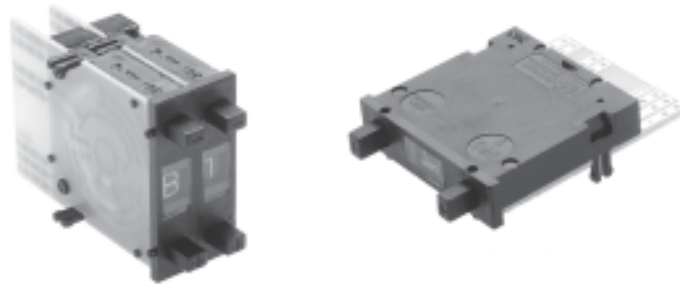




**THE DATASHEET OF
DPS9111AK2**



DPS9 SERIES PUSHWHEEL SWITCHES



FEATURES

- .315"(8mm) wide pushwheel switches with extra large visible readout characters .
- Bi-directional snap action detent pushbutton mechanism.
- Black housing and drum with white printing.
- Gangable front mounting models with spacers and side covers.
- Gold wiping action contacts.
- P.C. board options include solderable lands.

DPS9 SPECIFICATIONS

| | |
|----------------------------------|--------------|
| Panel mounting hole: | |
| Height | 1.300"(33mm) |
| Width | .315"(8mm) |
| Installed depth with p.c. board: | |
| Short | 1.535"(39mm) |
| Long | 1.968"(50mm) |
| Insertion from front | yes |
| Insertion from rear | no |

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 |
| 307 Hexadec comp | 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 | greater than 1,000,000 |
| Actuation force, approx (oz.): | 16 |
| Weight, approx. (grams): | 6.5 |
| Character ht: 10 digit - .268" (6.8mm) | 16 digit - .169" (4.3mm) |
| Audible click | yes |
| Vibration DIN IEC 68, parts 2-6 | yes |
| Shock DIN 40046, part 7 | 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)
- L.E.D. illumination (transparent drum)
- Red digits
- Decimal point
- Special codes or printing
- Gray housing
- See sockets at end of Pushwheel section.

DPS9 SERIES 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 | 1 | 2 | 4 | 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 307 HEXADEC. COMP. | | C | 1 | 2 | 4 | 8 |
|----------------------------|---|---|---|---|---|---|
| 0 | ● | ● | ● | ● | ● | ● |
| 1 | ● | | ● | ● | ● | ● |
| 2 | ● | ● | | ● | ● | ● |
| 3 | ● | | | ● | ● | ● |
| 4 | ● | ● | ● | | ● | ● |
| 5 | ● | | ● | | ● | ● |
| 6 | ● | ● | | | ● | ● |
| 7 | ● | | | | ● | ● |
| 8 | ● | ● | ● | ● | ● | ● |
| 9 | ● | | ● | ● | ● | ● |
| A | ● | ● | | ● | ● | ● |
| B | ● | | ● | ● | ● | ● |
| C | ● | ● | ● | | ● | ● |
| D | ● | | ● | | ● | ● |
| E | ● | ● | | | ● | ● |
| F | ● | | | | ● | ● |

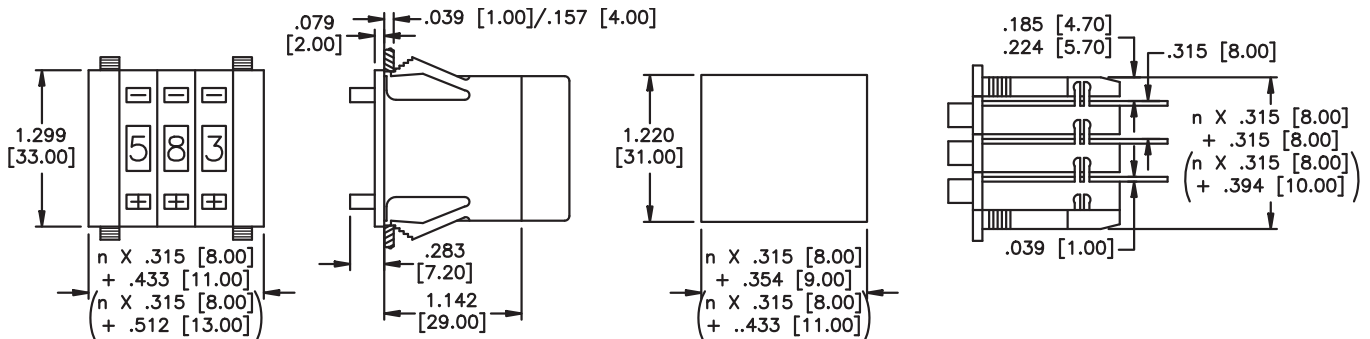
| CODE 111 DECIMAL | | C | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | ● | ● | | | | | | | | | | |
| 1 | ● | | ● | | | | | | | | | |
| 2 | ● | | | ● | | | | | | | | |
| 3 | ● | | | | ● | | | | | | | |
| 4 | ● | | | | | ● | | | | | | |
| 5 | ● | | | | | | ● | | | | | |
| 6 | ● | | | | | | | ● | | | | |
| 7 | ● | | | | | | | | ● | | | |
| 8 | ● | | | | | | | | | ● | | |
| 9 | ● | | | | | | | | | | ● | |

| CODE 141 BCD + COMP. | | C | 1 | 2 | 4 | 8 | 1 | 2 | 4 | 8 |
|-------------------------|---|---|---|---|---|---|---|---|---|---|
| 0 | ● | | | | | | ● | ● | ● | ● |
| 1 | ● | ● | | | | | ● | ● | ● | ● |
| 2 | ● | | ● | | | | ● | ● | ● | ● |
| 3 | ● | ● | ● | | | | ● | ● | ● | ● |
| 4 | ● | | | ● | | | ● | ● | ● | ● |
| 5 | ● | ● | ● | | | | ● | ● | ● | ● |
| 6 | ● | | | | ● | | ● | ● | ● | ● |
| 7 | ● | ● | ● | ● | | | ● | ● | ● | ● |
| 8 | ● | | | | | ● | ● | ● | ● | ● |
| 9 | ● | ● | | | | ● | ● | ● | ● | ● |

MECHANICAL OUTLINE WITH PANEL CUT-OUT & MOUNTING

n = number of decades

Dimensions in brackets apply when **DPS910PB2** side covers are used.



