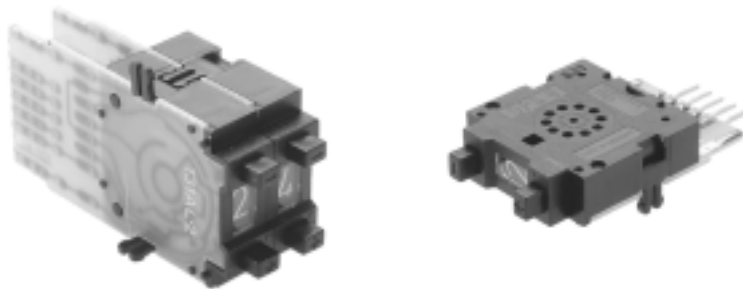# DPS8 SERIES MINIATURE PUSHWHEEL SWITCHES

FEATURES

- **Lower cost miniature pushwheel switches with large visible readout characters**
- **Bi-directional snap action detent pushbutton mechanism**
- **Black housing and drum with white printing**
- **Gangable rear mounting models with spacers and side covers**
- **Gold wiping action contacts**
- **PC board options include solderable lands**

DPS8 SPECIFICATIONS

Panel mounting hole:

Height	.709"(18mm)
Width	.315"(8mm)

Installed depth with pc board:

Short	1.260"(32mm)
Long	1.614"(41mm)
Insertion from front	no
Insertion from rear	yes

CODES

Code	positions	marking	
111 Decimal	10	0-9	see truth tables
131 BCD	10	0-9	see truth tables
137 BCD comp	10	0-9	see truth tables
141 BCD + comp	10	0-9	see truth tables
301 Hexadecimal	16	0-9, A-F(0-15)	see truth tables
400 change-over	10	+,-,+,-,etc..	see truth tables

ELECTRICAL DATA

Operating voltage:	40 V max.
Contact load, static:	1 A max.
Contact load, dynamic:	100 mA max.
Contact resistance (type AK):	less than 100 mOhm

TECHNICAL DATA

Operating temperature range:		-20°C to 80°C
Electric life, min. switching cycles		1,000,000
Actuation force, approx (oz.):		14
Weight, approx. (grams):		4
Character height:	10 digit	.193" (4.9mm)
	16 digit	.134" (3.4mm)
Audible click		yes
Vibration DIN EN 60068-2-6		yes
Shock DIN EN 60068-2-27		yes

MATERIALS

Body:	PPO
PC board:	FR 4 DIN 40802 IEC 249-2, Contact surface gold over nickel on copper
Sliding contact:	Gold over nickel on copper alloy

STANDARD COLORS

Housing,Drum,Printing

2 = black 3 = white	2,2,3

Other special features are available upon request including:

Factory or customer set stops (10 digit models)

LED illumination (transparent drum)

Red digits

Decimal point

Special codes or printing

Gray housing

See sockets at end of Pushwheel section.

DPS8 SERIES MINIATURE PUSHWHEEL SWITCHES

TRUTH TABLES

CODE 131 — BCD

	C	1	2	4	8
0	•				
1	•	•			
2	•		•		
3	•	•	•		
4	•			•	
5	•	•		•	
6	•		•	•	
7	•	•	•	•	
8	•				•
9	•	•			•

CODE 137 — BCD COMP.

	C	$\bar{1}$	$\bar{2}$	$\bar{4}$	$\bar{8}$
0	•	•	•	•	•
1	•		•	•	•
2	•	•		•	•
3	•			•	•
4	•	•	•		•
5	•		•		•
6	•	•			•
7	•				•
8	•	•	•	•	
9	•		•	•	

CODE 400 — CHANGE-OVER

	C	A+	A-
+	•	•	
-	•		•
+	•	•	
-	•		•
+	•	•	
-	•		•
+	•	•	
-	•		•
+	•	•	
-	•		•

CODE 301 — HEXADECIMAL

	1	2	4	8	C
0					•
1	•				•
2		•			•
3	•	•			•
4			•		•
5	•		•		•
6		•	•		•
7	•	•	•		•
8				•	•
9	•			•	•
A		•		•	•
B	•	•		•	•
C			•	•	•
D	•		•	•	•
E		•	•	•	•
F	•	•	•	•	•

CODE 111 — DECIMAL

	C	0	1	2	3	4	5	6	7	8	9
0	•	•									
1	•		•								
2	•			•							
3	•				•						
4	•					•					
5	•						•				
6	•							•			
7	•								•		
8	•									•	
9	•										•

CODE 141 — BCD + COMP.

