

# TFS Series Splash Proof Mid Size Snap-acting Switches



## Features/Benefits

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

## Typical Applications

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

UL61058-1  

## 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: 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.

Snap-acting

## Build-A-Switch

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	•

- Available
- X Not available

### 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

### Circuit Arrangement

- C SPDT
- Y SPST N.O.
- W SPST N.C.

### Mounting Hole Size

- NONE 3.1 mm (3 mm screw clearance hole)
- S 2.9 mm (4-40 screw clearance hole)

### Terminal Type

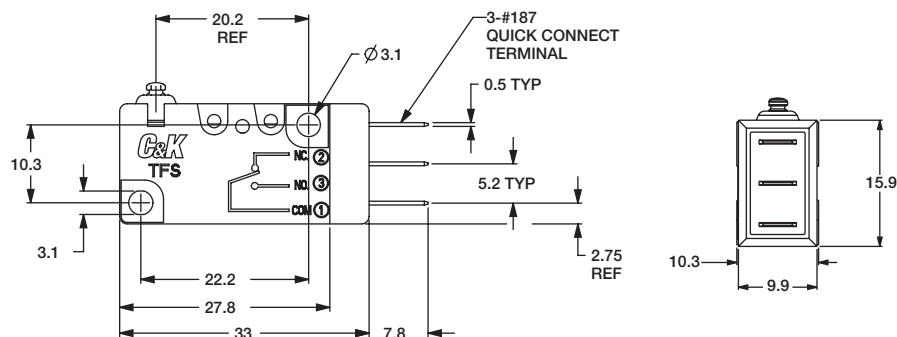
- 40 .187" quick connect



# TFS Series Splash Proof Mid Size Snap-acting Switches

## SERIES

**TFS** MID SIZE SNAP-ACTING SWITCHES

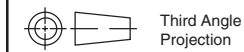


## ELECTRICAL RATING

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 / 10,000 operations
<b>01</b>	Yes	Yes	0.1A @ 125/250 VAC / 10,000 operations

## OPERATING FORCE

OPTION CODE	BASIC SWITCH OPERATING FORCE
<b>S</b>	200 GRAMS
<b>D</b>	50 grams
<b>J</b>	100 grams
<b>L</b>	150 grams
<b>H</b>	300 grams



Dimensions are shown: mm  
Specifications and dimensions subject to change

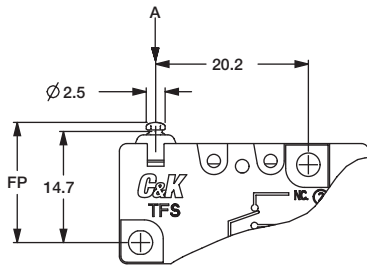


Snap-acting

# TFS Series Splash Proof Mid Size Snap-acting Switches

## ACTUATOR

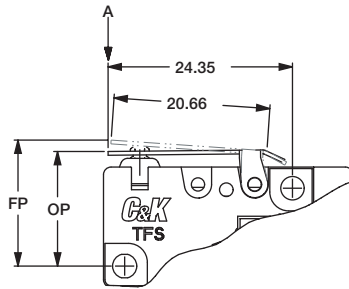
**P00** BUTTON



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

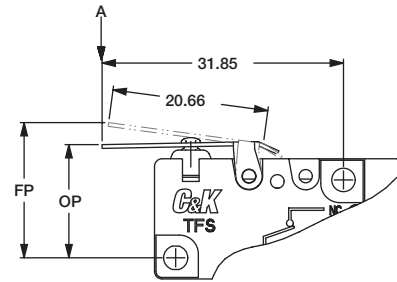
**T10** LEVER, HIGH FORCE



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

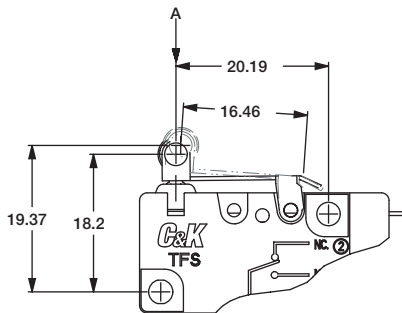
**T20** LEVER, LOW FORCE



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

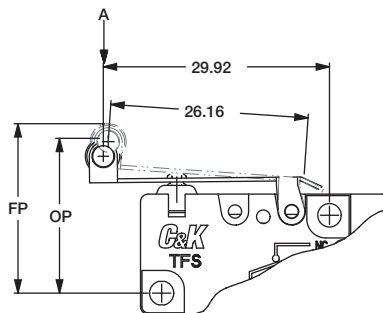
**A05** LEVER ROLLER  
HIGH FORCE, SHORT LEVER



Measure at Point "A"

