




Rotary Encoders


Incremental Type Rotary Encoder / Absolute Type (Single-turn/Multi-turn/Wire-type) Rotary Encoder / Flexible Coupling


Mark for Incremental Type Model Name-: Shaft Outer Diameter/Shaft Inner Diameter, : Resolution, : Output Phase, : Control Output


Series	Shaft Outer Diameter	Max. Response Frequency	Max. Allowable Revolution	Starting Torque	Resolution
Incremental, Ø15mm, Shaft Type Rotary Encoder E15S2-36-2-N-5-R 	Ø2mm	10kHz	3000rpm	Max. 10gf·cm (max. 0.00098N·m)	36

Series	Shaft Outer Diameter	Max. Response Frequency	Max. Allowable Revolution	Starting Torque	Resolution
Incremental, Ø18mm, Shaft Type Rotary Encoder E18S Series 	<input type="checkbox"/> : Type 2: Ø2mm 2.5: Ø2.5mm	25kHz	6000rpm	Max. 10gf·cm (max. 0.00098N·m)	<input type="checkbox"/> : Type 100, 200, 300, 400

Series	Shaft Outer Diameter	Max. Response Frequency	Max. Allowable Revolution	Starting Torque	Resolution
Incremental, Ø20mm, Shaft Type Rotary Encoder E20S Series 	Ø2mm	100kHz	6000rpm	Max. 5gf·cm (max. 0.00049N·m)	<input type="checkbox"/> : Type 100, 200, 320, 360

Series	Shaft Inner Diameter	Max. Response Frequency	Max. Allowable Revolution	Starting Torque	Resolution
Incremental, Ø20mm, Built-in Hollow Shaft Type Rotary Encoder E20HB Series 	<input type="checkbox"/> : Type 2: Ø2mm 2.5: Ø2.5mm 3: Ø3mm	100kHz	6000rpm	Max. 5gf·cm (max. 0.00049N·m)	<input type="checkbox"/> : Type 100, 200, 320, 360

Series	Shaft Outer Diameter	Max. Response Frequency	Max. Allowable Revolution	Starting Torque	Resolution (<input type="checkbox"/> : Type)	
					To 500	To 3000
Incremental, Ø30mm, Shaft Type Rotary Encoder E30S Series 	Ø4mm	300kHz	5000rpm	Max. 20gf·cm (max. 0.00196N·m)	100, 200, 360, 500	1000, 1024, 3000

Series	Shaft Outer Diameter	Max. Response Frequency	Max. Allowable Revolution	Starting Torque	Resolution (<input type="checkbox"/> : Type)			
					To 50	To 250	To 1000	To 5000
Incremental, Ø40mm, Shaft Type Rotary Encoder E40S Series 	<input type="checkbox"/> : Type 6: Ø6mm 8: Ø8mm	300kHz	5000rpm	Max. 40gf·cm (max. 0.00392N·m)	1, 2, 5, 12	—	—	—
					10, 15, 20, 23, 25, 30, 35, 40, 45, 50	60, 75, 100, 120, 125, 150, 192, 200, 240, 250	256, 300, 360, 400, 500, 512, 600, 800, 1000	1024, 1200, 1500, 1800, 2000, 2048, 2500, 3000, 3600, 5000

Output Phase	Control Output	Power Supply	Connection	Protection Structure	Approval	Model
A, B	NPN open collector	5VDC	Axial cable type	IP50	—	E15S2-36-2-N-5-R

Output Phase	Control Output	Power Supply	Connection	Protection Structure	Approval	Model
A	■: Type N: NPN open collector V: Voltage	5VDC	Axial cable type	IP50	CE, UL	E18S□-□-1-■-5-R
			Radial cable type	IP50	CE, UL	E18S□-□-1-■-5-S

Output Phase	Control Output	Power Supply	Connection	Protection Structure	Approval	Model
A, B, Z	■: Type N: NPN open collector V: Voltage	5VDC	Axial cable type	IP50	CE	E20S2-□-3-■-5-R
			Radial cable type	IP50	CE	E20S2-□-3-■-5-S
		12VDC	Axial cable type	IP50	CE	E20S2-□-3-■-12-R
			Radial cable type	IP50	CE	E20S2-□-3-■-12-S
A, \bar{A} , B, \bar{B} , Z, \bar{Z}	Line driver	5VDC	Axial cable type	IP50	—	E20S2-□-6-L-5-R
			Radial cable type	IP50	—	E20S2-□-6-L-5-S



Output Phase	Control Output	Power Supply	Connection	Protection Structure	Approval	Model
A, B, Z	■: Type N: NPN open collector V: Voltage	5VDC	Axial cable type	IP50	CE	E20HB□-□-3-■-5-R
			Radial cable type	IP50	CE	E20HB□-□-3-■-5-S
		12VDC	Axial cable type	IP50	CE	E20HB□-□-3-■-12-R
			Radial cable type	IP50	CE	E20HB□-□-3-■-12-S
A, \bar{A} , B, \bar{B} , Z, \bar{Z}	Line driver	5VDC	Axial cable type	IP50	—	E20HB□-□-6-L-5-R
			Radial cable type	IP50	—	E20HB□-□-6-L-5-S

Output Phase	Control Output	Power Supply	Connection	Protection Structure	Approval	Model
A, B, Z	■: Type T: Totem pole N: NPN open collector V: Voltage	5VDC	Axial cable type	IP50	CE	E30S4-□-3-■-5
			Axial cable connector type	IP50	CE	E30S4-□-3-■-5-C
		12-24VDC	Axial cable type	IP50	CE	E30S4-□-3-■-24
			Axial cable connector type	IP50	CE	E30S4-□-3-■-24-C
A, \bar{A} , B, \bar{B} , Z, \bar{Z}	Line driver	5VDC	Axial cable type	IP50	—	E30S4-□-6-L-5
			Axial cable connector type	IP50	—	E30S4-□-6-L-5-C

Output Phase	Control Output	Power Supply	Connection	Protection Structure	Approval	Model
A, B	■: Type T: Totem pole N: NPN open collector V: Voltage	5VDC	Radial cable type	IP50	CE	E40S□-□-2-■-5
			Radial cable connector type			E40S□-□-2-■-5-C
		12-24VDC	Radial cable type	IP50	CE	E40S□-□-2-■-24
			Radial cable connector type			E40S□-□-2-■-24-C
A, \bar{A} , B, \bar{B}	Line driver	5VDC	Radial cable type	IP50	—	E40S□-□-4-L-5
			Radial cable connector type			E40S□-□-4-L-5-C
		12-24VDC	Radial cable type	IP50	—	E40S□-□-4-L-24
			Radial cable connector type			E40S□-□-4-L-24-C
■: Type 2: A, B 3: A, B, Z 4: A, \bar{A} , B, \bar{B}	■: Type T: Totem pole N: NPN open collector V: Voltage	5VDC	Radial cable type	IP50	CE	E40S□-□-■-5
			Radial cable connector type			E40S□-□-■-5-C
		12-24VDC	Radial cable type	IP50	CE	E40S□-□-■-24
			Radial cable connector type			E40S□-□-■-24-C
A, \bar{A} , B, \bar{B} , Z, \bar{Z}	Line driver	5VDC	Radial cable type	IP50	—	E40S□-□-6-L-5
			Radial cable connector type			E40S□-□-6-L-5-C
		12-24VDC	Radial cable type	IP50	—	E40S□-□-6-L-24
			Radial cable connector type			E40S□-□-6-L-24-C

