

TFS Series Splash Proof Miniature Snap-acting Switches



Features/Benefits

- **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: -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. Available options are shown and described on pages J-12 thru J-15. For additional options not shown in catalog, consult Customer Service Center.

T

F

S

S

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0

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.

Terminal Type

40 .187" quick connect

Mounting Hole Size

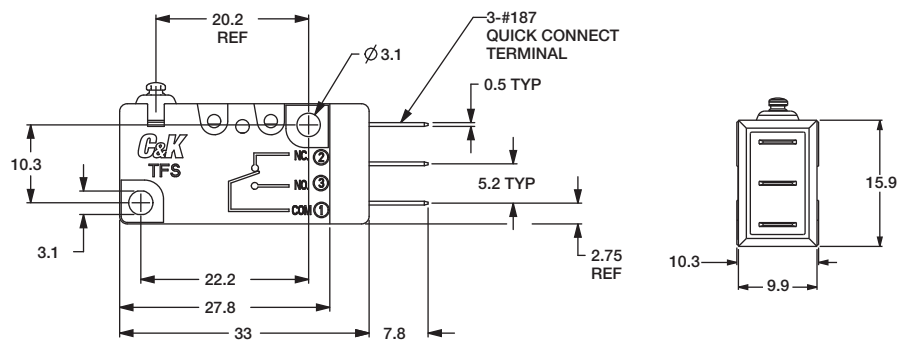
NONE 3.1 mm (3 mm screw clearance hole)
S 2.9 mm (4-40 screw clearance hole)



TFS Series Splash Proof Miniature Snap-acting Switches

SERIES

TFS SUB-MINIATURE SNAP-ACTING SWITCHES



ELECTRICAL RATING

OPTION CODE	RoHS COMPLIANT	RoHS COMPATIBLE	ELECTRICAL RATING
10	Yes	Yes	10A @ 125/250 V AC / 10,000 operations
06	Yes	Yes	6A @ 125/250 VAC / 10,000 operations
03	Yes	Yes	3A @ 125/250 VAC / 10,000 operations
01	Yes	Yes	0.1A @ 125/250 VAC / 10,000 operations



Snap-acting

OPERATING FORCE

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



Third Angle
Projection

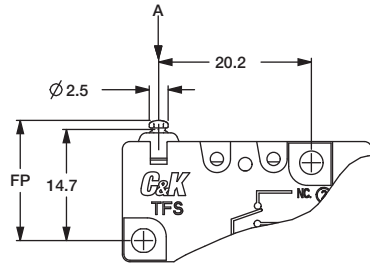
Dimensions are shown: mm
Specifications and dimensions subject to change



