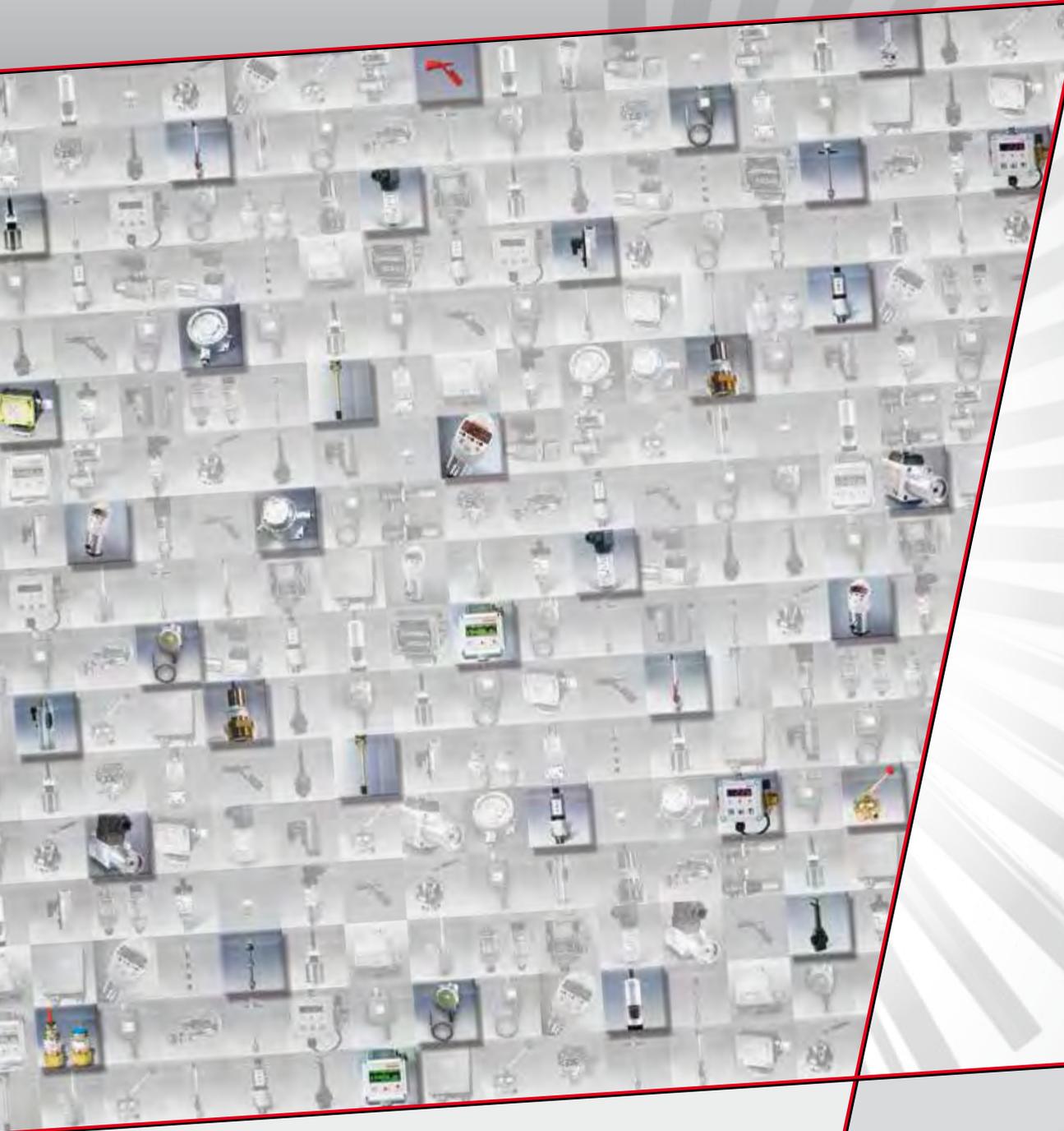


Product overview

Product overview



Control
Control
every move

The experts for monitoring and control

- ▶ Pressure
- ▶ Temperature
- ▶ Level
- ▶ Flow

Barksdale[®]
CONTROL PRODUCTS
CRANE Barksdale, Inc./Barksdale GmbH
A Subsidiary of Crane Co.



