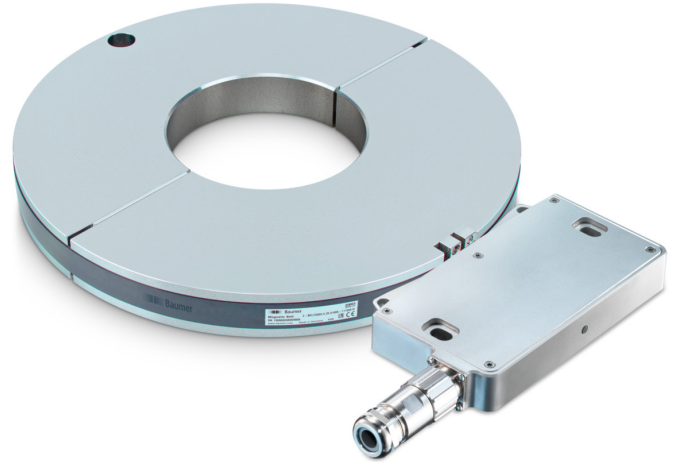


## MIR 350A

Sensor head with split wheel and magnetic tape for shaft  $\varnothing 90 \dots 300$  mm  
512...131072 pulses or 512...16384 sinewave cycles per turn

### Overview

- Encoder without bearings - incremental with magnetic sensing
- Split wheel design for easiest mounting on installed shafts
- Very large axial tolerances  $\pm 8$  mm
- Max. 131072 pulses per revolution
- Status indication via system OK output and LED
- Robust and wearless
- Fully encapsulated electronics IP 67



### Technical data

#### Technical data - electrical ratings

Voltage supply	4.75...30 VDC
Consumption w/o load	$\leq 300$ mA (24 VDC)
Initializing time	$\leq 1000$ ms after power on
Output signals	A+, B+, R+, A-, B-, R-
Sensing method	Magnetic
Status indicator	Color-LED, system OK output
Interference immunity	EN 61000-6-2
Emitted interference	EN 61000-6-3
Approval	CE UL approval / E217823

#### Technical data - electrical ratings (square-wave)

Pulses per revolution	512 ... 131072
Phase shift	$90^\circ \pm 2^\circ$
Duty cycle	45...55 %
Reference signal	Zero pulse, width $90^\circ$
Output frequency	$\leq 500$ kHz (HTL) $\leq 2$ MHz (TTL)
Output stages	HTL, TTL/RS422

#### Technical data - electrical ratings (SinCos)

Sinewave cycles per revolution	512 ... 16384
Phase shift	$90^\circ \pm 2^\circ$
Reference signal	Zero pulse, width $360^\circ$
Output frequency	$\leq 500$ kHz
Output stages	SinCos 1 Vpp

#### Technical data - mechanical design

Dimensions (sensor head)	165 x 25 x 93 mm
Outer diameter adapter wheel	350 mm
Over all depth adapter wheel	40 mm
Shaft type	$\varnothing 90 \dots 300$ mm (through hollow shaft)
Axial tolerance	$\pm 8$ mm (belt to head)
Radial tolerance	1...3 mm (belt to head)
Shaft diameter tolerance	-0.4...0 mm
Protection EN 60529	IP 67
Operating speed	$\leq 2000$ rpm
Material	Housing sensing head: aluminium alloy Adapter wheel: stainless steel (1.4104) Magnetic belt: stainless steel (1.4104)
Operating temperature	$-40 \dots +85^\circ \text{C}$
Resistance	IEC 60068-2-6 Vibration 30 g, 10-2000 Hz IEC 60068-2-27 Shock 300 g, 6 ms
Weight approx.	880 g (head) 13 kg (wheel with belt, bore size $\varnothing 90$ mm) 12.5 kg (wheel with belt, bore size $\varnothing 150$ mm) 7 kg (wheel with belt, bore size $\varnothing 299$ mm)
Connection	Flange connector M23, 12-pin

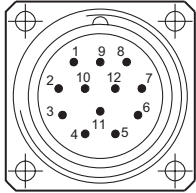
## MIR 350A

Sensor head with split wheel and magnetic tape for shaft  $\varnothing 90 \dots 300$  mm  
512...131072 pulses or 512...16384 sinewave cycles per turn

