Incremental encoders

- Compact configurations
- Shaft ø4 mm and ø5 mm
- End shaft ø8-16 mm
- Hollow shaft ø6-15 mm
- Optical and magnetic sensing
- Resolution max. 2048 pulses
- Rotation speed max. 12000 rpm
- Protection max. IP 66

					
	ITD 27 A 4 Y27	**ITD 27 A 4 Y15**	**GI341, GI342 - *incretivo***	**ITD 20 A 4**	**BRIH, BRID - *EcoMag***
	- Encoder with end shaft ø10-16 mm - Resolution max. 32 ppr - Magnetic sensing - Mounting on shaft by headless pins	- Encoder with hollow shaft ø9-14 mm - Resolution max. 32 ppr - Magnetic sensing - HTL output signals	- Encoder with end or hollow shaft ø10-15 mm - Resolution max. 2048 ppr - Optical sensing - Flange and housing made of high-tech plastics	- Encoder with end shaft max. ø14 mm - Resolution max. 1024 ppr - Optical sensing - Mounting by torque support	- Encoder with end or hollow shaft ø12 mm - Magnetic sensing - Resolution max. 2048 ppr - High resistance to shock and vibrations
	8...24 VDC	8...24 VDC	5 VDC ±10 % 4.75...30 VDC	5 VDC ±5 % 8...30 VDC	5 VDC ±10 % 10...30 VDC
	1...32	1...32	5...2048	50...1024	64...2048
	-	-	≤150 kHz	≤120 kHz	≤320 kHz
	-20...+85 °C	-20...+85 °C	-20...+80 °C	-20...+70 °C -20...+100 °C	-20...+85 °C
	ø58 mm	ø58 mm	ø58 mm	ø58 mm	ø58 mm
	ø10-16 mm end shaft	ø9-14 mm hollow shaft	ø10-15 mm hollow shaft / end shaft	ø8-14 mm end shaft	ø12 mm hollow shaft / end shaft
	≤12000 rpm	≤6000 rpm	≤6000 rpm	≤8000 rpm	≤12000 rpm
	Cable 1 m	Cable 1 m	Cable 1 m	Cable 1 m	Connector or cable

Incremental encoders

					
Model	BHF, BHG	TIL	ITD 21 A 4 Y109	BDH, BDT	
Features	- Encoder with end or hollow shaft ø12 mm - Optical sensing - Resolution max. 10000 ppr - Small profile depth	- Encoder with hollow shaft ø10-16 mm - Resolution max. 2048 ppr - Optical sensing - Mounting by torque support	- Encoder with end shaft ø10-14 mm - Resolution max. 6000 ppr - Optical sensing - Anodised	- Encoder with shaft ø10 mm or ø6 mm - Optical sensing - Resolution max. 10000 ppr - Clamping or synchro flange	
Voltage supply	5 VDC ±10 % 10...30 VDC 4.5...30 VDC	5 VDC ±5 % 8...26 VDC	5 VDC ±5 % 8...30 VDC	5 VDC ±10 % 10...30 VDC 4.5...30 VDC	
Resolution (steps/turn)	10...10000	100...2048	100...6000	10...10000	
Output frequency	≤750 kHz	≤120 kHz	≤300 kHz (TTL) ≤160 kHz (HTL)	≤300 kHz ≤750 kHz	
Operating temperature	-20...+85 °C	-20...+70 °C	0...+70 °C	-20...+85 °C	
Housing	ø58 mm	60 x 72 mm	ø68 mm	ø55 mm ø58 mm	
Shaft diameter	ø12 mm hollow shaft / end shaft	ø10-16 mm hollow shaft	ø10-14 mm end shaft	ø6 mm / ø10 mm	
Operating speed	≤12000 rpm	≤6000 rpm	≤5000 rpm	≤12000 rpm	
E-connection	Connector or cable	Cable 1 m	Cable 1 m	Connector or cable	

Incremental encoders

- Industrial standard encoder
- Hollow shaft max. ø27 mm
- Shaft ø6 mm, ø10 mm and ø9.52 mm (inch)
- Optical and magnetic sensing
- Clamping and synchro flange
- Square flange
- Resolution max. 16384 pulses
- Rotation speed max. 12000 rpm
- Protection max. IP 65

