Baumer
Passion for Sensors

Incremental Baumer encoders

ELTRA trade

Baumer incremental encoders are compact sensors that determine the displacement angle of the own shaft relative to the start (zero point).

Such sensors are divided according to the principle of sensing into optical or magnetic. Optical ones have more accurate results, and magnetic are more reliable.

The company produces models with two main types of mechanical connection: with a solid or a hollow shaft.

Incremental encoders by Baumer hubner is the best solution when you need a simple, accurate and reliable sensor.

ELTRA trade

To find out stock ability and delivery time to your region, please contact our manager.

info@eltra-trade.com

Content.

Incredibly versatile.

From cost-efficient standard products on to high-resolution variants with 320 000 ppr: In our portfolio you always will encounter the matching incremental encoder. Our passion for sensors lays the groundwork for innovative products available in different designs and variants – with robust magnetic or precise optical sensing, optional HTL, TTL or sine signals and with all standard mechanical interfaces.

The product portfolio comprises particularly compact designs of mere 24 mm in diameter on to large hollow shaft diameters up to 85 mm. Configurable encoders allow for maximum flexibility in a wide range of applications. In doing so, they contribute towards cutting down on costs in maintenance and inventory.

Service

OptoPulse® – quickly available with short lead times.
OptoPulse® sets new benchmarks also in terms of availability. We supply great many stock items within 24 hours - i.e. one working day. Optimized delivery processes allow for standard items up to the quantity of 10 to be supplied within 5 working days.

Industrial encoders incremental

Size up to ø40 mm

Precise optical sensing.
Up to 2048 pulses per revolution.

- Solid shaft, blind or through hollow shaft design
- Ideal where space is tight

Features	■ Size ø24 mm ■ Solid shaft with synchro flange	■ Size ø24 mm ■ Blind hollow shaft	■ Size ø30 mm ■ Solid shaft with synchro flange	■ Size ø40 mm ■ Blind hollow or through hollow shaft
Product family	ITD 01 B14	ITD 01 A4	BDK 16	BHK 16

Sensing method	Optical			
Size (housing)	ø24 mm		ø30 mm	ø40 mm
Voltage supply	5 VDC ±5 %, 8...30 VDC		5 VDC ±10 %, 10...30 VDC	
Output stage				
- TTL/RS422	■	■	■	■
- HTL/push-pull	■	■	■	■
Output signals	A 90° B, R + inverted			
Shaft type				
- Solid shaft	ø4 mm	–	ø5 mm	–
- Blind hollow shaft	–	ø4 mm	–	ø12 mm
- Through hollow shaft	–	–	–	ø6 mm
Connection				
- Flange connector M9	–	–	Radial	
- Cable	Radial / axial	Radial	Radial / axial	Radial
Pulses per revolution	30...1024		10...2048	
Operating temperature	-20...+85 °C			
Protection	IP 54		IP 42, IP 65	
Operating speed	≤18 000 rpm	≤10 000 rpm	≤12 000 rpm (IP 42) ≤6000 rpm (IP 65)	≤12 000 rpm
Max. shaft load	≤5 N axial, ≤8 N radial	–	≤10 N axial, ≤10 N radial	–

Robust magnetic sensing.
Up to 1024 pulses per revolution.

- Solid shaft or blind hollow shaft
- Ideal where space is tight

Learn more:
www.baumer.com/incremental

EcoMag



Features	■ Size ø30 mm ■ Solid shaft with synchro flange	■ Size ø30 mm ■ Solid shaft with synchro flange ■ High protection IP 67	■ Size ø40 mm ■ Blind hollow shaft
Product family	BRIV 30	BRIV 30R	BRIH 40

Sensing method	Magnetic		
Size (housing)	ø30 mm	ø30 mm	ø40 mm
Voltage supply	5 VDC ±10 %, 20...28 VDC		
Output stage			
- TTL/RS422	■	■	■
- HTL/push-pull	■	■	■
Output signals	A 90° B, R + inverted		
Shaft type			
- Solid shaft	ø5 mm	ø6 mm, ø8 mm	–
- Blind hollow shaft	–	–	ø6 mm, ø12 mm
Connection			
- Flange connector M9	Radial	Radial / axial	Radial
- Cable	Radial / axial	Radial / axial	Radial
Pulses per revolution	2...1024		
Operating temperature	-20...+65 °C -20...+85 °C (5 VDC)	-40...+65 °C -40...+85 °C (5 VDC)	-20...+65 °C -20...+85 °C (5 VDC)
Protection	IP 65	IP 67	IP 65
Operating speed	≤6000 rpm		
Max. shaft load	≤10 N axial, ≤10 N radial	≤30 N axial, ≤50 N radial	–

EcoMag

EcoMag – robust incremental encoders with resilient magnetic sensing.

