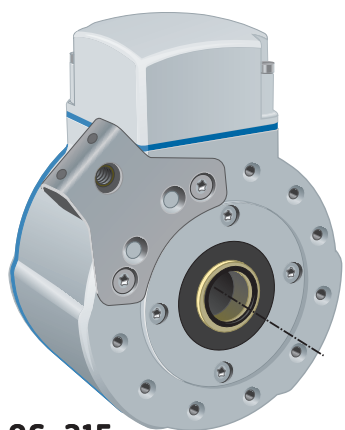


86-120



86-315

Short description:

- >> Performance model for heavy duty industry
- >> Incremental signals via both optical and electrical output
- >> Integrated optolink transmitter for transmission via optical fibre:
 - For use in environments with high electromagnetic disturbances
 - Transmission possible over long distances
 - Galvanic insulation between transmitter and receiver
- >> Accessory gateway to receive the optolink signal and convert it into electrical signals; HTL or RS-422
- >> Additional electrical output via standard cable; for output interfaces HTL, TTL or RS-422
- >> Hybrid bearings for extended lifetime

General information

Encoder data	
Type	XHI 801
Operating temperature	-40 °C .. +85 °C
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. 1,4 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	86-315
Shaft type	Blind	
Flange material	Aluminium (anodized)	
Torque bracket material	Stainless steel	

Shaft option

Hollow-shaft dimension	Ø 12 mm	Ø 12 mm with keyway	Ø 16 mm	Ø 17 mm taper
Shaft type	Blind			
Axial shaft load @ 1500 rpm	100 N			
Radial shaft load @ 1500 rpm	300 N			
Mech. permissible speed	6000 rpm			
Shaft material	Stainless steel			
Moment of inertia	55 x 10 ⁻⁶ kgm ²			

801 — X-heavy duty Hollow shaft encoder, Incremental

OPTOLINK



Connection option

Function	Connection
	12 pin M23 CW
S00	5
S00 inverted	6
S90	8
S90 inverted	1
Sref	3
Sref inverted	4
+E Volt	12
0 Volt	10
Status	7
Housing	Chassis
	ST connector
Optolink transmitter	Fiber
Connection direction	
	Radial

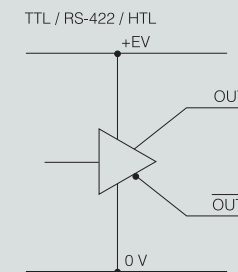
Electrical option

Power supply	5 Vdc	9-30 Vdc	
Polarity protected	No	Yes	
Electrical output⁽¹⁾	TTL⁽²⁾	RS-422	HTL
Short circuit protected	Yes	Yes	Yes
Current consumption	85 mA	60 mA @ 24 Vdc	60 mA @ 24 Vdc
Max consumption	155 mA	80 mA	80 mA
Output load (max)	± 20 mA	± 20 mA	± 40 mA
Output frequency (max)	200 kHz	200 kHz	200 kHz
U _{high} @ 40 mA load	> 3.0 Vdc	> 3.0 Vdc	> +EV - 2,0 Vdc
U _{low} @ 40 mA load	< 1,15 Vdc	< 1,15 Vdc	< 1,15 Vdc
Cable length (max)	50 m	1 km	200 m @ 50 kHz
Status output			
High level (green LED)	Encoder OK		
Low level (red LED)	Warning / Failure		
Optical output			
Startup delay	10 µm		
Output frequency (max)	200 kHz		
Fibre types	50/125 µm; 62,5/125 µm; 100/140 µm (multimode)		
Fibre length (max)	2700 m		

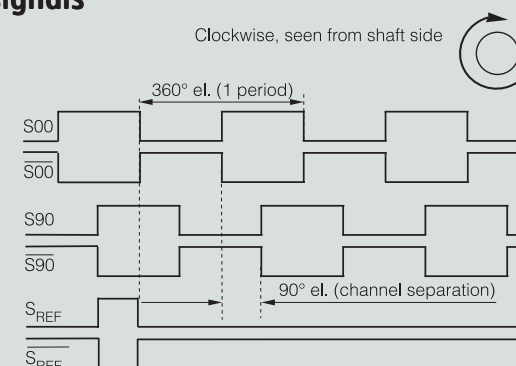
⁽¹⁾ Output 1 Vpp is also available, see separate datasheet for interface description

