

# MSS

## Non-Contact Magnetostrictive Position Sensor

- Measuring length 50 - 5000 mm
- 16 bit resolution
- 0-10V, 0-20 mA, 4-20 mA output
- 24 VDC power supply



**Sensopulse®**  
**MAGNETOSTRICTIVE**

**ANALOG**    **0-10 V**  
                  **4-20 mA**

Technical Specifications	
Measurement stroke	50 - 5000 mm
Resolution	16 bit DAC output
Linearity	±0,05% full scale (min. 100 µm)
Repeatability	±0,01% (full scale)
Output	0-10V, 10-0V, 0-20 mA, 20-0 mA, 4-20 mA, 20-4 mA
Power supply	24 VDC ±10%
Displacement speed	< 5 m/s
Update time	(0-600mm, 0,5ms), (600-1500mm, 1ms), (1500-3000mm, 2ms), (1501-5000mm, 3ms)
Load resistance	500 Ohm
Max. consumption	50 mA - 90 mA (depending on stroke length)
Max. output noise	< 5 mVpp
Reverse polarity protection	Up to -30 VDC
Overvoltage protection	Up to +30 VDC
Vibration	EN 60068-2-6 , 5-200 Hz 200 m/s <sup>2</sup> (20g) , 2h 30 min. each axis (x,y,z)
Shock	EN 60068-2-2:2007 500 m/s <sup>2</sup> (50g) , 11ms. (x,y,z axis)
Case dimensions	33 mm x 33 mm
Case material	Anodized aluminium
Mechanical fixing	Variable brackets
Protection level	IP 67
Operating temperature	-10°C ... +70°C
Storage temperature	-30°C ... +90°C

# MSW

## Non-Contact Magnetostrictive Position Sensor

- Measuring length 50 - 5000 mm
- 16 bit resolution
- 0-10V, 0-20 mA, 4-20 mA output
- 24 VDC power supply



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**ANALOG** 0-10 V  
4-20 mA

### Technical Specifications

Measurement stroke	50 - 5000 mm
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Linearity	±0,05% full scale (min. 100 µm)
Repeatability	±0,01% (full scale)
Output	0-10V, 10-0V, 0-20 mA, 20-0 mA, 4-20 mA, 20-4 mA
Power supply	24 VDC ±10%
Displacement speed	< 5 m/s
Update time	(0-600mm, 0,5ms), (600-1500mm, 1ms), (1500-3000mm, 2ms), (1501-5000mm, 3ms)
Load resistance	500 Ohm
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Reverse polarity protection	Up to -30 VDC
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Vibration	EN 60068-2-6 , 5-200 Hz 200 m/s <sup>2</sup> (20g) , 2h 30 min. each axis (x,y,z)
Shock	EN 60068-2-2:2007 500 m/s <sup>2</sup> (50g) , 11ms. (x,y,z axis)
Case dimensions	33 mm x 33 mm
Case material	Anodized aluminium
Mechanical fixing	Variable brackets
Protection level	IP 67
Operating temperature	-10°C ... +70°C
Storage temperature	-30°C ... +90°C

# MSR

## Non-Contact Magnetostrictive Position Sensor

- Measuring length 50 - 1000 mm
- 16 bit resolution
- Excellent movement with rod design
- Single - double output options



