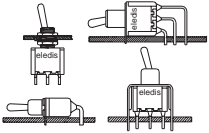




SERIES 1A

- Miniature toggle switches



AGENCY APPROVALS

File N° E195524
 File N° E195524

CHARACTERISTICS

- The most comprehensive range of terminations, brackets, toggle sizes and bushings.
- Diallylphthalate case and stainless steel housing.

SPECIFICATIONS

Contact Rating: S (silver) - 5A with resistive load @ 125 VAC or 28 VDC - 2A with resistive load @ 250 VAC
Electrical life: 50,000 make and break cycles at full load
Contact Resistance: 10 mΩ max. initial @ 2-4 VDC, 100 mA for both coin silver and gold plated contacts
Insulation Resistance: 1000 MΩ min.
Dielectric Strength: 1500 VRMS @ sea level
Operating Temperature: -30°C to 85°C

MATERIALS

Case: diallylphthalate (DAP)
Toggle handle: Brass, chrome plated
Bushing: Brass, nickel plated
Housing: Stainless Steel

HOW TO ORDER



N° OF POLES

- 1 SPDT
- 2 DPDT
- 3 3PDT
- 4 4PDT

ACTUATORS

- N_ Round (std)
- N2 Short round
- L1 Long 13.97
- L2 Long 16.26
- L3 Long 21.32
- L4 Long 15.75
- L5 Long 18.08
- P Flat
- PS Flat Short
- C (◇) Plastic
- G Large
- GX Extra large
- LK (Δ) Locking lever
- LK1 (Δ) Locking lever

TERMINATIONS

- PC PCB
- W1 Wire wrap 19.05mm
- W3 Wire wrap 10.80mm
- ST Solder tag
- H9 90° horizontal
- V9 90° vertical
- U2 U bracket 11.68 mm
- U3 U bracket 16.00 mm
- U4 (Δ) U bracket 11.68 mm
- U5 (Δ) U bracket 16.00 mm
- QC Quick connect

COLOUR OPTIONS

For C Plastic actuator

- 1 White
- 2 Black (std)
- 3 Red
- 4 (Δ) Orange
- 5 (Δ) Yellow
- 6 (Δ) Green
- 7 (Δ) Blue
- 8 (Δ) Brown
- 9 (Δ) Gray

ELECTRICAL FUNCTIONS

1	on	none	on
2	on	none	(on)
3	on	off	on
4	(on)	off	(on)
5	on	off	(on)
6 (*)	on	on	on

BUSHING

- F1 Threaded standard
- F2 Unthreaded
- F3 Threaded
- F4 Unthreaded
- F5 High torque flat
- F6 High torque
- F7 Long thread
- F8 Metric
- F9 (◇) Splash proof
- F0 Large
- FS (◇) Large Splash proof
- FA Non Threaded (std)
- FB Metric
- FG Non Thread
- FK For LK Act. Only

SEALING

- E Seal

CONTACT MATERIAL

- S Silver (std)
- A Gold
- G Gold on silver

STANDARD HARDWARE

- 2 Nuts
- 1 Locking Ring
- 1 Lockwasher

(*) 3-way external wiring required - Please enquire

(Δ) Min qty required

(◇) Please enquire

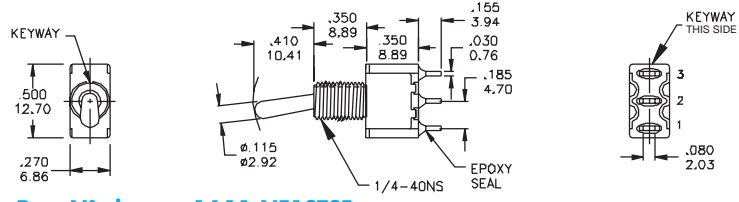
SERIES 1A

ELECTRICAL FUNCTIONS

DIMENSIONS

SPDT			
1	on	none	on
2	on	none	(on)
3	on	off	on
4	(on)	off	(on)
5	on	off	(on)
	2 - 3	open	2 - 1

