

# Industry Applications.



**An overview of the most common design-ins  
and applications using our products**



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# Industrial.



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# Automation

With an increasing demand for automated machines and systems, secure and reliable connections are vital for industrial automation applications where efficiency and uptime is of the upmost importance. Our waterproof circular connectors are the perfect solution for automation systems such as factory automation, industrial networks and robotics. From movement signals to manufacturing and material handling processes, our robust sealed connector range for power, signal and data perform excellently in harsh environments where moisture, extreme temperatures and vibration are present.

With IP66, IP67, IP68 & IP69K ratings, they are particularly ideal for production lines that are prone to dust & liquid build up.

## Applications

- Industrial Robotics
- Pharmaceutical Manufacturing
- Automotive Manufacturing
- Food & Beverage Processing
- Material Handling Equipment
- Packaging Equipment
- Process Control Systems
- Machining & Metal Processing
- Semiconductor Manufacturing
- Factory Automation Machines

# Product Lines

## M5 Series



- A-Coding
- Ratings up to 1A, 60V ac/dc
- IP67 protection
- 3 & 4 contacts
- PUR & PVC cable options

## M8 Series



- A & B Coding
- Ratings up to 3A, 60V ac/dc
- IP67 protection
- 3, 4 & 5 contacts
- PUR & PVC cable options

## M12 Series



- A, B & D Coding
- Max rating 4A, 250V ac/dc
- IP67 protection
- 3, 4, 5, 8 & 12 contacts
- PUR & PVC cable options

## M16 Series



- A-Coding
- Max Rating 7A, 250V ac/dc
- IP67 protection
- 3, 4, 5, 6, 8 & 12 contacts
- Metal shells with good shielding

## M23 Series



- A-Coding
- Max Rating 8A, 200V ac/dc
- IP67 protection
- 12 & 19 contacts
- Straight & angled options

## I/O Boxes



- Anodised aluminium housing
- M12 inputs M8 outputs
- Operating Temp Range -25°C to 80°C
- IP67 rated
- 5, 8 & 9 port configurations

## Standard Ethernet




- Cat5e RJ45 Ethernet Connectors
- Data rates up to 100MHz
- IP66, IP67, IP68 & IP69K protection
- Shielded system
- High noise immunity & EMI protection

## 6000 Series Power



- 2 - 22 Contacts
- Plastic or Metal Housing
- IP66, IP67, IP68 & IP69K protection
- Secure, quick mating & release connectors
- cULus, UL, VDE Approvals

A close-up, black and white photograph of industrial machinery, showing a large, cylindrical component with a textured surface and a circular opening. The machinery is part of a larger system, with various pipes and components visible.

# Tools & Machinery

Industrial environments are exposed to many impeding elements such as water, vibration, chemicals and extreme temperatures. With demand growing for automated processes, there is more pressure than ever before on production and motion control systems.

To overcome these potentially detrimental conditions, our connectivity solutions with metal or plastic housings are used around the world to facilitate secure power, signal and data connections in the harshest of environments. Our robust range of vandal proof push button switches are also a perfect solution for operating heavy duty tools, metal and wood processing equipment, food and beverage processing systems and packaging machinery.

## Applications

- Industrial Food Slicer
- Vacuum Packaging Machine
- Printed Electronics Machinery
- Heavy Industrial Food Processor
- Industrial Grade Printer
- Industrial Automated Saws
- Industrial Coating Machinery
- Industrial Sand Blaster

# Product Lines

## Standard Power



- Rating up to 12A, 277V ac/dc
- 2, 3, 4, 6, 7, 9, 12 & 25 contacts
- IP66, IP67, IP68 & IP69K protection
- Plug & receptacle connectors
- CCC, UL, CSA & VDE approvals

## 900 Series Power



- 32A, 600V ac/dc rating
- 2, 3, 4, 5, 7 & 10 contacts
- IP66, IP67, IP68 & IP69K protection
- Single or 3 phase applications
- CCC, UL, CSA & VDE approvals

## Standard Ethernet



- Cat5e RJ45 Ethernet Connectors
- Data rates up to 100MHz
- IP66, IP67, IP68 & IP69K protection
- Shielded system
- High noise immunity & EMI protection

