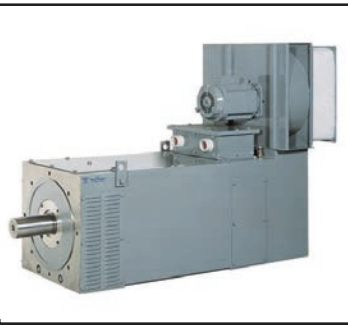


YEARS OF EXPERIENCE



General Shortform Catalog

Reliability - Quality - Experience - Accuracy



www.fenac.com.tr

ENCODING THE FUTURE



IO-Link, Profinet, EtherCAT, EtherNet/IP technologies

Industry 4.0 applications

Incremental Shaft Encoders

- » 16 - 115 mm incremental shaft encoder
- » 4 - 15 mm shaft diameter
- » 1 - 65.536 ppr options



FNC 16S



FNC 24S



FNC 30S



FNC 30B



FNC 40B



FNC 40V



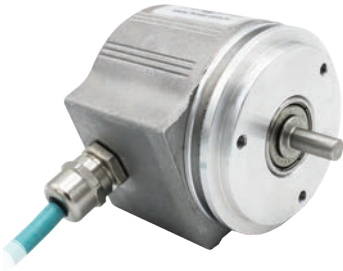
FNC 50S



FNC 50B



FNC 52D



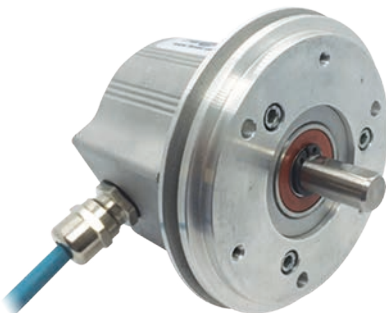
FNC 58S



FNC 58B



FNC 63K



FNC 80S



FNC 80B



FNC 115S

Incremental Hollow Shaft Encoders

- » 16 - 150 mm hollow shaft encoders
- » 4 - 45 mm shaft diameter
- » 1 - 65.536 ppr options



FNC 24E



FNC 30E



FNC 35H



FNC F40



FNC 40E



FNC 40H



FNC 50E



FNC 50H



FNC 50HT



FNC 50HD



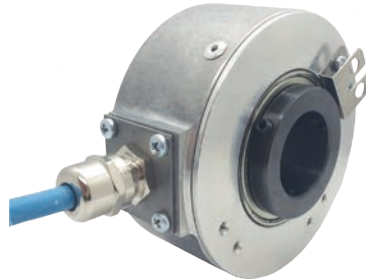
FNC 50HDD



FNC 58E



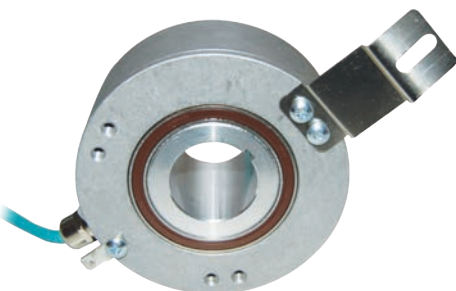
FNC 58H



FNC 80H



FNC F82



FNC 100H



FNC 100HD



FNC 150H

Heavy Duty Encoders

- » 58 - 115 mm housing shaft & hollow shaft encoders
- » 4 - 25 mm shaft diameter
- » 1 - 65.536 ppr options
- » Terminal box, M23 connector, cable options



FNC 53V SS



FNC 58B SS



FNC 58B SS PAA



FNC 58S SS



FNC 58H SS



FNC ASO 58S SS



FHD H75 CABLE



FHD H75 CONNECTOR



FHD H100



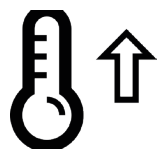
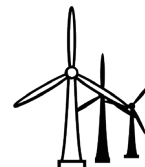
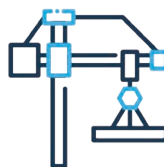
FHD H100 CONIC SHAFT



FHD S115



FHD S115 REDUNDANT



Programmable Encoders Over PC

- » 40 - 58 mm magnetic & optic programmable alternatives
- » 4 - 15 mm shaft & hollow shaft encoder
- » 1 - 65.536 ppr options
- » FNC PT-PC easy programming device



FNC P 40B



FNC P 40H



FNC P 50B



FNC P 50S



FNC P 50H



FNC P 58B



FNC P 58S



FNC P 58E

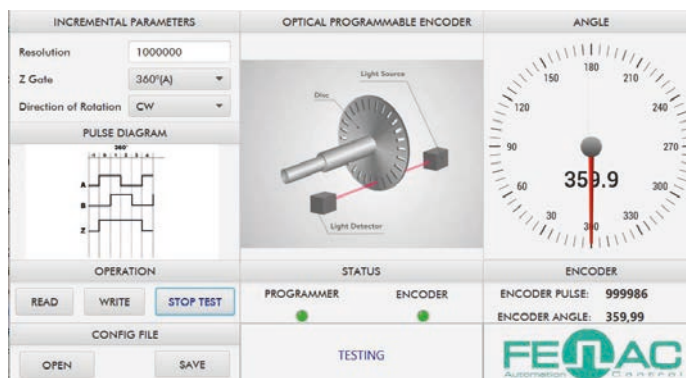


FNC P 58H

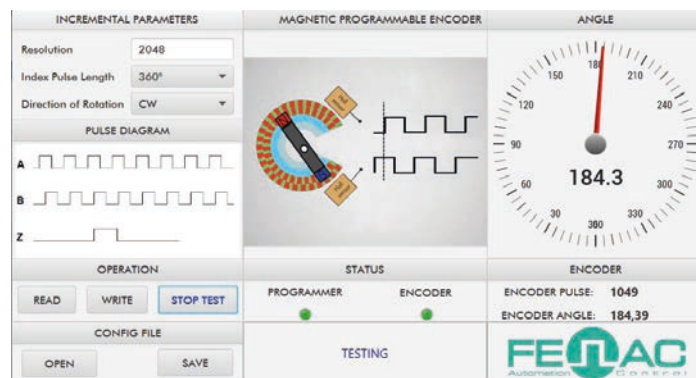

FNC PT-PC
Programming Device


PC connection for programming

Optical



Magnetic



Programmable Encoders Over Hand Screen Programming Device

- » 40 - 58 mm magnetic & optic programmable alternatives
- » 4 - 15 mm shaft & hollow shaft encoder
- » 1 - 65.536 ppr options
- » Easy programming with Over Hand Screen / One Wire Model



