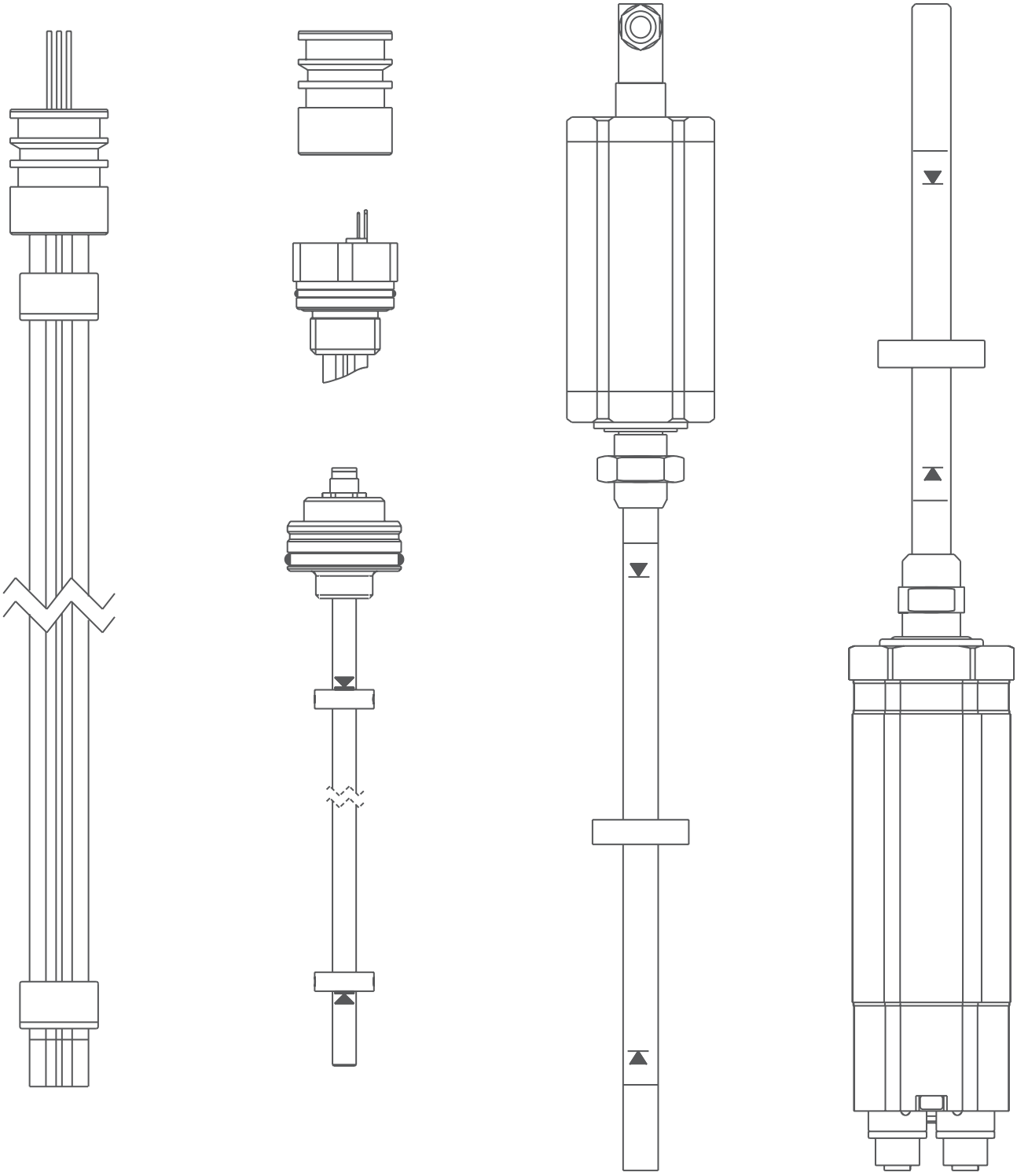
OPKON®

Sense the motion

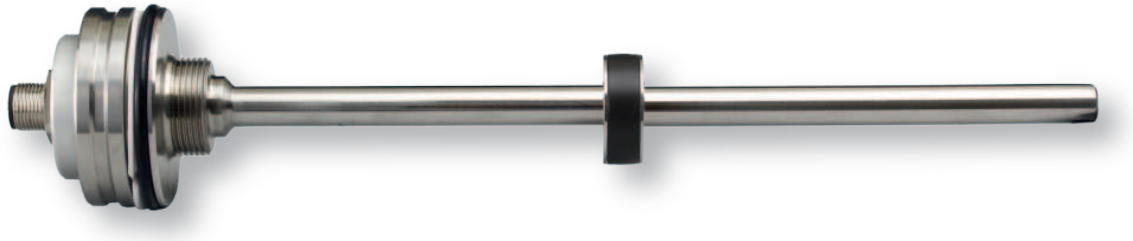


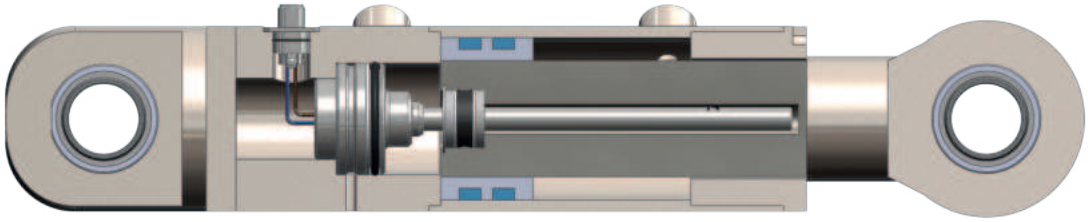
MOBILE HYDRAULIC POSITION SENSORS IN - CYLINDER APPLICATIONS

MSP

Non-Contact Magnetostrictive Position Sensor
In-Hydraulic Cylinders

ANALOG V / mA | Sensopulse® MAGNETOSTRICTIVE



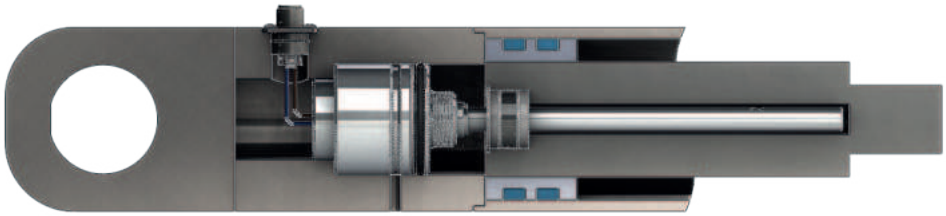


Technical Specifications	
Measurement stroke	50 - 1500 mm
Resolution	15 bit DAC
Linearity	50-100 mm < %1, 100-300 mm < %0.2, 300-500 mm < %0.1, 500-1500 mm > %0.05
Repeatability	100 µm
Output	0-20 mA, 20-0 mA, 4-20 mA, 20-4 mA 0-10 V, 10-0 V
Power supply	24 VDC ±10%
Displacement speed	<5 m/s
Update time	(0-600 mm, 0,5 ms), (600-1500 mm, 1 ms)
Max. consumption	< 50 mA - 90 mA (depening on stroke length)
Max. output noice	< 5 mVpp
Load resistance	max. 500 Ohm
Reverse polarity protection	Up to -30 VDC
Overvoltage protection	Up to +30 VDC
Sampling rate	Up to 2 kHz (depening on stroke length)
Vibration	EN 60068-2-6 , 5-200 Hz 200 m/s2 (20g) , 2h 30 min. each axis (x,y,z)
Shock	EN 60068-2-2:2007 500 m/s2 (50g), 11ms. (x,y,z axis)
Pressure raiting	< 500 bar
Sealing	O-ring: NBR Backup Ring: PTFE
Case material	Case: Stainless steel, Tube: Stainless steel, Caps: Anodized aluminium
Mechanical fixing	M15 x 1.5 or 3/4" - 16 UNF Backup or Flat
Protection level	IP 67
Operating temperature	-10°C ... +70°C
Storage temperature	-30°C ... +90°C