TFS Series Splash Proof Miniature Snap-acting Switches

ACTUATOR

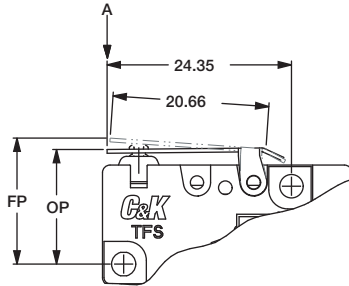
P00 BUTTON



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

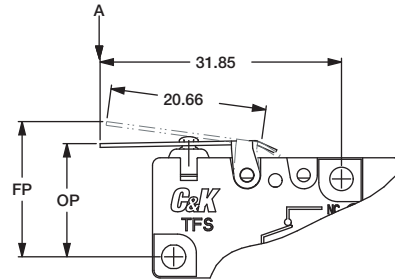
T10 LEVER, HIGH FORCE



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

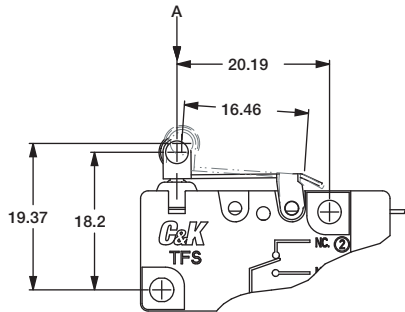
T20 LEVER, LOW FORCE



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

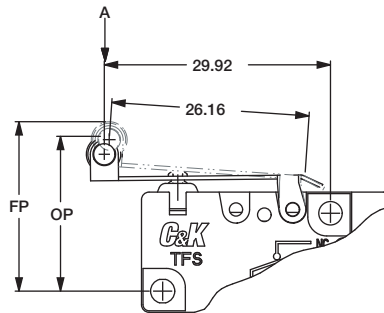
A05 LEVER ROLLER
HIGH FORCE, SHORT LEVER



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

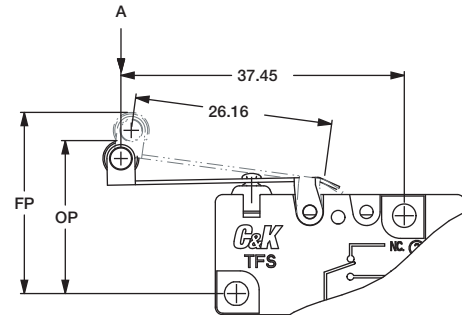
A10 LEVER ROLLER
HIGH FORCE



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

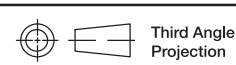
A20 LEVER ROLLER
LOW FORCE



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

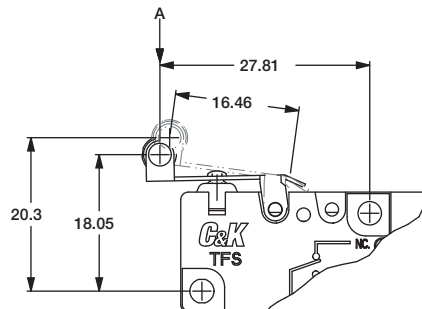
Dimensions are shown: mm
Specifications and dimensions subject to change

C&K

TFS Series Splash Proof Miniature Snap-acting Switches

ACTUATOR

A25 LEVER ROLLER
LOW FORCE, SHORT LEVER

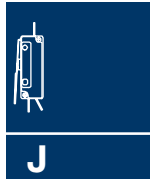
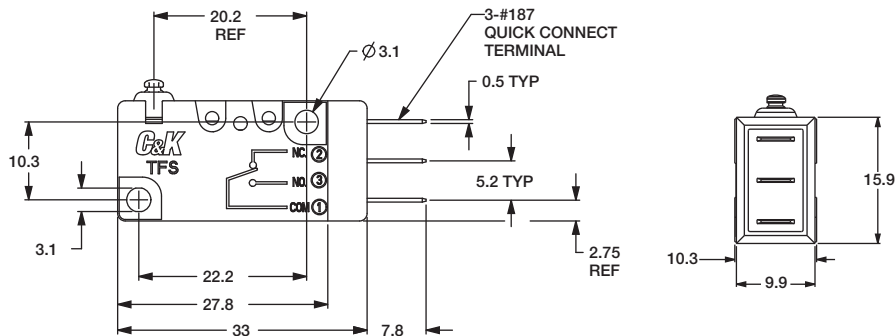


Measure at Point "A"

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

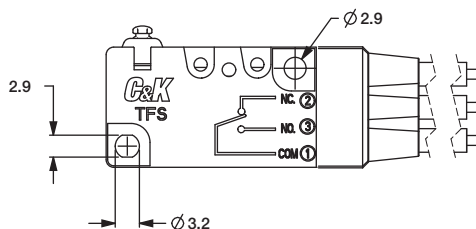
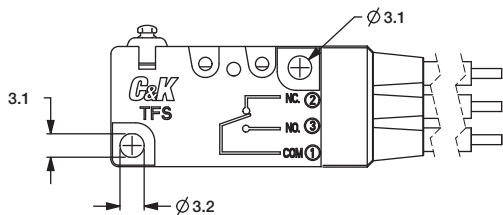
CIRCUITRY

