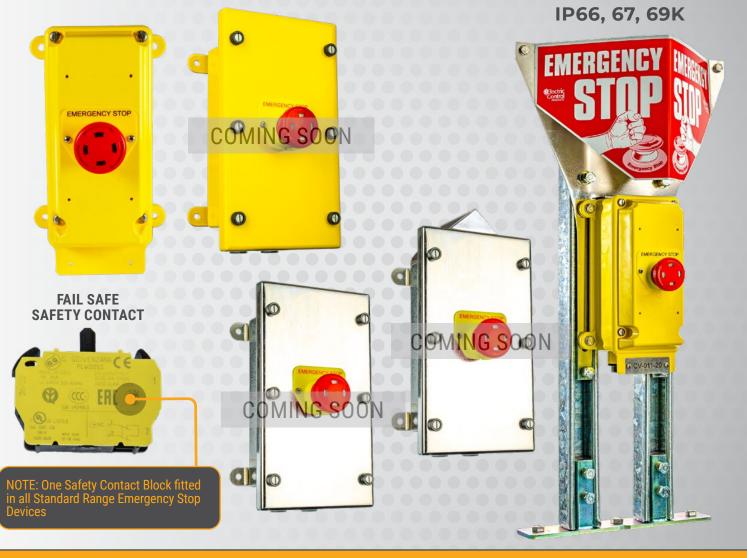


# **≡EMERGENCY-STOP**



## **GENERAL INDEX**

- 1 DESCRIPTION
- 2 STANDARD RANGE PC/PBT PLASTIC
  - -3 + DUST BOOT
  - + ARMOURED CABLE GLANDS SOCKETS (ACGS)
  - 5 + ACGS + DUST BOOT
- 6 STANDARD RANGE ALUMINIUM
  - —<mark>7</mark> + dust воот
- 8 STANDARD RANGE STAINLESS STEEL
  - 9 + DUST BOOT
- 10 SELF MONITORING CONTACT
- 11 SPARE LIDS
  - —<mark>12</mark> + DUST ВООТ

- 13 ADDITIONAL CONTACT BLOCKS
- -14 SAFE-T- CONTACT ELECTRICAL/MECHANICAL DATA
- 15) TECHNICAL DATA/ELECTRICAL CHARACTERISTICS
- -16 CUSTOM TAGS/SLOPING ROOF
- 17 DIMENSIONS-PC/PBT PLASTIC 30MM
- -18 DIMENSIONS-PC/PBT PLASTIC 40MM
- -(19) DIMENSIONS-PC/PBT PLASTIC 60MM
  -(20) DIMENSIONS-SSB/ALUMINIUM 30MM
- -(21) DIMENSIONS-SSB/ALUMINIUM 40MM
- 22 DIMENSIONS-SSB/ALUMINIUM 60MM
- DIMENSIONS-SSB/ALUMINIUM INSULATED SLOP-



FOR MORE INFORMATION

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# **EMERGENCY-STOP**

## **22MM** BUTTON VERSION

30mm Version available, coming soon.





The Emergency Stop Devices are available in three enclosure materials; high impact, UV stable, flame retardant yellow PC/PBT plastic; 3mm 5052 aluminum with 6061 aluminum cable gland entries powder coated with halogen free, low smoke, yellow polyester coating; or 2mm 316 electro-polished stainless steel.



Our range of Emergency Stop enclosures are suitable for industrial, food and mining applications, in even the harshest of environments. All devices are fitted with specific safety contact blocks to safeguard their integrity when activated. The unique design maintains the enclosure's Ingress Protection (IP) rating, even with buttons rated lower than the enclosure.

The main IP failure point with most buttons is the inability of their seals to prevent ingress of water into the enclosure when hit by jets of water during maintenance wash-down or cyclonic rain. As the seals are usually thin in their sealing face diameter, the pressure of the water can break the seal. This allows foreign material to accumulate under the seal, providing an entry point for water, dust, and other material. This will compromise the safety integrity and ingress protection of the enclosure and may cause premature button failure or electric shock to an operator.

When the Emergency Stop button is fitted into the Safe-T-Products designed shroud and enclosure, the entire device is rated at IP66/69K.

The enclosure's IP rating is protected with a one-piece lid seal fitted into a groove with an

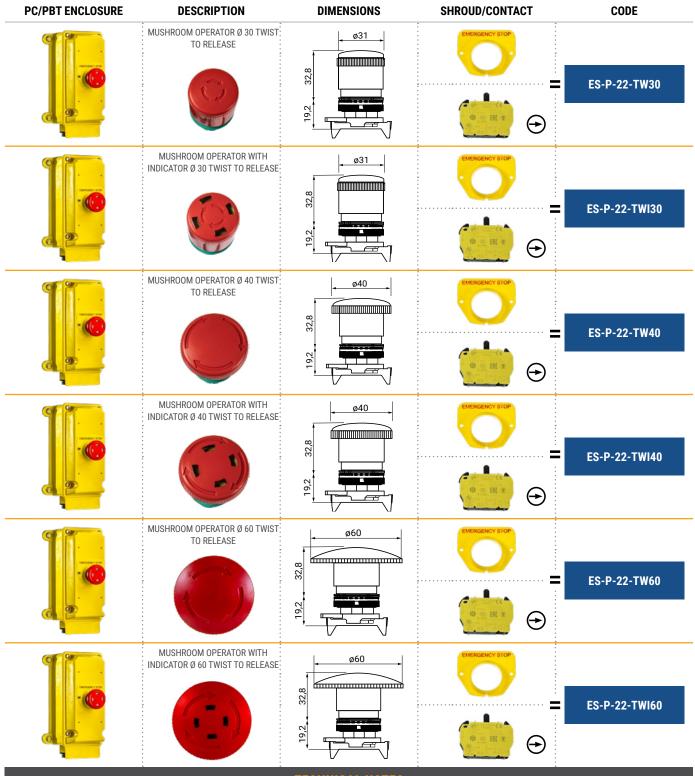
external solid protection lip that is higher than the sealing face and protrudes down over the enclosure's sealing edge once the lid is installed. Both the conduit entries are sealed with specially designed O-ring grooved and fitted conduit plugs. To increase and/or maintain the IP rating of the button's seal, the Emergency Stop lid is fitted with a specially designed button protection and labeling shroud attached via two screws into blind mounting holes. The blind fixing holes are external to the button mounting hole, allowing for the buttons to be sealed directly onto the lid. This shroud protects the seal's integrity from direct sunlight, dust, foreign materials and reduces the power of impact of jets of water by slowing the flow via a torturous path preventing penetration through the seal.

