

# PRODUCT BROCHURE



# ABOUT VARIOHM GROUP

We are a group of companies dedicated to delivering top-tier engineering solutions. By combining our strengths, we offer innovative sensing, switching, measurement, calibration and motion control solutions to customers worldwide. Our expertise covers a wide range of industries and sectors including, but not limited to, industrial, medical, transport, renewable energy and security.

## Our Businesses

Each company in Variohm Group brings its own unique skills, knowledge and experience to the table. It is this insight that allows us to partner with our customers to create custom solutions that exceed expectations.

We have in-house engineering and manufacturing teams and prioritise a customer-centric approach. Our blend of specialist knowledge, experience and fresh ideas helps us respond quickly to our customers' needs.

With a wide range of complementary products and services, we offer expert guidance and deliver solutions tailored to each project.



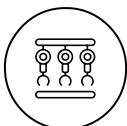
# GLOBAL SENSOR AND MEASUREMENT SOLUTIONS

A global manufacturer of components for sensing, measuring and controlling temperature, movements, pressure, force, position, load, weight and incline.

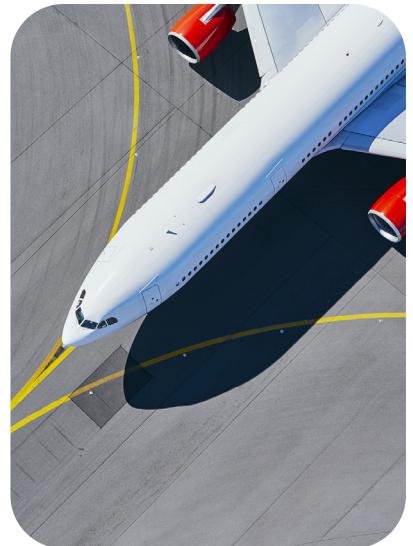
## OUR MARKETS



INDUSTRY



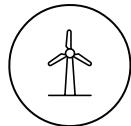
MEDICAL



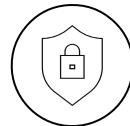
TRANSPORT



ENERGY



SECURITY



# PRODUCT OVERVIEW

## POSITION SENSORS

### LINEAR POTENTIOMETERS



- ▶ 0-10...3000 mm measurement range
- ▶ Temperature range -40...150°C (175°C short term)
- ▶ Sealing up to IP67

### ROTARY HALL EFFECT SENSORS



- ▶ 0-30°...360° angle measurement range
- ▶ Temperature range -40...150°C
- ▶ Full contactless versions available

### MAGNETIC ENCODERS



- ▶ Kits and modules
- ▶ Low and High Resolution
- ▶ Full contactless versions available

### LINEAR INDUCTIVE SENSORS



- ▶ 0-2...1500 mm measurement range
- ▶ Sealing up to IP68 (submersible version to 3500m)
- ▶ Intrinsically safe versions with ATEX, IECEx and CSA approval

### CABLE EXTENSION TRANSDUCERS



- ▶ 0-38mm...43m measurement range
- ▶ Sealing up to IP68 (submersible version to 3000m)
- ▶ Intrinsically safe versions with ATEX/IECEx/SIL2 ratings approval

### ROTARY INDUCTIVE SENSORS



- ▶ Available in any measurement angle up to 360° (e.g. 71°)
- ▶ Sealing up to IP68 350 Bar (submersible version)
- ▶ Intrinsically safe versions with ATEX, IECEx and CSA approval

## INCLINOMETER



- ▶ 0-30°...360° tilt angle measurement range
- ▶ Analogue, Digital output signals or as display
- ▶ Excellent stability

## MAGNETIC TILT SWITCHES



- ▶ Non-mercury RoHS compliant
- ▶ Fine, 11° tilt switching
- ▶ Omni-directional

## SPEED SENSORS



- ▶ Hall Effect sensors
- ▶ Machined and molded housing
- ▶ Use with multipole magnet wheel or trigger wheel

