

OPTICAL LINEAR ENCODERS

Product name	Absolute/ Incremental	Outputs (resolutions)	Scale options	Scale length	Scale accuracy	Maximum speed	Reference mark	Limit switches	Readhead size (L x W x H)	Variants	Sealing	Operating temperature	Interface required?
RESOLUTE™	Absolute	Digital: N/A Analogue: N/A Serial: BiSS, Panasonic, Mitsubishi, FANUC, DRiVE-CLiQ, Yaskawa (1 nm to 100 nm)	RTLA30/FASTRACK, RSLA30, RELA30	RTLA30: up to 21 m RSLA30: up to 5 m RELA30: up to 1.5 m	Up to ±1 µm/m	100 m/s	N/A	N/A	36 mm x 16.5 mm x 17.2 mm	Ultra-High Vacuum (UHV), Functional Safety (FS), side cable exit	RESOLUTE, FS: IP64 UHV: IP30	RESOLUTE, FS: 0 °C to 80 °C UHV: 0 °C to 75 °C	Yes (DRIVE-CLiQ protocol only)
EVOLUTE™	Absolute	Digital: N/A Analogue: N/A Serial: BiSS, Mitsubishi, Panasonic, Yaskawa	RTLA50	Up to 10.02 m	±10 µm/m	100 m/s	N/A	N/A	36 mm x 16.5 mm x 17.2 mm	Side cable exit	IP64	0 °C to 80 °C	No
QUANTIC™	Incremental	Digital: RS422 (10 µm to 50 nm) Serial: N/A	RTL40-S, RTL40/FASTRACK, RTL40H-S, RTL40H/FASTRACK, RKLC40-S/ RKLC40H-S	RTL40-S/RTL40, RTL40H-S/ RTL40H: up to 10 m* RKLC40-S/ RKLC40H-S: up to 20 m* * (longer on request)	RTL40-S/RTL40: up to ±15 µm/m RTL40H-S/ RTL40H: up to ±5 µm/m RKLC40-S: ±15 µm/m RKLC40H-S: ±5 µm/m	24 m/s	IN-TRAC™ auto-phase optical	Customer positioned magnetic dual limits	35 mm x 13.5 mm x 10 mm	N/A	IP40	0 °C to 70 °C	No, digital direct from the readhead
TONIC™	Incremental	Digital: RS422 (5 µm to 1 nm) Analogue: 1 Vpp (20 µm) Serial: N/A	RTL20-S, RTL20/FASTRACK, RKLC20-S, RELM20, RSLM20, RGSZ20	RTL20-S/RTL20: up to 10 m* RKLC20-S: up to 20 m* RELM20: up to 1.5 m RSLM20: up to 5 m RGSZ20: up to 50 m * (longer on request)	RTL20-S/RTL20: ±5 µm/m RKLC20-S: ±5 µm/m RELM20: ±1 µm/m RSLM20: Up to ±1.5 µm (dependent upon length) RGSZ20: ±15 µm/m	10 m/s	IN-TRAC™ auto-phase optical	Customer positioned magnetic dual limits	35 mm x 13.5 mm x 10 mm	Ultra-High Vacuum (UHV), Functional Safety (FS)	TONiC, TONiC FS readheads: IP40 UHV readhead: IP20 Interface: IP20	0 °C to 70 °C	Yes (Ti, TD, DOP)
VIONIC™	Incremental	Digital: RS422 (5 µm to 2.5 nm) Serial: N/A	RTL20-S, RTL20/FASTRACK, RKLC20-S, RELM20, RSLM20	RTL20-S/RTL20: up to 10 m* RKLC20-S: up to 20 m* RELM20: up to 1.5 m RSLM20: up to 5 m * (longer on request)	RTL20-S/RTL20: ±5 µm/m RKLC20-S: ±5 µm/m RELM20: ±1 µm/m RSLM20: up to ±1.5 µm (dependent upon length)	12 m/s	IN-TRAC™ auto-phase optical	Customer positioned magnetic dual limits	35 mm x 13.5 mm x 10 mm	N/A	IP40	0 °C to 70 °C	No, digital direct from the readhead
ATOM DX™	Incremental	Digital: RS422 (10 µm to 2.5 nm) Serial: N/A	RTL40, RCLC	RTL40: up to 10 m (longer on request) RCLC: up to 1.3 m	RTL40/RTL40H: ±5 µm/m RTL40H: ±15 µm/m RCLC: ±3 µm/m	20 m/s	Optical de-selectable	N/A	20.5 mm x 12.7 mm x 10.85 mm (20.5 mm x 12.7 mm x 7.85 mm for top exit variant)	N/A	IP40	0 °C to 70 °C	No, digital direct from the readhead
ATOM™	Incremental	Digital: RS422 (10 µm to 1 nm) Analogue: 1 Vpp (20µm and 40 µm) Serial: N/A	RTL40, RCLC	RTL40: up to 10 m (longer on request) RCLC: up to 1.3 m	Up to ±5 µm/m	20 m/s	Optical de-selectable	N/A	20.5 mm x 12.7 mm x 8.35 mm (20.5 mm x 12.7 mm x 7.3 mm for FPC version)	N/A	Cable variant IP40 Ri interface IP20 FPC variant IP20 (with lid fitted) Ti interface IP20	0 °C to 70 °C	Yes (Aci, Ri, Ti)