Controls

Barksdale –

The business of critical controls



Market-focused. Technology-driven. Customer-intimate. These fundamental values are what guide the Barksdale team in developing advanced solutions for the mechanical and electronic control of liquid and gas media. As a premier provider of quality control products, the Barksdale name is synonymous with providing sophisticated system solutions, exceptional support service and ongoing product innovations to clients in numerous industries.

Our products cover a full range of mechanical and electronic control products – from pressure, temperature, level and flow switches, to transducers, valves and solid state devices. Barksdale consistently provides state-of-the-art solutions through development of products with the highest standard of reliability for the most challenging control tasks in diverse manufacturing environments.

All our facilities are certified to ISO 9001:2008 to assure the highest quality for incoming materials through assembly and test.

Our experts have developed innovative solutions for customers in the fluid power, transportation and specialty industrial markets, focusing on industries that include:

- ▶ Machine building
- ▶ Renewable energy
- ▶ Oil and gas exploration
- ▶ Marine and shipbuilding
- ▶ Transportation



Barksdale solutions are found in chemical processing plants, paper mills, steel mills, pool and spa equipment, medical equipment, emergency rescue equipment, amusement parks and much, much more.

We offer a wide range of modifications and options on most of our products, allowing you to customize our standard products to meet your specific application needs. Using existing technologies or by developing new ones, our engineers go the extra mile to ensure total customer satisfaction.

Barksdale invented the Shear-Seal® principle, and since 1949 has used the technology in our valves with great success in demanding applications such as work holding, oil exploration and processing, and defence. Utilization of Shear-Seal® technology in air suspension height control valve applications yielded breakthrough improvements in durability and performance. With Shear-Seal® products, precision engineering and manufacturing combine for unmatched performance and reliability.

We are proud to be a part of the Crane Co. family, one of the world's largest manufacturers of highly engineered products. With over 160-year history and over three billion in sales, Crane's diverse business units work together in developing synergies to grow our business and benefit our customers.

Barksdale has the advantage of over 65 years of experience, production centers in America, Europe and China, sale centers in India and a global network of technology centers and support representatives. With all of this as a foundation, it's easy to see why we stand by our motto: "Control every move."



Barksdale offers the most widely recognized approvals on select models.



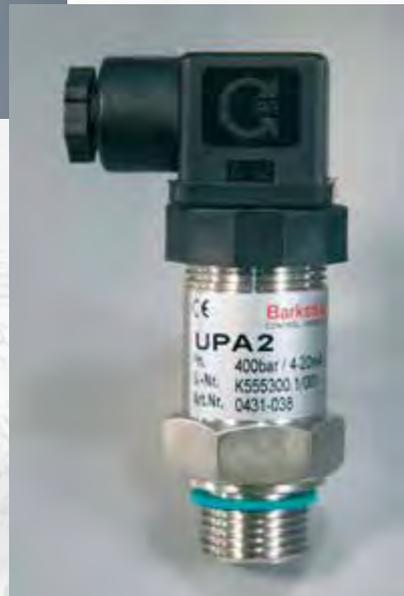
Pressure Transmitter

Pressure Transmitter and Switches

- ▶ Ranges: 0...200 mbar up to 6,000 bar (0...72,000 psi)
- ▶ Analog output: 4 – 20 mA/0 – 10 VDC
- ▶ Single switch point (adjustable)
- ▶ Front flush diaphragm and flange available
- ▶ Compact, accurate, long life
- ▶ Approved models available
 - UL and CSA listed models
 - PED97/23/CE
 - ATEX: Ex d and Ex i
 - TR-TS
 - Shipbuilding

Industries & Applications

Construction machines, machine tools and systems, hydraulics and pneumatics, mobile hydraulics, oil and gas applications



Electronic Pressure

Electronic Pressure Switches

- ▶ Ranges: 0...200 mbar up to 0...600 bar (0...1.5 psi up to 0...9,000 psi)
- ▶ 1, 2 or 4 switch points (adjustable)
- ▶ Multi function digital rotatable display
- ▶ Records and stores peak pressure
- ▶ State-of-the-art microprocessor controlled
- ▶ Keypad with easy response pushbuttons
- ▶ Easily programmable
- ▶ Self diagnostics
- ▶ Option: Analog output 4 – 20 mA/0 – 10 VDC
- ▶ IP65 /IP67
- ▶ Approved models available
 - UL and CSA listed models
 - PED97/23/CE
 - TR-TS
 - Shipbuilding

