

# DWEM1

## Draw Wire Encoder

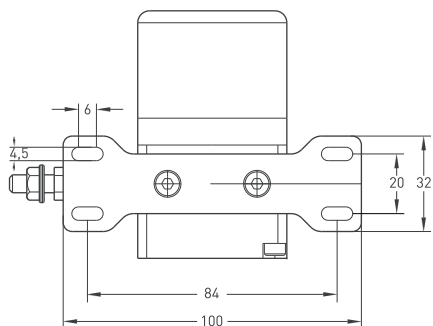
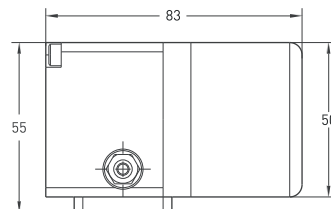
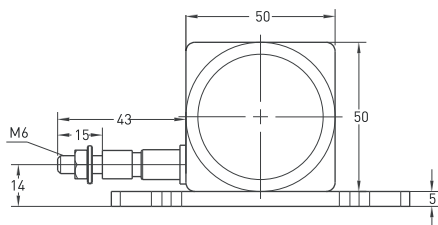
### Metal Case



#### Technical Specifications

Measurement stroke	0 - 1200 mm
Type of measurement	Optical
Resolution	0.1 mm/pulse, 0.2 mm/pulse
Output signal	A,B,Z or A,Ä B,ß Z,Z
Output signal type	Push-Pull, TTL Linedriver or High Linedriver
Power supply	8 -24 VDC, 5 VDC or 5 - 30 VDC
Power consumption (without load)	< 40 mA (24 VDC)
Electrical connections	2.5 m cable (standard)
Displacement speed	2 m/s
Case material	Aluminium
Weight	< 500 gr.
Protection level	IP 65
Operating temperature	-20°C ... +80°C
Storage temperature	-30°C ... +90°C

#### Mechanical Specifications



#### Push-Pull Cable Output

+V : Brown  
 0V : White  
 GND : Shield  
 Ch A : Yellow  
 Ch B : Green  
 Ch Z : Gray

#### TTL - High Linedriver Cable Output

+V : Brown  
 0V : White  
 GND : Shield  
 Ch A : Yellow  
 Ch B : Green  
 Ch Z : Gray  
 Ch A inv. : Blue  
 Ch B inv. : Red  
 Ch Z inv. : Pink

# DWEM2

## Draw Wire Encoder

### Metal Case

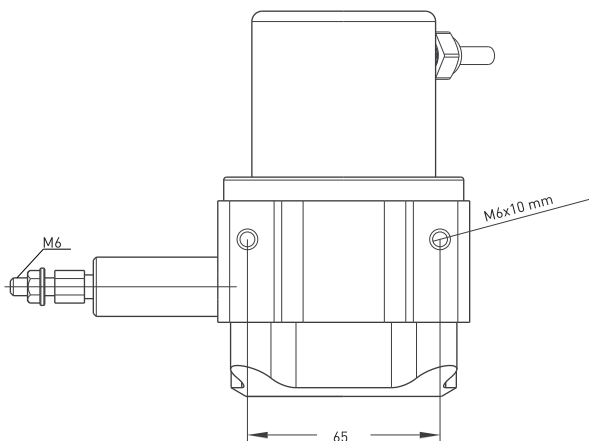
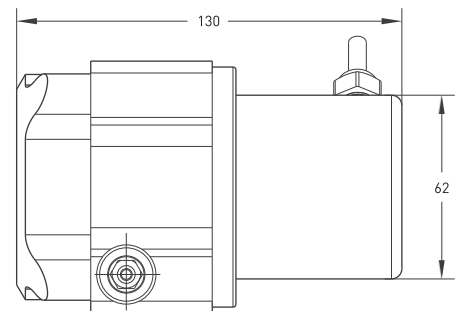
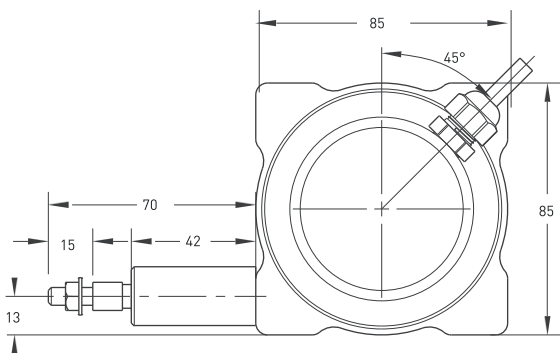
INCREMENTAL 