The Emergency Stop button may be fitted with up to 3 direct opening fail safe contact blocks which still fail to safe even if any of the contact blocks are removed. This not only raises the overall safety of the Emergency Stop but completes the safety integrity of the overall system.





**CHOOSE YOUR BUTTON TYPE, ASSEMBLED WITH SHROUD & FAIL SAFE CONTACT** 



#### **TECHNICAL NOTES**

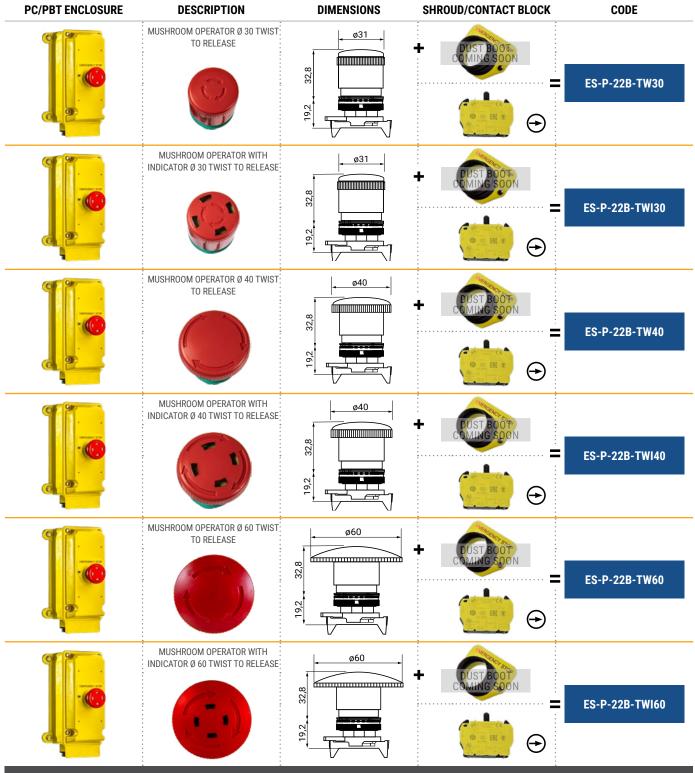
#### All operators comply with the relevant European standards:

- EN ISO 13850 Machine safety Emergency stop operators, functional characteristics - Design guidelines
- IEC/EN60947-5-1
- Comply with the standard IEC/EN60204-1: Machine safety Machine electrical circuit General guidelines

The push button are designed with a load charge mechanism to ensure a reliable operation and stoppage, or blockage, in the activated position. The combination with positive switching NC 🗪 contacts and the presence of the "status" indicator on some models, guarantee a high degree of reliability and effectiveness.



CHOOSE YOUR BUTTON TYPE, ASSEMBLED WITH DUST BOOT/SHROUD & FAIL SAFE CONTACT



#### **TECHNICAL NOTES**

#### All operators comply with the relevant European standards:

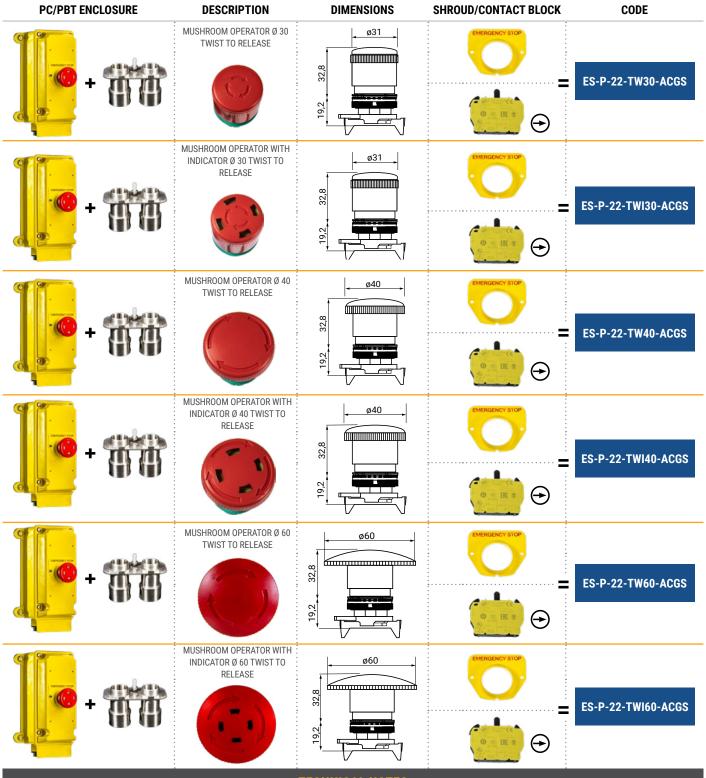
- EN ISO 13850 Machine safety Emergency stop operators, functional characteristics - Design guidelines
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- Comply with the standard IEC/EN60204-1: Machine safety Machine electrical circuit General guidelines

The push button are designed with a load charge mechanism to ensure a reliable operation and stoppage, or blockage, in the activated position. The combination with positive switching NC 🗪 contacts and the presence of the "status" indicator on some models, guarantee a high degree of reliability and effectiveness.