### Terminal assignment

**View A** (see dimension)

Assignment flange connector



Flange connector M23,  
male, 12-pin,  
counter-clockwise (CCW)

Pin	Assignment
1	B-
2	System OK-
3	R+
4	R-
5	A+
6	A-
7	dnu
8	B+
9	dnu
10	0V ( $\perp$ )
11	System OK+
12	+UB

No error if „System OK“ output = HIGH

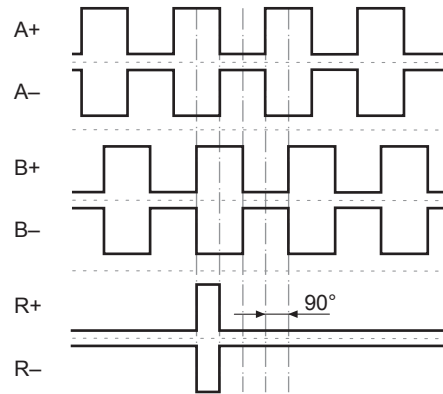
### Terminal significance

+UB	Voltage supply
0V ( $\perp$ )	Ground
A+	Output signal channel 1
A-	Output signal channel 1 inverted
B+	Output signal channel 2 (offset by 90° to channel 1)
B-	Output signal channel 2 inverted
R+	Zero pulse (reference signal)
R-	Zero pulse inverted
System OK+	Error output
System OK-	Error output inverted
dnu	Do not use

### Output signals

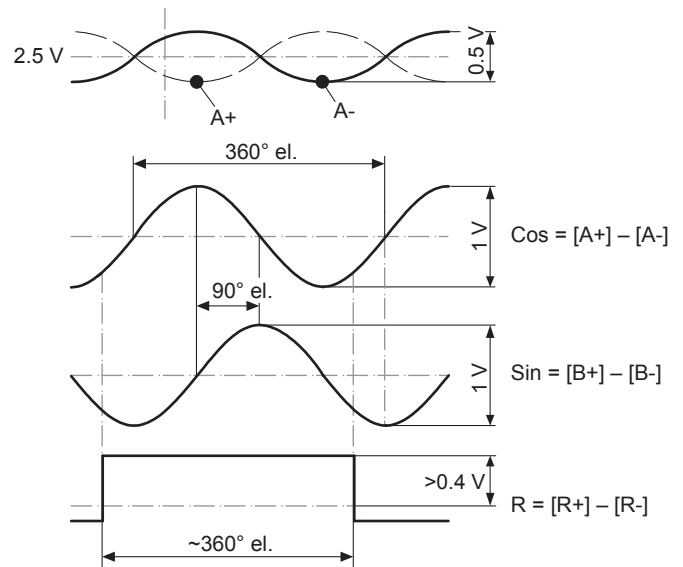
**HTL/TTL**

At positive rotating direction (see dimension)