#### Technical Specifications

Measurement stroke	1250 - 4200 mm
Type of measurement	Optical
Resolution	0.1 mm/pulse, 0.2 mm/pulse
Output signal	A,B,Z or A,Ā B,Ē Z,Ż
Output signal type	Push-Pull, TTL Linedriver or High Linedriver
Power supply	8 -24 VDC, 5 VDC or 5 - 30 VDC
Power consumption (without load)	< 40 mA (24 VDC)
Electrical connections	2.5 m cable (standard)
Displacement speed	2 m/s
Case material	Aluminium
Weight	< 1300 gr.
Protection level	IP 65
Operating temperature	-20°C ... +80°C
Storage temperature	-30°C ... +90°C

#### Mechanical Specifications



#### Push-Pull Cable Output

+V : Brown  
 0V : White  
 GND : Shield  
 Ch A : Yellow  
 Ch B : Green  
 Ch Z : Gray

#### TTL - High Linedriver Cable Output

+V : Brown  
 0V : White  
 GND : Shield  
 Ch A : Yellow  
 Ch B : Green  
 Ch Z : Gray  
 Ch A inv. : Blue  
 Ch B inv. : Red  
 Ch Z inv. : Pink

# DWEM3

## Draw Wire Encoder

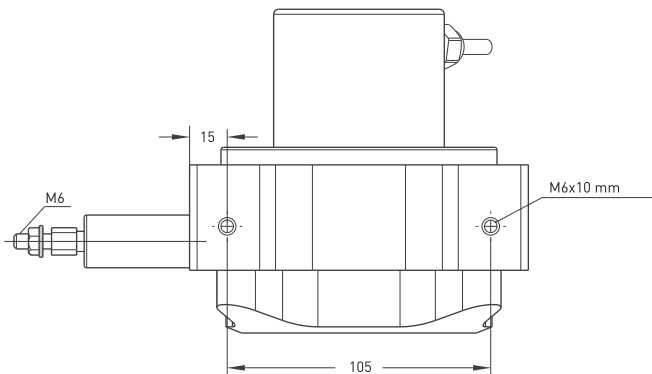
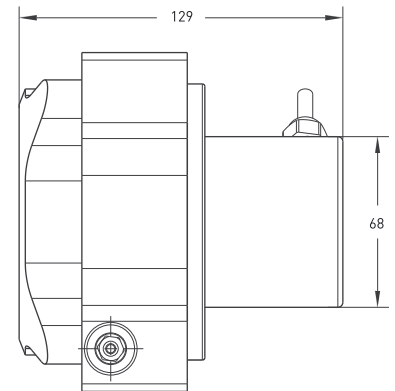
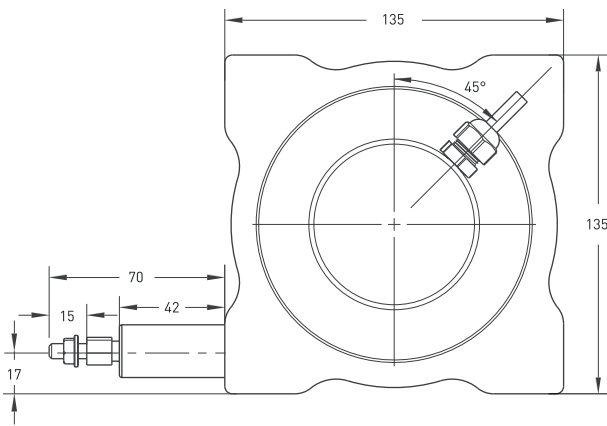
### Metal Case