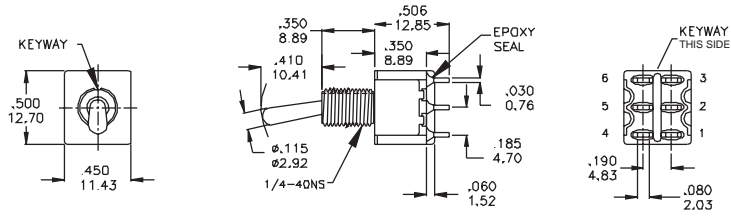
2 Comm.
 3 •



Part N° shown: 1A11-NF1STSE

DPDT			
1	on	none	on
2	on	none	(on)
3	on	off	on
4	(on)	off	(on)
5	on	off	(on)
6 (*)	on	on	on
	2-3, 5-6	open	2-1, 5-4

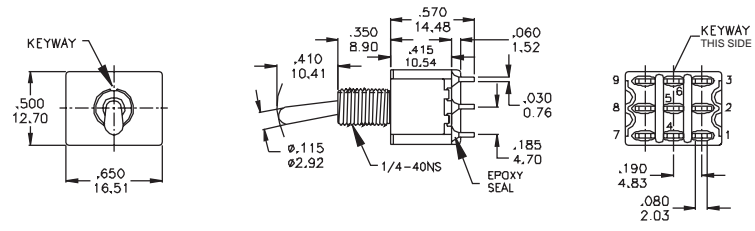
2 Comm. 5 Comm.
 3 • 4 • 6 •



Part N° shown: 1A21-NF1STSE

3PDT			
1	on	none	on
2	on	none	(on)
3	on	off	on
4	(on)	off	(on)
5	on	off	(on)
	2-3, 5-6	open	2-1, 5-4
	8-9		8-7

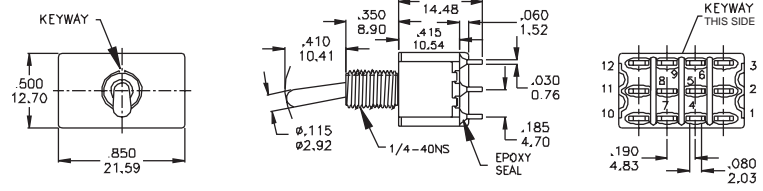
2 Comm. 5 Comm. 8 Comm.
 3 • 4 • 6 • 7 • 9 •



Part N° shown: 1A31-NF1STSE

4PDT			
1	on	none	on
2	on	none	(on)
3	on	off	on
4	(on)	none	(on)
5	on	none	(on)
6 (*)	on	on	on
	2-3, 5-6	open	2-1, 5-4
	8-9, 11-12		8-7, 11-10

2 Comm. 5 Comm. 8 Comm. 11 Comm.
 3 • 4 • 6 • 7 • 9 • 10 • 12 •



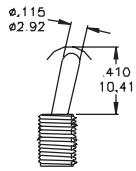
Part N° shown: 1A41-NF1STSE

(*) See wiring for 3-Way Switching Functions pag. iii in the Technical Notations section

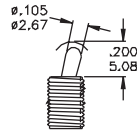


SERIES 1A

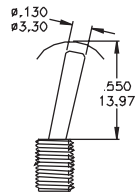
ACTUATORS



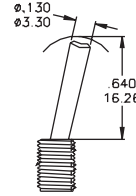
N (std)



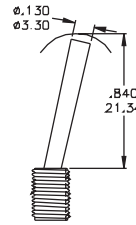
N2



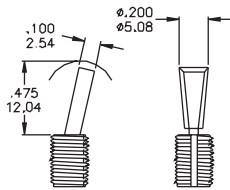
L1



L2

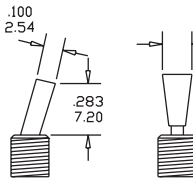


L3

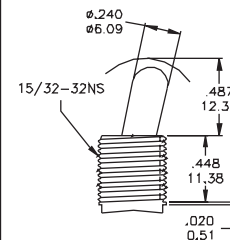


P

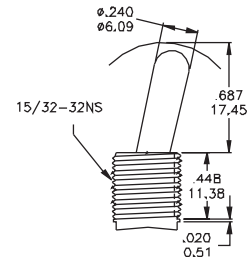
(only available with **F6 & FG** bushing)



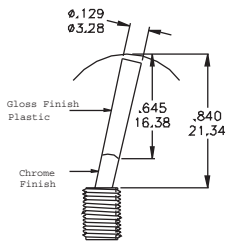
PS (*)