## 6000 Series Power



- 2 - 22 Contacts
- Plastic or Metal Housing
- IP66, IP67, IP68 & IP69K protection
- Secure, quick mating & release connectors
- cULus, UL, VDE Approvals

## M12 Series



- A, B & D Coding
- Max rating 4A, 250V ac/dc
- IP67 protection
- 3, 4, 5, 8 & 12 contacts
- PUR & PVC cable options

## M16 Series



- A-Coding
- Max Rating 7A, 250V ac/dc
- IP67 protection
- 3, 4, 5, 6, 8 & 12 contacts
- Metal shells with good shielding

## M23 Series



- A-Coding
- Max Rating 8A, 200V ac/dc
- IP67 protection
- 12 & 19 contacts
- Straight & angled options

## Vandal Resistant Switches



- High resistance to wear & tear, corrosion & harsh use
- Domed, low & prominent profiles
- IP66 & IP68 sealing versions
- Illuminated & non-illuminated options
- Front & rear panel mount versions



# Instrumentation & Measurement

Instrumentation and measurement systems are vital for ensuring productivity, reliability, safety and continuity in the industrial sector. Accurate and consistent measurements allow for process control and automated manufacturing systems to be optimised for maximum efficiency. Reliable electronic components are essential for achieving this.

That's where we come in. From control interfaces to power and data connections, Bulgin has a diverse choice of electronic solutions ideal for systems that measure a variety of parameters including pressure, moisture, flow, temperature and vibration.

## Applications

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- Handheld Moisture Detectors
- Wireless Data Logger
- Flow Meters
- Solar Water Pump Controller
- Industrial Scales
- Terrain Monitoring
- Handheld Radiation Detection
- Pipe Inspection System
- Pressure Transmitter
- Test Bench
- Wireless Load Sensors
- Moisture Meters

# Product Lines

## Standard Power



- Rating up to 12A, 277V ac/dc
- 2, 3, 4, 6, 7, 9, 12 & 25 contacts
- IP66, IP67, IP68 & IP69K protection
- Plug & receptacle connectors
- CCC, UL, CSA & VDE approvals

## M12 Series



- A, B & D Coding
- Max rating 4A, 250V ac/dc
- IP67 protection
- 3, 4, 5, 8 & 12 contacts
- PUR & PVC cable options

## Standard Ethernet



- Cat5e RJ45 Ethernet Connectors
- Data rates up to 100MHz
- IP66, IP67, IP68 & IP69K protection
- Shielded system
- High noise immunity & EMI protection

## 6000 Series Power



- 2 - 22 Contacts
- Plastic or Metal Housing
- IP66, IP67, IP68 & IP69K protection
- Secure, quick mating & release connectors
- cULus, UL, VDE Approvals

## Vandal Resistant Switches



- High resistance to wear & tear, corrosion & harsh use
- Domed, low & prominent profiles
- IP66 & IP68 sealing versions
- Illuminated & non-illuminated options
- Front & rear panel mount versions

## Battery Holders



- AAA, AA, C, D & PP3 battery sizes
- Accommodating 1, 2, 3 or 4 cells
- IP67 sealed versions
- Suitable for PCB mounting
- Panel mounting versions

## M16 Series



- A-Coding
- Max Rating 7A, 250V ac/dc
- IP67 protection
- 3, 4, 5, 6, 8 & 12 contacts
- Metal shells with good shielding

## 400 Series SMB



- 50Ω impedance SMB antenna connector
- Frequency range 0 - 4GHz
- IP66, IP67, IP68 & IP69K protection
- Rewireable & pre-wired connector options
- RG-174 cables

# Marine.



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# Above Water.

Surface marine applications such as ship deck systems, marina facilities and boating equipment are constantly exposed to the harshest of conditions. With high corrosion and water ingress posing a constant threat to connectivity solutions, sealed and robust components are a must for applications in this market. Originally designed for leisure yachts, our Buccaneer connector range is perfectly suited to meet the challenging requirements of marine applications both above and below water level.

With a wide portfolio of IP rated power, signal and data connectors, along with years of experience in designing and manufacturing sealed interconnect solutions, we are sure to have the right solution for your marine connectivity needs. If our existing product range doesn't meet your specifications, then our experienced engineering teams have the knowledge and expertise needed to create a custom solution specific to your unique requirements.