	C	1	2	4	8	$\bar{1}$	$\bar{2}$	$\bar{4}$	$\bar{8}$
0	•					•	•	•	•
1	•	•					•	•	•
2	•		•			•		•	•
3	•	•	•					•	•
4	•			•		•	•		•
5	•	•		•			•		•
6	•		•	•		•			•
7	•	•	•	•					•
8	•				•	•	•	•	
9	•	•			•		•	•	

MECHANICAL OUTLINE WITH PANEL CUT-OUT & MOUNTING

n = number of switches

ø.134 [ø3.40]

.945 [24.00]

n X .314 [8.00] + .945 [24.00]

.138 [3.50]

.709 [18.00]

.134 [3.40]

.866 [22.00]

.866 [22.00]

.551 [14.00]

n X .314 [8.00] + .354 [9.00]

n X .314 [8.00] + .630 [16.00]

.748 [19.00]

.063 [1.60]

.039 [1.00]

.315 [8.00]

n X .314 [8.00] +.314 [8.00]

.165 [4.20]
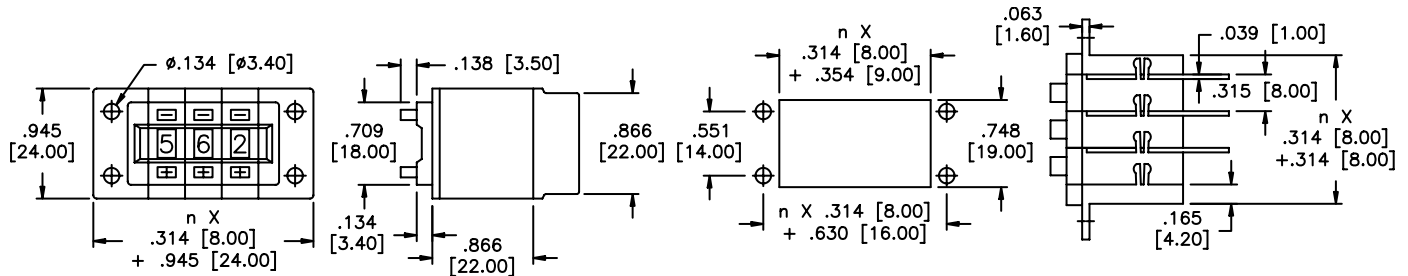
PIN CONNECTIONS

- The switching mode is shorting - i.e. - even during actuation, at least one output is connected to input C.
- "bl" is used for models ordered with LED illumination only.

Pitch .079"(2mm)
Pitch .067"(1.7mm)

AK

131	+		C	1	2	4	8		-
137	+		C	$\bar{1}$	$\bar{2}$	$\bar{4}$	$\bar{8}$		-
141	1	$\bar{1}$	2	$\bar{2}$	4	$\bar{4}$	8	$\bar{8}$	C
301	+		1	2	C	8	4		-
400	+		C	A+	A-				-

111	0	1	2	3	4	C	5	6	7	8	9	
111bl	+	0	1	2	3	4	C	5	6	7	8	9	-

131	C	1	2	4	8
301	C	1	2	4	8

131	C	1		2	4	8	
137	C	$\bar{1}$		$\bar{2}$	$\bar{4}$	$\bar{8}$	
301	C	1		2	4	8	
400	C			+	-		
131bl	+	C	1	2	4	8	-

DPS8 SERIES MINIATURE PUSHWHEEL SWITCHES

PRINTED CIRCUIT OPTIONS
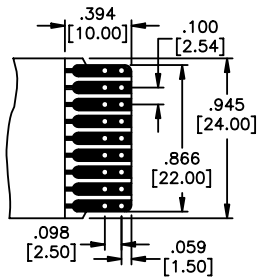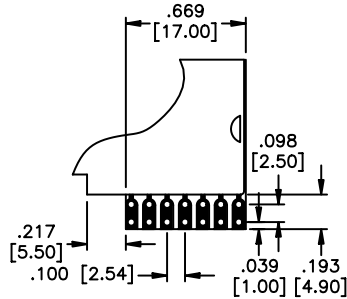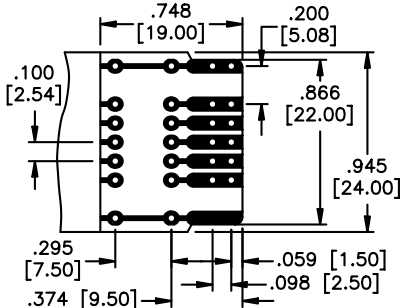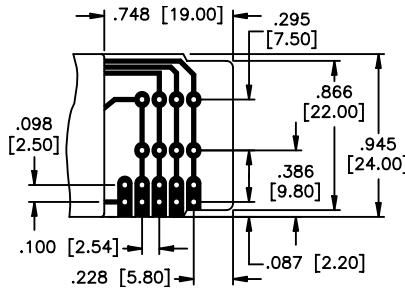
PC boards have .039" (1mm) holes and are suitable for soldering or socket connection (with the exception of LED illumination option).

