



POTENTIOMETERS

FSG- AND SYNCHRO DESIGNS



MAXIMUM PERFORMANCE IN SERIES

OUR POTENTIOMETER PORTFOLIO

FSG's potentiometer series are characterised by their high precision, flexible design and versatility and, depending on the application and design – **Made in Germany.**

2 MAXIMUM FLEXIBILITY

- Potentiometer with oil filling
- Function windings, e.g. sin/cos or 360° sawtooth course
- Axis on both sides
- Special circuits available
- Multiple versions possible
- Clamp or central fastening

3 POSSIBLE APPLICATIONS

- In traction and brake actuators for railway vehicles and in command transmitters for ships
- In rudder and propeller systems for ships
- In actuators for power stations and chemical plants
- In slewing and lifting gear for cranes and excavators
- In wind vanes for meteorological measuring tasks
- As dancer potentiometers in textile and paper machines
- For many measuring tasks in mechanical engineering and medical technology.

4 MAXIMUM COMPATIBILITY

- Housing diameter 22–70 mm
- Angle range any up to max. 360°
- Resistance value up to max. 100 kΩ

1 MAXIMUM FUNCTIONALITY

- Wire winding / conductive plastic element
- Angle limiting or spinning
- Shaft diameter 3 / 6 mm




Electrical and mechanical adaptations are also possible for **small** quantities at any time on request.



info@fsg-sensors.de

POTENTIOMETERS with WIRE WINDING in Synchro Design

PW609dy
PW611
PW613
PW620
PW1023d


100 % COMPATIBLE
to synchro designs
other manufacturers


TYPE OF
CONSTRUCTION
Ø 22-60 mm


FLEXIBILITY
Angles and
resistance values
freely selectable

SYNCHRO SIZE 9

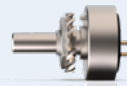
DIAMETER 22.2 mm

PW609dy

Miniature Potentiometer with Wire Winding

Precision potentiometers of series PW609dy are designed with a high-resolution constantan-wire winding and are suitable for measured value acquisition in small installation spaces.

- Smallest design
- Housing diameter 22.2 mm
- Central fastening



TECHNICAL DATA

Housing material	aluminum, anodized	Active angle	max. 340°
Housing diameter	22.2 mm	Resistance values	up to 10 kΩ
Model	synchro size 9	Resistance tolerance	5 %
IP code	IP30	Linearity	±0.5 %
Shaft diameter	3 / 6 mm	Resolution in turns	1033
Adjustment speed	max. 360 U/min	Capacity	0.5 W
Torque	0.03 Ncm	Temperature range	-30 °C up to +80 °C
Execution	up to three times	Temperature coefficient	0.0017 % / °C
Connection	faston plug / solder-type terminals	Lifetime	10–50 Mio. cycles <i>The lifetime depends on the application and environmental conditions.</i>
Fastening	central fixing	Vibration*	5–200 Hz, 10 g
Resistance element	caterpillar	Shock*	50 g, 6 ms



You can find all data sheets on www.fsg-sensors.de

*Depending on customer specifications.

SYNCHRO SIZE 11 DIAMETER 28 mm

PW611



Precision Potentiometer with Wire Winding

The precision potentiometer of the PW611 series is equipped with a high-resolution wire winding.

The angle and resistance value can be specified by the user as desired and can also be supplemented by additional short-circuit distances and taps on request.



- Compact design in synchro size 11
- Resistance value and angle range can be set as desired
- Angle measurement up to max. 340°

TECHNICAL DATA

Housing material	aluminum, anodized	Active angle	max. 340°
Housing diameter	28 mm	Resistance values	up to 10 kΩ
Model	synchro size 11	Resistance tolerance	5 %
IP code	IP30	Linearity	±0.5 %
Shaft diameter	6 mm	Resolution in turns	1369
Adjustment speed	max. 360 U/min	Capacity	0.5 W
Torque	0.04 Ncm	Temperature range	-30 °C up to +80 °C
Execution	triple	Temperature coefficient	0,0017 % / °C
Connection	faston plug / solder-type terminals	Lifetime	10–50 Mio. cycles <i>The lifetime depends on the application and environmental conditions.</i>
Fastening	clamp fixing with synchro flange	Vibration*	5–200 Hz, 10 g
Resistance element	caterpillar	Shock*	50 g, 6 ms

*Depending on customer specifications.

available in following VERSIONS



Type designation	Shaft bearing	Wiper without limit stops
PW611-15d	ball-bearing	for adjustment purposes only
PW611-16d	sintered bearings	for adjustment purposes only

You can find all data sheets on www.fsg-sensors.de.

