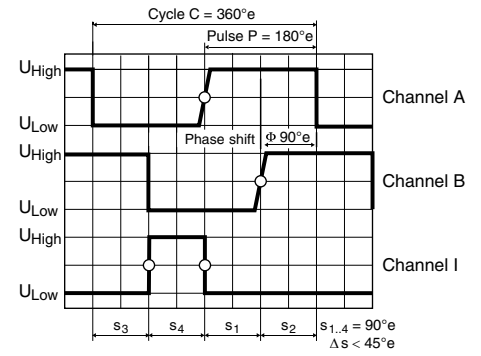
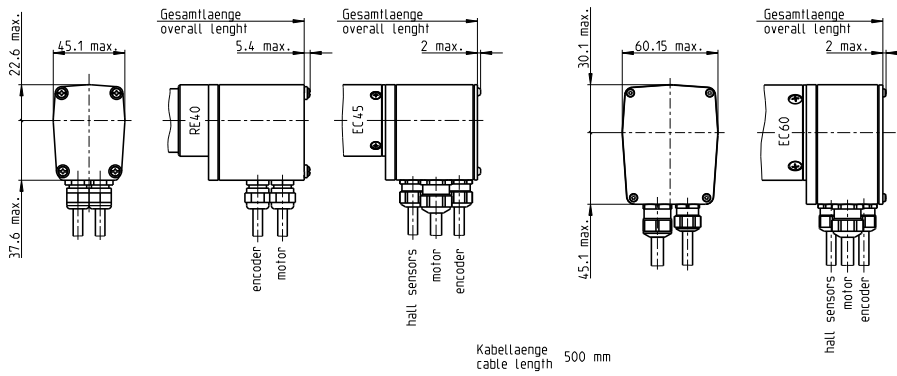


# Encoder HEDL 9140 500 CPT, 3 Channels, with Line Driver RS 422



Direction of rotation cw (definition cw p. 60)

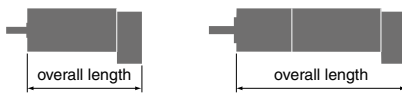
- Stock program
- Standard program
- Special program (on request)

## 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	132					125.1
RE 40, 150 W	132	GP 42, 3 - 15 Nm	354			●
RE 40, 150 W	132	GP 52, 4 - 30 Nm	359			●
RE 40, 150 W	132			AB 28	481	135.6
RE 40, 150 W	132	GP 42, 3 - 15 Nm	354	AB 28	481	●
RE 40, 150 W	132	GP 52, 4 - 30 Nm	359	AB 28	481	●
EC 45, 150 W	214					126.8
EC 45, 150 W	214	GP 42, 3 - 15 Nm	354			●
EC 45, 150 W	214	GP 52, 4 - 30 Nm	359			●
EC 45, 150 W	214			AB 28	481	135.6
EC 45, 150 W	214	GP 42, 3 - 15 Nm	354	AB 28	481	●
EC 45, 150 W	214	GP 52, 4 - 30 Nm	359	AB 28	481	●
EC 45, 250 W	215					159.6
EC 45, 250 W	215	GP 42, 3 - 15 Nm	355			●
EC 45, 250 W	215	GP 52, 4 - 30 Nm	359			●
EC 45, 250 W	215	GP 62, 8 - 50 Nm	361			●
EC 45, 250 W	215			AB 28	481	168.4
EC 45, 250 W	215	GP 42, 3 - 15 Nm	355	AB 28	481	●
EC 45, 250 W	215	GP 52, 4 - 30 Nm	359	AB 28	481	●
EC 45, 250 W	215	GP 62, 8 - 50 Nm	361	AB 28	481	●
EC 60, 400 W	216					177.3
EC 60, 400 W	216	GP 81, 20 - 120 Nm	362			●
EC 60, 400 W	216			AB 41	483	214.9
EC 60, 400 W	216	GP 81, 20 - 120 Nm	362	AB 41	483	●

## Technical Data

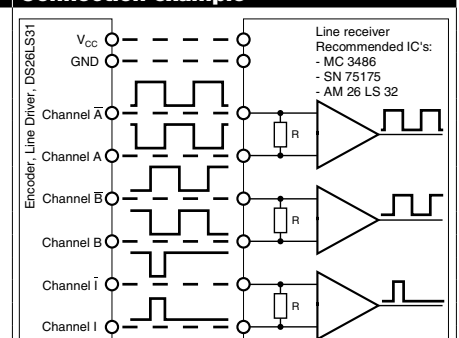
Supply voltage $V_{CC}$	$5 V \pm 10\%$
Typical current draw	55 mA
Output signal driver used:	EIA Standard RS 422 DS26LS31
Phase shift $\phi$	$90^\circ e \pm 45^\circ e$
Signal rise time (typically, at $C_L = 25 \text{ pF}$ , $R_L = 11 \text{ k}\Omega$ , $25^\circ \text{C}$ )	180 ns
Signal fall time (typically, at $C_L = 25 \text{ pF}$ , $R_L = 11 \text{ k}\Omega$ , $25^\circ \text{C}$ )	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 A
Cable yellow	=	6	Channel A
Cable grey	=	7	Channel B
Cable pink	=	8	Channel B
Cable blue	=	9	Channel I (Index)
Cable red	=	10	Channel I (Index)