					
	BRIV 58K, BRIV 58S - *EcoMag*	**GI355, GI356**	**GI352**	**G1I0H, G1I0S**	**ITD 40 A 4 Y79**
	- Encoder with shaft ø10 mm or ø6 mm - Magnetic sensing - Resolution max. 2048 ppr - High resistance to shock and vibrations	- Encoder with shaft ø10 mm or ø6 mm - Resolution max. 6000 ppr - Optical sensing - Clamping or synchro flange	- Encoder with inch dimensions - Resolution max. 6000 ppr - Optical sensing - Shaft ø9.52 mm	- Encoder with end or hollow shaft max. ø25.4 mm - Resolution max. 16384 ppr - Optical sensing - Robust design	- Encoder with hollow shaft ø20-27 mm - Resolution max. 2048 ppr - Optical sensing - Mounting by torque support
	5 VDC ±10 % 10...30 VDC	5 VDC ±10 % 4.75...30 VDC	5 VDC ±10 % 4.75...30 VDC	5 VDC ±10 % 4.75...30 VDC	5 VDC ±5 % 8...30 VDC
	64...2048	5...6000	5...6000	5...16384	100...2048
	≤320 kHz	≤150 kHz	≤150 kHz	≤150 kHz	≤120 kHz
	-20...+85 °C	-25...+100 °C (5 VDC) -25...+85 °C (24 VDC)	-25...+100 °C (5 VDC) -25...+85 °C (24 VDC)	-25...+85 °C (24 VDC)	-20...+70 °C -20...+100 °C
	ø58 mm	ø58 mm	ø58 mm	ø75 mm	ø80 mm
	ø6 mm / ø10 mm	ø6 mm / ø10 mm	ø9.52 mm	ø25 mm hollow shaft / end shaft	ø20-27 mm hollow shaft
	≤12000 rpm	≤10000 rpm	≤10000 rpm	≤3800 rpm	≤5000 rpm
	Connector or cable	Connector or cable	Connector	Connector	Cable 1 m

Incremental encoders

					
Model	ITD 41 A 4 Y22	ITD 41 A 4 Y141	HOG 71	HOG 9	
Features	- Encoder with hollow shaft ø17-27 mm - Resolution max. 10000 ppr - Optical sensing - Through-hollow shaft	- Encoder with end shaft ø20-27 mm - Resolution max. 10000 ppr - Optical sensing - NIRO design	- Encoder with end shaft ø12-14 mm - Optical sensing - Compact, robust die-cast housing - Inside connecting terminals	- Encoder with end shaft ø12-16 mm or cone shaft ø17 mm (1:10) - Optical sensing - Compact, robust die-cast housing - Metal connector	
Voltage supply	5 VDC ±5 % 8...30 VDC	5 VDC ±5 % 8...30 VDC	5 VDC ±5 % 9...26 VDC	5 VDC ±5 % 9...26 VDC 9...30 VDC	
Resolution (steps/turn)	2000...10000	2000...10000	64...2048	1...2500	
Output frequency	≤300 kHz (TTL) ≤160 kHz (HTL)	≤300 kHz (TTL) ≤160 kHz (HTL)	≤120 kHz	≤120 kHz	
Operating temperature	0...+70 °C 0...+100 °C	0...+70 °C	-20...+85 °C	-30...+100 °C	
Housing	ø80 mm	ø89 mm	ø60 mm	ø97 mm	
Shaft diameter	ø17-27 mm hollow shaft	ø20-27 mm end shaft	ø12-14 mm end shaft	ø12-16 mm end shaft / ø17 mm cone shaft	
Operating speed	≤5000 rpm	≤2500 rpm	≤10000 rpm	≤10000 rpm	
E-connection	Cable 1 m	Cable 1 m	Terminal box	Terminal connector	

Incremental encoders

- Industrial standard encoder
- Hollow shaft max. ø115 mm
- End shaft max. ø27 mm
- Optical sensing
- Specialized housing designs
- Resolution max. 10000 pulses
- Rotation speed max. 10000 rpm
- High protection max. IP 67

