

INCREMENTAL ENCODER MyInc

BINH100

- Only 43 mm clearance needed
- Hollow shaft diameter up to 42 mm
- RS 422, push-pull or SIN/COS outputs
- Very easy mounting. The encoder is mounted directly on the drive shaft without couplings. This saves up to 30 % cost and 60 % clearance compared to shaft versions.
- Temperature and ageing compensation
- Short-circuit proof outputs
- RS 422, push-pull or sine wave output
- Resolution up to 5000 ppr
- High scanning rate



Mechanical characteristics:

Speed with sealing ¹⁾ :	max. 6000 min ⁻¹
Rotor moment of inertia:	appr. 65 x 10 ⁻⁶ kgm ²
Starting torque with sealing:	< 0,2 Nm
Weight:	appr. 0,7 kg
Protection acc. to EN 60 529 with sealing:	IP 65
Working temperature with sealing:	-20 °C ... +70 °C
Shaft:	stainless steel
Shock resistance acc. to DIN-IEC 68-2-27:	2000 m/s ² , 6 ms
Vibration resistance acc. to DIN-IEC 68-2-6:	100 m/s ² , 10...2000 Hz

¹⁾for continuous operation max. 3000 min⁻¹

Pulse rates available at short notice:

360*, 512, 600, 1000, 1024, 1024, 1500, 2048, 2500, 4096, 5000

*not with sine wave output

Other pulse rates on request

Electrical characteristics RS 422 or push-pull output:

Output circuit:	RS 422 (TTL-compatible)	Push-pull
Supply voltage:	5 V (±5 %) or 10 ... 30 V DC	10 ... 30 V DC
Power consumption (no load) without inverted signal:	not available	typ. 55 mA / max. 125 mA
Power consumption (no load) with inverted signals:	typ. 70 mA / max. 100 mA	typ. 80 mA / max. 150 mA
Permissible load/channel:	max. ±20 mA	max. ±30 mA
Pulse frequency:	max. 300 kHz	max. 300 kHz
Signal level high:	min. 2,5 V	min. U _B -3 V
Signal level low:	max. 0,5 V	max. 2,5 V
Rise time t _r :	max. 200 ns	max. 1 µs
Fall time t _f :	max. 200 ns	max. 1 µs
Short circuit proof outputs ¹⁾ :	yes ²⁾	yes
Reverse connection protection at U _B :	5 V: no 10 ... 30 V: yes	yes
Conforms to CE requirements acc. to EN 50082-2, EN 50081-2 and EN 55011 Class B		

¹⁾When supply voltage correctly applied

²⁾Only one channel at a time: (when U_B = 5 V, short-circuit to channel, 0 V, or +U_B is permitted.)
(when U_B = 10 ... 30 V short-circuit to channel or 0 V is permitted.)

Electrical characteristics sine wave output:

Output circuit:	Sinus	Sinus
	U = 1 V _{pp}	U = 1 V _{pp}
Supply voltage:	5 V (±5 %)	10 ... 30 V DC
Current consumption (no load) with inverted signals:	typ. 65 mA / max. 110 mA	typ. 65 mA / max. 110 mA
-3 dB frequency:	∅ 180 kHz	∅ 180 kHz
Signal level channels A/B:	1 V _{pp} (±20%)	1 V _{pp} (±20 %)
Signal level channel 0:	0,1 ... 1,2 V	0,1 ... 1,2 V
Short circuit proof outputs ¹⁾ :	yes	yes
Reverse connection protection at U _B :	no	yes
Conforms to CE requirements acc. to EN 50082-2, EN 50081-2 and EN 55011 Class B		

¹⁾When supply voltage correctly applied



Terminal assignment

Sig.:	0 V	0 V Sens ²⁾	+U _B	+U _B Sens ²⁾	A	\bar{A}	B	\bar{B}	0	$\bar{0}$	\perp
Pin:	10	11	12	2	5	6	8	1	3	4	PH ¹⁾
Col.:	WH	WH/ GY PK	BN	BN/ RD BU	GN	YE	GY	PK	BU	RD	

