

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.

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.

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

Terminal Type

- 40 .187" quick connect

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)

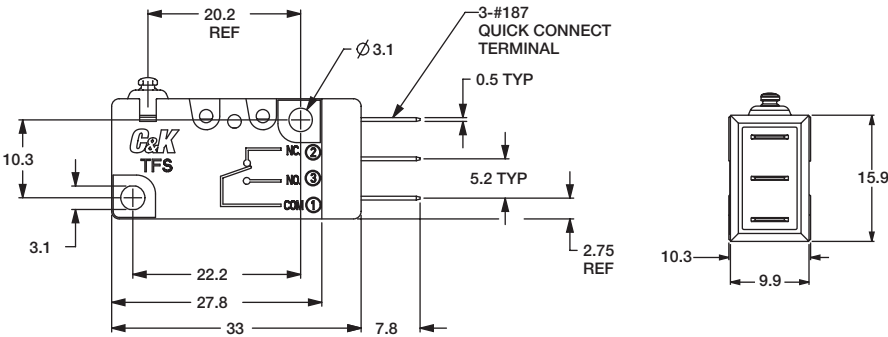


Dimensions are shown: mm
Specifications and dimensions subject to change

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

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

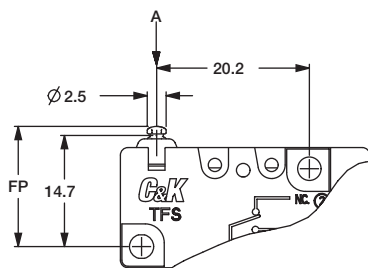


Dimensions are shown: mm
Specifications and dimensions subject to change

TFS Series Splash Proof Miniature Snap-acting Switches

ACTUATOR

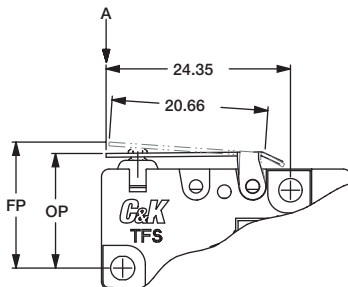
P00 BUTTON



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

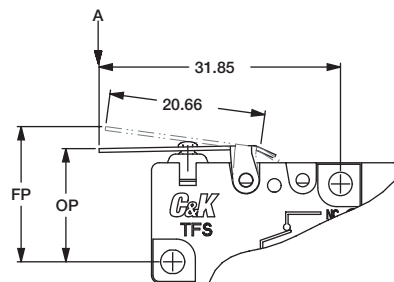
T10 LEVER, HIGH FORCE



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

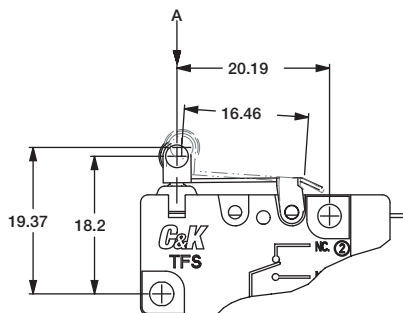
T20 LEVER, LOW FORCE



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

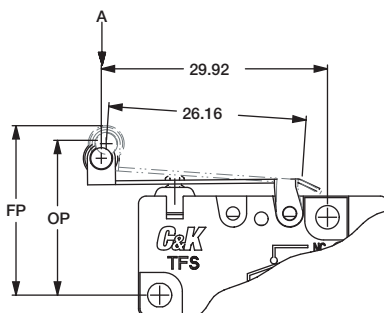
A05 LEVER ROLLER
HIGH FORCE, SHORT LEVER



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

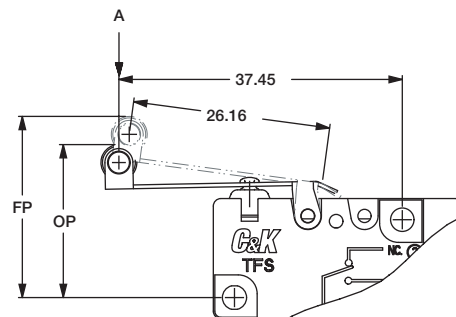
A10 LEVER ROLLER
HIGH FORCE



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



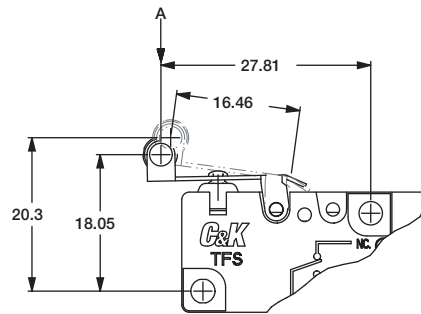
Third Angle
Projection

Dimensions are shown: mm
Specifications and dimensions subject to change

