

3P Series Miniature Pushwheel Switches



Features/Benefits

- Snap-in front mount design for easy assembly
- 10 position models available
- Illuminated backlighting available

Typical Applications

- Test & measurement equipment
- Industrial machinery
- Computer peripherals

Build-A-Switch

Our easy Build-A-Switch concept allows you to mix and match options to create the switch you need. Below is a complete listing of options shown in catalog. To order, simply select desired option from each category and place in the appropriate box. Available options are shown and described on pages J-19 thru J-21. For additional options not shown in catalog, consult Customer Service Center.

Typical Example: **3 P** — **4** — **2 1** — **0** — **0** — **0** — **0** —

Series

3P (STD.) Miniature pushwheel

Number of Sections

- 0** Switch section
- 1** 1 Switch section
- 2** 2 Switch sections
- 3** 3 Switch sections
- 4** 4 Switch sections

Function Code

- 11** Decimal
- 21** BCD 1-2-4-8
- 23** Complement of BCD 1-2-4-8
- 65** SPDT repeating

Mounting Style

- 0** Snap-in, front mount
- 3** Snap-in, front mount

Terminations

- 0** (STD.) Short PCB
- 1** Extended PCB
- 3** Short PCB with solder pins
- 9** Any combination
- A** Extended PCB with solder pins
- L** Right angle, no components
- P** Right angle with solder pins
- W** Right angle PC board with provision for components
- Y** Right angle with solder pins

Color/Marking/Stops

- 0** Matte black housing, gloss black wheel, white marking, black pushbutton
- 1** Matte gray housing, gloss black wheel, white marking, black pushbutton
- 9** Combination of body colors, wheel colors, marking and/or stops

Dust Lens

- 0** (STD.) No lens
- 2** Dust lens

Illumination

- NONE** (STD.) No illumination
- 3** Red LED
- 5** Yellow LED
- 6** Green LED



Thumbwheel & Pushwheel

Specifications

CONTACT RATING:
 CARRY: 1 AMP continuous.
 SWITCH: 0.4 VA max., 100 mA max., 28 V DC max.
 OPERATING VOLTAGE: 50 mV to 28 V DC.
 ELECTRICAL LIFE: 100,000 actuations.
 CONTACT RESISTANCE: Below 300 milliohms typ. @
 2-4 V DC, 100 mA.
 INSULATION RESISTANCE: 10^9 ohms min. (dry).
 DIELECTRIC STRENGTH: 500 V RMS min. @ sea level
 between common terminal and any output.
 OPERATING TEMPERATURE: -10°C to 65°C .

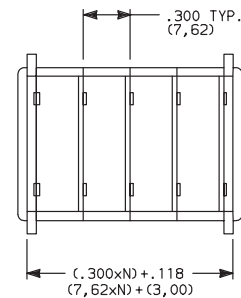
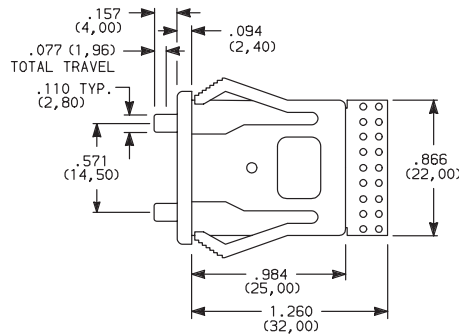
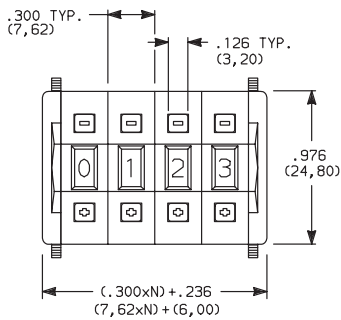
Materials

HOUSING: Polycarbonate (UL 94V-0).
 PUSHWHEEL: Polycarbonate (UL 94V-0).
 PUSHBUTTON: Polycarbonate (UL 94V-0).
 ROTOR CONTACTS: Gold over nickel over copper alloy.
 STATOR CONTACTS: Hard gold over nickel over copper
 on epoxy fiberglass.

NOTE: Specifications and materials listed above are general specifications for switches with standard options. For information on specific and custom switches, consult Customer Service Center.

SERIES

3P (STD.) MINIATURE PUSHWHEEL SWITCH



N = Number of sections.



3P4210000

PART NUMBER	NO. SECTIONS	NO. POSITIONS
3P4210000	4	10

NUMBER OF SECTIONS

- 0** Switch section only, no endplates.
1-4 Number of switch sections in assembly, includes endplates.

NOTE: Endplates and blank sections available separately, see section L.

FUNCTION CODE

11 DECIMAL, SP, 10 POSITION

WHEEL	SIGNALS CONNECTED TO COMMON SIGNAL C									
	0	1	2	3	4	5	6	7	8	9
0	●									●
1		●								●
2			●							●
3				●						●
4					●					●
5						●				●
6							●			●
7								●		●
8									●	●
9										●
	2	3	4	5	6	7	8	9	10	11
	TERM. LOCATION									

Available Terminations: L, P, W, Y
 See fig. 3, page J-21.

