# 12.5 mm Modular Panel Potentiometer
# High Dielectric Strength

## FEATURES

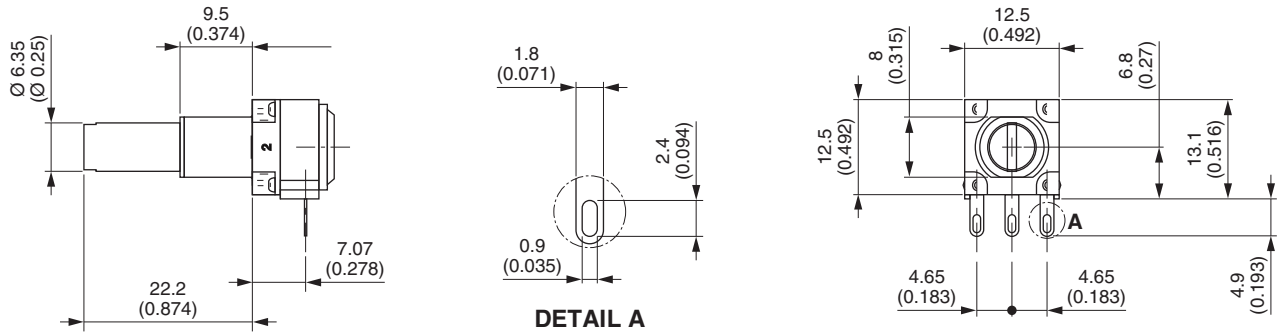
- High dielectric strength potentiometer up to 5000 $V_{RMS}$
- 12.5 mm square single turn panel control
- Plastic shaft and bushing
- Two shaft lengths and 29 terminal styles
- P11P: Cermet element
- P11D: Conductive plastic element
- Multiple assemblies - up to seven modules
- Test according to CECC 41000 or IEC 60393-1
- Shaft and panel sealed version
- Up to twenty-one indent positions
- Rotary switch options
- Custom designs on request
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

RoHS COMPLIANT

| VERSATILE | MODULAR | COMPACT | ROBUST |
|---|---|---|---|

## CONFIGURATION EXAMPLE - Dimensions in millimeters (inches) ± 0.5 mm (± 0.02")

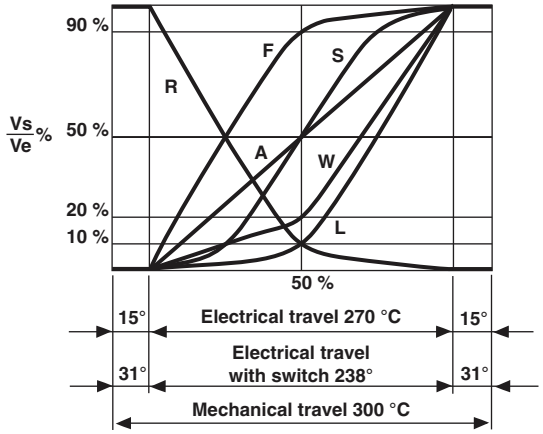
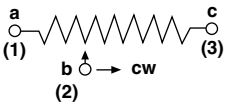
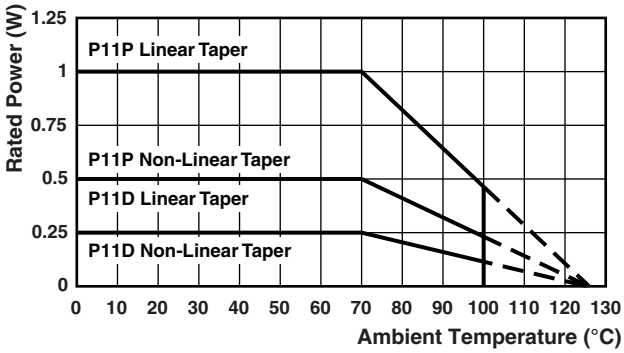
Single module, single shaft, solder lugs, metric bushing and shaft




Single module, single shaft, vertical mounting, PC pins with support plate, metric bushing and shaft


Dual modules, single shaft, PC pins with front support plates, imperial bushing and shaft