TFS Series Splash Proof Miniature Snap-acting Switches

ACTUATOR

A25 LEVER ROLLER
LOW FORCE, SHORT LEVER

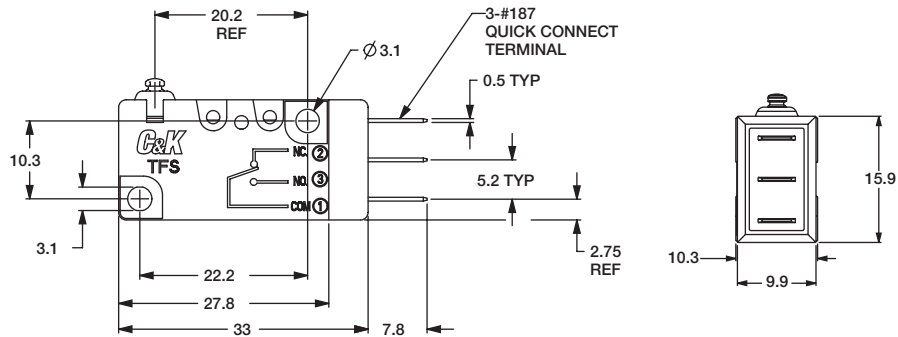


Measure at Point "A"

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



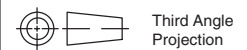
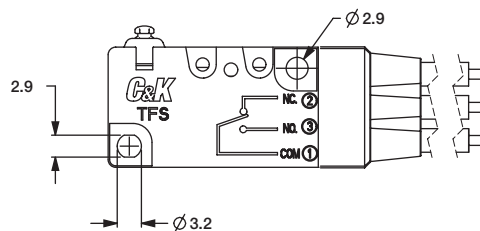
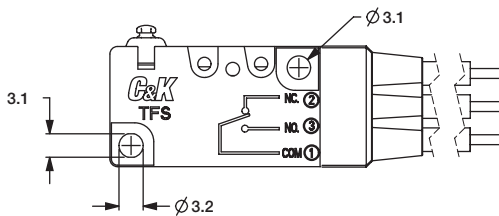
CIRCUITRY

- 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

C&K

Dimensions are shown: mm
Specifications and dimensions subject to change

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.

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.		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)	
Terminal Type W Wire		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)							

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

• Available
X Not available

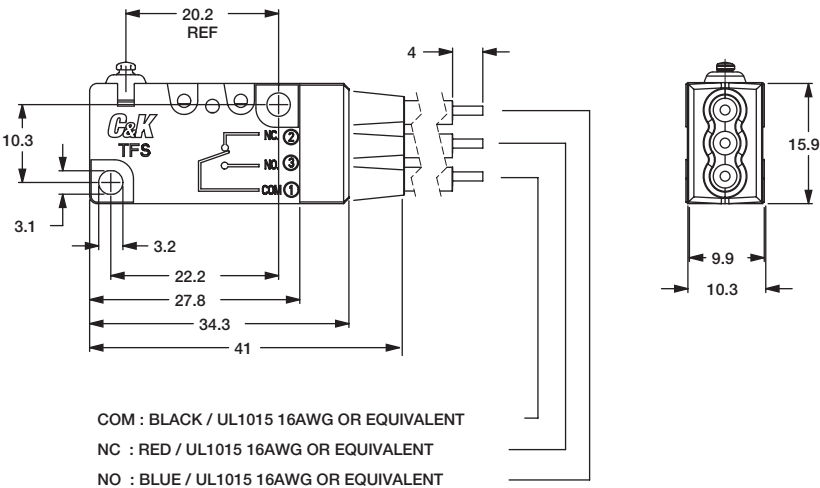


Dimensions are shown: mm
Specifications and dimensions subject to change

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

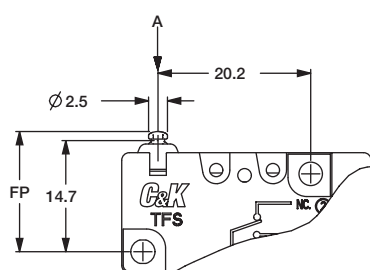


Dimensions are shown: mm
Specifications and dimensions subject to change

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

ACTUATOR

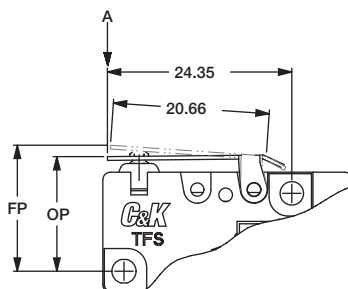
P00 BUTTON



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

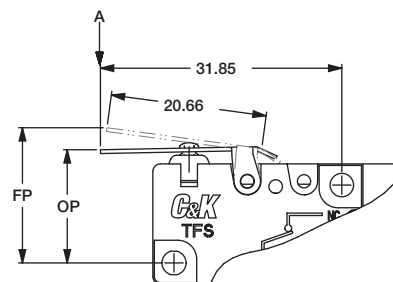
T10 LEVER, HIGH FORCE



Measure at Point "A"