SYNCHRO SIZE 13

DIAMETER 36.5 mm

PW613

Precision Potentiometer with Wire Winding

The precision potentiometer of series PW613 is equipped with a high-resolution wire winding.

The angle and resistance value can be specified by the user as desired and can also be supplemented by additional short-circuit distances and taps on request.

- Compact design in synchro size 13
- Angle measurement up to max. 360°



TECHNICAL DATA

Housing material	aluminum, anodized	Active angle	max. 345° / 360°
Housing diameter	36,5 mm	Resistance values	up to 20 kΩ
Model	synchro size 13	Resistance tolerance	5 % / 2 %
IP code	IP30	Linearity	±0,2 %
Shaft diameter	6 mm	Resolution in turns	1851
Adjustment speed	max. 360 U/min	Capacity	1 W
Torque	0,05 Ncm	Temperature range	-30 °C up to +80 °C
Execution	sixfold	Temperature coefficient	0,0017 % / °C
Connection	faston plug / solder-type terminals	Lifetime	10–50 Mio. cycles <i>The lifetime depends on the application and environmental conditions.</i>
Fastening	clamp fixing with synchro flange	Vibration*	5–200 Hz, 10 g
Resistance element	caterpillar / ring	Shock*	50 g, 6 ms

available in following VERSIONS



Type designation	Shaft bearing	Resistance element	Wiper without limit stops
PW613-15	ball-bearing	caterpillar	no
PW613-15d	ball-bearing	caterpillar	yes
PW613-16	sintered bearings	caterpillar	no
PW613-16d	sintered bearings	caterpillar	yes
PW613-18	ball-bearing	ring	no
PW613-18d	ball-bearing	ring	yes

You can find all data sheets on www.fsg-sensors.de.

*Depending on customer specifications.



SYNCHRO SIZE 20

DIAMETER 50.8 mm

PW620

Precision Potentiometer with Wire Winding

The precision potentiometer of series PW620 is equipped with a high-resolution wire winding.

The angle and resistance value can be specified by the user as desired and can also be supplemented by additional short-circuit distances and taps on request.



- Compact design in synchro size 20
- Resistance value and angle range can be set as required
- Angle measurement up to max. 360°
- Available with two switches

TECHNICAL DATA

Housing material	aluminum, anodized	Active angle	max. 345° / 360°
Housing diameter	50.8 mm	Resistance values	to 20 kΩ
Model	synchro size 20	Resistance tolerance	5 % / 2 %
IP code	IP30	Linearity	±0.2 %
Shaft diameter	6 mm	Resolution in turns	3434
Adjustment speed	max. 360 U/min	Capacity	1 W
Torque	0.05 Ncm	Temperature range	-30 °C to +80 °C
Execution	sixfold	Temperature coefficient	0.00 17 % / °C
Connection	faston plug / solder-type terminals	Lifetime	10–50 Mio. cycles <i>The lifetime depends on the application and environmental conditions.</i>
Fastening	clamp fixing with synchro flange	Vibration*	5–200 Hz, 10 g
Resistance element	caterpillar / ring	Shock*	50 g, 6 ms

*Depending on customer specifications.

available in following
VERSIONS



Type designation	Shaft bearing	Resistance element	Wiper without limit stops
PW620-15	ball-bearing	caterpillar	no
PW620-15d	ball-bearing	caterpillar	yes
PW620-16	sintered bearings	caterpillar	no
PW620-16d	sintered bearings	caterpillar	yes
PW620-18	ball-bearing	ring	no
PW620-18d	ball-bearing	ring	yes

You can find all data sheets on www.fsg-sensors.de.

SYNCHRO SIZE 23

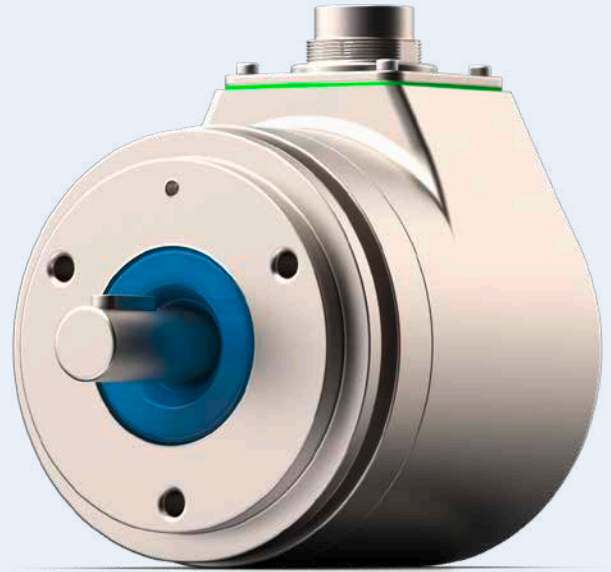
DIAMETER 60 mm

PW1023d

Robust Precision Potentiometer with Wire Winding

The precision potentiometer of series PW1023 is equipped with a high-resolution wire winding.