## GENERAL SPECIFICATIONS

| **ELECTRICAL** (initial) | | | |
|---|---|---|---|
| | | **P11D** | **P11P** |
| **Resistive element** | | Conductive plastic | Cermet |
| **Electrical travel** | | 270° ± 10° | 270° ± 10° |
| **Resistance range** [1] | **Linear taper** | 1 kΩ to 1 MΩ | 20 Ω to 10 MΩ |
| | **Non-linear taper** | 470 Ω to 500 kΩ | 100 Ω to 2.2 MΩ |
| **Tolerance** | **Standard** | ± 20 % | ± 20 % |
| | **On request** | - | ± 5 % or ± 10 % |
| **Taper** | |  | |
| **Circuit diagram** | |  | |
| **Power rating at 70 °C** | **Linear taper** | 0.5 W at +70 °C | 1 W at +70 °C |
| | **Non-linear taper** | 0.25 W at +70 °C | 0.5 W at +70 °C |
| | **Multiple assemblies** | 0.25 W at +70 °C per module | 0.5 W at +70 °C per module |
| | |  | |
| **Temperature coefficient, -40 °C to +100 °C (typical)** | | ± 500 ppm | ± 150 ppm |
| **Limiting element voltage** | | 350 V | 350 V |
| **End resistance (typical)** | | 2 Ω | 2 Ω |
| **Contact resistance variation (typical)** | **Linear taper** | 1 % | 2 % or 3 Ω |
| **Independent linearity (typical)** | **Linear taper** | ± 5 % | ± 5 % |
| **Insulation resistance** | | $10^6$ MΩ min. | $10^6$ MΩ min. |
| **Dielectric strength** | **Leads to support plate** | 3000 $V_{RMS}$ min. | 3000 $V_{RMS}$ min. |
| | **Leads to shaft and bushing** | 5000 $V_{RMS}$ min. | 5000 $V_{RMS}$ min. |
| **Mechanical endurance** | | 50 000 cycles | 50 000 cycles |







**Notes**

- Nothing stated herein shall be construed as a guarantee of quality or durability.

[1] Consult Vishay Sfernice for other ohmic values

| MECHANICAL (initial) | |
|---|---|
| **Mechanical travel** | 300° ± 5° |
| **Operating torque (typical)** | |
| **Single and dual assemblies** | 0.2 Ncm to 1 Ncm max. (0.3 oz.-inch to 1.4 oz.-inch max.) |
| **Three to seven modules (per module)** | 0.2 Ncm to 0.3 Ncm max. (0.3 oz.-inch to 0.45 oz.-inch max.) |
| **End stop torque** | 80 Ncm max. (6.8 lb-inch max.) |
| **Tightening torque** | 150 Ncm max. (13 lb-inch max.) |
| **Weight** | |
| **Single assemblies** | 3.5 g |
| **Two to seven modules (per module)** | 1.5 g to 2 g (0.25 oz. to 0.32 oz.) |

| ENVIRONMENTAL SPECIFICATIONS | | |
|---|---|---|
| | **P11D** | **P11P** |
| **Operating temperature range** | -40 °C to +100 °C | -40 °C to +100 °C |
| **Climatic category** | 40/100/21 | 40/100/56 |
| **Sealing** | IP64 | IP64 |
| **Storage temperature** | -40 °C to +100 °C | -40 °C to +100 °C |

## MARKING

- **Potentiometer module**
  Vishay logo, nominal ohmic value (Ω, kΩ, MΩ), two stars identify P11D version, tolerance in % - variation law, manufacturing date (four digits), “3” for the lead 3
- **Switch module**
  Version, manufacturing date (four digits), “c” for common lead
- **Indent module**
  Version, manufacturing date (four digits)

## PACKAGING

- Box

## PERFORMANCES

| TESTS | CONDITIONS | TYPICAL VALUE AND DRIFTS | | |
|---|---|---|---|---|
| | | | **P11D** | **P11P** |
| **Electrical endurance** | 1000 h at rated power<br>90’/30’ - ambient temp. 70 °C | $\Delta R_T/R_T$<br>Contact resistance variation | ± 10 %<br>± 5 % | ± 2 %<br>± 4 % |
| **Change of temperature** | -40 °C to +100 °C, 5 cycles | $\Delta R_T/R_T$ | ± 0.5 % | ± 0.2 % |
| **Damp heat, steady state** | +40 °C, 93 % relative humidity<br>P11P: 56 days, P11D: 21 days | $\Delta R_T/R_T$<br>Insulation resistance | ± 5 %<br>> 10 MΩ | ± 2 %<br>> 1000 MΩ |
| **Mechanical endurance** | 50 000 cycles | $\Delta R_T/R_T$<br>Contact resistance variation | ± 6 %<br>± 4 % | ± 5 %<br>± 5 % |
| **Climatic sequence** | Dry heat at +125 °C/damp heat<br>cold -55 °C/damp heat, 5 cycles | $\Delta R_T/R_T$ | - | ± 1 % |
| **Shock** | 50 *g*’s, 11 ms<br>3 shocks - 3 directions | $\Delta R_T/R_T$<br>$\Delta R_{1-2}/R_{1-2}$ | ± 0.2 %<br>± 0.5 % | ± 0.2 %<br>± 0.5 % |
| **Vibration** | 10 Hz to 55 Hz<br>0.75 mm or 10 *g*’s, 6 h | $\Delta R_T/R_T$<br>$\Delta V_{1-2}/V_{1-3}$ | ± 0.2 %<br>± 0.5 % | ± 0.2 %<br>± 0.5 % |

