



## ABOUT OPKON

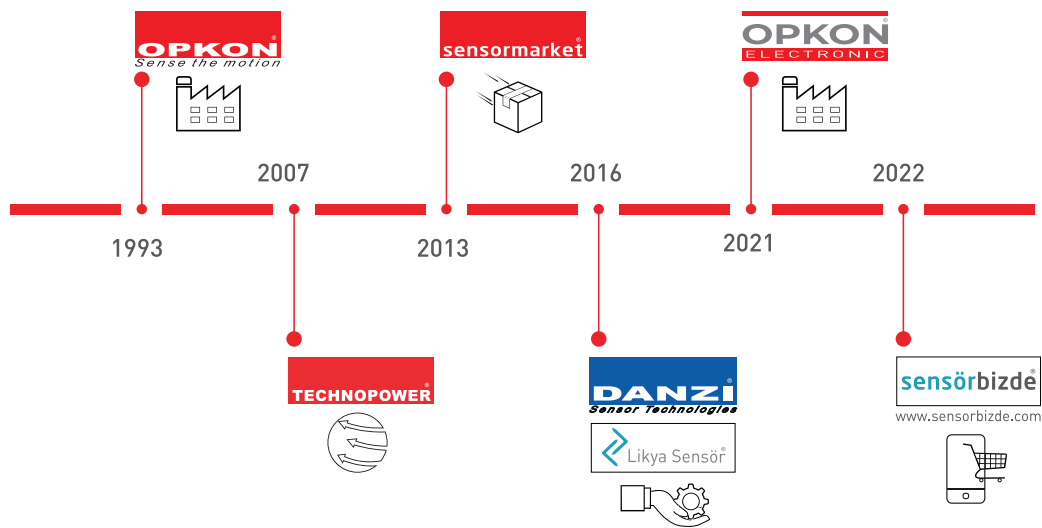
OPKON Optik Elektronik A.S. was established in İstanbul in 1993 to produce high-quality position sensors for the machine manufacturing industry and the general automation sector. We offer our customers advanced technology products and solutions with our expert and experienced engineering team.

OPKON's R&D and manufacturing facilities are located in İstanbul at 4000 sqm production area with 128 experienced engineers and technicians. Main products are non-contact magnetostrictive sensors, linear potentiometric transducers, rotary potentiometers, draw wire sensors, linear encoders, rotary encoders and panel type measurement & control devices.

OPKON provides worldwide international sales, service and support with subsidiary offices in Germany and China as well as 88 distribution partners in more than 45 countries. Thus, OPKON can fastly deliver directly from stock.

