

# Absolute encoder WK02/1

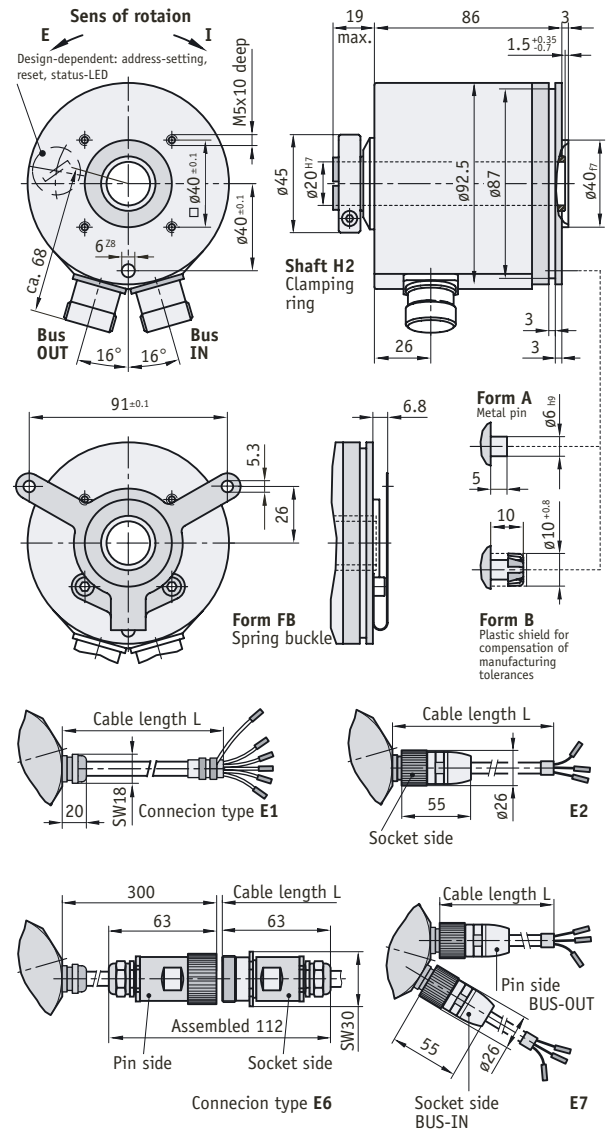
Hollow shaft

WK02/1 - robust single-turn angle encoder with through hollow shaft and 8192 steps (13 bit) resolution per revolution.



## Features:

- up to 8192 steps/revolution
- parallel PP (push pull), serial RS485 interfaces
- SSI interface, InterBus-S with K3 ENCOM profile
- Profibus, class 1 encoder profile
- Gray or binary output code
- programmable, easy installation thanks to hollow shaft



Feature	Order text	Technical data	Additional information
Interface/protocol	P1	A	parallel PP, short-circuit proof, max. 13 bit
	S6/04		RS422/SSI
	IB3		Interbus-S
	PB		Profibus
Connection type	E1	B	parallel
	E2		SSI
	E6		parallel
	E7		InterBus-S, Profibus
Cable length L [m]	2.0	C	0.3 ... 10.0
	OK		without cable
Steps/revolution	8192	D	max. 13 bit
	...		4096, 2048, 1024, 512, 360, 256, 720
Output code	B	E	binary code
	G		Gray code
Sense of rotation (ascending)	E	F	counter-clockwise
	I		clockwise
Type of protection	54	G	IP54
	65		IP65
Torque support	A	H	A type
	B		B type
	FB		spring buckle
	0		without torque support
Shaft diameter [mm]	16	I	hollow shaft 16
	20		hollow shaft 20
<b>Mechanical data</b>			
Shaft load			max. 120 N radial, 400 N axial
Operating speed [rpm]			max. 3000 (IP54)
Shaft inertia moment			$1 \times 10^{-4} \text{ kgm}^2$
Angular acceleration			$2 \times 10^5 \text{ rad/s}^2$
Starting torque			approx. 5 Ncm (IP54) at 20 °C
Weight			approx. 1.2 kg
Temperature range			working temperature 0 °C ... +50 °C
Air humidity			condensation not permissible
Shaft			burnished steel
Service life of bearing			min. 400 x 10 <sup>6</sup> revolutions
Shock resistance			30 g (13 ms)
Vibration resistance [g]			10 (5 ... 150 Hz), 20 (100 ... 2000 Hz)
			approx. 15 Ncm (IP65) at 20 °C
			storage temperature -20 °C ... +85 °C
			2-fold ball-bearing
			10 <sup>9</sup> at 20 N shaft load
			according to DIN-IEC 68-2-27
			according to DIN IEC 68-2-6
<b>Electrical data</b>			
		SSI	Parallel
Operating voltage		24 V DC ±20%	24 V DC ±20%
Output driver		RS 485	push-pull
Power consumption		< 1.3 W	< 1.5 W
Permitted load/channel (max.)		1 MHz	± 30 mA
SSI clock speed min./max.		100 kHz/500 kHz	
Bit change rate			300 kHz
Signal level high		typ. 3.8 V	UB - 0.7 V (30 mA)
Signal level low		typ. 1.3 V (20 mA)	< 0.7 V (30 mA)
Ramp-up time t <sub>r</sub> (max.)		100 ns*	400 ns*
Ramp-down time t <sub>f</sub> (max.)		100 ns*	400 ns*
Short-circuit proof outputs		yes, only 1 channel **	yes
Polarity protection on UB		yes	yes
<b>Other data</b>			
Scanning		opto-electronical	
Accuracy		± 1 LSB	
Housing and flange		aluminium	
Test mark		CE	

\* without cable, \*\* short circuit toward 0V permissible at UB = 24 V DC ±20%.

Your order data: WK02/1 -  -  -  -  -  -  -  -  - M1 - H2 -