Industries & Applications

Automotive industry, machine tools and systems, hydraulic and pneumatic, test bench, steel industry, filter monitoring, pressure and level measurement of fluids, shipbuilding



Pressure switches

Metal Diaphragm – Pressure and Differential Pressure Switches

- ▶ Adjustable Ranges: -1...10.3 bar (-14.5...150 psi)
- ▶ 1, 2 or 3 switch outputs
- ▶ Optional hermetically sealed, oxygen cleaned
- ▶ Low to high contact loads
- ▶ All welded stainless steel pressure capsule
- ▶ Rugged design
- ▶ Approved models available
 - UL and CSA listed models
 - PED97/23/CE
 - ATEX: Ex d and Ex i
 - TR-TS
 - Shipbuilding
 - SIL2/3



Industries & Applications

Chemical process industry, nuclear power stations, medical and autoclave systems, filter monitoring, cooling systems

Bourdon Tube Pressure Switches

- ▶ Adjustable Ranges: up to 950 bar (13,778 psi)
- ▶ Optional hermetically sealed
- ▶ Low to high contact loads
- ▶ Stainless steel sensor
- ▶ Rugged design
- ▶ Approved models available
 - UL and CSA listed models
 - PED97/23/CE
 - ATEX: Ex d and Ex i
 - TR-TS
 - Shipbuilding
 - SIL2

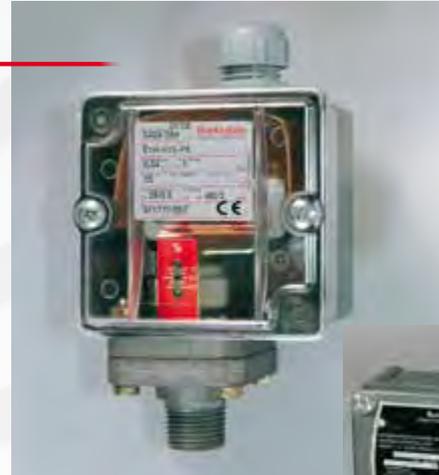


Industries & Applications

Process industry, hydrocarbon processing industry, oil and gas drilling, nuclear power plant, power stations, hydraulic systems

Diaphragm-sealed Piston Pressure Switches

- ▶ Adjustable ranges: Dial Seal -1...110 bar (-14.5...1,500 psi)
- ▶ Piston up to 900 bar (13,000 psi)
- ▶ Low to high contact loads
- ▶ Rugged and economical
- ▶ Approved models available
 - UL and CSA listed models
 - PED97/23/CE
 - ATEX: Ex d and Ex i
 - TR-TS



Industries & Applications

Commercial to heavy industrial systems, mobile equipment, machine tools, medical and water treatment systems, power plants

Compact Pressure Switches

- ▶ Adjustable Range: -1...689 bar (-14.5...10,000 psi)
- ▶ High proof pressure: up to 1,035 bar (15,000 psi)
- ▶ Adjustable or fixed set points
- ▶ Nema 1, 4, 4X, 7, 9
- ▶ Compact, rugged, economical
- ▶ Approved models available
 - UL and CSA listed models
 - PED97/23/CE
 - ATEX: Ex d and Ex i
 - TR-TS
 - SIL2/3



Industries & Applications

Mobile and stationary applications, process industry, hydrocarbon processing industry, oil and gas drilling, nuclear power plant, power stations, hydraulic systems

Temperature

Temperature



Mechanical Temperature Switches

- ▶ Ranges: -45 °C...+316 °C (-50 °F...+600 °F)
- ▶ For fluids and gases
- ▶ Ambient temperature compensation
- ▶ For low to high contact loads
- ▶ Optional Ex d and Ex ia versions
- ▶ Rugged and very accurate
- ▶ Max. length of capillary tube: 7.5 m
- ▶ Approved models available
 - UL and CSA listed models
 - TR-TS
 - Shipbuilding
 - SIL2

Industries & Applications

Chemical process industry, shipbuilding, power stations, heat exchangers, trace heating systems