CHOOSE YOUR BUTTON TYPE, ASSEMBLED WITH SHROUD, FAIL SAFE CONTACT & ACGS



#### **TECHNICAL NOTES**

#### All operators comply with the relevant European standards:

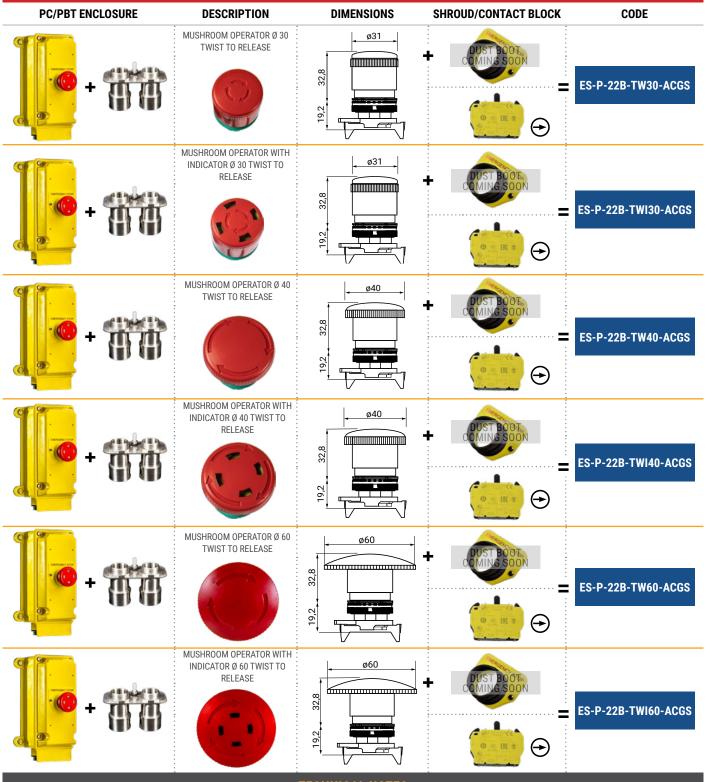
- EN ISO 13850 Machine safety Emergency stop operators, functional characteristics - Design guidelines
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- The push button are designed with a load charge mechanism to ensure a reliable operation and stoppage, or blockage, in the activated position. The combination with positive switching NC - contacts and the presence of the "status" indicator on some models, guarantee a high degree of reliability and effectiveness.

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CHOOSE YOUR BUTTON TYPE, ASSEMBLED WITH DUST BOOT/SHROUD, FAIL SAFE CONTACT & ACGS



#### **TECHNICAL NOTES**

#### All operators comply with the relevant European standards:

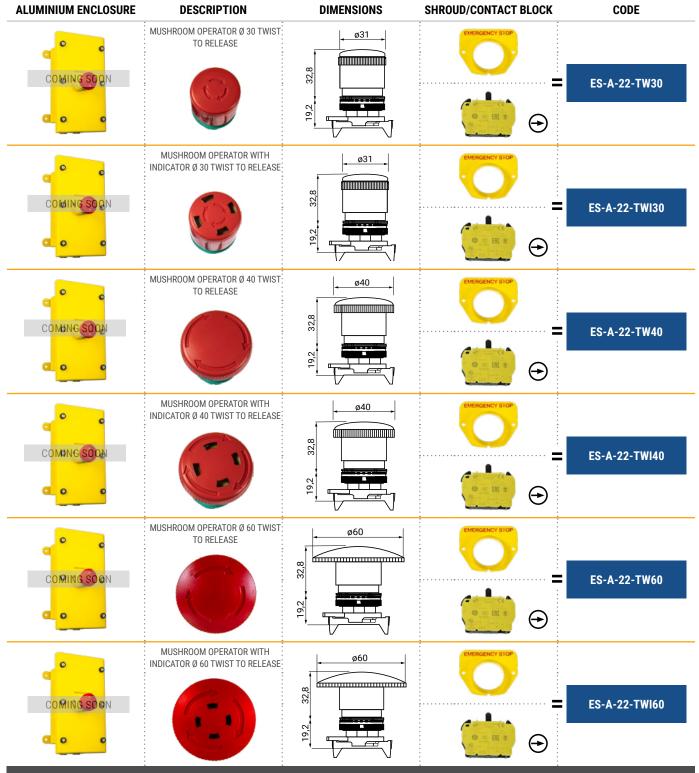
- EN ISO 13850 Machine safety Emergency stop operators, functional characteristics Design guidelines
- IEC/EN60947-5-1
- Comply with the standard IEC/EN60204-1: Machine safety Machine electrical circuit General guidelines
- The push button are designed with a load charge mechanism to ensure a reliable operation and stoppage, or blockage, in the activated position. The combination with positive switching NC → contacts and the presence of the "status" indicator on some models, guarantee a high degree of reliability and effectiveness.





# STANDARD RANGE ALUMINIUM

**CHOOSE YOUR BUTTON TYPE, ASSEMBLED WITH SHROUD & FAIL SAFE CONTACT** 



#### **TECHNICAL NOTES**

#### All operators comply with the relevant European standards:

- EN ISO 13850 Machine safety Emergency stop operators, functional characteristics Design guidelines
- IEC/EN60947-5-1
- Comply with the standard IEC/EN60204-1: Machine safety Machine electrical circuit General guidelines

■ The push button are designed with a load charge mechanism to ensure a reliable operation and stoppage, or blockage, in the activated position. The combination with positive switching NC contacts and the presence of the "status" indicator on some models, guarantee a high degree of reliability and effectiveness.

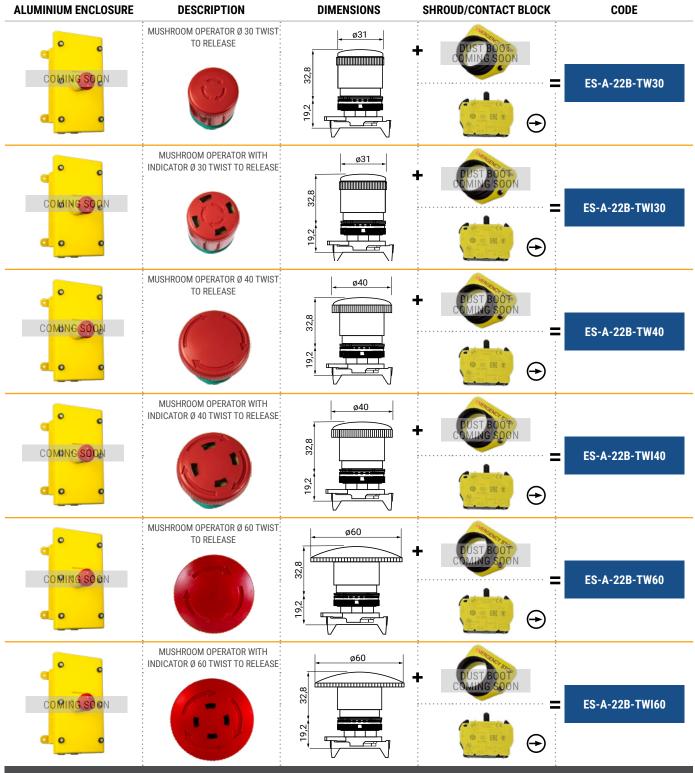
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## STANDARD RANGE ALUMINIUM