The angle and resistance value can be specified by the user as desired and can also be supplemented by additional short-circuit distances and taps on request.



- Robust design in synchro size 23
- Resistance value and angle range can be set as required
- Angle measurement up to max. 360°



TECHNICAL DATA

Housing material	aluminum, anodized	Resistance element	ring
Housing diameter	60 mm	Active angle	max. 360°
Model	synchro size 23	Resistance values	to 20 kΩ
IP code	IP65	Resistance tolerance	2 %
Shaft diameter	10 mm	Linearity	±0,2 %
Adjustment speed	max. 360 U/min	Resolution in turns	2321
Torque	2.5 Ncm	Capacity	2.5 W
Execution	twice	Temperature range	-30 °C to +80 °C
Connection	connector / cable	Temperature coefficient	0,0017 % / °C
Fastening	clamp fixing with synchro flange and 3x M4 to TK 42 mm	Lifetime	10–50 Mio. cycles <i>The lifetime depends on the application and environmental conditions.</i>
		Vibration*	5–200 Hz, 10 g
		Shock*	50 g, 6 ms




You can find all data sheets on www.fsg-sensors.de

POTENTIOMETERS

with WIRE WINDING in FSG-Design

- PW0045y
- PW45
- PW45W10
- PW55-01
- PW70


TYPE OF
CONSTRUCTION
Ø 45-70 mm


FLEXIBILITY
**for all angle /
resistance values**



FSG-DESIGN

DIAMETER 45 mm

PW0045y

Low-cost Precision Potentiometer with Wire Winding

The precision potentiometer of series PW0045 is equipped with a high-resolution wire winding.

The angle range is fixed at 280° and 345°, only the resistance value can be specified by the user as desired and can also be supplemented by additional short-circuit distances and taps on request.

- Low-cost potentiometer
- Light plastic housing
- Angle measurement for 280° or 345°



TECHNICAL DATA

Housing material	thermoplastic	Active angle	max. 280° / 345°
Housing diameter	45 mm	Resistance values	to 25 kΩ
Model	FSG-design	Resistance tolerance	5 %
IP code	IP30	Linearity	±0.5 %
Shaft diameter	6 mm	Resolution in turns	2312
Adjustment speed	max. 60 U/min	Capacity	1.5 W
Torque	0.5 Ncm / 5 Ncm	Temperature range	-30 °C to +80 °C
Execution	simple	Temperature coefficient	0,0017 % / °C
Connection	solder-type terminals	Lifetime	10–50 Mio. cycles <i>The lifetime depends on the application and environmental conditions.</i>
Fastening	central fixing / threaded hole 2x M4	Vibration*	5–200 Hz, 10 g
Resistance element	caterpillar	Shock*	50 g, 6 ms

available in following VERSIONS



Type designation	Torque
PW0045my	0.4–0.5 Ncm
PW0045hy	3–5 Ncm

You can find all data sheets on www.fsg-sensors.de.

* Depending on customer specifications.



FSG-DESIGN

DIAMETER 45 mm

PW45

Precision Potentiometer with Wire Winding

The precision potentiometer of series PW45 is equipped with a high-resolution wire winding.

The angle and resistance value can be specified by the user as desired and can also be supplemented by additional short-circuit distances and taps on request.



- **Compact FSG-Design**
- **Resistance value and angle range can be set as required**
- **Angle measurement up to max. 360°**

TECHNICAL DATA

Housing material	thermoplastic	Active angle	max. 360°
Housing diameter	45 mm	Resistance values	to 20 kΩ
Model	FSG-design	Resistance tolerance	2 %
IP code	IP30	Linearity	±0,3 %
Shaft diameter	6 mm	Resolution in turns	2321
Adjustment speed	max. 360 U/min	Capacity	2.5 W
Torque	0.3 Ncm / 3 Ncm	Temperature range	-30 °C to +80 °C
Execution	twice	Temperature coefficient	0,0017 % / °C
Connection	screw connection / solder connection	Lifetime	10–50 Mio. cycles <i>The lifetime depends on the application and environmental conditions.</i>
Fastening	threaded hole 2x M4, distance 32 mm	Vibration*	5–200 Hz, 10 g
Resistance element	ring	Shock*	50 g, 6 ms

*Depending on customer specifications.

available in following VERSIONS



Type designation	Torque	Wiper without limit stops
PW45	3–5 Ncm	no
PW45d	3–5 Ncm	yes

You can find all data sheets on www.fsg-sensors.de.



