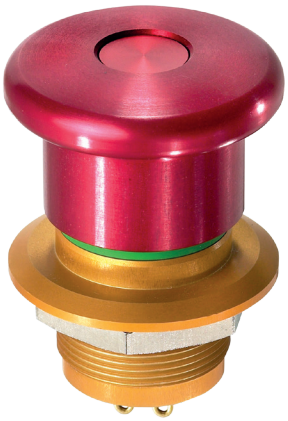
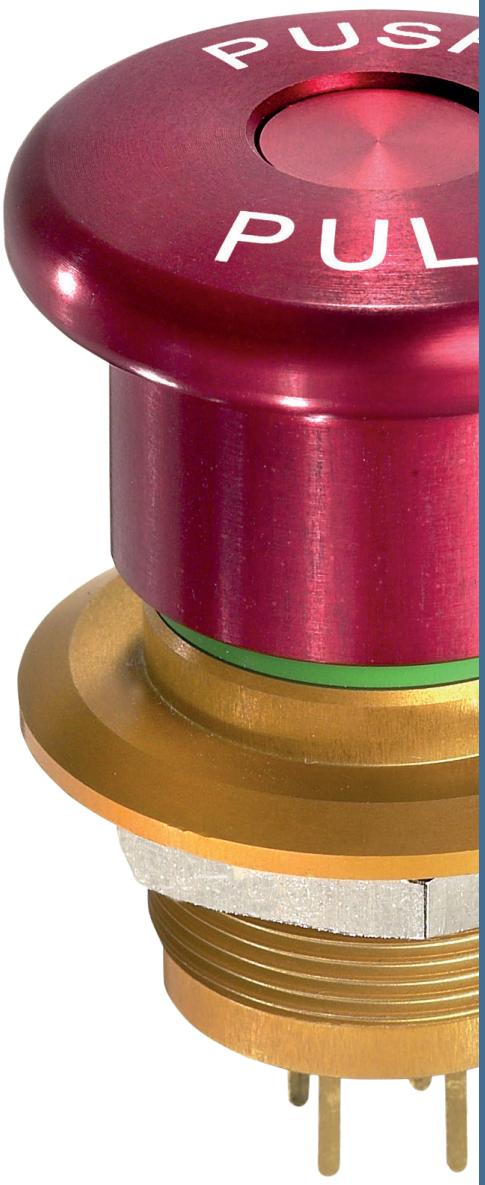
ES series

Heavy-duty switches •
panel cut-out Ø 22 mm or Ø 28 mm



DISTINCTIVE FEATURES

Rugged version : 100,000 cycles mechanical life
Locked/unlocked status indicator
Lower behind-panel depth
Sealed to IP65, IP67 and IP69K



ELECTRICAL SPECIFICATIONS

- Electrical function : push-pull ON-ON
- Current/voltage rating : 1 A 24 VDC DC-14
- Electrical life : 6,050 cycles
- Contact resistance : 10 mΩ max.
- Insulation resistance : 1,000 MΩ min. at 500 VDC
- Dielectric stength : 1,000 Vrms 50 Hz min. between terminals
  2,000 Vrms 50 Hz min. between poles and between terminals and frame

ENVIRONMENTAL SPECIFICATIONS

- Front panel sealing : IP65, IP67 and IP69K according to IEC 60529 and DIN 40050
- Rear sealing : IP67 - only for cable version (**C**)
- Salt spray : 96 hours according to IEC 68-2-11
- Vibrations : 10-500 Hz - 10 g according to IEC 68-2-6
- Shock resistance : 50 g according to IEC 68-2-27
- Robustness (axial) : IK10
- Operating temperature : -40 °C to +85 °C (-40 °F to +185 °F)

The company reserves the right to change specifications without notice.

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GENERAL SPECIFICATIONS

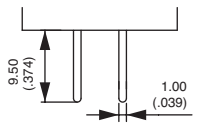
- Panel thickness : 1.5 mm (.059) min to 6 mm (.236) max.
- Low level or mechanical life : 100,000 cycles
- Travel to lock : 2.20 mm ± 0.3 mm
- Total travel : 4.20 mm ± 0.3 mm
- Torque : 5 Nm min. - 14 Nm max. applied to nut
- Operating force :
  2 pole models : Push : 30 N ± 7 N / Pull : 25 N ± 5 N
  3 pole models : Push : 45 N ± 7 N / pull : 25 N ± 5 N

MATERIALS

- Case : diallylphthalate (DAP)
- Actuator : aluminum, red anodized
- Bushing : aluminum, yellow anodized
- Contacts : silver, gold plated
- Terminal seal : epoxy
- Cable : 4 wires, AWG 22, section 0.34 mm², lenght 500 mm

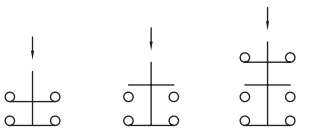
APEM products may be recycled at end-of-life for the re-claiming of valuable metal components.