- 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)



Third Angle
Projection
Dimensions are shown: mm
Specifications and dimensions subject to change

C&K

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

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. Available options are shown and described on pages J-17 thru J-19. 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

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

Terminal Type
W Wire

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

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)

OPERATING TEMPERATURE
 -40°C to + 85°C (with UL1015 wire)

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

• Available
 X Not available

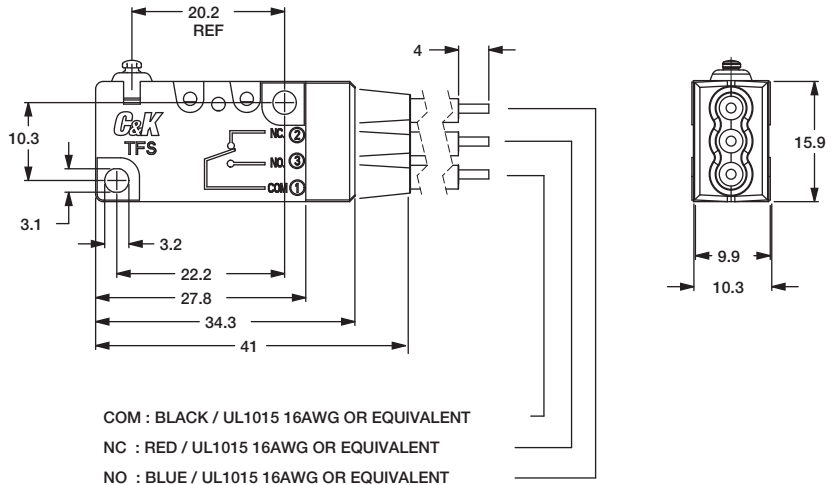


Dimensions are shown: mm
 Specifications and dimensions subject to change

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

SERIES

TFS SUB-MINIATURE SNAP-ACTING SWITCHES – WATERPROOF

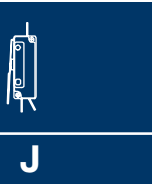


ELECTRICAL RATING

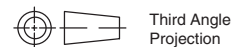
OPTION CODE	RoHS COMPLIANT	RoHS COMPATIBLE	ELECTRICAL RATING
10	Yes	Yes	10A @ 125/250 V AC / 10,000 operations
06	Yes	Yes	6A @ 125/250 VAC / 10,000 operations
03	Yes	Yes	3A @ 125/250 VAC / 10,000 operations
01	Yes	Yes	0.1A @ 125/250 VAC / 10,000 operations

OPERATING FORCE

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



Snap-acting



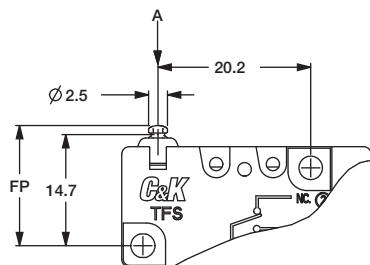
Third Angle Projection

Dimensions are shown: mm
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TFS Series Sealed Miniature Snap-acting Switches (Water Proof)

