

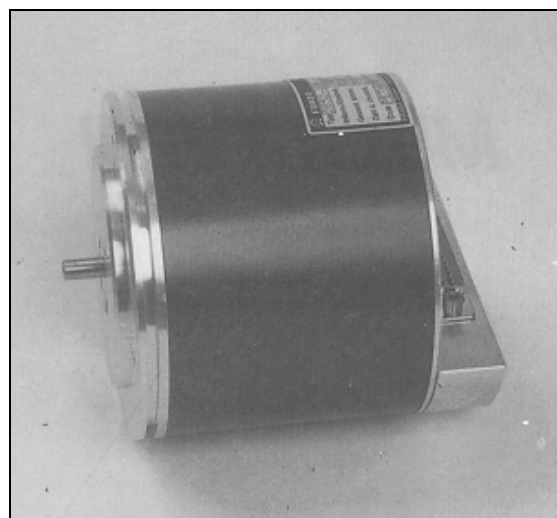
Absolute Angular Encoder

Series 2800

Ø 100

Main Features

- Compact and heavy-duty industrial model
- Housing : 100 mm Ø
- Shaft : 6 mm Ø
- Degree of protection : IP 54, optional IP 65
- Code : Gray, Binary, Petherick, BCD, 3 Excess Gray
- Output : Bit-parallel or serial
- Resolution : max. 13 Bit = 8192 steps per revolution
- Total Res. : max. 24 Bit = 16.777.216 steps at 4096 rev.



Mechanical Structure

- Flange and housing of light metal
- Shaft of stainless steel
- Precision ball bearings with sealing rings
- Code disc made of unbreakable and durable plastic or glass
- Multi-Turn angular encoder in 2- to 3-graded construction

Electronical Structure

- Opto-electronical tracking system with infrared sensors
- Infrared sensors
Sender: IR-LED
Receiver: IR-Phototransistors
- Highly integrated circuit in SMD-Technology
- Bit-Parallel or synchron-serial interface (SSI)

Standard-Types

Type	Steps / Rev.	No. of rev.	Total resolution	Code
2810-128-1-6 GLSPN02CW	1024	128	131.072	Gray
2852-100-1-6 ELSPN02CW	1000	100	100.000	3 Excess
2852-100-1-6 PLSPN02CW	1000	100	100.000	Petherick

Other resolutions, codes and configurations are available.
Refer to page 4.

Areas of Application

- Manufacturing of machine tools
- Wood processing plants
- Assembly plants
- Jointed-arm robots
- Textile manufacturing plants
- Printing machines
- Antenna positioning
- and so on

Applications

- Sensing of
- Angles
 - Distances
 - Tracks
 - Inclinations
 - Differences between two or more axes

Electrical Data

Latch	: to store present code-value
Strobe	: to switch outputs enable / disable for
Outputs	: BUS-operation of max. 32 angular encoders : NPN, Open Collector (N-switching) : external Pull-Up resistors on max. 24 V DC
Output level	: log. „0“ ≤ 0,3 V : log. „1“ max. 24 V DC, depends on external circuit
Output current (I _{out sink})	: max. 40 mA per channel
Step rate	: max. 100 kHz
Accuracy of Division	: ± ½ LSB
Supply Voltage	: 15 - 24 V DC ± 10 %
Current Consumption	: 100 - 120 mA
Electrical Lifetime	: > 10 ⁵ h
Connection	: plug exit or cable, 1m length

Mechanical Data

Shaft	: Ø 6 mm
Shaft Loading	: axial 10 N, radial 20 N
Friction Torque	: ≤ 1 Ncm
Inertia of Rotor	: ≈ 20 gcm ²
Lifetime	: > 10 ⁵ h at 1000 min ⁻¹
RPM	: max. 6000 min ⁻¹
Shock	: ≤ 100 m/s ² (10 ms)
Vibration	: ≤ 100 m/s ² (10 Hz ... 1000 Hz)
Weight	: app. 1,0 kg (depends on configuration)

Environmental Conditions

Operating Temperature	: 0 °C to + 60 °C
Storage Temperature	: - 30 °C to + 85 °C
Humidity	: 98 % (without liquid state)
Degree of Protection DIN 40 050	: IP 54 (except connector)

