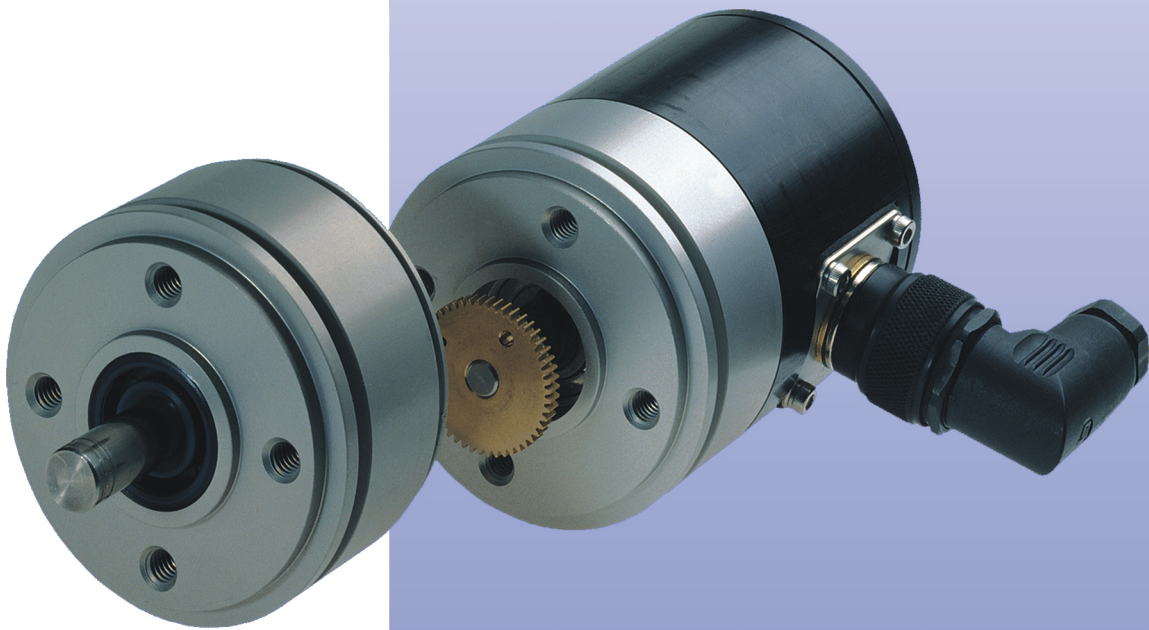


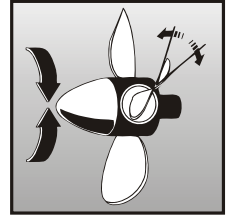
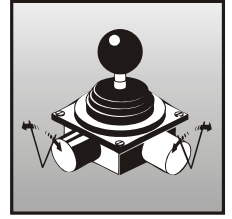
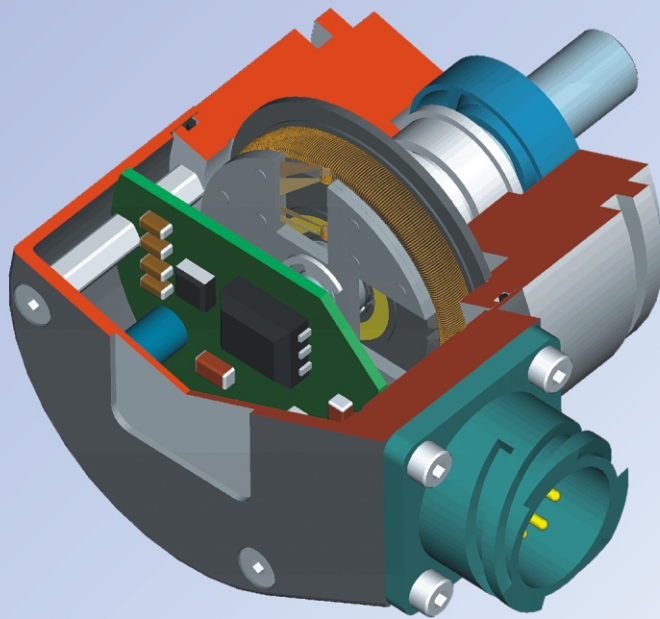
Angular Position Transmitters