**SinCos**

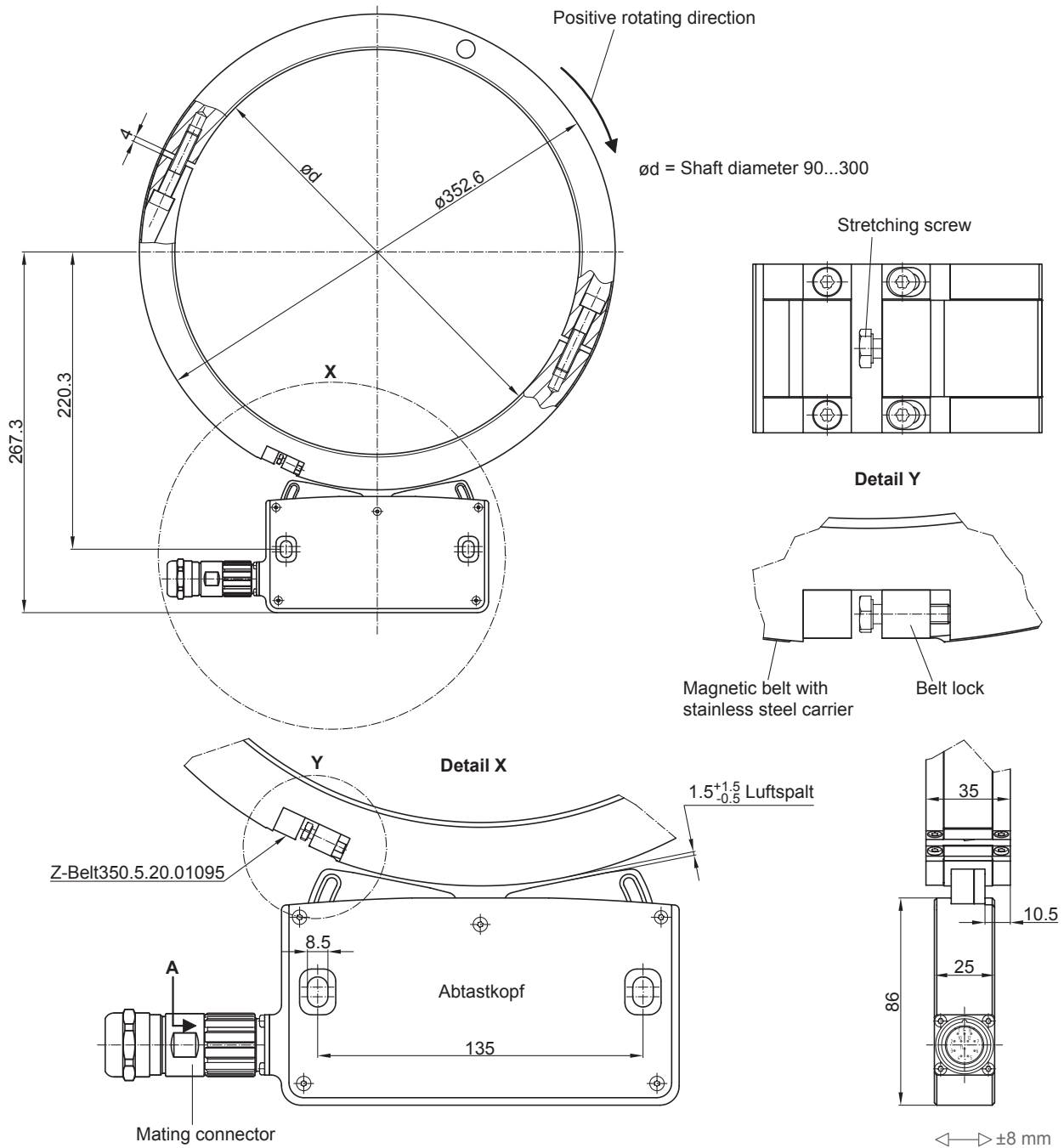
At positive rotating direction (see dimension)



## MIR 350A

Sensor head with split wheel and magnetic tape for shaft  $\varnothing 90 \dots 300$  mm  
512...131072 pulses or 512...16384 sinewave cycles per turn

### Dimensions



## MIR 350A

Sensor head with split wheel and magnetic tape for shaft ø90...300 mm  
 512...131072 pulses or 512...16384 sinewave cycles per turn

### Ordering reference

	MIR350A	-	....	.	M	#	.	#####	.	A
<b>Product</b>	Encoder without bearings - incremental									
<b>Shaft diameter (mm)</b>	0090...0300									
<b>Connection</b>	Flange connector M23, tangential 12-pin, male, CCW					M				
<b>Voltage supply / output stages</b>	4.75...30 VDC, HTL (Vin = Vout), 6 channel							Q		
	4.75...30 VDC, TTL/RS422, 6 channel							F		
	4.75...30 VDC, SinCos (1 Vpp), 6 channel							T		
<b>Pulse number/sinewave cycles<sup>(1)</sup></b>	512								000512	
	720								000720	
	1000								001000	
	1024								001024	
	2048								002048	
	4096								004096	
	5000								005000	
	8192								008192	
	10000								010000	
	16384								016384	
	32768 <sup>(2)</sup>								032768	
	131072 <sup>(2)</sup>								131072	
<b>Operating temperature</b>	-40...+85 °C									

- (1) Other pulse numbers/sinewave cycles on request.  
 (2) No SinCos output possible