## INDUCTIVE TILT SENSORS



- ▶ Up to 160° tilt angle measurement range
- ▶ Sealing up to IP68 350 Bar (submersible version)
- ▶ Intrinsically safe versions with ATEX, IECEx and CSA approval

## PROXIMITY SENSORS



- ▶ Solid state and non-contact design
- ▶ Machined and molded housing
- ▶ For use with permanent magnet target

## GEAR TOOTH SENSORS



- ▶ Solid state ferrous detecting device
- ▶ Machined and molded housing
- ▶ Self adjusting to target gear tooth wheel



# PRODUCT OVERVIEW

## POSITION SENSORS

### BALL AND PLUNGER SWITCHES



- ▶ True waterproof solution over millions of cycles
- ▶ Full stainless steel
- ▶ From -40°C to 150°C

### MAGNETIC SWITCHES



- ▶ Robust, all-metal alternative to reed switches
- ▶ Normally open or closed directional proximity switch
- ▶ Range custom biased for the application

### MOTION DETECTORS



- ▶ Intelligent FMCW Radar
- ▶ Filters out motion nuisances
- ▶ Relay or POE (open API) output

### LIMIT SWITCHES



- ▶ True waterproof solution with actuator
- ▶ Custom actuator and mounting plate designs
- ▶ Different housing and rating options

### SECURITY SWITCHES



- ▶ Highest security ratings (UL634 Levels 1 and 2)
- ▶ Armored surface-mount or concealed forms
- ▶ Fire-door rated (UL10c) door position switches

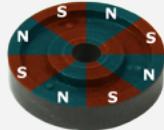
### ANTI CLIMBING SYSTEM FOR FENCES



- ▶ Suitable for any metal fence types
- ▶ Accommodates environmental disturbances
- ▶ 3-axis MEMS technology

## MAGNETS

### MULTIPOLE MAGNET RINGS



- ▶ Radial and Face multipole magnet rings
- ▶ Tight tolerances on pole location
- ▶ Multiple magnetic material mixes for different field strengths

### PROXIMITY TARGET MAGNETS



- ▶ Using a proprietary high energy Neodymium-Iron-Boron compound
- ▶ Slide by or head on models
- ▶ Standard models are axially magnetised

### CUSTOM MOLDED MAGNETS



- ▶ Injection moulding with custom forms
- ▶ Several alloy compositions available
- ▶ Temperature capability up to over 150°C is possible

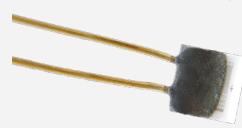
## TEMPERATURE SENSORS

### NTC THERMISTORS



- ▶ Temperature ranges up to 250°C
- ▶ High accuracy versions
- ▶ Tolerances between  $\pm 0.1^\circ\text{C}$  over 0-70°C range and 1% at 25°C

### RTD ELEMENTS



- ▶ Temperature ranges up to 500°C, Cryogen version down to -200°C
- ▶ Typical PT100, PT1000; others on request
- ▶ Accuracy class A (F0.15) and B (F0.3)



# PRODUCT OVERVIEW

## TEMPERATURE SENSORS

### TEMPERATURE PROBES



- ▶ Temperature ranges from -96°C up to 350°C
- ▶ RTD or NTC based probes
- ▶ Custom housings

### TEMPERATURE TRANSMITTERS



- ▶ Temperature range -40...150°C
- ▶ Analogue output signals
- ▶ Wide range of design options

### TEMPERATURE SWITCHES



- ▶ Temperature ranges from -25°C up to +450°C
- ▶ Normally open / Normally closed versions
- ▶ Self holding resistor version

### CURRENT SENSITIVE THERMAL SWITCHES



- ▶ Temperature range 40...150°C
- ▶ Normally closed
- ▶ Self holding resistor

### TEMPERATURE SWITCHES FOR HARSH ENVIRONMENT



- ▶ Set point ranges from 0°F-650°F (-17.8°C-343°C)
- ▶ RTCA DO-160C environmental qualification
- ▶ Hermetically sealed