No need for additional PC

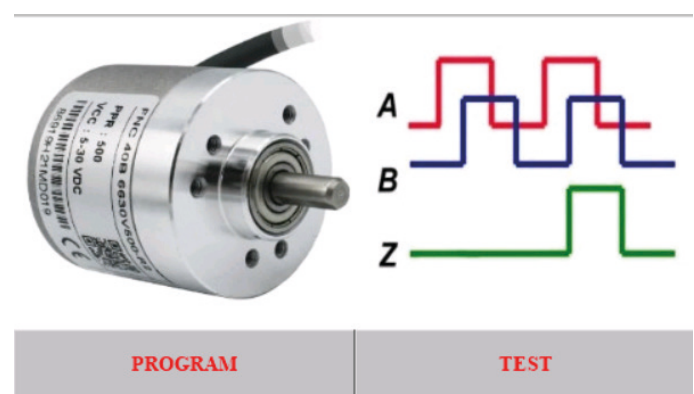


Over hand device connection for programming

Main Screen



Programming Screen



Not Connected

Absolute Encoders

- » 27 - 58 mm shaft encoders
- » 24 - 80 mm hollow shaft encoders
- » Magnetic & optical sensing
- » Singleturn up to 21 bit, Multiturn up to 32 bit
- » Encoder with electronic reset
- » SSI, BiSS, Profinet, Canopen, Ethercat, options



Clamping & Servo Flange Type Encoders



FNC AS 16S



FNC AS 24S



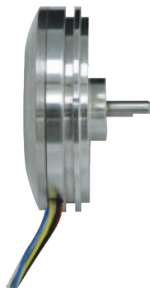
FNC AS 27S



FNC AS 36B



FNC AS 36S



FNC AS 37S



FNC AS 50B



FNC AS 458B



FNC AS 58B



FNC AS 58S

End Hollow & Through Hollow Shaft Type Encoders



FNC AS 24E



FNC AS 36E



FNC AS 40HBK3



FNC AS 50H



FNC AS 58E



FNC AS 58H



FNC ABM 80H

CAN ANALYZER



Absolute Encoders / Ethernet Based Protocols

- » 58 mm housing diameter
- » 8, 10, 12 mm shaft diameter
- » Single or multiturn options
- » Optical sensing
- » Singleturn up to 18 bit
- » Multiturn up to 12 bit
- » Encoder with electronic reset
- » Profinet, Ethercat, & EthernetIP options



Ethercat Encoders Radial Cable or Connector Out

- » 58 mm shaft & hollow shaft encoders
- » 6 - 10 mm shaft diameter
- » Single or multiturn / bus cover
- » Magnetic & optical sensing
- » Multiturn up to 32 bit
- » Radial cable or connector options
- » Ethercat, Profinet Ethernet IP options



Radial Out

Axial Out



Absolute Encoders Bus Cover

- » 58 mm shaft & hollow shaft encoders, 6 - 10 mm shaft diameter
- » Multiturn up to 32 bit
- » Magnetic & optical sensing
- » Modular fieldbus interfaces, Canopen option

CANopen



Absolute Analog Encoders

- » 50 - 58 mm shaft & hollow shaft encoders, 4 - 14 mm shaft diameter
- » 0 - 10 voltage / 4 - 20 mA current output
- » Programmable measuring range



MT Analog Series

ST Analog Series

FNC MT 50B

FNC MT 50E

FNC MT 58B

FNC ST 58S

FNC ST 50S

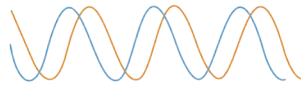


Multiturn 12 bit programmable output
Programming over backside A-B buttons

Singleturn 360°C Analog Output

Gearless, Synchronous, Torque, Elevator Motors Encoders

- » 56 mm diameter body
- » 1 Vpp sin cosine + 2048 sin cosine
- » SSI + 2048 1 Vpp
- » BiSS + 2048 1 Vpp
- » RS485



Order Part Number : FNC SC2048-R7



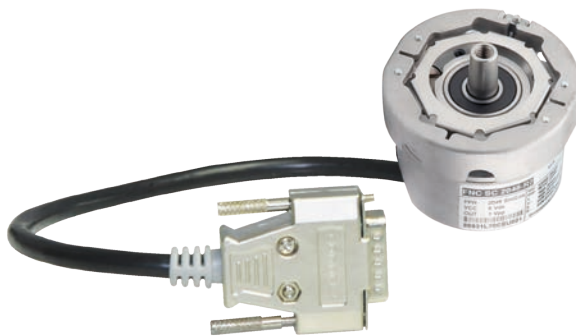
Order Part Number : FNC SCEH8 2048-R7



Order Part Number : FNC SC2048-R7-SF



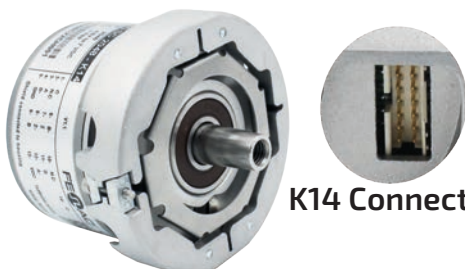
Order Part Number : FNC SC2048-R7-S8



Order Part Number : FNC SC2048-R30D15



Female Cable Part Number : FCSF D15-R700



K14 Connector

Order Part Number : FNC SC2048-K14



Order Part Number : FCSF SCK14 R5

Motor Feedback Encoders

- » 16- 58 mm diameter body
- » Up to 4096 ppr resolution
- » Up to 16 poles commutation signals
- » Both A, B, Z incremental U, V, W commutatiton signals



FNC F16
16 mm housing



FNC F22S
22 mm housing



FNC F22K
22 mm housing



FNC MF37H



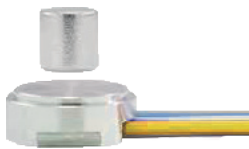
FNC 46MF



FNC MF58

On Axis Bearingless Encoders

- » 8 - 58 mm housing diameter
- » On-axis incremental & absolute encoder
- » Up to 4096 ppr for incremental encoder & Up to 14 bit for absolute rotary encoder
- » 1, 2, 2, 4 Vpp resolution



FNC F08
8 mm housing



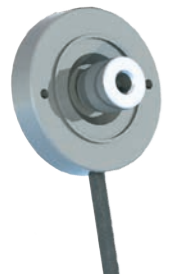
FNC F10
10 mm housing



FNC F229
22 mm housing



FNC MB44
44 mm housing



FNC MB58
58 mm housing

Magnet Options



Thin Section Encoders

- » 25 - 90 mm housing
- » 6 - 50 mm hollow shaft diameter
- » Up to 21 bit SSI-BISS absolute output
- » Up to 1,000,000 ppr incremental output