MSPB

Non-Contact Magnetostrictive Position Sensor
In-Hydraulic Cylinders

ANALOG V / mA | Sensopulse® MAGNETOSTRICTIVE



Technical Specifications	
Measurement stroke	50 - 1500 mm
Resolution	15 bit DAC
Linearity	50-100 mm < %1, 100-300 mm < %0.2, 300-500 mm < %0.1, 500-1500 mm > %0.05
Repeatability	100 µm
Output	0-20 mA, 20-0 mA, 4-20 mA, 20-4 mA 0-10 V, 10-0 V
Power supply	24 VDC ±10%
Displacement speed	<5 m/s
Update time	(0-600 mm, 0,5 ms), (600-1500 mm, 1 ms)
Max. consumption	< 50 mA - 90 mA (depening on stroke length)
Max. output noice	< 5 mVpp
Load resistance	max. 500 Ohm
Reverse polarity protection	Up to -30 VDC
Overvoltage protection	Up to +30 VDC
Sampling rate	Up to 2 kHz (depening on stroke length)
Vibration	EN 60068-2-6 , 5-200 Hz 200 m/s2 (20g) , 2h 30 min. each axis (x,y,z)
Shock	EN 60068-2-2:2007 500 m/s2 (50g), 11ms. (x,y,z axis)
Pressure raiting	< 500 bar
Sealing	O-ring: NBR Backup Ring: PTFE
Case material	Profile :Anodized aluminium, Tube: Stainless steel, Caps: Stainless steel
Mechanical fixing	M15 x 1.5 or 3/4" - 16 UNF Backup or Flat
Protection level	IP 67
Operating temperature	-10°C ... +70°C
Storage temperature	-30°C ... +90°C

MSPF

Internal / Extarnal Mounting Hydraulic Cylinders Magnetostrictive Position Sensor

ANALOG V / mA | Sensopulse® MAGNETOSTRICTIVE

Technical Specifications	
Measurement stroke	50 - 1500 mm
Resolution	15 bit DAC
Linearity	50-100 mm < %1, 100-300 mm < %0.2, 300-500 mm < %0.1, 500-1500 mm > %0.05
Repeatability	100 µm
Output	0-20 mA, 20-0 mA, 4-20 mA, 20-4 mA 0-10 V, 10-0 V
Power supply	24 VDC ±10%
Displacement speed	<5 m/s
Update time	(0-600 mm, 0,5 ms), (600-1500 mm, 1 ms)
Max. consumption	< 50 mA - 90 mA (depening on stroke length)
Max. output noice	< 5 mVpp
Load resistance	max. 500 Ohm
Reverse polarity protection	Up to -30 VDC
Overvoltage protection	Up to +30 VDC
Sampling rate	Up to 2 kHz (depening on stroke length)
Vibration	EN 60068-2-6 , 5-200 Hz 200 m/s2 (20g) , 2h 30 min. each axis (x,y,z)
Shock	EN 60068-2-2:2007 500 m/s2 (50g), 11ms. (x,y,z axis)
Pressure raiting	< 500 bar
Sealing	O-ring: NBR Backup Ring: PTFE
Case material	Profile :Anodized aluminium, Tube: Stainless steel, Caps: Stainless steel
Mechanical fixing	M18 x 1.5 or 3/4" - 16 UNF Backup or Flat
Protection level	IP 67
Operating temperature	-10°C ... +70°C
Storage temperature	-30°C ... +90°C

MST

Non-Contact Magnetostrictive Position Sensor
In-Hydraulic Cylinders

ANALOG V / mA | Sensopulse® MAGNETOSTRICTIVE

Technical Specifications	
Measurement stroke	50 - 5000 mm
Resolution	15 bit DAC
Linearity	50-100 mm < %1, 100-300 mm < %0.2, 300-500 mm < %0.1, 500-1500 mm > %0.05
Repeatability	100 µm
Output	0-20 mA, 20-0 mA, 4-20 mA, 20-4 mA 0-10 V, 10-0 V
Power supply	24 VDC ±10%(22-26 VDC)
Displacement speed	<5 m/s
Update time	(0-600 mm, 0,5 ms), (600-1500 mm, 1 ms), (1501-3000 mm, 1 ms), (3001-5000 mm, 1 ms),
Max. consumption	< 50 mA - 90 mA (depening on stroke length)
Max. output noice	< 5 mVpp
Load resistance	max. 500 Ohm
Reverse polarity protection	Up to -30 VDC
Overvoltage protection	Up to +30 VDC
Sampling rate	Up to 2 kHz (depening on stroke length)
Vibration	EN 60068-2-6 , 5-200 Hz 200 m/s2 (20g) , 2h 30 min. each axis (x,y,z)
Shock	EN 60068-2-2:2007 500 m/s2 (50g), 11ms. (x,y,z axis)
Pressure raiting	< 500 bar
Case dimensions	33 mm x 33 mm
Case material	Anodized aluminium
Rod dimensions	Ø6 mm
Rod material	Stainless steel
Mechanical fixing	M18 x 1.5 or 3/4" - 16 UNF O-ring ya da Flat
Protection level	IP 65
Operating temperature	-10°C ... +70°C
Storage temperature	-30°C ... +90°C