ACTUATOR

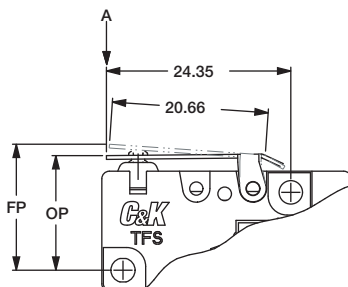
P00 BUTTON



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

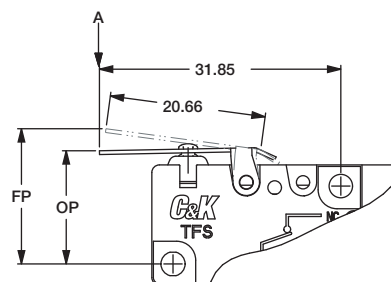
T10 LEVER, HIGH FORCE



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

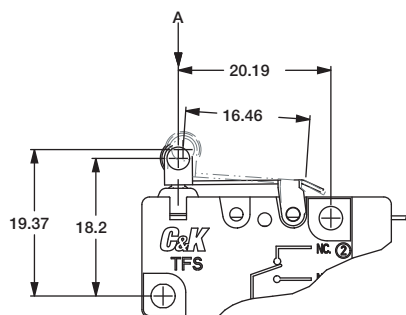
T20 LEVER, LOW FORCE



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

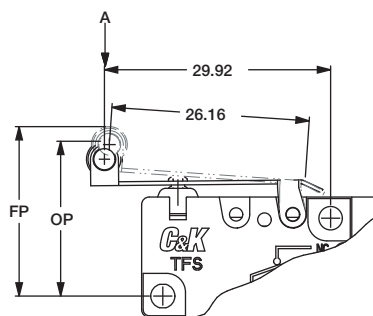
A05 LEVER ROLLER
HIGH FORCE, SHORT LEVER



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

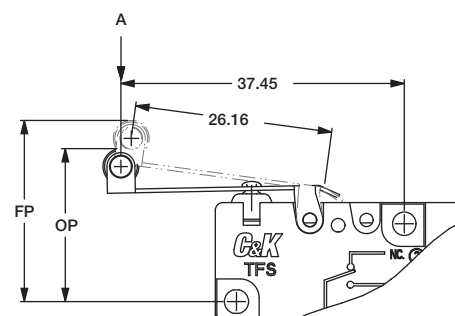
A10 LEVER ROLLER
HIGH FORCE



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

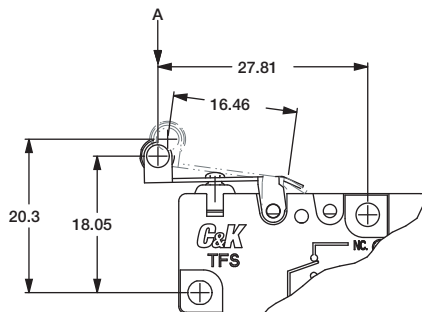
Dimensions are shown: (mm)
Specifications and dimensions subject to change

C&K

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

ACTUATOR

A25 LEVER ROLLER
LOW FORCE, SHORT LEVER

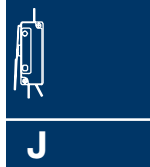
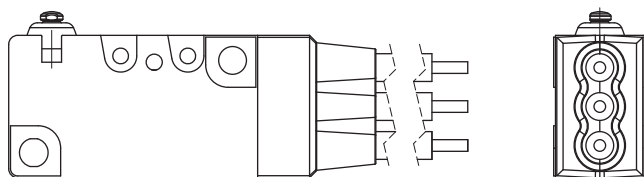


Measure at Point "A"

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



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)

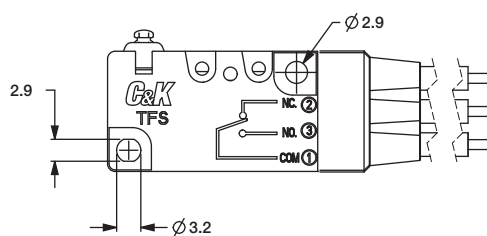
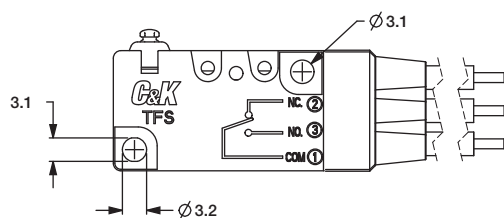
WIRE TYPE

- 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

C&K