



Variohm  
Group

The Variohm Group offers customised products for sensing, motion and control.



**1974 Foundation of Variohm Components**

**2003 Acquisition of Ixthus Instrumentation**

**2006 Foundation of Variohm Holdings**

**2007 Acquisition of Heason Technologies**

**2013 Acquisition of Herga Technology Ltd**

**2017 Variohm Holdings becomes part of  PLC: <http://www.discoverieplc.com>**

**2019 Acquisition of Positek Ltd**

**2020 Acquisition of Phoenix America LLC**

**2020 Acquisition of Limator GmbH**

**2021 Acquisition of Control Products Inc**

- **discoverIE is a specialist electronics company PLC:** <http://www.discoverieplc.com>
  - Designing, manufacturing & distributing customised electronic components
  - Supplying growth markets
  
- **FY20/21 revenues of over £450m**
  - Operating internationally – 24 countries
  - 4600 employees across the group

## Target markets



- Transportation
  - Road, rail, air



- Medical
  - Control, monitoring & diagnostic



- Renewable energy
  - Wind, solar, tidal



- Industrial connectivity
  - Smart metering, communication, industrial control, 'Internet of Things'

- Designs, manufactures and distributes electronic sensors and systems to industrial customers in UK, Europe and North America
- Headquartered in Towcester, Northamptonshire, UK
- Four manufacturing sites in UK  
(Towcester, Bury St. Edmunds, Slinfold, Cheltenham)
- USA manufacturing site (Fort Wayne, Indiana)
- Hungarian Manufacturing site (Pecs)
- Two German sales offices and warehouses
- Worldwide distribution
- Employing C. 400 people

**The Variohm Group focusses on supplying bespoke solutions, providing our customers advantageous solutions for their products.**

Today's economic climate requires:

- Quick development cycles
- Competitive products
- Products that suite perfectly
- Reliability



To support those requirements:

- Each company works with a great autonomy allowing them to respond with the flexibility of a midsize company, whilst at the same time, the group belonging discoverIE provides the structural background of a large-scale business
- Continuous new product developments in close cooperation with customer base
- Wide range of products with an excellent flexibility in their existing designs
- Focus is manufacturing of custom-tailored solutions

## The core capabilities through the companies within the group

### Production

- Injection moulding
- Machine shops
- Magnetising
- Clean room
- Assembly

### Engineering

- 3D Models
- Rapid prototyping
- Injection mould tool design and building
- PCB design
- SMD assembly
- Microcontroller based systems
- Electromechanical systems

### Sourcing

- Decades of experience
- Specialised suppliers
- Close partnership on projects
- Implementation of contract manufacturing
- Supplier evaluation



**The Variohm Group offers products around:**

- Position sensing
- Temperature sensing
- Pressure sensing
- Force and Load sensing
- Foot switches
- Hand controls
- Air operated controls
- Positioning systems



## Linear potentiometers

- 0-10...3000 mm measurement range
- Voltage divider principle
- Repeatability down to  $\pm 0.01$ mm
- Temperature range -40...150°C (175°C short term)
- Sealing up to IP67



## Linear inductive sensors

- 0-2...1500 mm measurement range
- Analogue output signals
- Temperature range -40...125°C
- Sealing up to IP68 (submersible version to 3500m)
- Intrinsically safe versions with ATEX & CSA approval



## Cable extension transducers

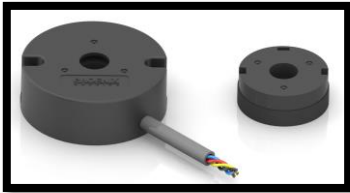
- 0-38mm...43m measurement range
- Analogue and digital output signals
- Sealing up to IP68 (submersible version to 3000m)
- Intrinsically safe versions with ATEX/IECEX/SIL2 ratings approval
- Incylinder versions available





## Rotary hall effect sensors

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



## Magnetic Encoders

- Kits and modules
- Low and High Resolution
- Incremental and Absolute
- Full contactless versions available



## Rotary inductive sensors

- 0-5°...160° angle measurement range
- Analogue output signals
- Temperature range -40...125°C
- Sealing up to IP68 (submersible version)
- Intrinsically safe versions with ATEX & CSA approval



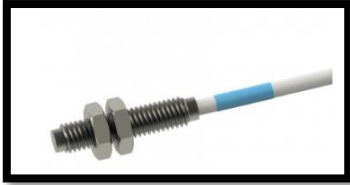
### Inclinometer

- 0-30°...360° tilt angle measurement range
- Liquid based principle
- Analogue, Digital output signals or as display
- Outstanding resolution
- Excellent stability