¹⁾PH = Shield is attached to connector housing

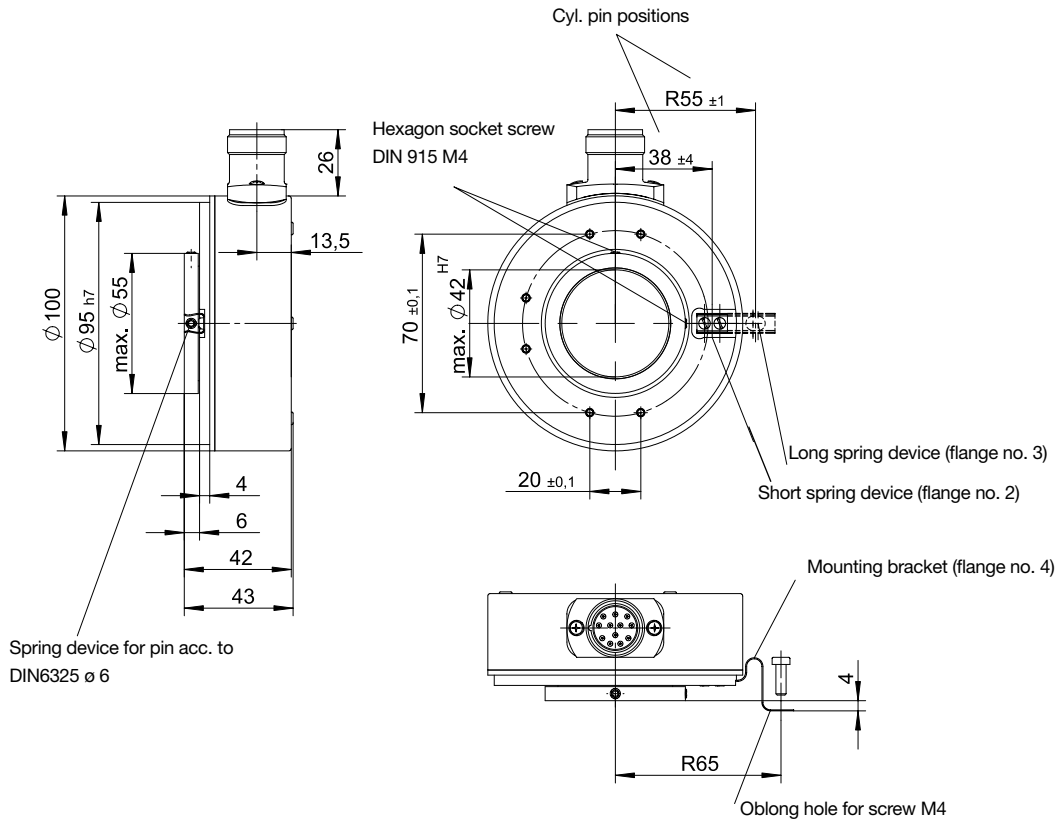
²⁾The sensor cables are connected to the supply voltage internally if long feeder cables are involved they can be used to adjust or control the voltage at the encoder

- If the sensor cables are not in use, they have to be insulated or 0 V_{Sensor} has to be connected to 0 V and U_BSensor has to be connected to U_B