## Applications

- Boat & Yacht Lighting
- Water Quality Systems
- GPS Marine Equipment
- Container Ship Communication
- LED Marine Lanterns
- Unmanned Surface Vehicle (USV)
- Water Flow Data Loggers
- Marina Energy Distribution Unit
- Sailboats

# Product Lines

## 6000 Series Power



- 2 - 22 Contacts
- Plastic
- IP66, IP67, IP68 & IP69K protection
- Secure, quick mating & release connectors
- cULus, UL, VDE Approvals

## 400 Series Power



- Ratings up to 8A, 250V ac/dc
- 2, 3, 4, 6, 8, 10 & 12 contacts
- IP66, IP67, IP68 & IP69K protection
- Pin or socket, screw thread locking
- CE, UL, CSA & VDE approvals

## Standard Series USB



- USB V2.0 performance
- IP66, IP67, IP68 & IP69K protection
- Single & double ended cable assemblies & panel mount options
- Available in various USB type 'A' or 'B' configurations
- 2m, 3m & 5m cable lengths

## 400 Series Mini USB



- Sealed Mini-USB cable connectors
- Data rates up to 480Mbps
- IP66, IP67, IP68 & IP69K protection
- USB V2.0 performance
- Front, rear & PCB panel mount options

## Standard Ethernet



- Cat5e RJ45 Ethernet Connectors
- Data rates up to 100MHz
- IP66, IP67, IP68 & IP69K protection
- Shielded system
- High noise immunity & EMI protection

## Vandal Resistant Switches



- High resistance to wear & tear, corrosion & harsh use
- Domed, low & prominent profiles
- IP66 & IP68 sealing versions
- Illuminated & non-illuminated options
- Front & rear panel mount versions

## Standard Power



- Rating up to 12A, 277V ac/dc
- 2, 3, 4, 6, 7, 9, 12 & 25 contacts
- IP66, IP67, IP68 & IP69K protection
- Plug & receptacle connectors
- CCC, UL, CSA & VDE approvals

## 400 Series SMB



- 50Ω impedance SMB antenna connector
- Frequency range 0 - 4GHz
- IP66, IP67, IP68 & IP69K protection
- Rewireable & pre-wired connector options
- RG-174 cables



# Underwater

Operating underwater requires the most rugged and reliable of connectivity components, as pressure, extreme temperatures and salt water all pose complex challenges for underwater marine applications. With more companies seeking to go deeper for longer in such hostile conditions, this has increased the demand of life cycles for submersible connectors, along with the simplification of product maintenance processes.

With a high risk of corrosion affecting the integrity of power, signal and data connections, sealed connector solutions are a must for high performance underwater marine equipment. Bulgin's expertise in producing environmentally sealed connectors makes us one of the world's leading interconnect providers for marine application solutions where immersion is required in low and high pressure underwater environments.

## Applications

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Sealed Diving Cameras  
Diver Communication  
Depth Logger  
Subsea ROV

# Product Lines

## 4000 Micro-USB



- Data rates up to 480Mbs
- USB V2.0 performance
- IP66, IP67, IP68 & IP69K protection
- Tamperproof Construction
- EN60068-2-52 Test Kb Salt Mist (Cyclic) Marine Severity Level 1

## 6000 Series Power



- 2 - 22 Contacts
- Plastic
- IP66, IP67, IP68 & IP69K protection
- Secure, quick mating & release connectors
- cULus, UL, VDE Approvals

## 400 Series Power



- Ratings up to 8A, 250V ac/dc
- 2, 3, 4, 6, 8, 10 & 12 contacts
- IP66, IP67, IP68 & IP69K protection
- Pin or socket, screw thread locking
- CE, UL, CSA & VDE approvals

## 400 Series Mini USB



- Sealed Mini-USB cable connectors
- Data rates up to 480Mbs
- IP66, IP67, IP68 & IP69K protection
- USB V2.0 performance
- Front, rear & PCB panel mount options

## 400 Series SMB



- 50Ω impedance SMB antenna connector
- Frequency range 0 - 4GHz
- IP66, IP67, IP68 & IP69K protection
- Rewireable & pre-wired connector options
- RG-174 cables