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

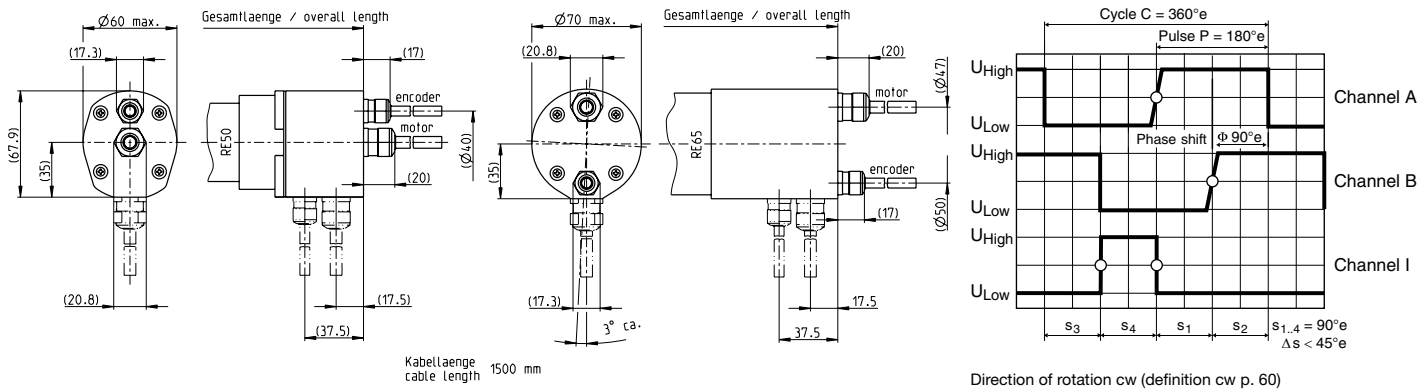
## Connection example



Terminal resistance  $R = \text{typical } 120 \Omega$

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

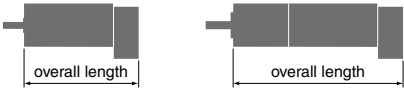
# Encoder HEDL 9140 500 CPT, 3 Channels, with Line Driver RS 422



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

Part Numbers	
cable outlet axial	386051    386001
cable outlet radial	386053    386002

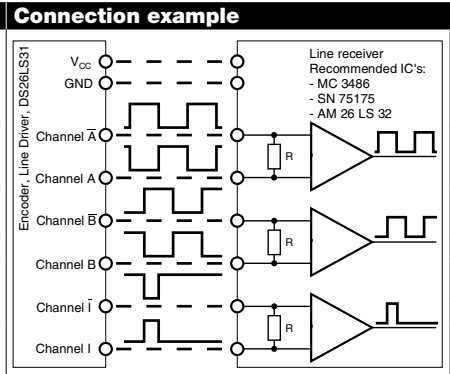
Type		
Counts per turn	500	500
Number of channels	3	3
Max. operating frequency (kHz)	100	100
Max. speed (rpm)	12000	12000



maxon Modular System						
+ Motor	Page	+ Gearhead	Page	+ Brake	Page	Overall length [mm] / ● see Gearhead
RE 50, 200 W	133					170.4
RE 50, 200 W	133	GP 52, 4 - 30 Nm	360			●
RE 50, 200 W	133	GP 62, 8 - 50 Nm	361			●
RE 50, 200 W	133			AB 44	484	183.4
RE 50, 200 W	133	GP 52, 4 - 30 Nm	360	AB 44	484	●
RE 50, 200 W	133	GP 62, 8 - 50 Nm	361	AB 44	484	●
RE 65, 250 W	134					187.5
RE 65, 250 W	134	GP 81, 20 - 120 Nm	362			●
RE 65, 250 W	134			AB 44	484	205.5
RE 65, 250 W	134	GP 81, 20 - 120 Nm	362	AB 44	484	●

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 $\Phi$	$90^\circ e \pm 45^\circ e$
Signal rise time	180 ns
(typically, at $C_L = 25$ pF, $R_L = 11$ k $\Omega$ , 25 °C)	
Signal fall time	40 ns
(typically, at $C_L = 25$ pF, $R_L = 11$ k $\Omega$ , 25 °C)	
Index pulse width	$90^\circ e$
Operating temperature range	$-40 \dots +85^\circ C$
Moment of inertia of code wheel	$\leq 0.6$ gcm <sup>2</sup>
Max. angular acceleration	250 000 rad s <sup>-2</sup>
Output current per channel	$\pm 20$ mA
Protection to	IP54

Pin Allocation	
<b>Encoder</b>	
Cable white	= $V_{CC}$ 5 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 $\bar{I}$ (Index)
Cable red	= Channel I (Index)
Cable size $8 \times 0.25$ mm <sup>2</sup>	
<b>Motor</b>	
Cable white	= Motor +
Cable brown	= Motor -
Cable size $2 \times 1.0$ mm <sup>2</sup>	



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

Terminal resistance R = typical 120  $\Omega$