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Series	Shaft Inner Diameter	Max. Response Frequency	Max. Allowable Revolution	Starting Torque	Resolution (□: Type)			
					To 50	To 250	To 1000	To 5000
Incremental, Ø40mm, Hollow Shaft Type Rotary Encoder E40H Series 	□: Type 6: Ø6mm 8: Ø8mm 10: Ø10mm 12: Ø12mm	300kHz	5000rpm	Max. 50gf·cm (max. 0.0049N·m)	1, 2, 5, 12	—	—	—
					10, 15, 20, 23, 25, 30, 35, 40, 45, 50	60, 75, 100, 120, 125, 150, 192, 200, 240, 250	256, 300, 360, 400, 500, 512, 600, 800, 1000	1024, 1200, 1500, 1800, 2000, 2048, 2500, 3000, 3600, 5000
Incremental, Ø40mm Built-in Hollow Shaft Type Rotary Encoder E40HB Series 	□: Type 6: Ø6mm 8: Ø8mm 10: Ø10mm 12: Ø12mm	300kHz	5000rpm	Max. 50gf·cm (max. 0.0049N·m)	1, 2, 5, 12	—	—	—
					10, 15, 20, 23, 25, 30, 35, 40, 45, 50	60, 75, 80, 100, 120, 125, 150, 192, 200, 240, 250	256, 300, 360, 400, 500, 512, 600, 800, 1000	1024, 1200, 1500, 1800, 2000, 2048, 2500, 3000, 3600, 5000

Output Phase	Control Output	Power Supply	Connection	Protection Structure	Approval	Model
A, B	■: Type T: Totem pole N: NPN open collector V: Voltage	5VDC	Radial cable type	IP50	CE	E40H□□□-2-■-5
			Radial cable connector type			E40H□□□-2-■-5-C
		12-24VDC	Radial cable type	IP50	CE	E40H□□□-2-■-24
			Radial cable connector type			E40H□□□-2-■-24-C
A, \bar{A} , B, \bar{B}	Line driver	5VDC	Radial cable type	IP50	—	E40H□□□-4-L-5
			Radial cable connector type			E40H□□□-4-L-5-C
		12-24VDC	Radial cable type	IP50	—	E40H□□□-4-L-24
			Radial cable connector type			E40H□□□-4-L-24-C
■: Type 2: A, B 3: A, B, Z 4: A, \bar{A} , B, \bar{B}	■: Type T: Totem pole N: NPN open collector V: Voltage	5VDC	Radial cable type	IP50	CE	E40H□□□■-■-5
			Radial cable connector type			E40H□□□■-■-5-C
		12-24VDC	Radial cable type	IP50	CE	E40H□□□■-■-24
			Radial cable connector type			E40H□□□■-■-24-C
A, \bar{A} , B, \bar{B} , Z, \bar{Z}	Line driver	5VDC	Radial cable type	IP50	—	E40H□□□-6-L-5
			Radial cable connector type			E40H□□□-6-L-5-C
		12-24VDC	Radial cable type	IP50	—	E40H□□□-6-L-24
			Radial cable connector type			E40H□□□-6-L-24-C
A, B	■: Type T: Totem pole N: NPN open collector V: Voltage	5VDC	Radial cable type	IP50	CE	E40HB□□□-2-■-5
			Radial cable connector type			E40HB□□□-2-■-5-C
		12-24VDC	Radial cable type	IP50	CE	E40HB□□□-2-■-24
			Radial cable connector type			E40HB□□□-2-■-24-C
A, \bar{A} , B, \bar{B}	Line driver	5VDC	Radial cable type	IP50	—	E40HB□□□-4-L-5
			Radial cable connector type			E40HB□□□-4-L-5-C
		12-24VDC	Radial cable type	IP50	—	E40HB□□□-4-L-24
			Radial cable connector type			E40HB□□□-4-L-24-C
■: Type 2: A, B 3: A, B, Z 4: A, \bar{A} , B, \bar{B}	■: Type T: Totem pole N: NPN open collector V: Voltage	5VDC	Radial cable type	IP50	CE	E40HB□□□■-■-5
			Radial cable connector type			E40HB□□□■-■-5-C
		12-24VDC	Radial cable type	IP50	CE	E40HB□□□■-■-24
			Radial cable connector type			E40HB□□□■-■-24-C
A, \bar{A} , B, \bar{B} , Z, \bar{Z}	Line driver	5VDC	Radial cable type	IP50	—	E40HB□□□-6-L-5
			Radial cable connector type			E40HB□□□-6-L-5-C
		12-24VDC	Radial cable type	IP50	—	E40HB□□□-6-L-24
			Radial cable connector type			E40HB□□□-6-L-24-C

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Series	Shaft Outer Diameter	Max. Response Frequency	Max. Allowable Revolution	Starting Torque	Resolution (□: Type)			
					To 50	To 256	To 1500	To 8000
Incremental, Ø50mm, Shaft Type Rotary Encoder E50S Series	Ø8mm	300kHz	5000rpm	Max. 70gf·cm (max. 0.00686N·m)	1, 2, 5	—	—	—
					10, 12, 15, 20, 23, 25, 30, 35, 40, 45, 50	60, 75, 100, 120, 125, 150, 192, 200, 240, 250, 256	300, 360, 400, 500, 512, 600, 800, 1000, 1024, 1200, 1500	1800, 2000, 2048, 2500, 3000, 3600, 4000, 5000, 6000, 8000
	Ø8mm	300kHz	5000rpm	Max. 800gf·cm (max. 0.0784N·m)	1, 2, 5	—	—	—
					10, 12, 15, 20, 23, 25, 30, 35, 40, 45, 50	60, 75, 100, 120, 125, 150, 192, 200, 240, 250, 256	300, 360, 400, 500, 512, 600, 800, 1000, 1024, 1200, 1500	1800, 2000, 2048, 2500, 3000, 3600, 4000, 5000, 6000, 8000