21 BCD 1-2-4-8, 10 POSITION

WHEEL	SIGNALS CONN. TO COMM. SIG. C			
	1	2	4	8
0				●
1	●			●
2		●		●
3	●		●	●
4			●	●
5	●			●
6		●		●
7	●	●		●
8			●	●
9	●			●
	1	3	5	7
	TERM. LOCATION			

Available Terminations: A, L, P, W, Y, 0, 1, 3
 See figs. 2 & 3, page J-21.

23 COMPLEMENT OF BCD 1-2-4-8, 10 POSITION

WHEEL	SIGNALS CONN. TO COMM. SIG. C			
	1	2	4	8
0	●	●	●	●
1		●	●	●
2	●		●	●
3		●		●
4	●			●
5		●		●
6	●		●	●
7		●	●	●
8	●	●	●	●
9		●	●	●
	1	7	9	3
	TERM. LOCATION			

Available Terminations: A, L, P, W, Y, 0, 1, 3
 See figs. 2 & 3, page J-21.

65 SPDT REPEATING, 10 POSITION ZERO (0) AND FIVE (5) ALTERNATING

WHEEL	SIG. CONN. TO C	
	0	5
0	●	●
1		●
2	●	
3		●
4	●	
5		●
6	●	
7		●
8	●	
9		●
	3	5
	TERM. LOC.	

Available Terminations: A, L, P, W, Y, 0, 1, 3
 See figs. 2 & 3, page J-21.

NOTE: For terminal location diagrams, see page J-21.

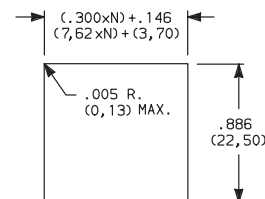
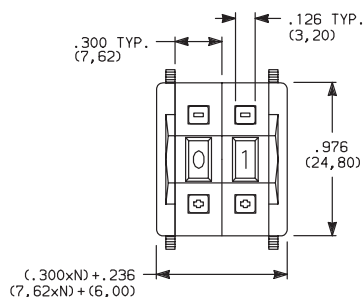
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MOUNTING STYLE



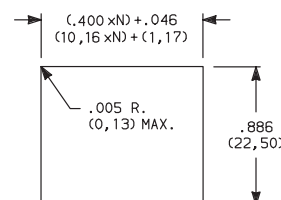
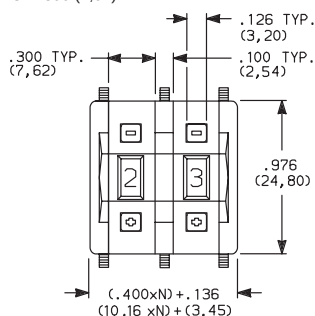
- 0** SNAP-IN FRONT MOUNT,
SECTION PITCH: .300 (7,62) EACH SECTION



N = Number of sections.

Recommended panel thickness:
.039 - .156
(0,99 - 3,95)

- 3** SNAP-IN FRONT MOUNT WITH SPACER,
SECTION PITCH: .400 (70,16) EACH SECTION, LAST SECTION .300 (7,62)



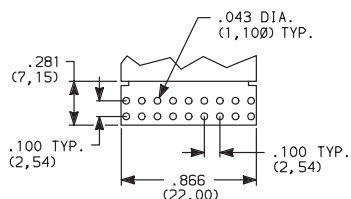
N = Number of sections.

Recommended panel thickness:
.039 - .156
(0,99 - 3,95)

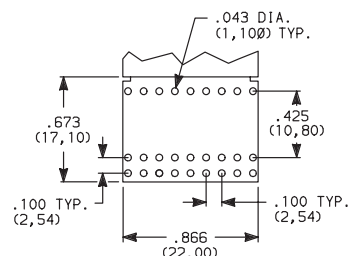
TERMINATIONS



- 0** (STD.) SHORT PCB

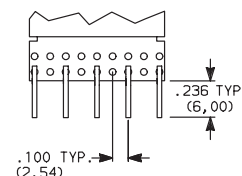


- 1** EXTENDED PCB WITH PROVISION
FOR COMPONENTS



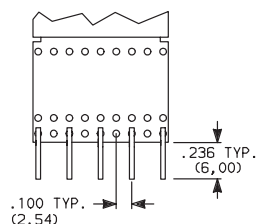
Signal traces cut, except for common(s).

- 3** SHORT PCB, TYPE 0 WITH SOLDER PINS



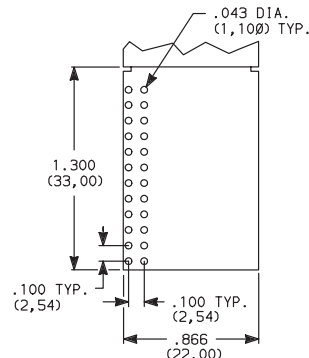
For terminal location numbers, see below.

- A** EXTENDED PCB, TYPE 1 WITH
SOLDER PINS



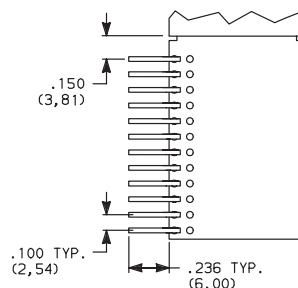
For terminal location numbers, see below.
Signal traces cut, except for common(s).