## 7000 Series Power



- Ratings up to 25A, 600V rated
- 2, 3, 6, 10 & 32 contacts
- IP66, IP67 IP68 and IP69K when mated
- Plastic Shells
- cULus, UL & VDE approvals

## Standard Ethernet



- Cat5e RJ45 Ethernet Connectors
- Data rates up to 100MHz
- IP66, IP67, IP68 & IP69K protection
- Shielded system
- High noise immunity & EMI protection

## ROV Tether Connector



- 316 Stainless Steel Construction
- Pressure Balanced Oil Filled (PBOF)
- Data, Power & Fibre Optics
- Ratings up to 5KV, 32A
- Capable of up to 7000m subsea depths

# Transport & Infrastructure.



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# Lighting

Bulgin is an industry leader in manufacturing reliable electronic solutions for lighting applications around the world. With ambient and environmental conditions such as water, moisture and extreme temperatures posing a constant threat to the performance of outdoor lighting equipment, secure and robust solutions are of paramount importance.

For years we have supported the lighting needs of various infrastructure applications with our industry-leading solutions being used in various indoor, outdoor and industrial applications, from portable lighting for construction to airport flood lights. Our IP rated circular connectors for power, signal and data are particularly suited to providing the high levels of performance needed for such demanding environments. Capable of being submerged in water and able to withstand high levels of UV exposure, they are specifically designed to reduce installation time and excel in challenging environmental conditions.

If you require reliable waterproof connectors and cable assemblies suited to outdoor and architectural lighting applications, then Bulgin is the perfect choice to meet your unique lighting requirements.

## Applications

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**Roadside LED Lighting**

**Commercial Lighting**

**External Building LED Lighting**

**Portable Road Maintenance LED Lighting**

**Airport Flood Lighting**

**Sport Venue LED Lighting**

# Product Lines

## 400 Series Power



- Ratings up to 8A, 250V ac/dc
- 2, 3, 4, 6, 8, 10 & 12 contacts
- IP66, IP67, IP68 & IP69K protection
- Pin or socket, screw thread locking
- CE, UL, CSA & VDE approvals

## 400 Series Mini USB



- Sealed Mini-USB cable connectors
- Data rates up to 480Mbps
- IP66, IP67, IP68 & IP69K protection
- USB V2.0 performance
- Front, rear & PCB panel mount options

## 4000 Series Power



- Ratings up to 13A, 600V ac/dc
- 3, 8 & 12 contacts
- IP66, IP67, IP68 & IP69K protection
- Pin or socket, bayonet locking
- UL, CSA & VDE approvals

## 6000 Series Power



- 2 - 22 Contacts
- Plastic or Metal Housing
- IP66, IP67, IP68 & IP69K protection
- Secure, quick mating & release connectors
- cULus, UL, VDE Approvals

## Standard Power



- Rating up to 12A, 277V ac/dc
- 2, 3, 4, 6, 7, 9, 12 & 25 contacts
- IP66, IP67, IP68 & IP69K protection
- Plug & receptacle connectors
- CCC, UL, CSA & VDE approvals

## Fuse Holders



- In-line, panel, PCB & base mounting
- Screw or snap fit variants
- PC1, PC2 & PC3 shock protection categories
- IP66, IP67 & IP68 sealed versions
- Ideal for 5 x 20mm & 6.3 x 32mm fuse sizes



# Security & Surveillance

Security systems are at the heart of all transport and infrastructure. With applications such as surveillance cameras constantly operating in some of the world's most challenging outdoor environments, reliable data and power transmissions are vital for ensuring that they can operate 24/7 in harsh ambient conditions.

To resolve this issue, we have created a wide variety of standardised rugged, lightweight and sealed connectivity solutions including field installable connectors and overmolded cable assemblies that can also be customised for your specific design and development needs. Whether you require secure and reliable connectors for camera systems or robust anti vandal switches for door entry keypads, we are sure to have the right solution for your security application. We thrive on providing secure and reliable solutions that prevent downtime and minimise maintenance work for applications where security and surveillance are a priority to your operations.