Electronic Temperature Sensors and Switches with and without display

- ▶ Ranges: -30 °C...+150 °C (-22 °F...+302 °F)
- ▶ With integrated Pt100 or external sensor
- ▶ 1, 2 and 4 set points, free adjustable
- ▶ High resolution 12 bit micro controllers
- ▶ Peak value memory
- ▶ Self-diagnostic
- ▶ Option: analog output 4 – 20 mA/0 – 10 V
- ▶ Multi function digital rotatable display

Industries & Applications

Hydraulic, pneumatic and cooling in machine building



Level control

Single Level Switches

- ▶ SPST or SPDT reed contacts
- ▶ All metal and non-metal versions
- ▶ Vertical or horizontal mounting
- ▶ Protection class IP54/IP68
- ▶ Approved models available
 - UL and CSA listed models
 - ATEX: Ex i
 - TR-TS
 - Shipbuilding

Industries & Applications

Everywhere in fluid storage, handling and controlling, ship bilge



Multi Level Switches

- ▶ Up to 6 levels SPST or SPDT reed contacts
- ▶ Metal and non-metal versions
- ▶ Protection class IP54/IP68
- ▶ Max. length from mating surface: 3000 mm
- ▶ Optional with temperature sensor (Pt100) or temperature switch
- ▶ Approved models available
 - UL and CSA listed models
 - ATEX: Ex i
 - TR-TS
 - Shipbuilding

Industries & Applications

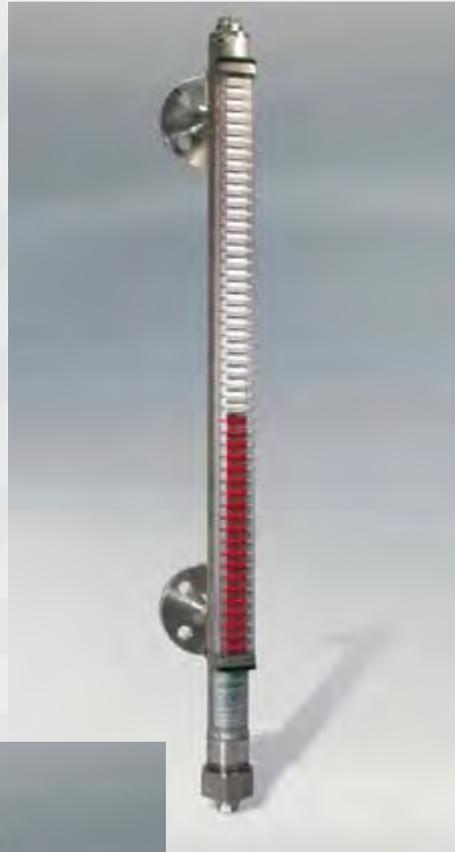
Pump controller, level monitoring, machine industry, shipbuilding, mobile and stationary applications

Bypass Level Indicators

- ▶ Continuous level indication, purely mechanical, no power needed
- ▶ Temperatures up to 320 °C (608 °F)
- ▶ Pressure up to 250 bar (3,625 psi)
- ▶ Mounting tankside, bypass or tanktop
- ▶ Max. Measuring length: 5.700 mm (one piece)
- ▶ Optional
 - Transmitter 4-20 mA
 - Interface
 - Bistable reed switch usable as limit switch
- ▶ Approved models available
 - PED 97/23/EG
 - ATEX: Ex c (and Ex i for Gk03 and TL)
 - TR-TS
 - Shipbuilding
 - UL (for GK03)

Industries & Applications

Replaces sightglasses, level monitoring where legibility up to 30 m (100 ft) is needed, offshore



Level Electronic control

Electronic Level Probes

- ▶ Continuous level measurement
- ▶ Probe material CuNiFe alloy or stainless steel
- ▶ Measuring range from 0–0.6 up to 0–200 m WC
- ▶ Signal output 4–20 mA/0–10 V
- ▶ Different materials and mounting alternatives
- ▶ Approved models available
 - ATEX: Ex i
 - TR-TS
 - Shipbuilding

Industries & Applications

Multiple level control for shipbuilding, ground water level measurement, level indication in wells and open tanks, even with low filling levels, waste-water purification, chemical plants, pharmaceutical industry, balast tank control, offshore.



