

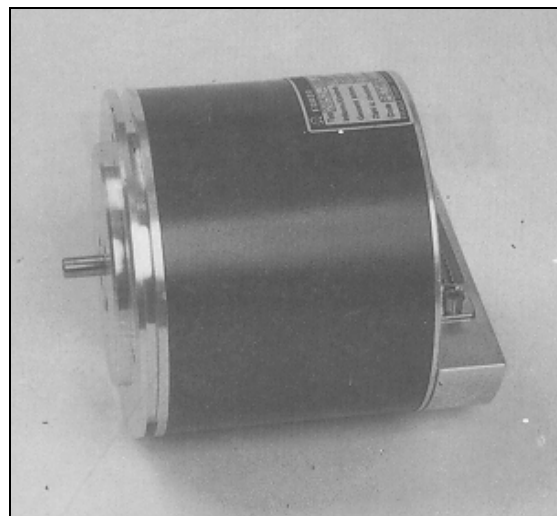
Absolute Angular Encoder

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

Technical Data

Series 2800

Ø 100

Electrical Data

Latch	: to store present code-value
Strobe	: to switch outputs enable / disable for : BUS-operation of max. 32 angular encoders
Outputs	: 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 ($I_{\text{out sink}}$)	: 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)

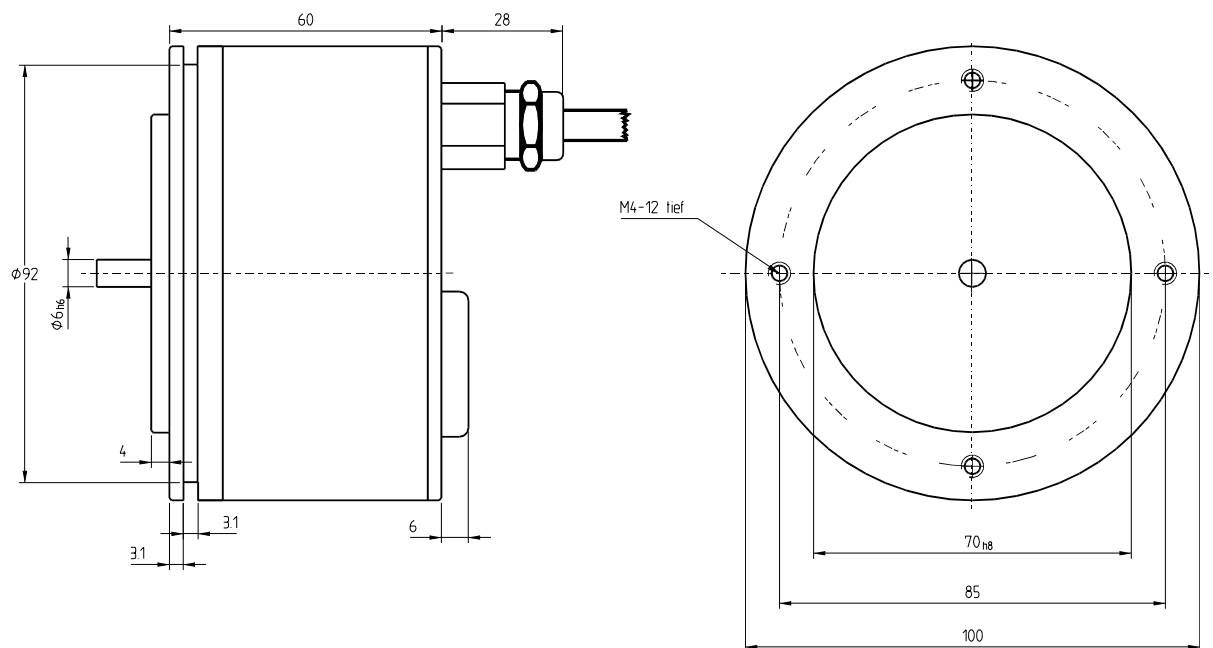
Connector Pin Assignments

25 pin D-Sub connector** Pin	Signals	25 pin D-Sub connector** Pin	Signals	Eingang		Angular Encoder
				Function	Level	
1	Bit 1	14	Bit 14	STROBE	0	switched off
2	2	15	15	ena./disa.	1	switched on
3	3	16	16	COMPLEMENT	0	adding*
4	4	17	17	Count. Direct.	1	subtracting*
5	5	18	18	LATCH	0	transparent
6	6	19	19	Storage	1	stored
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					

* clockwise rotation as seen on shaft

** cabel exit: refer to attached colour assignments

Cable exit (Cable diameter = 8mm)



Ø 100