Max. operating force	200 grams
Min. release force	30 grams
Operating position OP	20.6 ± 0.5 mm
Max. movement differential	0.5 mm
Min. over travel OT	1.0 mm
Max. pre-travel PT	2.1 mm

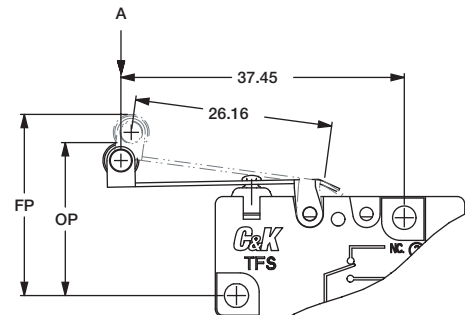
**A10** LEVER ROLLER  
HIGH FORCE



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

Snap-acting



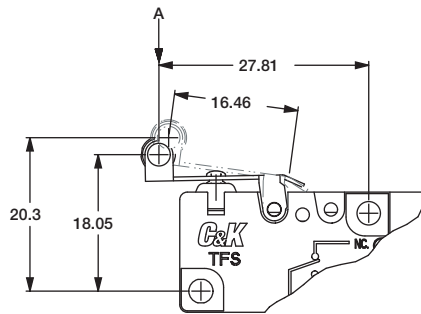
Third Angle  
Projection

Dimensions are shown: mm  
Specifications and dimensions subject to change

# TFS Series Splash Proof Mid Size Snap-acting Switches

## ACTUATOR

**A25** LEVER ROLLER  
LOW FORCE, SHORT LEVER

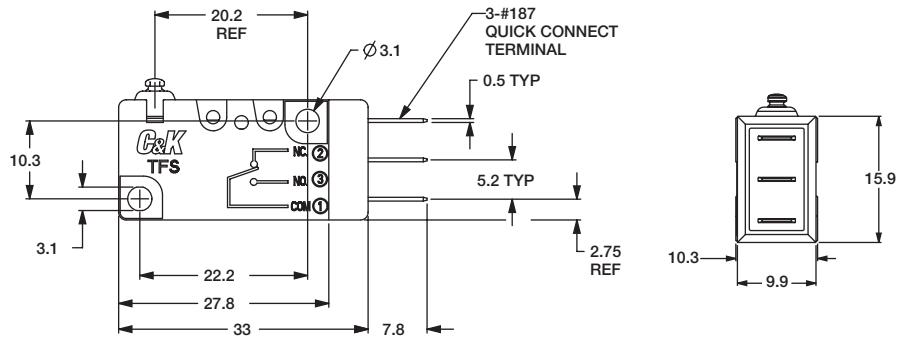


Measure at Point "A"

Max. operating force	150 grams
Min. release force	15 grams
Operating position OP	20.4 ± 0.9 mm
Max. movement differential	0.9 mm
Min. over travel OT	1.2 mm
Max. pre-travel PT	4.2 mm

## TERMINAL TYPE

**40** .187" QUICK CONNECT



Snap-acting

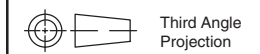
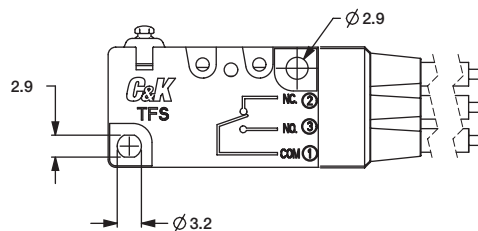
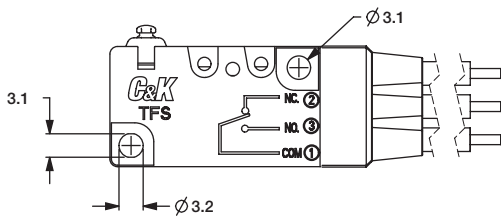
## CIRCUITRY

- 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)

## MOUNTING HOLE SIZE

**NONE** 3.1 mm (3mm SCREW CLEARANCE HOLE)

**S** 2.9 mm (4-40 SCREW CLEARANCE HOLE)



Dimensions are shown: mm  
Specifications and dimensions subject to change

# TFS Series

## Sealed Mid Size 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

UL61058-1



### 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: 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.

Snap-acting

### Build-A-Switch

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**  
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
- Y** SPST N.O.
- W** SPST N.C.

