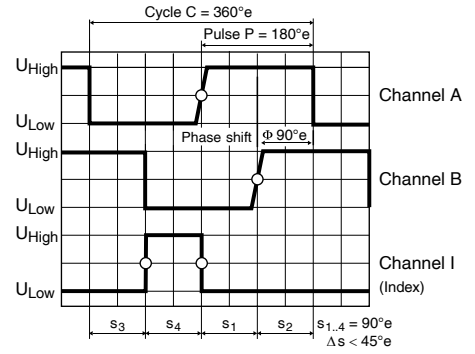
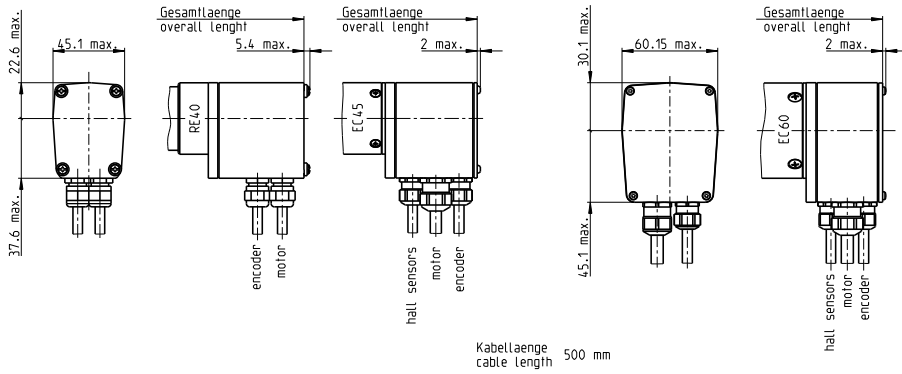


Encoder HEDL 9140 500 CPT, 3 channels, with line driver RS 422



Direction of rotation cw (definition cw p. 78)

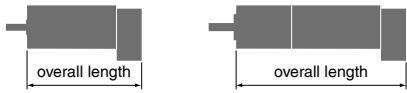
sensor

- Stock program
- Standard program
- Special program (on request)

Part Numbers

137959

Type	
Counts per turn	500
Number of channels	3
Max. operating frequency (kHz)	100
Max. speed (rpm)	12000



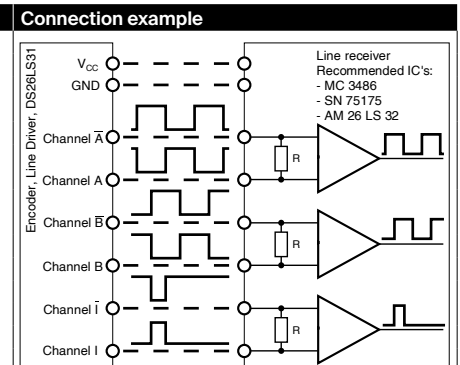
maxon Modular System

+ Motor	Page	+ Gearhead	Page	+ Brake	Page	Overall length [mm] / • see Gearhead
RE 40, 150 W	151					125.1
RE 40, 150 W	151	GP 42, 3 - 15 Nm	405			•
RE 40, 150 W	151	GP 52, 4 - 30 Nm	410			•
RE 40, 150 W	151			AB 28	535-536	135.6
RE 40, 150 W	151	GP 42, 3 - 15 Nm	405	AB 28	535-536	•
RE 40, 150 W	151	GP 52, 4 - 30 Nm	410	AB 28	535-536	•
EC 45, 150 W	240					126.8
EC 45, 150 W	240	GP 42, 3 - 15 Nm	405			•
EC 45, 150 W	240	GP 52, 4 - 30 Nm	410			•
EC 45, 150 W	240			AB 28	536	135.6
EC 45, 150 W	240	GP 42, 3 - 15 Nm	405	AB 28	536	•
EC 45, 150 W	240	GP 52, 4 - 30 Nm	410	AB 28	536	•
EC 45, 250 W	241					159.6
EC 45, 250 W	241	GP 42, 3 - 15 Nm	405			•
EC 45, 250 W	241	GP 52, 4 - 30 Nm	410			•
EC 45, 250 W	241	GP 62, 6.2 - 38.5 Nm	412			•
EC 45, 250 W	241			AB 28	536	168.4
EC 45, 250 W	241	GP 42, 3 - 15 Nm	405	AB 28	536	•
EC 45, 250 W	241	GP 52, 4 - 30 Nm	410	AB 28	536	•
EC 45, 250 W	241	GP 62, 6.2 - 38.5 Nm	412	AB 28	536	•
EC 60, 400 W	242					177.3
EC 60, 400 W	242	GP 81, 15.4 - 92.3 Nm	413			•
EC 60, 400 W	242			AB 41	539	214.9
EC 60, 400 W	242	GP 81, 15.4 - 92.3 Nm	413	AB 41	539	•