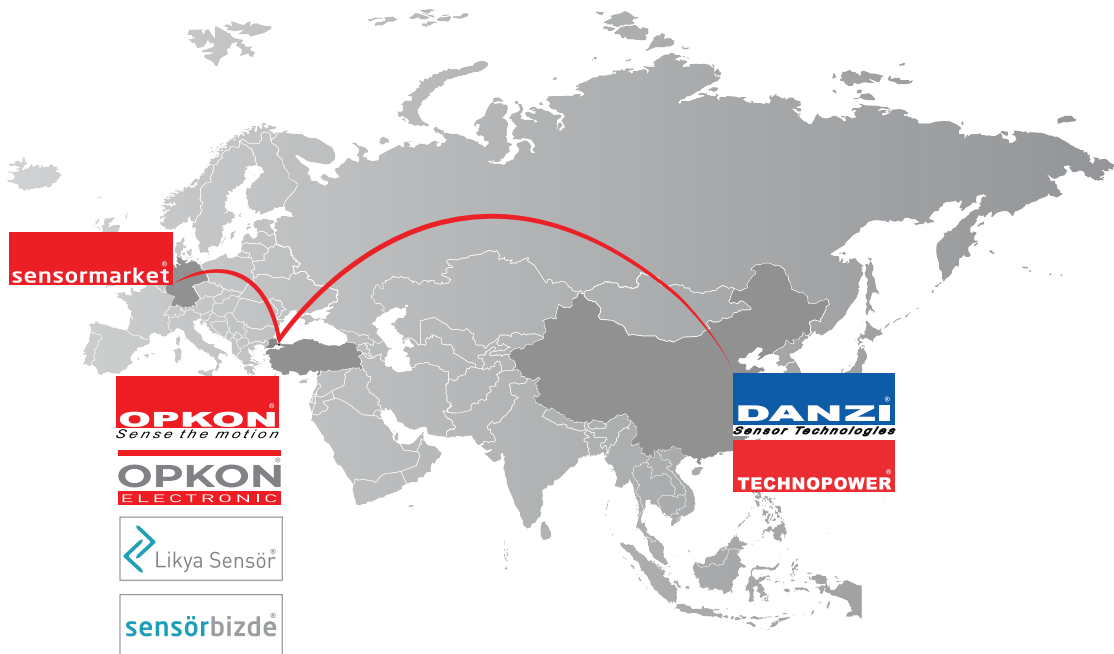
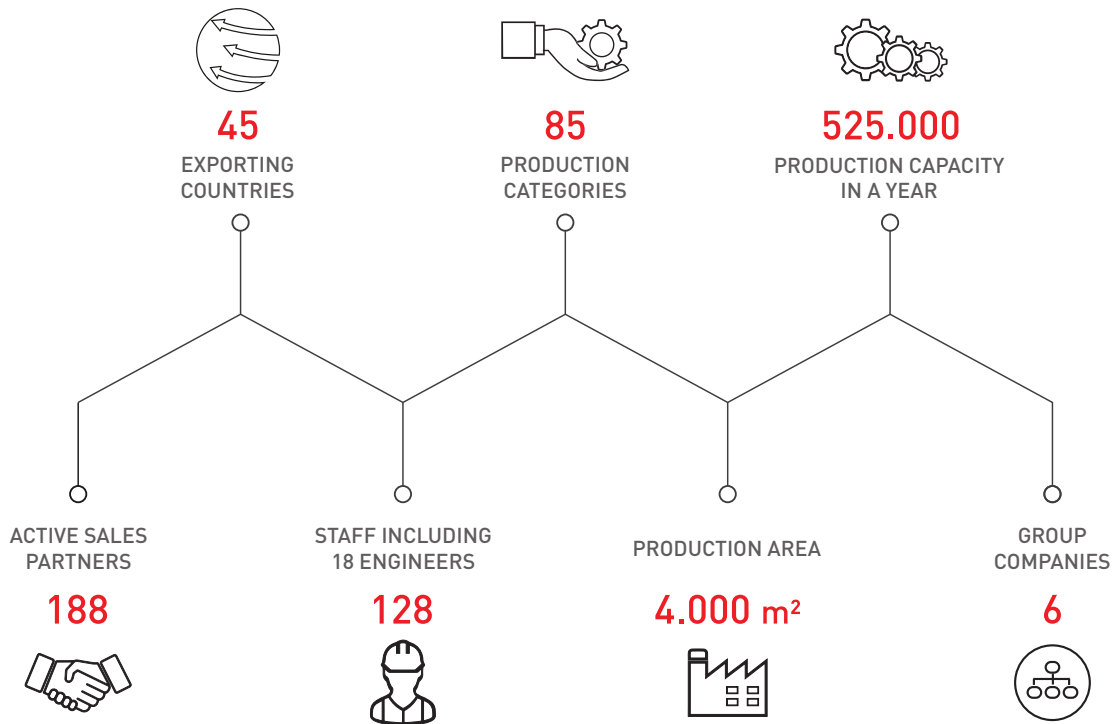
OPKON pursues its international development by designing, manufacturing, and servicing high-tech products where the quality of its expertise makes all the difference.