FSG-DESIGN

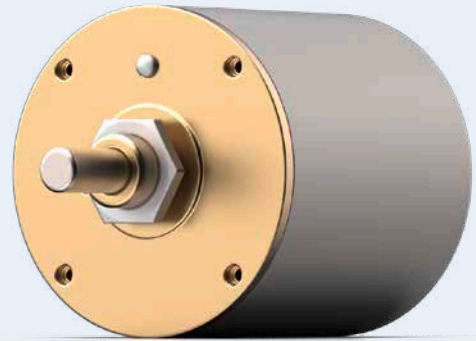
DIAMETER 45 mm

PW45W

10-turn Precision Potentiometer

The multi-turn precision potentiometer of series PW45W10 is equipped with a high-resolution wire winding and can detect up to 10 turns absolutely. The resistance value can be set by the user as desired.

- Multi-turn precision potentiometer
- Resistance value can be set as required
- Absolute angle measurement up to max. 3600°



TECHNICAL DATA

Housing material	brass / thermoplastic	Active angle	max. 1800° / 3600°
Housing diameter	45 mm	Resistance values	to 25 kΩ
Model	FSG-design	Resistance tolerance	5 %
IP code	IP30	Linearity	±0.1 %
Shaft diameter	6 mm	Resolution in turns	21049
Adjustment speed	max. 360 U/min	Capacity	2 W
Torque	0.5 Ncm	Temperature range	-30 °C to +80 °C
Execution	twice	Temperature coefficient	0,0017 % / °C
Connection	solder-type terminals	Lifetime	10–50 Mio. cycles <i>The lifetime depends on the application and environmental conditions.</i>
Fastening	central fixing / optional clamp fixing	Vibration*	5–200 Hz, 10 g
Resistance element	caterpillar	Shock*	50 g, 6 ms

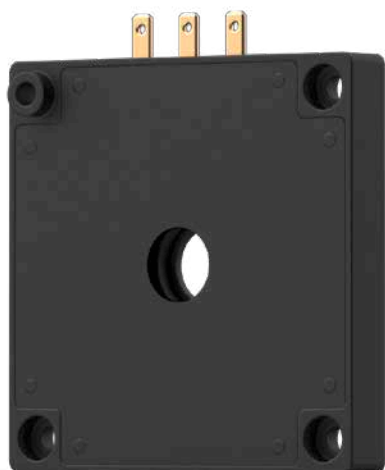
available in following
VERSIONS



Type designation	Active angle
PW45W3	1800°
PW45W10	3600°

You can find all data sheets on www.fsg-sensors.de.

* Depending on customer specifications.



FSG-DESIGN

DIAMETER 55 mm

PW55-01

Precision Potentiometer with Wire Winding in flat design

The precision potentiometer of the PW55 series is equipped with a high-resolution wire winding. The angle and resistance value can be specified by the user as desired and can also be supplemented by additional short-circuit distances and taps on request..



- Low-cost potentiometer
- Potentiometer in flat design
- Angle measurement up to max. 350°

TECHNICAL DATA

Housing material	thermoplastic	Active angle	max. 350°
Housing	55 mm	Resistance values	to 20 kΩ
Model	FSG-design	Resistance tolerance	5 %
IP code	IP30	Linearity	±0.5 %
Shaft diameter	hollow shaft 6 x 6 mm	Resolution in turns	1620
Adjustment speed	max. 60 U/min	Capacity	1.5 W
Torque	0.2 Ncm	Temperature range	-30 °C to +80 °C
Execution	stackable	Temperature coefficient	0,0017 % / °C
Connection	faston plug	Lifetime	10–50 Mio. cycles <i>The lifetime depends on the application and environmental conditions.</i>
Fastening	4 mounting holes Ø 3.2 mm	Vibration*	5–200 Hz, 10 g
Resistance element	caterpillar	Shock*	50 g, 6 ms

*Depending on customer specifications.

available in following VERSIONS



Type designation	Wiper without limit stops
PW55-01	no
PW55-01d	yes

You can find all data sheets on www.fsg-sensors.de.



FSG-DESIGN

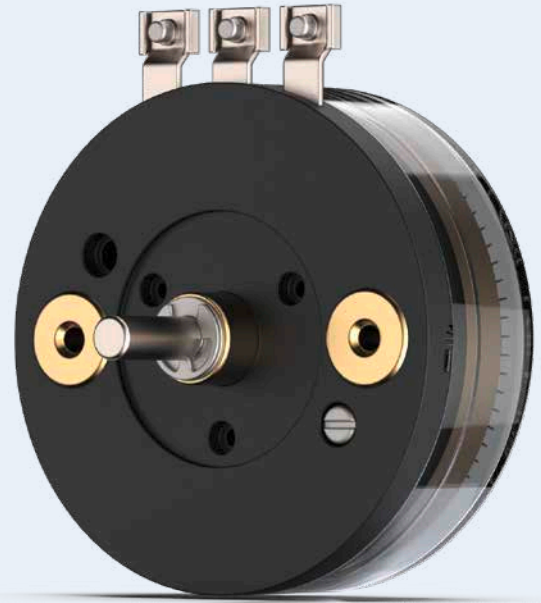
DIAMETER 70 mm

PW70

Precision Potentiometer with Wire Winding

The precision potentiometer of series PW70 is equipped with a high-resolution wire winding.

