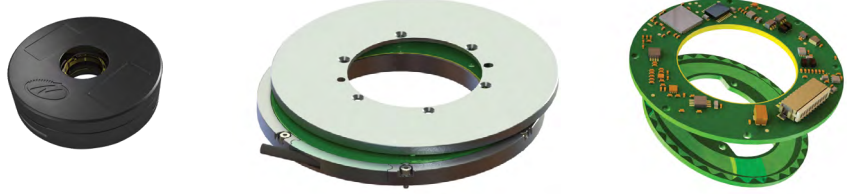


● *Moving. Precisely. With You.*

High Precision Rotary Encoders

PRECISION IN MOTION



Rotary and linear, absolute and incremental, analog or digital, standard or custom, Netzer Precision Motion Sensors' patented, rugged and high-performance Electric Encoder™ technology suits applications ranging from space and avionics to harsh environment, instrumentation, medical and automotive.

The Electric Encoder's unique contactless core with hollow shaft, allows lowest possible axial space requirements and enhances reliability by eliminating degradation mechanism.

The advanced digital Q-Core adds intelligence to position-sensing and with its advanced capabilities adapts the sensors to modern motion control requirements.



SMALL SIZE



LOW PROFILE



HOLLOW SHAFT

The Electric Encoder™ Benefits



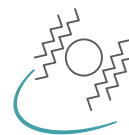
Functional

- Absolute Position
- High Resolution
- High Accuracy
- Low Power Consumption



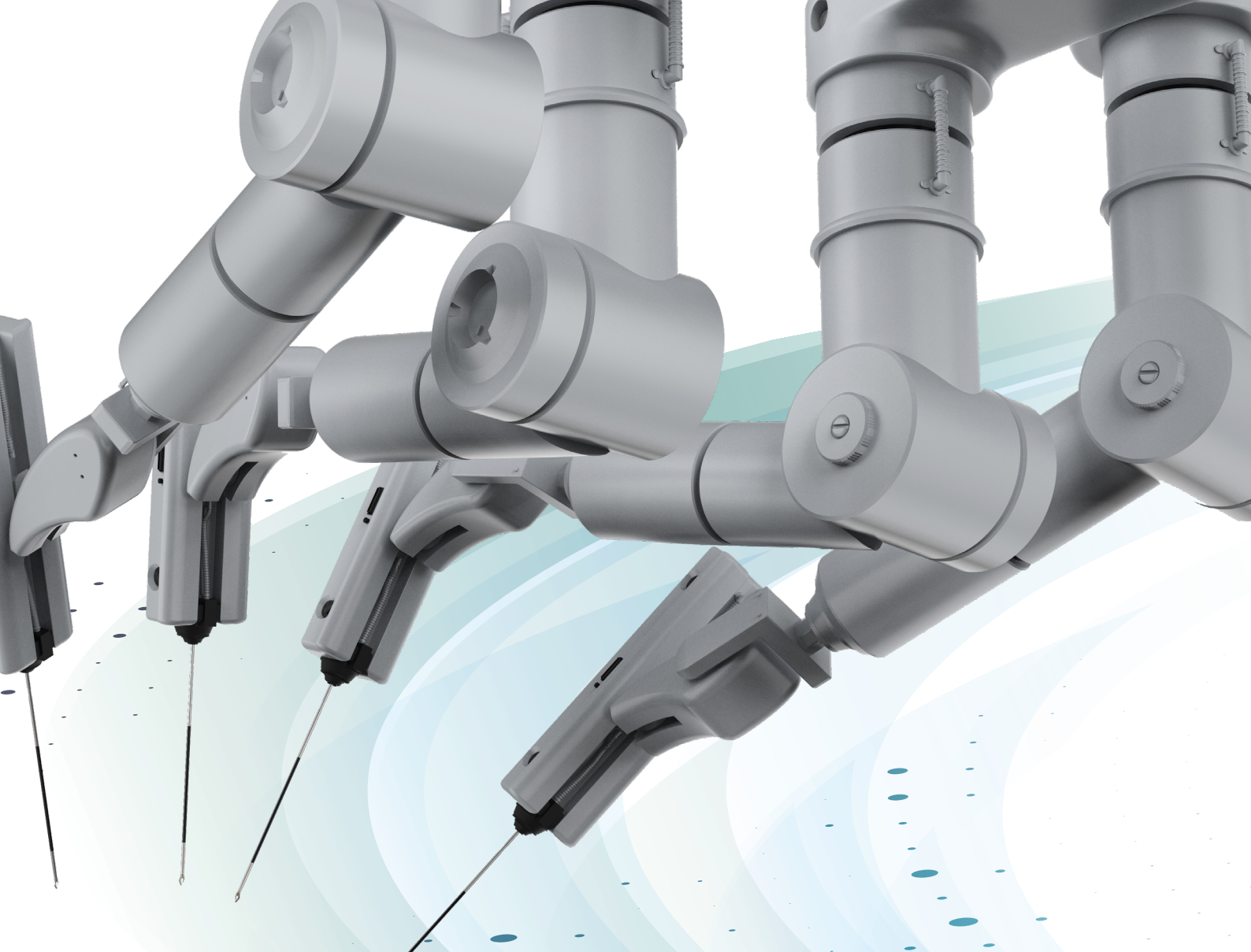
Structural

- Low Profile
- Hollow Floating Shaft
- Mounting Tolerance
- Low Weight and Inertia



Environmental

- Extreme Temperatures
- Shock and Vibration Tolerance
- Tolerance to EMI / RFI
- Immunity to Magnetic Fields



RESISTANCE TO
MAGNETIC FIELDS



DURABILITY



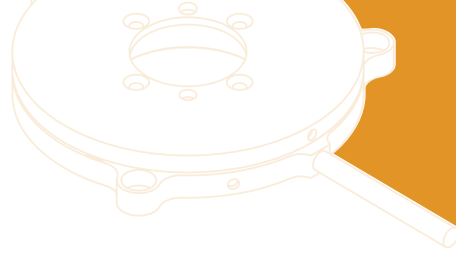
HIGH PRECISION

Moving. Precisely. With You. ●





Moving Precisely in
**HARSH
ENVIRONMENT**



HARSH ENVIRONMENT