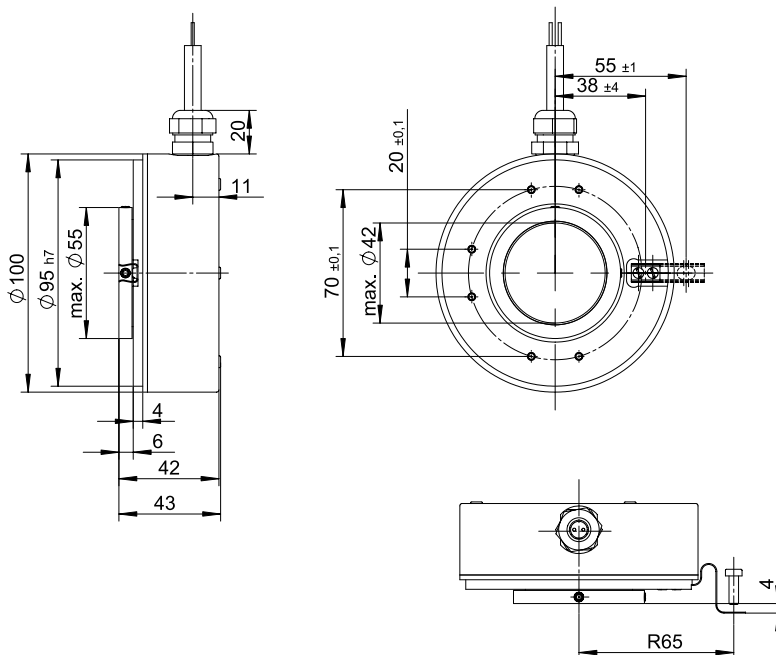
- Using RS 422 outputs and long cable distances, a wave impedance has to be applied at each cable end.

Insulate unused outputs before initial startup.

Dimensions: Plug version



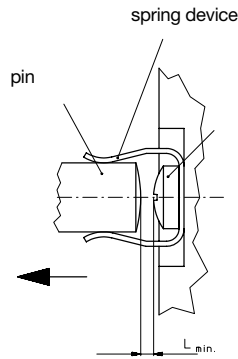
Cable version



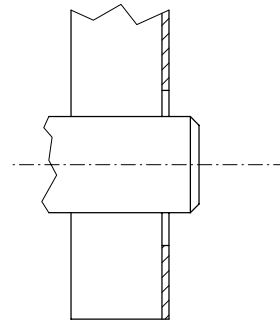
Max. permissible drive shaft impact:
(measuring error $\leq \pm 0,5$ bit)

Type of flange:	Permissible axial play	Permissible radial play	Permissible angular play
Flange type 2 (short spring device):	max. ± 1 mm ¹⁾	max. ± 0.3 mm	max. $\pm 2^\circ$
Flange type 3 (long spring device):	∞ ²⁾	max. ± 0.3 mm	max. $\pm 2^\circ$
Flange type 4 (mounting bracket):	max. ± 0.5 mm	max. ± 0.3 mm	max. $\pm 2^\circ$

¹⁾When mounting the encoder ensure that $L_{min.}$ is larger than the axial play of the drive.

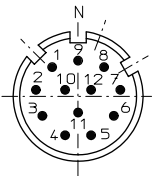


²⁾If mounted as shown. Otherwise as per flange type 2



Top view of mating side, male contact base:

12 pin plug



ORDERING CODE

BINH100

Flange	Hollow shaft \varnothing	Output circuit and voltage display	Connection	Pulse rate
1 = without mounting aid	1 = $\varnothing 42$ mm	1 = RS 422 (with inverted signal) 5 V supply voltage	1 = Cable radial (1 m PVC-cable)	(e.g. 360 pulses => 0360)
2 = with short spring device	2 = $\varnothing 38$ mm	2 = Push-pull (without inverted signal) 10 ... 30 V supply voltage	2 = radial 12 pin plug without mating connector	
3 = with long spring device	3 = $\varnothing 28$ mm	3 = Push-pull (with inverted signal) 10 ... 30 V supply voltage		
4 = with mounting bracket	4 = $\varnothing 25,4$ mm (1")	4 = RS 422 (with inverted signal) 10 ... 30 V supply voltage		
	5 = $\varnothing 25$ mm	8 = SIN/COS 1 Vpp (with inverted signal) 5 V supply voltage		
	6 = $\varnothing 24$ mm	9 = SIN/COS 1 Vpp (with inverted signal) 10 .. 30 V supply voltage		
	A = $\varnothing 30$ mm			
	B = $\varnothing 40$ mm			