Industrial encoders incremental

Size ø58 mm

Precise optical sensing.
Up to 65 536 pulses per revolution.

- Solid shaft, blind or through hollow shaft design
- Robust all-metal housing

OptoPulse® – the global encoder standard

OptoPulse®




Features	■ Solid shaft with clamping flange	■ Solid shaft with synchro flange	■ Blind hollow shaft	■ Through hollow shaft
Product family	EIL580-SC	EIL580-SY	EIL580-B	EIL580-T
Sensing method	Optical			
Size (housing)	ø58 mm			
Voltage supply	5 VDC ±5 %, 8...30 VDC, 4.75...30 VDC			
Output stage				
- TTL/RS422	■	■	■	■
- HTL/push-pull	■	■	■	■
Output signals	A 90° B, R + inverted			
Shaft type				
- Solid shaft	ø10 mm	ø6 mm	–	–
- Blind hollow shaft	–	–	ø8...15 mm	–
- Through hollow shaft	–	–	–	ø8...15 mm
Connection				
- Flange connector M12, M23	Radial / axial			Radial
- Cable	Radial / axial / tangential			Radial / tangential
Pulses per revolution	100...5000 (programmable 1...65536)			
Operating temperature	-40...+85 °C (option: +100 °C)			
Protection	IP 65, IP 67			
Operating speed	≤12 000 rpm (IP 65) ≤6000 rpm (IP 67)		≤8000 rpm (IP 65) ≤6000 rpm (IP 67)	≤6000 rpm (IP 65) ≤3000 rpm (IP 67)
Max. shaft load	≤40 N axial, ≤80 N radial		–	–
Options	Programmable (EIL580P) Approval ATEX II 3 D, Zone 22 (ExEIL580, ExEIL580P), Square flange 2.5 Inch, EURO-flange B10 (REO-flange) SIL2/PLd certification (GI357) Up to 320 000 ppr (BDH/BDT HighRes)		Programmable (EIL580P) Isolated hollow shaft, hybrid bearings Stainless steel design (GE333) Up to 320 000 ppr (BHF/BHG HighRes) Operating temperature up to 120 °C (ITD21H00) SIL3/SIL2 certification (ITD22H00 SIL)	

OptoPulse®

The innovative optical sensing method utilized by *OptoPulse®* incremental encoders ensures ultra-high accuracy and consistently high signal quality throughout the entire temperature range. The heart of this technology is a monolithic OptoASIC with high integration density particularly conceived for high-precision encoders. Thanks to the limited number of discrete components, reliability in the application is decisively improved when it comes to shocks and vibrations.

Industrial encoders incremental
Size ø58 mm

Robust magnetic sensing.
Up to 2048 pulses per revolution.
- Solid shaft, blind or through hollow shaft design
- Robust all-metal housing