Technical Data	
Supply voltage V_{CC}	$5 V \pm 10\%$
Typical current draw	55 mA
Output signal	EIA Standard RS 422
driver used:	DS26LS31
Phase shift ϕ	$90^\circ e \pm 45^\circ e$
Signal rise time	
(typically, at $C_L = 25 \text{ pF}$, $R_L = 11 \text{ k}\Omega$, 25°C)	180 ns
Signal fall time	
(typically, at $C_L = 25 \text{ pF}$, $R_L = 11 \text{ k}\Omega$, 25°C)	40 ns
Index pulse width	$90^\circ e$
Operating temperature range	$-40 \dots +85^\circ \text{C}$
Moment of inertia of code wheel	$\leq 0.6 \text{ gcm}^2$
Max. angular acceleration	$250\,000 \text{ rad s}^{-2}$
Output current per channel	$\pm 20 \text{ mA}$

Pin Allocation	
Cable white	= 2 V_{CC} 5 VDC
Cable brown	= 3 GND
Cable green	= 5 Channel \bar{A}
Cable yellow	= 6 Channel A
Cable grey	= 7 Channel \bar{B}
Cable pink	= 8 Channel B
Cable blue	= 9 Channel \bar{I} (Index)
Cable red	= 10 Channel I (Index)

Cable size $8 \times 0.25 \text{ mm}^2$

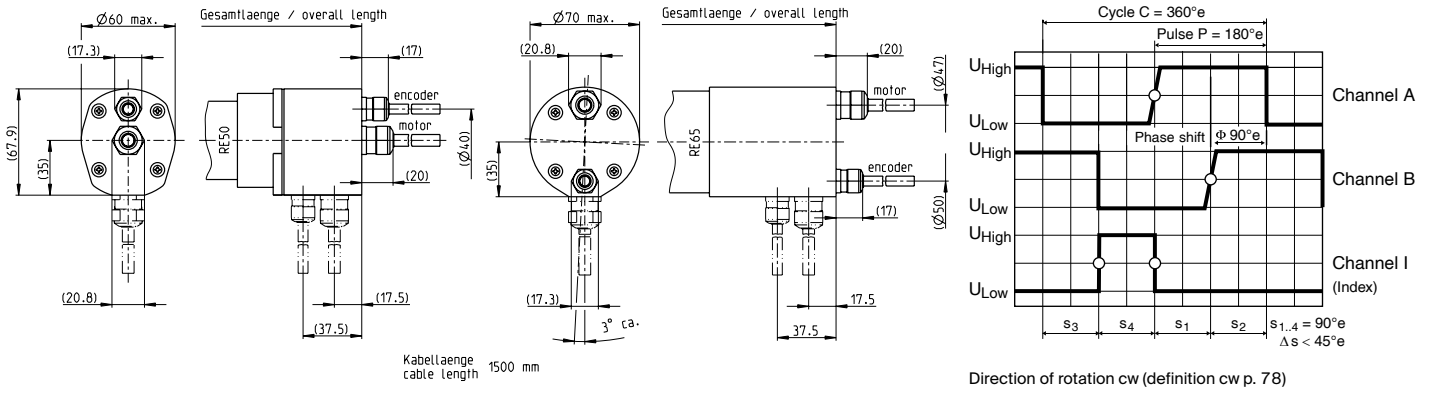


The index signal I is synchronized with channel A or B.

