STEGMANN

HG 660

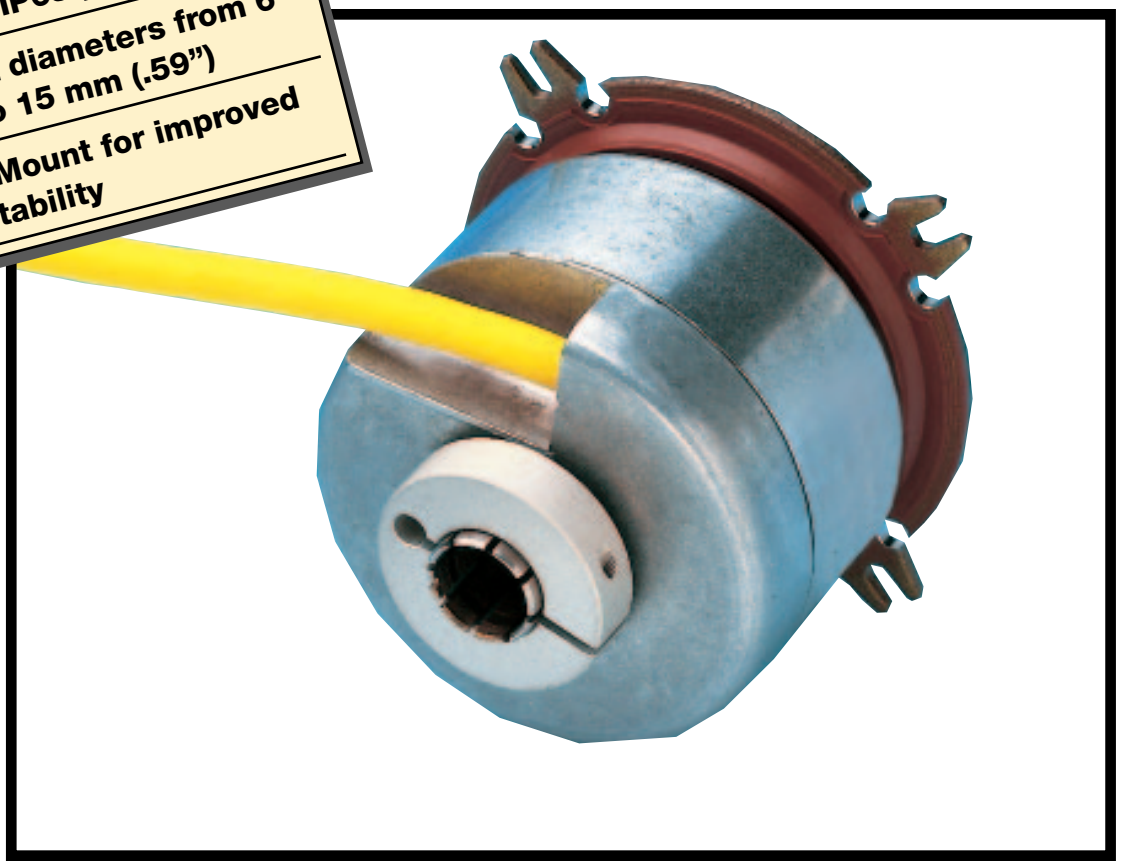
Hollow Shaft Incremental Encoder

Features

- Through or blind hollow shaft incremental encoder
- Resolutions up to 10,000 ppr
- AquadB with index marker signal format
- +5VDC Line Driver or 10-30 VDC push-pull output drivers
- 60 mm external diameter
- Rugged die-cast aluminum housing with IP65 protection
- Hollow shaft diameters from 6 mm (.23") to 15 mm (.59")
- Viton Flex Mount for improved dynamic stability

TÜV CERT ISO 9001 EN 29001

CE



24-hour fax back 916-431-6545 • www.stegmann.com
Tel. 800-811-9110 • 937-454-1956 • Fax 937-454-1955 • E-mail sales@stegmann.com
7496 Webster Street • P.O. Box 13596 • Dayton, OH 45413-13596

HG 660

STEGMANN

Technical Data/Features according to DIN 32878

Number of pulses per revolution(Z) **RS 422 and Push-Pull:** 100, 250, 360, 500, 1000, 1024, 1250, 2000, 2048, 2500, 3000, **3600**, 4096, 5000
RS 422 only: 200, 720, 4000, 7200, 8192, 10000