## ORDERING INFORMATION (part number)

| P | 1 | 1 | P | 2 | F | 0 | G | G | S | Y | 0 | 0 | 1 | 0 | 3 | M | A |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

| MODEL | STYLE | NUMBER OF MODULES | BUSHING | OPTION | SHAFT | SHAFT STYLE | LEADS | RESISTANCE CODE/ TOLERANCE/ TAPER OR SPECIAL |
|---|---|---|---|---|---|---|---|---|
| P11 | P = cermet element<br>D = conductive plastic (audio) | 1<br>2<br>3<br>4<br>5<br>6<br>7 | | | | | | |

## STANDARD RESISTANCE ELEMENT DATA

| STANDARD RESISTANCE VALUES | P11P CERMET | | | | | | P11D CONDUCTIVE PLASTIC | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | LINEAR TAPER | | | NON LINEAR TAPER | | | LINEAR TAPER | | | NON LINEAR TAPER | | |
| | MAX. POWER AT 70 °C | MAX. WORKING VOLTAGE | MAX. CUR. THROUGH WIPER | MAX. POWER AT 70 °C | MAX. WORKING VOLTAGE | MAX. CUR. THROUGH WIPER | MAX. POWER AT 70 °C | MAX. WORKING VOLTAGE | MAX. CUR. THROUGH WIPER | MAX. POWER AT 70 °C | MAX. WORKING VOLTAGE | MAX. CUR. THROUGH WIPER |
| Ω | W | V | mA | W | V | mA | W | V | mA | W | V | mA |
| 22 | 1 | 4.69 | 213 | | | | | | | | | |
| 47 | 1 | 6.86 | 146 | | | | | | | | | |
| 50 | 1 | 7.07 | 141 | | | | | | | | | |
| 100 | 1 | 10.0 | 100 | 0.5 | 7.07 | 70.7 | | | | | | |
| 220 | 1 | 14.8 | 67.4 | 0.5 | 10.0 | 47.7 | | | | | | |
| 470 | 1 | 21.7 | 46.1 | 0.5 | 15.3 | 32.6 | | | | | | |
| 500 | 1 | 22.4 | 44.7 | 0.5 | 15.8 | 31.6 | | | | 0.25 | 11.2 | 22.4 |
| 1K | 1 | 31.6 | 31.6 | 0.5 | 22.4 | 22.4 | 0.5 | 22.4 | 22.4 | 0.25 | 15.8 | 15.8 |
| 2.2K | 1 | 46.9 | 21.3 | 0.5 | 33.2 | 15.1 | 0.5 | 33.2 | 15.1 | 0.25 | 23.5 | 10.7 |
| 4.7K | 1 | 63.6 | 14.5 | 0.5 | 48.5 | 10.3 | 0.5 | 48.5 | 10.3 | 0.25 | 34.3 | 7.29 |
| 5K | 1 | 70.7 | 14.1 | 0.5 | 50.0 | 10.0 | 0.5 | 50.0 | 10.0 | 0.25 | 35.4 | 7.07 |
| 10K | 1 | 100 | 10.0 | 0.5 | 70.7 | 7.07 | 0.5 | 70.7 | 7.07 | 0.25 | 50.0 | 5.00 |
| 22K | 1 | 148 | 6.74 | 0.5 | 105 | 4.77 | 0.5 | 105 | 4.77 | 0.25 | 74.2 | 3.37 |
| 47K | 1 | 217 | 4.61 | 0.5 | 153 | 3.26 | 0.5 | 153 | 3.26 | 0.25 | 108 | 2.31 |
| 50K | 1 | 224 | 4.47 | 0.5 | 158 | 3.16 | 0.5 | 158 | 3.16 | 0.25 | 112 | 2.24 |
| 100K | 1 | 316 | 3.16 | 0.5 | 224 | 2.24 | 0.5 | 224 | 2.24 | 0.25 | 158 | 1.58 |
| 220K | 0.56 | 350 | 1.59 | 0.5 | 332 | 1.51 | 0.5 | 332 | 1.51 | 0.25 | 235 | 1.07 |
| 470K | 0.26 | 350 | 0.75 | 0.26 | 349 | 0.74 | 0.26 | 350 | 0.74 | 0.25 | 343 | 0.73 |
| 500K | 0.25 | 350 | 0.70 | 0.25 | 350 | 0.70 | 0.25 | 350 | 0.70 | 0.25 | 350 | 0.70 |
| 1M | 0.12 | 350 | 0.35 | 0.12 | 350 | 0.35 | 0.12 | 350 | 0.35 | | | |
| 2.2M | 0.56 | 350 | 0.16 | 0.056 | 350 | 0.16 | | | | | | |
| 4.7M | 0.26 | 350 | 0.074 | | | | | | | | | |
| 5M | 0.25 | 350 | 0.070 | | | | | | | | | |
| 10M | 0.12 | 350 | 0.035 | | | | | | | | | |