- L** RIGHT ANGLE, NO COMPONENTS



PC Board 1/32" (0,79) thick.

- P** RIGHT ANGLE, TYPE L WITH SOLDER PINS

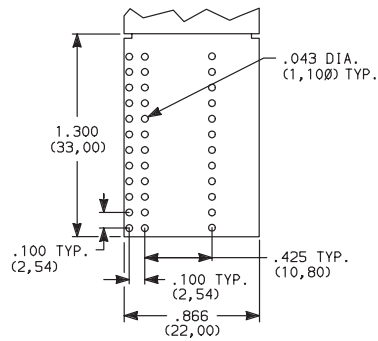


For terminal location numbers, see below.
Unsuitable for panel mounting.

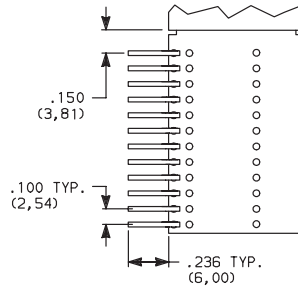
NOTE: All terminal holes shown may not be present for all function codes,
consult Customer Service Center.

TERMINATIONS

W RIGHT ANGLE PCB WITH PROVISION FOR COMPONENTS



Y RIGHT ANGLE, TYPE WITH SOLDER PINS



For terminal location numbers, see below.
Unsuitable for panel mounting.

9 ANY COMBINATION OF TERMINATION CONFIGURATIONS OR SPECIAL TERMINATIONS

Specify on configuration form, page J-22 and consult Customer Service Center.

Signal traces cut, except for common(s).

PC Board 1/32" (0,79) thick.

NOTE: All terminal holes shown may not be present for all function codes, consult Customer Service Center.

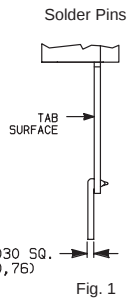


Fig. 1

Terminal Location Numbers

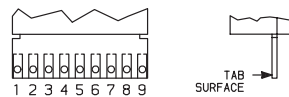


Fig. 2

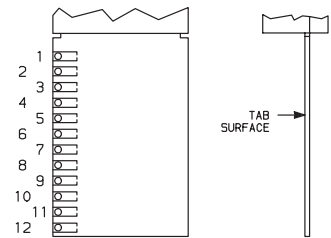


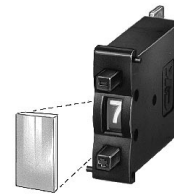
Fig. 3

COLOR/MARKING/STOPS

- 0** (STD.) MATTE BLACK HOUSING (Gloss black wheel with white characters, black pushbuttons, no stops.)
- 1** MATTE GRAY HOUSING (Gloss black wheel with white characters, black pushbuttons, no stops.)
- 9** SPECIAL COLORS, MARKINGS FOR HOUSING OR WHEEL, STOPS (Specify on CONFIGURATION FORM, page J-22 and consult Customer Service Center).

DUST LENS

- 0** (STD.) NO LENS
- 2** DUST LENS (Protects character face of the wheel from abrasion and dust.)



ILLUMINATION

- NONE** (STD.) NO ILLUMINATION
- 3** RED LED
- 5** YELLOW LED
- 6** GREEN LED

NOTE: Internal LED illuminates wheel character for low-light visibility.

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Configuration Form

GRAY SHADED AREAS TO BE FILLED IN BY C&K.

C&K CATALOG PART NO.

3 P

C&K PART NUMBER

C&K PART NUMBER

COMPANY NAME

ADDRESS TEL.#

CUSTOMER CONTACT DATE

ORIGINATED BY SALES REP.

CUSTOMER
PRINT
REVISION:

DETAILS:



Thumbwheel & Pushwheel

PUSHWHEEL SECTIONS	NO. OF SEC.	FUNCTION CODE—TERMINATIONS— COLOR/MARKING/STOPS/SEAL— ILLUMINATION ENTER OPTION CODES IN APPROPRIATE BOXES. FUNCTION CODES INCLUDE BLANK SECTIONS (SEE CATALOG PAGE NO TAG).	DESCRIBE IN APPROPRIATE ROW
☐ 1 ☐	1		
☐ 2 ☐	2		
☐ 3 ☐	3		
☐ 4 ☐	4		
☐ 5 ☐	5		
☐ 6 ☐	6		
☐ 7 ☐	7		
☐ 8 ☐	8		
☐ 9 ☐	9		
☐ 0 ☐	10		
☐ 1 ☐	11		

QUALITY CONTROL INSTRUCTIONS

PRODUCTION APPROVAL

DATE

Q.C. APPROVAL

DATE

REV.

INITIALS

DATE

FOR SWITCHES WITH MORE THAN 11 SECTIONS, CONTINUE ON ADDITIONAL SHEETS.

SPECIAL INSTRUCTIONS OR SPECIFICATIONS:

SHEET ____ OF ____