPATIBLE | ELECTRICAL RATING                       |
|-------------|----------------|-----------------|-----------------------------------------|
| <b>10</b>   | Yes            | Yes             | 10A @ 125/250 V AC / 10,000 operations  |
| <b>06</b>   | Yes            | Yes             | 6A @ 125/250 VAC / 10,000 operations    |
| <b>03</b>   | Yes            | Yes             | 3A @ 125/250 VAC / 25,000 operations    |
| <b>01</b>   | Yes            | Yes             | 0.1A @ 125/250 VAC / 100,000 operations |

## OPERATING FORCE

| OPTION CODE | BASIC SWITCH OPERATING FORCE |
|-------------|------------------------------|
| <b>S</b>    | 200 GRAMS                    |

## ACTUATOR

**P00** BUTTON



### Measure at Point "A"

|                            |               |
|----------------------------|---------------|
| Max. operating force       | 200 grams     |
| Min. release force         | 30 grams      |
| Operating position OP      | 14.7 ± 0.4 mm |
| Max. movement differential | 0.4 mm        |
| Min. over travel OT        | 1.0 mm        |
| Max. pre-travel PT         | 1.2 mm        |



Dimensions are shown: mm  
Specifications and dimensions subject to change

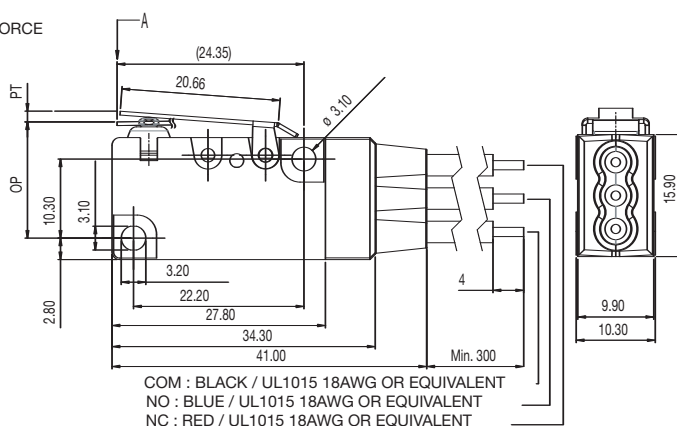


Snap-acting

# TFS Series Sealed Miniature Snap-acting Switches (Water Proof)

## ACTUATOR

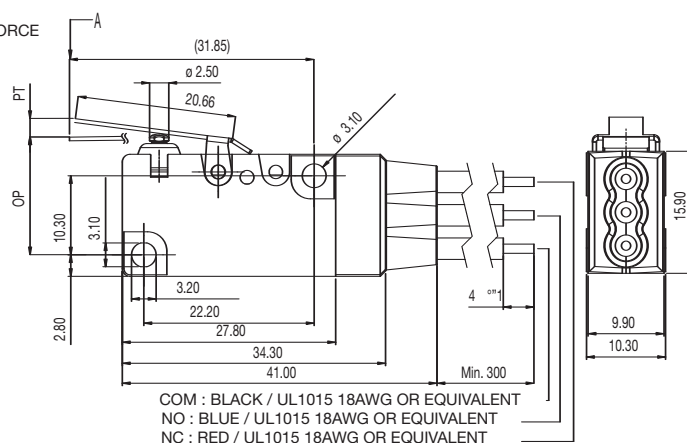
### T10 LEVER, HIGH FORCE



#### Measure at Point "A"

|                            |                   |
|----------------------------|-------------------|
| Max. operating force       | 160 grams         |
| Min. release force         | 25 grams          |
| Operating position OP      | 15.1 $\pm$ 0.6 mm |
| Max. movement differential | 0.6 mm            |
| Min. over travel OT        | 1.1 mm            |
| Max. pre-travel PT         | 2.6 mm            |