CHOOSE YOUR BUTTON TYPE, ASSEMBLED WITH DUST BOOT/SHROUD & FAIL SAFE CONTACT



#### **TECHNICAL NOTES**

#### All operators comply with the relevant European standards:

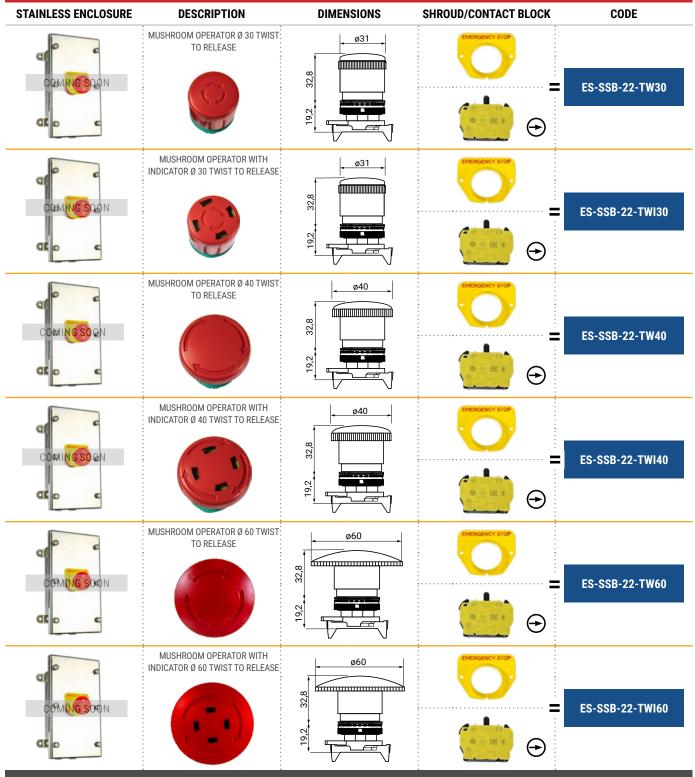
- EN ISO 13850 Machine safety Emergency stop operators, functional characteristics - Design guidelines
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The push button are designed with a load charge mechanism to ensure a reliable operation and stoppage, or blockage, in the activated position. The combination with positive switching NC -contacts and the presence of the "status" indicator on some models, guarantee a high degree of reliability and effectiveness.



# STANDARD RANGE STAINLESS STEEL

**CHOOSE YOUR BUTTON TYPE, ASSEMBLED WITH SHROUD & FAIL SAFE CONTACT** 



#### **TECHNICAL NOTES**

#### All operators comply with the relevant European standards:

- EN ISO 13850 Machine safety Emergency stop operators, functional characteristics - Design guidelines
- IEC/EN60947-5-1
- Comply with the standard IEC/EN60204-1: Machine safety Machine electrical circuit General guidelines

The push button are designed with a load charge mechanism to ensure a reliable operation and stoppage, or blockage, in the activated position. The combination with positive switching NC  $\longrightarrow$  contacts and the presence of the "status" indicator on some models, guarantee a high degree of reliability and effectiveness.

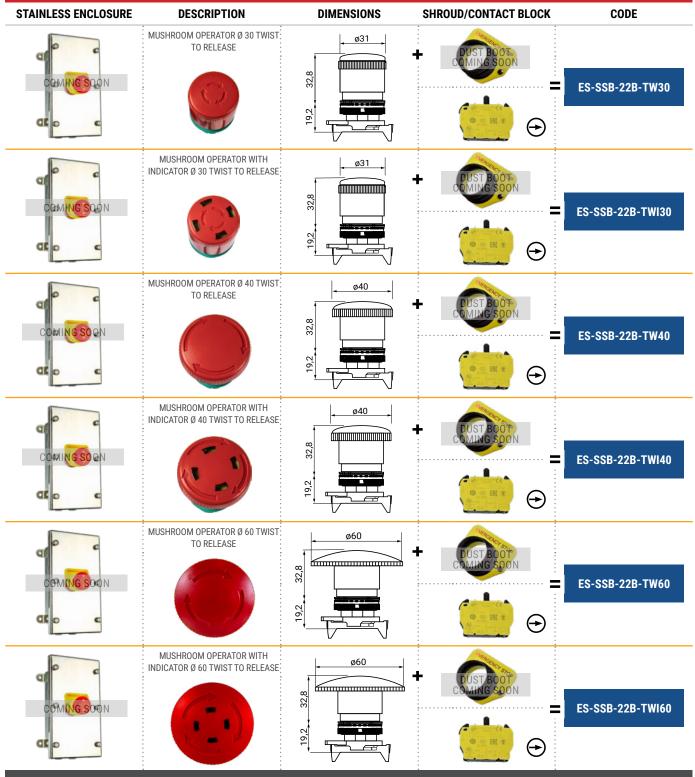
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# STANDARD RANGE STAINLESS STEEL

CHOOSE YOUR BUTTON TYPE, ASSEMBLED WITH DUST BOOT/SHROUD & FAIL SAFE CONTACT



#### **TECHNICAL NOTES**

#### All operators comply with the relevant European standards:

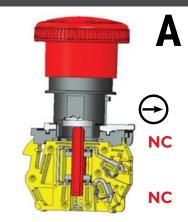
- EN ISO 13850 Machine safety Emergency stop operators, functional characteristics - Design guidelines
- IEC/EN60947-5-1
- Comply with the standard IEC/EN60204-1: Machine safety Machine electrical circuit General guidelines

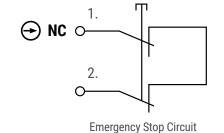
The push button are designed with a load charge mechanism to ensure a reliable operation and stoppage, or blockage, in the activated position. The combination with positive switching NC  $\longrightarrow$  contacts and the presence of the "status" indicator on some models, guarantee a high degree of reliability and effectiveness.

