

## Encoder

## EI 30/56



## Features

- No signal adjustment required
- Precision: 512 increments/r (EI 30)  
1000 increments/r (EI 56)
- Compact housing  
L 35 x W 30 x H 15 mm (EI30)  
L 66 x W 56 x H 17 mm (EI56)
- Operating temperature -25°C – 100°C
- TTL compatible
- Two channels and index signal  
for shaft diameter 6.35 mm
- Easy installation

## General

The EI 30/56 encoders are powerful 3-channel incremental encoders. For both encoders the assembly group includes transmitters with LED-source, the receiver and the code disc which rotates between the transmitter and receiver. The signals upgraded via a driver component are output as a differential input (RS422). The application interface forms an 8-pole round cable.

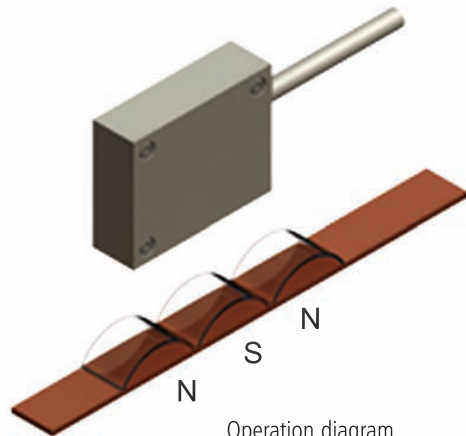
## Technical specifications

	EI 30	EI 56
Signal form output	Square-wave signal	
output signals	Phase A, /A, B, /B, Z, /Z	
Power consumption	≤ 40 mA	
output current	0 - 5 mA	
Threshold frequency	100 KHz	
Phase shifting of the output signals	90° ± 45°	
Connection voltage	5 V DC	
Signal lever	$V_H \geq 85\% V_{CC}$ , $V_L \leq 0.3 V$	
Number of impulses/revolution	512	1,000
Output circuit	Driver component AM26LS31	
Inertia of the code wheel	approx. $6.0 \times 10^{-8}$ Kg $m^2$	
Shaft diameter	6.35	
Shock resistance	980 m/s $^2$ , 6 ms, each twice in XYZ	
Vibration test	50 m/s $^2$ , 10 - 200 Hz, each 2 hours in XYZ	
Medium durability	MTBF ≥ 50,000 h (+25° C, 2,000 rpm)	
Weight	approx. 20 g (with 0.5 metre cable)	approx. 25 g (with 0.5 metre cable)
Operating humidity	30 - 85% (no condensation)	
Storage temperature	-40° C - 110° C	
Operating temperature	-25° C - 100° C	
Weld point temperature	≤ 260° C	
Protective category	IP 50	
Item no.	<b>397 911 2356</b>	<b>397 911 2306</b>

Technical specifications subject to change.

# String potentiometer

# iMS 10



Operation diagram  
String potentiometer iMS 10

## Features

- OEM measuring head with sensor  
L 50 x W 24 x H 8 mm
- reliable, sturdy, economical
- 2 channels A and B,  
Differential operation incremental RS 422 or  
Differential operation analogue 1VSS
- Accuracy incremental/ digital  $10\mu\text{m}$ , for  
analogue 1VSS, 2mm=1 SINUS-period applies
- Repeat accuracy =  $\pm 10\mu\text{m}$
- 2 optional, magnetic switch, open commutator  
outputs for easy end position monitoring
- Magnetic tape on self-adhesive, rust  
proof steel mounting tape

### optional:

- Reference impulse
- Accuracy  $5\mu\text{m}$

## General

The touch-less operation, magnetic string potentiometer iMS is sturdy, reliable and vastly resilient to dirt. A code applied to a magnetic tape is captured by a measuring head and processed.

The available peripheral interfaces are RS 422 compatible, incremental as well as analogue 1V tip-tip SINUS/ COSINUS interfaces. A reference impulse is optionally available.

## Technical specifications

	iMS-10-A	iMS-10-I
Signal form	analogue, 1V SS	RS 422, square-wave
Path feed rate	up to 6.0 m/s	$10\mu\text{m} / 2\mu\text{m}$ edge separation A-B Channel: 3.0 m/s
Output signals	SIN,/SIN,COS,/COS Differential output Track SIN to COS $90^\circ$ Phase shifting optional Z,/Z comparative reference track	A, / A, B, / B Differential output, track A to B $90^\circ$ Phase shifting relative angle error A-B $\pm 10\%$ optional Z, / Z reference track
End position monitoring	open Collector $U_{\text{max}} = 5\text{ V}$ , $I_{\text{sink}} = 10\text{ mA}$	
Power consumption	<100 mA normal operation	
Accuracy	one SINUS period on 2 mm	$10\mu\text{m}$ , optionally $5\mu\text{m}$ , edge separation A to B $\geq 2\mu\text{S}$ , other options available
Input voltage	5 V DC, $\pm 2\%$ , optional: 7V ... 15 V DC	
Operating distance	0.8 mm $\pm$ 0.2 mm	
Dumping	in all axles < 1 degree	
Shock resistance	5 g	
Weight	50 g	
Item no.	390254 0000 (without housing)	390255 0800 (without housing)
	563150 (Magnetic tape on self-adhesive, rust-free steel mounting tape 2 mm pole pitch, 10 mm wide; 1.3 mm thick, $\pm 40\mu\text{m}$ accuracy)	

Technical specifications subject to change.