## Applications

- Traffic Cameras
- ANPR Cameras and Sensors
- Parking Control Camera
- Security Door Switch
- Door Entry Keypads
- Aerial Surveillance & Mapping
- Security Video Monitoring
- Portable Alarm Systems
- Unmanned Surface Vehicle
- CCTV Cameras

# Product Lines

## Standard Power



- Rating up to 12A, 277V ac/dc
- 2, 3, 4, 6, 7, 9, 12 & 25 contacts
- IP66, IP67, IP68 & IP69K protection
- Plug & receptacle connectors
- CCC, UL, CSA & VDE approvals

## 900 Series Power



- 32A, 600V ac/dc rating
- 2, 3, 4, 5, 7 & 10 contacts
- IP66, IP67, IP68 & IP69K protection
- Single or 3 phase applications
- CCC, UL, CSA & VDE approvals

## 400 Series Power



- Ratings up to 8A, 250V ac/dc
- 2, 3, 4, 6, 8, 10 & 12 contacts
- IP66, IP67, IP68 & IP69K protection
- Pin or socket, screw thread locking
- CE, UL, CSA & VDE approvals

## 400 Series Mini USB



- Sealed Mini-USB cable connectors
- Data rates up to 480Mbps
- IP66, IP67, IP68 & IP69K protection
- USB V2.0 performance
- Front, rear & PCB panel mount options

## 6000 Series Power



- 2 - 22 Contacts
- Plastic or Metal Housing
- IP66, IP67, IP68 & IP69K protection
- Secure, quick mating & release connectors
- cULus, UL, VDE Approvals

## 4000 Micro-USB



- Data rates up to 480Mbps
- USB V2.0 performance
- IP66, IP67, IP68 & IP69K protection
- Tamperproof Construction
- EN60068-2-52 Test Kb Salt Mist (Cyclic) Marine Severity Level 1

## Vandal Resistant Switches



- High resistance to wear & tear, corrosion & harsh use
- Domed, low & prominent profiles
- IP66 & IP68 sealing versions
- Illuminated & non-illuminated options
- Front & rear panel mount versions

## 400 Series SMB



- 50Ω impedance SMB antenna connector
- Frequency range 0 - 4GHz
- IP66, IP67, IP68 & IP69K protection
- Rewireable & pre-wired connector options
- RG-174 cables



# Buildings & Construction

Heavy duty machinery used for construction & building maintenance require components that are equally as rugged as the environments that they operate in. From outdoor lighting and industrial meters to indoor HVAC systems, rest assured that our wide range of switches, indicators and waterproof connectors are built for maximum reliability and performance.

## Applications

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**Air Compressor**

**Air Cleaning System**

**Disabled Refuge Systems**

**Stair Lifts**

**Terrain / Mud Monitoring Systems**

**Moisture Meters**

**Security Door Switch Panels**

**Cherry Pickers**

**Wireless Load Sensors**

**High Powered LED Searchlight**

**Fire Pump Controller**

**Heating Systems**

**Smart Metering**

**Vacuum Pump**

# Product Lines

## Standard Power



- Rating up to 12A, 277V ac/dc
- 2, 3, 4, 6, 7, 9, 12 & 25 contacts
- IP66, IP67, IP68 & IP69K protection
- Plug & receptacle connectors
- CCC, UL, CSA & VDE approvals

## 6000 Series USB



- Secure 30° twist locking mechanism
- Plug & play capability
- IP66, IP67, IP68 & IP69K protection when mated
- Single & double ended PUR cables
- USB V2.0 performance

## Indicators



- LED, Neon & Filament options
- Panel sealed IP66 & IP67 versions
- Wide choice of bezel sizes & styles
- Multiple termination types
- Rugged stainless steel variants

## 400 Series Mini USB



- Sealed Mini-USB cable connectors
- Data rates up to 480Mbps
- IP66, IP67, IP68 & IP69K protection
- USB V2.0 performance
- Front, rear & PCB panel mount options

## Rocker Switches



- Ratings from 10A, 250Vac - 20A, 277Vac
- Push-on, solder & PCB terminals
- Splash resistant & antimicrobial options
- Illuminated & Non-Illuminated options
- Large choice of bezel styles & sizes, panel cut-outs, actuators & switching circuits

## Vandal Resistant Switches



- High resistance to wear & tear, corrosion & harsh use
- Domed, low & prominent profiles
- IP66 & IP68 sealing versions
- Illuminated & non-illuminated options
- Front & rear panel mount versions