### TEMPERATURE SWITCHES FOR HIGH RANGE TEMPERATURES



- ▶ Set point ranges from 0°F-1750°F (-17.8°C-954°C)
- ▶ RTCA DO-160C environmental qualification
- ▶ Different configuration and mounting options

# PRESSURE SENSORS

## INDUSTRIAL PRESSURE TRANSMITTERS



- ▶ 0-20 mbar up to 5000bar measurement range
- ▶ Analogue and digital output signals, incl. low energy
- ▶ Wide range of design options

## COMBINED PRESSURE- / TEMPERATURE TRANSMITTERS



- ▶ 0-0,6 bar up to 1000bar measurement range
- ▶ Temperature range -40...150°C
- ▶ Integrated or exposed temperature probe

## PRESSURE SWITCHES - LOW PRESSURE



- ▶ 0-7 PA up to 8.3 bar switching range
- ▶ Mechanical switching-based principle
- ▶ Up to 20 million operation cycles

## MINIATURE PRESSURE TRANSMITTERS



- ▶ 0-600 mbar up to 500bar measurement range
- ▶ Diameter down to 12 mm
- ▶ Hermetically welded stainless steel construction

## DIFFERENTIAL PRESSURE TRANSMITTER



- ▶ 0-250 Pa up to 5000 Pa measurement range
- ▶ Accuracy between  $\pm 1,5\%$  full stroke at room temperature
- ▶ PCB or DIN RAIL mount version

## PRESSURE SWITCHES - HIGH PRESSURE



- ▶ 0-0,3 bar up to 350 bar switching range
- ▶ Mechanical switching-based principle
- ▶ Up to 10 Mio operation cycles



# PRODUCT OVERVIEW

## LOAD & FORCE

### S - TYPE LOAD CELLS



- ▶ 0-25kg up to 30t
- ▶ Accuracy class C3 and C4
- ▶ Alloy steel and stainless-steel construction

### PLATFORM LOAD CELLS



- ▶ 0-0,3kg up to 500kg
- ▶ Accuracy class C3, C4 and C5
- ▶ Aluminium or stainless-steel construction

### TORQUE SENSOR



- ▶ 0,01-5000 Nm measurement range
- ▶ Rotating and non-rotating sensors
- ▶ Relative non-linearity  $\leq \pm 0,05\% \text{ F.S.}$

### SHEAR BEAM LOAD CELLS



- ▶ 0-5kg up to 30t
- ▶ Accuracy class C3 and C4
- ▶ Alloy steel and stainless-steel construction

### COMPRESSION LOAD CELLS



- ▶ 0-60kg up to 200t
- ▶ Accuracy class C3, C4 and C5
- ▶ Stainless-steel construction

### MINIATURE AND PRECISION LOAD CELLS



- ▶ Wide range of measuring ranges up to 1 MN
- ▶ Highest accuracy up to a relative non-linearity of 0,035% F.S.
- ▶ Wide range of types: tension, compression, miniature, bending beam, multi-component

## FOOT SWITCHES

### GENERAL FOOT SWITCHES



- ▶ Plastic and metal housing
- ▶ Wide range of colour and logo options
- ▶ Different switch functions

### INDUSTRIAL FOOT SWITCHES



- ▶ Single and multi pedal
- ▶ Safety relevant functions
- ▶ Emergency stop versions

### MEDICAL FOOTSWITCH DESIGN PLATFORM



- ▶ Modular product line
- ▶ Wide range of colour and logo options
- ▶ Medical standard UL 60601-1 Approved

### BLUETOOTH MEDICAL FOOTSWITCHES



- ▶ Single and multi pedal
- ▶ Redundant functions
- ▶ Medical standard UL 60601-1 Approved Wireless System

### ELECTRICAL HAND CONTROLS



- ▶ Different housing models
- ▶ Low power switching and USB output
- ▶ Medical standard UL 60601-1 Approved

