



Potentiometer

Features

- High IP-protection class
- Simple installation
- No further approvals required

Description

This standard range of up to 8 W potentiometers with wire-wound resistors show that Ex potentiometers can be small and compact.

The external dimensions are approximately the same as those of standard industrial potentiometer enclosures. Central fixing in a single hole and the standard size of shaft have been included.

From the variety of resistors on the market we have chosen the most commonly used types and developed a standard program range.

The metal Ex d enclosures are tailored to the dimensions of the resistors and feature a standard 30 mm diameter. The potentiometers have been designed so that the stated nominal capacities can be fully exploited at temperature class T6 or T5 and be deployed in zones 1 and 2.

They can be fixed and protected against turning in different ways. Two nuts are included in each consignment. At an extra charge BARTEC provides either threaded holes in the front panel of the enclosure or an antirotation pin.

For the correct connection of the cable ends we have developed special Ex terminals and enclosures. The most important data such as resistance values, power ratings and dimensions can be found in the table on the right. We also supply accessories such as rotary and pointer knobs, scales and slip clutches.

In addition to the standard models all other versions such as tandem potentiometers, potentiometers with microswitches, non-standard shafts or larger resistor diameters can be encapsulated in enclosures of up to 120 mm diameter.

Explosion protection

Ex protection type

II 2G Ex d IIC T6 resp. T5

Certification

PTB 03 ATEX 1026

Ambient temperature

-20 °C to +70 °C

Technical data

Protection class

min. IP 54/IEC 60529

Enclosure

metal

Tightening torque (for nuts)

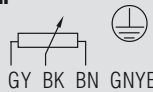
200 Ncm

Resistance characteristic

linear

Electrical connection

cable
H05VV-F4G 0.75



Cemented wire-wound resistors

Resistance values/power ratings

See selection chart

Resistance tolerance

± 5 %

Linearity tolerance

max. 3 % of final value

Insulation resistance

≥ 100 MΩ

Rotation

electr./mech. 250°/270°

End stop strength

30 Ncm

Weight with cable (1 m)

| | | |
|-------|-------|-------|
| 2.5 W | 6 W | 8 W |
| 250 g | 320 g | 550 g |

Carbon-film resistors on ceramic

Resistance values/power ratings

see selection chart

Insulation resistance

≥ 100 MΩ

Rotation

electr./mech. 270°

End stop strength

100 Ncm

Weight with cable (1 m)

240 g

Precision wire-wound resistors

Resistance values/power ratings

see selection chart

Resistance tolerance

1 turn ± 5 % / 10 turns > 50 Ω ± 3 %

Linearity tolerance

1 turn to 500 Ω ± 1 %
> 500 Ω ± 0.5 %

10 turns potentiometer ± 0.25 %

Insulation resistance

min. 1 000 MΩ

Rotation

electr./mech. 1 turn 320° ± 2°
10 turns 10 x 360° + 10°

Weight with cable (1 m)