TERMINALS



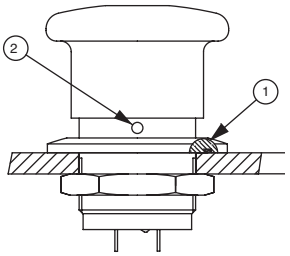
Straight PC

ELECTRICAL FUNCTIONS

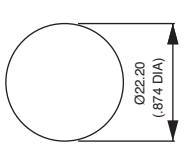


NC | NO NC | NC / NO NC

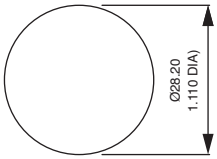
PANEL CUT-OUT



① - O-ring
② - Hole



2 pole



3 pole

NOTE : the hole in the bushing is designed for insertion of a Ø 2 mm metal rod helping to fasten the switch on the panel.

CONNECTIONS

DOUBLE POLE - 2 NC

	POLE 1	POLE 2
C	Brown	Red
NC	White	Green

DOUBLE POLE - 1 NO/NC + 1 NC

	POLE 1	POLE 2
C	Brown	Grey
NC	White	Green
NO	Yellow	-

THREE POLE - 1 NO/NC + 2 NC

	POLE 1	POLE 2	POLE 3
C	White	Grey	Blue
NC	Brown	Green	Yellow
NO		Pink	

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ES series

Heavy-duty switches •
panel cut-out Ø 22 mm or Ø 28 mm

BUILD YOUR PART NUMBER

BASIC PART NUMBER

ES _ _ _ _ _ _

SERIES

ES

ELECTRICAL FUNCTIONS

1	2 NC (double pole only)
2	1 NO/NC + 1NC (double pole only)
3	1 NO /NC+ 2NC (three pole only)

NUMBER OF POLES

4	Double pole
5	Three pole

ACTUATOR COLOR

6	Red anodized

Other : on request

TERMINALS

P	Straight PC
S	Solder lug
C	Cable, AWG 22, length 500 mm

ACTUATOR DIAMETER

1	34.5 mm (1.358)

BUSHING COLOR

5	Yellow anodized

Other : on request

OPTIONS

_ _

STATUS INDICATOR

3	Green

Other : on request

OPTIONS

Blank	None
001	PUSH PULL marking

Other markings : on request

ABOUT THIS SERIES

On the following pages, you will find successively basic part numbers of switches and options in the same order as in above chart.

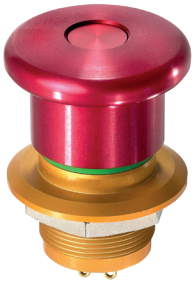
Notice : please note that not all combinations of above numbers are available. Refer to the following pages for further information.

Mounting accessories : Standard hardware supplied : 1 hex nut 25 (.984) or 32 (1.260) across flats and 1 O-ring.
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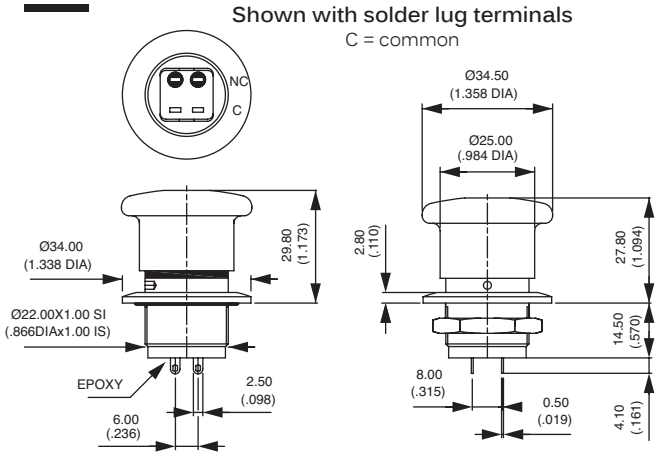
DOUBLE POLE - 2 NC CONTACTS