**Sensopulse®**  
**MAGNETOSTRICTIVE**

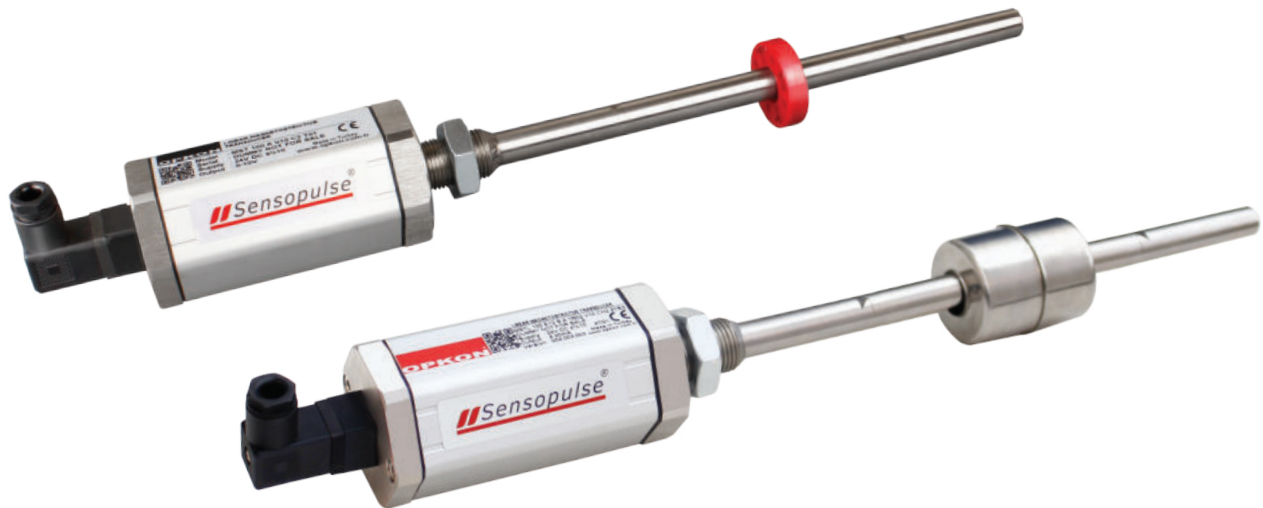
**ANALOG** 0-10 V  
4-20 mA

Technical Specifications	
Measurement stroke	50 - 1000 mm
Resolution	16 bit DAC output
Linearity	±0,05% full scale (min. 100 µm)
Repeatability	±0,01% (full scale)
Output	0-10V, 10-0V, 0-20 mA, 20-0 mA, 4-20 mA, 20-4 mA
Power supply	24 VDC ±10%
Displacement speed	< 5 m/s
Update time	(0-600mm, 0,5ms), (600-1500mm, 1ms), (1500-3000mm, 2ms), (1501-5000mm, 3ms)
Load resistance	500 Ohm
Max. consumption	50 mA - 90 mA (depending on stroke length)
Max. output noise	< 5 mVpp
Reverse polarity protection	Up to -30 VDC
Overvoltage protection	Up to +30 VDC
Vibration	EN 60068-2-6 , 5-200 Hz 200 m/s <sup>2</sup> (20g) , 2h 30 min. each axis (x,y,z)
Shock	EN 60068-2-2:2007 500 m/s <sup>2</sup> (50g) , 11ms. (x,y,z axis)
Case dimensions	33 mm x 33 mm
Case material	Anodized aluminium
Rod dimensions	Ø6 mm
Rod material	Stainless steel
Mechanical fixing	Variable brackets
Protection level	IP 65
Operating temperature	-10°C ... +70°C
Storage temperature	-30°C ... +90°C

## MST - MSTL

### Non-Contact Magnetostrictive Position Sensor

- Measuring length 50 - 5000 mm
- 12-16 bit resolution
- 0-10V, 0-20 mA, 4-20 mA output
- 24 VDC power supply