Output Phase	Control Output	Power Supply	Connection	Protection Structure	Approval	Model
A, B	■: Type T: Totem pole N: NPN open collector V: Voltage	5VDC	Axial cable type	IP50	CE	E50S8-□-2-■-5
			Axial cable connector type	IP50	CE	E50S8-□-2-■-5-C
		12-24VDC	Axial cable type	IP50	CE	E50S8-□-2-■-24
			Axial cable connector type	IP50	CE	E50S8-□-2-■-24-C
A, \bar{A} , B, \bar{B}	Line driver	5VDC	Axial cable type	IP50	—	E50S8-□-4-L-5
			Axial cable connector type	IP50	—	E50S8-□-4-L-5-C
		12-24VDC	Axial cable type	IP50	—	E50S8-□-4-L-24
			Axial cable connector type	IP50	—	E50S8-□-4-L-24-C
■■■: Type 2: A, B 3: A, B, Z 4: A, \bar{A} , B, \bar{B}	■: Type T: Totem pole N: NPN open collector V: Voltage	5VDC	Axial cable type	IP50	CE	E50S8-□-■■■-■-5
			Axial cable connector type	IP50	CE	E50S8-□-■■■-■-5-C
		12-24VDC	Axial cable type	IP50	CE	E50S8-□-■■■-■-24
			Axial cable connector type	IP50	CE	E50S8-□-■■■-■-24-C
A, \bar{A} , B, \bar{B} , Z, \bar{Z}	Line driver	5VDC	Axial cable type	IP50	—	E50S8-□-6-L-5
			Axial cable connector type	IP50	—	E50S8-□-6-L-5-C
		12-24VDC	Axial cable type	IP50	—	E50S8-□-6-L-24
			Axial cable connector type	IP50	—	E50S8-□-6-L-24-C
A, B	■: Type T: Totem pole N: NPN open collector V: Voltage	5VDC	Axial connector type	IP65	CE	E50S8-□-2-■-5-CR
			Radial connector type	IP65	CE	E50S8-□-2-■-5-CS
		12-24VDC	Axial connector type	IP65	CE	E50S8-□-2-■-24-CR
			Radial connector type	IP65	CE	E50S8-□-2-■-24-CS
A, \bar{A} , B, \bar{B}	Line driver	5VDC	Axial connector type	IP65	—	E50S8-□-4-L-5-CR
			Radial connector type	IP65	—	E50S8-□-4-L-5-CS
		12-24VDC	Axial connector type	IP65	—	E50S8-□-4-L-24-CR
			Radial connector type	IP65	—	E50S8-□-4-L-24-CS
■■■: Type 2: A, B 3: A, B, Z 4: A, \bar{A} , B, \bar{B}	■: Type T: Totem pole N: NPN open collector V: Voltage	5VDC	Axial connector type	IP65	CE	E50S8-□-■■■-■-5-CR
			Radial connector type	IP65	CE	E50S8-□-■■■-■-5-CS
		12-24VDC	Axial connector type	IP65	CE	E50S8-□-■■■-■-24-CR
			Radial connector type	IP65	CE	E50S8-□-■■■-■-24-CS
A, \bar{A} , B, \bar{B} , Z, \bar{Z}	Line driver	5VDC	Axial connector type	IP65	—	E50S8-□-6-L-5-CR
			Radial connector type	IP65	—	E50S8-□-6-L-5-CS
		12-24VDC	Axial connector type	IP65	—	E50S8-□-6-L-24-CR
			Radial connector type	IP65	—	E50S8-□-6-L-24-CS

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Series	Shaft Outer Diameter	Max. Response Frequency	Max. Allowable Revolution	Starting Torque	Resolution (□: Type)			
					To 60	To 300	To 1500	To 8000
Incremental, Ø58mm, Clamping, Shaft Type Rotary Encoder E58SC Series 	Ø10mm	300kHz	5000rpm	Max. 40gf·cm (max. 0.00392N·m)	1, 2, 5, 12	—	—	—
					10, 15, 20, 23, 25, 30, 35, 40, 45, 50, 60	75, 100, 120, 125, 150, 192, 200, 240, 250, 256, 300	360, 400, 500, 512, 600, 800, 1000, 1024, 1200, 1500	1800, 2000, 2048, 2500, 3000, 3600, 5000, 6000, 8000
Incremental, Ø58mm, Synchro, Shaft Type Rotary Encoder E58SS Series 	Ø6mm	300kHz	5000rpm	Max. 40gf·cm (max. 0.00392N·m)	1, 2, 5, 12	—	—	—
					10, 15, 20, 23, 25, 30, 35, 40, 45, 50, 60	75, 100, 120, 125, 150, 192, 200, 240, 250, 256, 300	360, 400, 500, 512, 600, 800, 1000, 1024, 1200, 1500	1800, 2000, 2048, 2500, 3000, 3600, 5000, 6000, 8000