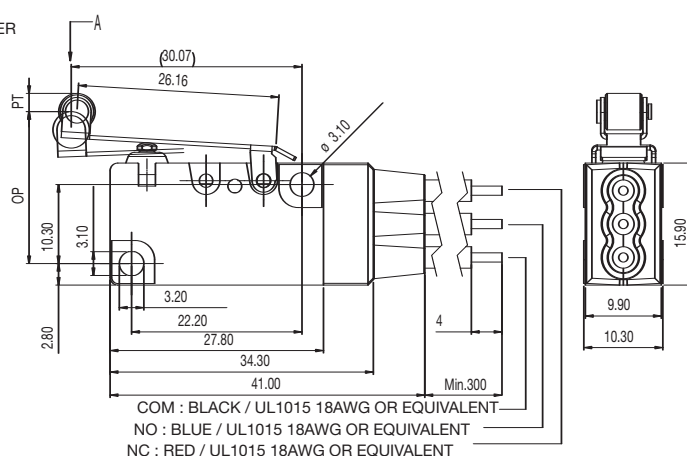
### T20 LEVER, LOW FORCE



#### Measure at Point "A"

|                            |                 |
|----------------------------|-----------------|
| Max. operating force       | 90 grams        |
| Min. release force         | 10 grams        |
| Operating position OP      | 15 $\pm$ 1.1 mm |
| Max. movement differential | 1.1 mm          |
| Min. over travel OT        | 1.2 mm          |
| Max. pre-travel PT         | 5.1 mm          |

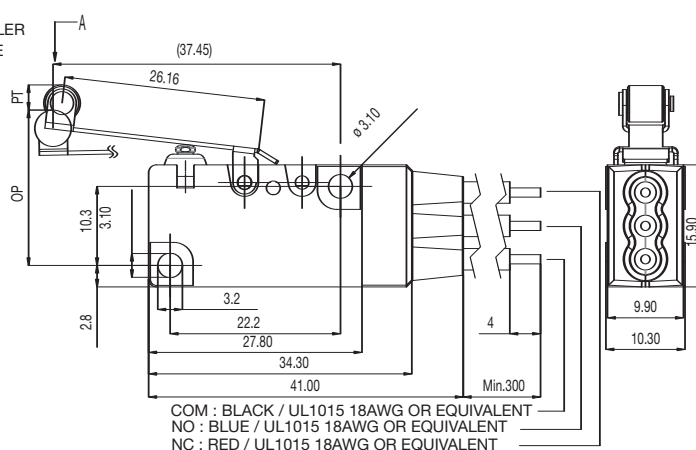
### A10 LEVER ROLLER HIGH FORCE



#### Measure at Point "A"

|                            |                   |
|----------------------------|-------------------|
| Max. operating force       | 130 grams         |
| Min. release force         | 20 grams          |
| Operating position OP      | 20.4 $\pm$ 0.7 mm |
| Max. movement differential | 0.7 mm            |
| Min. over travel OT        | 1.3 mm            |
| Max. pre-travel PT         | 3.3 mm            |

### A20 LEVER ROLLER LOW FORCE



#### Measure at Point "A"

|                            |                   |
|----------------------------|-------------------|
| Max. operating force       | 70 grams          |
| Min. release force         | 10 grams          |
| Operating position OP      | 20.2 $\pm$ 1.2 mm |
| Max. movement differential | 1.4 mm            |
| Min. over travel OT        | 1.5 mm            |
| Max. pre-travel PT         | 6.5 mm            |



Dimensions are shown: mm  
Specifications and dimensions subject to change

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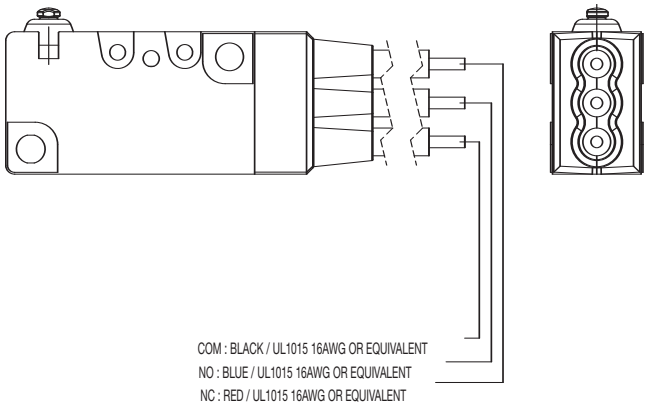
TFS Series

Sealed Miniature Snap-acting Switches (Water Proof)

TERMINAL TYPE

W

WIRE UL1015



CIRCUITRY

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

WIRE TYPE

- C
- 16 AWG
- D
- 18 AWG

Snap-acting

# Mouser Electronics

Authorized Distributor

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## C&K Switches:

[TFS10SA10WWCB](#) [TFS10SA10WYCB](#) [TFS06SA10WWCB](#) [TFS06SA10WYCB](#) [TFS06SP00WYDB](#)  
[TFS01SP00WWCB](#) [TFS01SP00WWDB](#)