Learn more:
www.baumer.com/incremental

EcoMag



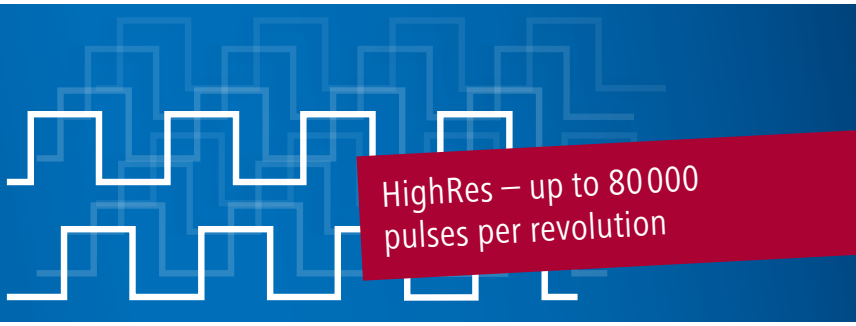

Features	■ Solid shaft with clamping flange	■ Solid shaft with synchro flange	■ Blind hollow shaft	■ Through hollow shaft
Product family	**BRIV 58K**	**BRIV 58S**	**BRIH 58S**	**BRID 58S**
Sensing method	Magnetic			
Size (housing)	ø58 mm			
Voltage supply	5 VDC ±10 %, 10...30 VDC			
Output stage				
- TTL/RS422	■	■	■	■
- HTL/push-pull	■	■	■	■
Output signals	A 90° B, R + inverted			
Shaft type				
- Solid shaft	ø10 mm	ø6 mm	–	–
- Blind hollow shaft	–	–	ø12 mm	–
- Through hollow shaft	–	–	–	ø12 mm
Connection				
- Flange connector M12, M23	Radial			
- Cable	Radial			
Pulses per revolution	64...2048			
Operating temperature	-20...+85 °C			
Protection	IP 42, IP 65			
Operating speed	≤12 000 rpm (IP 42), ≤6000 rpm (IP 65)			
Max. shaft load	≤40 N axial, ≤60 N radial		–	–

ShaftLock

The *ShaftLock* locking collar prevents the large high-quality bearing pack from any misalignment by high axial shaft loads during operation or at installation. The *ShaftLock* technology ensures maximum precision and improved service life, keeps code disc and sensing unit safe from damage and avoids cost-intensive downtime.

Industrial encoders incremental
Large hollow shaft

Precise optical sensing.
Up to 80 000 pulses per revolution.
- Blind hollow or through hollow shaft
- Easy installation





Features	■ Through hollow shaft ■ Torque support ■ Up to 2048 ppr	■ Through hollow shaft ■ Up to 10 000 ppr	■ Through hollow shaft ■ Protection up to IP 67 ■ Up to 80 000 ppr ■ Isolated shaft
Product family	**ITD 40**	**ITD 41**	**HS35F**

Sensing method	Optical		
Size (housing)	ø80 mm		ø3.15" (ø80 mm)
Voltage supply	5 VDC ±5 %, 8...30 VDC		4.75...30 VDC
Output stage			
- TTL/RS422	■	■	■
- HTL/push-pull	■	■	■
Output signals	A 90° B, R + inverted		
Shaft type			
- Blind hollow shaft	–	–	–
- Through hollow shaft	ø17...27 mm	ø17...30 mm	ø0.375...1" (ø9.525...25.4 mm)
Connection			
- Flange connector M23	–	–	–
- Flange connector MIL	–	–	Radial
- Cable	Radial		
Pulses per revolution	200...2048	2000...10 000	1024...80 000
Operating temperature	-20...+70 °C, -20...+100 °C		-40...+100 °C (-40...+212 °F)
Protection	IP 65		IP 54, IP 65, IP 67
Operating speed	≤5000 rpm, ≤3000 rpm (>70 °C)		≤5000 rpm
Options	Torque support with electric isolation Stainless steel design		Programmable (HS35P) Sinus/Cosinus output signals (HS35S)

Large hollow shaft

Precise optical sensing.
Up to 10000 pulses per revolution.

- Through hollow shaft
- Easy installation

Learn more:
www.baumer.com/incremental

Features	■ Through hollow shaft up to ø50 mm ■ Very flat design ■ Clamping at B side ■ Stainless steel design	■ Through hollow shaft up to ø65 mm ■ Clamping at B side	■ Through hollow shaft up to ø85 mm ■ Bearingless
Product family	ITD 61	ITD 70	ITD 75

Sensing method	Optical		
Size (housing)	ø120 mm	ø150 mm	
Voltage supply	4.75...30 VDC	5 VDC ±5 %, 8...30 VDC	
Output stage			
- TTL/RS422	■	■	■
- HTL/push-pull	■	■	■
Output signals	A 90° B, R + inverted		
Shaft type			
- Through hollow shaft	ø30...50 mm	ø38...65 mm	ø60...85 mm
Connection			
- Flange connector M23	–	Radial	–
- Cable	Radial		
Pulses per revolution	1024...10000	1000...2500	
Operating temperature	-20...+85 °C	-20...+70 °C	
Protection	IP 54		
Operating speed	≤4000 rpm (+70 °C) ≤3000 rpm (+85 °C)	≤3000 rpm	
Options	Cable with connector	Cable with connector	