#### Technical Specifications

Measurement stroke	4250 - 10000 mm
Type of measurement	Optical
Resolution	0.1 mm/pulse, 0.2 mm/pulse
Output signal	A,B,Z or A,Ä B,ß Z,Z̄
Output signal type	Push-Pull, TTL Linedriver or High Linedriver
Power supply	8 -24 VDC, 5 VDC or 5 - 30 VDC
Power consumption (without load)	< 40 mA (24 VDC)
Electrical connections	2.5 m cable (standard)
Displacement speed	2 m/s
Case material	Aluminium
Weight	< 2200 gr.
Protection level	IP 65
Operating temperature	-20°C ... +80°C
Storage temperature	-30°C ... +90°C

#### Mechanical Specifications



#### Push-Pull Cable Output

+V : Brown  
 0V : White  
 GND : Shield  
 Ch A : Yellow  
 Ch B : Green  
 Ch Z : Gray

#### TTL - High Linedriver Cable Output

+V : Brown  
 0V : White  
 GND : Shield  
 Ch A : Yellow  
 Ch B : Green  
 Ch Z : Gray  
 Ch A inv. : Blue  
 Ch B inv. : Red  
 Ch Z inv. : Pink

# DWEM4

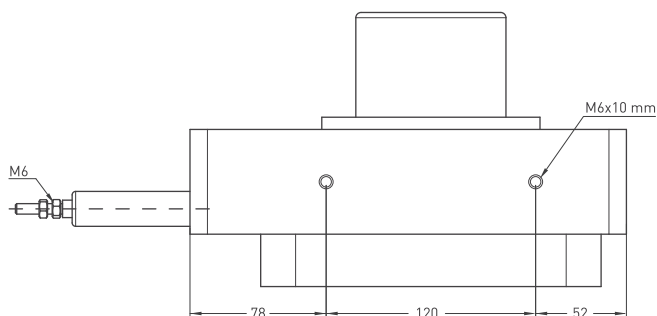
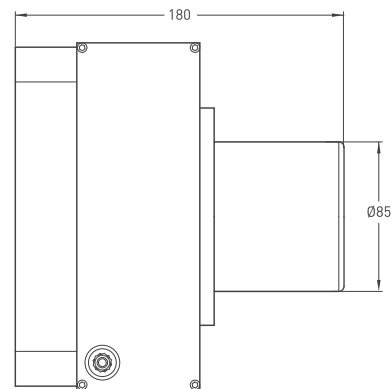
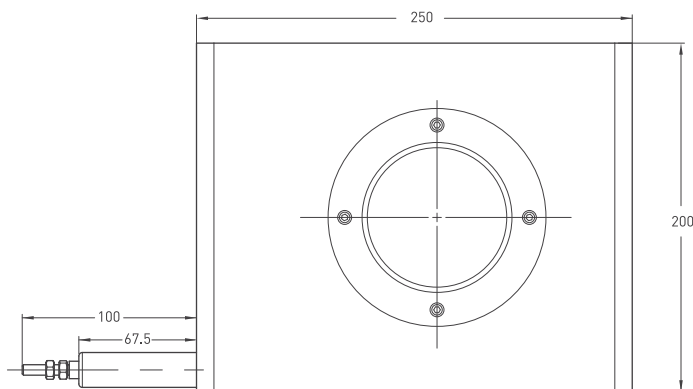
## Draw Wire Encoder Metal Case



### Technical Specifications

Measurement stroke	10000 - 20000 mm
Type of measurement	Optical
Resolution	0,1 mm/pulse 0,2 mm/pulse
Output signal	A, B, Z or A, $\bar{A}$ , B, $\bar{B}$ , Z, $\bar{Z}$
Output signal type	Push-Pull, TTL Linedriver or HLD
Power supply	5 - 24 VDC, 5 VDC
Power consumption (without load)	< 40 mA (24 VDC)
Electrical connections	2,5 m cable (standard)
Displacement speed	2 m/s
Case material	Aluminium
Weight	< 5000 gr
Protection level	IP 65
Operating temperature	-20°C ... +80°C
Storage temperature	-30°C ... +90°C