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Operating position OP	15.1 ± 0.6 mm
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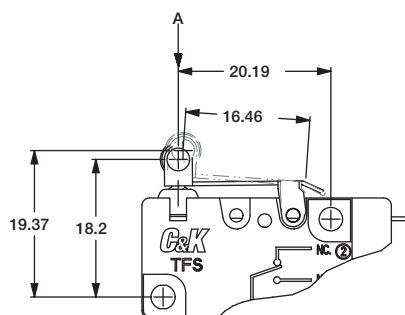
T20 LEVER, LOW FORCE



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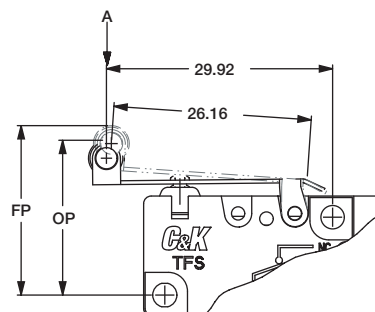
A05 LEVER ROLLER
HIGH FORCE, SHORT LEVER



Measure at Point "A"

Max. operating force	200 grams
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Max. movement differential	0.5 mm
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Max. pre-travel PT	2.1 mm

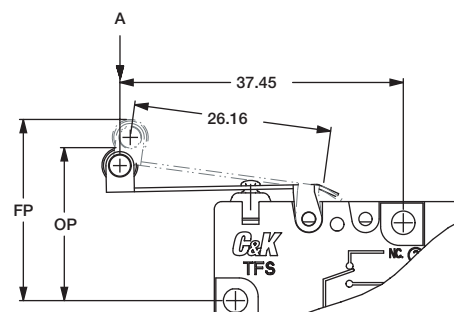
A10 LEVER ROLLER
HIGH FORCE



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



Third Angle
Projection

Dimensions are shown: (mm)

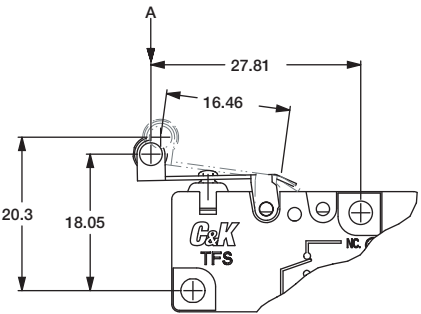
Specifications and dimensions subject to change

TFS Series

Sealed Miniature Snap-acting Switches (Water Proof)

ACTUATOR

A25 LEVER ROLLER
LOW FORCE, SHORT LEVER

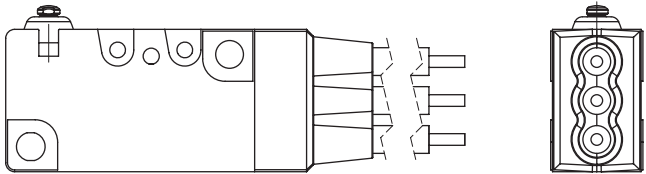


Measure at Point "A"

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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)

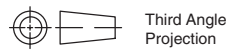
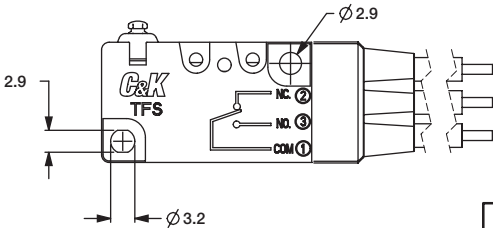
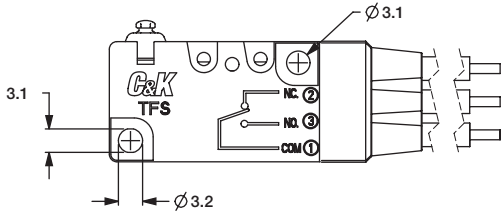
WIRE TYPE

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

C&K

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

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

C&K Switches:

[TFS01SA2040C](#) [TFS01ST1040C](#) [TFS03SP0040W](#) [TFS03SA1040C](#) [TFS06DT1040C](#) [TFS10SA2040C](#)
[TFS01SA1040C](#) [TFS01ST2040C](#)