## Toggle Switches



- Nylon & Metal variants
- Multiple Lever options
- Ratings up to 20A, 250Vac - 277Vac
- IP67 panel seal versions
- Quick Connect, Solder, Screw & PCB termination options

## 400 Series SMB



- 50Ω impedance SMB antenna connector
- Frequency range 0 - 4GHz
- IP66, IP67, IP68 & IP69K protection
- Rewireable & pre-wired connector options
- RG-174 cables

# Transportation

The world is constantly changing and we help to keep it moving with our connectivity solutions. With more transport links and vehicles needed than ever before to meet the challenging needs of a growing population, we help to future proof your investment by providing cost effective and high performance solutions that last. Experts in manufacturing sealed electrical connectors, we've provided connectivity solutions to transport and infrastructure applications for years.

Particularly suited to provide power, signal & data connections in harsh environments, our reliable connector range makes sure that people and goods successfully get to their destination by land, sea or air.

## Applications

- Lorry LED Lighting
- Road Management Maintenance
- Speed Check Signage
- Illuminated Taxi Sign
- Transport Refrigeration
- Noise Monitoring Terminal
- Container Cooling Units
- Surface Friction Test Equipment
- Noise Monitoring Terminal
- In-flight Entertainment Systems
- Traffic Lights

# Product Lines

## 900 Series Power



- 32A, 600V ac/dc max rating
- 2, 3, 4, 5, 7 & 10 contacts
- IP66, IP67, IP68 & IP69K protection
- Single or 3 phase applications
- CCC, UL, CSA & VDE approvals

## 400 Series Power



- Ratings up to 8A, 250V ac/dc
- 2, 3, 4, 6, 8, 10 & 12 contacts
- IP66, IP67, IP68 & IP69K protection
- Pin or socket, screw thread locking
- CE, UL, CSA & VDE approvals

## 4000 Series Power



- Ratings up to 13A, 600V ac/dc
- 3, 8 & 12 contacts
- IP66, IP67, IP68 & IP69K protection
- Pin or socket, bayonet locking
- UL, CSA & VDE approvals

## 6000 Series Power



- 2 - 22 Contacts
- Plastic or Metal Housing
- IP66, IP67, IP68 & IP69K protection
- Secure, quick mating & release connectors
- cULus, UL, VDE Approvals

## Standard Ethernet



- Cat5e RJ45 Ethernet Connectors
- Data rates up to 100MHz
- IP66, IP67, IP68 & IP69K protection
- Shielded system
- High noise immunity & EMI protection

## Toggle Switches



- Nylon & Metal variants
- Multiple Lever options
- Ratings up to 20A, 250Vac - 277Vac
- IP67 panel seal versions
- Quick Connect, Solder, Screw & PCB termination options

# Automotive.

An ever growing population calls for more vehicles to fulfil transportation needs. The rise of autonomous cars and increasingly connected vehicles also means that reliable and high performance components have never been more important in the automotive industry. Luckily we have a wide range of solutions perfectly suited to the demanding challenges of this industry. From automotive manufacturing and testing equipment to truck lighting and control panels for agricultural vehicles, our products are involved at every stage of a motor vehicles life cycle.

With a wide variety of products on offer including sealed connectors for power, signal and data, we can also produce bespoke custom solutions that combine switches, enclosures, PCB's and cable assemblies to meet the needs of demanding automotive applications.



## Applications

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**Automotive Manufacturing**

**Agriculture Vehicles**

**Snowmobile Controls**

**Automotive Power Diagnostics**

**RV Heating / Cooling Systems**

**Heated Car Seats**

**Lorry / Truck LED Lighting Power Distribution**

**Illuminated Taxi Sign**

**Military Vehicle Datacoms**

**Cherry Pickers**

**Wheel Diagnostic Equipment**

**Off Road Vehicles**

**Quad-bike Control Panel**

**Glove Compartment Light**

**Pressure Washers**

**Vehicle Tail Lift and Controls**

# Product Lines

## Switches



- Vandal Resistant, Rocker & Toggle
- IP66, IP67 & IP68 sealed versions
- Illuminated & Non-Illuminated options
- Front & rear panel mounted versions
- Choice of bezel styles & sizes, panel cut-outs, actuators & switching circuits