					
	HOG 10, HOG 10 + FSL	HOG 131	ITD 70 A 4 Y 9	HOG 16, HOG 163	HOG 220
	- Encoder with end shaft max. ø20 mm - Optical sensing - Logic level TTL with regulator UB 9...26 VDC - Logic level HTL with power drivers	- Encoder with hollow shaft ø16-36 mm - Optical sensing - Shaft especially sealed for offshore applications - Housing with special surface protection	- Encoder with hollow shaft max. ø65 mm - Resolution max. 2500 ppr - Optical sensing - Mounting by torque support	- Encoder with hollow shaft ø20-75 mm - Optical sensing - Robust light-metal housing - Logic level TTL with regulator UB 9...26 VDC	- Encoder with hollow shaft ø80-115 mm - Optical sensing - Robust light-metal housing - Logic level TTL with regulator UB 9...26 VDC
	5 VDC ±5 % 9...26 VDC 9...30 VDC	5 VDC ±5 % 9...26 VDC 9...30 VDC	5 VDC ±5 % 8...30 VDC	5 VDC ±5 % 9...26 VDC 9...30 VDC	5 VDC ±5 % 9...26 VDC 9...30 VDC
	1...2500	1024...3072	1000...2500	250...2500 250...5000	1024
	≤120 kHz	≤120 kHz	≤120 kHz	≤120 kHz	≤120 kHz
	-40...+100 °C -50...+100 °C (optional)	-40...+100 °C	-20...+70 °C	-30...+85 °C -20...+100 °C	-30...+85 °C
	ø105 mm	ø130 mm	ø150 mm	ø158 mm	ø227 mm
	ø12-20 mm end shaft / ø17 mm cone shaft	ø16-36 mm hollow shaft	ø40-65 mm hollow shaft	ø20-75 mm hollow shaft	ø80-115 mm hollow shaft
	≤6000 rpm	≤6000 rpm	≤3000 rpm	≤6000 rpm	≤3800 rpm
	Terminal box	Terminal box	Connector M23 type 2, 12-pin	Terminal box	Terminal box

Incremental encoders

					
Model	ITD 21 B10 Y 2	OG 9	POG 9	POG 90	
Features	- Encoder with shaft ø10-12 mm - Resolution max. 6000 ppr - Optical sensing - Centering alignment ø70 mm, mounting screw hole circle ø77 mm	- Encoder with shaft ø11 mm - Optical sensing - Euro-flange B10 - Logic level TTL with regulator UB 9...26 VDC	- Encoder with shaft ø11 mm - Optical sensing - Euro-flange B10 - Logic level TTL with regulator UB 9...26 VDC	- Encoder with shaft ø11 mm - Resolution max. 10000 ppr - Optical sensing - Logic level TTL with regulator UB 5 VDC / 9...26 VDC	
Voltage supply	5 VDC ±5 % 8...30 VDC	5 VDC ±5 % 9...26 VDC 9...30 VDC	5 VDC ±5 % 9...26 VDC 9...30 VDC	5 VDC ±5 % 9...30 VDC	
Resolution (steps/turn)	1000...6000	1...1250	1...2500	1024...10000	
Output frequency	≤300 kHz (TTL) ≤160 kHz (HTL)	≤120 kHz	≤120 kHz	≤250 kHz	
Operating temperature	0...+70 °C 0...+100 °C	-30...+100 °C	-30...+100 °C	-20...+85 °C	
Housing	ø58 mm	ø115 mm	ø115 mm	ø115 mm	
Shaft diameter	ø10-12 mm	ø11 mm	ø11 mm	ø11 mm	
Operating speed	≤12000 rpm	≤12000 rpm	≤12000 rpm	≤10000 rpm	
E-connection	Cable 1 m	Terminal box	Terminal box	Terminal box	

Incremental encoders

- HeavyDuty solutions
- Centering flange
- Euro-flange B10
- Shaft max. ø12 mm
- Optical sensing
- Resolution max. 10000 pulses
- Rotation speed max. 12000 rpm
- Big terminal box, pivotable through 180°
- Protection max. IP 66

POG 10, POG 10 + FSL
- Encoder with shaft ø11 mm - Optical sensing - High protection IP 66 - Big terminal box, pivotable through 180°
5 VDC ±5 % 9...26 VDC 9...30 VDC
1...2500
≤120 kHz
-40...+100 °C -50...+100 °C (optional)
ø115 mm
ø11 mm
≤12000 rpm
Terminal box

