

Pressure Sensors and Instrumentation

**Rugged high accuracy sensors
for wide ranging applications**

**High performance silicon technology
with ranges from 10mbar to 4000 bar**

Standard and customised designs

Excellent vibration, shock and overload resistance

**High temperature and combined
pressure/temperature sensors**

**Digital gauges, panel displays,
data loggers and test kits**



Hydrotechnik UK Ltd is one of the UK's leading test and measurement equipment distributors and manufacturers, servicing a wide range of industries since 1990.

In addition to pressure sensors and instrumentation, Hydrotechnik has a large product portfolio featuring Minimesst[™] test points & adaptors, high pressure microbore hose assemblies and Minimesst test kits for analogue testing, charging, bleeding or sampling of almost any fluid or gas.

The range of pressure sensors, gauges, switches and displays is complemented by a range of other measurement sensors and datalogging equipment for digital hydraulic testing & analysis. This includes Flow, Temperature & RPM to name just a few, with MultiHandy or MultiSystem portable dataloggers for accurate high speed measurement & performance analysis of hydraulic or process systems.

Hydrotechnik equipment is chosen for its rugged high quality, ease of use and flexibility and is the choice of industry professionals worldwide.



Advanced Silicon Technologies for Critical Pressure Measurements

Our wide range of pressure transmitters and transducers are made in Germany in a partnership between Hydrotechnik and ADZ. These sensors feature advanced silicon sensing technologies widely proven for research, test and production applications in the most demanding industry sectors - from aerospace, automotive and mobile hydraulics to process, energy and environmental control.

Diffused and thin-film piezo-resistive silicon elements with robust modular packaging techniques provide a fully integrated sensor which is highly accurate, compact and lightweight with excellent operational characteristics such as vibration, shock and overload resistance.

This provides a high performance, low risk and cost effective solution available in a wide range of standard or customised formats for critical pressure measurements in challenging environments.



Industrial & Automotive

For general industrial and automotive applications, a wide range of standard product specifications and configurations provide a perfect solution for pressure measurements from 10 mbar to 4000 bar. Gauge, vacuum and absolute ranges are available. Outputs include 2 wire or 3 wire voltage (fixed or ratiometric), current loop (4-20mA) and electronic switch (npn/pnp). Temperature ranges up to 125 deg C.

Models

PRI30 & PRI40 OEM (-1... 1000 bar)

HT-SML Standard industrial (1... 1000 bar)

HT-SIL Low pressure (<1 bar)

HT-SMH High pressure (> 1000 bar)

HT-DS5 Switching output



KEY FEATURES

- Ranges 10 mbar to 4000 bar, vacuum 0 to -1 bar
- Accuracy 1% to 0.25% range (0.5% to 0.15% BFSL)
- Outputs 2/3 wire 4-20mA, voltage and switch
- Wide range of process / electrical connections
- Media temperatures from -40 to +125 deg C
- Stainless steel weatherproof design



EXAMPLE APPLICATIONS

- Hydraulics & Pneumatics
- Industrial Machinery
- Plant Engineering
- Refrigeration & HVAC
- Automotive



ADVANTAGES

- Compact, rugged, fast and accurate
- Wide choice of options available
- Shock, vibration and overload resistance
- Outstanding repeatability & long term stability
- Excellent value for money

Mobile Hydraulics

Mobile hydraulics applications often require a solution that offers the most rugged mechanical and electronic protection due to extreme outdoor dynamic and remote operating conditions. This range of sensors provides the highest levels of shock, vibration and overload resistance, EMC compliance and environmental/ingress protection.

Model HT-SMO



KEY FEATURES

- Ranges 4 bar to 4000 bar available as standard
- Accuracy 0.5% to 0.25% range (0.25% to 0.15% BFSL)
- Outputs 2/3 wire 4-20mA, voltage and ratiometric
- Choice of industry standard connectors
- Media temperatures from -40 to +125 deg C
- Rugged with high level EMC protection

EXAMPLE APPLICATIONS

- Hydraulics & pneumatics
- Automotive
- Braking systems
- Diesel/gas engines

ADVANTAGES

- Compact & rugged
- Fast & accurate
- Wide choice of connection options available
- High shock, vibration and overload resistance
- Outstanding repeatability & long term stability

Compact / Miniature

Silicon technology enables lightweight, small size yet rugged packaging. For applications where the smallest size of sensor is necessary we can offer a range of solutions that provide an overall length of typically 50mm and/or a body diameter of just 12mm with a typical weight of just 20g. A perfect fit for even the most limited spaces or confined installations.