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#### **SELF MONITORED CONTACT INCLUDED IN STANDARD RANGE**





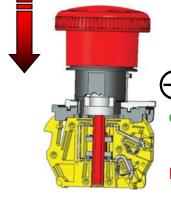
Not Activated

**ES-CB-NCSCS** 

Mushroom Button Not Activated, contact Block Attached



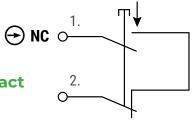
**NOT ACTIVATED** 





**Open Contact** 

NC

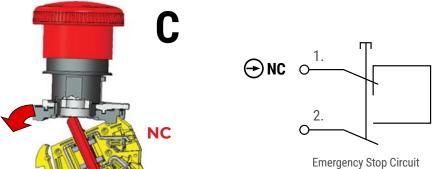


**Emergency Stop Circuit** Activated

Mushroom Button Activated, Contact Block Attached

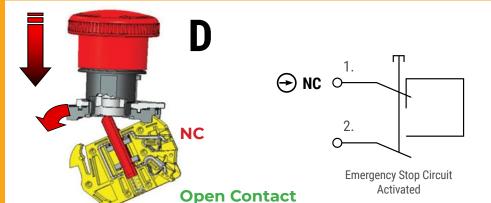






Not Activated

Mushroom Button Not Activated, Contact **Block Disconnected** 



**Open Contact** 

Mushroom Button Activated, Contact **Block Disconnected** 



## **SPARE LIDS**

#### **CHOOSE YOUR LID TYPE - PRE-ASSEMBLED WITH BUTTON & SHROUD**



MUSHROOM OPERATOR Ø 30 TWIST TO RELEASE



PC/PBT PLASTIC

ES-P-22-TW30-LID



ES-A-22-TW30-LID



ES-SSB-22-TW30-LID



MUSHROOM OPERATOR WITH INDICATOR Ø 30 TWIST TO RELEASE



ES-P-22-TWI30-LID



ES-A-22-TWI30-LID



ES-SSB-22-TWI30-LID



MUSHROOM OPERATOR Ø 40 TWIST TO RELEASE



ES-P-22-TW40-LID



ES-A-22-TW40-LID



ES-SSB-22-TW40-LID



MUSHROOM OPERATOR WITH INDICATOR Ø 40 TWIST TO RELEASE



ES-P-22-TWI40-LID



ES-A-22-TWI40-LID



ES-SSB-22-TWI40-LID



MUSHROOM OPERATOR Ø 60 TWIST TO RELEASE



ES-P-22-TW60-LID



ES-A-22-TW60-LID



ES-SSB-22-TW60-LID



MUSHROOM OPERATOR WITH INDICATOR Ø 60 TWIST TO RELEASE



ES-P-22-TWI60-LID



**COMING SOON** 

ES-SSB-22-TWI60-LID



# **EMERGENCY-STOP**

## **SPARE LIDS**

#### CHOOSE YOUR LID TYPE - PRE-ASSEMBLED WITH BUTTON, DUST BOOT/SHROUD



MUSHROOM OPERATOR Ø 30 TWIST TO RELEASE





ES-P-22B-TW30-LID



ES-A-22B-TW30-LID



ES-SSB-22B-TW30-LID



MUSHROOM OPERATOR WITH INDICATOR Ø 30 TWIST TO RELEASE



ES-P-22B-TWI30-LID



ES-A-22B-TWI30-LID



ES-SSB-22B-TWI30-LID



MUSHROOM OPERATOR Ø 40 TWIST TO RELEASE



ES-P-22B-TW40-LID



ES-A-22B-TW40-LID



ES-SSB-22B-TW40-LID



MUSHROOM OPERATOR WITH INDICATOR Ø 40 TWIST TO RELEASE



ES-P-22B-TWI40-LID



ES-A-22B-TWI40-LID



ES-SSB-22B-TWI40-LID



MUSHROOM OPERATOR Ø 60 TWIST TO RELEASE



ES-P-22B-TW60-LID



ES-A-22B-TW60-LID



ES-SSB-22B-TW60-LID



MUSHROOM OPERATOR WITH INDICATOR Ø 60 TWIST TO RELEASE

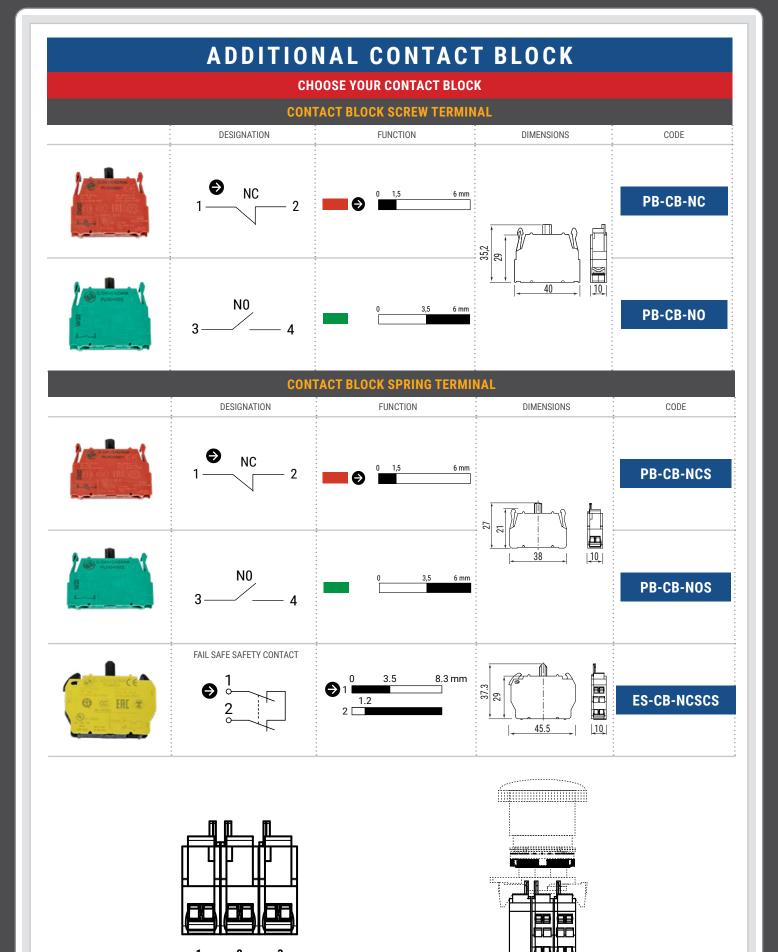


ES-P-22B-TWI60-LID



**COMING SOON** ES-SSB-22B-TWI60-LID





**FAIL SAFE CONTACT BLOCK ORIENTATION** 

**CONTACT BLOCK ORIENTATION** 



# SAFE-T-CONTACT - (ES-CB-NCSCS)

## ELECTRICAL AND MECHANICAL DATA

Button IP 66/69k

B10d 3,000 000 operations MTTFd = 35 Years (High)