### Mechanical Specifications



#### Push-Pull Cable Output

+V : Brown  
0V : White  
GND : Shield  
Ch A : Yellow  
Ch B : Green  
Ch Z : Gray

#### TTL - High Linedriver Cable Output

+V : Brown  
0V : White  
GND : Shield  
Ch A : Yellow  
Ch B : Green  
Ch Z : Gray  
Ch A inv. : Blue  
Ch B inv. : Red  
Ch Z inv. : Pink

# DWPM1

## Draw Wire Potentiometer

### Metal Case

RESISTIVE  $\Omega$

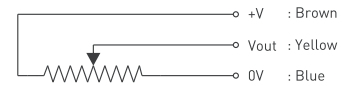
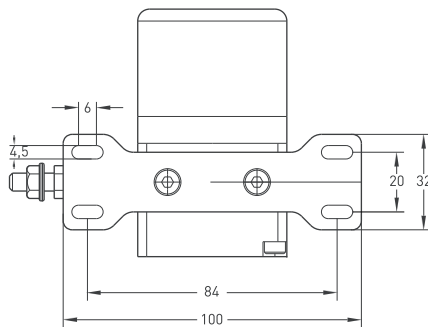
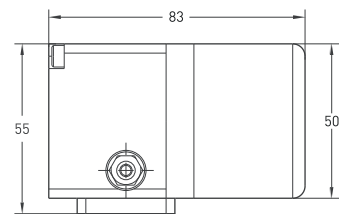
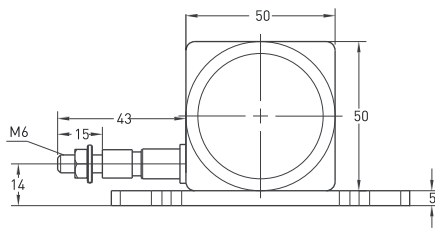
ANALOG 0-10 V  
4-20 mA



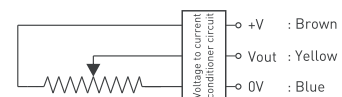
#### Technical Specifications

Measurement stroke	0 - 1200 mm
Type of measurement	Resistive (voltage divider)
Linearity	%0.5
Output type	Potentiometric output : 5 kOhm / 10 kOhm Analog output : 0 - 5V, 0 - 10 V, 0 - 20 mA, 4 - 20 mA
Power supply	24 VDC max. 15 - 30 V (voltage / current output)
Electrical connections	2.5 m cable (standard)
Displacement speed	2 m/s
Case material	Aluminium
Weight	< 350 gr.
Protection level	IP 65
Operating temperature	-20°C ... +80°C
Storage temperature	-30°C ... +90°C