Netzer's Electric Encoder meets the requirements for use in a wide variety of harsh environment applications, including space, avionics and defense. The contactless core with its holistic structure is extremely durable and resistant to vibrations and shocks. The low profile, hollow shaft structure, suits compact, high-density designs.

Product features



HIGH PRECISION



LOW PROFILE



HOLLOW SHAFT



RESISTANCE TO
MAGNETIC FIELDS

Electrical

Supply voltage	+4.6 to +5.5 v
Current consumption	analog - 10 mA digital - 60mA

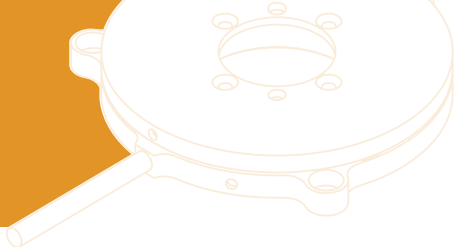
Environment - extreme conditions

EMC	IEC 6100-6-2, IEC 6100-6-4
Operating temperature range	-40°C to +85°C
Relative humidity	< 98% non condensing
Shock endurance	100 g for 11 ms
Vibration endurance	20 g for 10 to 2000 Hz

Output formats

Digital	Absolute position - SSI / BISS
Analog	Sine / Cosine, 1 Vp-p





Hollow Contactless Rotor



Polymer housing	DS-16	DS-25	DS-37	DS-40	DS-58	DS-70	DS-90	DS-130
Functional								
Angular resolution	16 bits	17 bits	17 bits	17 bits	18 bits	19 bits	19 bits	19 bits
Accuracy	≤ 0.025°	≤ 0.020°	≤ 0.020°	≤ 0.020°	≤ 0.015°	≤ 0.015°	≤ 0.010°	≤ 0.010°
Maximum usable speed	4,000 rpm							
Measurement range	Absolute position single turn							
Mechanical								
Weight	2.7 gr	4 gr	10 gr	18 gr	36 gr	50 gr	50 gr	65 gr
Outer diameter / Inner diameter / Profile (mm)	16/4/8	25/6/7	37/10/8	40/10/8	58/20/10	70/30/10	90/50/10	130/90/10
Construction material (stator/rotor)	Ultem™ / TRVX-50 Polymer's							