G

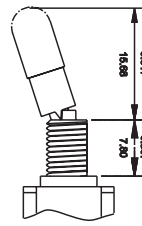


GX

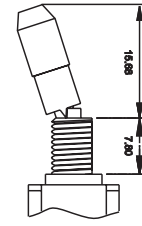


C (◇)

COLOURS	
1	White
2	Black (std)
3	Red
4 (Δ)	Orange
5 (Δ)	Yellow
6 (Δ)	Green
7 (Δ)	Blue
8 (Δ)	Brown
9 (Δ)	Gray

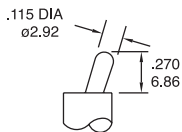


LK

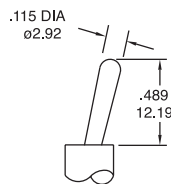


LK1

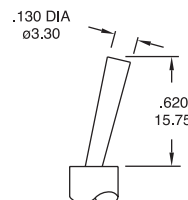
For H9 - V9 - right angle version & All U - Brackets



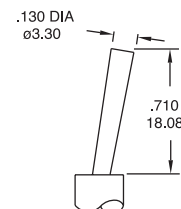
N2 (◇)



N



L4



L5

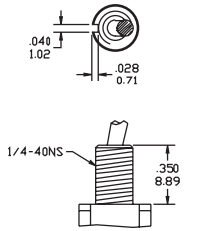
(◇) Please enquire

(Δ) Min qty required

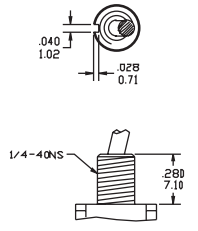
(*) Only available 1A11 model (on - on)

SERIES 1A

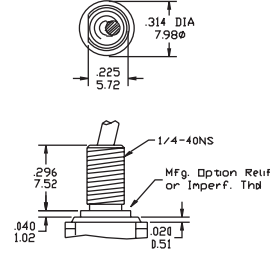
BUSHING



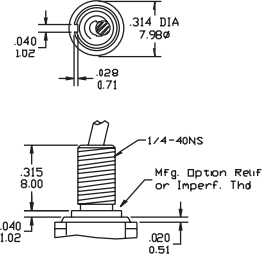
F1 Threaded (STD)
F2 Non Threaded



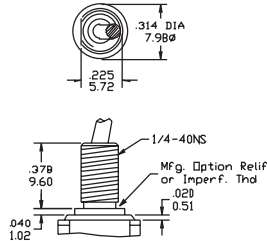
F3 Threaded
F4 Non Threaded



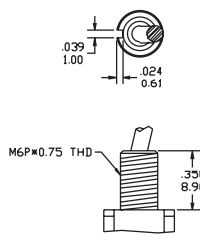
F5 High Torque
FA Non Threaded (STD)
FB Metric



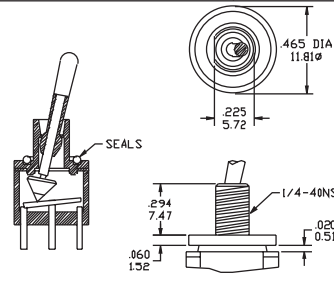
F6 High Torque
FC Metric
FG Non Threaded



F7 (Δ) Long
FD (Δ) Non Threaded
FE (Δ) Metric

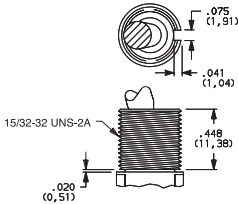


F8 Metric



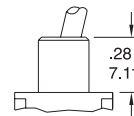
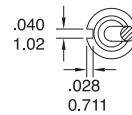
F9 Splash-proof

Available only for **on-on** and **on-off-on** functions - Only for **"N"** Actuator

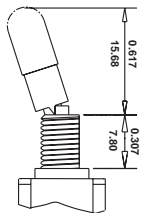


FO (Δ) Not splashproof
FS (Δ) Splashproof. (Available only for **on-on** functions)

For H9 - V9 - right angle version & All U - Brackets



F4 Standard



FK (Δ) Threaded, only for locking lever

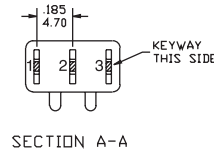
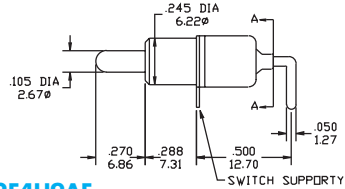
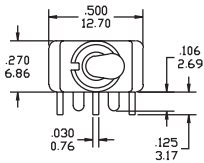
(Δ) Min qty required