Output Phase	Control Output	Power Supply	Connection	Protection Structure	Approval	Model
A, B	■: Type T: Totem pole N: NPN open collector V: Voltage	5VDC	Axial/Radial cable type	IP50	CE	E58SC10-□-2-■-5
			Axial cable connector type			E58SC10-□-2-■-5-C
			Axial connector type			E58SC10-□-2-■-5-CR
		12-24VDC	Radial connector type	IP50	CE	E58SC10-□-2-■-5-CS
			Axial/Radial cable type			E58SC10-□-2-■-24
			Axial cable connector type			E58SC10-□-2-■-24-C
A, \bar{A} , B, \bar{B}	Line driver	5VDC	Axial/Radial cable type	IP50	—	E58SC10-□-4-L-5
			Axial cable connector type			E58SC10-□-4-L-5-C
			Axial connector type			E58SC10-□-4-L-5-CR
		12-24VDC	Radial connector type	IP50	—	E58SC10-□-4-L-5-CS
			Axial/Radial cable type			E58SC10-□-4-L-24
			Axial cable connector type			E58SC10-□-4-L-24-C
A, \bar{A} , B, \bar{B} , Z, \bar{Z}	Line driver	5VDC	Axial/Radial cable type	IP50	—	E58SC10-□-4-L-24-CR
			Axial cable connector type			E58SC10-□-4-L-24-CS
			Axial connector type			E58SC10-□-4-L-24-CR
		12-24VDC	Radial connector type	IP50	—	E58SC10-□-4-L-24-CS
			Axial/Radial cable type			E58SC10-□-6-L-5
			Axial cable connector type			E58SC10-□-6-L-5-C
A, \bar{A} , B, \bar{B} , Z, \bar{Z}	Line driver	5VDC	Axial/Radial cable type	IP50	—	E58SC10-□-6-L-5-CR
			Axial cable connector type			E58SC10-□-6-L-5-CS
			Axial connector type			E58SC10-□-6-L-5-CR
		12-24VDC	Radial connector type	IP50	—	E58SC10-□-6-L-5-CS
			Axial/Radial cable type			E58SC10-□-6-L-24
			Axial cable connector type			E58SC10-□-6-L-24-C
A, B	■: Type T: Totem pole N: NPN open collector V: Voltage	5VDC	Axial/Radial cable type	IP50	CE	E58SS6-□-2-■-5
			Axial cable connector type			E58SS6-□-2-■-5-C
			Axial connector type			E58SS6-□-2-■-5-CR
		12-24VDC	Radial connector type	IP50	CE	E58SS6-□-2-■-5-CS
			Axial/Radial cable type			E58SS6-□-2-■-24
			Axial cable connector type			E58SS6-□-2-■-24-C
A, \bar{A} , B, \bar{B}	Line driver	5VDC	Axial/Radial cable type	IP50	—	E58SS6-□-2-■-24-CR
			Axial cable connector type			E58SS6-□-2-■-24-CS
			Axial connector type			E58SS6-□-2-■-24-CR
		12-24VDC	Radial connector type	IP50	—	E58SS6-□-2-■-24-CS
			Axial/Radial cable type			E58SS6-□-4-L-5
			Axial cable connector type			E58SS6-□-4-L-5-C
A, \bar{A} , B, \bar{B} , Z, \bar{Z}	Line driver	5VDC	Axial/Radial cable type	IP50	—	E58SS6-□-4-L-5-CR
			Axial cable connector type			E58SS6-□-4-L-5-CS
			Axial connector type			E58SS6-□-4-L-5-CR
		12-24VDC	Radial connector type	IP50	—	E58SS6-□-4-L-5-CS
			Axial/Radial cable type			E58SS6-□-4-L-24
			Axial cable connector type			E58SS6-□-4-L-24-C
A, \bar{A} , B, \bar{B} , Z, \bar{Z}	Line driver	5VDC	Axial/Radial cable type	IP50	—	E58SS6-□-4-L-24-CR
			Axial cable connector type			E58SS6-□-4-L-24-CS
			Axial connector type			E58SS6-□-4-L-24-CR
		12-24VDC	Radial connector type	IP50	—	E58SS6-□-4-L-24-CS
			Axial/Radial cable type			E58SS6-□-6-L-5
			Axial cable connector type			E58SS6-□-6-L-5-C
A, \bar{A} , B, \bar{B} , Z, \bar{Z}	Line driver	5VDC	Axial/Radial cable type	IP50	—	E58SS6-□-6-L-5-CR
			Axial cable connector type			E58SS6-□-6-L-5-CS
			Axial connector type			E58SS6-□-6-L-5-CR
		12-24VDC	Radial connector type	IP50	—	E58SS6-□-6-L-5-CS
			Axial/Radial cable type			E58SS6-□-6-L-24
			Axial cable connector type			E58SS6-□-6-L-24-C
A, \bar{A} , B, \bar{B} , Z, \bar{Z}	Line driver	5VDC	Axial/Radial cable type	IP50	—	E58SS6-□-6-L-24-CR
			Axial cable connector type			E58SS6-□-6-L-24-CS
			Axial connector type			E58SS6-□-6-L-24-CR
		12-24VDC	Radial connector type	IP50	—	E58SS6-□-6-L-24-CS
			Axial/Radial cable type			E58SS6-□-6-L-24
			Axial cable connector type			E58SS6-□-6-L-24-C
A, \bar{A} , B, \bar{B} , Z, \bar{Z}	Line driver	5VDC	Axial/Radial cable type	IP50	—	E58SS6-□-6-L-24-CR
			Axial cable connector type			E58SS6-□-6-L-24-CS
			Axial connector type			E58SS6-□-6-L-24-CR
		12-24VDC	Radial connector type	IP50	—	E58SS6-□-6-L-24-CS
			Axial/Radial cable type			E58SS6-□-6-L-24
			Axial cable connector type			E58SS6-□-6-L-24-C
A, \bar{A} , B, \bar{B} , Z, \bar{Z}	Line driver	5VDC	Axial/Radial cable type	IP50	—	E58SS6-□-6-L-24-CR
			Axial cable connector type			E58SS6-□-6-L-24-CS
			Axial connector type			E58SS6-□-6-L-24-CR
		12-24VDC	Radial connector type	IP50	—	E58SS6-□-6-L-24-CS
			Axial/Radial cable type			E58SS6-□-6-L-24
			Axial cable connector type			E58SS6-□-6-L-24-C
A, \bar{A} , B, \bar{B} , Z, \bar{Z}	Line driver	5VDC	Axial/Radial cable type	IP50	—	E58SS6-□-6-L-24-CR
			Axial cable connector type			E58SS6-□-6-L-24-CS
			Axial connector type			E58SS6-□-6-L-24-CR
		12-24VDC	Radial connector type	IP50	—	E58SS6-□-6-L-24-CS
			Axial/Radial cable type			E58SS6-□-6-L-24
			Axial cable connector type			E58SS6-□-6-L-24-C
A, \bar{A} , B, \bar{B} , Z, \bar{Z}	Line driver	5VDC	Axial/Radial cable type	IP50	—	E58SS6-□-6-L-24-CR
			Axial cable connector type			E58SS6-□-6-L-24-CS
			Axial connector type			E58SS6-□-6-L-24-CR
		12-24VDC	Radial connector type	IP50	—	E58SS6-□-6-L-24-CS
			Axial/Radial cable type			E58SS6-□-6-L-24
			Axial cable connector type			E58SS6-□-6-L-24-C

Rotary Encoders


Incremental Type Rotary Encoder / Absolute Type (Single-turn/Multi-turn/Wire-type) Rotary Encoder / Flexible Coupling


Series	Shaft Inner Diameter	Max. Response Frequency	Max. Allowable Revolution	Starting Torque	Resolution (□: Type)			
					To 60	To 300	To 1500	To 8000
Incremental, Ø58mm, Hollow Shaft Type Rotary Encoder E58H Series 	Ø12mm	300kHz	5000rpm	Max. 90gf·cm (max. 0.00882N·m)	1, 2, 5, 12	—	—	—
					10, 15, 20, 23, 25, 30, 35, 40, 45, 50, 60	75, 100, 120, 125, 150, 192, 200, 240, 250, 256, 300	360, 400, 500, 512, 600, 800, 1000, 1024, 1200, 1500	1800, 2000, 2048, 2500, 3000, 3600, 5000, 6000, 8000
Incremental, Ø58mm, Built-in Hollow Shaft Type Rotary Encoder E58HB Series 	Ø12mm	300kHz	5000rpm	Max. 90gf·cm (max. 0.00882N·m)	1, 2, 5, 12	—	—	—
					10, 15, 20, 23, 25, 30, 35, 40, 45, 50, 60	75, 100, 120, 125, 150, 192, 200, 240, 250, 256, 300	360, 400, 500, 512, 600, 800, 1000, 1024, 1200, 1500	1800, 2000, 2048, 2500, 3000, 3600, 5000, 6000, 8000