Models

HT-SIS Compact / short length

HT-SME Miniature / slimline

HT-SMS Compact OEM



KEY FEATURES

- Very compact & slimline designs available
- Ranges 600 mbar to 600 bar
- Accuracy 1% to 0.25% range (0.5% to 0.15% BFSL)
- Outputs 2/3 wire 4-20mA and voltage
- Wide range of process / electrical connections
- Media temperatures from -40 to +125 deg C

EXAMPLE APPLICATIONS

- Hydraulics & pneumatics
- Industrial machinery
- Plant engineering
- Heating systems
- Automotive

ADVANTAGES

- High reliability solution for confined spaces
- Wide choice of connectors/options available
- Shock, vibration and overload resistance
- Outstanding repeatability & long term stability

CANbus / Digital Output

KEY FEATURES

- Ranges 1 bar to 2000 bar, vacuum 0 to -1 bar
- Accuracy 0.5% to 0.25% range (0.25% to 0.15% BFSL)
- Output interface CANopen 2.0A (2.0B option)
- Choice of process / electrical connections
- Media temperatures from -40 to +125 deg C
- Stainless steel weatherproof design

EXAMPLE APPLICATIONS

- Automotive
- Industrial machinery
- Plant engineering
- Agricultural machinery
- Hydraulics & pneumatics

ADVANTAGES

- Compact, rugged, fast and accurate
- Wide choice of options available
- Shock, vibration and overload resistance
- Outstanding repeatability & long term stability

For applications that require a digital interface, Hydrotechnik offer an integrated CANbus solution. This sensor features a CANopen interface (DIN ISO 11898) and CAN controller compliant with CANopen 2.0A protocol (CANopen 2.0B is also available). This high speed interface permits data sampling rates of up to 1 Mbit/sec.

Model HT-SMC



KEY FEATURES

- Ranges 10 mbar to 2000 bar
- Accuracy 0.15% to 0.1% range (0.1% to 0.05% BFSL)
- Transmission rates up to 10kHz (10,000 readings per second)
- Outputs 2/3 wire 4-20mA, voltage e.g. 0 to 10 V dc
- Wide range of process / electrical connections
- Media temperatures from -20 to +85 deg C
- Stainless steel weatherproof design

EXAMPLE APPLICATIONS

- Test stand / rig design
- R&D / laboratory
- Industrial machinery
- Plant engineering
- Automotive

ADVANTAGES

- High accuracy and fast response
- Compact and rugged construction
- Choice of standard connectors
- Shock, vibration and overload resistance
- Outstanding repeatability & long term stability

High Precision / Test

Some applications require the highest level of measurement precision, typically R&D / laboratory or test systems in a range of market sectors. This range of pressure sensors provides an exceptional performance with room temperature accuracy available up to 0.1% FS according to IEC 61298-2 (0.05% BFSL combined non-linearity and repeatability).

Models

HT-SHP High precision

PR400 High speed



Level & Depth

Silicon pressure measurement technology is readily adapted for use as a hydrostatic level/depth sensor by immersion into liquids such as water or oil. This provides a continuous output proportional to pressure of the vertical liquid head directly above the point of measurement. Packaged in a slim IP68 capsule for long term submersion with a choice of materials.