Off-Axis Radial Bearingless Encoders

- » Off axis radial incremental encoder
- » Up to 524,288 ppr for incremental rotary encoder
- » Resolution up to 0,001 mm



Off-Axis Axial Bearingless Encoders

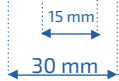
- » 30 - 135 mm hollow shaft encoders
- » 15 - 90 mm shaft diameter
- » Off axis axial incremental, absolute & commutation encoder
- » Up to 65,536 ppr for incremental rotary encoder, up to 19 bit & 16 pole pairs for absolute rotary encoder
- » Magnetic system



Sensor Head Options

Magnet Options

MAS 30 Cover



MAR 3015 Ring
t = 3,5 mm

MAS 45 Cover



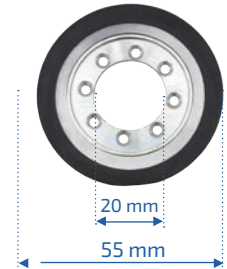
MAR 4525 Ring
t = 2,5 mm

MAS 55 Cover



MAR 5535 Ring
t = 2,5 mm

MAS 55 Square

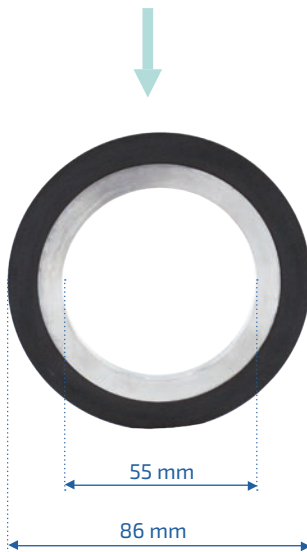


MAR 5520 Ring
t = 2,5 mm

Sensor Head Options

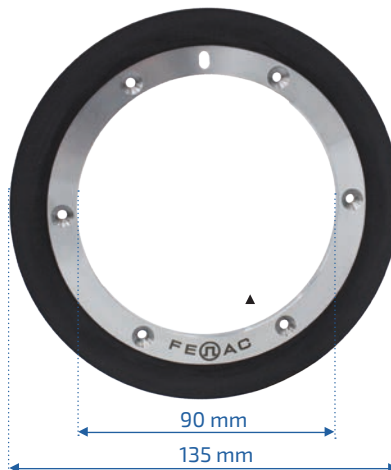
Magnet Options

MAS 86 Cover



MAR 8655 Ring
t = 5 mm

MAS 135 Cover

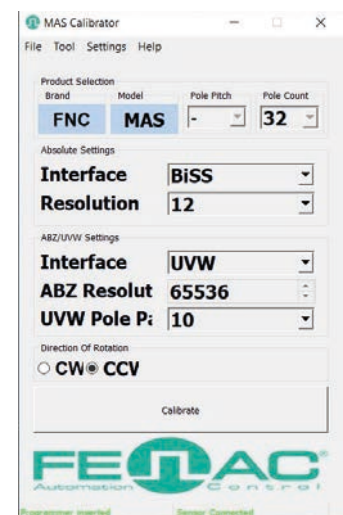


MAR 13590 Ring
t = 4,4 mm



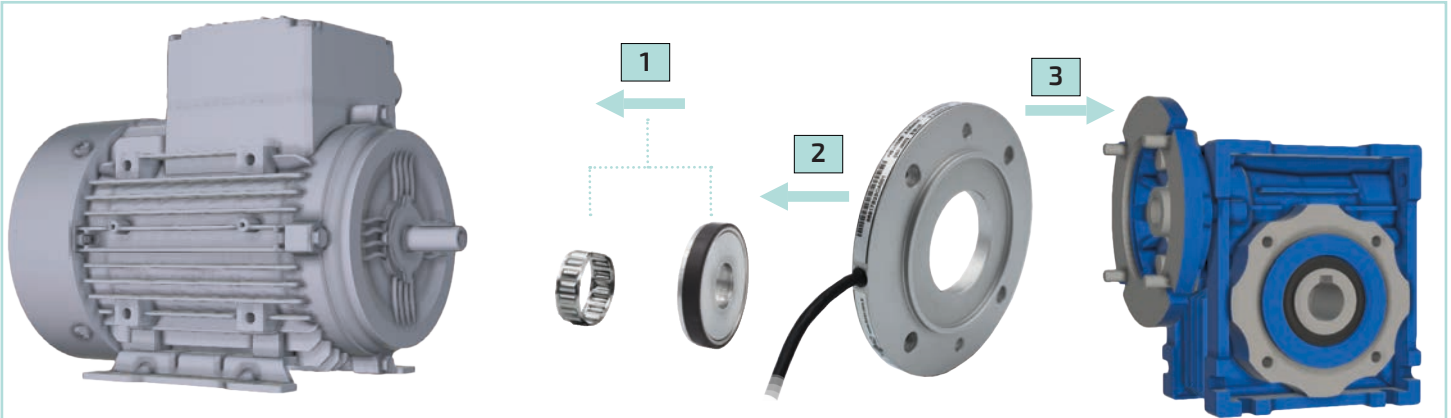
MAS PT-PC
Programming Device

Programming Interface