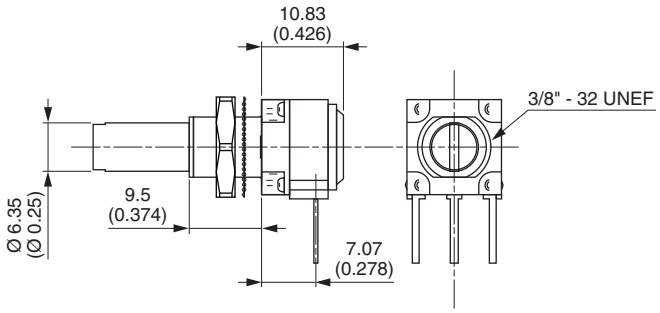
## ORDERING INFORMATION (part number)

| P | 1 | 1 | P | 2 | F | 0 | G | G | S | Y | 0 | 0 | 1 | 0 | 3 | M | A |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

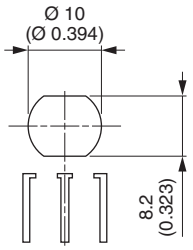
| MODEL | STYLE | NUMBER OF MODULES | BUSHING | OPTION | SHAFT | SHAFT STYLE | LEADS | RESISTANCE CODE/ TOLERANCE/ TAPER OR SPECIAL |
|---|---|---|---|---|---|---|---|---|
| P11 | | | | | | | | |

| | Ø | L |
|---|---|---|
| F | 3/8" | 3/8" |

## BUSHING DIMENSIONS - Dimensions in mm (inches) ± 0.5 mm (± 0.02")




## PANEL CUT OUT - Dimensions in mm (inches) ± 0.5 mm (± 0.02")




**Note**

- Hardware supplied in separate bags

## ORDERING INFORMATION (part number)

| P | 1 | 1 | P | 2 | F | 0 | G | G | S | Y | 0 | 0 | 1 | 0 | 3 | M | A |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MODEL | STYLE | NUMBER OF MODULES | | | BUSHING | OPTION | | | SHAFT | SHAFT STYLE | | LEADS | RESISTANCE CODE/ TOLERANCE/ TAPER OR SPECIAL | | | | |

Location pegs:

| mm | Ø | L |
|---|---|---|
| A | 2 | 6.2 |
| B | 2 | 7.75 |
| C | 3.5 | 13.5 |
| 0 | Without peg | |

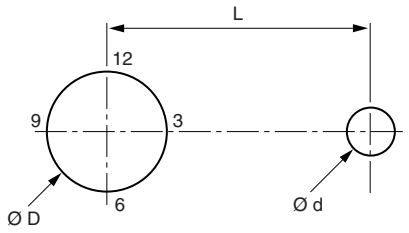
Sealed version:

| | |
|---|---|
| P | Panel and shaft sealed |

## LOCATING PEGS (anti-rotation lug)

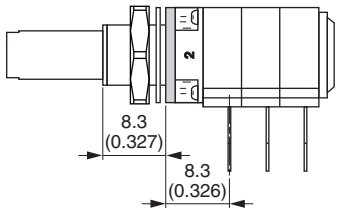
The locating peg is provided by a plate mounted on the bushing and positioned by the module sides. Four set positions are available, clock face orientation: 12, 3, 6, 9.