Model HT-PS I



KEY FEATURES

- Ranges 1mH₂O to 250mH₂O (0.1 bar to 25 bar approx)
- Accuracy 1% to 0.25% range (0.5% to 0.15% BFSL)
- Outputs 2/3 wire 4-20mA and voltage
- Slimline 22mm diameter as standard
- Media temperature -40 to +85 deg C
- Stainless steel capsule/IP68 assembly cable



EXAMPLE APPLICATIONS

- Storage tanks & vessels (level / volume)
- Water & environmental systems
- Rivers, reservoirs, weirs, boreholes
- Marine - wave height, vessel ballast
- Submerged pipe / fluid pressure



ADVANTAGES

- Slimline 22mm diameter as standard
- High reliability for remote applications
- Intrinsically safe / Ex versions available
- Outstanding repeatability & long term stability

High Temperature

Our standard ranges of pressure sensors are often directly compatible for use with media temperatures up to 125 deg C. For applications where this range is not sufficient, we can offer a special configuration featuring sensor body cooling fins or alternatively remote electronics with interconnecting Teflon cable. These sensors accept media to 160/180 or even 200 deg C.

Models

HT-SKL High temperature with cooling fins

HT-SKE High temperature with remote electronics



KEY FEATURES

- Ranges 1 bar to 2000 bar
- Media temperatures from -40 to +200 deg C
- Integral cooling fins or remote electronics
- Accuracy 1% to 0.5% range (0.5% to 0.25% BFSL)
- Outputs 2/3 wire 4-20mA and voltage
- Wide range of process / electrical connections



EXAMPLE APPLICATIONS

- Hydraulics & pneumatics
- Industrial machinery
- Plant engineering
- Chemical & process
- Automotive



ADVANTAGES

- Direct measurement of very hot media
- Compact, rugged, fast and accurate
- Wide choice of options available
- Shock, vibration and overload resistance
- Outstanding repeatability & long term stability



KEY FEATURES

- Flush 316L stainless steel diaphragm
- Ranges 0.6 bar to 200 bar
- Choice of process connections G1/2" A, G1" A
- Accuracy 0.5% to 0.25% range (0.25% to 0.15% BFSL)
- Outputs 2/3 wire 4-20mA and voltage
- Media temperatures from -30 to +100 deg C



EXAMPLE APPLICATIONS

- Food and beverage
- Sanitary and medical
- Chemical/Process
- Paper/Pulp



ADVANTAGES

- Open face sensor avoids media blockage
- Compact, rugged and accurate
- Suitable for a wide range of media
- Shock, vibration and overload resistance
- Outstanding repeatability & long term stability

Flush Diaphragm

Conventional pressure sensors usually have an inlet port with diaphragm cavity suitable for most fluids. Flush diaphragm pressure sensors are ideal for use in food, process and industrial applications where the media is either viscous, contains particulates or solids, or is otherwise liable to block a standard inlet port as the diaphragm is open/flush mounted with no cavity.

Model HT-SMF



KEY FEATURES

- Pressure ranges 1 bar to 1000 bar
- Temperature ranges -50 to +200 deg C
- Accuracy 0.5% to 0.25% range (0.25% to 0.15% BFSL)
- Outputs 2 / 3 wire 4-20mA and voltage
- Wide range of process / electrical connections
- Stainless steel weatherproof design



EXAMPLE APPLICATIONS

- Hydraulics & pneumatics
- Industrial machinery
- Plant engineering
- Refrigeration & HVAC
- Automation



ADVANTAGES

- One sensor for pressure and temperature
- Compact, rugged, fast and accurate
- No internal transmission fluid/media
- Shock, vibration and overload resistance
- High reliability & long term stability

Pressure & Temperature

Multi-function transmitters can be provided to enable measurement of both pressure and temperature independently within a single compact sensor, avoiding the need for two separate packages. Configurations include internal or externally mount temperature sensors (an external probe provides the fastest response to temperature fluctuations).

Models

HT-TPSI With internal probe

HT-TPSE With external probe



Differential Pressure

A compact industrial sensor package or wall/surface mount enclosure with integral display option. Suitable for measuring differential pressure in a wide variety of applications, from environmental / HVAC systems to fuel and hydraulic filtration. Pressure ranges from 1 mbar to 100 bar differential and line / static pressures from 100 mbar to 2,000 bar.