PIN CONNECTIONS

● The switching mode is shorting - i.e. - even during actuation, at least one output is connected to input C.

| | + | 1 | 2 | | | C | 8 | 4 | - |
|-------|---|---|---|---|---|----|----|---|---|
| ● 131 | + | 1 | 2 | | | C | 8 | 4 | - |
| ● 137 | + | 1 | 2 | | | C | 8 | 4 | - |
| ● 141 | + | | 2 | 4 | 2 | C | 8 | 1 | 8 |
| ● 301 | + | 1 | 2 | | | C | 8 | 4 | - |
| ● 307 | + | 1 | 2 | | | C | 8 | 4 | - |
| ● 400 | + | C | | | | A- | A+ | | - |
| ● 111 | | 0 | 1 | 2 | 3 | C | 4 | 5 | 6 |

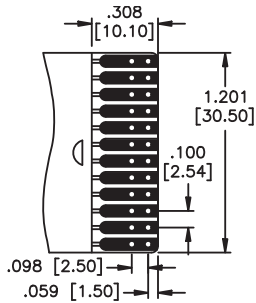
111bl + C 0 1 2 3 4 5 6 7 8 9 - Pitch .079" (2mm)

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

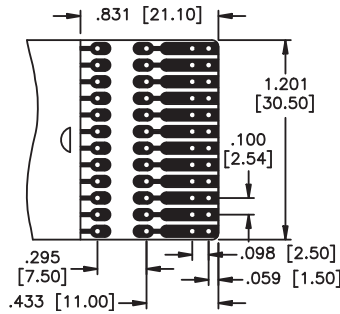
DPS9 SERIES PUSHWHEEL SWITCHES

PRINTED CIRCUIT OPTIONS

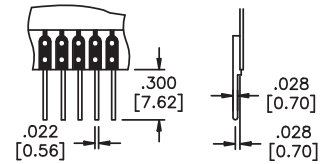
P.C. boards have .039" (1mm) holes and are suitable for soldering or socket connection (with the exception of LED illumination option).



AK short p.c. board



AL long p.c. board
Allows customer to add resistors, diodes, ect.



LS p.c. 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.

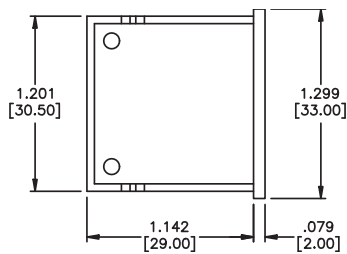
'BUILD YOUR OWN SWITCH' ORDER FORMAT

| Series model | Code | P.C. board | Terminations | Standard colors |
|--------------|-------------------------|------------|---------------------------|---|
| D P S 9 | | | | 2 |
| | 1 1 1 Decimal | A K Short | (NONE) | Black housing. & drum, white lettering. |
| | 1 3 1 BCD | A L Long | L S with p.c. solder pins | |
| | 1 3 7 BCD comp. | | | |
| | 1 4 1 BCD + comp. | | | |
| | 3 0 1 Hexadecimal. | | | |
| | 3 0 7 Hexadecimal comp. | | | |
| | 4 0 0 Change-over | | | |

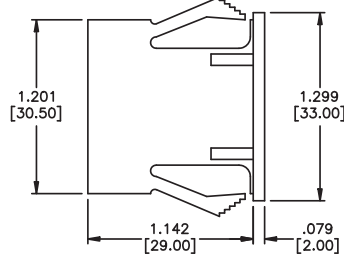
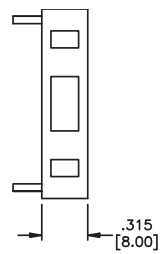
Example of complete model no.: **DPS9141AKLS2**
Order SP15 as a separate line item for limit stop pin (for 10 position models only).

ACCESSORIES

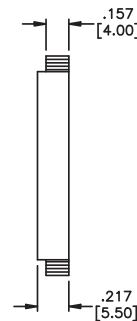
Order separately



DPS9L2 Dummy housing

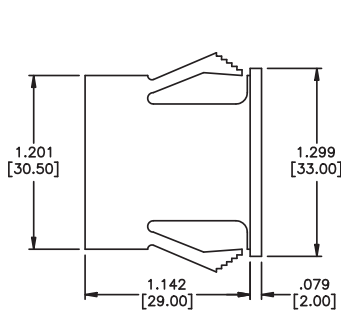


DPS910P2 Pair of side covers

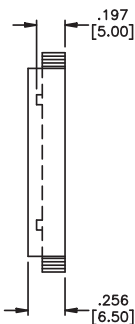


DPS9L2 Dummy switches

These are empty plastic housings with the same dimensions as DPS9 model (see outline). Use to fill hole where switch is not needed.



DPS910PB2 Pair of side covers



DPS910A2 Spacer