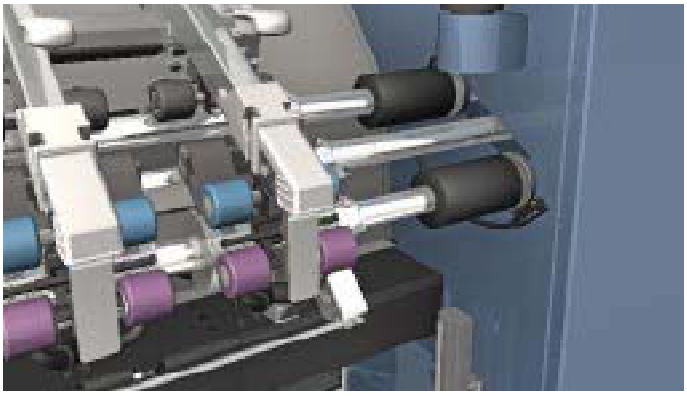
Sine encoders

					
Model	ITD 22 A 4 Y36	HOGS 71	ITD 42 A 4 Y79	HOGS 100	
Features	- Encoder with end shaft ø10-14 mm - Resolution max. 5000 ppr - Sine output signals 1 Vpp - Mounting by torque support	- Encoder with end shaft ø12-14 mm - Resolution max. 5000 ppr - Sine output signals 1 Vpp - Low harmonic content (patented LowHarmonics technology)	- Encoder with hollow shaft ø20-27 mm - Resolution max. 2048 ppr - Sine output signals 1 Vpp - Mounting by torque support	- Encoder with end shaft max. ø20 mm or cone shaft ø17 mm (1:10) - Resolution max. 5000 ppr - Low harmonic content (patented LowHarmonics technology) - Top-quality sine signals	
Voltage supply	5 VDC ±10 % 8...26 VDC	5 VDC ±10 % 9...30 VDC	5 VDC ±10 % 8...26 VDC	5 VDC ±10 % 9...30 VDC	
Resolution (steps/turn)	1024...5000	1024...5000	1024...2048	720...5000	
Output signals	A, B, N	A 90° B, C + inverted	A, B, N	K1 90° K2, K0 + inverted	
Operating temperature	-20...+85 °C	-20...+85 °C	-20...+85 °C	-20...+85 °C	
Housing	ø58 mm	ø60 mm	ø80 mm	ø105 mm	
Shaft diameter	ø10-14 mm end shaft	ø12-14 mm end shaft	ø20-27 mm hollow shaft	ø12-20 mm end shaft / ø17 mm cone shaft	
Operating speed	≤8000 rpm	≤10000 rpm	≤5000 rpm	≤10000 rpm	
E-connection	Cable 1 m	Terminal box	Cable 1 m	Terminal box	

A simple way of sensing linear and rotary movements

Non-contact sensing systems are easy to mount and most often satisfy requirements on precision.
They can be utilized without problems also in a dusty and humid environment.

- Wood processing machines
- Spindle positioning at profile milling machines
- Graphical machinery (printing machines)
- Environment plant engineering and textile machinery



Precise angular sensing

For optimal alignment of wind power plants towards the wind direction, absolute encoders reliably provide the actual position even under roughest conditions. Also here, for many years manufacturers in drive technology have been relying on Baumer encoders.

- Wind power plants
- Conveying systems in day-mining
- Ship construction
- Gear test stands

Reliable and versatile

Baumer encoders are utilized in numerous domains. Very robust and up to strong impacts, they provide an excellent axial runout and reliable operation even under extreme temperatures and ambient conditions.

- Packaging machines
- Blister and carton box packaging
- Labelling machines
- Foil-winding machines

Absolutely robust

Reliability under extreme conditions - like embarking and disembarking container ships - that's the point. No matter if the focus is on rapidness or robustness - like in many other applications Baumer encoders are the suitable solution.

- High racks
- Chipboard production plants
- Warehouse and logistics
- Metal sheet processing machines

Incremental encoders

					
Model	ITD 01 A 4 Y 1	ITD 01 B14	BHK	BDK	
Features	- Mini encoder with end shaft ø4 mm - Resolution max. 1024 ppr - Optical sensing - Outer diameter ø24 mm	- Mini encoder with shaft ø4 mm - Resolution max. 1024 ppr - Optical sensing - Outer diameter ø24 mm	- Mini encoder with end shaft or hollow shaft - Optical sensing - Resolution max. 2048 ppr - Housing ø40 mm	- Mini encoder with shaft ø5 mm - Optical sensing - Resolution max. 2048 ppr - Housing ø30 mm	
Voltage supply	5 VDC ±5 % 8...30 VDC	5 VDC ±5 % 8...30 VDC	5 VDC ±10 % 10...30 VDC	5 VDC ±10 % 10...30 VDC	
Resolution (steps/turn)	30...1024	30...1024	10...2048	10...2048	
Output frequency	≤100 kHz	≤100 kHz	≤100 kHz	≤100 kHz	
Operating temperature	-20...+85 °C	-20...+85 °C	-20...+85 °C	-20...+85 °C	
Housing	ø24 mm	ø24 mm	ø40 mm	ø30 mm	
Shaft diameter	ø4 mm end shaft	ø4 mm	ø6 mm hollow shaft / ø12 mm end shaft	ø5 mm	
Operating speed	≤10000 rpm	≤18000 rpm	≤12000 rpm	≤12000 rpm	
E-connection	Cable 1 m	Cable 1 m	Connector or cable	Connector or cable	