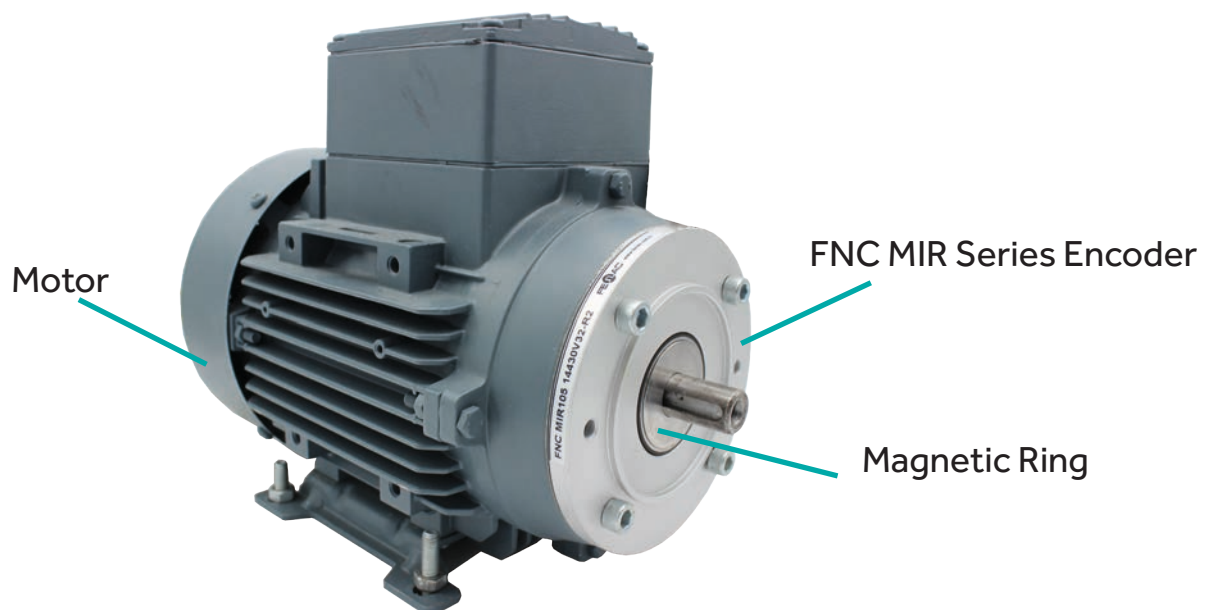


Motor + Gearbox Flange Encoders

- » 90 to 160 mm housing diameter
- » 11 to 28 shaft diameter
- » Up to 21 16,384 ppr resolution
- » IEC063, IEC071, IEC080, IEC090, IEC100, IEC112 motor size compatible encoders

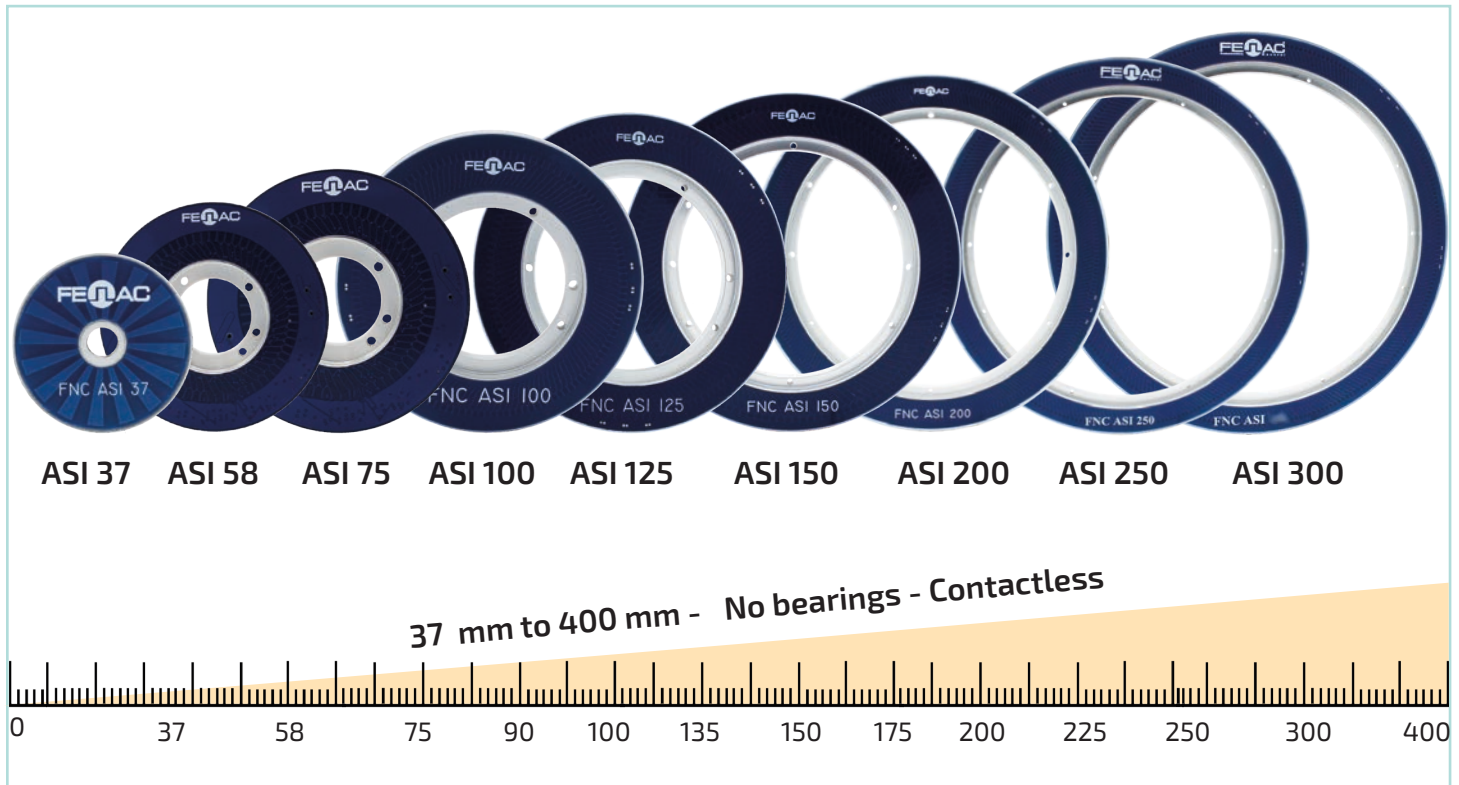


IEC Motor Size	Shaft Diameter	B14 Flange			Reading Sensor Head Part Number	Magnetic Ring Part Number	Spring Part Number	Full Combination
		M	N	P				
IEC063	11	75	60	90	MIR 90 11430V1024-R2	MIRM2011	MIRS11	MIRS 90 11430V1024-R2
IEC071	14	85	70	105	MIR 105 14430V1024-R2	MIRM3914	MIRS14	MIRS 105 14430V1024-R2
IEC080	19	100	80	120	MIR 120 19430V1024-R2	MIRM3919	MIRS19	MIRS 120 19430V1024-R2
IEC090	24	115	95	140	MIR 140 24430V1024-R2	MIRM3924	MIRS24	MIRS 140 24430V1024-R2
IEC100	28	130	110	160	MIR 160 28430V1024-R2	MIRM3928	MIRS28	MIRS 160 28430V1024-R2
IEC112	28	130	110	160	MIR 160 28430V1024-R2	MIRM3928	MIRS28	MIRS 160 28430V1024-R2
IEC132	28	165	130	200	MIR 200 28430V1024-R2	MIRM3928	MIRS28	MIRS 200 28430V1024-R2
IEC160	28	215	180	250	MIR 250 28430V1024-R2	MIRM3928	MIRS28	MIRS 250 28430V1024-R2