Product features



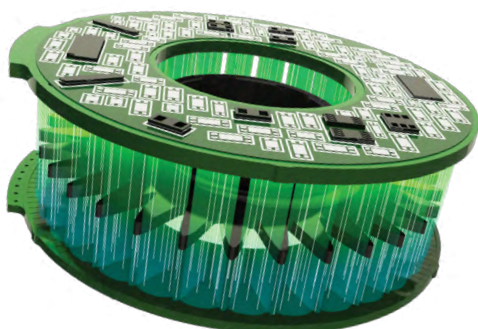
SMALL SIZE

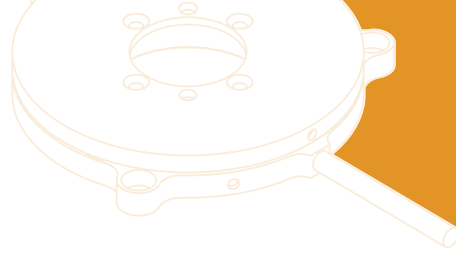


LIGHT WEIGHT



HIGH PRECISION



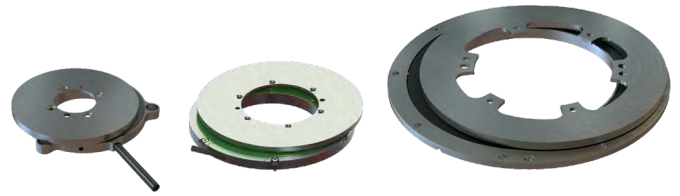


Metal Sealed Housing



Metal Case	DL-25	DL-66
Functional		
Angular resolution	17 bits	18 bits
Accuracy	≤ 0.030°	≤ 0.020°
Maximum usable speed	4,000 rpm	
Measurement range	Absolute position single turn	
Output	Digital SSI / BiSS-C	
Mechanical		
Total weight	25 gr	250 gr
Outer diameter / Profile (mm)	25/25	71/62
Construction material	Aluminum	
Protection	IP65	

Modular Metal Case



	DF-60	DF-100	DF-150
Functional			
Angular resolution	18bits	18 bits	18 bits
Accuracy	≤ 0.015°	≤ 0.015°	≤ 0.015°
Maximum usable speed	1,500 rpm	1,500 rpm	1,500 rpm
Measurement range	Absolute position single turn		
Output	Digital SSI/ BiSS-C		
Mechanical			
Total weight	38 gr	145 gr	318 gr
Outer diameter / Profile (mm)	60/30/10	100/57/10	150/110/13
Construction material	Aluminum		