.394 [10.00]
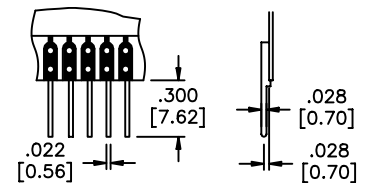.100 [2.54]
.945 [24.00]
.866 [22.00]
.098 [2.50]
.059 [1.50]

AK short pc board

.669 [17.00]
.098 [2.50]
.217 [5.50]
.100 [2.54]
.039 [1.00]
.193 [4.90]

AKU short pc board

.748 [19.00]
.200 [5.08]
.100 [2.54]
.866 [22.00]
.945 [24.00]
.295 [7.50]
.059 [1.50]
.098 [2.50]
.374 [9.50]

AL long pc board
For BCD models, the output traces are supplied disconnected

.748 [19.00]
.295 [7.50]
.866 [22.00]
.098 [2.50]
.945 [24.00]
.386 [9.80]
.100 [2.54]
.228 [5.80]
.087 [2.20]

ALU long pc board

.300 [7.62]
.022 [0.56]
.028 [0.70]
.028 [0.70]

LS pc board w/solder pins

Ordering information: Below is an order format that enables you to 'build your own switch' and specify the correct switch model number by simply selecting from available options shown and filling in the boxes. Consult factory for fully assembled switches.
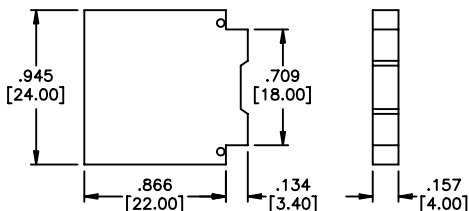
'BUILD YOUR OWN SWITCH' ORDER FORMAT

Series model	Code	PC board	Terminations	Standard colors
D P S 8				2

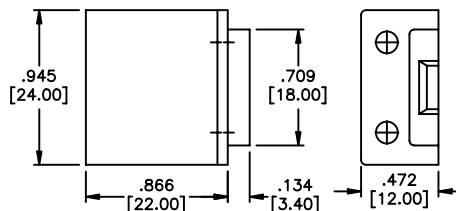| Code		PC board	Terminations	Standard colors
1 1 1 Decimal		A K Short	(NONE)	Black housing.
1 3 1 BCD		A K U Short (rt. angle)	L S With pc	& drum, white
1 3 7 BCD comp.		A L Long	solder pins	lettering.
1 4 1 BCD +comp.		A L U Long (rt. angle)		
3 0 1 Hexadecimal.				
4 0 0 Change-over				

Example of complete model no.: DPS8131ALLS2
Order SP12 as a separate line item for limit stop pin (for 10 position models only).

ACCESSORIES
Order separately

.945 [24.00]
.709 [18.00]
.866 [22.00]
.134 [3.40]
.157 [4.00]

DPS8A2 Spacer

.945 [24.00]
.709 [18.00]
.866 [22.00]
.134 [3.40]
.472 [12.00]

DPS8PW2 Pair of side covers

.945 [24.00]
.709 [18.00]
.866 [22.00]
.134 [3.40]
.315 [8.00]

DPS8L2 Dummy housing

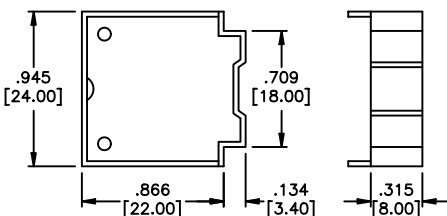.945 [24.00]
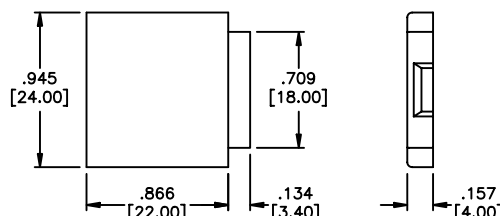.709 [18.00]
.866 [22.00]
.134 [3.40]
.157 [4.00]

DPS8P2 Pair of side covers

DPS8L2
Dummy switches
These are empty plastic housings with the same dimensions as DPS8 model (see outline). Use to fill hole where switch is not needed.