Output Phase	Control Output	Power Supply	Connection	Protection Structure	Approval	Model
A, B	■: Type T: Totem pole N: NPN open collector V: Voltage	5VDC	Radial cable type	IP50	CE	E58H12-□-2-■-5
			Radial cable connector type	IP50		E58H12-□-2-■-5-C
		12-24VDC	Radial cable type	IP50	CE	E58H12-□-2-■-24
			Radial cable connector type	IP50		E58H12-□-2-■-24-C
A, \bar{A} , B, \bar{B}	Line driver	5VDC	Radial cable type	IP50	—	E58H12-□-4-L-5
			Radial cable connector type	IP50		E58H12-□-4-L-5-C
		12-24VDC	Radial cable type	IP50	—	E58H12-□-4-L-24
			Radial cable connector type	IP50		E58H12-□-4-L-24-C
■: Type T: Totem pole N: NPN open collector V: Voltage	■: Type T: Totem pole N: NPN open collector V: Voltage	5VDC	Radial cable type	IP50	CE	E58H12-□-■-■-5
			Radial cable connector type	IP50		E58H12-□-■-■-5-C
		12-24VDC	Radial cable type	IP50	CE	E58H12-□-■-■-24
			Radial cable connector type	IP50		E58H12-□-■-■-24-C
A, \bar{A} , B, \bar{B} , Z, \bar{Z}	Line driver	5VDC	Radial cable type	IP50	—	E58H12-□-6-L-5
			Radial cable connector type	IP50		E58H12-□-6-L-5-C
		12-24VDC	Radial cable type	IP50	—	E58H12-□-6-L-24
			Radial cable connector type	IP50		E58H12-□-6-L-24-C
A, B	■: Type T: Totem pole N: NPN open collector V: Voltage	5VDC	Axial/Radial cable type	IP50	CE	E58HB12-□-2-■-5
			Axial cable connector type			E58HB12-□-2-■-5-C
			Axial connector type	IP50		E58HB12-□-2-■-5-CR
			Radial connector type			E58HB12-□-2-■-5-CS
		12-24VDC	Axial/Radial cable type	IP50	CE	E58HB12-□-2-■-24
			Axial cable connector type			E58HB12-□-2-■-24-C
			Axial connector type	IP50		E58HB12-□-2-■-24-CR
			Radial connector type			E58HB12-□-2-■-24-CS
A, \bar{A} , B, \bar{B}	Line driver	5VDC	Axial/Radial cable type	IP50	—	E58HB12-□-4-L-5
			Axial cable connector type			E58HB12-□-4-L-5-C
			Axial connector type	IP50		E58HB12-□-4-L-5-CR
			Radial connector type			E58HB12-□-4-L-5-CS
		12-24VDC	Axial/Radial cable type	IP50	—	E58HB12-□-4-L-24
			Axial cable connector type			E58HB12-□-4-L-24-C
			Axial connector type	IP50		E58HB12-□-4-L-24-CR
			Radial connector type			E58HB12-□-4-L-24-CS
■: Type T: Totem pole N: NPN open collector V: Voltage	■: Type T: Totem pole N: NPN open collector V: Voltage	5VDC	Axial/Radial cable type	IP50	CE	E58HB12-□-■-■-5
			Axial cable connector type			E58HB12-□-■-■-5-C
			Axial connector type	IP50		E58HB12-□-■-■-5-CR
			Radial connector type			E58HB12-□-■-■-5-CS
		12-24VDC	Axial/Radial cable type	IP50	CE	E58HB12-□-■-■-24
			Axial cable connector type			E58HB12-□-■-■-24-C
			Axial connector type	IP50		E58HB12-□-■-■-24-CR
			Radial connector type			E58HB12-□-■-■-24-CS
A, \bar{A} , B, \bar{B} , Z, \bar{Z}	Line driver	5VDC	Axial/Radial cable type	IP50	—	E58HB12-□-6-L-5
			Axial cable connector type			E58HB12-□-6-L-5-C
			Axial connector type	IP50		E58HB12-□-6-L-5-CR
			Radial connector type			E58HB12-□-6-L-5-CS
		12-24VDC	Axial/Radial cable type	IP50	—	E58HB12-□-6-L-24
			Axial cable connector type			E58HB12-□-6-L-24-C
			Axial connector type	IP50		E58HB12-□-6-L-24-CR
			Radial connector type			E58HB12-□-6-L-24-CS


Rotary Encoders


Incremental Type Rotary Encoder / Absolute Type (Single-turn/Multi-turn/Wire-type) Rotary Encoder / Flexible Coupling

Series	Shaft Inner Diameter	Max. Response Frequency	Max. Allowable Revolution	Starting Torque	Resolution
Incremental, Ø60mm, Hollow Shaft Type Rotary Encoder E60H Series 	Ø20mm	300kHz	6000rpm	Max. 150gf·cm (max. 0.0147N·m)	□: Type 100, 1024, 5000, 8192


Series	Shaft Outer Diameter	Max. Response Frequency	Max. Allowable Revolution	Starting Torque	Resolution
Incremental, Ø68mm, Shaft Type Rotary Encoder E68S Series 	Ø15mm	180kHz	6500rpm	Max. 1.5Kgf·cm (max. 0.147N·m)	500 600 1024

※Connector standard: MS3102A20-29P

Series	Shaft Inner Diameter	Max. Response Frequency	Max. Allowable Revolution	Starting Torque	Resolution (□: Type)	
					To 500	To 3200
Incremental, Ø80mm, Hollow Shaft Type Rotary Encoder E80H Series 	□: Type 30: Ø30mm 32: Ø32mm	200kHz	3600rpm	Max. 200gf·cm (max. 0.0196N·m)	60, 100, 360, 500	512, 1024, 3200

Series	Shaft Inner Diameter	Max. Response Frequency	Max. Allowable Revolution	Starting Torque	Resolution
Incremental, Ø100mm, Hollow Shaft Type Rotary Encoder E100H Series 	Ø35mm	300kHz	3600rpm	Max. 300gf·cm (max. 0.0294N·m)	□: Type 512, 1024, 10000

※Sold separately: Connector cable

Series	Shaft Outer Diameter	Max. Response Frequency	Max. Allowable Revolution	Starting Torque	Resolution (□: Type)			
					To 45	To 250	To 1024	To 5000
Incremental, Side Mount, Shaft Type Rotary Encoder ENA Series 	Ø10mm	300kHz	5000rpm	Max. 70gf·cm (max. 0.00686N·m)	1, 2, 5	—	—	—
					10, 12, 15, 20, 23, 25, 30, 35, 40, 45	50, 60, 75, 100, 120, 150, 192, 200, 240, 250	256, 300, 360, 400, 500, 512, 600, 800, 1000, 1024	1200, 1500, 1800, 2000, 2048, 2500, 3000, 3600, 5000

※Sold separately: Connector cable

Output Phase	Control Output	Power Supply	Connection	Protection Structure	Approval	Model
A, B, Z	■: Type T: Totem pole N: NPN open collector V: Voltage	5VDC	Radial cable type	IP50	CE	E60H20-□-3-■-5
			Radial cable connector type	IP50	CE	E60H20-□-3-■-5-C
		12-24VDC	Radial cable type	IP50	CE	E60H20-□-3-■-24
			Radial cable connector type	IP50	CE	E60H20-□-3-■-24-C
A, \bar{A} , B, \bar{B} , Z, \bar{Z}	Line driver	5VDC	Radial cable type	IP50	—	E60H20-□-6-L-5
			Radial cable connector type	IP50	—	E60H20-□-6-L-5-C
		12-24VDC	Radial cable type	IP50	—	E60H20-□-6-L-24
			Radial cable connector type	IP50	—	E60H20-□-6-L-24-C

Output Phase	Control Output	Power Supply	Connection	Protection Structure	Approval	Model
A, \bar{A} , B, \bar{B} , Z, \bar{Z}	Line driver	5VDC	Radial connector type	IP65	—	E68S15-500-6-L-5
A, \bar{A} , B, \bar{B} , Z, \bar{Z}	Line driver	5VDC	Radial connector type	IP65	—	E68S15-600-6-L-5
A, \bar{A} , B, \bar{B} , Z, \bar{Z}	Line driver	5VDC	Radial connector type	IP65	—	E68S15-1024-6-L-5


