



Incremental Rotational Encoder

The automation of complex machines and systems today demands the acquisition of an increasing number of angle positions and linear movements of a number of axes. Incremental rotational encoders break up rotary movements into single pulses, the number of which is proportional to the angle of rotation. The simple, measuring-length-dependent encoder system can be used to your advantage for measuring the length of materials in strip form by means of measuring wheels, feed measurements and positioning on spindle, rack-and-pinion and chain drives as well as rotating joints.

Superior thanks to:

- rugged construction
- high-current outputs up to 500 mA
- permanent protection against short-circuits
- pulse frequency up to max. 300 kHz



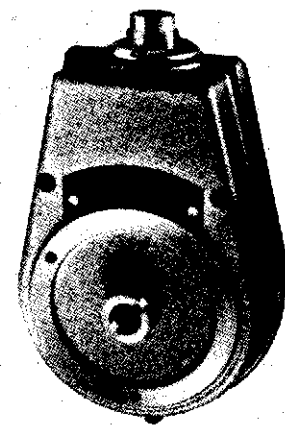
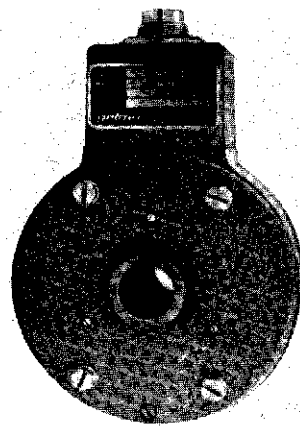
**Miniature
Rotation Pulse Encoder
Series LG 100**

- 4 Type
- 5 Pulse channels
- 6 Zero pulse
- 7 Max. pulses/rev.
- 8 Pulse frequency
- 9 Max. speed
- 10 Supply voltage

- 11 Compatibility
- 12 Operating temperature
- 13 Dimensions Housing Shaft
- 14 Housing
- 15 Protection type
- 16 Special features

**Hollow-shaft
Rotation Pulse Encoder
Series LG 200**

- 17 Standard number of pulses
- 18 Accessories
- 19 yes
- 20 D
- 21 Cast aluminium
- 22 Pressure diecast aluminium



**Hollow-shaft
Rotation Pulse Encoder
Series LG 300**

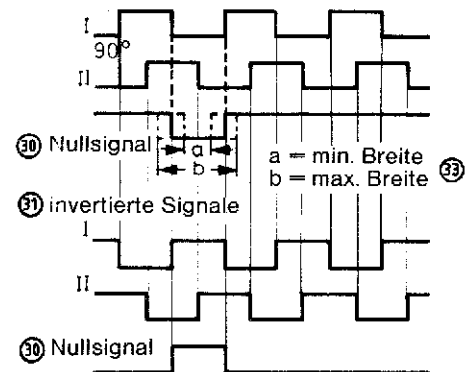
- 23 IP 54 or IP 64
- 24 Filament lamp electronics
- 25 100 mA output
- 26 Flange 40x40 mm fastening eccentric, coupling

- 27 Measuring wheel axle Precision measuring wheel 500 mm circumference Encoder cable with connector

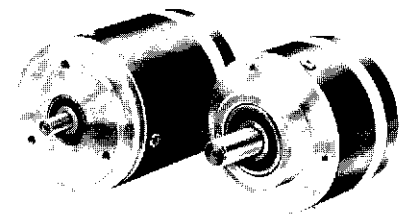
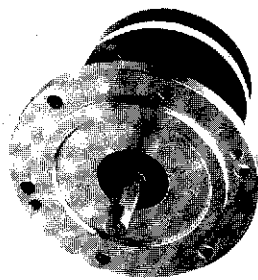
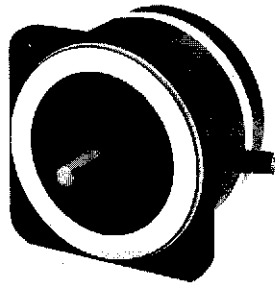
Typ	LG 101	LG 102	LG 231	LG 234	LG 235	LG 300-4xx	LG 300-6xx
impulskanäle	3	3	2	2	2	2/3	2/3
Nullimpuls	ja	ja	-	-	ja	ja	ja
Imp./Umdreh. max.	1000	1000	250	500	500	500	1800
impulsfrequenz	85 kHz	50 kHz	30 kHz	15 kHz	30 kHz	15 kHz	30 kHz
Max. Drehzahl	10.000 min ⁻¹	10.000 min ⁻¹	5.000 min ⁻¹	5.000/7.500 min ⁻¹		5.000/7.500 min ⁻¹	
Versorgungsspannung	5 V	10 ... 24 V	12/24 V	10 ... 24 V	10 ... 24 V	10 ... 24 V	10 ... 24 V
Kompatibilität	TTL, CMOS	HLL	HLL	HLL	HLL	HLL	HLL
Betriebstemperatur	0 ... +60°C	0 ... +60°C	-20 ... +120°C	-20 ... +60°C	0 ... +60°C	-20 ... +60°C	0 ... +60°C
Maße Gehäuse Welle	∅ 33 mm x T 45 mm ∅ 4 mm	∅ 33 mm x T 45 mm ∅ 4 mm	∅ 132 mm x H 200 mm x T 62 mm ∅ 25 mm			∅ 126 mm x H 210 mm x T 72 mm ∅ 15 mm	
Gehäuse	Aluminium	Aluminium	Alu-Guß			Alu-Druckguß	
Schutzart	IP 50	IP 50	IP 54 oder IP 64			IP 54	
Sondermerkmale	-	-	Glühlampen-elektronik	-	100-mA-Ausgang	-	100-mA-Ausgang
Standardimpulszahlen	5, 10, 25, 50, 100, 125, 150, 157, 180, 200, 250, 360, 400, 500, 1000	5, 10, 25, 50, 100, 125, 150, 157, 180, 200, 250, 360, 400, 500, 1000	10, 25, 50, 100, 125, 150, 157, 180, 200, 250	10, 25, 50, 100, 125, 150, 157, 180, 200, 250, 360, 400, 500	10, 25, 50, 100, 125, 150, 157, 180, 200, 250, 360, 400, 500	10, 25, 50, 100, 125, 150, 157, 180, 200, 250, 360, 400, 500	400, 500, 625, 632, 750, 900, 1000, 1250, 1500, 1800
Zubehör	Flansch 40 x 40 mm Befestigungs-exzenter, Kupplung	Flansch 40 x 40 mm Befestigungs-exzenter, Kupplung	Meßradachse Präzisions-Meßrad 500 mm Umfang, Geberkabel mit Stecker			Meßradachse Präzisions-Meßrad 500 mm Umfang, Geberkabel mit Stecker	