## Standard Power



- Rating up to 12A, 277V ac/dc
- 2, 3, 4, 6, 7, 9, 12 & 25 contacts
- IP66, IP67, IP68 & IP69K protection
- Plug & receptacle connectors
- CCC, UL, CSA & VDE approvals

## 900 Series Power



- 32A, 600V ac/dc max rating
- 2, 3, 4, 5, 7 & 10 contacts
- IP66, IP67, IP68 & IP69K protection
- Single or 3 phase applications
- CCC, UL, CSA & VDE approvals

## 400 Series Mini USB



- Sealed Mini-USB cable connectors
- Data rates up to 480Mbps
- IP66, IP67, IP68 & IP69K protection
- USB V2.0 performance
- Front, rear & PCB panel mount options

## 4000 Series Power



- Ratings up to 13A, 600V ac/dc
- 3, 8 & 12 contacts
- IP66, IP67, IP68 & IP69K protection
- Pin or socket, bayonet locking
- UL, CSA & VDE approvals

## 6000 Series Ethernet



- Cat5e RJ45 Ethernet Connectors
- Data rates up to 100MHz
- IP66, IP67, IP68 & IP69K protection
- Shielded system
- Quick 30° turn locking mechanism

## Battery Holders



- AAA, AA, C, D & PP3 battery sizes
- Accommodating 1, 2, 3 or 4 cells
- IP67 sealed versions
- Suitable for PCB mounting
- Panel mounting versions

