ERN incremental rotary encoders / AEF, ECN, ECI, and KCI absolute singleturn rotary encoders

Model	Outside dia.[1]	Shaft version	Protection rating	Incremental signals	Signal periods per revolution	Absolute position values	Position values per rev. Commutation	Brake stroke monitoring
ERN 120 **ERN 130** **ERN 180**	87 mm	Hollow through shaft, Ø 20 mm, 25 mm, 30 mm, 38 mm, or 50 mm	IP64	⊓⊔ TTL ⊓⊔ HTL ~ 1 V_{PP}	1000 to 5000	–	–	–
ECN 113				~ 1 V_{PP}	2048	EnDat01	8192 (13 bits)	–
ECN 125				–	–	EnDat22	33 554 435 (25 bits)	–
ERN 1321[2]	58 mm	Taper shaft, Ø 9.25 mm, 1:10 taper	*ECN/ ERN 400:* IP64 *AEF/ECN/ ERN 1300:* IP40	⊓⊔ TTL	1024 to 10000	–	–	–
ERN 1326[2]				⊓⊔ TTL	1024, 2048, 4096, or 8192	UVW	Three signals for block commutation	–
ERN 1381[2]				~ 1 V_{PP}	512, 1024, 2048, 4096	–		–
ERN 1387 **ERN 487**				~ 1 V_{PP}	2048	~ 1 V_{PP}	Z1 track for sine commutation	–
ECN 1313[3] **ECN 413**					2048	EnDat01	8192 (13 bits)	–
ECN 1325[3] **ECN 425**				–	–	EnDat22	33 554 435 (25 bits)	–
AEF 1323[3]							8 388 608 (23 bits)	–
KCI 419[4]	65 mm	12 mm	IP37	–	–	EnDat22	524 288 (19 bits)	0.5 mm to 1.6 mm
ECI 119	87 mm	30 mm, 38 mm, 50 mm	IP20	–	–	EnDat22	524 288 (19 bits)	–
ECI 4010[3]	174 mm, 262 mm	Hollow through shaft, Ø 90 mm, 180 mm	IP20	–	–	EnDat22	1 048 576 (20 bits)	–

[1] Rotary encoder housing
[2] Only in version with expanding ring coupling
[3] Connection of an external temperature sensor in the motor is possible
[4] Output of additional temperature values (armature plate of the brake)