**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	AMPS	WIRE TYPE					
		C 16AWG	D 18AWG	E 20AWG	F 22AWG	G 24AWG	H 26AWG
01	0.1	•	•	•	•	•	•
03	3	•	•	•	X	X	X
06	6	•	•	X	X	X	X
10	10	•	X	X	X	X	X

**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 UL1015 wire)

• Available  
X Not available

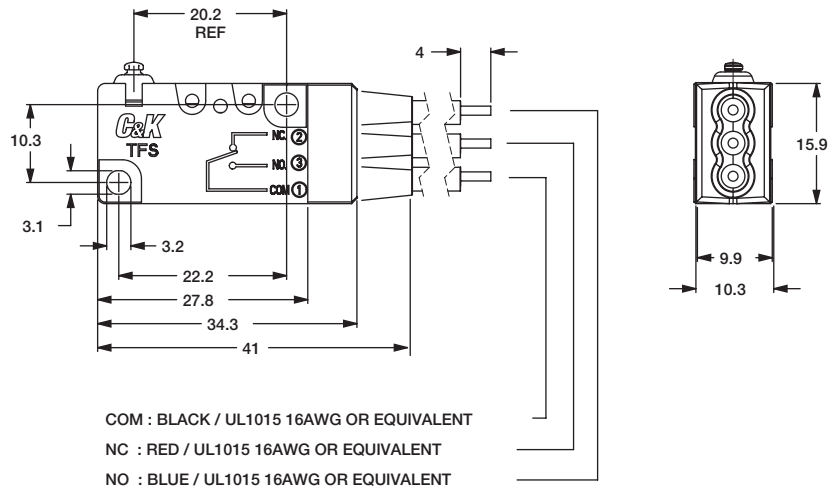


Dimensions are shown: mm  
Specifications and dimensions subject to change

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

## SERIES

**TFS** MID SIZE 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 / 10,000 operations
<b>01</b>	Yes	Yes	0.1A @ 125/250 VAC / 10,000 operations

## OPERATING FORCE

OPTION CODE	BASIC SWITCH OPERATING FORCE
<b>S</b>	200 GRAMS
<b>D</b>	50 grams
<b>J</b>	100 grams
<b>L</b>	150 grams
<b>H</b>	300 grams



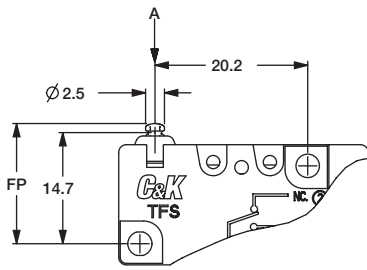
Dimensions are shown: mm  
 Specifications and dimensions subject to change