Bushings have a double flat. When panel mounting holes have been punched accordingly, an anti-rotation lug is not necessary.




| CODE | Ø d (mm) | L (mm) | EFFECTIVE HIGH PEG |
|---|---|---|---|
| A | 2 | 6.2 | 0.7 |
| B | 2 | 7.75 | 0.7 |
| C | 3.5 | 13.5 | 1.1 |

## PANEL AND SHAFT SEALED




O ring plate can not be used with locating pegs.

**Note**

- Locating pegs and panel o ring are supplied in separate bags with nuts and washers

## ORDERING INFORMATION (part number)

| P | 1 | 1 | P | 2 | F | 0 | G | G | S | Y | 0 | 0 | 1 | 0 | 3 | M | A |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

| MODEL | STYLE | NUMBER OF MODULES | BUSHING | OPTION | SHAFT | SHAFT STYLE | LEADS | RESISTANCE CODE/ TOLERANCE/ TAPER OR SPECIAL |
|---|---|---|---|---|---|---|---|---|

**SHAFT**

| CODE | L (inch) | L (mm) |
|---|---|---|
| GG | 5/8 | 15.8 |
| GJ | 7/8 | 22.2 |

**SHAFT STYLE**

S = Slotted

## SHAFTS - Dimensions in mm (inches) ± 0.5 mm (± 0.02")

The shaft length are always measured from the mounting face.

Shafts are designed by a 3 letter code (3 digits). Shafts are slotted and aligned to ± 10° of the wiper position.

## ORDERING INFORMATION (part number)

| P | 1 | 1 | P | 2 | F | 0 | G | G | S | Y | 0 | 0 | 1 | 0 | 3 | M | A |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MODEL | STYLE | NUMBER OF MODULES | | BUSHING | | OPTION | | SHAFT | | SHAFT STYLE | LEADS | | | | | RESISTANCE CODE/ TOLERANCE/ TAPER OR SPECIAL | |

**LEADS**

Available leads

| | | | | |
|---|---|---|---|---|
| A00 | W00 | X00 | Y00 | Z00 |
| A10 | W10 | X03 | Y03 | Z03 |
| A13 | W20 | X04 | Y04 | Z04 |
| A14 | | X10 | | Z10 |
| A20 | | X13 | | Z13 |
| A23 | | X14 | | Z14 |
| A24 | | X20 | | Z20 |
| | | X23 | | Z23 |
| | | X24 | | Z24 |

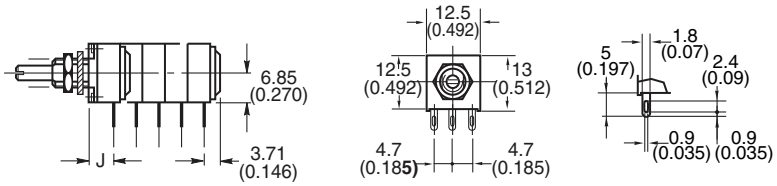
| FIRST DIGIT | |
|---|---|
| Y | Soldering lugs |
| X | PCB pins |
| Z | PCB pins with front support plate |
| A | PCB pins with front and back support plates |
| W | PCB pins - vertical mounting with 2 extra pins - 1 module only |

| SECOND DIGIT | |
|---|---|
| 0 | Y = 4.65 (0.183")<br>A, X, Z, W = 5.08 (0.200") pin spacing<br>pins section 0.9 x 0.3 (0.035" x 0.012") |
| 1 | 2.54 (0.100") pin spacing<br>pin section 0.6 x 0.3 (0.024" x 0.012") |
| 2 | 5.08 (0.200") pin spacing<br>pins section 0.6 x 0.3 (0.024" x 0.012") |

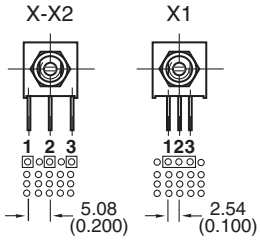
| THIRD DIGIT | |
|---|---|
| 0 | 5.08 (0.200") space between modules |
| 3 | 7.62 (0.300") space between modules |
| 4 | 10.16 (0.400") space between modules |