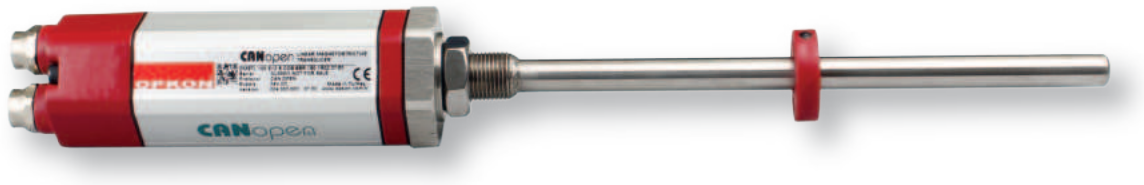
DMST

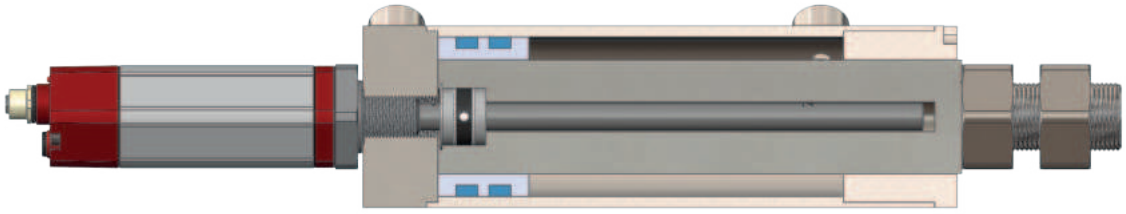
In-Hydraulic Cylinders

Non-Contact Magnetostrictive Position Sensor Digital Output

DIGITAL MAGNETOSTRICTIVE

MAGNETOSTRICTIVE





PROFINET - Technical Specifications	
Interface	PROFINET IO
Protocol	PROFINET Ethernet 100 Base-Tx to IEEE 802.x
Baud rate	10 Mbit/s max.
Green LED	Power on,PROFINET communication active
Red LED	Error, stop mode

EtherCAT - Technical Specifications	
Interface	EtherCAT
Protocol	EtherCAT 100 Base-Tx,Fast ethernet
Baud rate	maX. 100 Mbit/s
Green LED	Power on,EtherCAT communication active
Red LED	Error, stop mode

CANbus - Technical Specifications	
Interface	CAN
Protocol	CANopen, CANbus
Communication profile	CiA301, CiA406 V3.2
Node ID	1 - 127 (default node ID : 20)
Green LED	Power on,CAN communication active
Red LED	Error, stop mode

Modbus - Technical Specifications	
Interface	CiA301, CiA406 V3.2
Protocol	Modbus
Node ID	1 - 247
Baud rate	9600 - 115200 bit/second

PROFIBUS - Technical Specifications	
Interface	ProfiBUS-DP
Protocol	ProfiBUS-DP V0/V1/V2
Linedriver	Galvanic isolation
Node ID	1 - 127 (default node ID : 20)
Green LED	Power on,PROFIBUS communication active
Red LED	Error, stop mode

CANopen - Technical Specifications	
Interface	CAN
Protocol	CANopen, CANbus
Haberleşme profili	CiA301, CiA406 V3.2
Node ID	1 - 127 (default node ID : 20)
Green LED	Power on,CAN communication active
Red LED	Error, stop mode

SSI - Technical Specifications	
Interface	RS422 / RS485
Protocol	SSI binary, SSI gray
Status LED	Optional
Green LED	Power on,SSI communication active
Red LED	Error, stop mode

BISS - Technical Specifications	
Interface	RS422 / RS485
Protocol	BISS binary
Status LED	Opsiyonel
Green LED	Power on,BISS communication active
Red LED	Error, stop mode