"Data Supplied by Giovenzana"

STANDARD CONFORMITY		UL - IMQ - CCC - EAC - R.I.NA - AS/NZS
Material Group	EN60947-1	II
Pollution Grade	EN60947-1	3
Flammability	UL94	VO: live parts
Ambient Temperature	°C	Operating: -25 +70
	°C	Storage: -30 +70
Climate Protection	IEC68 part 2-3	Hot damp
	69	Unsettled Hot damp

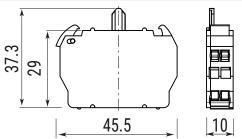
Contact type		NO-NC-NO	self-monitored contact				
Operating force			4N				
Connections	terminal type		Spring				
Connectable section	flexible conductors	1 or 2	1 2.5 mm²				
	flexible conductors	1 or 2	1 2.5 mm²				
	wire peeling length		8 mm				
Contacts			slow action, double breaking				
Electrical lifetime	AC-15	1A 2A 3A	<ul><li>1.5 million cycles</li><li>0.5 million cycles</li><li>0.25 million cycles</li></ul>				
Marking			CE, IMQ, RINA, EAC, CCC, UL, UKCA				

Marking									
EN 60947-5-	1 characterist	ics							
Rated insulat	tion voltage		Ui		690 V *				
Rated impulse withstand voltage			Uimp		4 kV *				
Rated thermal current			Ith	lth					
Rated enclosed thermal current			Ithe	Ithe					
Frequency									
Rated operat	ting current (le	e)							
AC-15	4.5 A	400 V	DC-13	220V					
Short circuit	characteristic	s							
Conditional r	ated short circ	cuit withstand	current	1000 A *					
Fuse rating (type gG)			500 V	10 A *					
Contact insu	lation resistan	ce		$\leq 25 \text{ m}\Omega$					
UL 508 chara	acteristics								
Rated insulation voltage			Ui	10 A 2.5 A	600 V AC 125 V DC				
Rated impulse withstand voltage			Uimp	A600	Q600				
* IMQ approv	ed values								

Diagrams

NO-NC-NO





Dimensions in mm/i	llustrations NOT in so	cale							
Contact (1) not installed		Status rest position, open							
(2) installed		guard position, closed							
(3) triggered		intervention position, open							
(4) detached		malfunction, open							
(1)	(2)	(3)	(4)						
1 NC 2 NO	1 NC 2 NC	1 0 2 NC	1 NC 2 0						
EC 2 1	EC 2 <b>─ C</b> 1	EC 2 <b>──</b> 1	EC 2 0-0 1						

EC = equivalent circuit



	TECHNIC	AL DATA E	LECT	RICA	L CH	IARA	CTE	RISTI	CS									
			V TER	V TERMINAL SPRING TERMINAL														
EC/EN 60947-5-1 CHARACTERISTICS		PBS-CB-NC / PBS-CB-NO							PBS-CB-NCS / PBS-CB-NOS									
Rated insulation voltage Ui	٧	690*						690*										
Rated impulse withstand voltage Uimp	kV			4*					4*									
Operating frequency	Hz			50/6	n*				50/60*									
Rated thermal current Ith	Α			16									16*					
Rated thermal current in enclosed Ithe	A			10									10*					
RATED OPERATING CURRENT				10									10					
	IE. V	24 60	110	000	400	440	F00	600	0.4	60	111	0 0	10 40	0 4	10	<b>-00</b>	690	
AC-15			110	230	400	440	500	690	24	60	11					500		
	A	16* 12	8	6	4,5	3,5	1*	1	16*	12	5					4*	2*	
DC-13	V	24	48	60		110	22		2	4	48	3	60	110	)	22		
	Α	2*	1,2	0,85		0,4	0,2	25*	2	2	23	k	1*	0,4	1	0,4	*	
Conditional short circuit withstand current	A			100	0*					1000*								
Fuse rating gG	500V			10	۱*				10A*									
Contact insulation resistance	mΩ			<2	5				<25									
Switching mechanism		Slo	ow brea	ık doub	le gap	contac	cts		Slow break double gap contacts									
Contact duty		NC	contac	t with p	ositive	e open	ing		NC contact with positive opening									
Minimum tripping force		NC contact with positive opening  4N						4N										
Electrical life AC15	mil. cycles	1A/1,5 - 2A/0,5 - 3A/0,25							1A/1,5 - 2A/0,5 - 3A/0,25									
UL 508 CHARACTERISTICS	·																	
General Use		1	0A-600	Vac-	2.5A-1	125V c	lc				10A-	600V a	ıc - 2	.5A-12	5V de	?		
Heavy Duty (HD) category	104-000			/ ac - 2,5A-125V dc A600-Q600							10A-600V ac - 2,5A-125V dc 10A-600V ac - 2,5A-125V dc							
				71000	2000													
STANDARD CONFORMITY						UL	- IM	Q - C	CC -	EAC	) - F	R.I.N	A - A	S/N	ZS			
Approvals				EN60947-5-1, UL508														
Protection class mounted in PBS enclosure							66/67/	7/69K IEC: Buttons and switches										
		Conforms to	Type 1															
		EN 6	0529															
										0: Co								
				PBS-CB-NC/PBS-CB-NO/PBS-CB-NCS/PBS-CB-NOS														
Material Group		EN609								II								
Pollution Grade		EN60	947-1							3								
Flammability			UL94	VO: live parts														
Ambient Temperature		°C				Operating: -25 +70 Storage: -30 +70												
			°C							-		70						
			rt 2-3	·														
<b>.</b>		IEC68 part	2-30						Unset	tled F	iot da	amp						
Terminals:																		
Dimension										A2								
Terminal screw				M3,5 1,2 Nm - EN60947-1 - 12 lb.in. UL508														
Tightening torque							٦,	∠ NM -	EN60	94/-1	- 1	∠ ID.IN.	UL5U8	)				
									1 /0 5		+	inele						
Capacity:	Maria La Co		k mm²	· ·														
	Number of Co																	
Capacity:	Number of Co																	
Capacity: Solid and flexible conductors		res <b>2 min/ma</b>	AWG						1/2,5 s 20-12 s									
Capacity:			AWG															