OPKON's policy is to meet the expectations of the customers technical needs with agile solutions and quality products through cost-efficient production with on-time deliveries. In doing so, we attach great importance to occupational health, safety, and environmental protection.



## WHY OPKON?

- Wide production range
- Fast delivery from stock
- Custom design solutions
- Easy and fast communication
- 30 years' experience in R&D, design and production
- Worldwide sales & service network
- Engineering support
- Updated technology and innovative products



## LONG STROKE RECTILINEAR POSITION TRANSDUCERS (Potentiometric)

Displacement transducers are based on conductive plastic potentiometers for absolute and precise measurement in position control technology.

- 5 kOhm / 10 kOhm
- 30 - 1.950 mm measuring range
- Infinite resolution
- $\pm 0.05\%$  linearity
- $\pm 0.002$  mm repeatability
- 100 million movement mechanical life



## LONG STROKE RECTILINEAR POSITION TRANSDUCERS (Potentiometric)

These position sensors are built-in electronic converter circuits with 0-5V, 0-10, 0-20mA or 4-20mA outputs, to obtain stable position feedback specially for electrical noisy environments.

- 30 - 1.950 mm measuring range
- Infinite resolution
- $\pm 0.05\%$  linearity
- $\pm 0.002$  mm repeatability

Rail and connector type external converters are also in our production range.

## SHORT STROKE RECTILINEAR POSITION TRANSDUCERS (Potentiometric)

Absolute measuring potentiometric displacement transducers in a compact design for limited space applications with high repeatability.

- 10 - 400 mm measuring range
- Infinite resolution
- $\pm 0.02\%$ ,  $0.5\%$  linearity levels
- $\pm 0.002$  mm repeatability
- 30, 50 and 100 million mechanical movements



## ROTARY SENSORS

Rotary resistive sensors are produced with conductive plastic technology. Used for highly sensitive angle and position measurements.

- Measuring angle  $345^\circ \pm 2^\circ$
- $\pm 0.5\%$  linearity
- Infinite Resolution

Hall-effect rotary sensors are based on contactless magnetic measurement technology for absolute position measurement.

## NON-CONTACT MAGNETOSTRICTIVE SENSOR (Analog Output)

Absolute displacement transducers in a robust design, magnetostrictive (contactless) measuring principle with unlimited mechanical life.

- 100 - 5.000 mm measuring range
- 16 bit resolution
- $\pm 0,005\%$  repeatability
- Single and double output options
- 0-5V, 0-10V, 0-20ma, 4-20mA output
- IP 67 protection



## NON-CONTACT, MAGNETOSTRICTIVE SENSORS (Fieldbus Output)

Provides real-time measurements and data transfer with high speed and accuracy based on magnetostrictive measuring technology with digital interfaces.

- 100 - 5.000 mm measuring range
- CANopen, CANbus, ProfiBUS, EtherCAT, Modbus, BiSS, SSI output protocols
- 16 bit resolution
- High speed data transfer



## IN-CYLINDER POSITION SENSORS (Resistive and Magnetostrictive)

In-Cylinder linear position sensors are designed for integration inside a hydraulic or pneumatic cylinder with single or double sensors options for redundancy.

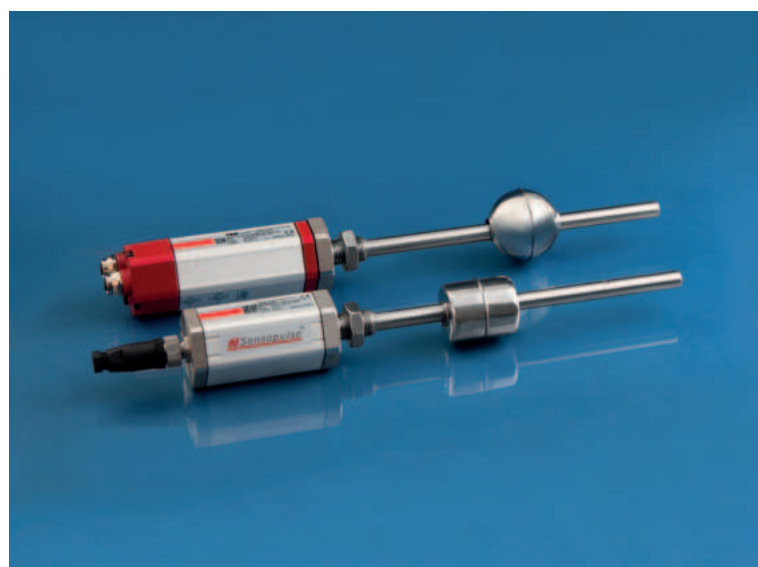
### In-Cylinder linear potentiometers;