**Sensopulse®**  
**MAGNETOSTRICTIVE**

**ANALOG** 0-10 V  
4-20 mA

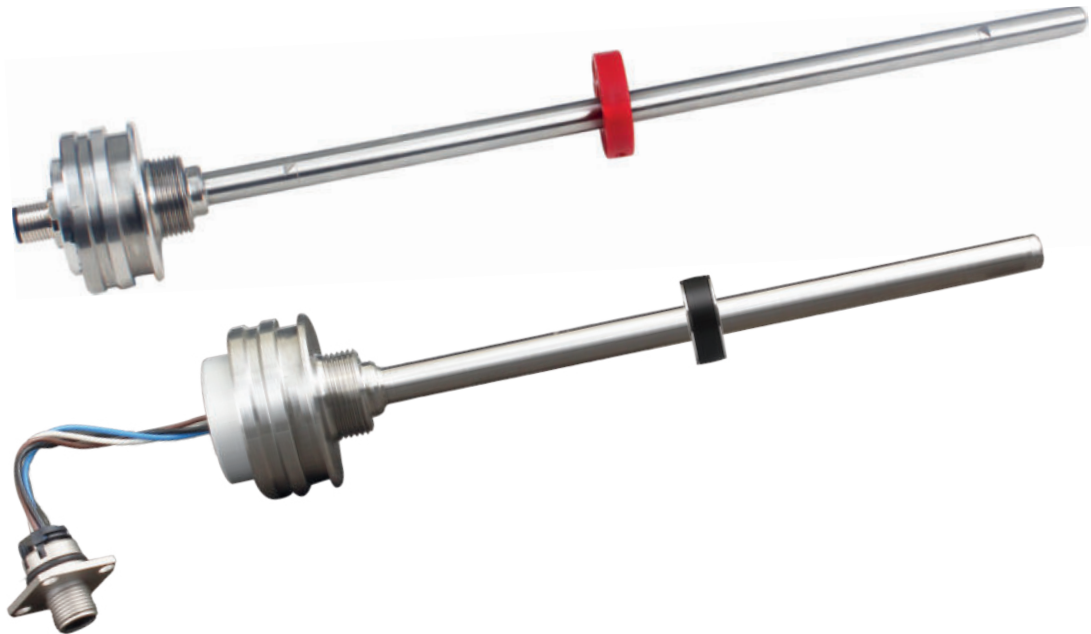
#### Technical Specifications

Measurement stroke	50 - 5000 mm
Resolution	12-16 bit DAC output
Linearity	±0,05% full scale (min. 100 µm)
Repeatability	±0,01% (full scale)
Output	0-10V, 10-0V, 0-20 mA, 20-0 mA, 4-20 mA, 20-4 mA
Power supply	24 VDC (22 -26V)
Displacement speed	< 5 m/s
Update time	(0-600mm, 0,5ms), (600-1500mm, 1ms), (1500-3000mm, 2ms), (1501-5000mm, 3ms)
Load resistance	500 Ohm
Max. consumption	50 mA - 90 mA (depending on stroke length)
Max. output noise	< 5 mVpp
Reverse polarity protection	Up to -30 VDC
Overvoltage protection	Up to +30 VDC
Vibration	EN 60068-2-6 , 5-200 Hz 200 m/s <sup>2</sup> (20g) , 2h 30 min. each axis (x,y,z)
Shock	EN 60068-2-2:2007 500 m/s <sup>2</sup> (50g) , 11ms. (x,y,z axis)
Case dimensions	33 mm x 33 mm
Case material	Anodized aluminium
Rod dimensions	Ø6 mm
Rod material	Stainless steel
Mechanical fixing	Variable brackets
Protection level	IP 65
Operating temperature	-10°C ... +70°C
Storage temperature	-30°C ... +90°C

# MSP

## In-Hydraulic Cylinders Magnetostrictive Position Sensor

- Measuring length 50 - 3000 mm
- 15 bit resolution
- Single - double output options



**Sensopulse®**  
MAGNETOSTRICTIVE

ANALOG 4-20 mA

### Technical Specifications

Measurement stroke	50 - 3000 mm
Resolution	15 bit DAC
Repeatability	±0,005% (full scale)
Output	0-20mA, 4-20mA
Power supply	24 VDC ±10%
Displacement speed	<5 m/s
Linearity	±0,05% full scale (min. 100 µm)
Sampling rate	Up to 2 kHz (depending on stroke length)
Vibration	EN 60068-2-6, 5-200 Hz 200 m/s <sup>2</sup> (20g), 2h 30 min. each axis (x,y,z)
Shock	EN 60068-2-2:2007 500 m/s <sup>2</sup> (50g), 11ms. (x,y,z axis)
Update time	(0-600mm, 0,5ms), (600-1500mm, 1ms), (1500-3000mm, 2ms)
Max. consumption	< 50 mA - 90 mA (depending on stroke length)
Max. output noise	< 5 mVpp
Load resistance	max. 500 Ohm
Reverse polarity protection	Up to -30 VDC
Overvoltage protection	Up to +30 VDC
Pressure rating	< 500 bar
Sealing	O-ring: NBR Backup Ring: PTFE
Mechanical fixing	M24 x 1.5 Flat
Case material	Case: Stainless steel, Tube: Stainless steel, Caps: Anodized aluminium
Protection level	IP 67
Operating temperature	-10°C ... +70°C
Storage temperature	-30°C ... +90°C