KEY FEATURES

- DP ranges from 1 mbar to 100 bar
- Line pressures up to 2000 bar
- Outputs 3 wire Voltage / 4-20mA
- Line or surface mounting
- Display / readout options
- Compact and rugged design



EXAMPLE APPLICATIONS

- HVAC
- Clean rooms
- Automotive
- Hydraulics and pneumatics
- Filtration



ADVANTAGES

- Low and high DP ranges
- Very high line pressures
- Suitable for many applications
- Fast and accurate

Models

HT-SMD Industrial differential

HT-DDPT Wall / surface mount (for air / gases)

HT-DDPTM Wall / surface mount (for fluids / gases)



KEY FEATURES

- Ranges 5 mbar to 2000 bar (level 1 mH2O to 250 mH2O)
- Outputs 2/3 wire 4-20mA, voltage and switch
- Accuracy 1% to 0.25% range (0.5% to 0.15% BFSL)
- Media temperatures from -40 to +100 deg C
- Ambient temperature from -40 to +85 deg C
- Stainless steel weatherproof design



EXAMPLE APPLICATIONS

- Oil & Gas
- Chemical
- Food & Beverage
- Plant Engineering
- Refrigeration
- Automotive



ADVANTAGES

- Compact and rugged design
- Fast and accurate measurements
- Shock, vibration and overload resistance
- Outstanding repeatability & long term stability



Intrinsically Safe / Ex

A range of Intrinsically Safe pressure sensors (transmitters and switches) and hydrostatic liquid level sensors for use in Hazardous Areas that require Ex / ATEX approved equipment. Certified for Zone I (Intermittent hazard) or Zone 0 (continuous/permanent hazard) operation with pressure media temperature up to 100 deg C (ambient temperature rating up to 85 deg C).

Models

HT-DPSX9 Ex switch / transmitter

HT-SMX2 Pressure transmitter

HT-PSX2 Level transmitter

Digital Pressure Gauges

Hydrotechnik Digital pressure gauges offer a reliable alternative to analogue dial indicators, providing an easy to use, accurate and stable display with selectable pressure units and excellent vibration / shock resistance. Additional / optional features include peak value (min/max) capture, rotatable display, switching and analogue outputs. Typically self-powered / battery operation or nominal 24Vdc external power source.



KEY FEATURES

- Ranges up to 700 bar
- High accuracy
- High contrast 4 digit LCD
- Fast response / display update
- Analogue and switch outputs
- Compact rotatable casing



EXAMPLE APPLICATIONS

- Hydraulics & pneumatics
- Industrial machinery
- Plant engineering
- Automotive



ADVANTAGES

- Easy to install and operate
- Easy to read
- Compact and robust design
- Selectable units e.g. bar, psi, MPa

Models

PS120 Pressure switch

DPM Pressure gauge



KEY FEATURES

- High contrast 4 digit LED
- Choice of sizes up to 1/32 DIN
- Analogue & frequency inputs
- Fast response / display update
- Analogue and alarm outputs
- Fully programmable



EXAMPLE APPLICATIONS

- Hydraulics & pneumatics
- Industrial machinery
- Plant engineering
- Automotive



ADVANTAGES

- Easy to install and operate
- Easy to read
- Compact and robust design
- Cost effective

Panel Displays

A range of fully programmable panel mounting 4 digit (9999) LED displays to indicate the measured values from a remotely connected sensor. AC or DC powered, the displays are compatible with frequency or analogue signal inputs and can be provided with or without alarm outputs. Clear readouts and simplified operation make this range a perfect remote display solution.

Models

SEG1060 LED display

T108 LED economy display



Minimess® Test Points

Minimess test points offer a uniquely simple method of accessing low or high pressure systems for the purpose of pressure testing, oil sampling or gas charging. Developed by Hydrotechnik, they have been proven worldwide and used extensively in hydraulic, process and gas systems. Minimess is the most advanced sealing system for pressure up to 630 bar allowing for connection and disconnection at full system pressure without the loss of pressure or media.

Models

1620 Industrial standard

1615 Military / gas standard

1215 Miniature

1604 Large bore



KEY FEATURES

- Pressures up to 630 bar
- Leak free design
- High quality and reliability
- Wide choice of thread & pipe fittings
- Industry standard solution



EXAMPLE APPLICATIONS

- Hydraulic test points
- Gas testing
- Gas charging valves
- Bleeding points
- Oil sampling points



ADVANTAGES

- Easy to install
- Leakproof solution
- Lifetime guarantee
- Suits almost any fluid or gas

Portable Data Loggers

A complete range of powerful hydraulic test and data acquisition equipment for applications ranging from initial R&D to production test rig performance and field service use. In addition to pressure, a range of other sensors can be supplied to enable complete process evaluation. Our own HYDROcom6 software is provided with file format/sharing options for high speed workflow.