Connector Pin Assignments

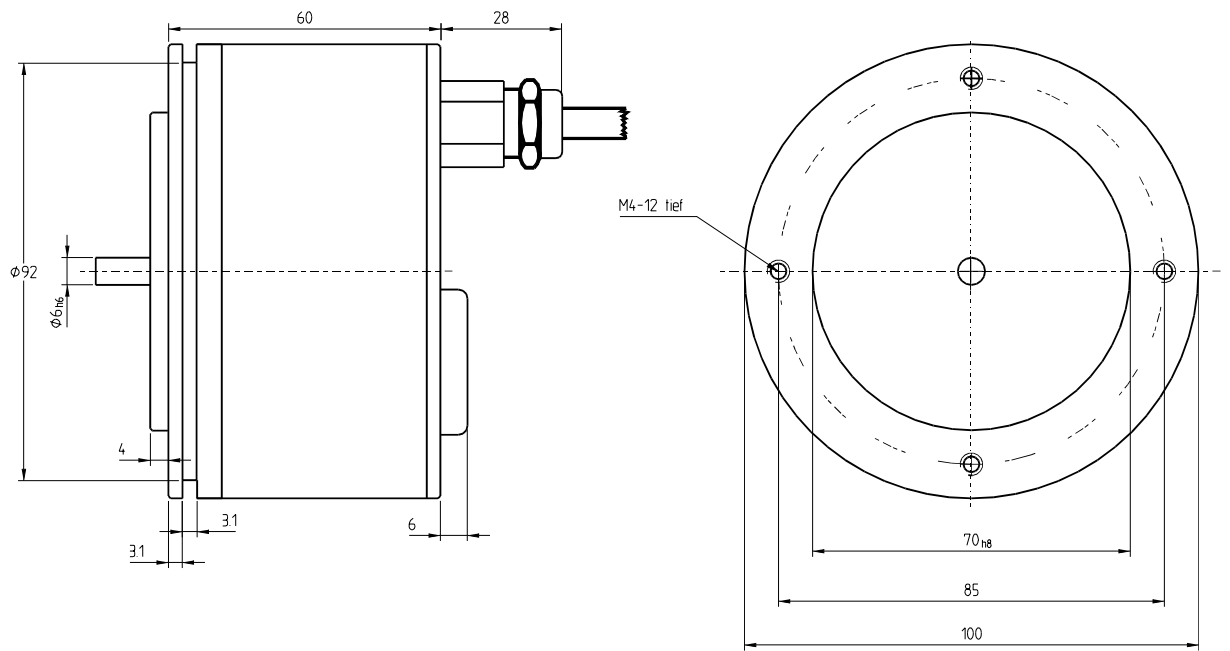
25 pin D-Sub connector** Pin	Signals	25 pin D-Sub connector** Pin	Signals
1	Bit 1	14	Bit 14
2	2	15	15
3	3	16	16
4	4	17	17
5	5	18	18
6	6	19	19
7	7	20	20
8	8	21	Latch
9	9	22	Complement
10	10	23	Strobe
11	11	24	+U _b = 15-24 V
12	12	25	GND
13	13		

Eingang		Angular Encoder
Function	Level	
STROBE	0	switched off
ena./disa.	1	switched on
COMPLEMENT	0	adding*
Count. Direct.	1	subtracting*
LATCH	0	transparent
Storage	1	stored

* clockwise rotation as seen on shaft

** cabel exit: refer to attached colour assignments

Cable exit (Cable diameter = 8mm)



Absolute Angular Encoder with Gray-Code:

28																		Series 2800
	10-																	Resolution/revolution in bit
	12-																	-----"-----
	13-																	-----"-----
		16-																No. of revolutions
		256-																-----"-----
		4096-																-----"-----
			1-															Housing diameter: 100 mm
				6-														Shaft diameter: 6 mm
					G													Gray-Code
						0												Without Latch-Funkcion
						L												With Latch-Funktion
							0											Without Strobe-Function
							S											With Strobe-Function
								P										Outputs Bit-parallel
									N									NPN, Open Collector (N-switching)
										0								0 = no options
											2	C	W					Radial 25 pin connector
											0	0	A					Axial cable exit (1m) without connector
											0	0	R					Radial cable exit (1m) without connector
28	10-	256-	1-	6-	G	0	0	P	N	0	2	C	W					Ordering example
28			1-	6-	G			P	N	0								Please complete the desired order here

Absolute Angular Encoder with 3 Excess-Gray or Petherick Code:

28																		Series 2800
	30-	1-																1000 steps per revolution
	41-	10-																1000 steps per rev. and 10 rev.
	52-	100-																1000 steps per rev. and 100 rev.
	63-	1000-																1000 steps per rev. and 1000 rev.
			1-															Housing diameter: 100 mm
				6-														Shaft diameter: 6 mm
					E													3 Excess-Gray-Code
					P													Petherick Code
						0												Without Latch-Function
						L												With Latch-Function
							0											Without Strobe-Function
							S											With Strobe-Function
								P										Outputs Bit-parallel
									N									NPN, Open Collector (N-switching)
										0								0 = no option
											2	C	W					Radial 25 pin connector
											0	0	A					Axial cable exit (1m) without connector
											0	0	R					Radial cable exit (1m) without connector
28			1-	6-				P	N	0								Please complete the desired order here

Further models on request

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