The angle and resistance value can be specified by the user as desired and can also be supplemented by additional short-circuit distances and taps on request.



- Compact FSG-Design
- Resistance value and angle range can be set as desired
- Angle measurement up to max. 360°
- Available with max. 6 switches

TECHNICAL DATA

Housing material	thermoset
Housing diameter	70 mm
Model	FSG-design
IP code	IP30
Shaft diameter	6 mm
Adjustment speed	max. 360 U/min
Torque	0.5 Ncm
Execution	sixfold
Connection	screw connection / solder-type terminals
Fastening	2x M4 at a distance of 50 mm
Lifetime	10–50 Mio. cycles

Resistance element	ring
Active angle	max. 360°
Resistance values	to 50 kΩ
Resistance tolerance	2 %
Linearity	±0.15 %
Resolution in turns	3621
Capacity	6 W
Temperature range	-30 °C to +80 °C
Temperature coefficient	0.0017 % / °C
Lifetime	10–50 Mio. cycles <i>The lifetime depends on the application and environmental conditions.</i>
Vibration*	5–200 Hz, 10 g
Shock*	50 g, 6 ms

available in following
VERSIONS



Type designation	Wiper without limit stops
PW70	no
PW70d	yes

You can find all data sheets on www.fsg-sensors.de.

* Depending on customer specifications.



POTENTIOMETERS

with
CONDUCTIVE PLASTIC
 in Synchro Design

- PK309
- PK611
- PK613
- PK620
- PK1023



100 % COMPATIBLE
to Synchro Designs
other manufacturers



TYPE OF
 CONSTRUCTION
Ø 22-60 mm



FLEXIBILITY
for all angle /
resistance values



SYNCHRO SIZE 9

DIAMETER 22.2 mm

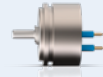
PK309

Miniature Potentiometer with Conductive Plastic Resistive Element

The precision potentiometer of series PK309 is equipped with a high-resolution resistive element of conductive plastic resistance element.

Due to its design, the sensor is particularly suitable for recording measured values in small installation spaces.

- **Smallest potentiometer design**
- **Resistance element made of high-resolution conductive plastic**
- **Angle measurement up to max. 3500°**



TECHNICAL DATA

Housing material	aluminum, anodized	Active angle	max. 345°
Housing diameter	22.2 mm	Resistance values	to 10 kΩ
Model	synchro size 9	Resistance tolerance	±20 %
IP code	IP30	Linearity	±2 % / ±0,5%
Shaft diameter	3 / 6 mm	Resolution	almost infinitely
Adjustment speed	max. 1000 U/min	Capacity	0.5 W
Torque	0.03 Ncm	Temperature range	-30 °C to +80 °C
Execution	triple	Temperature coefficient	0.02 % / °C
Connection	faston plug / solder-type terminals	Lifetime	10–50 Mio. cycles <i>The lifetime depends on the application and environmental conditions.</i>
Fastening	clamp fixing with synchro flange	Vibration*	5–200 Hz, 10 g
Resistance element	conductive plastic	Shock*	50 g, 6 ms

available in following
VERSIONS



Type designation	Execution	Connection	Wiper without limit stops
PK309-15d	triple	faston plug / solder-type terminals	yes
PK309-25d	no	strands	yes

You can find all data sheets on www.fsg-sensors.de

* Depending on customer specifications.



SYNCHRO SIZE 11

DIAMETER 28 mm

PK611



Precision Potentiometer with Conductive Plastic Resistance Element

The precision potentiometer of series PK611 has a high-resolution resistance element made of conductive plastic. Due to its small size design the sensor is mainly used in automation.