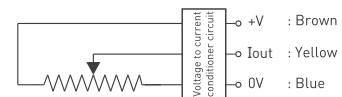
#### Mechanical Specifications



POTENTIOMETRIC OUTPUT



0-10V VOLTAGE OUTPUT



0-20mA / 4-20mA CURRENT OUTPUT

# DWPM2

## Draw Wire Potentiometer

### Metal Case



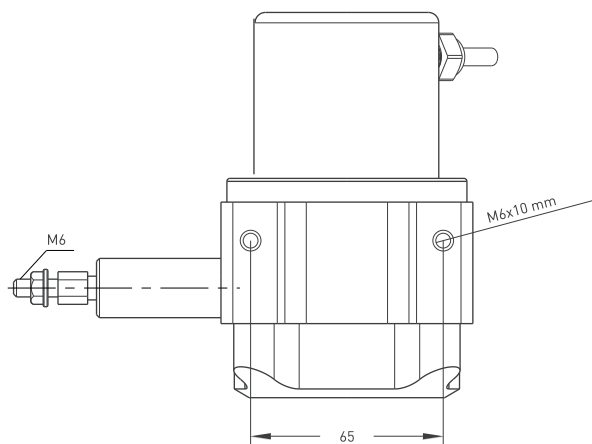
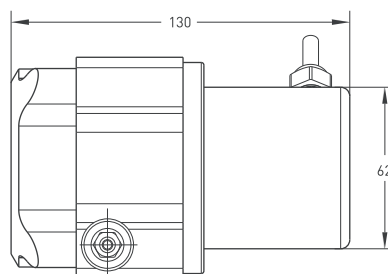
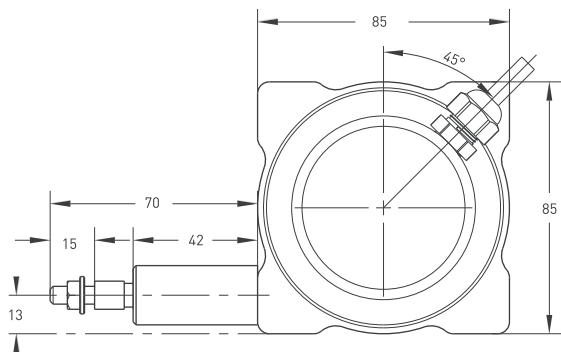
RESISTIVE  $\Omega$

ANALOG 0-10 V  
4-20 mA

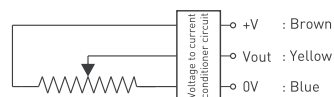
#### Technical Specifications

Measurement stroke	1250 - 4500 mm
Type of measurement	Resistive (voltage divider)
Linearity	%0.5
Output type	Potentiometric output : 5 kOhm / 10 kOhm Analog output : 0 - 5V, 0 - 10 V, 0 - 20 mA, 4 - 20 mA
Power supply	24 VDC max. 15 - 30 V (voltage / current output)
Electrical connections	2.5 m cable (standard)
Displacement speed	2 m/s
Case material	Aluminium
Weight	< 1300 gr.
Protection level	IP 65
Operating temperature	-20°C ... +80°C
Storage temperature	-30°C ... +90°C

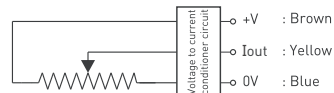
#### Mechanical Specifications



POTENTIOMETRIC OUTPUT



0-10V VOLTAGE OUTPUT



0-20mA / 4-20mA CURRENT OUTPUT

# DWPM3

## Draw Wire Potentiometer

### Metal Case

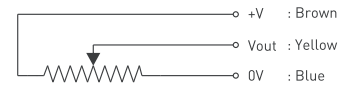
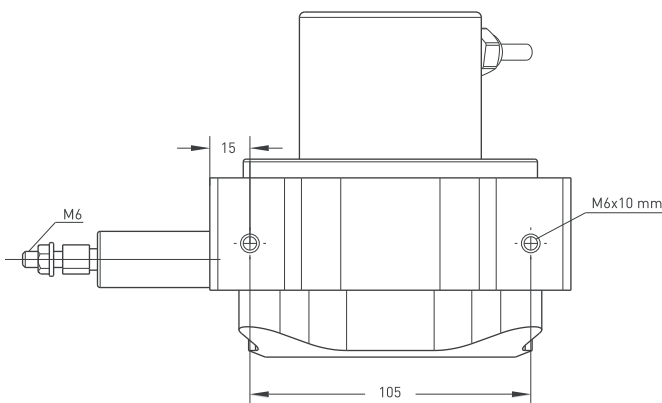
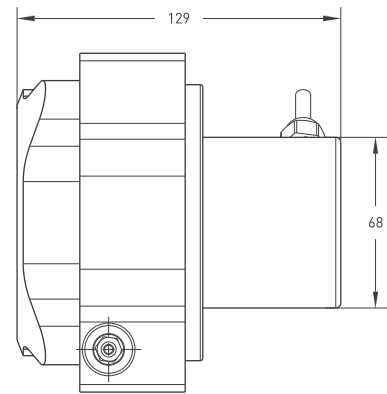
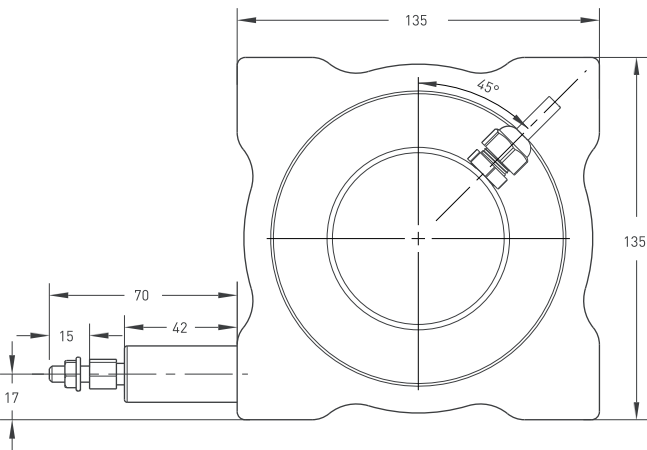
RESISTIVE  $\Omega$