Interfaces		RS 422, Push-pull outputs, 1Vp-p Sine/Cosine
Dimensions		See drawing (mm)
Mass		Approx. 0.3 kg
Moment of inertia of the rotor		45 gcm^2
Measurement step		90 / Z°
Reference signal	Number	1
	Position	90° electrical (gated with K1 and K2)
Error limit		45 / Z + 0.054 degrees 45 / Z + 0.015 degrees
Measurement step deviation		45 / Z°
Max. output frequency	RS 422 Output	300 kHz (up to 5000 Resolution) 600 kHz (above 5000 Resolution)
	Push-pull Output	200kHz
Max operating speed		6000 rpm
Max. angular acceleration		5 x 10^5 rad/s^2
Operating torque		0.2 Ncm
Starting torque		0.4 Ncm
Permissible movement of the drive element:	Radial movement	static ±0.1 mm dynamic ±0.05 mm
	Axial movement	static ±2 mm dynamic ±0.2 mm
Angular movement at right angles to the axis		static 34 x 10^3 mm/mm dynamic 17 x 10^3 mm/mm
Service life of bearings		3.6 x 10^9 Revolutions
Design performance temperature range		-20 to +70 °C
Operating temperature range		-20 to +85 °C
Storage temperature range		-30 to +85 °C
Permissible relative humidity		90% (condensation not permissible)
EMC in accordance with EN 50082-2 and 50081-2		
Shock resistance to DIN IEC 68 Part 2 - 27 (assembled state)		30 / 11 g/ms
Vibration resistance to DIN IEC 68 Part 2 - 6 (assembled state)		20/10 to 150 g/Hz
Degree of protection to DIN VDE 0470 Part 1	(assembled state)	IP 65
Operating voltage range	RS 422	4 to 6 VDC or 10 to 30 VDC
	Push-pull	10 to 30 VDC
	Sine/Cosine	5 VDC
Operating current at no load	24 V	100 mA
	5 V	120 mA
Signal cable (power supply at no potential	Diameter	6 mm
	Min. bending radius	30 mm
	Length	1.5 m

* Power supply is at no potential to housing, shield is at housing potential.

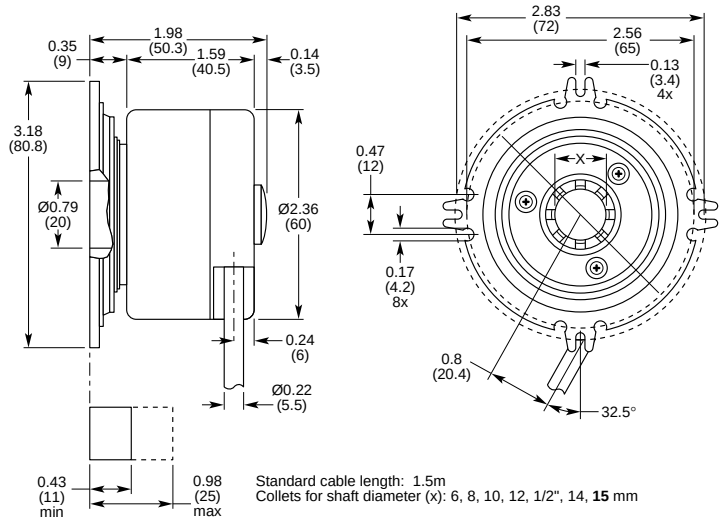
24-hour fax back 916-431-6545 • www.stegmann.com
Tel. 800-811-9110 • 937-454-1956 • Fax 937-454-1955 • E-mail sales@stegmann.com
7496 Webster Street • P.O. Box 13596 • Dayton, OH 45413-13596

HG 660

STEGMANN

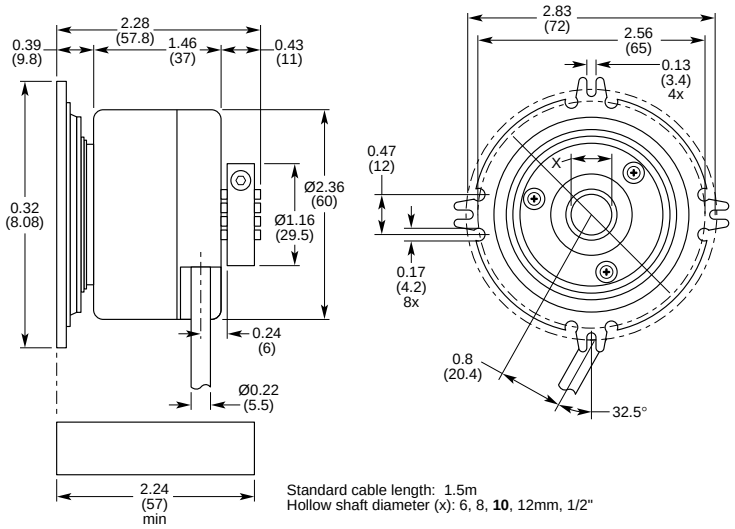
Dimensions (mm)