### INFRARED HAND CONTROLS



- ▶ Plastic or robust aluminium housing
- ▶ Standard up to 8 functions
- ▶ Safe line of sight operation

## HAND CONTROLS



# PRODUCT OVERVIEW

## HAND CONTROLS

### INFRARED NONCONTACT SWITCH



- ▶ Plastic or robust aluminum housing
- ▶ Different switch functions
- ▶ Factory adjustable activation range

### WATERPROOF SWITCHES



- ▶ True waterproof solutions
- ▶ Momentary and latching function
- ▶ From -65°F (-53°C) to +221°F (105°C)

## AIR OPERATED CONTROLS

### AIR OPERATED HAND CONTROLS



- ▶ Up to 6 switching channels
- ▶ Wide range of colours and symbols
- ▶ Ideal for high humidity environments

### PNEUMATIC FOOTSWITCHES



- ▶ Plastic or metal housings
- ▶ Ideal for wet environments
- ▶ For use with Herga air switches

### ACCESSORIES FOR PNEUMATIC SYSTEMS



- ▶ Up to 6 switching channels
- ▶ Wide range of colours and symbols
- ▶ Ideal for high humidity environments

### AIR SWITCHES



- ▶ UL-CSA-approved versions available
- ▶ Various port size & orientation
- ▶ Momentary and latching

# INSTRUMENTATION AND ANCILLARY EQUIPMENT

## SENSOR ELECTRONICS



- ▶ High-precision indicators and amplifiers for sensors and norm signals
- ▶ Fieldbus, digital and analog output
- ▶ Cabinet or inline housing (IP65)

## MEASUREMENT AND TEST DEVICES



- ▶ X/Y monitoring of industrial processes
- ▶ High-speed resistance measurement
- ▶ Battery measuring modules

## CALIBRATION DEVICES FOR MECHANICAL VALUES



- ▶ Supported sensors: Strain gauge, normalized signal  $\pm 5$  V,  $\pm 10$  V, potentiometric sensors
- ▶ Storage of up to 16 measurement programs
- ▶ Data logger for up to 30,000 measurements

## CALIBRATION SOURCES FOR TEST BAY AND LAB



- ▶ DC voltage  $\pm 100$  nV ...  $\pm 100$  V
- ▶ DC current  $\pm 100$  nA ...  $\pm 50$  mA
- ▶ 12 thermocouple types (accuracy from  $\pm 0.1$  K)

## CALIBRATION INSTRUMENTS FOR RTD AND RESISTANCE



- ▶ Resistance range:  $10 \text{ m}\Omega$  ...  $1.2 \text{ M}\Omega$  (accuracy from  $\pm 0.003\%$   $\pm 3 \text{ m}\Omega$ )
- ▶ Pt100...Pt1000 and Ni100...Pt1000 (accuracy from  $\pm 0.02^\circ\text{C}$ )
- ▶ Temperature coefficient: from  $<1 \text{ ppm/K}$

# OUR CORE SERVICES



**In-House Engineering** - Our engineering team develops solutions to complex sensing and switching challenges. Rigorous testing and compliance with applicable industry standards means we can create and refine custom solutions, taking them from concept to full implementation.



**New Product Development** - We are a strategic partner for many of our customers, acting as an extension to their in-house engineering team. Whether it's detailed product designs, prototypes or finished components, we offer a complete new product development solution that helps our customers maintain their competitive edge.



**Product Customisation** - Working together with our customers ensures we understand what they need. We can customise products from our standard range to ensure they are a perfect fit.



**On-Site Manufacturing** - We have manufacturing facilities in the UK, Germany, Hungary and the USA which gives us control over production. Strict quality controls and the flexibility to adjust products and production timescales mean we reduce waste and build long-term relationships with our customers.



**Industry-Leading Supply Partners** - By working with trusted suppliers who meet strict standards, we can consistently offer top-quality products and services that are often leading the way in innovation. Our close and collaborative partnerships enable us to create the best solution for your needs.