ANALOG 0-10 V  
4-20 mA

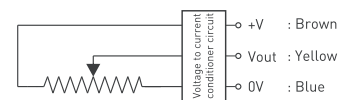


Technical Specifications	
Measurement stroke	4550 - 10000 mm
Type of measurement	Resistive (voltage divider)
Linearity	%0.5
Output type	Potentiometric output : 5 kOhm / 10 kOhm Analog output : 0 - 5V, 0 - 10 V, 0 - 20 mA, 4 - 20 mA
Power supply	24 VDC max. 15 - 30 V (voltage / current output)
Electrical connections	2.5 m cable (standard)
Displacement speed	2 m/s
Case material	Aluminium
Weight	< 2100 gr.
Protection level	IP 65
Operating temperature	-20°C ... +80°C
Storage temperature	-30°C ... +90°C

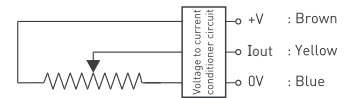
### Mechanical Specifications



POTENTIOMETRIC OUTPUT



0-10V VOLTAGE OUTPUT



0-20mA / 4-20mA CURRENT OUTPUT



# DWPM4

## Draw Wire Potentiometer

### Metal Case



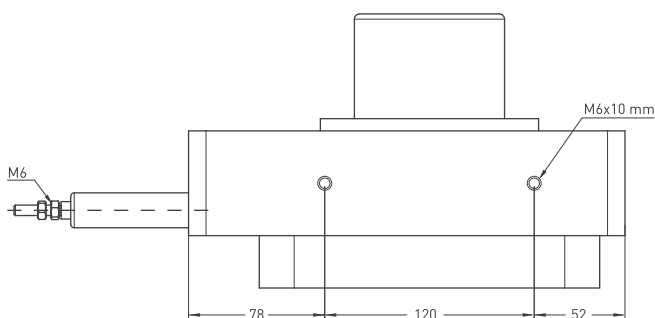
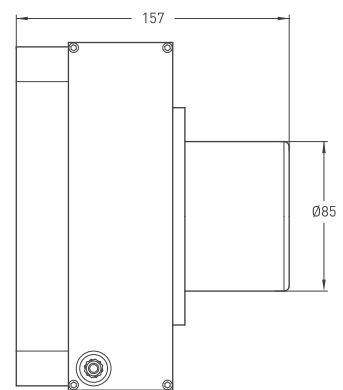
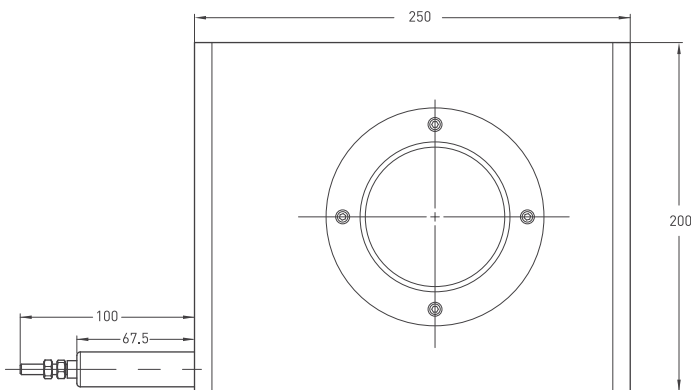
RESISTIVE  $\Omega$

