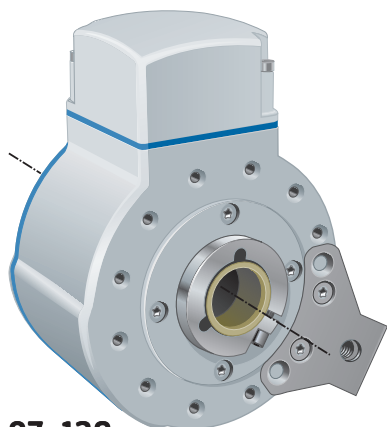


86-120



87-120

Short description:

- >> Performance model for heavy duty industry
- >> High vibration and shock resistance
- >> Available with through-going hollow shafts up to \varnothing 25.4 mm
- >> Cable connection in external terminal box
- >> Adjustable mounting of terminal box and torque bracket orientation
- >> Status output for warning indication
- >> Electrically insulated shaft

General information

Encoder data	
Type	XHI 803
Operating temperature	-20 °C .. +100 °C (+80 °C for HC-HTL)
Ingress protection class	IP-67 according to IEC 60529
At shaft inlet	IP-66 according to IEC 60529
Vibration (50 to 2000Hz)	< 200 m/s ² according to IEC 60068-2-6
Shock (11 ms)	< 1500 m/s ² according to IEC 60068-2-27
Cover material	Aluminium
Cover surface treatment	Anodized
Weight	Approx. 1,6 kg
Resolution	
Line count	500, 1000, 1024, 2048, 2500, 3072, 4096, 5000, 8192, 10000 ppr Other line counts available on request
Accuracy	
	1..5000 ppr 5001..10 000 ppr
Dividing error	± 25 °el ± 50 °el
Channel separation	90 °el ± 25 °el 90 °el ± 45 °el
Measuring steps	4 x Line count

Flange option

Flange type	86-120	87-120
Shaft type	Blind	Through-going
Flange material	Aluminium (anodized)	Aluminium (anodized)
Torque bracket material	Stainless steel	Stainless steel

Shaft option

Hollow-shaft dimension	\varnothing 12 mm	\varnothing 16 mm	\varnothing 25 mm	\varnothing 1 inch
Shaft type	Blind	Blind	Through-going	Through-going
Axial shaft load @ 1500 rpm	100 N	100 N	50 N	50 N
Radial shaft load @ 1500 rpm	300 N	300 N	100 N	100 N
Mech. permissible speed	6000 rpm	6000 rpm	6000 rpm	6000 rpm
Shaft material	Stainless steel	Stainless steel	Stainless steel	Stainless steel
Moment of inertia	55×10^{-6} kgm ²	55×10^{-6} kgm ²	105×10^{-6} kgm ²	105×10^{-6} kgm ²

803 — X-heavy duty Hollow shaft encoder, Incremental



Connection option

Function	Connection type		
	Cable ⁽¹⁾	Screw terminal ⁽²⁾	12 pin M23 CW
S00	Yellow	F	5
S00 inverted	Black	E	6
S90	Green	D	8
S90 inverted	White	C	1
Sref	Brown	B	3
Sref inverted	Violet	A	4
+E Volt	Red	K	12
0 Volt	Blue	H	10
Status	Grey	L	7
Housing	Shield	Chassis	Chassis

Connecting direction

Radial / Adjustable

⁽¹⁾ PVC 5x2x0,25 mm²

⁽²⁾ Cable gland for cable dimension \varnothing 8-11 mm.

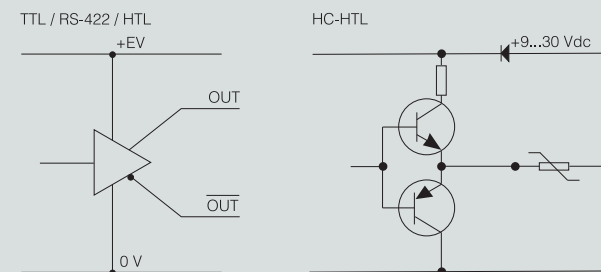
Electrical option

Power supply	5 Vdc	9-30 Vdc		
Polarity protected	No	Yes		
Output signals ⁽¹⁾	TTL ⁽²⁾	RS-422	HTL	HC-HTL
Short circuit protected	Yes	Yes	Yes	Yes
Current consumption	85 mA	60 mA @ 24 Vdc	60 mA @ 24 Vdc	60 mA @ 24 Vdc
Max consumption	155 mA	80 mA	80 mA	80 mA
Output load (max)	\pm 20 mA	\pm 20 mA	\pm 40 mA	\pm 40 mA
Output frequency (max)	200 kHz	200 kHz	200 kHz	100 kHz
U_{high} @ 40 mA load	> 3.0 Vdc	> 3.0 Vdc	> +EV - 2,0 Vdc	> +EV - 4,0 Vdc
U_{low} @ 40 mA load	< 1,15 Vdc	< 1,15 Vdc	< 1,15 Vdc	< 2,5 Vdc
Cable length (max)	50 m	1 km	200 m @ 50 kHz	350 m @ 100 kHz
Status output				
High level (green LED)	Encoder OK			
Low level (red LED)	Warning / Failure			