- Small potentiometer design
- Resistance element made of high-resolution conductive plastic
- Angle measurement up to max. 345°

TECHNICAL DATA

Housing material	aluminum, anodized	Active angle	max. 345°
Housing diameter	28 mm	Resistance values	to 10 kΩ
Model	synchro size 11	Resistance tolerance	±20 %
IP code	IP30	Linearity	±2 % / ±0,2 %
Shaft diameter	6 mm	Resolution	almost infinitely
Adjustment speed	max. 1000 U/min	Capacity	0.5 W
Torque	0.04 Ncm	Temperature range	-30 °C to +80 °C
Execution	triple	Temperature coefficient	0.02 % / °C
Connection	faston plug / solder-type terminals	Lifetime	10–50 Mio. cycles <i>The lifetime depends on the application and environmental conditions.</i>
Fastening	clamp fixing with synchro flange	Vibration*	5–200 Hz, 10 g
Resistance element	conductive plastic	Shock*	50 g, 6 ms

*Depending on customer specifications.

available in following VERSIONS



Type designation	Wiper without limit stops
PK611	no
PK611-15d	yes

You can find all data sheets on www.fsg-sensors.de.

SYNCHRO SIZE 13

DIAMETER 36.5 mm

PK613

Precision Potentiometer with Conductive Plastic Resistance Element

The precision potentiometer of series PK613 has a high-resolution resistance element made of conductive plastic.

Due to its compact design the sensor is mainly used in the automation and marine industry.



- Compact Design in synchro size 13
- Resistance element made of high-resolution conductive plastic
- Angle measurement up to max. 352°



TECHNICAL DATA

Housing material	aluminum, anodized	Active angle	max. 352°
Housing diameter	36.5 mm	Resistance values	to 10 kΩ
Model	synchro size 13	Resistance tolerance	±10 %
IP code	IP30	Linearity	±1.5 % / ±0.15 %
Shaft diameter	6 mm	Resolution	almost infinitely
Adjustment speed	max. 1000 U/min	Capacity	1 W
Torque	0.05 Ncm	Temperature range	-30 °C to +80 °C
Execution	sixfold	Temperature coefficient	0.02 % / °C
Connection	faston plug / solder-type terminals	Lifetime	10–50 Mio. cycles <i>The lifetime depends on the application and environmental conditions.</i>
Fastening	clamp fixing with synchro flange	Vibration*	5–200 Hz, 10 g
Resistance element	conductive plastic	Shock*	50 g, 6 ms

available in following VERSIONS



Type designation	Shaft bearing	Wiper without limit stops
PK613-15	ball-bearing	no
PK613-15d	ball-bearing	yes
PK613-16	sintered bearings	no
PK613-16d	sintered bearings	yes

You can find all data sheets on www.fsg-sensors.de

*Depending on customer specifications.



SYNCHRO SIZE 20

DIAMETER 50.8 mm

PK620

Precision Potentiometer with Conductive Plastic Resistance Element

The precision potentiometer of series PK620 has a high-resolution resistance element made of conductive plastic. Due to its compact size design the sensor is mainly used in the automation and marine industry.



- Compact Design in synchro size 20
- Resistive element made of high-resolution conductive plastic
- Angle measurement up to max. 355°
- Additional switches max. 2

TECHNICAL DATA

Housing material	aluminum, anodized	Active angle	max. 355°
Housing diameter	50,8 mm	Resistance values	to 10 kΩ
Model	synchro size 20	Resistance tolerance	±10 %
IP code	IP30	Linearity	±1.5 % / ±0.1 %
Shaft diameter	6 mm	Resolution	almost infinitely
Adjustment speed	max. 1000 U/min	Capacity	1 W
Torque	0.05 Ncm	Temperature range	-30 °C to +80 °C
Execution	sixfold	Temperature coefficient	0.02 % / °C
Connection	faston plug / solder-type terminals	Lifetime	10–50 Mio. cycles <i>The lifetime depends on the application and environmental conditions.</i>
Fastening	clamp fixing with synchro flange	Vibration*	5–200 Hz, 10 g
Resistance element	conductive plastic	Shock*	50 g, 6 ms

*Depending on customer specifications.

available in following VERSIONS



Type designation	Shaft bearing	Schleifer durchdrehend
PK620-15	ball-bearing	no
PK62015d	ball-bearing	yes
PK620-16	sintered bearings	no
PK620-16d	sintered bearings	yes

You can find all data sheets on www.fsg-sensors.de.

