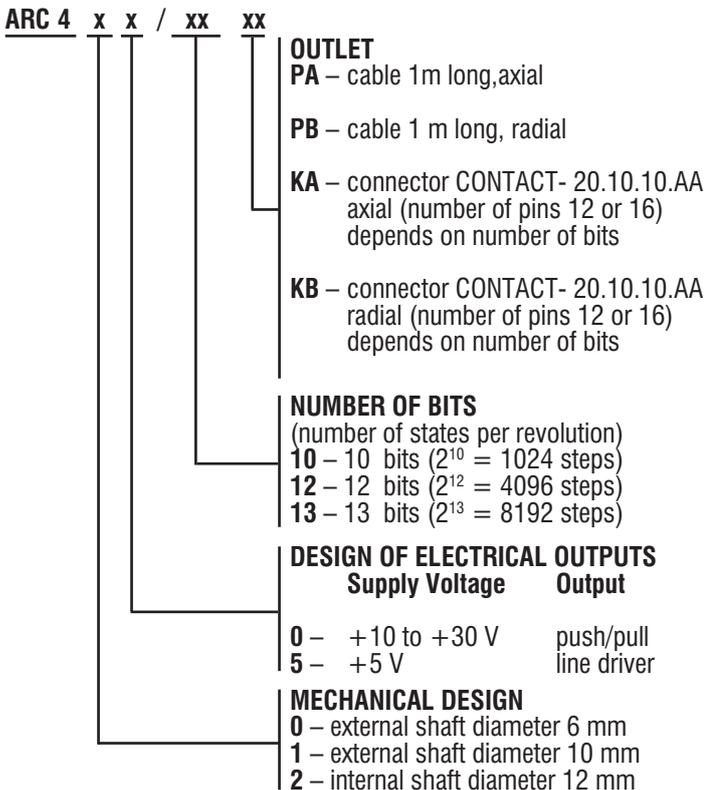


Absolute rotary encoders ARC400 – 425

ARC400 – 425 are absolute one-revolution rotating encoders with a standard industrial design on a diameter of 58 mm and distinction of up to 2. It transforms the angle of turning to the corresponding electronic digital information in the Gray's code and in the number of bits established by the distinction by means of photoelectrical scanning of two rasters (rotor and stator). Absolute encoders do not lose information about the position even at the time when they are not energized. Outlet bits are brought out in parallel to individual pins of a connector or cable conductor. Absolute encoders are destined for intermediation of electric information about the mutual position of two mechanical parts or about rotation movements (speed, acceleration, number of rotations and the angle of turning). At customer's request it is possible to bring out in the connector an error message informing about the function of the illuminant. When the distinction is 2^{13} , a phase-shifted incremental signal with a distinction of 2048 impulses per rotation (without negation) is also brought out to the thirteen bit. For distinction 2^{10} a 12-pin connector is used, for higher distinctions a 16-pin connector is used, and for special designs up to 19 pin-ones are used.



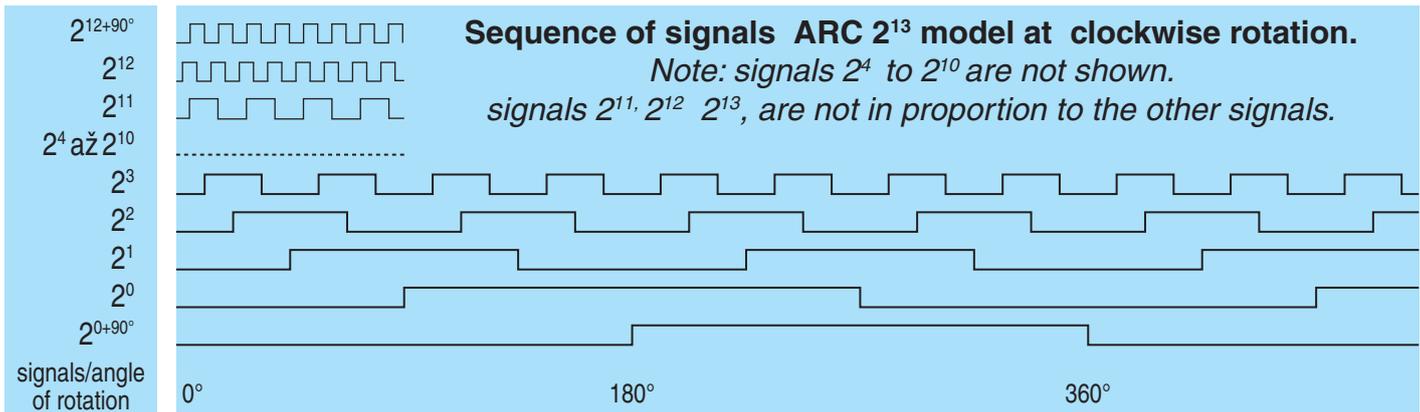
Type indication



Basic specification

Maximum RPM (electrical)	6000 min ⁻¹
Maximum angular acceleration	40000 rad.s ⁻²
Rotating mass moment of inertia	25 g.cm ² ± 10 %
Shaft load axial	20/40 N max.
Shaft load radial	50/60 N max.
Standard operating temperature range	0° C až +60° C
– model M	-25° C až +60° C
Protection Class	IP 65
Max. vibration according to FCČSN 345791	10 g _n (10 – 2000 Hz)
Max. shock	50 g _n (100 ms)
Max. humidity relative	95 %
Max. humidity absolute	40 g.m ⁻³
Air pressure	73,3 – 126,6 kPa
Weight	0,35 kg
Atmosphere without aggressive substances.	