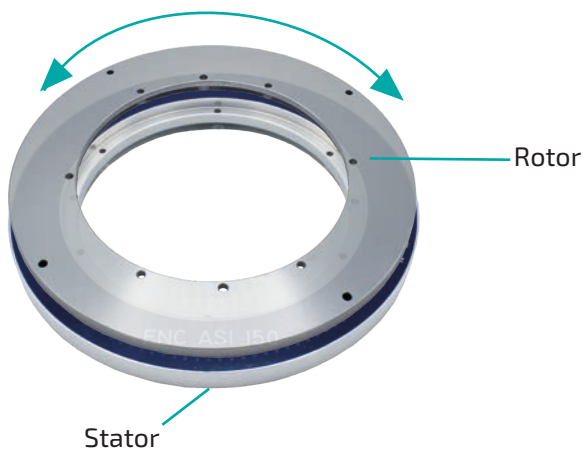


Inductive Encoders

- » 37 - 300 mm diameter
- » Inductive technology
- » SSI1, SSI2, SSI3, SSI7 & BiSS-C interface
- » Up to 21 bit resolution
- » Binary code



ADVANCED FEATURES



Inductive encoder is a non-contact, absolute, and precise sensing technology that works using transformer principles to measure position or speed.

Inductive encoders consists of two main parts as stator and rotor. These encoders have a bearingless technology. As a result, there is no limitation of bearing life and do not require alignment.



Inductive encoders are reliable in harsh conditions such as water, dust, oil, and heat. Precise mechanical mounting is not required and inductive encoders have high immunity to electromagnetic noises.

Draw Wire Sensors

- » Measurement length 0 - 20.000 mm
- » Wire actuated encoder for all rotary encoders with 58 mm servo flange and different signal outputs
- » Drum circumference is 125 to 350 mm
- » Linearity is $\sim \pm 0,35 \%$



Drum circumference 125 mm

Up to 3,500 meter wire length

Drum circumference 200 mm

Up to 5,000 meter wire length

Drum circumference 250 mm

Up to 10,000 meter wire length

Drum circumference 250 mm

Up to 10,000 meter wire length

Drum circumference 300 mm

Up to 13,500 meter wire length

Drum circumference 350 mm

Up to 20,000 meter wire length



W55



W80



W100



W100 PRO



W115



W120

SYSTEM ENCODERS



Analog



CANopen



Angle Sensors

- » 38 mm outer diameter
- » Incremental, SinCos, Analog, SSI/BiSS, Commutation & CANopen signals
- » Cable, socket & connector options



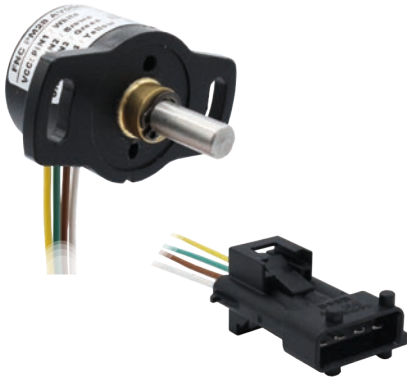
ANALOG



SSI

BiSS
INTERFACE

CANopen



Speed Sensors

- » 16 - 18 mm sensor head diameter
- » 1, 1.5, 2, 2.5, 3, 4, 30 target module



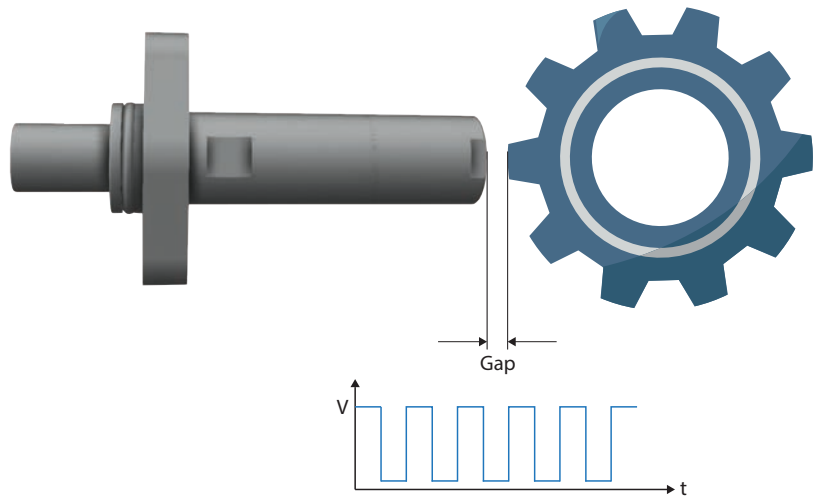
FNC CSS18



FNC SS16



FNC SS20



Pressure Sensors

- » Absolute & gauge pressure sensor
- » 0 - 600 bar pressure range
- » -40°C to 125°C
- » Ratiometric output
- » Ceramic sensitive
- » Small size & high stability



ABSOLUTE		
Code	Pressure Range	Voltage Range
0111	0,1 - 1,15 Bar	0,8 - 9,3 V
01312	0,133 - 1,119 Bar	2 - 8,4 V
0225	0,2 - 2,5 Bar	0,4 - 9,6 V
0230	0,2 - 3,0 Bar	0,8 - 9,3 V
0240	0,2 - 4,0 Bar	0,4 - 9,6 V
0255	0,2 - 5,5 Bar	1 - 9 V
0540	0,5 - 4,0 Bar	1 - 9 V

GAUGE	
Pressure Measurement	Burst Pressure
0 - 2 Bar	5 Bar
0 - 5 Bar	12.5 Bar
0 - 10 Bar	25 Bar
0 - 20 Bar	50 Bar
0 - 30 Bar	70 Bar
0 - 40 Bar	100 Bar
0 - 50 Bar	125 Bar
0 - 100 Bar	200 Bar
0 - 200 Bar	400 Bar
0 - 400 Bar	600 Bar
0 - 600 Bar	800 Bar

Inclinometers

- » Compensated axis sensitivity
- » High sensitivity: $\pm 0.003^\circ$
- » Ability to determine 0° point
- » Easy installation
- » Compact design
- » Analog & CANopen interfaces



INC 3234



INC 4468

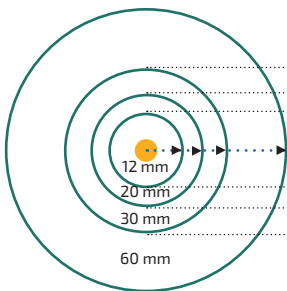


INC 4575



Rotary Potentiometers

- » Different housing diameters
- » Up to $\pm 0.25\%$ linearity
- » Difference resistance and angle options
- » Long lifetime & robust