HG 660 AKR



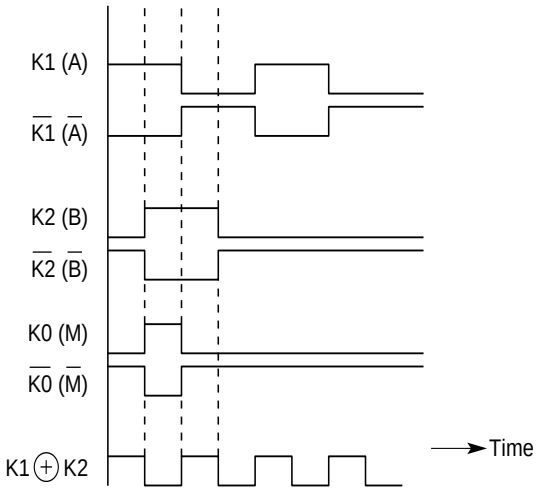
Standard cable length: 1.5m
Collets for shaft diameter (x): 6, 8, 10, 12, 1/2", 14, **15** mm

HG 660 DKR



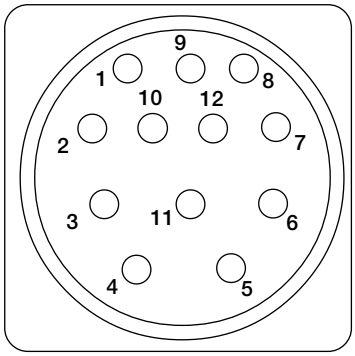
Standard cable length: 1.5m
Hollow shaft diameter (x): 6, 8, **10**, 12mm, 1/2"

Output Wave Forms



NOTES:
1. "Exclusive 0R" of K1 ⊕ K2 provides four times increase in resolution. (not a direct output of the encoder)
2. K1 leads K2 for clockwise rotation when viewed from shaft end.

Pin Out of Recepticle Connector on Encoder



24-hour fax back 916-431-6545 • www.stegmann.com
Tel. 800-811-9110 • 937-454-1956 • Fax 937-454-1955 • E-mail sales@stegmann.com
7496 Webster Street • P.O. Box 13596 • Dayton, OH 45413-13596

HG 660

STEGMANN

Electrical Connections

Pin	Wire Color	Signal 24 V push-pull	Signal 5 V RS 422	Explanation
1	black	N.C.	$\overline{K2}$	$\overline{B}$ output
2	grey	N.C.	Sense +	Internal, connect to US (+Vs)
3	violet	K0	K0	M output
4	yellow	N.C.	$\overline{K0}$	$\overline{M}$ output
5	white	K1	K1	A output
6	brown	N.C.	$\overline{K1}$	$\overline{A}$ output
7	orange	N.C.	N.C.	Not connected
8	pink	K2	K2	B output
9	shield	shield	shield	Overall shield
10	blue	GND	GND	Earth connect of the encoder
11	green	GND	Sense -	Internally connected to GND
12	red	US (+Vs)	US (+Vs)	Encoder supply voltage (+Vs)

Note: NC = not connected, pins/wires with this designation should not be connected

Supply Voltage/Output Driver Chart

Supply Voltage	Output Driver	Identification Character
4 to 6 V	RS 422	F
10 to 30 V	RS 422	G
10 to 30 V	Push-Pull	6

How To Order
Hollow Shaft/Collet Chart

HG660 AKR Collets 6, 8, 10, 12, 1/2”, 14, **15** mm
HG 660 DKR Hollow Shaft Chart 6, 8, 10, 12 mm, 1/2”

Example for ordering

HG 660, DKR option, 4 to 6 V RS 422, hollow shaft 12 mm, 3600 pulses per revolution

= HG 660-DKR-3600-F, 12mm

24-hour fax back 916-431-6545 • www.stegmann.com
Tel. 800-811-9110 • 937-454-1956 • Fax 937-454-1955 • E-mail sales@stegmann.com
7496 Webster Street • P.O. Box 13596 • Dayton, OH 45413-13596