Product features



DURABILITY



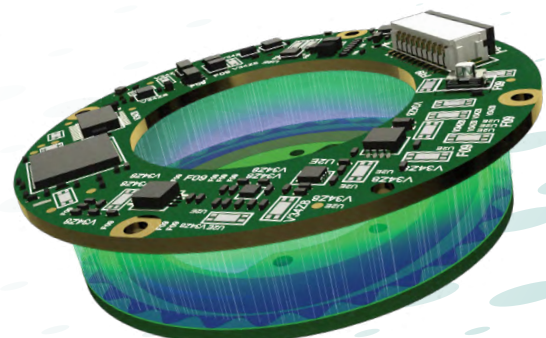
HOLLOW SHAFT



LOW PROFILE



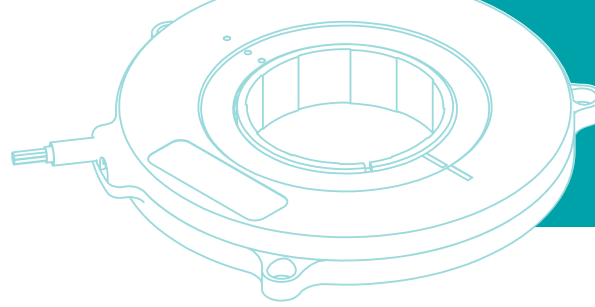
RESISTANCE TO
MAGNETIC FIELDS





Moving Precisely in
**INDUSTRIAL
AUTOMATION**





**INDUSTRIAL
AUTOMATION**

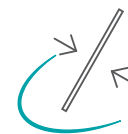
INDUSTRIAL AUTOMATION

Designed with new Q-Core processing, the DX and VLX product lines offer low-cost OEM position sensors for automotive, medical, robotics and industrial automation applications, with full resistance to magnetic fields. The Electric Encoder suits tight mechanical designs of servo drives and motors.

Product features



HIGH PRECISION



LOW PROFILE



HOLLOW SHAFT



RESISTANCE TO
MAGNETIC FIELDS

Electrical

Supply voltage	+4.6 to +5.5 v
Current consumption	analog - 10 mA, digital - 60mA

Environment

EMC	IEC 6100-6-2, IEC 6100-6-4
Operating temperature range	-25°C to +65°C
Relative humidity	< 98% non condensing
Shock endurance	100 g for 11 ms
Vibration endurance	20 g for 10 to 2000 Hz

Output

Digital	SSi / BISS
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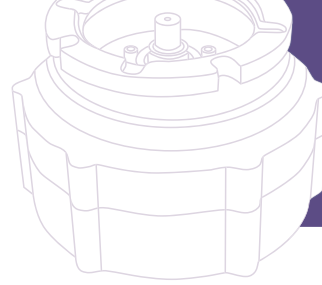


Polymer housing	VLX-60	VLX-64
Functional		
Angular resolution	18 bits	18 bits
Accuracy	≤ 0.015°	≤ 0.015°
Maximum usable speed	4,000 rpm	
Measurement range	Absolute position single turn	
Mechanical		
Total weight	28 gr	28 gr
Outer diameter / Inner diameter / Profile (mm)	60/25/10	64/34/8
Construction material (stator/rotor)	PCB (FR4)	



Moving Precisely in
SPACE

SPACE



The EES product line, with frameless or encapsulated design, provides high-precision position sensors for low orbit or deep space missions. Due to the underlying Electric Encoder technology, EES is an attractive option for low-profile, light and durable designs.

Electrical

Supply voltage	+15.5 v
Current consumption	analog - 10mA, digital - 160mA

Environment - extreme conditions

EMC	IEC 6100-6-2, IEC 6100-6-4
Operating temperature range	-40°C to +65°C
Shock endurance	100 g for 11 ms
Vibration endurance	20 g for 10 to 2000 Hz

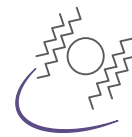
Available output formats

Digital	Absolute position - SSI / BISS
Analog	Sine / Cosine, 1Vp-p

Product features



HIGH PRECISION



DURABILITY



RESISTANCE TO
MAGNETIC FIELDS



RESISTANCE TO
COSMIC RADIATION



Polymer housing	EES-58 Digital
Functional	
Angular resolution	20 bits
Accuracy	$\leq 0.003^\circ$
Maximum usable speed	1,000 rpm
Measurement range	Unlimited rotation - 360° Absolute position single turn
Mechanical	
Total weight	450 gr
Outer diameter / Profile (mm)	87/61
Protection	IP65



NETZER PRECISION MOTION SENSORS

Established in 1998, Netzer Precision Motion Sensors, designs, manufactures and supplies high-quality performance position sensors based on proprietary Electric Encoder technology invented by Mr. Yishay Netzer.

The contactless, absolute position Electric Encoder™ sensor technology relies on interactions between the measured displacement and an internally shielded, space/time modulated electric field. It offers features unsurpassed by traditional optical and magnetic encoders. Netzer Precision Motion Sensors holds worldwide patents for high-precision, absolute position systems with analog or digital outputs.



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