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#### **CHOOSE YOUR TAGS**

### TAGS CAN BE FITTED/UNFITTED-SUPPLIED WITH SCREWS DIMENSIONS

CV-011-20

TAGS/FITTED

ENGRAVED TAG ONLY



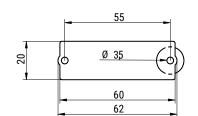
TAG FITTED TO DEVICE

CV-011-20

ENGRAVED TAG ONLY

TIE ON TAG WITH STAINLESS STEEL WIRE ATTACHED TO ENCLOSURE





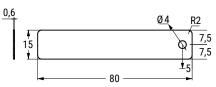
STT-WIRETAG-SS

**STT-WIRETAG-SS-FIT** 

CODE

STT-DEVICETAG-SS

STT-DEVICETAG-SS-FIT









**NOTE:** For batch numbering of tags please supply the numbers in an excel format.

#### STAINLESS STEEL/ALUMINIUM INSULATED SLOPING ROOF

ROOF FITTED TO A ES-SSB-22-TWI40 (EXAMPLE)

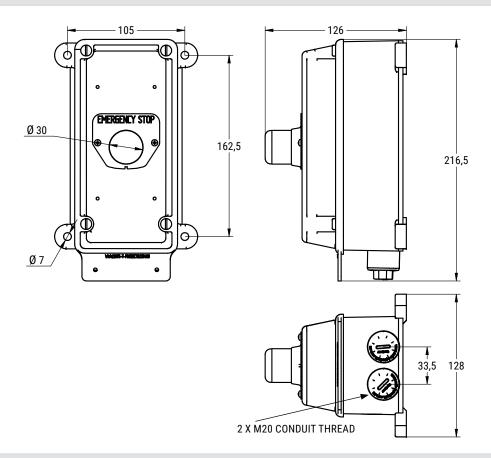




**ECP-SS-ISR90** ECP-A-ISR90

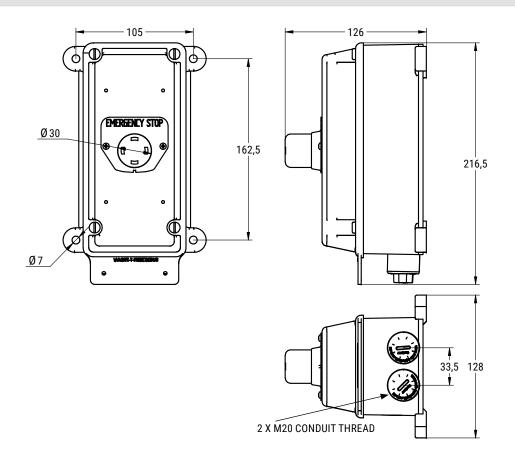


## **DIMENSIONS-PC/PBT PLASTIC 30MM EMERGENCY STOP**



ES-P-22-TW30

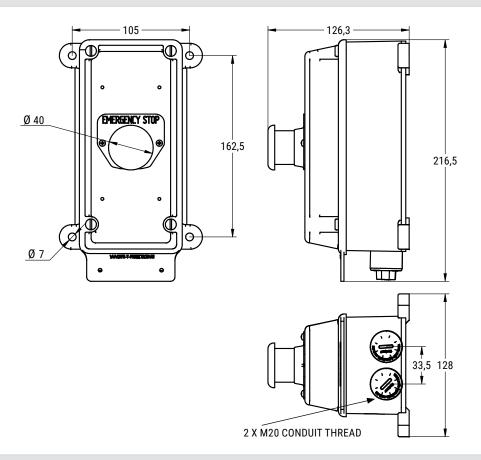
#### **DIMENSIONS-PC/PBT PLASTIC 30MM INDICATOR EMERGENCY STOP**



ES-P-22-TWI30

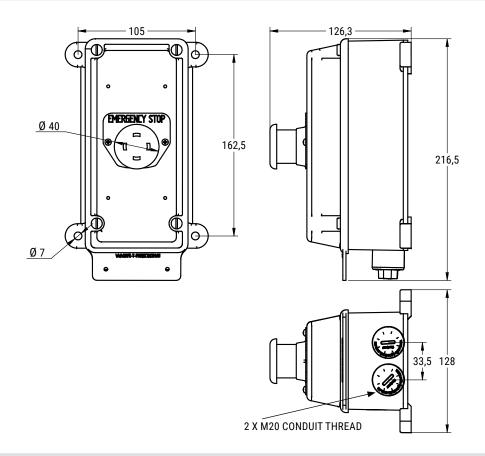


## **DIMENSIONS-PC/PBT PLASTIC 40MM EMERGENCY STOP**



ES-P-22-TW40

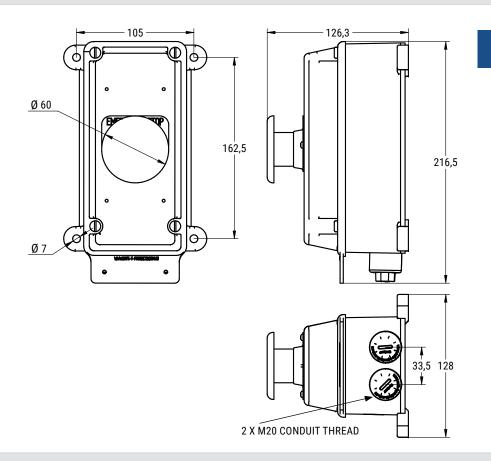
#### **DIMENSIONS-PC/PBT PLASTIC 40MM INDICATOR EMERGENCY STOP**



ES-P-22-TWI40

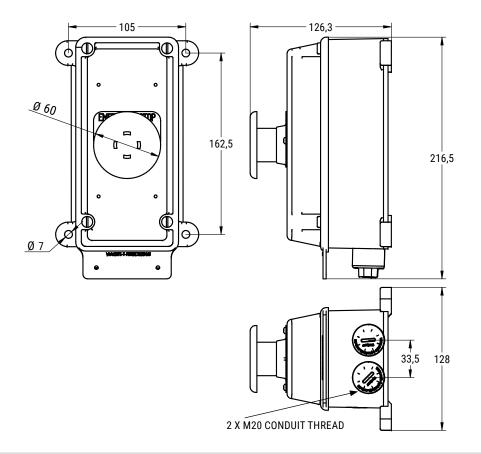


## **DIMENSIONS-PC/PBT PLASTIC 60MM EMERGENCY STOP**



ES-P-22-TW60