Electrical data and output signals level	ARC4x0	ARC4x5
Supply Voltage U _n	+10 až +30 V	+5V ± 10 %
Maximal current dissipation I _n	70 mA @ 10 V 60 mA @ 30 V	150 mA
Maximum load of output channels I _o	± 20 mA	± 20 mA
Maximální output frekvency F _o	150 kHz	200 kHz
U _{OH} [V] U _N =30V, I _{ON} =10mA	> U _N -3	> 2,5
U _{OL} [V] U _N =U _o =30V, I _{OL} =-10mA	< 1,2	< 0,4
Maximum length of connecting cable	20 m	



Description how conection elements ARC400 – 425

Pin conector	Colour of the output cable	Signal	/13 bit	/12 bit	/10 bit	/8 bit	Note	
1	pink	2 ⁰ + 90°	12 MSB	11 MSB	9 MSB	7 MSB	For encoders 8 to 10 bit 12 pin conector or 12 wires cable	
2	yellow	2 ⁰	11	10	8	6		
3	green	2 ¹	10	9	7	5		
4	brown	2 ²	9	8	6	4		
5	black	2 ³	8	7	5	3		
6	violet	2 ⁴	7	6	4	2		
7	white	2 ⁵	6	5	3	1		
8	gray	2 ⁶	5	4	2	0 LSB		
9	red-blue	2 ⁷	4	3	1	NC		
10	gray-ponk	2 ⁸	3	2	0 LSB	NC		
11	red	+5 V or + 10 to +30 V						For encoders 11 to 13 bit 16 pin conector or 16 wires cable
12	blur	GND						
13	white-green	2 ⁹	2	1				
14	brown-green	2 ¹⁰	1	0 LSB				
15	white-yellow	2 ¹¹	0 LSB	NC				
16	yellow-brown	2 ¹¹ + 90°		NC				
GND	shielding	GND						

Assembly

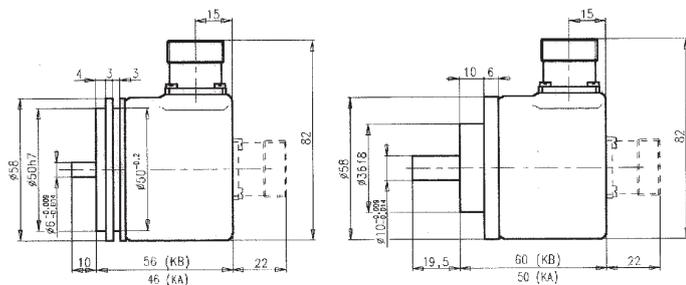
The ARC400 – 405 encoder is installed into appropriate equipment using 3xM4 screws or a groove. The position of the shaft is explicitly determined by a fitted diameter of 50h7 mm. The ARC410 – 415

encoder are installed using 3xM3 screws and the position of the shaft is explicitly determined by a diameter of 36f8. It is recommended to use appropriate hokinetic connections (see the cataloque sheet „Accessories“). The ARC420 – 425 encoder are mounted on the shaft of the respective device and 2 imbus M4 screws. After the that encoder is to be turned to the required position and 4xM3 screws of the fixed plate connection are to be tightened. The connection has to be designed so as to avoid exceeding the maximum admissible radial or axial load applied to the shaft and it is necessary to keep the connection aligned. The cable of the ARC420 – 425 encoder must be fastened so as to avoid stress on the encoder by its own weight. Considering the electrostatic sensitive components used it is recommended to connect the encoder without power supply and to follow the work rules for electrostatic sensitive devices. In wet enviroments with running or splashing water it is recommended not to position the ARC400 – 425 encoders with the shaft pointing upwards. When temperature is less then -5°C cable must be fixed.

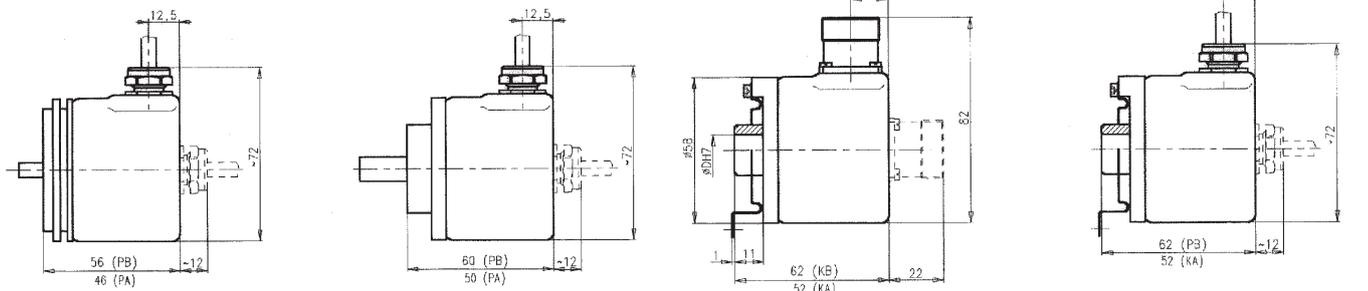
Dimensioned drawing

ARC400 – 405

ARC410 – 415



ARC420 – 425



Connection requirements