## DIMENSIONS in millimeters (inches) ± 0.5 mm (± 0.02")

### SOLDER LUGS Y

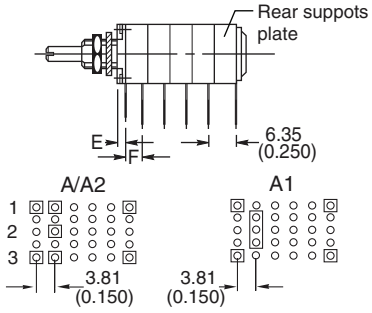



### PCB PIN OUT

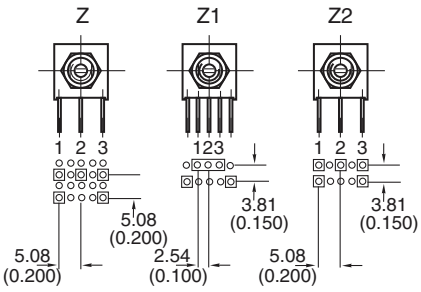



### HORIZONTAL MOUNTING

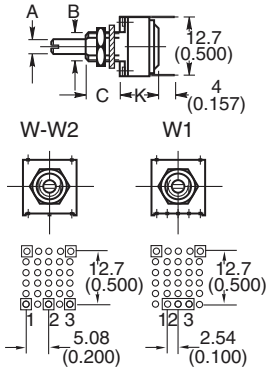
FRONT AND REAR SUPPORT PLATES




FRONT SUPPORT PLATE




### VERTICAL MOUNTING




**THE POSITION OF EACH MODULE IS FREE**

| | LEADS | | | |
|---|---|---|---|---|
| | **X../Y..** | **A../Z1./Z2.** | **Z0.** (except with rotary switch) | **Z0.** (with rotary switch) |
| E | - | 3.63 (0.14) | 3.81 (0.15) | 2.15 (0.085) |
| F | - | 3.81 (0.15) | 5.08 (0.20) | 5.08 (0.20) |
| J | 7.06 (0.278) | - | - | - |

## ORDERING INFORMATION (part number)

| P | 1 | 1 | P | 2 | F | 0 | G | G | S | Y | 0 | 0 | 1 | 0 | 3 | M | A |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MODEL | STYLE | | NUMBER OF MODULES | | BUSHING | | LOCATING PEG | | SHAFT | | SHAFT STYLE | | LEADS | RESISTANCE CODE/ TOLERANCE/ TAPER OR SPECIAL | | | |

**RESISTANCE CODE/ TOLERANCE/ TAPER OR SPECIAL**

From 20 Ω to 10 MΩ
see instructions on
electrical specifications

Resistance code:
200 = 20 Ω to
106 = 10 MΩ

Tolerance code:
standard:
M = ± 20 %
on request:
K = ± 10 %,
J = ± 5 % (cermet only)

Taper: A, L, W, F, S, R
or
special code
given by Vishay

## SPECIAL CODES GIVEN BY VISHAY

Option available:

- Custom design on request
- Specific linearity
- Specific interlinearity
- Specific taper
- Multiple assemblies with various modules

## P11 OPTION: ROTARY SWITCH MODULES

- Rotary switch
- Current up to 2 A
- Actuation CW or CCW position
- Sealing IP60

**MODULES: RS ON/OFF SWITCH**
**RSI CHANGEOVER SWITCH**

The position of each module is free.

RS and RSI rotary switches are housed in a standard P11 module size 12.7 mm x 12.7 mm x 5.08 mm (0.5" x 0.5" x 0.2"). They have the same terminal styles as the assembled electrical modules.

An assembly can comprise 1 or more switch modules.

Switch actuation is described as seen from the shaft end.
D: Means actuation in maximum CCW position
F: Means actuation in maximum CW position

The switch actuation travel is 25° with a total mechanical travel of 300° ± 5° and electrical travel of electrical modules is 238° ± 10°.

Leads finish: gold plated

**RDS SINGLE POLE SWITCH, NORMALLY OPEN**

In full CCW position, the contact between 1 and 3 is open. It is made at the beginning of the travel in CW direction.

**RSF SINGLE POLE SWITCH, NORMALLY OPEN**

In full CW position, the contact between 1 and 3 is open. It is made at the beginning of the travel in CCW direction.