System

The pulses are generated opto-electronically in our incremental distance measuring systems. The movement of a precision ruled grating interrupts the rays of light in a photo interrupter system on their way from the light transmitter to the light receiver. The resulting pulses are output with amplification for interference-free transmission.



- 30 index pulse
- 31 inverted signals
- 32 index pulse
- 33 a = min. width
b = max. width



Rotation Pulse Encoder Series LG 400

- 4 Type
- 5 Pulse channels
- 6 Zero pulse
- 7 Max. pulses/rev.
- 8 Pulse frequency
- 9 Max. speed

Robust Rotation Pulse Encoder Series LG 500

- 10 Supply voltage
- 11 Compatibility
- 12 Operating temperature
- 13 Dimensions Housing Shaft
- 14 Housing

- 15 Protection type
- 16 Special features
- 17 Standard number of pulses
- 18 Accessories
- 19 yes
- 20 D

Rotation Pulse Encoder Series LG 600/620

- 21 Cast aluminium/
cast aluminium,
salt water-proof
- 22 Permanent short-
circuit-proof
output
- 23 Inverted signals

- 24 Precision meas-
uring wheel 300 mm
circumference
- 25 Bellow-type coup-
pling, Helical
coupling

Typ	④	LG 402	LG 404	LG 406	LG 408		LG 601	LG 602
Typ	④	LG 502	LG 504	LG 506	LG 508		LG 621	LG 622
Impulskanäle	⑤	3	3	1	1		3	3
Nullimpuls	⑥	ja	ja	-	-	⑱	ja	ja ⑲
Imp./Umdreh. max.	⑦	2500	2500	375	375		5000	5000
Impulsfrequenz	⑧	50 kHz	50 kHz	5 kHz	50 kHz		300 kHz	200 kHz
Max. Drehzahl	⑨	5.000 min ⁻¹					12.000 min ⁻¹ /6.000 min ⁻¹	
Versorgungsspannung	⑩	10... 24 V	10... 24 V	12... 24 V	12... 24 V		5 V	10... 24 V + 20%
Kompatibilität	⑪	HLL	HLL	HLL	HLL		TTL	HLL
Betriebstemperatur	⑫	0... +60°C	0... +60°C	0... +50°C	0... +50°C		0... +70°C	0... +60°C
Maße Gehäuse Welle	⑬	∅ 80 mm x T 52 mm ∅ 7 mm					∅ 58 mm x T 62 mm ∅ 6 mm	
Maße Gehäuse Welle	⑬	∅ 115 mm x T 85 mm ∅ 11 mm					∅ 58 mm x T 41 mm ∅ 10 mm	
Gehäuse	⑭	Alu-Guß/Alu-Guß, seewasserfest				⑳	Aluminium	
Schutzart	⑮	IP 54/IP 65/IP 66					IP 64	
Sondermerkmale	⑯	Ausgang dauerkurzschlußfest				㉑	invertierte Signale	invertierte Signale ㉒
Standardimpulszahlen	⑰	1, 5, 10, 25, 50, 100, 125, 150, 157, 180, 200, 250, 360, 400, 500, 625, 632, 750, 900, 1000, 1250, 2500					10, 25, 50, 100, 125, 150, 157, 180, 200, 250, 360, 400, 500, 750, 900, 1000, 1250, 1500, 2500, 5000	
Zubehör	⑰	Präzisions-Meßrad 500 mm Umfang Faltenbalgkupplung, Wendelkupplung				㉔ ㉕	Faltenbalgkupplung, Wendelkupplung	㉖

Photo interrupter Systems

The encoders contain 1 to 3 photo interrupter systems, all equipped with LED light transmitters and amplifiers. The amplifier outputs supply low-impedance squarewave signals with levels of TTL to 24 V depending on the version and are short-circuit-proof depending on type.

This construction guarantees: high resistance to vibrations, long life and high signal/noise ratio for error-free counting with up to 100 m encoder cable.

The single-channel types are suitable for connection to up counters. The versions with 2 pulse channels are set to 90° phase shift for recognition of direction. Doubling and quadrupling are also possible with suitable counting inputs. The three-channel types have an additional index pulse = 1 pulse/rev. which is used as the reference for positioning jobs. Additional inverted output signals serve in connection with the appropriate counting input circuits for logic suppression of noise signals.



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