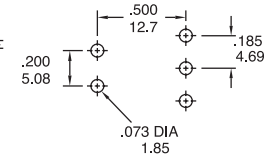
SERIES 1A

TERMINATIONS

**H9
SPDT**

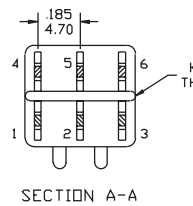
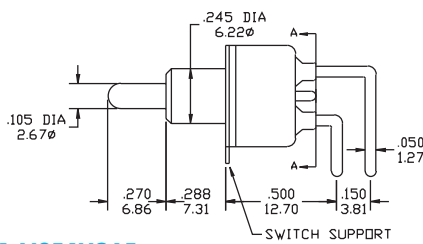
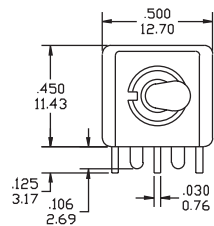


P.C. LAYOUT

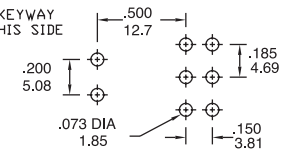


Part N° shown: 1A11-N2F4H9AE

**H9
DPDT**

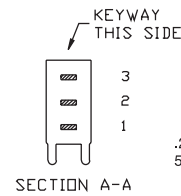
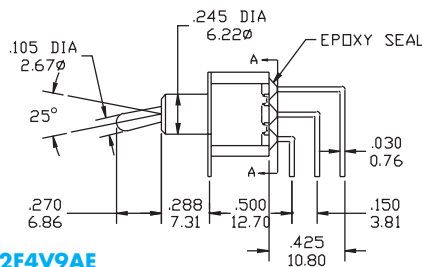
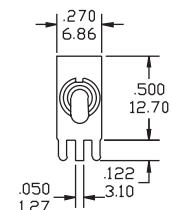


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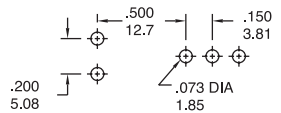


Part N° shown: 1A21-N2F4H9AE

**V9
SPDT**

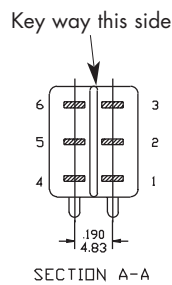
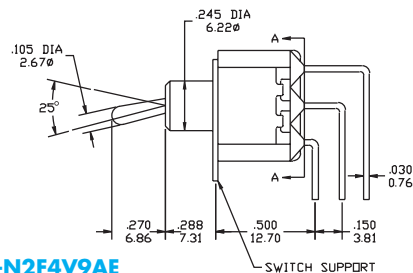
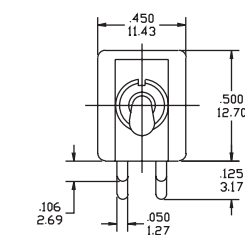


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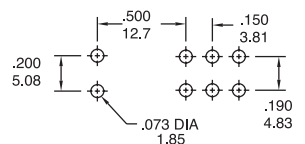


Part N° shown: 1A11-N2F4V9AE

**V9
DPDT**

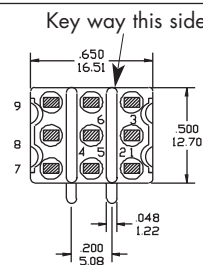
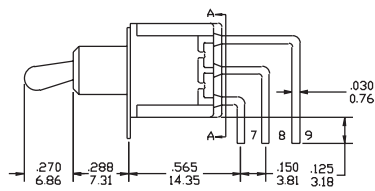
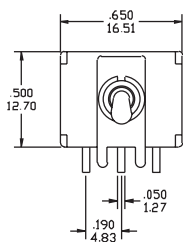


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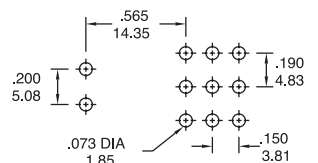