1 turn 210 g/10 turns 300 g

End stop strength

1 turn 100 Ncm/10 turns 30 Ncm



| Dimensions in mm | | | | | | Selection chart | | | | | | | |
|------------------|----------|----------|----------|-----------|----------|------------------------------------------------------------------------------------|----------------|----------------|--------------------------------------------------|--------------------------------------------|------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------|--|
| | | | | | | Resistor type/ standard resistance values (stock items printed bold) | | | | Temperature class/ power rating | | Complete order no. (indicate resistance values in plain text) | |
| a | b | c | d | e | f | Cemented wire-wound resistors higher power ratings | | | | | | | |
| ∅ 30 | 55 | ∅ 6 | 11 | M12 x 1.5 | ∅ 12 | 10 Ω | 180 Ω | 3.3 k Ω | to | T6/2.5 W resp. T5/3 W | 07-6622- <input type="checkbox"/> 111 resp. 07-6623- <input type="checkbox"/> 111 | | |
| | | | | | | 12 Ω | 220 Ω | 3.9 k Ω | 10 k Ω | | | | |
| | | | | | | 15 Ω | 270 Ω | 4.7 k Ω | | T6/5 W resp. T5/6 W | 07-6624- <input type="checkbox"/> 111 resp. 07-6625- <input type="checkbox"/> 111 | | |
| | | | | | | 18 Ω | 330 Ω | 5.6 k Ω | | | | | |
| | | | | | | 22 Ω | 390 Ω | 6.8 k Ω | | T6/7 W resp. T5/8 W | 07-6626- <input type="checkbox"/> 111 resp. 07-6627- <input type="checkbox"/> 111 | | |
| | | | | | | 27 Ω | 470 Ω | 8.2 k Ω | | | | | |
| | | | | | | 33 Ω | 560 Ω | 10 k Ω | to | | | | |
| | | | | | | 39 Ω | 680 Ω | 12 k Ω | 20 k Ω | | | | |
| | | | | | | 47 Ω | 820 Ω | 15 k Ω | | T6/7 W resp. T5/8 W | 07-6626- <input type="checkbox"/> 111 resp. 07-6627- <input type="checkbox"/> 111 | | |
| | | | | | | 56 Ω | 1 k Ω | 18 k Ω | | | | | |
| | | | | | | 68 Ω | 1.2 k Ω | 20 k Ω | | | | | |
| | | | | | | 82 Ω | 1.5 k Ω | 22 k Ω | | | | | |
| | | | | | | 100 Ω | 1.8 k Ω | 27 k Ω | to | | | | |
| | | | | | | 120 Ω | 2.2 k Ω | 30 k Ω | 30 k Ω | | | | |
| | | | | | | 150 Ω | 2.7 k Ω | | | | | | |
| | | | | | | Carbon-film resistors | | | | | | | |
| | | | | | | 100 Ω | 1k Ω | 10 k Ω | 100 k Ω | T6/2 W | 07-6622- <input type="checkbox"/> 113 | | |
| | | | | | | 220 Ω | 2.2 k Ω | 22 k Ω | 220 k Ω | | | | |
| | | | | | | 470 Ω | 4.7 k Ω | 47 k Ω | 1 M Ω | | | | |
| | | | | | | Precision wire-wound resistors | | | | | | | |
| | | | | | | 10 Ω | 100 Ω | 1 k Ω | 10 k Ω | T6/1.2 W | 07-6622- <input type="checkbox"/> 112 | | |
| | | | | | | 20 Ω | 200 Ω | 2 k Ω | 20 k Ω | | | | |
| | | | | | | 50 Ω | 500 Ω | 5 k Ω | | | | | |
| | | | | | | 10 turns potentiometer* | | | | | | | |
| | | | | | | 20 Ω | 500 Ω | 10 k Ω | | T6/2 W | 07-6624- <input type="checkbox"/> 102 Lead length: 5 = standard 500 mm 0 = length in plain text | | |
| | | | | | | 50 Ω | 1 k Ω | 20 k Ω | | | | | |
| | | | | | | 100 Ω | 2 k Ω | 50 k Ω | | | | | |
| | | | | | | 200 Ω | 5 k Ω | 100 k Ω | | | | | |
| | | | | | | Special versions, Please indicate particulars in plain text | | | | | | | |
| | | | | | | <input type="checkbox"/> Anti-rotation pin on front of enclosure | | | <input type="checkbox"/> Side entry of cable | | | | |
| | | | | | | <input type="checkbox"/> Threaded holes on front of enclosure | | | <input type="checkbox"/> Other resistance values | | | | |

➔ Accessories/Order no.

| | | | | |
|-----------------------------------------------------------|------------------------------------------------------------|-------------------------------------------------------------------------------------------------|----------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Rotary knob shaft ∅ 6 mm Order no. 03-5401-0001 | Pointer knob shaft ∅ 6 mm Order no. 03-5401-0002 | scale 0 - 100 Order no. 05-0144-0112 (270 °) 05-0144-0127 (320 °) | More turn drive* shaft ∅ 6.35 mm Order no. 03-5425-0001 | Slip clutch, adjustable to 50 Ncm, shaft ∅ 6 mm Order no. 03-5600-0001 |
| | | | | |

03-0330-0165/A-07/10-BCS-129472/2

*Max. wall thickness for installing a switch panel = 2.5 mm