ANALOG 0-10 V  
4-20 mA

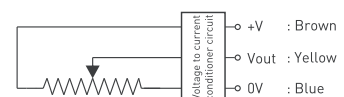
#### Technical Specifications

Measurement stroke	10000 - 20000 mm
Type of measurement	Resistive (voltage divider)
Linearity	0,5 %
Output type	Resistive output : 5 kOhm / 10 kOhm Analog output : 0-5 V, 0-10 V , 0-20 mA yada 4-20 mA
Power supply	24 VDC max. 15 - 30 V (voltage / current output)
Electrical connections	2.5 m cable (standard)
Displacement speed	2 m/s
Case material	Aluminium
Weight	< 5000 gr
Protection level	IP 65
Operating temperature	-20°C ... +80°C
Storage temperature	-30°C ... +90°C

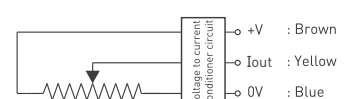
#### Mechanical Specifications



POTENTIOMETRIC OUTPUT



0-10V VOLTAGE OUTPUT



0-20mA / 4-20mA CURRENT OUTPUT

# 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



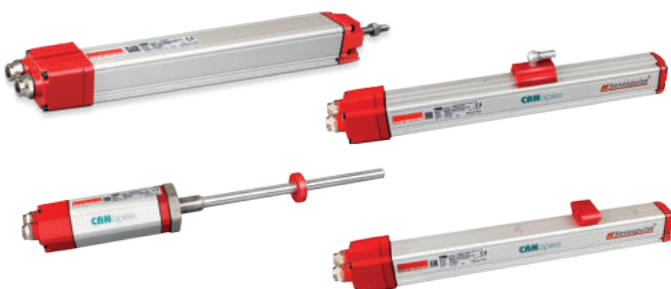
CANopen

PROFIBUS

BISS  
INTERFACE

CANbus

EtherCAT

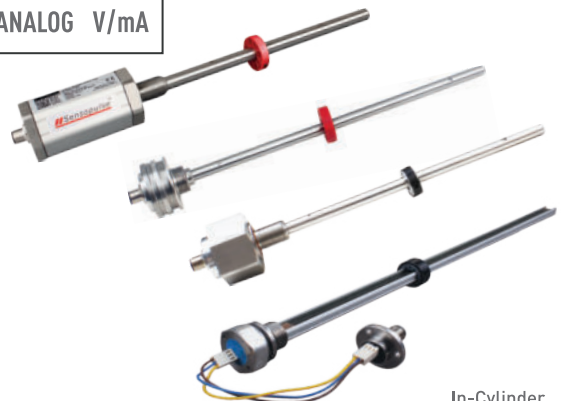


Non-Contact Magnetostrictive  
Position Sensors

**Sensopulse**  
MAGNETOSTRICTIVE

RESISTIVE  
POTENTIOMETRIC

ANALOG V/mA



In-Cylinder  
Position Sensors

# PRODUCTION RANGE

INCREMENTAL 

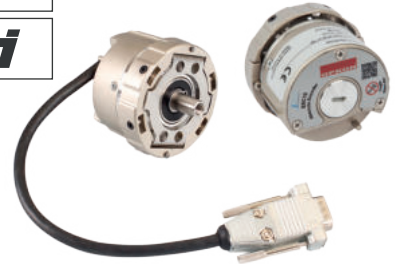


Optic / Magnetic Rotary Encoders

 Sine Cosine

 BISS INTERFACE

 SSI



Optic Rotary Absolute Encoders (for synchronous 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