**RSID SINGLE POLE CHANGEOVER**

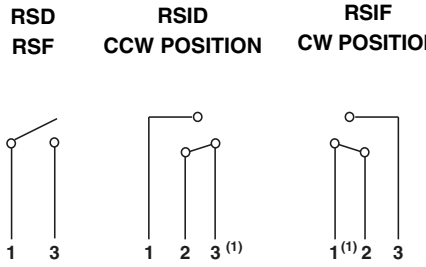
In full CCW position, the contact is made between 3 and 2 and open between 3 and 1. Switch actuation (CW direction) reverses these positions.

**RSIF SINGLE POLE CHANGEOVER**

In full CW position, the contact is made between 1 and 2 and open between 1 and 3. Switch actuation (CCW direction) reverses these positions.

| SWITCH SPECIFICATIONS | | |
|---|---|---|
| Switching power maximum | | 62.5 VA ν<br>15 VA = |
| Switching current maximum | | 0.25 A 250 V ν<br>0.5 A 30 V = |
| Maximum current through element | | 2 A |
| Contact Resistance | | 100 mΩ |
| Dielectric strength | Terminal to terminal | 1000 $V_{RMS}$ |
| | Terminal to bushing | 5000 $V_{RMS}$ |
| Maximum voltage operation | | 250 V ν<br>30 V = |
| Insulation resistance between contacts | | $10^6$ MΩ |
| Life at $P_{max.}$ | | 10 000 actuations |
| Minimal travel | | 25° |
| Operating temperature | | -40 °C to +85 °C |

**ELECTRICAL DIAGRAM**




**Note**
(1) Common

**ORDERING INFORMATION** (First order only)

**RSID**

| | |
|---|---|
| **RSD** | SPST: Single pole, open switch in CCW position - 2 pins |
| **RSF** | SPST: Single pole, open switch in CW position - 2 pins |
| **RSID** | SPDT: Single pole, changeover switch in CCW position - 3 pins |
| **RSIF** | SPDT: Single pole, changeover switch in CW position - 3 pins |

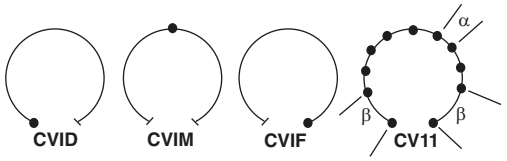
## P11 OPTION: DETENT MODULES

The detents mechanism is housed in a standard P11 module.
Up to 21 detent positions available.

Count detents as follows: 1 for CCW position, 1 for full CW position, plus the other positions forming equal resistance increments (linear taper) - not equal angles.

Available: CVID - CVIF - CVIM
CV3 - CV11 - CV21

Mechanical endurance: 10 000 cycles




$\alpha = \frac{270°}{n - 1}$

$\beta = \alpha + 15°$

**ORDERING INFORMATION** (First order only for special code creation)

| CV1M |
|---|

| | |
|---|---|
| **CV1M** | 1 detent at half travel |
| **CV1M J84** | CV1M with accuracy of center point ± 2 % (all tapers except S) |
| **CV1D** | 1 detent at CCW position |
| **CV1F** | 1 detent at CW position |
| **CV3** | 3 detents |
| **CV11** | 11 detents |
| **CV21** | 21 detents |

## P11 OPTION: NEUTRAL MODULES "EN"

Neutral or screen module is housed in a standard P11 module.
It is used as a screen between two electrical modules.

The leads can be connected to ground.

**ORDERING INFORMATION** (first order only for special code creation)

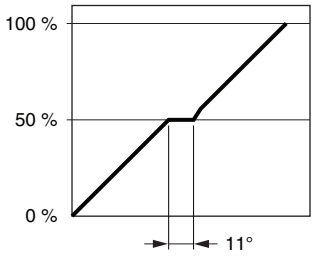
| EN |
|---|

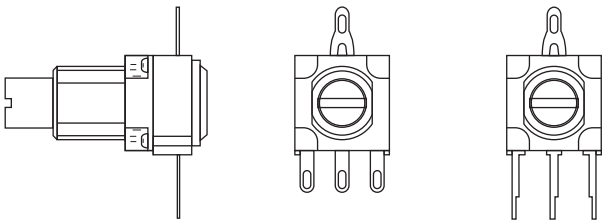
| | |
|---|---|
| **EN** | Neutral module |

## P11 OPTION: CENTER CURRENT TAP "J"

The extra terminal is a solder lug connected at 50 % of electrical travel and siluated in the potentiometer module opposite the terminals.