FPK 12



FRPS 20



FRPK 30

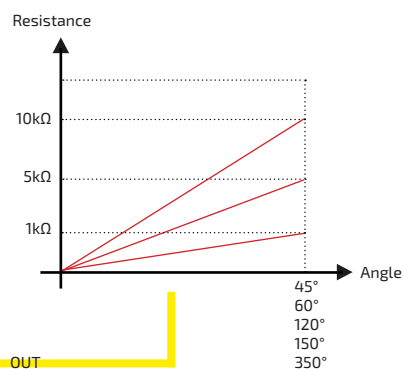
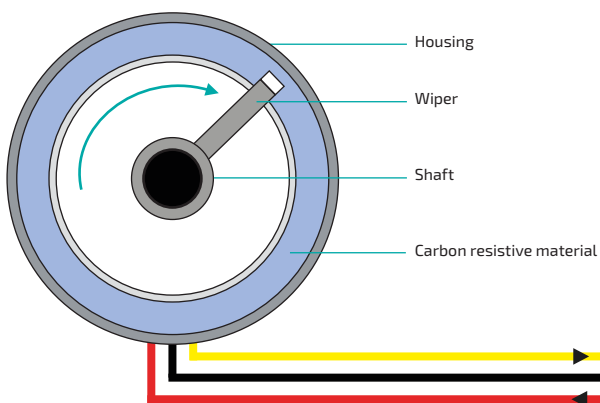


FRPS 30



FRPS 60

WORKING PRINCIPLE



Wheel Encoders

- » Suitable for measuring the length and speed of the moving target by selecting wheel type
- » Robust mechanical and electrical construction
- » Protection up to IP65



TPD 40H



TPD 50B



CMS



WMS 50B



WMS 58B

Linear Magnetic Encoders

- » 2 mm and 5 mm pole pitch options
- » Accuracy 100µm for 5 mm pole pitch
- » Accuracy 3.5µm for 2 mm pole pitch



FLM

2 mm pole pitch magnetic tape



5 mm pole pitch magnetic tape



Textile Solutions

- » 58 mm shaft encoders & end hollow shaft diameter
- » Up to 10 bit parallel output
- » Up to 65,536 ppr incremental output
- » Special designs for Saurer, Smit Sulzer, Marzoli & Rieter machines



FNC 36H37



- » 36 mm housing
- » Hollow shaft version

FNC 50HML



- » Hollow shaft
- » Magnetic sensing
- » 360 ppr resolution
- » Special design for Schlafhorst machines

FNC 50HDP TKS



- » 50 mm housing
- » IP65 protection
- » Special design for Marzoli Roving Frame machines

FNC 58S 81



- » 58 mm housing
- » Special shaft design
- » Special design for Marzoli machines

FNC 58E100 BHF



- » 58 mm housing
- » 100 or 200 ppr options
- » Special design for Reiter machines

FNC TR



- » 58 mm housing
- » 1024, 2048 & 4096 ppr options
- » Special design for Smit Sulzer machines

FNC 58B PAR



- » 50 mm housing
- » Up to 10 bit parallel output
- » Up to 65,536 ppr
- » Optional strobe output for parallel output
- » Optional direction change input
- » Special design for Smit Sulzer machines

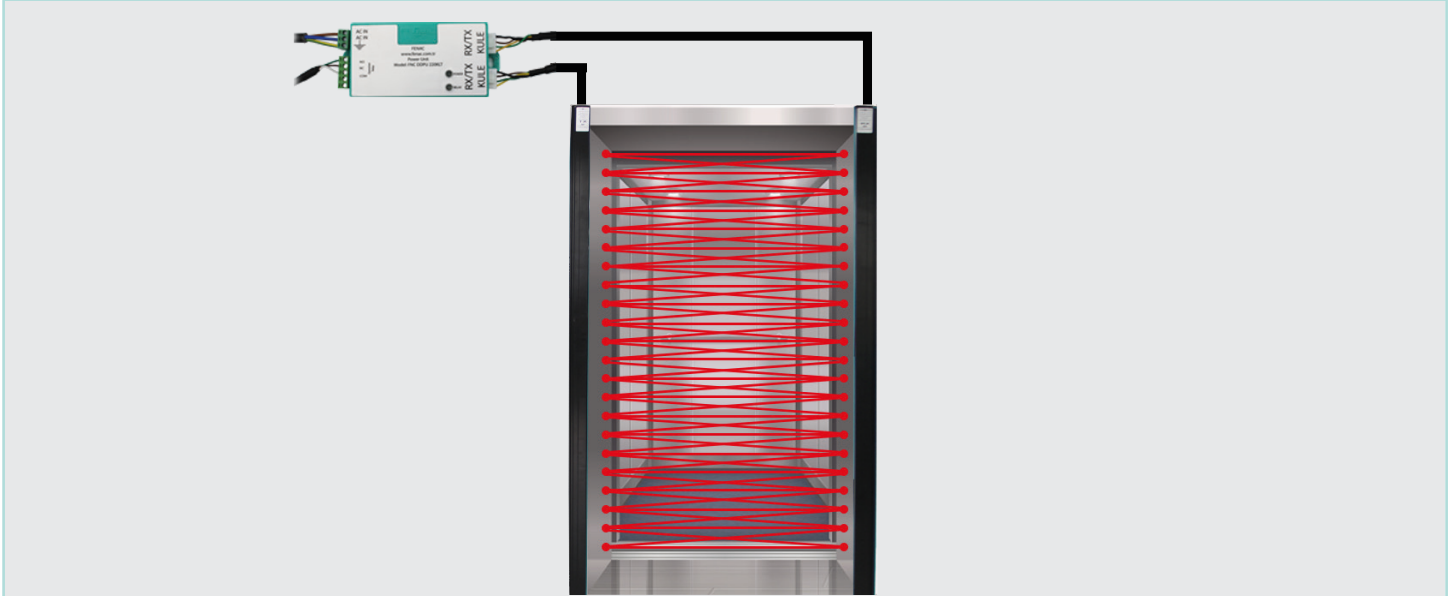
FNC 58EVP



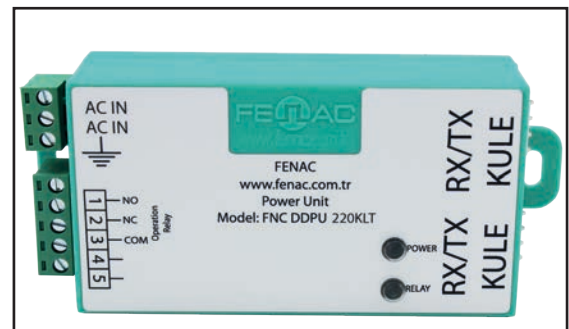
- » 58 mm housing
- » 100 or 200 ppr options
- » Special design for Reiter machines