Terminal resistance R = typical 120 Ω

Encoder HEDL 9140 500 CPT, 3 channels, with line driver RS 422

sensor



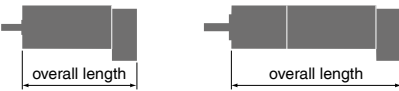
- Stock program
- Standard program
- Special program (on request)

Part Numbers

cable outlet axial	386051	386001
cable outlet radial	386053	386002

Type

Counts per turn	500	500
Number of channels	3	3
Max. operating frequency (kHz)	100	100
Max. speed (rpm)	12 000	12 000



maxon Modular System

+ Motor	Page	+ Gearhead	Page	+ Brake	Page	Overall length [mm] / • see Gearhead
RE 50, 200 W	152					170.4
RE 50, 200 W	152	GP 52, 4 - 30 Nm	410			•
RE 50, 200 W	152	GP 62, 6.2 - 38.5 Nm	412			•
RE 50, 200 W	152			AB 44	540	183.4
RE 50, 200 W	152	GP 52, 4 - 30 Nm	410	AB 44	540	•
RE 50, 200 W	152	GP 62, 6.2 - 38.5 Nm	412	AB 44	540	•
RE 65, 250 W	153					187.5
RE 65, 250 W	153	GP 81, 15.4 - 92.3 Nm	413			•
RE 65, 250 W	153			AB 44	540	205.5
RE 65, 250 W	153	GP 81, 15.4 - 92.3 Nm	413	AB 44	540	•

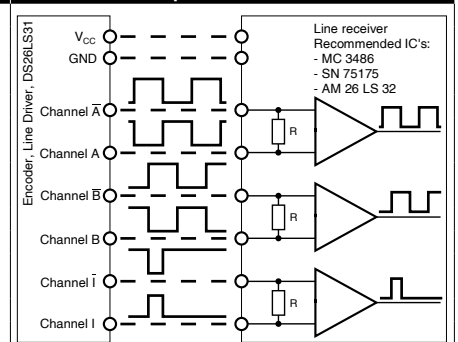
Technical Data

Supply voltage V_{CC}	$5 V \pm 10\%$
Typical current draw	55 mA
Output signal	EIA Standard RS 422
driver used:	DS26LS31
Phase shift Φ	$90^\circ e \pm 45^\circ e$
Signal rise time	
(typically, at $C_L = 25 \text{ pF}$, $R_L = 11 \text{ k}\Omega$, 25°C)	180 ns
Signal fall time	
(typically, at $C_L = 25 \text{ pF}$, $R_L = 11 \text{ k}\Omega$, 25°C)	40 ns
Index pulse width	$90^\circ e$
Operating temperature range	$-40...+85^\circ\text{C}$
Moment of inertia of code wheel	$\leq 0.6 \text{ gcm}^2$
Max. angular acceleration	$250\,000 \text{ rad s}^{-2}$
Output current per channel	$\pm 20 \text{ mA}$
Protection to	IP54

Pin Allocation

Encoder	
Cable white	= $V_{CC} 5 \text{ VDC}$
Cable brown	= GND
Cable green	= Channel \bar{A}
Cable yellow	= Channel A
Cable grey	= Channel \bar{B}
Cable pink	= Channel B
Cable blue	= Channel I (Index)
Cable red	= Channel I (Index)
Cable size	$8 \times 0.25 \text{ mm}^2$
Motor	
Cable white	= Motor +
Cable brown	= Motor -
Cable size	$2 \times 1.0 \text{ mm}^2$

Connection example



The index signal I is synchronized with channel A or B.

Terminal resistance R = typical 120 Ω