RHTF

In-Hydraulic Cylinders
Linear Potentiometer

RESISTIVE POTENTIOMETRIC

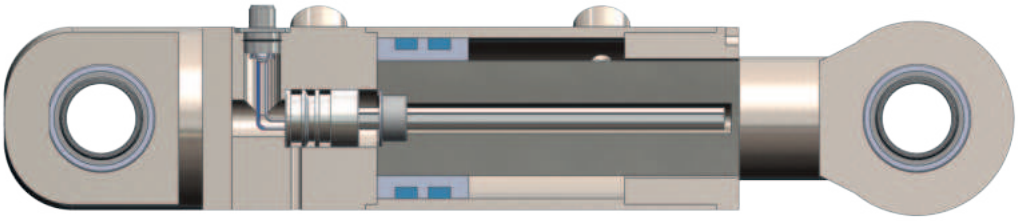
Technical Specifications	
Measurement stroke	100 - 1000 mm
Resolution	Infinite
Linearity	±%0,05
Repeatability	<0.1 mm
Resistance	5 kOhm : 100 - 600 mm 10 kOhm : 650 - 1000 mm
Resistance tolerance	± %20
Load resistance	100 kOhm min.
Recommended wiper current	<1 µA
Power supply	28 VDC max.
Displacement speed	< 5 m/s
Mechanical life	>20 million movements
Case diameter	Ø15 mm
Case material	Anodized aluminium
Flange material	Stainless steel (AISI303)
Operating temperature	-10°C ... +70°C
Storage temperature	-30°C ... +90°C

RHTP

In-Hydraulic Cylinders

Linear Potentiometer

RESISTIVE POTENTIOMETRIC



Technical Specifications	
Measurement stroke	100 - 1000 mm
Resolution	Infinite
Linearity	±%0,05
Repeatability	<0.1 mm
Resistance	5 kOhm : 100 - 600 mm 10 kOhm : 650 - 1000 mm
Resistance tolerance	± %20
Load resistance	100 kOhm min.
Recommended wiper current	<1 µA
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Case diameter	Ø15 mm
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Operating temperature	-10°C ... +70°C
Storage temperature	-30°C ... +90°C

NOTE:

PRODUCTION RANGE

RESISTIVE POTENTIOMETRIC

Linear Potentiometers
Long Stroke Serie

RESISTIVE POTENTIOMETRIC

Linear Potentiometers
Short Stroke - Compact Serie

ANALOG V/mA

Linear Potentiometers
Internal Voltage - Current Conditioner Serie

Sensopulse® MAGNETOSTRICTIVE

ANALOG V/mA

Non-Contact Magnetostrictive
Position Sensors

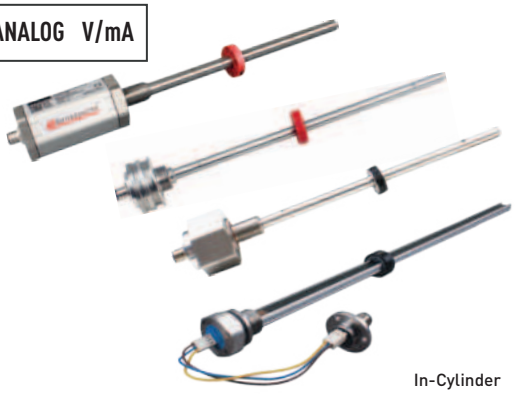
Sensopulse® MAGNETOSTRICTIVE | Modbus | SSI | CANopen | PROFIBUS | BiSS INTERFACE | CANbus | EtherCAT

Non-Contact Magnetostrictive
Position Sensors

Sensopulse® MAGNETOSTRICTIVE

RESISTIVE POTENTIOMETRIC

ANALOG V/mA



In-Cylinder
Position Sensors

PRODUCTION RANGE

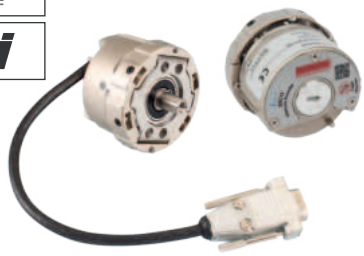
INCREMENTAL

Optic / Magnetic
Rotary Encoders

Sine Cosine

BiSS INTERFACE

SSI



Optic Rotary Absolute Encoders
(for synhronous gearless motors)

RESISTIVE POTENTIOMETRIC

INCREMENTAL

ANALOG V/mA

Draw Wire Potentiometers
Draw Wire Encoders

RESISTIVE POTENTIOMETRIC

ANALOG V/mA

Rotary Sensors Magnetic,
Contactless Analog Output

INCREMENTAL

Magnetic Linear Encoders

PROFIBUS

CANopen

Modbus

EtherCAT

Analog-FieldBUS Converters

Panel-Type Measurement and Control Devices

Hot Runner Temperature Controls

OPKON®
Sense the motion

TÜRKİYE
Headquarter, R&D, Production

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