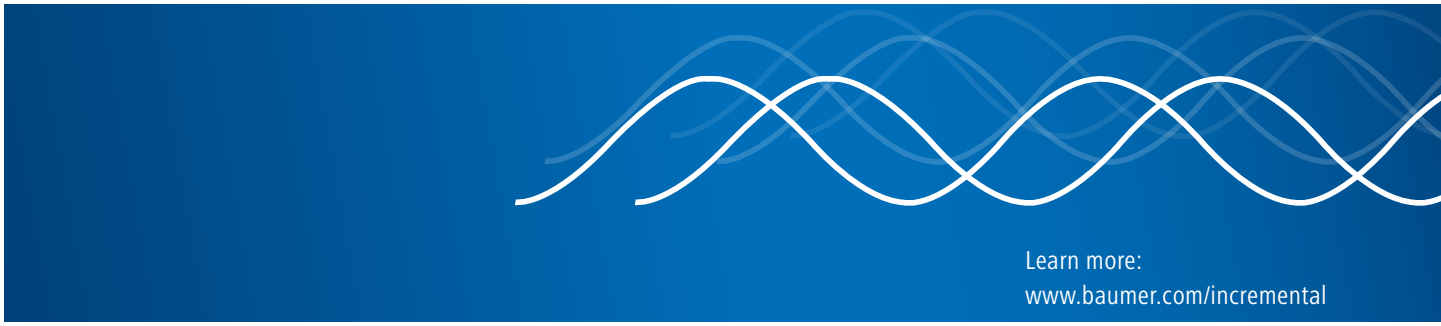
Industrial encoders incremental

Sine/Cosine

Features	■ Through hollow shaft ■ Tangential cable outlet	■ Through hollow shaft ■ Inch size ■ Protection up to IP 67	■ Through hollow shaft
Product family	**ITD22H00**	**HS35S**	**ITD 42 A4 Y79**
Sensing method	Optical / *LowHarmonics*		
Size (housing)	ø58 mm	ø3.15" (ø80 mm)	ø80 mm
Voltage supply	5 VDC ±10 %	4.75...30 VDC	5 VDC ±10 %, 8...30 VDC
Output stage	SinCos 1 Vpp		
Shaft type			
- Through hollow shaft	ø10 mm, ø12 mm, ø14 mm	ø0.375...1" (ø9.525...25.4 mm)	ø20...27 mm
Connection			
- Flange connector MIL	–	Radial	–
- Cable	Tangential	Radial	Radial
Sine periods per revolution	1024...2048	1024...5000	1024...2048
Operating temperature	-30...+100 °C	-40...+100 °C (-40...+212 °F)	-20...+85 °C
Protection	IP 65	IP 65, IP 67	IP 65
Operating speed	≤6000 rpm	≤5000 rpm (IP 65) ≤3000 rpm (IP 67)	≤5000 rpm
Options	SIL3/SIL2 certication (ITD22H00 SIL)	HTL/TTL output signals (HS35F) Programmable (HS35P)	–

LowHarmonics

LowHarmonics is leading cutting-edge technology by generating sine signals with negligible harmonic content. Sine encoders with *LowHarmonics* ensure improved control quality, less drive heating and higher energy efficiency.