Output Phase	Control Output	Power Supply	Connection	Protection Structure	Approval	Model
A, B, Z	■: Type T: Totem pole N: NPN open collector V: Voltage	5VDC	Radial cable type	IP50	CE	E80H□-□-3-■-5
			Radial cable connector type	IP50	CE	E80H□-□-3-■-5-C
		12-24VDC	Radial cable type	IP50	CE	E80H□-□-3-■-24
			Radial cable connector type	IP50	CE	E80H□-□-3-■-24-C
A, \bar{A} , B, \bar{B} , Z, \bar{Z}	Line driver	5VDC	Radial cable type	IP50	—	E80H□-□-6-L-5
			Radial cable connector type	IP50	—	E80H□-□-6-L-5-C

Output Phase	Control Output	Power Supply	Connection	Protection Structure	Approval	Model
A, B, Z	■: Type T: Totem pole N: NPN open collector V: Voltage	5VDC	Radial connector type	IP50	CE	E100H35-□-3-■-5
		12-24VDC	Radial connector type	IP50	CE	E100H35-□-3-■-24
A, \bar{A} , B, \bar{B} , Z, \bar{Z}	Line driver	5VDC	Radial connector type	IP50	—	E100H35-□-6-L-5
		12-24VDC	Radial connector type	IP50	—	E100H35-□-6-L-24


Output Phase	Control Output	Power Supply	Connection	Protection Structure	Approval	Model
A, B	■: Type T: Totem pole N: NPN open collector V: Voltage	12-24VDC	Radial connector type	IP50	CE	ENA-□-2-■-24
■: Type 2: A, B 3: A, B, Z	■: Type T: Totem pole N: NPN open collector V: Voltage	5VDC	Radial connector type	IP50	CE	ENA-□-■-5
		12-24VDC	Radial connector type	IP50	CE	ENA-□-■-24

Rotary Encoders

Incremental Type Rotary Encoder / Absolute Type (Single-turn/Multi-turn/Wire-type) Rotary Encoder / Flexible Coupling

Series	Max. Response Frequency	Max. Allowable Revolution	Output Phase	Wheel Diameter	Gear Ratio	Number Of Pulses
Incremental, Wheel Type Rotary Encoder ENC Series 	180kHz	5000rpm	A, B	250mm	1:1	250
					4:1	100
					4:1	1
				228.6mm (0.25yd)	4:1	100
					4:1	10
					4:1	1

Series	Max. Response Frequency	Max. Allowable Revolution	Starting Torque	Resolution	Output Phase
Incremental, Manual Handle Type Rotary Encoder ENH Series 	10kHz	200rpm (Normal), 600rpm (Peak)	Max. 1kgf-cm (max. 0.098N-m)	<input type="checkbox"/> Type 25, 100	A, B
					A, \bar{A} , B, \bar{B}

Series	Max. Response Frequency	Max. Allowable Revolution	Starting Torque	Resolution	Output Phase
Incremental, Portable Encoder with Handle Type Rotary Encoder ENHP Series 	10kHz	200rpm (Normal), 600rpm (Peak)	Max. 1kgf-cm (max. 0.098N-m)	100	A, B
					A, \bar{A} , B, \bar{B}
					A, B
					A, \bar{A} , B, \bar{B}

Min. Measurement Unit (Movement Distance Per 1-Pulse)	Control Output	Power Supply	Connection	Protection Structure	Approval	Model
1mm	■: Type T: Totem pole N: NPN open collector V: Voltage	5VDC	Axial cable type	IP50	CE	ENC-1-1-■-5
			Axial cable connector type	IP50	CE	ENC-1-1-■-5-C
		12-24VDC	Axial cable type	IP50	CE	ENC-1-1-■-24
			Axial cable connector type	IP50	CE	ENC-1-1-■-24-C
1cm	■: Type T: Totem pole N: NPN open collector V: Voltage	5VDC	Axial cable type	IP50	CE	ENC-1-2-■-5
			Axial cable connector type	IP50	CE	ENC-1-2-■-5-C
		12-24VDC	Axial cable type	IP50	CE	ENC-1-2-■-24
			Axial cable connector type	IP50	CE	ENC-1-2-■-24-C
1m	■: Type T: Totem pole N: NPN open collector V: Voltage	5VDC	Axial cable type	IP50	CE	ENC-1-3-■-5
			Axial cable connector type	IP50	CE	ENC-1-3-■-5-C
		12-24VDC	Axial cable type	IP50	CE	ENC-1-3-■-24
			Axial cable connector type	IP50	CE	ENC-1-3-■-24-C
0.01yd	■: Type T: Totem pole N: NPN open collector V: Voltage	5VDC	Axial cable type	IP50	CE	ENC-1-4-■-5
			Axial cable connector type	IP50	CE	ENC-1-4-■-5-C
		12-24VDC	Axial cable type	IP50	CE	ENC-1-4-■-24
			Axial cable connector type	IP50	CE	ENC-1-4-■-24-C
0.1yd	■: Type T: Totem pole N: NPN open collector V: Voltage	5VDC	Axial cable type	IP50	CE	ENC-1-5-■-5
			Axial cable connector type	IP50	CE	ENC-1-5-■-5-C
		12-24VDC	Axial cable type	IP50	CE	ENC-1-5-■-24
			Axial cable connector type	IP50	CE	ENC-1-5-■-24-C
1yd	■: Type T: Totem pole N: NPN open collector V: Voltage	5VDC	Axial cable type	IP50	CE	ENC-1-6-■-5
			Axial cable connector type	IP50	CE	ENC-1-6-■-5-C
		12-24VDC	Axial cable type	IP50	CE	ENC-1-6-■-24
			Axial cable connector type	IP50	CE	ENC-1-6-■-24-C

Click Stopper Position	Control Output	Power Supply	Connection Method	Protection Structure	Approval	Model
Normal "H"	■: Type T: Totem pole V: Voltage	5VDC	Terminal block	IP50	—	ENH-□-1-■-5
Normal "L"		5VDC	Terminal block	IP50	—	ENH-□-2-■-5
Normal "H"	■: Type T: Totem pole V: Voltage	12-24VDC	Terminal block	IP50	—	ENH-□-1-■-24
Normal "L"		12-24VDC	Terminal block	IP50	—	ENH-□-2-■-24
Normal "H"	Line driver	5VDC	Terminal block	IP50	—	ENH-□-1-L-5
Normal "L"		5VDC	Terminal block	IP50	—	ENH-□-2-L-5


Click Stopper Position	Control Output	Power Supply	Connection Method	Protection Structure	Approval	Model
Normal "H"	Totem pole	5VDC	D-SUB connector type	IP67	—	ENHP-100-1-T-5
		12-24VDC	D-SUB connector type	IP67	—	ENHP-100-1-T-24
Normal "H"	Line driver	5VDC	D-SUB connector type	IP67	—	ENHP-100-1-L-5
Normal "L"	Totem pole	5VDC	D-SUB connector type	IP67	—	ENHP-100-2-T-5
		12-24VDC	D-SUB connector type	IP67	—	ENHP-100-2-T-24
Normal "L"	Line driver	5VDC	D-SUB connector type	IP67	—	ENHP-100-2-L-5