**Accreditations** - Businesses within Variohm Group hold a wide range of accreditations including ISO14001, ISO9001, ISO45001, ISO13485 and ISO 17025. These certifications demonstrate our commitment to operating at the highest standards across all facets of our business.

# OUR BUSINESSES



## SPECIALISES IN:

- ▶ Load and Force
- ▶ Torque Sensors
- ▶ Displacement Sensors
- ▶ Pressure Transducers
- ▶ Sensor Electronics
- ▶ Measurement & Test Devices



✉ info@burster.de  
📞 +49 (0) 7224 6450  
🌐 www.burster.com



## SPECIALISES IN:

- ▶ Linear Position Sensors
- ▶ Thermal Switches
- ▶ Waterproof Switches



✉ sales@cpi-nj.com  
📞 +1 973 887 9400  
🌐 www.cpi-nj.com



## SPECIALISES IN:

- ▶ Position Sensors
- ▶ Pressure Sensors
- ▶ Temperature Sensors
- ▶ Encoders
- ▶ Load and Force
- ▶ Motorsport Sensors



✉ info@variohmgroup.com  
📞 +44 (0) 1327 351004  
🌐 www.variohm.com



## SPECIALISES IN:

- ▶ Motion Control Solutions
- ▶ Motors
- ▶ Drives
- ▶ Actuators
- ▶ Gearboxes



✉ sales@heason.com  
📞 +44 140 379 2300  
🌐 www.heason.com



INDUSTRY



MEDICAL



TRANSPORT



ENERGY



SECURITY

# OUR BUSINESSES



## SPECIALISES IN:

- ▶ Medical Footswitches
- ▶ Industrial Footswitches
- ▶ Pressure and Vacuum Switches
- ▶ Air Operated Switches
- ▶ Hand Controls



✉ sales@herga.com  
📞 +44 128 470 1422  
🌐 www.herga.com



## SPECIALISES IN:

- ▶ Position Sensors
- ▶ Vibration Sensors
- ▶ Torque Sensors
- ▶ Force and Load
- ▶ Instrumentation and Displays



✉ info@ixthus.co.uk  
📞 +44 132 736 2297  
🌐 www.ixthus.co.uk



## SPECIALISES IN:

- ▶ Overtemperature Protection
- ▶ Temperature Limiters
- ▶ Temperature Sensors
- ▶ Thermal Fuses
- ▶ Digital Keypads



✉ info@limitor.de  
📞 +49 7181 483 900  
🌐 www.limitor.de



## SPECIALISES IN:

- ▶ Security Contacts
- ▶ Motion Sensors
- ▶ Switches
- ▶ Sensors
- ▶ Perimeter Security



✉ info@magnaspHERE.com  
📞 +1 262 347 0711  
🌐 www.magnaspHERE.com

# OUR BUSINESSES



## SPECIALISES IN:

- ▶ Encoders
- ▶ Magnetic Sensors
- ▶ Gear Tooth Sensors
- ▶ Sensor Magnets
- ▶ Custom Multi-Pole Molded Magnets



✉ sales@phoenixamerica.com  
📞 +1 888 801 1422  
🌐 www.phoenixamerica.com



## SPECIALISES IN:

- ▶ Linear Position Sensors
- ▶ Rotary Position Sensors
- ▶ Tilt Sensors
- ▶ Submersible, Waterproof Sensors
- ▶ ATEX and IECEx Approved Intrinsically Safe Sensors



✉ sales@positek.com  
📞 +44 124 282 0027  
🌐 www.positek.com





# VARIOHM

G R O U P



UK  
**+44 (0) 1327 351004**

Europe & ROW  
**+49 (0) 6221 39 20 100**

North America  
**+1 (0) 866 315 7032**



[info@variohmgroup.com](mailto:info@variohmgroup.com)



[Variohm Group](#)



[www.variohmgroup.com](http://www.variohmgroup.com)