Solder lug terminals
ES1S41653

Straight PC terminals
ES1P41653

Shown with solder lug terminals
C = common

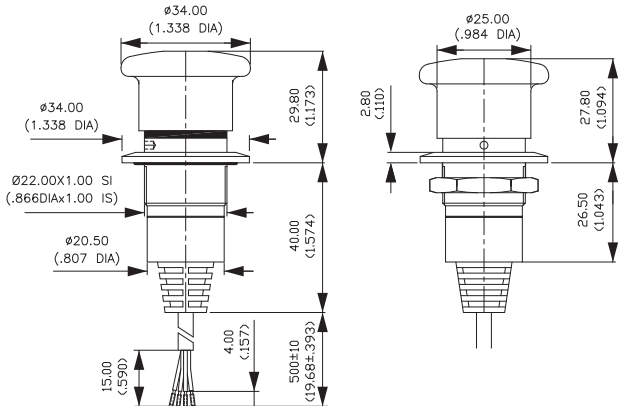


DOUBLE POLE - 2 NC & 1 NO/NC + 1 NC CONTACTS



Cable terminals
2 NC
ES1C41653

Cable terminals
1 NO/NC+ 1 NC
ES2C41653



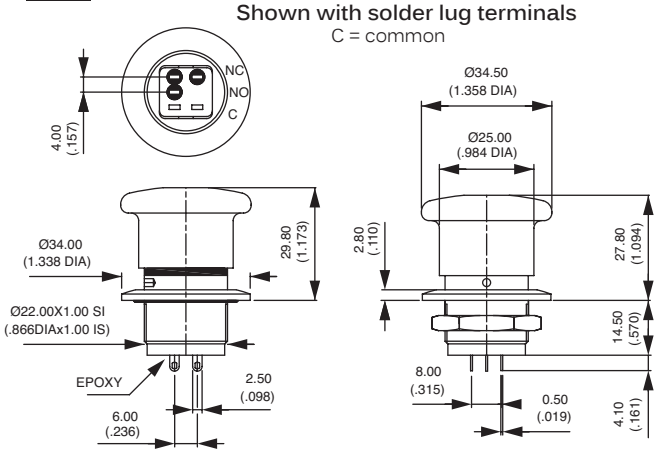
DOUBLE POLE - 1 NO/NC + 1 NC CONTACTS



Solder lug terminals
ES2S41653

Straight PC terminals
ES2P41653

Shown with solder lug terminals
C = common



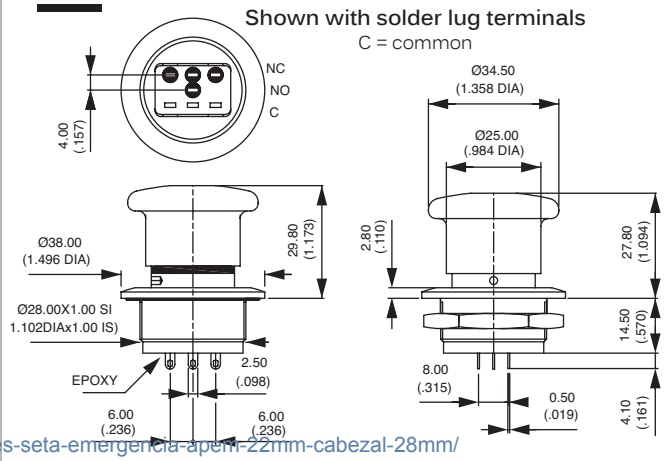
THREE POLE - 1 NO/NC + 2 NC CONTACTS



Solder lug terminals
ES3S51653

Straight PC terminals
ES3P51653

Shown with solder lug terminals
C = common



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ES series

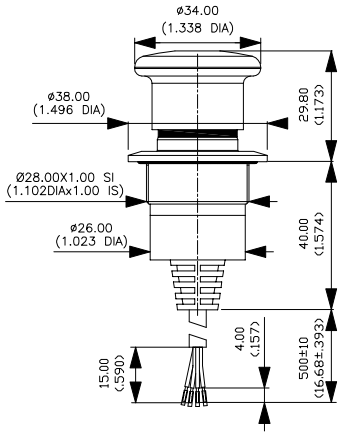
Heavy-duty switches •
panel cut-out Ø 22 mm or Ø 28 mm

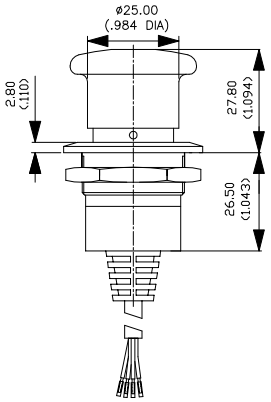
THREE POLE - 1NO/NC + 2 NC CONTACTS



Cable terminals

ES3C51653





STATUS INDICATOR COLOR

BASIN P/N

3	Green	Other : on request.

OPTIONS

BASIN P/N

Blank	None	Other markings : on request
001	PUSH PULL marking	

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