Rotary Encoders

Incremental Type Rotary Encoder / Absolute Type (Single-turn/Multi-turn/Wire-type) Rotary Encoder / Flexible Coupling

Mark for Absolute Type Model Name-□: Shaft Outer Diameter/Shaft Inner Diameter, □: Resolution, ■: Output Code

Series	Shaft Outer Diameter	Max. Response Frequency	Max. Allowable Revolution	Starting Torque	Resolution (□: Type)	
					To 45	To 1024
Absolute, Ø50mm, Shaft Type Rotary Encoder EP50S Series 	Ø8mm	35kHz	3000rpm	Max. 40gf·cm (max. 0.00392N·m)	6, 8, 10, 12, 16, 20, 24, 32, 40, 45	48, 64, 90, 128, 180, 256, 360, 512, 720, 1024

Series	Shaft Outer Diameter	Max. Response Frequency	Max. Allowable Revolution	Starting Torque	Resolution (□: Type)	
					To 180	To 1024
Absolute, Ø58mm, Clamping, Shaft Type Rotary Encoder EP58SC Series 	Ø10mm	35kHz	3000rpm	Max. 40gf·cm (max. 0.00392N·m)	45, 64, 90, 128, 180	256, 360, 512, 720, 1024

Absolute, Ø58mm, Synchro, Shaft Type Rotary Encoder EP58SS Series 	Ø6mm	35kHz	3000rpm	Max. 40gf·cm (max. 0.00392N·m)	45, 64, 90, 128, 180	256, 360, 512, 720, 1024
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Output Code	Rotating Direction	Control Output	Power Supply	Connection	Protection Structure	Approval	Model
■■■: Type 1: BCD code 2: Binary code 3: Gray code	CW	NPN open collector	5VDC	Axial cable type	IP64	CE	EP50S8-□■■■F-N-5
			12-24VDC	Axial cable type	IP64	CE	EP50S8-□■■■F-N-24
		PNP open collector	5VDC	Axial cable type	IP64	CE	EP50S8-□■■■F-P-5
			12-24VDC	Axial cable type	IP64	CE	EP50S8-□■■■F-P-24
	CCW	NPN open collector	5VDC	Axial cable type	IP64	CE	EP50S8-□■■■R-N-5
			12-24VDC	Axial cable type	IP64	CE	EP50S8-□■■■R-N-24
		PNP open collector	5VDC	Axial cable type	IP64	CE	EP50S8-□■■■R-P-5
			12-24VDC	Axial cable type	IP64	CE	EP50S8-□■■■R-P-24


Output Code	Rotating Direction	Control Output	Power Supply	Connection	Protection Structure	Approval	Model
■■■: Type 1: BCD code 2: Binary code 3: Gray code	CW	NPN open collector	5VDC	Axial cable type	IP50	CE	EP58SC10-□■■■F-N-5
			12-24VDC	Axial cable type	IP50	CE	EP58SC10-□■■■F-N-24
		PNP open collector	5VDC	Axial cable type	IP50	CE	EP58SC10-□■■■F-P-5
			12-24VDC	Axial cable type	IP50	CE	EP58SC10-□■■■F-P-24
	CCW	NPN open collector	5VDC	Axial cable type	IP50	CE	EP58SC10-□■■■R-N-5
			12-24VDC	Axial cable type	IP50	CE	EP58SC10-□■■■R-N-24
		PNP open collector	5VDC	Axial cable type	IP50	CE	EP58SC10-□■■■R-P-5
			12-24VDC	Axial cable type	IP50	CE	EP58SC10-□■■■R-P-24


Output Code	Rotating Direction	Control Output	Power Supply	Connection	Protection Structure	Approval	Model
■■■: Type 1: BCD code 2: Binary code 3: Gray code	CW	NPN open collector	5VDC	Axial cable type	IP50	CE	EP58SS6-□■■■F-N-5
			12-24VDC	Axial cable type	IP50	CE	EP58SS6-□■■■F-N-24
		PNP open collector	5VDC	Axial cable type	IP50	CE	EP58SS6-□■■■F-P-5
			12-24VDC	Axial cable type	IP50	CE	EP58SS6-□■■■F-P-24
	CCW	NPN open collector	5VDC	Axial cable type	IP50	CE	EP58SS6-□■■■R-N-5
			12-24VDC	Axial cable type	IP50	CE	EP58SS6-□■■■R-N-24
		PNP open collector	5VDC	Axial cable type	IP50	CE	EP58SS6-□■■■R-P-5
			12-24VDC	Axial cable type	IP50	CE	EP58SS6-□■■■R-P-24

Rotary Encoders

Incremental Type Rotary Encoder / Absolute Type (Single-turn/Multi-turn/Wire-type) Rotary Encoder / Flexible Coupling

Series	Shaft Inner Diameter	Max. Response Frequency	Max. Allowable Revolution	Starting Torque	Resolution (□: Type)	
					To 180	To 1024
Absolute, Ø58mm, Built-in Hollow Shaft Type Rotary Encoder EP58HB Series 	Ø8mm	35kHz	3000rpm	Max. 90gf·cm (max. 0.00882N·m)	45, 64, 90, 128, 180	256, 360, 512, 720, 1024

Series	Shaft Outer Diameter	Max. Response Frequency	Max. Allowable Revolution	Starting Torque	Resolution	Output Code
Absolute, Ø60mm, Shaft Type Rotary Encoder ENP Series 	Ø10mm	20kHz	3600rpm	Max. 500gf·cm (max. 0.049N·m)	□: Type 6, 8, 12, 16, 24	BCD code
					360	BCD code

Series	Shaft Outer Diameter	Max. Response Frequency	Max. Allowable Revolution	Starting Torque	Resolution	
					Single-Turn	Multi-Turn
Absolute, Ø50mm, Shaft Type Multi-Turn Rotary Encoder EPM50 Series 	Ø8mm	50kHz	3000rpm	Max. 40gf·cm (max. 0.00392N·m)	1024-division	8192-revolution
		—	3000rpm	Max. 40gf·cm (max. 0.00392N·m)	1024-division	8192-revolution


Output Code	Rotating Direction	Control Output	Power Supply	Connection	Protection Structure	Approval	Model
■■■: Type 1: BCD code 2: Binary code 3: Gray code	CW	NPN open collector	5VDC	Axial cable type	IP50	CE	EP58HB8-□■■■F-N-5
			12-24VDC	Axial cable type	IP50	CE	EP58HB8-□■■■F-N-24
		PNP open collector	5VDC	Axial cable type	IP50	CE	EP58HB8-□■■■F-P-5
			12-24VDC	Axial cable type	IP50	CE	EP58HB8-□■■■F-P-24
	CCW	NPN open collector	5VDC	Axial cable type	IP50	CE	EP58HB8-□■■■R-N-5
			12-24VDC	Axial cable type	IP50	CE	EP58HB8-□■■■R-N-24
		PNP open collector	5VDC	Axial cable type	IP50	CE	EP58HB8-□■■■R-P-5
			12-24VDC	Axial cable type	IP50	CE	EP58HB8-□■■■R-P-24