## MSP-F

### Internal / External Mounting Hydraulic Cylinders Magnetostrictive Position Sensor

- Measuring length 50 - 3000 mm
- 15 bit resolution
- Single - double output options



**Sensopulse®**  
**MAGNETOSTRICTIVE**

**ANALOG 4-20 mA**

#### Technical Specifications

Measurement stroke	50 - 3000 mm
Resolution	15 bit DAC
Repeatability	±0,005% (full scale)
Output	0-20mA, 4-20mA
Power supply	24 VDC ±10%
Displacement speed	<5 m/s
Linearity	±0,05% full scale (min. 100 µm)
Sampling rate	Up to 2 kHz (depending on stroke length)
Vibration	EN 60068-2-6, 5-200 Hz 200 m/s <sup>2</sup> (20g), 2h 30 min. each axis (x,y,z)
Shock	EN 60068-2-2:2007 500 m/s <sup>2</sup> (50g), 11ms. (x,y,z axis)
Update time	(0-600mm, 0,5ms), (600-1500mm, 1ms), (1500-3000mm, 2ms)
Max. consumption	< 50 mA - 90 mA (depending on stroke length)
Load resistance	max. 500 Ohm
Reverse polarity protection	Up to -30 VDC
Overvoltage protection	Up to +30 VDC
Pressure rating	< 500 bar
Sealing	O-ring: NBR
Mechanical fixing	M18 x 1.5 or 3/4"-16 UNF O-ring
Case material	Case: Stainless steel, Tube: Stainless steel, Caps: Anodized aluminium
Protection level	IP 67
Operating temperature	-10°C ... +70°C
Storage temperature	-30°C ... +90°C

# DMSS

## Digital Non-Contact Magnetostrictive Position Sensor

- Measuring length 100 - 5000 mm
- 15 bit resolution
- Digital output



Technical Specifications - CANopen / CANbus	
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

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

Technical Specifications - ModBUS	
Interface	RS422 / RS485
Protocol	ModBUS
Node ID	1-247
Baud rate	9600 - 115200 Bit/sec.

Technical Specifications - EtherCAT	
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

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

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



# DMSW

## Digital Non-Contact Magnetostrictive Position Sensor

- Measuring length 100 - 5000 mm
- 15 bit resolution
- Digital output



**DIGITAL  
MAGNETOSTRICTIVE**

**Sensopulse®  
MAGNETOSTRICTIVE**

### Technical Specifications - CANopen / CANbus

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

### Technical Specifications - ProfiBUS

Interface	Profibus-DP
Protocol	Profibus-DP V0/V1/V2
Line driver	Galvanic isolation
Node ID	1-127(Default Node ID:20)
Green LED	Power on,Profibus communication active
Red LED	Error, stop mode

### Technical Specifications - ModBUS

Interface	RS422 / RS485
Protocol	ModBUS
Node ID	1-247
Baud rate	9600 - 115200 Bit/sec.

### Technical Specifications - EtherCAT

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

### Technical Specifications - BISS

Interface	RS422 / RS485
Protocol	BISS binary
Status LED	Optional
Green LED	Power on, BISS communication active
Red LED	Error, stop mode

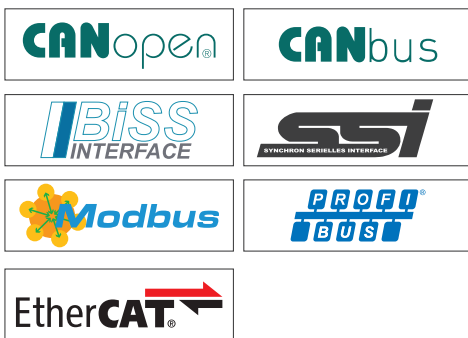
### Technical Specifications - SSI

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

# DMST / DMSTL

## Digital Non-Contact Magnetostrictive Position Sensor

- Measuring length 100 - 5000 mm
- 15 bit resolution
- Digital output



Technical Specifications - CANopen / CANbus	
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

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

Technical Specifications - ModBUS	
Interface	RS422 / RS485
Protocol	ModBUS
Node ID	1-247
Baud rate	9600 - 115200 Bit/sec.

Technical Specifications - EtherCAT	
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

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

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

**NOTE :**

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## WORLDWIDE SALES NETWORK



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