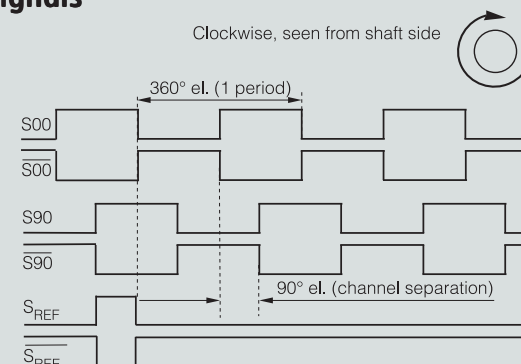
⁽¹⁾ Interface 1 Vpp is also available, see separate datasheet

⁽²⁾ TTL output comply to the RS-422 standard when differential transmission is used

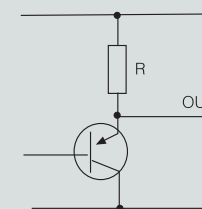
Output circuit



Output signals



Status output



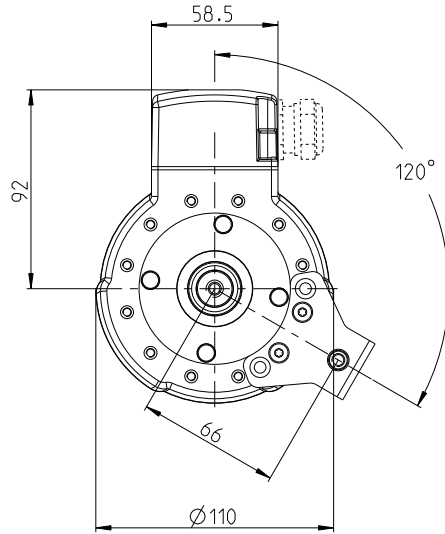
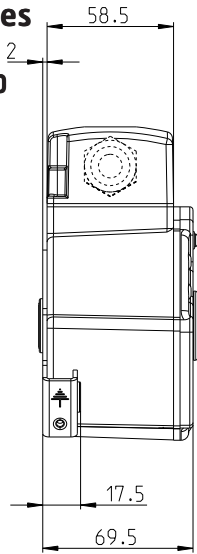
803

X-heavy duty Hollow shaft encoder, Incremental



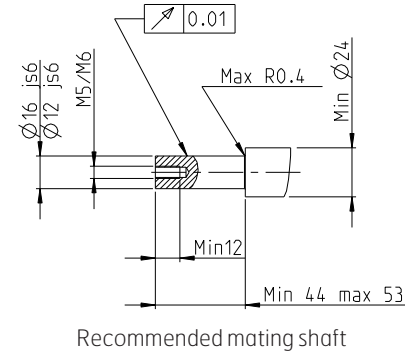
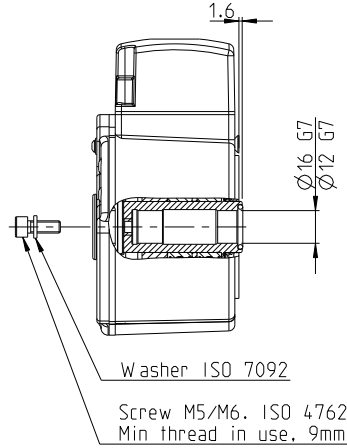
Flanges

86-120



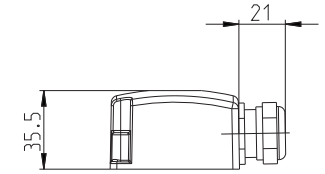
Shafts

12 mm / 16 mm

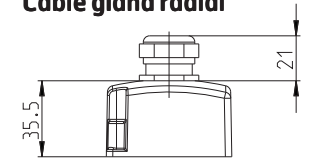


Connections

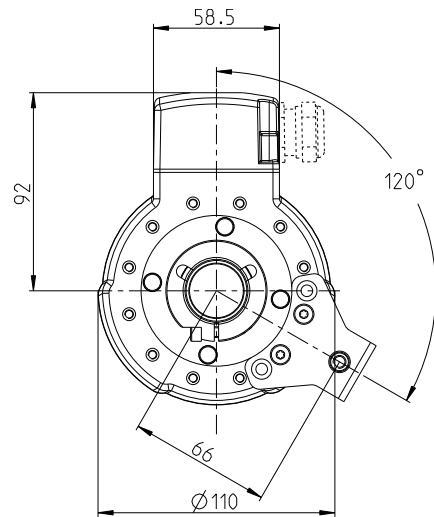
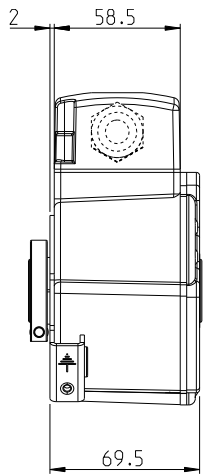
Cable gland adjustable