- 100 - 1.000 mm measuring range
- 5 kOhm / 10 kOhm

Absolute displacement transducer in rod design for installation in cylinders especially for mobile applications; contactless magnetostrictive measuring principle; non-contact position measurement with unlimited mechanical life.

### In-Cylinder magnetostrictive sensors;

- 100 - 3.000 mm measuring range
- 0-10 V, 0,20mA, 4-20mA output



## NON-CONTACT MAGNETOSTRICTIVE SENSORS FOR LEVEL MEASUREMENT

These magnetostrictive sensors are for level measurement especially in food & beverage industry and also used for other liquid level measurement applications with analog and digital outputs options.

### Analog models;

- 100 - 5.000 mm measuring range
- 0-5V, 0-10V, 0-20mA, 4-20mA analog output
- 16 bit resolution

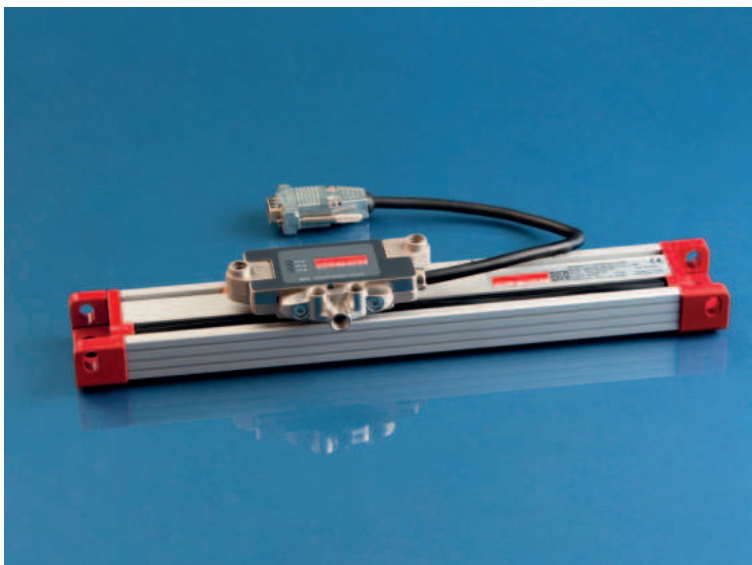
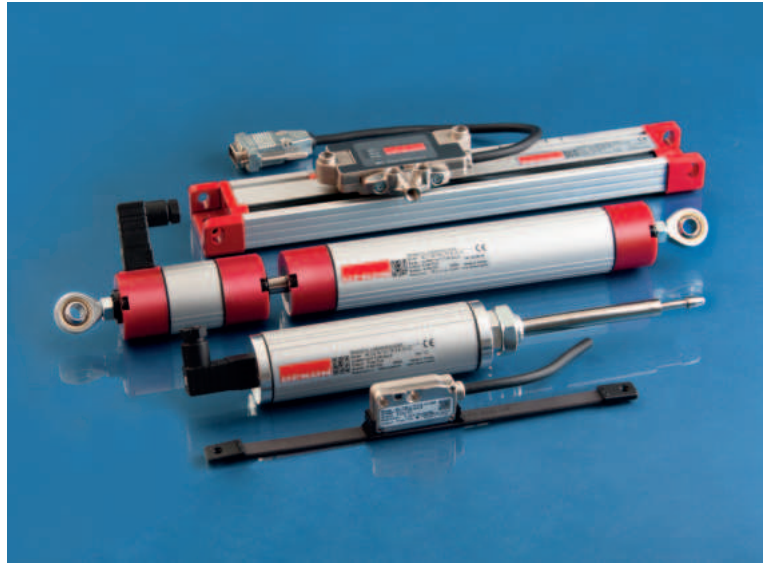
### Digital models;