SYNCHRO SIZE 23

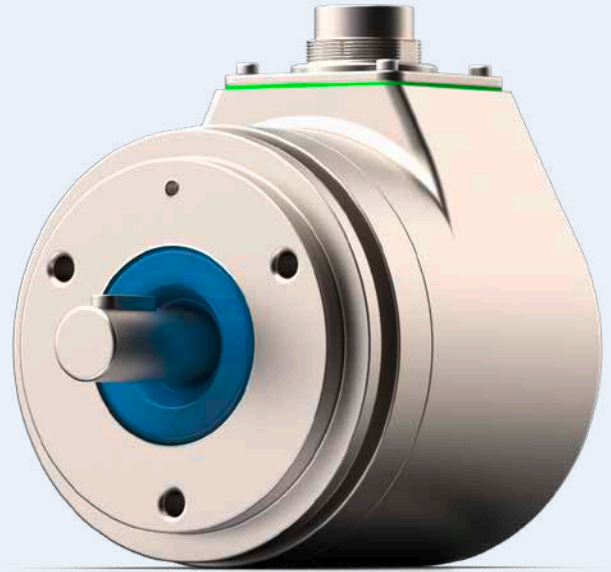
DIAMETER 60 mm

PK1023d

Robust precision Potentiometer with Conductive Plastic Resistance Element

The robust precision potentiometer of series PK1023 has a high-resolution resistance element made of conductive plastic. Due to its robust design the sensor is predominantly used in automation and in particularly demanding environmental conditions.

- Robust design in protection class IP65
- Resistance element made of high-resolution conductive plastic
- Angle measurement up to max. 355°



TECHNICAL DATA

Housing material	aluminum, anodized	Resistance element	conductive plastic
Housing diameter	60 mm	Active angle	max. 355°
Model	synchro size 23	Resistance values	to 10 kΩ
IP code	IP65	Resistance tolerance	±10 %
Shaft diameter	6 mm / 10 mm	Linearity	±1.5 % / ±0.1 %
Adjustment speed	max. 1000 U/min	Resolution	almost infinitely
Torque	2.5 Ncm	Capacity	1 W
Execution	twice	Temperature range	-30 °C to +80 °C
Connection	connector / cable	Temperature coefficient	0.02 % / °C
Fastening	clamp fixing with synchro flange and 3x M4 to TK 42 mm	Lifetime	10–50 Mio. cycles <i>The lifetime depends on the application and environmental conditions.</i>
		Vibration*	5–200 Hz, 10 g
		Shock*	50 g, 6 ms

You can find all data sheets on www.fsg-sensors.de
















*Depending on customer specifications.

OVERVIEW

POTENTIOMETER SERIES

FSG Potentiometer series for you at a glance.

For further specifications in comparison, please feel free to contact us.

	Serie	Active angle max.	IP-Code max.	Type designation – Wiper without limit stops (d)		Wire winding	Conductive plastic
	PW609dy	340°	IP30			•	-
	PW611	340°	IP30		PW611-15d	•	-
		340°	IP30		PW611-16d	•	-
	PW613	345°	IP30	PW613-15	PW613-15d	•	-
		345°	IP30	PW613-16	PW613-16d	•	-
		360°	IP30	PW613-18	PW613-18d	•	-
	PW620	345°	IP30	PW620-15	PW620-15d	•	-
		345°	IP30	PW620-16	PW620-16d	•	-
		345°	IP30	PW620-18		•	-
		360°	IP30		PW 620-18d	•	-
	PW1023d	360°	IP65			•	-
	PW0045y	280° / 345°	IP30	PW0045my		•	-
		280° / 345°	IP30	PW0045hy		•	-
	PW45	345°	IP30	PW45		•	-
		360°	IP30		PW45d	•	-
	PW45W	1800°	IP30	PW45W3		•	-
		3600°	IP30	PW45W10		•	-
	PW55-01	350°	IP30	PW55-01	PW55-01d	•	-
	PW70	350°	IP30	PW70		•	-
		360°	IP30		PW 70d	•	-
	PK309	345°	IP30		PK309-15d	-	•
		345°	IP30		PK309-25d	-	•
	PK611	345°	IP30		PK611-15d	-	•
	PK613	352°	IP30	PK613-15	PK613-15d	-	•
		352°	IP30	PK613-16	PK613-16d	-	•
	PK620	355°	IP30	PK620-15	PK620-15d	-	•
		355°	IP30	PK620-16	PK620-16d	-	•
	PK1023d	355°	IP65			-	•

OVERVIEW

PROTECTIVE HOUSING

To protect against mechanical damage as well as dusty and damp industrial atmospheres, a range of housings are available for all angle of rotary encoders, some with built-in backlash-free gear adapters in protection class IP40 to IP67 and EX protection class. For final storage, most types of housing offer the option of installing cam limit switches with forced opening.