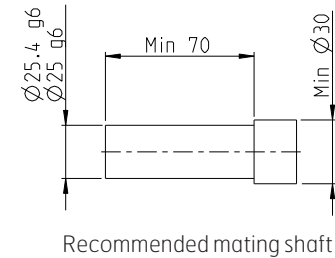
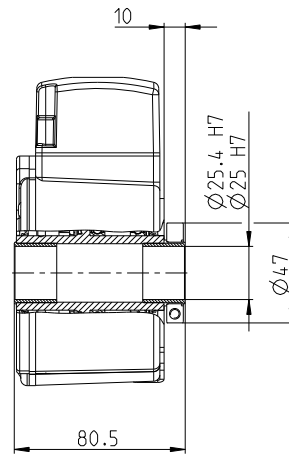
Cable gland radial



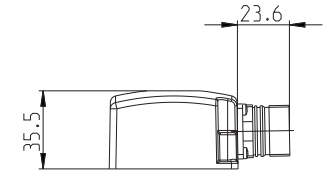
87-120



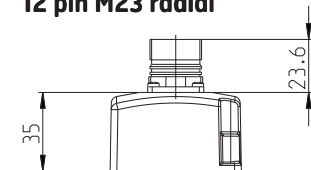
25 mm / 1 inch



12 pin M23 adjustable



12 pin M23 radial



803 — X-heavy duty Hollow shaft encoder, Incremental



Accessories

Mounting accessories	Part number
Torque arm M6	01208014
Mating connector M23	01209096
Ground strip	01209151
Other accessories	Part number
Speed monitor	00208070
OptoLink Receiver	01300330
OptoLink Transmitter	01300320

Various combinations/examples

XHI 803 86-120

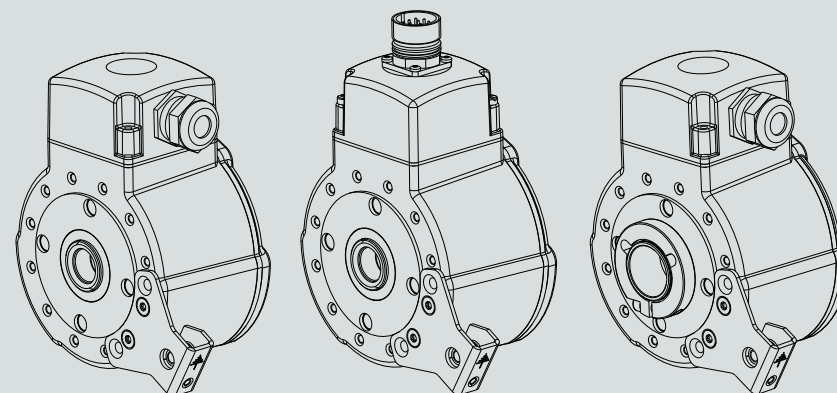
16 mm, adjustable cable gland

XHI 803 86-120

16 mm, radial 12 pin M23

XHI 803 87-120

25 mm, adjustable cable gland



Ordering information Tick your choice

Type	XHI 803			
Flange ⁽¹⁾	86-120 HS		87-120 THS	
Shaft	Ø 12 mm	Ø 16 mm	Ø 25 mm	Ø 1 inch
Electronics ⁽²⁾	Supply	5 Vdc / 9-30 Vdc		
	Output	TTL	RS-422	HTL / HC-HTL
Connection	Cable 1,5 m / 5 m / 10 m		Cable gland	12 pin M23
	Connecting direction			
Radial / Adjustable				
Line count	500 / 1000 / 1024 / 2048 / 2500 / 3072 / 4096 / 5000 / 8192 / 10000 ppr			

⁽¹⁾ Possible combinations: 86 - Ø 12 mm / Ø 16 mm; 87 - Ø 25 mm / Ø 1 inch

⁽²⁾ Possible combinations: 5Vdc - TTL; 9-30Vdc - RS-422 / HTL / HC-HTL

HS: Blind hollow-shaft THS: Through-going hollow-shaft

Ordering example: XHI 803, 86-120, Ø 12 mm, 9-30 Vdc, HTL, 12 pin M23, radial, 1024 ppr