Part N° shown: 1A21-N2F4V9AE

**V9
3PDT**



P.C. LAYOUT

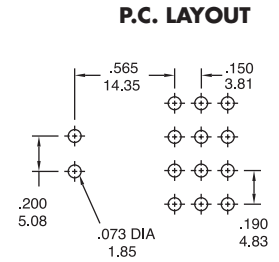
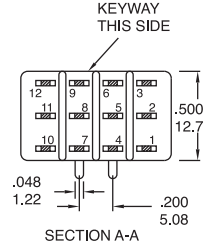
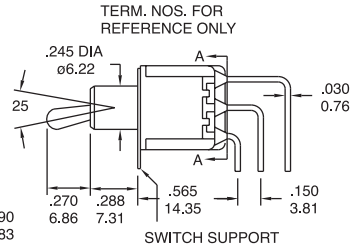
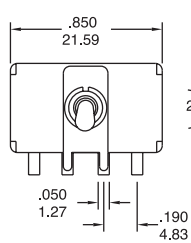


Part N° shown: 1A31-N2F4V9AE

SERIES 1A

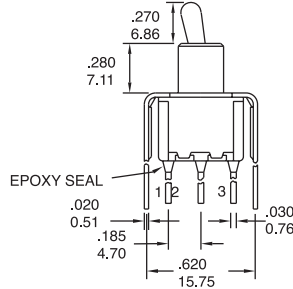
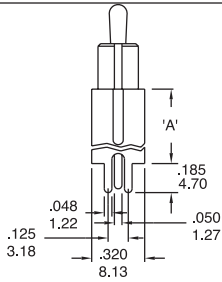
TERMINATIONS

V9
4PDT

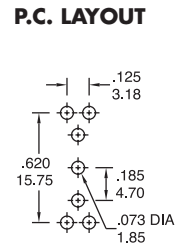


Part N° shown: 1A41-N2F4V9AE

U2 U3
SPDT

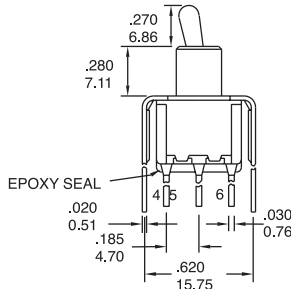
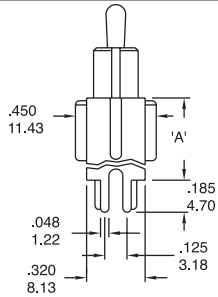


Dim. A	
U2	.460 (11.68)
U3 (Δ)	.630 (16.00)

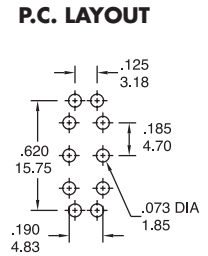


Part N° shown: 1A11-N2F4U_SE

U2 U3
DPDT

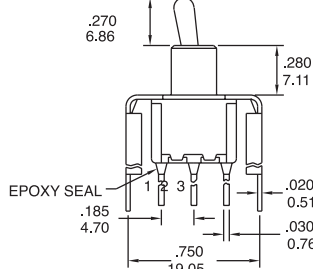
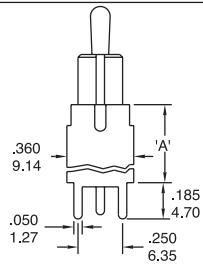


Dim. A	
U2	.460 (11.68)
U3 (Δ)	.630 (16.00)

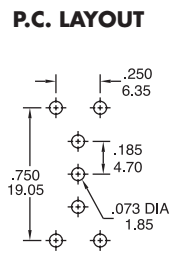


Part N° shown: 1A21-N2F4U_SE

U4 U5
SPDT

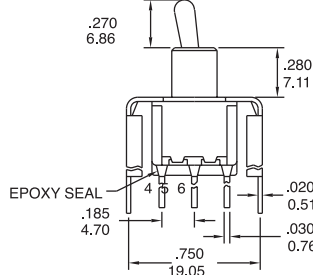
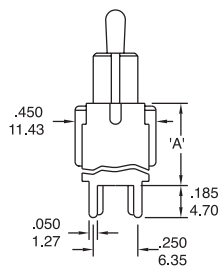


Dim. A	
U4 (Δ)	.460 (11.68)
U5	.630 (16.00)