KEY FEATURES

- High accuracy testing & data logging
- Multi channel, up to 40 inputs / outputs
- Fast response up to 0.1ms
- Fully user programmable
- Powerful diagnostic software



EXAMPLE APPLICATIONS

- Portable / field testing
- Fault finding
- Plant maintenance
- Machinery
- Automotive



ADVANTAGES

- Easy to use
- High quality data reports
- Improved system performance
- Rugged and reliable

Models

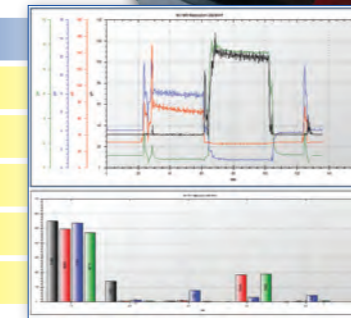
MultiHandy 2025 2 channel

MultiHandy 3020 3 channel

MultiSystem 4010 5 channel

MultiSystem 5060plus 8 channel

MultiSystem 8050 14 channel



HYDROcom6

Pressure Test Kits



KEY FEATURES

- Fully equipped pressure test kits
- Up to 6 gauges (from 7 to 700 bar)
- Test points and adaptors
- Micro bore test hoses
- Custom ABS / metal box cases



EXAMPLE APPLICATIONS

- Portable / field testing
- Plant maintenance
- Machinery
- Automotive
- R&D



ADVANTAGES

- Easy to use
- Reduced downtime
- Tailored to requirements
- Rugged and reliable



Hydrotechnik offer a huge range of analogue hydraulic pressure test kits that are catered to a wide variety of users. Each kit contains all necessary equipment, including analogue pressure gauges suitable for all test point variants and a large selection of pipe adaptors tailored to suit most hydraulic machines or systems.

Models

Low cost, BSP, metric, JIC, ORFS & Universal

4 & 6 gauge metal box

JCB & Caterpillar style



KEY FEATURES

- Bespoke fluid power test solutions
- Test rig and software design
- Measures all process parameters
- Fully user programmable
- Powerful diagnostic capability



EXAMPLE APPLICATIONS

- Production acceptance
- End of line quality testing
- Plant maintenance tests



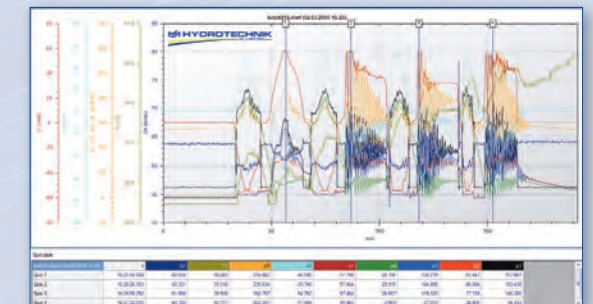
ADVANTAGES

- Easy to use
- High quality data / reports
- Reduced downtime
- Rugged and reliable



Bespoke Test Rigs

Hydrotechnik UK have extensive experience in the design, development, manufacture and commissioning of bespoke fluid power and hydrostatic test rigs. Our rigs are used in demanding and 'mission critical' applications including defence, manufacturing quality control, plant maintenance and R&D. They are used to validate a wide range of hydraulic products ranging from pumps, hoses, pipes and manifolds to tanks, accumulators and valves amongst others.



Specialists in high performance test & measurement solutions



Pressure



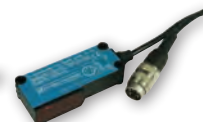
Flow turbines



Gear flow meters



Load



Infra red RPM



Inductive RPM



Temperature



Tension



Torque



Displacement



Particulate



Triaxial Vibration



Repair & Calibration

We offer a full repair service and calibration / certification using UKAS certified test equipment.

Call us on **0800 068 4134** for more information and to obtain our other brochures:



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