Door Detectors

- » EN 81-20 compatible
- » 5 cm minimum object sensing
- » Simply mounting
- » Virtually no alignment necessary
- » Wide power supply range



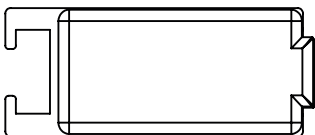
- 36 diodes, 5 cm object sensing
- 1600 mm detection height
- 300 ms response time
- 12x31x2000 mm size
- Aluminum material housing



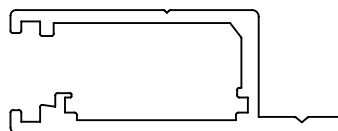
- 85-230VAC
- 3W power consumption
- 30x57x133 mm size
- ABS material housing

Profile Options

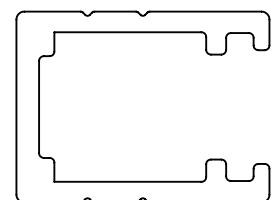
C PROFILE



L PROFILE



D PROFILE



Hand Encoders

- » 100, 200, 500 ppr resolution



EL100



- » 100 ppr standard click
- » 5-30V wide range supply
- » Line driver output
- » Strong anti-interface ability
- » M3x120° screws for encoder mounting

EL100E



- » 100 ppr standard click
- » 5-30V wide range supply
- » Line driver output
- » Strong anti-interface ability

HW 100



- » Axis selection switch
- » Rate override switch
- » Reset switch
- » 100 ppr standard encoder
- » Voltage output
- » 5-30V wide supply range
- » Line driver output
- » Ethercat communication (optional)
- » Emergency button (optional)



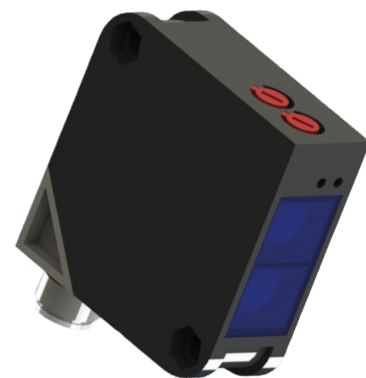
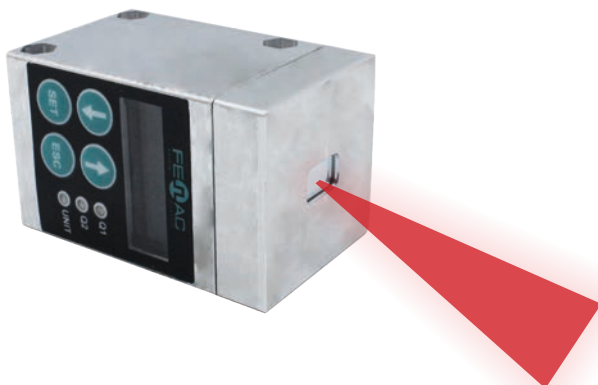
Laser Distance Sensor

- » Operation up to 200 klux ambient light immunity measurement
- » 20 cm to 10 meter measuring distance
- » Class 3B



Diffuse Sensor

- » 5 - 200 cm operating distance
- » 30 ms max. response time



Wheels

- » 200, 250, 300 & 500 mm wheel diameter
- » 6, 8, 10 mm shaft diameter
- » Metal body type

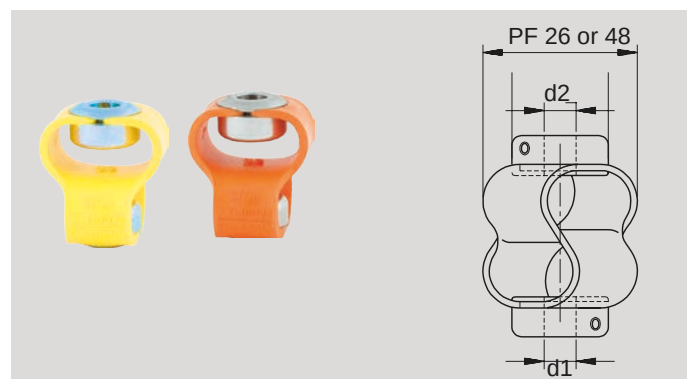


Couplings

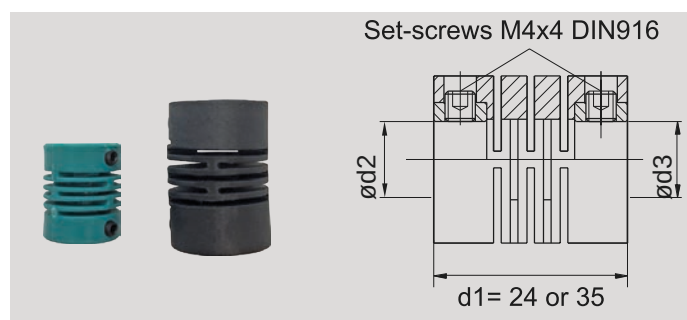
- » paguflex, metal, plastic & spring flex coupling
- » 6, 8, 10, 12 mm shaft diameter