Tank Level Gauging

- ▶ Semi-continuous level monitoring
- ▶ Incremental accuracy 4–16 mm
- ▶ All metal versions
- ▶ Mounting: vertical or custom made
- ▶ Integrated transmitter 4–20 mA
- ▶ Optional: Interface level measurement
- ▶ Analogue output and input, 4...20 mA, 0...10 V or resistance
- ▶ Max. length from mating surface: 6000 mm
- ▶ Approved models available
 - ATEX: EX i
 - TR-TS
 - Shipbuilding

Industries & Applications

Utilities, industrial, barges, shipbuilding, offshore oil and gas

Flow

Flow Switches

- ▶ Pipe sizes G1/4" ... G1 1/2"
- ▶ Stainless steel or nickel plated brass
- ▶ Displacer-in-tube design
- ▶ Calibrated scale with optional viscosity compensation up to 600cSt available
- ▶ Optional visual indication
- ▶ SPST or SPDT output
- ▶ Approved models available
 - ATEX: Ex i
 - Shipbuilding
 - TR-TS

Industries & Applications

Flow control in liquids and gases, lubrication and cooling system protection



Electronic Flow Transmitters with Ultrasonic Sensor

- ▶ Ranges: 0...10 l/min up to 0...1,000 l/min
- ▶ 2 set points and analog output
- ▶ 7-segment LED display
- ▶ Microprocessor-controlled, self monitoring with error display
- ▶ All parameters are configured by keypad
- ▶ Tamper proof, keypad lock
- ▶ Rugged construction, vibration- and shock-proof
- ▶ Long term stability

Industries & Applications

Utilities, industrial, barges, shipbuilding, offshore oil and gas

Valves

Valves

Shear-Seal® Microtorque® Valve

- ▶ 1/4" NPT or SAE Porting
- ▶ DO3 manifold mounting
- ▶ Pressures to 700 bar (10,000 psi)
- ▶ Multiple flow patterns
- ▶ Low handle load
- ▶ Spring return



Industries & Applications

Construction machines, machine tools and systems, hydraulics and pneumatics, mobile hydraulics

Shear-Seal® Actuated Heavy Duty Valve

- ▶ Integrated actuator
- ▶ 1/4" to 1-1/2" NPT or SAE porting
- ▶ 2-Position and 3-Position
- ▶ Corrosion resistant materials
- ▶ Pressures to 400 bar (6,000 psi)
- ▶ Automated valve shifting
- ▶ Position indication option available



Industries & Applications

Remote operated circuits, offshore systems, shipboard controls

Shear-Seal® Directional Control Valve

- ▶ 1/4" to 1-1/2" NPT or SAE porting
- ▶ Selector, open center, shut-off manipulator
- ▶ Pressures to 400 bar (6,000 psi)
- ▶ High velocity flow
- ▶ Low pressure drop
- ▶ Tolerates contaminants
- ▶ Spring return

Industries & Applications

High-pressure hydraulic controls, steel mills



Shear-Seal® OEM Valve

- ▶ Shear-Seal® technology
- ▶ 1/4" to 1-1/2" NPT or SAE porting
- ▶ Selector, bypass, open center, manipulator
- ▶ Pressures to 200 bar (3,000 psi)
- ▶ High velocity flow
- ▶ Tolerates contaminants
- ▶ Spring return



Industries & Applications

High-pressure hydraulic controls, light industrial applications



MAV Manual actuated valve

- ▶ Shear-Seal® technology
- ▶ G1/4" to G1", 1/4" NPT and 1/2" NPT process connection
- ▶ Stainless steel or aluminium
- ▶ Max. 420 bar (6,000 psi)
- ▶ 40l/min at 5 bar Δp
- ▶ -25 °C....+70 °C
- ▶ Virtually zero leakage
- ▶ Rugged design
- ▶ Highly viscous and / or soiled operating medium

Industries & Applications

Remote operated circuits, offshore systems, shipboard controls

Pressure Regulator

- ▶ Shear-Seal® technology
- ▶ 1/2" to 1-1/2" NPT or SAE porting
- ▶ Code 62 flange options available
- ▶ Self adjusting
- ▶ High flow capacity
- ▶ Tolerates contaminants
- ▶ Manual set or fail-safe motor control
- ▶ High repeatability



Industries & Applications

Land-based and offshore oil drilling controls, High-pressure hydraulic controls, pressure sensitive applications

Global Presence

Global Presence



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