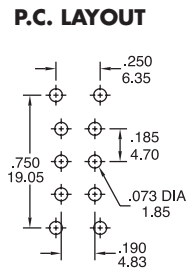


Part N° shown: 1A11-N2F4U_SE

U4 U5
DPDT



Dim. A	
U4 (Δ)	.460 (11.68)
U5	.630 (16.00)



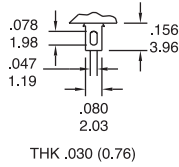
Part N° shown: 1A21-N2F4U_SE

(Δ) Min qty required

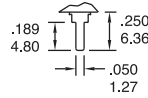


SERIES 1A

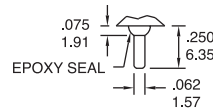
TERMINATIONS



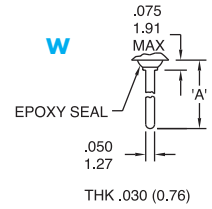
ST



PC



QC Quick Connect



W

Dim. A

W1 .750 (19.05)

W3 .425 (10.80)

SEALING



E



E

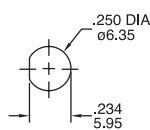
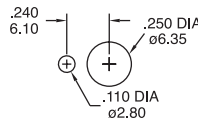
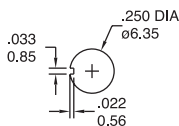
CONTACT MATERIALS

CONTACT RATINGS

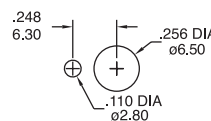
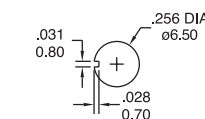
- S (std)** **Moving Contacts:** silver plated brass
Terminals: silver plated brass
Rating: 2 Amps with resistive load @ 250 VAC
 5 Amps with resistive load @ 125 VAC or 28 VDC
- A** **Moving Contacts:** gold plating over nickel plated brass
Terminals: gold plating over nickel plated brass
Rating: 0.4 Volts/Amps max @ 20 Volts max (AC or DC)
- G** **Moving Contacts:** gold plating over silver plated brass
Terminals: gold plating over silver plated brass
Note: G option is used for either "high" (2 Amps @ 250 VAC) or "low" (0.4 Volts/Amps max) contact rating (one excludes the other)

PANEL CUT-OUT

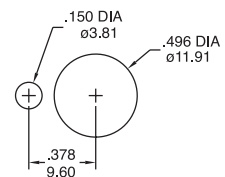
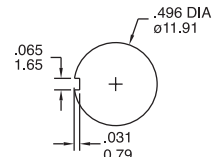
1/4 IN. BUSHING



METRIC BUSHING



15/32 IN. BUSHING

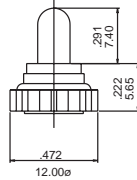


SERIES 1A

ACCESSORIES

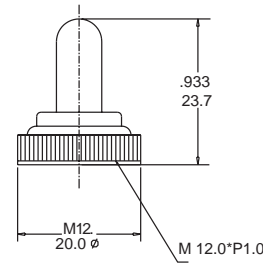
SEALINGS

Rubber Hood sealing for toggle "N"



1AK1 Metric
1AE1 Inch (STD)

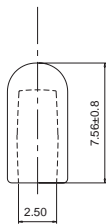
Rubber Hood sealing for toggle "G" and "GX"



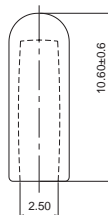
1AF0

TOGGLE CAPS

C1



C2



TOGGLE CAPS COLOUR

1	White	6 (Δ)	Green
2	Black (std)	7 (Δ)	Blue
3	Red	8 (Δ)	Brown
4 (Δ)	Orange	9 (Δ)	Gray
5 (Δ)	Yellow		

Part Number

Colour

PACKAGING

Transparent Trays 15x21x4 cm



Qty per tray: (ST, PC Terminals)
Series 1A1x 200 pcs
1A2x 100 pcs
1A3x 100 pcs
1A4x 50 pcs

MARKING (on products)

The switches are individually marked with the following information:

- Side 1** TRADE MARK
SERIES AND MODEL
DATE CODE
- Side 2** RATING
CONTACTS

Note: Not all information may be available on some products.

LABELLING (on packaging)

The label on each tray gives full information on the products contained.



A Bar code indicating Model, Quantity, Date Code enables easy traceability.

(Δ) Min qty required