RGH20 Not recommended for new designs	Incremental	Digital: RS422 (5 µm to 10 nm) Analogue: 1 Vpp (20 µm) Serial: N/A	RSLR20	Up to 5 m	±1.5 µm up to 1 m, ±2.25 µm up to 2 m, ±3 µm up to 3 m, ±4 µm up to 5 m	8 m/s	Magnetic actuator (no limit)	Customer positioned magnetic single limit (no reference mark)	36 mm x 13.5 mm x 14.8 mm	N/A	IP40	0 °C to 55 °C	No, digital direct from the readhead
RGH20F Not recommended for new designs	Incremental	Digital: RS422 (5 µm to 5 nm) Analogue: 1 Vpp (20 µm) Serial: N/A	RSLR20	Up to 5 m	±1.5 µm up to 1 m, ±2.25 µm up to 2 m, ±3 µm up to 3 m, ±4 µm up to 5 m	5 m/s	Magnetic actuator (no limit)	Customer positioned magnetic single limit (no reference mark)	36 mm x 13.5 mm x 10.5 mm	N/A	Readhead IP40 Inter- face IP20	0 °C to 55 °C	Yes (REF)
RGH22 Not recommended for new designs	Incremental	Digital: RS422 (5 µm to 50 nm) Analogue: 1 Vpp (20 µm) Serial: N/A	RGS20	Up to 50 m >50 special order only	±15 µm/m	10 m/s	Magnetic actuator	Customer positioned magnetic dual or single limits	44 mm x 27.0 mm x 16.0 mm	N/A	IP50	0 °C to 55 °C	No, digital direct from the readhead
RGH24 Not recommended for new designs	Incremental	Digital: RS422 (5 µm to 10 nm) Analogue: 1 Vpp (20 µm) Serial: N/A	RGS20	Up to 50 m >50 special order only	±15 µm/m	8 m/s	Magnetic actuator (no limit)	Customer positioned magnetic single limit (no reference mark)	36 mm x 13.5 mm x 14.8 mm	N/A	IP40	0 °C to 55 °C	No, digital direct from the readhead
RGH25F Not recommended for new designs	Incremental	Digital: RS422 (5 µm to 5 nm) Analogue: 1 Vpp (20 µm) Serial: N/A	RGS20	Up to 50 m >50 special order only	±15 µm/m	5 m/s	Magnetic actuator (no limit)	Customer positioned magnetic single limit (no reference mark)	36 mm x 13.5 mm x 10.5 mm	Ultra-High Vacuum (UHV)	Readhead IP40 Inter- face IP20	0 °C to 55 °C	Yes (REF)
RGH34 Not recommended for new designs	Incremental	Digital: RS422 (10 µm to 50 nm) Analogue: 1 Vpp (40 µm) Serial: N/A	RGS40	Up to 50 m >50 special order only	±15 µm/m	8 m/s	Magnetic actuator (no limit)	Customer positioned magnetic single limit (no reference mark)	15 mm x 15 mm x 10.5 mm	N/A	IP00	0 °C to 55 °C	Yes (RGI)
RGH40 Not recommended for new designs	Incremental	Digital: RS422 (10 µm to 50 nm) Analogue: 1 Vpp (40 µm) Serial: N/A	RGS40-G	Up to 1.01 m	Up to ±4.2 µm	10 m/s	Magnetic actuator	Customer positioned magnetic dual limits	44 mm x 27 mm x 17 mm	N/A	IP50	0 °C to 55 °C	No, digital direct from the readhead
RGH41 Not recommended for new designs	Incremental	Digital: RS422 (10 µm to 50 nm) Analogue: 1 Vpp (40 µm) Serial: N/A	RGS40	Up to 50 m >50 special order only	±15 µm/m	15 m/s	Magnetic actuator	Customer positioned magnetic dual or single limits	44 mm x 27 mm x 17.0 mm	N/A	IP50	0 °C to 55 °C	No, digital direct from the readhead
RGH45 Not recommended for new designs	Incremental	Digital: RS422 (10 µm to 0.1 µm) Analogue: 1 Vpp (40 µm) Serial: N/A	RTL40-S, RTL40/ FASTRACK	RTL40-S/RTL40: up to 20 m	Up to ±15 µm/m	10 m/s	Magnetic actuator	Customer positioned magnetic dual limits	44 mm x 27 mm x 17 mm	N/A	IP50	0 °C to 55 °C	No, digital direct from the readhead