Center tap presents a short circuit of 11° of travel.



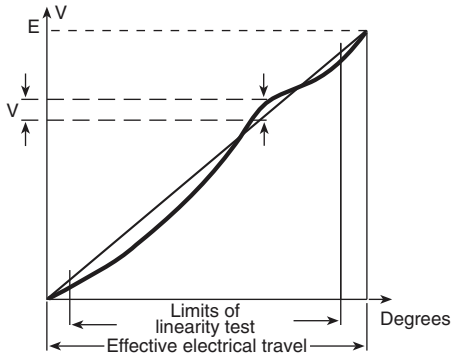
- Sealing IP60

**ORDERING INFORMATION** (First order only)

| J |
|---|

| | |
|---|---|
| **J** | Center tap |

## P11 OPTION: SPECIAL LINEARITY - CONFORMITY




The independent linearity (conformity for the non linear laws) is the maximum gap ΔV between the actual variation curve and the theoretical variation curve the nearest to it. The linearity and the conformity are expressed in percentage of the total applied voltage E

$$\text{linearity conformity} = \frac{\pm \Delta V_{max.}}{E}$$

They are measured over 90 % of actual electrical travel (centered).

On request linearity can be guaranteed in linear law.

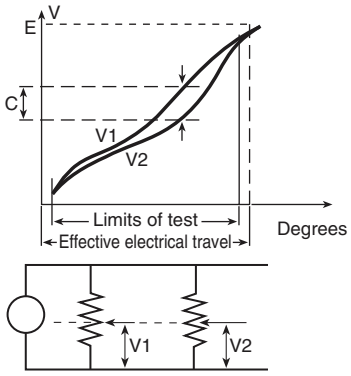
**ORDERING INFORMATION** (First order only)

**J123**

| | |
|---|---|
| **J123** | Independent linearity ± 3 % (linear taper) |
| **J145** | Independent linearity ± 2 % (linear taper) |

For other request, contact us.

## P11 OPTION: SPECIAL INTERLINEARITY - INTERCONFORMITY




It is the maximum deviation between the actual voltage outputs of 2 or more pot modules in the same assembly. It is expressed as a percentage of the total applied voltage, or in dB attenuation.

Interlinearity is measured between 2 pot modules, over 20 to 90 % of the attenuation.

The interlinearity or interconformity is expressed as a percentage of the total applied voltage:

$$I\ \% = \frac{|C|}{E}$$

Or in decibels by comparison between outputs V1 and V2

$$I\ dB = 20 \log \frac{V_1}{V_2}$$

**ORDERING INFORMATION** (First order only)

**J44**

| | |
|---|---|
| **J44** | Interlinearity ± 2 % (linear taper) |

For other request, contact us.

## EXAMPLES OF FIRST ORDER INFORMATION

**FIRST EXAMPLE: Triple module (switch is counted as a module)**

| P | 1 | 1 | P | 3 | F | 0 | G | G | S | Y | 0 | 0 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

| MODEL P11 | STYLE P | 3 MODULES | BUSHING F (Ø 3/8"/ L 3/8") | WITHOUT LOCATING PEG | SHAFT SLOTTED (L 5/8") | SOLDER LUGS | SPECIAL TO BE DEFINED BY VISHAY |
|---|---|---|---|---|---|---|---|

**ORDERING INFORMATION:**

| | | |
|---|---|---|
| PART NUMBER | **P11P3F0GGSY00.....** | |
| SHAFT AND BUSHING | **See drawing of special shaft attached** | |
| MODULE NO. 1 | **RSID** | |
| MODULE NO. 2 | **103 M A** | **J123** |
| MODULE NO. 3 | **503 M A** | **J** |

## PART NUMBER DESCRIPTION (used on some Vishay document or label, for information only)

| P11P | 3 | F | 0 | GG | S | Y00 | 10K | 20 % | A | | | e3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MODEL | MODULES | BUSHING | OPTION | SHAFT | SHAFT STYLE | LEADS | VALUE | TOL. | TAPER | SPECIAL | SPECIAL | LEAD (Pb)-FREE |

## RELATED DOCUMENTS

| APPLICATION NOTES | |
|---|---|
| Potentiometers and Trimmers | www.vishay.com/doc?51001 |
| Guidelines for Vishay Sfernice Resistive and Inductive Components | www.vishay.com/doc?52029 |

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