

Series SWA 90

- ▶ Absolute singleturn rotary-encoder with a blind hollow shaft diameter of 20 mm and parallel output
- ▶ Housing diameter 90 mm, small design and high degree of protection
- ▶ Maximum resolution 12 Bit
- ▶ Direct assembly onto existing shafts
- ▶ Accessories from page 78

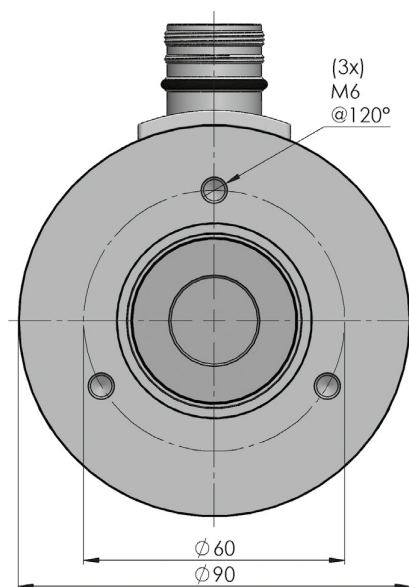
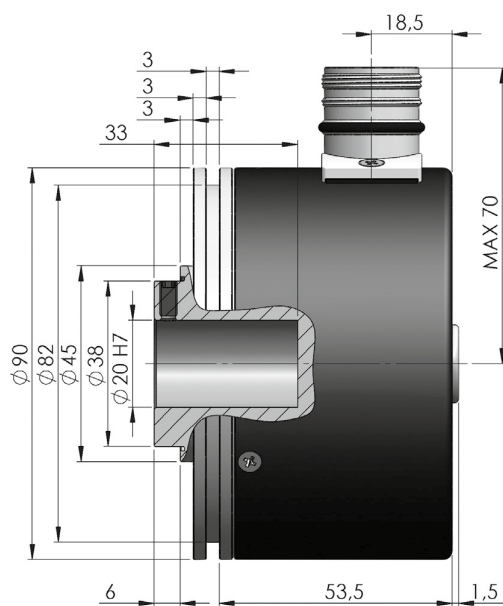
Electrical specifications

max. pulse frequency:	25 kHz
Perm. temperature range:	-30° C ... +60° C
Power supply:	10 V ... 30 V DC + 20 %
Max. current consumption:	160 mA (without load)
Max. output load:	40 mA (per channel)
Residual ripple:	max. $\pm 5\%$ U_B

Mechanical specifications

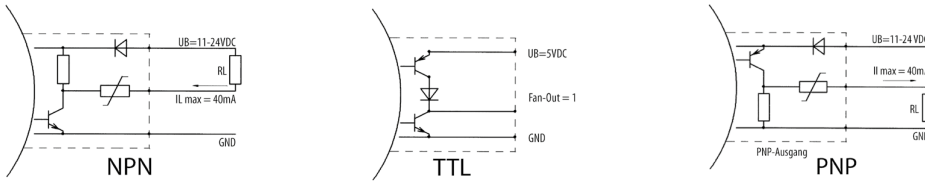
Flange:	Aluminium
Housing:	Powder-coated sheet steel
Hollow shaft:	stainless steel
Shaft seal:	oil/salt-water resistant
Bearing:	Groove ball bearing
Weight:	ca. 1,2 kg
Protection type:	IP 65
Max. speed:	6.000 U/min
Torque:	ca. 5 Ncm
Max. shaft load:	axial 30 N / radial 50 N

Mechanical dimensions



All specification in millimeters

Output circuits



Output code

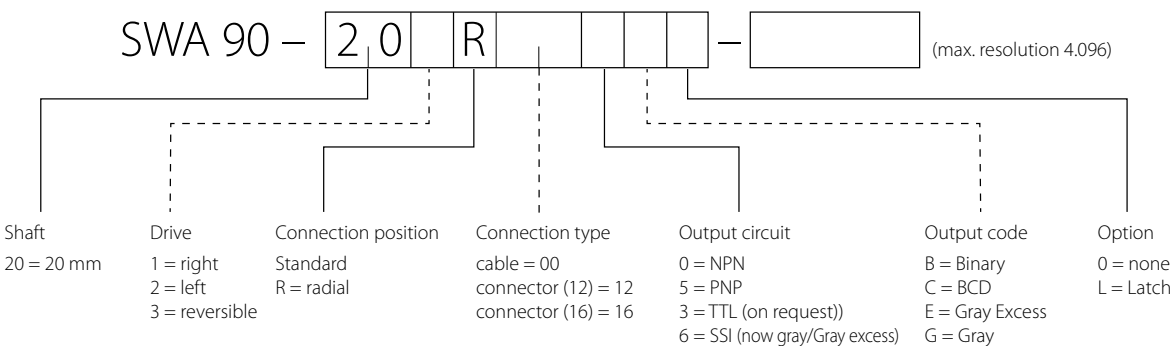
Output code	Resolution	Inputs	Option
Binär, BCD	2, 4, 8, 16, 32, 64, 128, 256, 512, 1.024, 2.048	(Optocoupler) Counting direction switchover with + U _B	Latch (Optocoupler input, control with + U _B)
Gray (beginning bei 0)	2, 4, 8, 16, 32, 64, 128, 256, 512, 1.024, 2.048, 4.096		
Gray-Excess (beginning ≠ 0)	45, 90, 180, 360, 720, 1.440, 2.880, 3.600		

Pin configuration

Connection type	BCD*		10 ₀				10 ₁				10 ₂				10 ₃			Option	↔		
	GND	+ U _B	1	2	4	8	1	2	4	8	1	2	4	8	1	2	4				
12	1	2	3	4	5	6	7	8	9	10	11	12	-	-	-	-	-	-	-	-	-
16	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	-	-	-	-	-
00	white	brown	green	yellow	gray	pink	blue	red	black	purple	gr/pin	bl/re	ws/gre	br/gre	ws/ye	ye/br	ws/gr	gr/br	ws/pin		

* as of resolution 2048 BCD, only cable output!

Order reference



Absolut Rotary Encoder with Hollow Shaft Typ SWA 90 X – 004 – n x 128

Electical characteristics

Supply voltage:	10 V ... 30 V DC + 20 %
Output circuit:	PNP
Code type:	Gray
Resolution:	n x 128
Counting direction changeover: (Opto coupler input)	right / open left / +U _B
Latch: (Opto coupler input)	activ with +U _B

PIN assignment

PIN	Function
1	+UB (11 V ... 24 V DC)
2	GND
3	Output 2 ⁰
4	Output 2 ¹
5	Output 2 ²
6	Output 2 ³
7	Output 2 ⁴
8	Output 2 ⁵
9	Output 2 ⁶
10	n.c.
11	n.c.
12	n.c.
13	n.c.
14	n.c.
15	Latch / Input
16	Counting direction changeover / Input