- 100 - 5.000 mm measuring range
- Digital output protocols

## LINEAR INCREMENTAL POSITION SENSORS

Linear incremental magnetic position sensors are produced up to 50 meters with high accuracy and resolution.

- 15 - 50.000 mm
- 2.5 / 5 / 10 / 12.5 / 20 / 25  $\mu\text{m}$  resolution
- Product models with optional Push-Pull, TTL Linedriver, HTL Linedriver outputs



## PRESS BREAK LINEAR SCALE - MPS

MPS model magnetic linear incremental encoders are designed especially for CNC press brake machines.

- Measuring range 150 - 2000 mm
- $\pm 5 \mu\text{m}$  repeatability
- 5  $\mu\text{m}$  resolution
- $\pm 5 \mu\text{m}$  accuracy
- High precision bearing for smooth movement
- Full symmetrical
- Adjustable reference
- LED status indicator



## ROTARY ENCODERS (OPTICAL / MAGNETIC)

Optic encoders produced with reflective and transmissive technology. Many mechanical and electrical specifications are available.

- 40, 50, 58, 80 or 100 mm body diameter
- 2-5000 ppr high resolution
- Push-Pull, TTL Linedriver or HTL Linedriver and SSI output options



## ABSOLUTE, INCREMENTAL MOTOR FEEDBACK ENCODERS (SINE-COSINE / SSI-BISS)

High performance SSI / BISS / SIN-COS output encoders for industrial servo motor applications. Specially used for gearless synchronous elevator motor applications.

- 2048 resolution
- 1 Vpp / 1ppr, absolute C/D communication signals
- 1 Vpp / 2048 ppr. incremental A/B signals

## DRAW WIRE SENSORS

Draw wire Sensors precisely measure the position and have potentiometric and encoder output options with up to 20 meter measurement strokes.

### Draw Wire Potentiometer;

- Resistance or analog output
- 0.1%, 0.5%, 0.05% linearity

### Draw Wire Encoder;

- Incremental
  - 1000 Pulse (0,2 mm / Pulse)
  - 2000 Pulse (0,1 mm / Pulse)
- Push-Pull, TTL Linedriver, HLD



## ANALOG TO FIELDBUS CONVERTERS

Rail Type Converters transports the signal from analog output to digital fieldbus output. The converters are with galvanic isolation between analog and digital output.

- Analog-EtherCAT converter
- Analog-PROFIBUS converter
- Analog-Modbus converter
- Analog-CANopen converter

## PANEL-TYPE MEASUREMENT AND CONTROL DEVICES

They are microprocessor-based devices with 200 kHz accuracy

- Fast incremental counter
- Indicator for the potentiometric sensors
- Distance and position measurement and control device for potentiometers
- Measurement and control device for voltage/current input potentiometers
- Digital potentiometer
- Loadcell weight measurement controller
- Temperature measurement controller



## HOT RUNNER TEMPERATURE CONTROLLERS

In hot runner plastic injection molds, our hot runner control modules with microprocessor, high measurement and control accuracy, and SSL output have been a leading product widely used in the industry for many years.

- Microprocessor-based
- 16-bit high-resolution A/D converter
- 1° control accuracy
- Soft start mode between 0-150°C (adjustable)
- PID control
- Standby mode operation (adjustable)
- Thermocouple failure alarm indicator
- Proportional operation mode



#### TÜRKİYE

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