### Inductive tilt sensors

- 0- ±15°...±80° tilt angle measurement range
- Analogue output signals
- Temperature range -40...125°C
- Sealing up to IP68 (submersible version)
- Intrinsically safe versions with ATEX & CSA approval



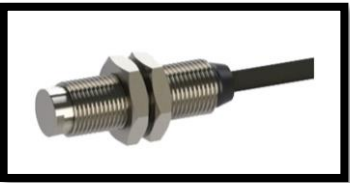
## Proximity sensors

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



## Speed sensors

- Hall Effect sensors
- Machined and molded housing
- Custom specific housing options
- Use with multipole magnet wheel or trigger wheel



## Gear tooth sensors

- Solid state ferrous detecting device
- Machined and molded housing
- From 0 speed up to high speed (15 kHz)
- Self adjusting to target gear tooth wheel
- Easy installation



### Waterproof switches

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



### Ball and Plunger switches

- True waterproof solution over Millions of cycles
- Full stainless steel
- Patented sealing mechanism
- Different housing and rating options
- From -40°C to 150°C



### Limit switches

- True waterproof solution with actuator
- Custom actuator and mounting plate designs
- Different housing and rating options
- From -65°F(-53°C) to +221°F (105°C)



### Multipole magnet rings

- Radial and Face multipole magnet rings
- Tight tolerances on pole location
- Ideal for use with sensor i.e. magnetic encoders
- 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
- Wide range of constructions available



### Custom moulded magnets

- Injection moulding with custom forms
- Several alloy compositions available
- Different Polymers for to mould with
- Temperature capability up to over 150°C is possible
- Typical tolerances are +/-0.003 in/in



## NTC Thermistors

- Temperature ranges up to 250°C
- Resistance values range from 1k $\Omega$  @ 25°C to 100k k $\Omega$  @ 25°C
- Epoxy and glass encapsulated versions
- Tolerances between  $\pm 0.1^\circ\text{C}$  over 0-70°C range and 10% at 25°C



## RTD Elements

- Temperature ranges up to 500°C, Cryogen version down to -200°C
- Typical PT100, PT1000; others on request
- Thin film construction
- Accuracy class A (F0.15) and B (F0.3)
- Typical dimensions around 2x2.3x1.1mm<sup>3</sup>



## Temperature probes

- Temperature ranges from  $-96^{\circ}\text{C}$  up to  $350^{\circ}\text{C}$
- RTD or NTC based probes
- Screw type, Ring terminal, tubular probes
- Custom housings
- Wide range of cables options
- Custom connectors



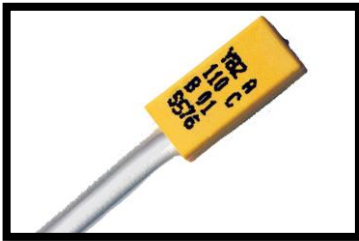
## Temperature transmitters

- Temperature range  $-40\dots 150^{\circ}\text{C}$
- Analogue output signals
- Wide range of process connections
- Wide range of connector options



## Temperature switches

- Temperature ranges from 45°C up to 200°C
- Normally open / Normally closed versions
- Up to 6,5 A
- Self holding resistor version
- Custom assemblies



## Current sensitive thermal switches

- Temperature range 40...150°C
- Normally closed
- Up to 6,5 A
- Self holding resistor
- Excellent response time
- Custom assemblies





### Temperature switches for harsh environments

- Set point ranges from 0°F-300°F (-17.8°C-148°C)
- Different mounting and switching options
- RTCA DO-160C environmental qualification
- Hermetically sealed
- Custom assemblies



### Temperature switch for mid range temperatures

- Set point ranges from 0°F-650°F (-17.8°C-343°C)
- Dual set point option
- RTCA DO-160C environmental qualification
- Different configuration and mounting options
- Tight switching tolerances available (+/-3 °F)



### Temperature switch 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
- Mechanical expansion-based switching technology



### Industrial pressure transmitters

- 0-20 mbar up to 5000bar measurement range
- Analogue and digital output signals, incl. low energy
- Wide range of process connections
- Wide range of electrical connections
- Flush mount and level meter versions



### Miniature pressure transmitters

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



### Combined pressure- / temperature transmitters

- 0-0,6 bar up to 1000bar measurement range
- Temperature range -40...150°C
- Analogue output signals
- PT1000 or analogue output
- Integrated or exposed temperature probe



## Differential pressure transmitter

- 0-250 Pa up to 5000 Pa measurement range
- Silicon-chip based principle
- Analogue output signals
- Accuracy between  $\pm 1,5\%$  full stroke at room temperature
- PCB or DIN RAIL mount version



## Pressure switches – low pressure

- 0-7 PA up to 8.3 bar switching range
- Mechanical switching-based principle
- Switching signals up to 25A, 250V
- Plastic housing
- Up to 20 Mio operation cycles