Industrial encoders incremental
Inch size / square flange

Features	■ Solid shaft with square flange ■ Inch size ■ Up to 6000 ppr	■ Solid shaft with square flange ■ Inch size ■ Up to 5000 ppr	■ Blind or through hollow shaft ■ Up to 5000 ppr ■		■ Through hollow shaft ■ Inch size ■ Up to 80 000 ppr ■ Isolated shaft
Product family	**G25**	**EIL580-SQ**	**EIL580-B**	**EIL580-T**	**HS35**
Sensing method	Optical				
Size (housing)	2.5 x 2.5" (63.5 x 63.5 mm)	2.5 x 2.5" (63.5 x 63.5 mm)	2.28" (ø58 mm)		ø3.15" (ø80 mm)
Voltage supply	5 VDC ±10 % 4.75...30 VDC	5 VDC ±5 %, 8...30 VDC 4.75...30 VDC	5 VDC ±5 %, 8...30 VDC 4.75...30 VDC		4.75...30 VDC
Output stage					
- TTL/RS422	■	■	■		■
- HTL/push-pull	■	■	■		■
Output signals	A, B, R + inverted	A 90° B, R + inverted			A 90° B, R + inverted
Shaft type					
- Solid shaft	ø0.375" (ø9.52 mm)	ø10 mm	–		–
- Blind hollow shaft	–	–	ø0.315-0.591" (ø8...15 mm)	–	–
- Through hollow shaft	–	–	–	ø0.315-0.591" (ø8...15 mm)	ø0.375...1" (ø9.525...25.4 mm)
Connection					
- Flange connector MIL	7-/10-pins, radial	–	–		7-/10-pins, radial
- Flange connector M12, M23	–	Radial / axial	Radial / axial	Radial	–
- Cable	Radial	Radial / axial / tangential	Radial / axial / tangential	Radial / tangential	–
Pulses per revolution	5...6000	100...5000			1024...80 000
Sine periods per revolution	–	–	–		1024...5000
Operating temperature	-30...+100 °C (5 VDC) -30...+85 °C (24 VDC)	-40...+85 °C (optional +100 °C)			-40...+100 °C (-40...+212 °F)
Protection	IP 54 (without shaft seal) IP 67 (with shaft seal)	IP 65, IP 67			IP 54, IP 65, IP 67
Operating speed	≤10 000 rpm (IP 54) ≤6000 rpm (IP 67)	≤8000 rpm (IP 65) ≤6000 rpm (IP 67)			≤5000 rpm
Max. shaft load	≤80 lbs (350 N) axial/radial ≤100 lbs (450 N) axial or ≤150 lbs (670 N) radial	–	–		–
Options	–	Programmable (EIL580P)	Programmable (EIL580P) Isolated hollow shaft		Programmable (HS35P) SinCos output signals (HS35S)

EURO flange B10

Precise optical sensing.
Up to 6000 pulses per revolution.

- Solid shaft
- High-power signal output drivers
- Protection up to IP 67

Learn more:
www.baumer.com/incremental



Features	■ Solid shaft with EURO flange B10 ■ Up to 5000 ppr	■ Solid shaft with EURO flange B10 ■ Up to 2048 ppr ■ More powerful output drivers ■ Sense line	■ Solid shaft with EURO flange B10 ■ Up to 6000 ppr ■ More powerful output drivers ■ Sense line
Product family	EIL580-S1	ITD 40 B10	ITD 41 B10

Sensing method	Optical		
Size (housing)	ø58 mm	ø82 mm	
Voltage supply	5 VDC ±5 %, 8...30 VDC 4.75...30 VDC	5 VDC ±5 %, 8...30 VDC	
Output stage			
- TTL/RS422	■	–	–
- HTL/push-pull	■	■	■
Output signals	A 90° B, R + inverted	A 90° B, R + inverted	
Shaft type			
- Solid shaft	ø11 mm		
Connection			
- Flange connector M12	Radial	–	–
- Flange connector M23	Radial	–	–
- Cable	Radial		
Pulses per revolution	100...5000	200...2048	1000...6000
Operating temperature	-40...+85 °C (optional +100 °C)	-20...+70 °C (-20...+100 °C)	
Protection	IP 65, IP 67	IP 65	
Operating speed	≤12 000 rpm (IP 65) ≤6000 rpm (IP 67)	≤12 000 rpm	≤6000 rpm
Max. shaft load	≤40 N axial, ≤80 N radial	≤40 N axial, ≤60 N radial	
Options	–	Seawater resistant, cable with connector	

Best prices

The fastest supply

Best level technical support

Customers in over 100 countries

Eltra Trade s.r.o. supplies full range of Baumer products with the best prices and delivery terms.

We supply:

- *Baumer Absolute encoders*
- *Baumer Incremental encoders*
- *Baumer Tachogenerators and Resolvers*
- *Baumer Capacitive Sensors*
- *Baumer Inductive Sensors*
- *other Baumer products*

To find out stock ability and delivery time to your region, please contact our manager.

info@eltra-trade.com