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

## ACTUATOR

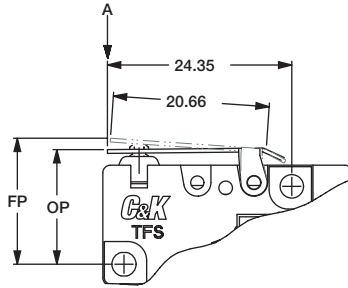
**P00** BUTTON



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

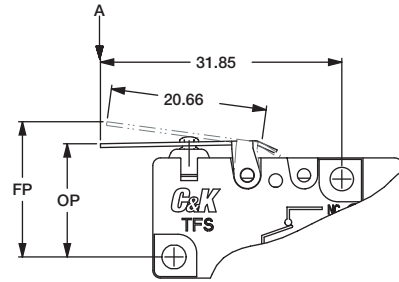
**T10** LEVER, HIGH FORCE



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

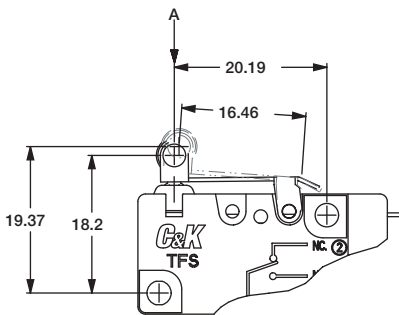
**T20** LEVER, LOW FORCE



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

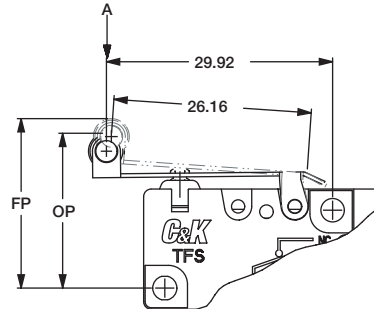
**A05** LEVER ROLLER  
HIGH FORCE, SHORT LEVER



Measure at Point "A"

Max. operating force	200 grams
Min. release force	30 grams
Operating position OP	20.6 ± 0.5 mm
Max. movement differential	0.5 mm
Min. over travel OT	1.0 mm
Max. pre-travel PT	2.1 mm

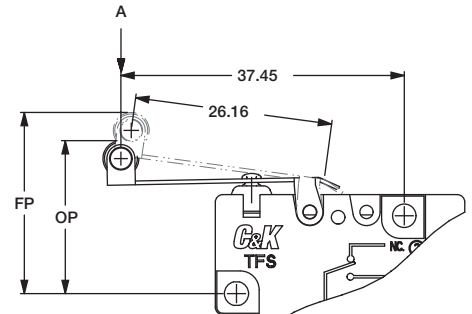
**A10** LEVER ROLLER  
HIGH FORCE



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

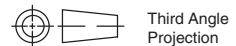
**A20** LEVER ROLLER  
LOW FORCE



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

Snap-acting



Third Angle  
Projection

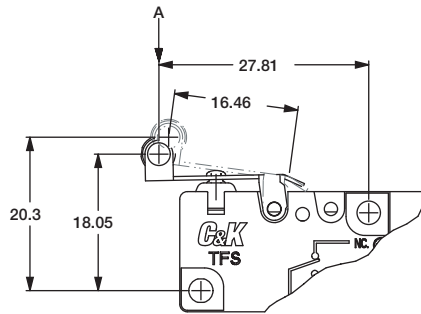
Dimensions are shown: (mm)

Specifications and dimensions subject to change

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

## ACTUATOR

**A25** LEVER ROLLER  
LOW FORCE, SHORT LEVER

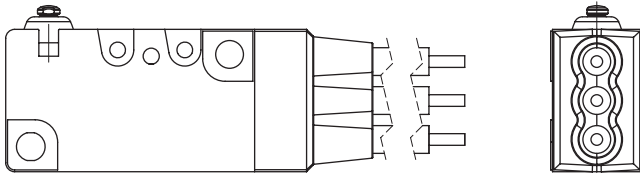


Measure at Point "A"

Max. operating force	150 grams
Min. release force	15 grams
Operating position OP	20.4 ± 0.9 mm
Max. movement differential	0.9 mm
Min. over travel OT	1.2 mm
Max. pre-travel PT	4.2 mm

## 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)

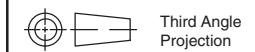
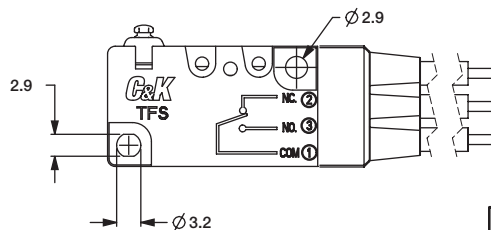
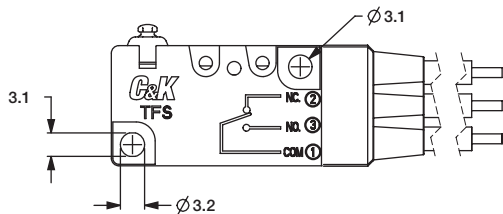
## WIRE TYPE

- C** 16 AWG
- D** 18 AWG
- 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)



Third Angle  
Projection

Dimensions are shown: (mm)  
Specifications and dimensions subject to change





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