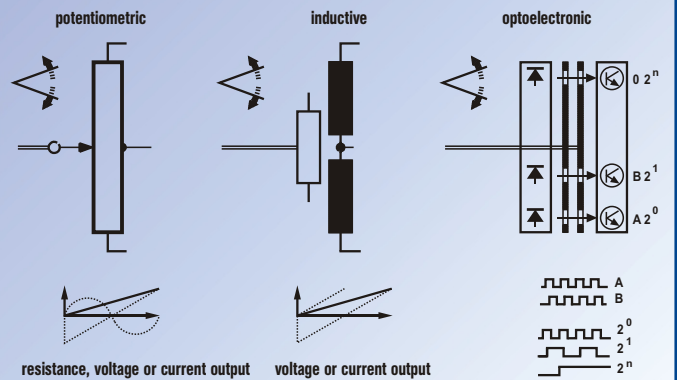
Angular Position Transmitters

with potentiometric, inductive or optoelectronic measuring systems

... Construction



... Measuring systems



For measuring angular positions and converting them into electrical signals for teletransmission purposes, either **potentiometric**, **inductive**, **incrementally** or **absolutely coded** angular position transmitters can be used according to the particular application.

They serve e.g. for recording the position of:

- weir gates and segmental valves**
- valves and control drives**
- ship's engine telegraphs and rudder mechanisms**
- lifting gears and slewing mechanisms of cranes**
- machine tools and handling equipment**
- as well as for set-point adjustment on control transmitters**
- for crane, railway and marine applications**

Potentiometric angular position transmitters comprise either a resistance element made of conductive plastic (series PK) or a high-resolution gold or constantan wirewound resistance element (series PW), offering a variety of resistance and angular values, respectively. Various models and sizes are available as single-gang or multiple-turn potentiometers or in a multiple-unit design, some of them filled with oil.

Inductive angular position transmitters of the non-contacting type are preferred for use in locations exposed to extreme vibrations/shock or aggressive atmospheres.

The built-in electronic system, which is optionally available in degree of protection EEx, provides current or voltage output signals linear with the measured variable.

Optoelectronic angular position transmitters comprise a high resolution incrementally or Gray coded encoder disk whose tracks are digitally scanned through infrared diodes and photo-transistors. They provide a short-circuit-proof pnp or npn transistor output. Systems of the absolute coded type are also available with CAN-bus or SSI-interface and with a built-in d/a-converter current output, respectively.

Protective casings

For protection against mechanical damage as well as dusty and moist industrial atmospheres, a series of protective casings with a degree of protection up to IP 68 is available for the whole line of angular position transmitters, which can partly be equipped with gears and limit switches.

... Specifications

of potentiometric and inductive angular position transmitters

Angular position transmitters with resistance output

Series	PW 609	PK 609	PW 0045
System	potentiometric		
Casing	plastic		
Shaft bearing	sintered metal		
Angle of rotation (max)	340°	340°	345°
Multiple design	-	-	-
Oil-filling	-	-	-
Resistance element	wirewound	plastic	wirewound
Resistance value (max)	10kΩ	10 kΩ	100 kΩ
Linearity	≅ ± 0,5%		
Signal converter	-	-	-

Angular position transmitters with resistance output

Series	PW 45	PW 70
System	potentiometric	
Casing material	plastic	plastic
Shaft bearing	needle	needle
Angle of rotation (max)	any value up to 360°	any value up to 360°
Multiple design	twofold	sixfold
Oil-filling	yes	yes
Resistance element	wirewound	wirewound
Resistance value (max)	100 kΩ ± 1%	100 kΩ ± 1%
Linearity	≅ 0,2%	≅ 0,2%
Signal converter	-	-

Angular position transmitters with resistance or current output

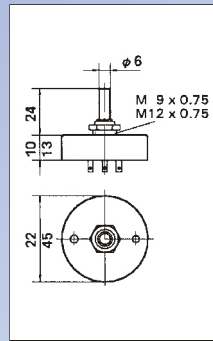
Series	PW 613	PK 613	PW 620	PK 620
System	potentiometric			
Casing material	aluminium, anodised		aluminium, anodised	
Shaft bearing	ball		ball	
Angle of rotation (max)	360°	352°	360°	355°
Multiple design	sixfold		sixfold	
Oil-filling	yes		yes	
Resistance element	wirewound	plastic	wirewound	plastic
Resistance value (max)	50 kΩ	10 kΩ	100 kΩ	10 kΩ
Linearity	≅ 0,3%	≅ 0,2%	≅ 0,2%	≅ 0,1%
with signal converter	Output	0 or 4-20 mA		0 or 4-20 mA
	Burden	600Ω max.		600Ω max.
	Supply	18-33 VDC		18-33 VDC