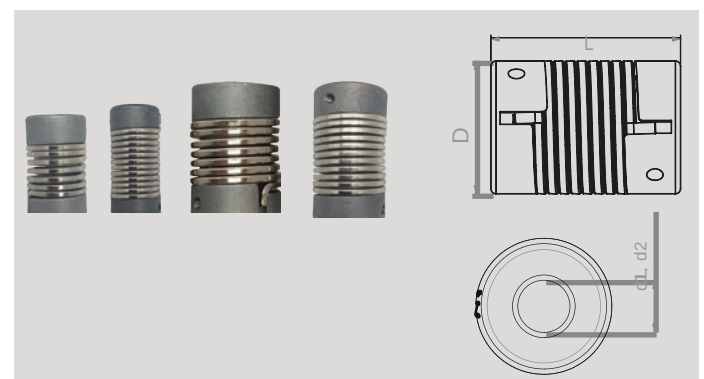
Paguflex coupling



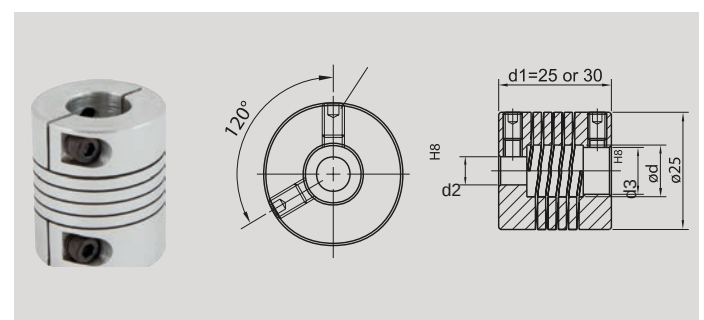
Plastic coupling



Spring flex coupling



Aluminum coupling



Connectors

- » M1204, M1205, M1608, M2312R connectors
- » Military type connectors



M12 Series



M23 Series



M16 Series



M23 Series



Springs

- » Different spring options



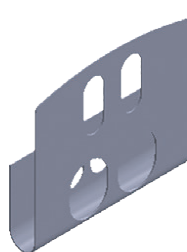
YY NGL20



YY NGL



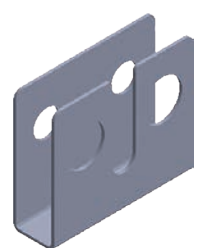
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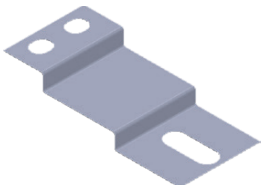
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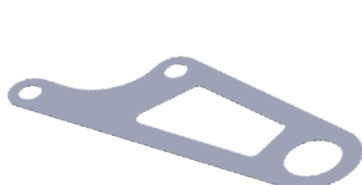
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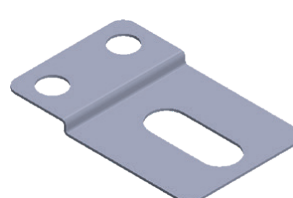
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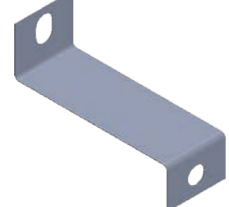
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YY MNT



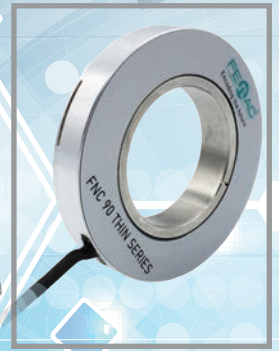
YY AKS



ASI37 Series



TI 90H Series



Inductive & Thin Section Encoder Applications

Robotic Arms



Medical Scanners



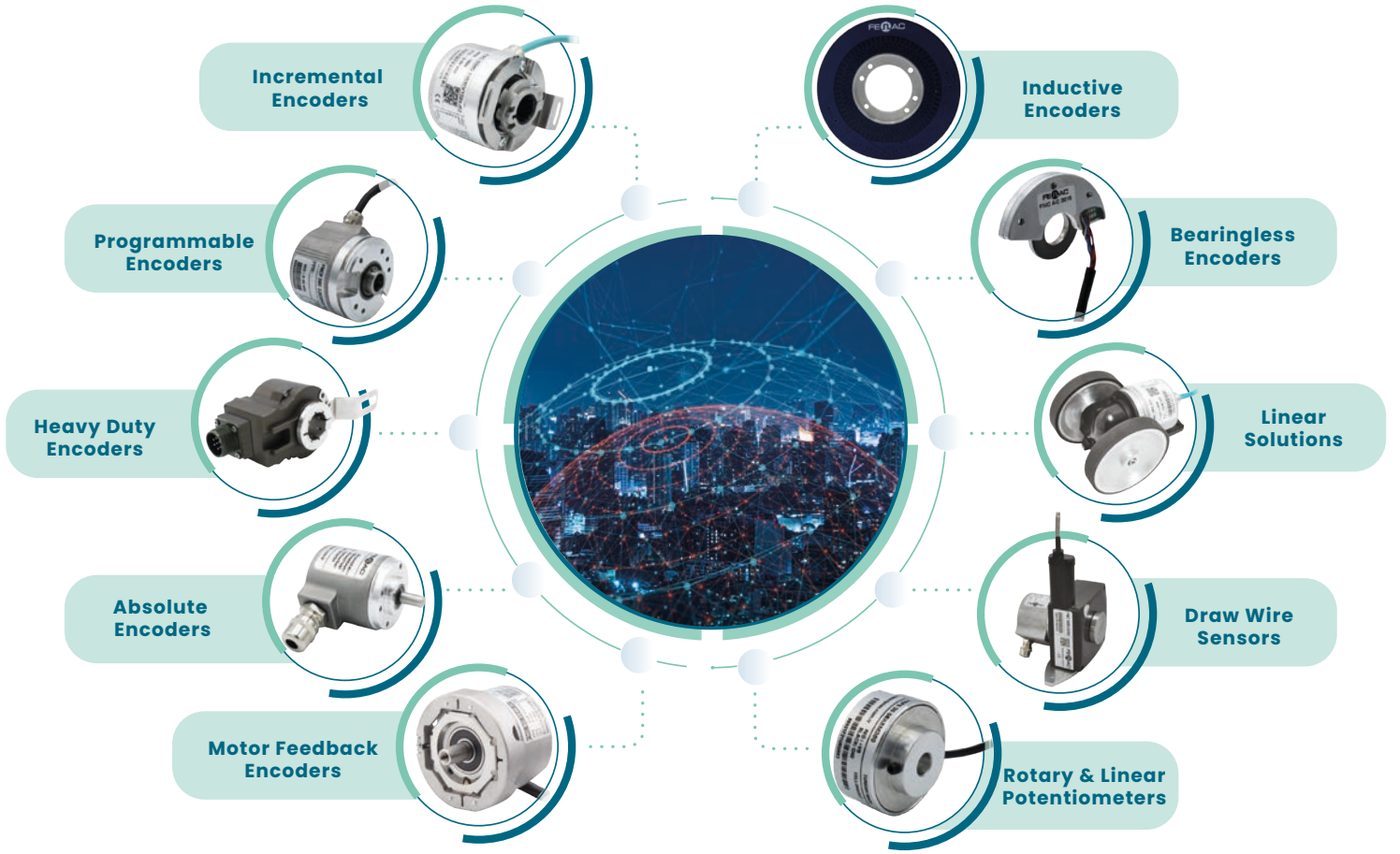
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