	G90	GS100	GS120	GS150
Gearing	1:1–1:10 backlash-free 1:1–25:1 backlash-free 1:1–125:1 low-backlash gearing	1:1–1:10 backlash-free 1:1–256:1 low-backlash gearing 1:1–256:1 backlash-free	1:1–1:10 backlash-free 1:1–216:1 backlash-free 1:1–1296:1 low-backlash gearing	1:1–1:10 backlash-free 1:1–1296:1 backlash-free
Housing material	aluminum, painted gray RAL7032	aluminum, painted gray RAL7032	aluminum, painted gray RAL7032	aluminum, painted gray RAL7032
Housing diameter	80 x 100 mm	100 mm	120 mm	150 mm
Ip code of housing up to	IP65	IP65, optional IP68	IP65	IP65, optional IP68
Shaft diameter	6 mm	10 / 12 mm	10 mm	12 mm
Shaft bearing	ball-bearing	ball-bearing	ball-bearing	ball-bearing
Shaft material	stainless steel	stainless steel	stainless steel	stainless steel
Torque	1,5 Ncm	1,5 Ncm	1,5 Ncm	4 Ncm
Weight	about 1 kg	about 1,5 kg	about 2,5 kg	about 3–8 kg
Resistance to compression	5–200 Hz, 10 g	5–200 Hz, 10 g	5–200 Hz, 10 g	5–200 Hz, 10 g
Shock	50 g, 6 ms	50 g, 6 ms	50 g, 6 ms	50 g, 6 ms
Temperature range	-30 °C to +80 °C	-30 °C to +80 °C	-30 °C to +80 °C	-30 °C to +80 °C
Connection	max. 2 x M16 x 1,5	max. 2 x M16 x 1,5	max. 2 x M25 x 1,5	max. 2 x M16 x 1,5 / optionally with plug
Additional switches	–	–	max. 14 switches	max. 10 switches

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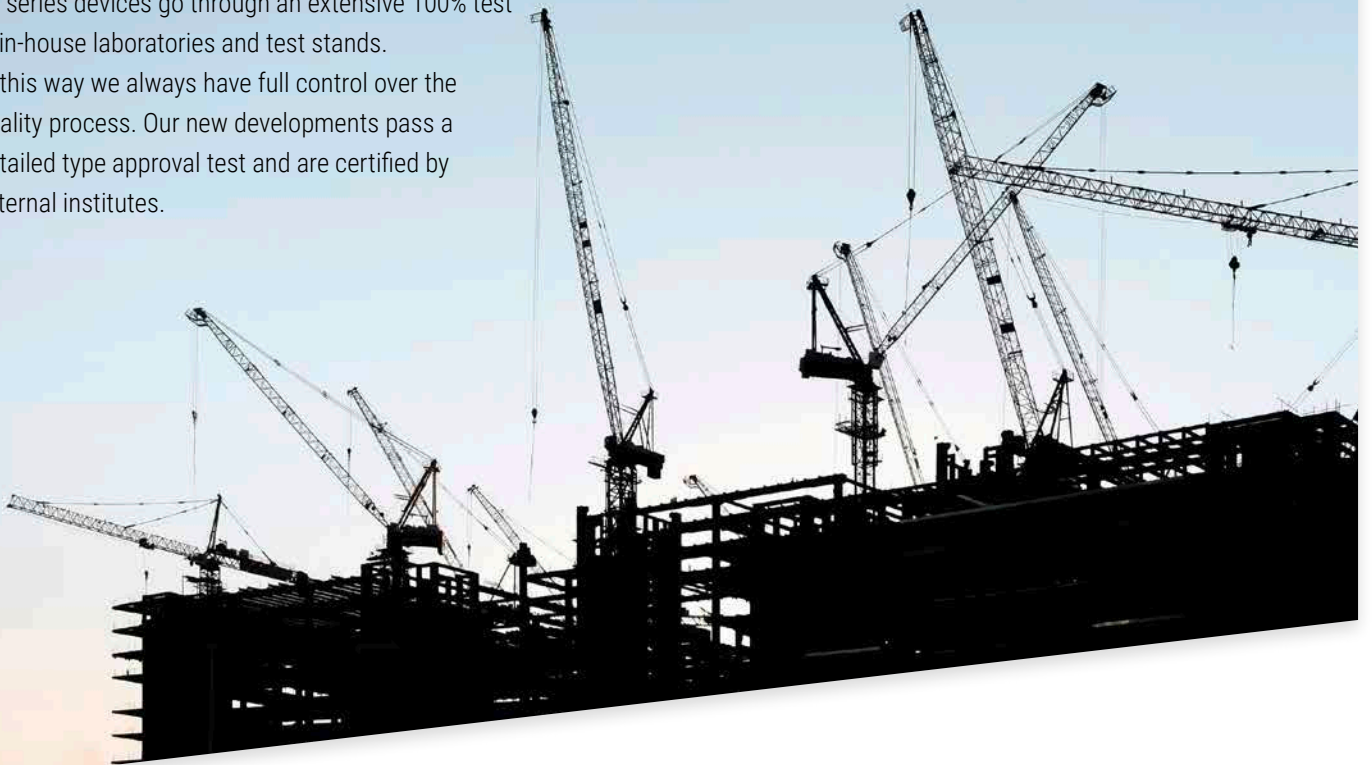
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