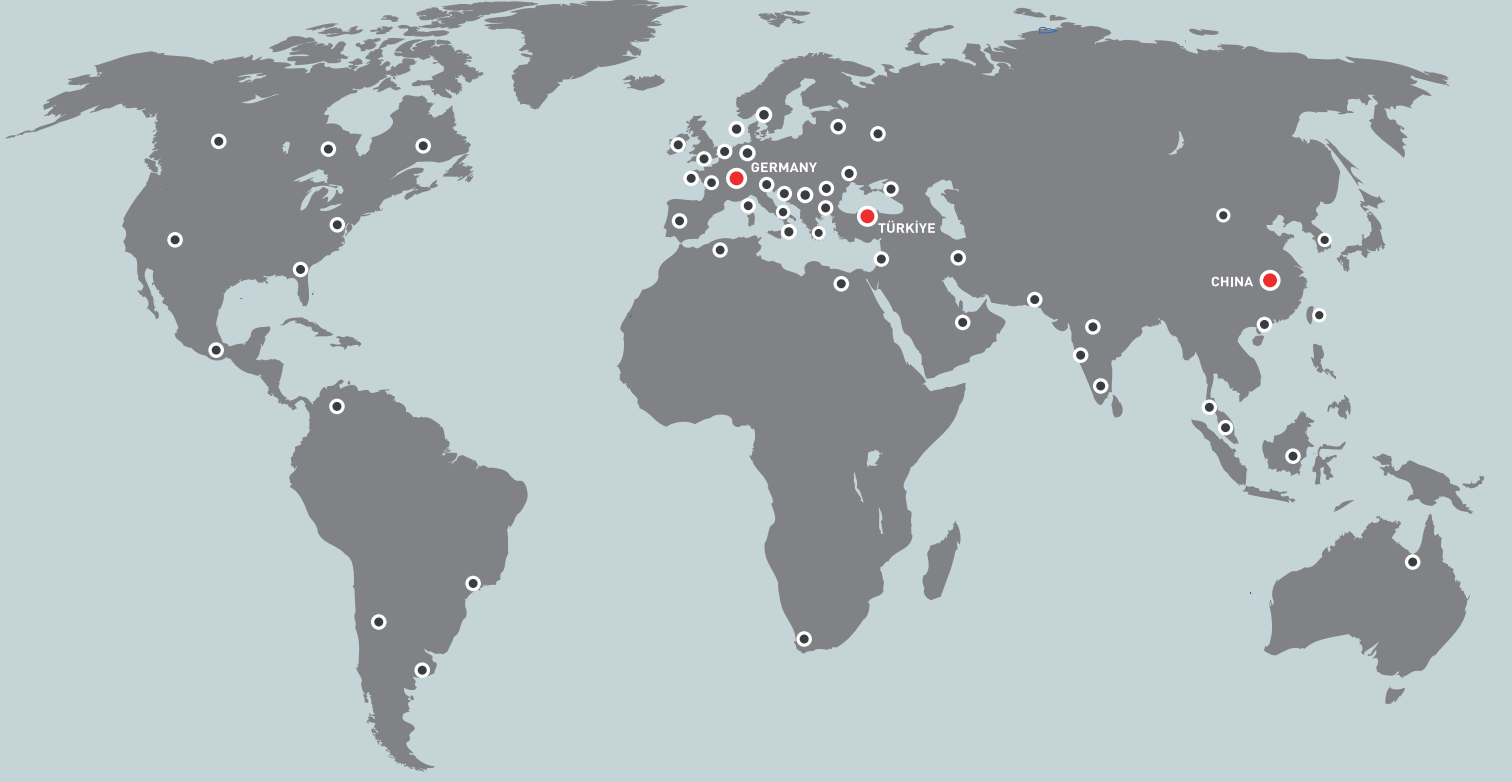


Panel-Type Measurement and Control Devices



Hot Runner Temperature Controls

## WORLDWIDE SALES NETWORK



### Headquarter R&D, Production

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