Inductive angular position transmitters with current output

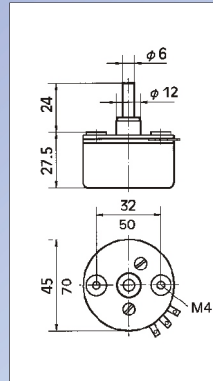
Series	WD 613	WD 620; WDG 620	
System	inductive		
Casing material	aluminium, anodised	aluminium, anodised	
Shaft bearing	ball	ball	
Angle of rotation (max)	0-70°	0-90° or 0-360°	
Multiple design	-	-	
Oil-filling	-	-	
Linearity	≅ ± 0,5%		
with signal converter	Output	0 or 4-20 mA	
	Burden	max. 600Ω	
	Supply	18-33 VDC	
Degree of protection	-	yes	

... Models

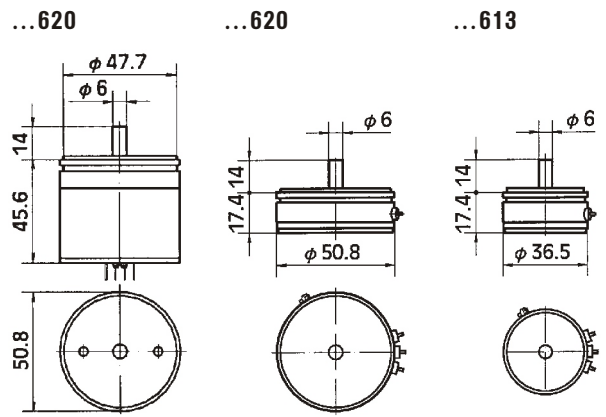
FSG-standard design, central mount



FSG-standard design,



Sizes 9, 11, 13 and 20 servo mount



model with signal converter

... Specifications

of potentiometric, inductive and optoelectronic angular position transmitters

Angular position transmitters with resistance or current output

Series	PW 1023	PK 1023	WD 1023; WDG 1023
System	potentiometric		inductive
Casing material	aluminium, anodised		aluminium, anodised
Degree of protection	IP 65		IP 65
Shaft bearing	ball		ball
Angle of rotation (max)	360°	355°	90°, WDG 360°
Resistance element	Draht	Kunststoff	-
Resistance value (max)	100 k Ω	10 k Ω	-
Linearity	$\pm 0,2\%$	$\pm 0,1\%$	$\pm 0,5\%$
with signal converter	Output	0 or 4-20 mA	0 or 4-20 mA
	Burden	max. 600 Ω	max. 600 Ω
	Supply	18-33 VDC	18-33 VDC

Size 23 servo mount also available as incremental or 16 bit multiturn transmitter. Data on request.

Angular position transmitters with resistance or current output

Series	PW 0613	PK 0613	WD 0613; WD 1025;
System	PW 1025	PK 1025	WDG 1025
Casing material	potentiometric		inductive
Degree of protection	inductive		aluminium, anodised
Shaft bearing	aluminium, anodised		IP 65
Angle of rotation (max)	IP 65		ball
Resistance element	360°	355°	70°, 90°, WDG 360°
Resistance value (max)	wirewound	plastic	-
Linearity	100 k Ω	10 k Ω	-
with signal converter	Output	0 or 4-20 mA	0 or 4-20 mA
	Burden	max. 600 Ω	max. 600 Ω
	Supply	18-33 VDC	18-33 VDC

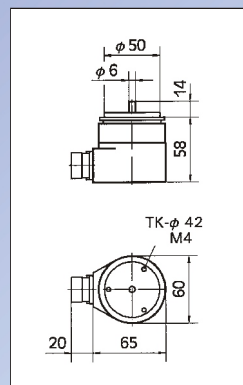
Sizes 13 and 25 servo mount also available as incremental transmitter. Data on request.

Angular position transmitters with digital or analog output

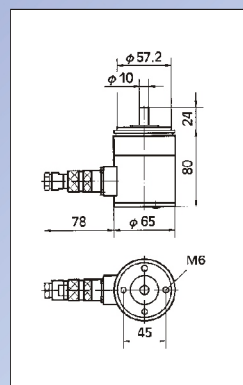
Series	XA 13-GS 90; XA 14-GS 90;	XA-12F-GS 90
System	optoelectronic	
Casing material	aluminium, anodised	
Degree of protection	IP 65	IP 67
Shaft bearing	ball	
Angle of rotation (max)	360°	
Encoding	Gray code	
Resolution	13 or. 14 bit	12 bit
Transistor output	PNP, short-circuit-proof	
Current output	-	4-20 mA for 0-360° sawtooth characteristic
Supply	18-33 VDC	
Interface	CAN or SSI	

... Models

Size 23 servo mount



Size 13 and 25 servo mount



Size 35 servo mount