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

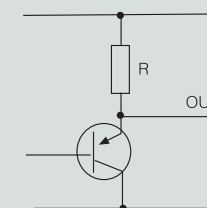
Output circuit



Output signals



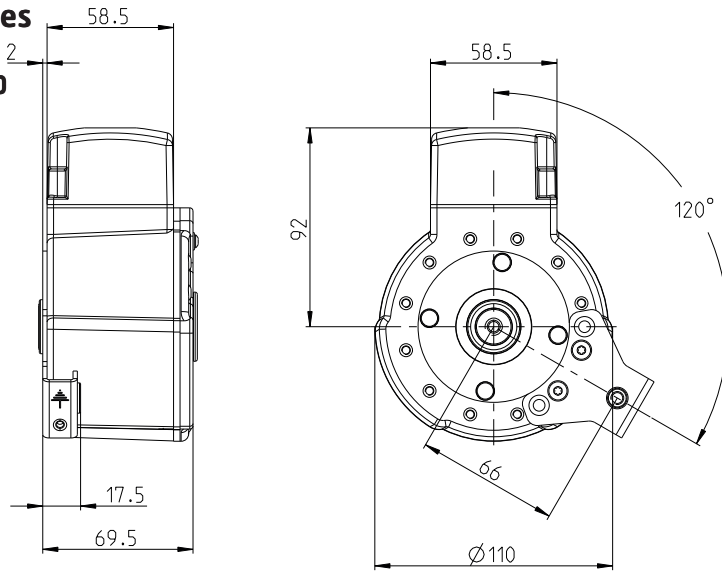
Status output



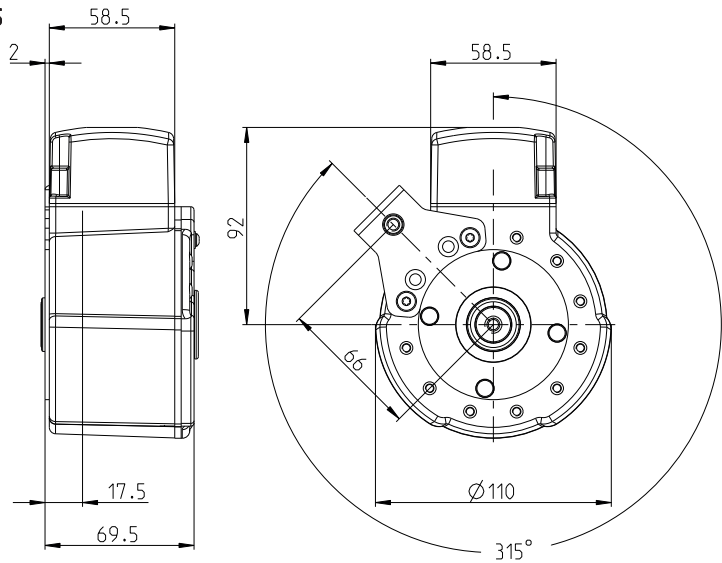


Flanges

86-120

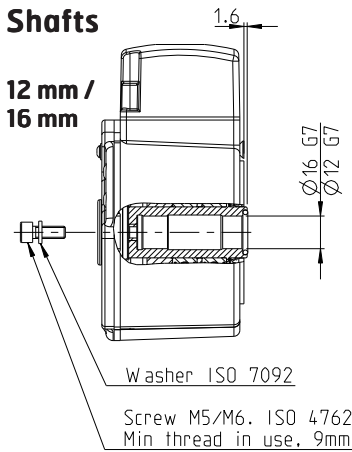


86-315

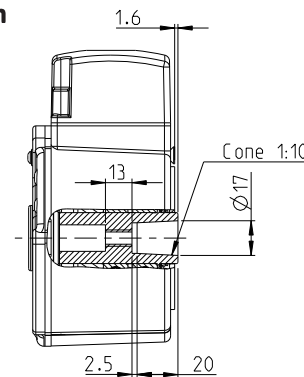


Shafts

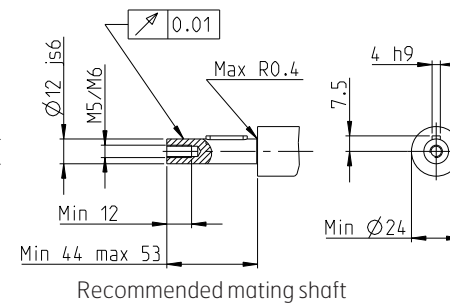
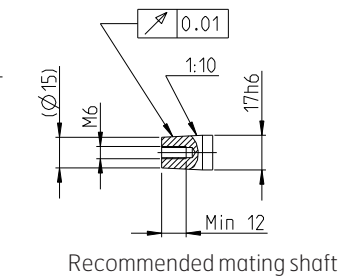
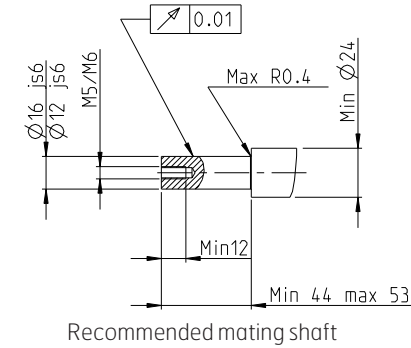
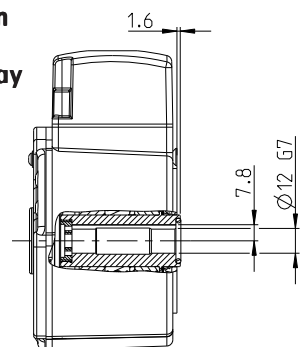
12 mm / 16 mm



17 mm taper

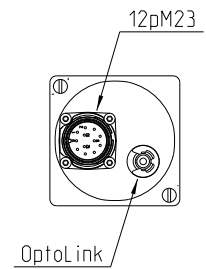
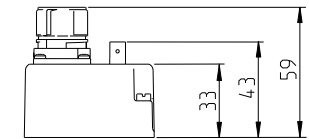


12 mm with keyway



Connections

12 pin M23 + ST radial



801 — X-heavy duty Hollow shaft encoder, Incremental

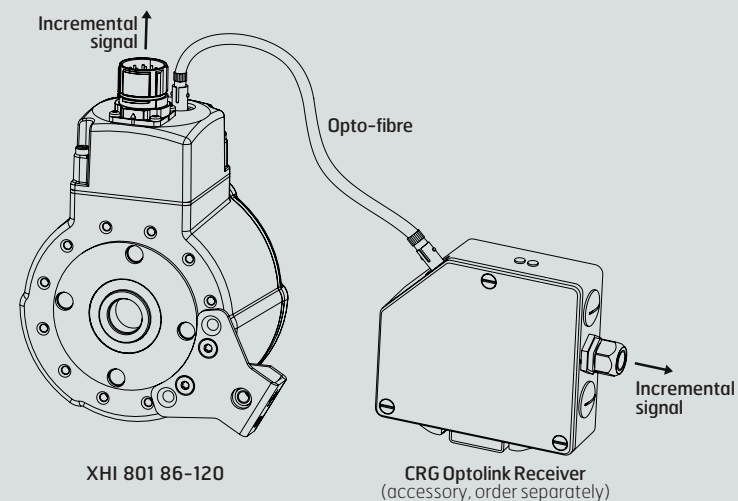
OPTOLINK



Accessories

Gateways	Part number
CRG Optolink Receiver, 9-30 Vdc supply, HTL output	01300330
CRG Optolink Receiver, 9-30 Vdc supply, RS-422 output	01300332
Mounting accessories	Part number
Torque arm M6	01208014
Mating connector M23	01209096

Concept description



Ordering information Tick your choice

Type	XHI 801			
Flange	86-120 / 86-315			
Shaft	Ø 12 mm	Ø 12 mm with keyway	Ø 16 mm	Ø 17 mm taper
Electronics	Supply	5 Vdc	9-30 Vdc	
	Electrical output	TTL	RS-422	HTL
	Optical output	Optolink		
Connection	12 pin M23 + ST			
Connecting direction	Radial			
Line count	500 / 1000 / 1024 / 2048 / 2500 / 3072 / 4096 / 5000 / 8192 / 10000 ppr			
Functionality	Standard	OVP		

OVP: Overvoltage protection

Ordering example: XHI 801, 86-120, Ø16 mm, 9-30 Vdc, HTL + Optolink, 12 pin M23 + ST, radial, 1024 ppr, OVP