## Pressure switches – high pressure

- 0-0,3 bar up to 350 bar switching range
- Mechanical switching-based principle
- Switching signals up to 5A, 250V
- Metal housing
- Up to 10 Mio operation cycles



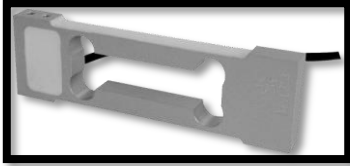
## S-Type load cells

- 0-25kg up to 30t
- Accuracy class C3 and C4
- Temperature range -30...65°C
- Alloy steel and stainless steel construction
- Up to IP67 sealing
- Up to 10 Mio operation cycles



## Shear beam load cells

- 0-5kg up to 30t
- Accuracy class C3 and C4
- Temperature range -30...65°C
- Alloy steel and stainless steel construction
- Up to IP68 sealing
- Up to 10 Mio operation cycles



## Platform load cells

- 0-0,3kg up to 500kg
- Accuracy class C3, C4 and C5
- Temperature range -30...65°C
- Aluminum or stainless steel construction
- Up to IP68 sealing
- Up to 10 Mio operation cycles



## Compression load cells

- 0-60kg up to 200t
- Accuracy class C3, C4 and C5
- Temperature range -30...65°C
- Stainless steel construction
- Up to IP68 sealing
- Up to 10 Mio operation cycles



## General foot switches

- Plastic and metal housing
- Wide range of color and logo options
- Different switch functions
- USB option
- Analogue output versions



## Industrial foot switches

- Single and multi pedal
- Wide range accessory options
- Low power and high current switching (up to 25A)
- Analogue output versions
- Wide range of switch functions
- Safety relevant functions
- Emergency stop versions
- Up to IPX7 sealing



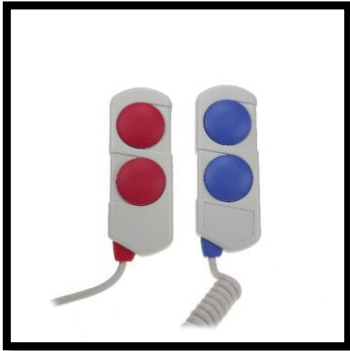
## Medical Footswitches Design Platform

- Modular product line
- Single and multi pedal
- Wide range of color and logo options
- Different switch functions
- Up to IPX8 sealing
- Medical standard 60601 approved



## Bluetooth medical foot switches

- Modular product line
- Single and multi pedal
- Wide range of color and logo options
- USB dongle option
- Analogue output version
- Redundant versions
- Up to IPX8 sealing
- Medical standard 60601 approved wireless system



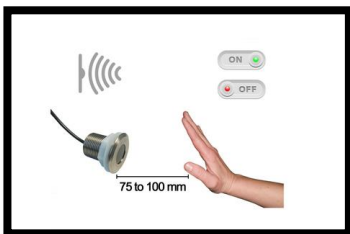
## Electrical hand controls

- Different housing models
- Standard up to 8 functions
- Customisable membrane
- Low power switching and USB output
- Wide range of connectors
- Accessories i.e. hooks or holding magnets
- Up to IP68 sealing
- Medical standard 60601 compliant



## Infrared hand controls

- Plastic or robust aluminum housing
- Standard up to 8 functions
- Safe line of sight operation
- Secure coded signals
- Receiver with integrated lens or optional with remote eye



## Infrared Noncontact switch

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





### Air operating hand controls

- Different models
- Up to 6 switching channels
- Large button versions
- Wide range of colors and symbols
- Hand bellow version
- Push button versions
- Ideal for high humidity environment



### Air operating foot switches

- Different foot switch models
- Plastic or metal housings
- Wide range of colors
- Ideal for high humidity environment
- Functional in systems with up to 75m tube length



## Accessories for pneumatic systems

- Different tube diameters
- Multi-channel tubes
- Straight and curly tubes
- Tube diameter adapters
- Different bulkhead connectors
- Different tube connectors
- Internal bellows
- Complete system solutions



## Air switches

- Compact design
- High sensitivity
- Different switch functions
- Redundant switch function
- Switch function up to 25A / 250V
- Different housings
- PCB mount versions



## **Bespoke positioning system supply**

- Rotary Actuators
- Linear Positioning Systems
- Motion Platforms
- Drive & Control Chassis
- Motion Application Software
- Turn-Key, Bespoke Solutions



## **Motion Distribution**

- Zero Backlash Gearing
- Leadscrews & Ballscrews
- Manual Positioning Stages
- Linear Actuators
- Servo Motors & Drives
- Ceramic Servo Motors
- Rotary & Linear Encoders
- Motion Controllers & HMIs



**Variohm**  
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