Output Type	Rotating Direction	Control Output	Power Supply	Connection	Protection Structure	Approval	Model
Negative logic (NPN)	CW	NPN open collector	12-24VDC	Axial cable type	IP50	—	ENP-101F-□-N
	CCW		12-24VDC	Axial cable type	IP50	—	ENP-101R-□-N
Positive logic (PNP)	CW	PNP open collector	12-24VDC	Axial cable type	IP50	—	ENP-111F-□-P
	CCW		12-24VDC	Axial cable type	IP50	—	ENP-111R-□-P
Negative logic (NPN)	CW	NPN open collector	5VDC	Axial cable type	IP50	—	ENP-100F-360-N
			12-24VDC	Axial cable type	IP50	—	ENP-101F-360-N
	CCW		5VDC	Axial cable type	IP50	—	ENP-100R-360-N
			12-24VDC	Axial cable type	IP50	—	ENP-101R-360-N
Positive logic (PNP)	CW	PNP open collector	5VDC	Axial cable type	IP50	—	ENP-110F-360-P
			12-24VDC	Axial cable type	IP50	—	ENP-111F-360-P
	CCW		5VDC	Axial cable type	IP50	—	ENP-110R-360-P
			12-24VDC	Axial cable type	IP50	—	ENP-111R-360-P


Output Code	Control Output	Power Supply	Connection	Protection Structure	Approval	Model
Binary code	Parallel NPN open collector	12-24VDC	Axial cable type	IP64	CE	EPM50S8-1013-B-PN-24
			Radial cable type	IP50	CE	EPM50S8-1013-B-PN-24-S
Binary code	SSI (synchronous serial interface)	12-24VDC	Axial cable type	IP64	CE	EPM50S8-1013-B-S-24
			Radial cable type	IP50	CE	EPM50S8-1013-B-S-24-S


Rotary Encoders

Incremental Type Rotary Encoder / Absolute Type (Single-turn/Multi-turn/Wire-type) Rotary Encoder / Flexible Coupling

Series	Shaft Outer Diameter	Max. Response Frequency	Max. Allowable Revolution	Starting Torque	Resolution (□: Type)	
					To 90	To 1024
Magnetic Absolute, Ø50mm, Shaft Type Rotary Encoder MGA50S Series 	Ø8mm	30kHz	3000rpm	Max. 70gf·cm (max. 0.00686N·m)	32, 40, 45, 48, 64, 90	128, 180, 256, 360, 512, 720, 1024

Series	Shaft Outer Diameter	Max. Response Frequency	Max. Allowable Revolution	Starting Torque	Resolution (□: Type)	
					Single-Turn	Multi-Turn
Magnetic Absolute, Ø50mm, Multi-Turn Shaft Type Rotary Encoder MGAM50S Series 	Ø8mm	30kHz	3000rpm	Max. 70gf·cm (max. 0.00686N·m)	1024-division	8192-revolution
		—	3000rpm	Max. 70gf·cm (max. 0.00686N·m)	1024-division	8192-revolution

Series	Connection Type	Material	Max. Allowable Revolution	Max. Torque	Rated Torque
Ø19mm, Flexible Coupling ERB Series 	Clamp	Aluminum (AL 7075-T6), Alumite surface	8000rpm	1.2N·m (12.17kgf·cm)	0.6N·m (6.08kgf·cm)
	Set screw	Aluminum (AL 7075-T6), Alumite surface	20000rpm	1.2N·m (12.17kgf·cm)	0.6N·m (6.08kgf·cm)

Ø26mm, Flexible Coupling ERB Series 	Clamp	Aluminum (AL 7075-T6), Alumite surface	6000rpm	3.0N·m (30.42kgf·cm)	1.5N·m (15.21kgf·cm)
	Set screw	Aluminum (AL 7075-T6), Alumite surface	15000rpm	3.0N·m (30.42kgf·cm)	1.5N·m (15.21kgf·cm)

Output Code	Rotating Direction	Control Output	Power Supply	Connection	Protection Structure	Approval	Model
■■■ Type 1: BCD code 2: Binary code 3: Gray code	CW	NPN open collector	5VDC	Axial cable type	IP50	CE	MGA50S8-□■■■F-N-5
			12-24VDC	Axial cable type	IP50	CE	MGA50S8-□■■■F-N-24
	CCW	NPN open collector	5VDC	Axial cable type	IP50	CE	MGA50S8-□■■■R-N-5
			12-24VDC	Axial cable type	IP50	CE	MGA50S8-□■■■R-N-24

Output Code	Rotating Direction	Control Output	Power Supply	Connection	Protection Structure	Approval	Model
Binary code	CW	Parallel NPN open collector	12-24VDC	Axial cable type	—	CE	MGAM50S8-1013-B-F-PN-24
	CCW	Parallel NPN open collector	12-24VDC	Axial cable type	—	CE	MGAM50S8-1013-B-R-PN-24
Binary code	CW	SSI (synchronous serial interface)	12-24VDC	Axial cable type	—	CE	MGAM50S8-1013-B-F-S-24
	CCW	SSI (synchronous serial interface)	12-24VDC	Axial cable type	—	CE	MGAM50S8-1013-B-R-S-24

Mounting Bolt	Mounting Torque	Min. Allowable Misalignment	Max. Allowable Misalignment	Inner Diameter of Both Ends	Protection Structure	Approval	Model
M2.5	1N·m	Ø4mm	Ø8mm	Ø4mm/Ø4mm	—	—	ERB-A-19C-04/04
				Ø4mm/Ø5mm	—	—	ERB-A-19C-04/05
				Ø4mm/Ø6mm	—	—	ERB-A-19C-04/06
				Ø5mm/Ø5mm	—	—	ERB-A-19C-05/05
				Ø5mm/Ø6mm	—	—	ERB-A-19C-05/06
				Ø6mm/Ø6mm	—	—	ERB-A-19C-06/06
M3	0.7N·m	Ø4mm	Ø8mm	Ø4mm/Ø4mm	—	—	ERB-A-19S-04/04
				Ø4mm/Ø5mm	—	—	ERB-A-19S-04/05
				Ø4mm/Ø6mm	—	—	ERB-A-19S-04/06
				Ø5mm/Ø5mm	—	—	ERB-A-19S-05/05
				Ø5mm/Ø6mm	—	—	ERB-A-19S-05/06
				Ø6mm/Ø6mm	—	—	ERB-A-19S-06/06
M3	0.7N·m	Ø5mm	Ø12mm	Ø6mm/Ø6mm	—	—	ERB-A-26C-06/06
				Ø6mm/Ø8mm	—	—	ERB-A-26C-06/08
				Ø8mm/Ø8mm	—	—	ERB-A-26C-08/08
M4	1.7N·m	Ø5mm	Ø12mm	Ø6mm/Ø6mm	—	—	ERB-A-26S-06/06
				Ø6mm/Ø8mm	—	—	ERB-A-26S-06/08
				Ø8mm/Ø8mm	—	—	ERB-A-26S-08/08
				Ø6mm/Ø10mm	—	—	ERB-A-26S-06/10
				Ø6mm/Ø12mm	—	—	ERB-A-26S-06/12