#### **DIMENSIONS-PC/PBT PLASTIC 60MM INDICATOR EMERGENCY STOP**



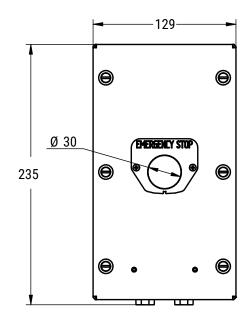
ES-P-22-TWI60

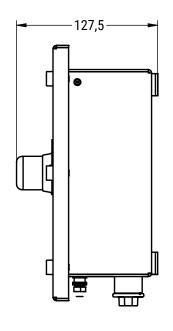


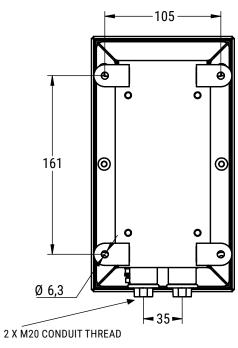


## DIMENSIONS-STAINLESS STEEL/ALUMINIUM 30MM EMERGENCY STOP

ES-SSB-22-TW30 ES-A-22-TW30

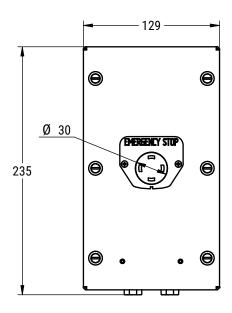


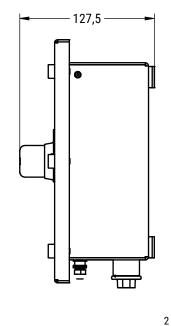


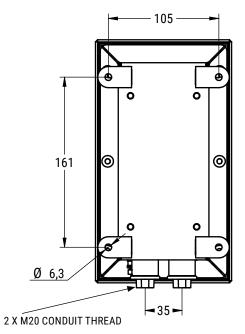


#### DIMENSIONS-STAINLESS STEEL/ALUMINIUM 30MM INDICATOR EMERGENCY STOP

ES-SSB-22-TWI30 ES-A-22-TWI30





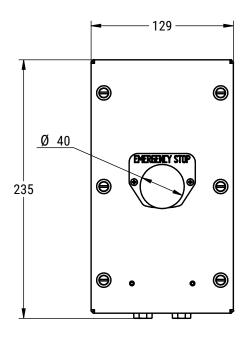


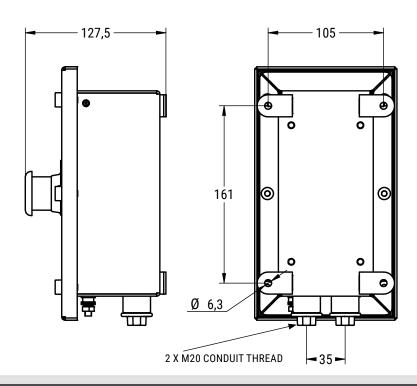




## DIMENSIONS-STAINLESS STEEL/ALUMINIUM 40MM EMERGENCY STOP

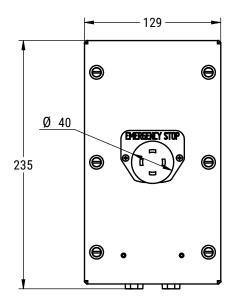
**ES-SSB-22-TW40** ES-A-22-TW40

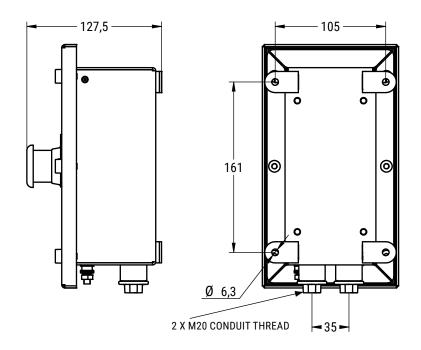




#### DIMENSIONS-STAINLESS STEEL/ALUMINIUM 40MM INDICATOR EMERGENCY STOP

ES-SSB-22-TWI40 ES-A-22-TWI40





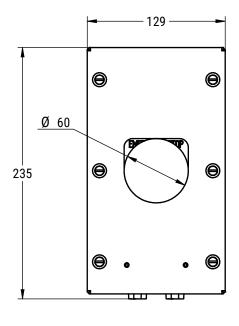


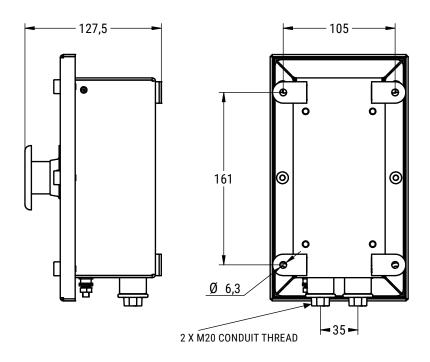


#### **DIMENSIONS-STAINLESS STEEL/ALUMINIUM 60MM EMERGENCY STOP**

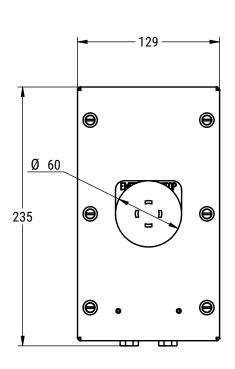
ES-SSB-22-TW60 ES-A-22-TW60

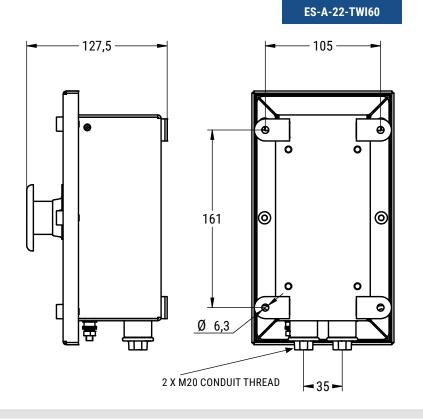
ES-SSB-22-TWI60





#### DIMENSIONS-STAINLESS STEEL/ALUMINIUM 60MM INDICATOR EMERGENCY STOP







#### DIMENSIONS-STAINLESS STEEL/ALUMINIUM SLOPING ROOF EMERGENCY STOP