## Enclosures

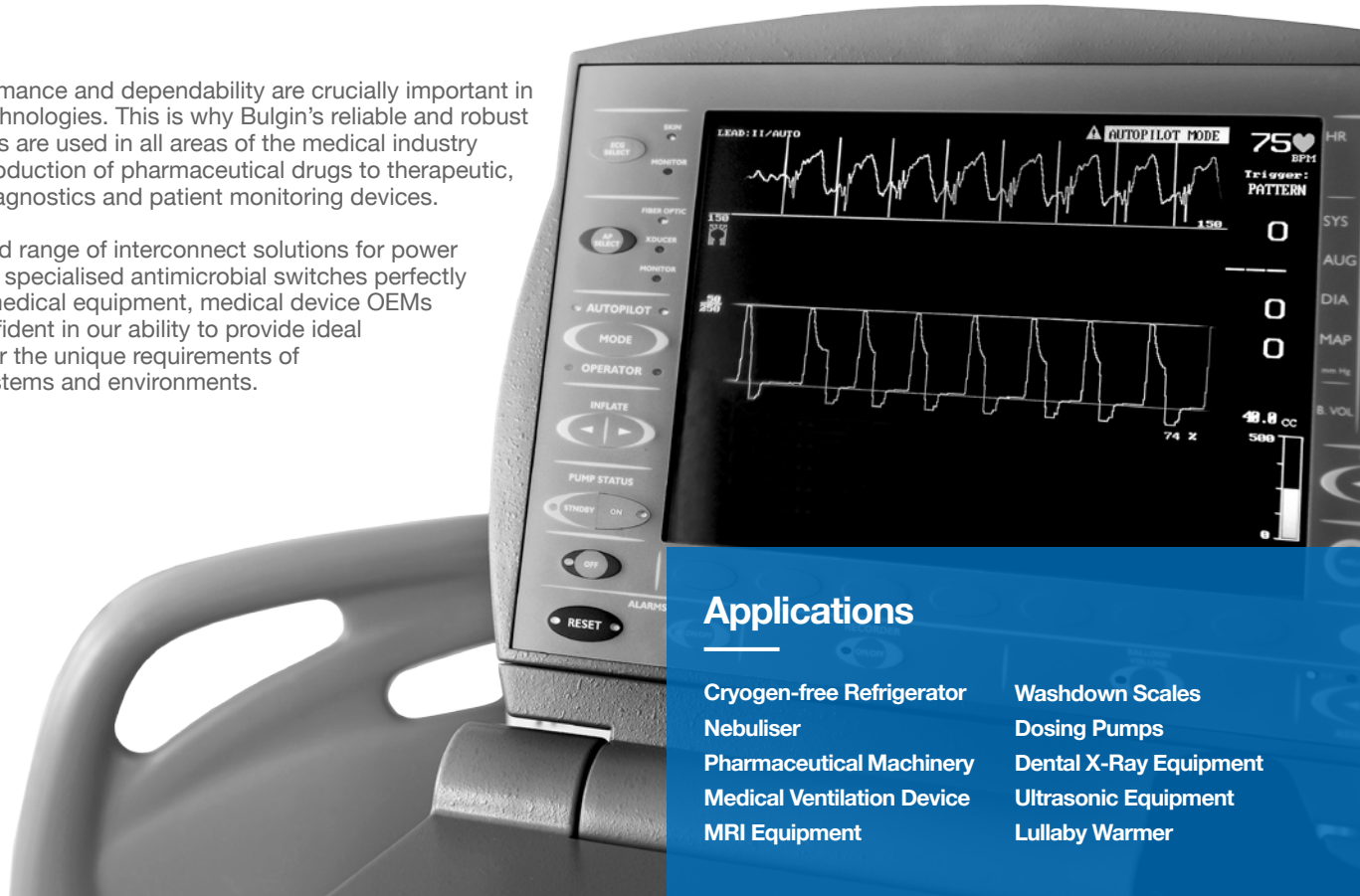


- 3 sizes available
- IP67 rated - Dust & Waterproof
- ABS or Flame Retardant Polycarbonate
- Mounting posts & slots for PCB
- M20 thread cable glands & wall mounting brackets

# Medical.

High performance and dependability are crucially important in medical technologies. This is why Bulgin's reliable and robust components are used in all areas of the medical industry from the production of pharmaceutical drugs to therapeutic, imaging, diagnostics and patient monitoring devices.

With a broad range of interconnect solutions for power or data and specialised antimicrobial switches perfectly suited for medical equipment, medical device OEMs can be confident in our ability to provide ideal solutions for the unique requirements of medical systems and environments.



## Applications

Cryogen-free Refrigerator  
Nebuliser  
Pharmaceutical Machinery  
Medical Ventilation Device  
MRI Equipment

Washdown Scales  
Dosing Pumps  
Dental X-Ray Equipment  
Ultrasonic Equipment  
Lullaby Warmer

# Product Lines

## 6000 Series Power



- 2 - 22 Contacts
- Plastic or Metal Housing
- IP66, IP67, IP68 & IP69K protection
- Secure, quick mating & release connectors
- cULus, UL, VDE Approvals

## Standard Series USB



- USB V2.0 performance
- IP66, IP67, IP68 & IP69K protection
- Single & double ended cable assemblies & panel mount options
- Available in various USB type 'A' or 'B' configurations
- 2m, 3m & 5m cable lengths

## IEC Connectors



- IEC Connectors, Inlets & Outlets
- Conforming to IEC & EN 60320 Standards
- C13, C14, C15, C16, C18, C19 & C20 as well as Sheet E, F, H, I & J types available
- Variety of mounting styles & terminations
- UL, CSA, VDE & CE approved versions

## Rocker Switches



- Ratings from 10A, 250Vac - 20A, 277Vac
- Push-on, solder & PCB terminals
- Splash resistant & antimicrobial options
- Illuminated & Non-Illuminated options
- Large choice of bezel styles & sizes, panel cut-outs, actuators & switching circuits

## 400 Series Power



- Ratings up to 8A, 250V ac/dc
- 2, 3, 4, 6, 8, 10 & 12 contacts
- IP66, IP67, IP68 & IP69K protection
- Pin or socket, screw thread locking
- CE, UL, CSA & VDE approvals

## 400 Series Mini USB



- Sealed Mini-USB cable connectors
- Data rates up to 480Mbps
- IP66, IP67, IP68 & IP69K protection
- USB V2.0 performance
- Front, rear & PCB panel mount options

## Power Entry Modules



- Combinations of IEC inlets/outlets, filtered inlets, switches, fuse holders, voltage selectors & indicators available
- Compact single rectangular mounting hole, flange fixing alternative available for security of screw fixing
- Vertical & horizontal arrangement
- Single or double pole variants

## EMI Filters



- High performance IEC filtered inlets
- Current ratings from 1 to 10 amps
- Single or twin fused types
- Flange, snap to panel or base / bulkhead mounting options
- 6.3mm tabs

# Oil & Gas.



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**Topside**

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**Subsea**

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# Topside

With demand for the world's natural resources increasing, so too are the challenges facing the Oil and Gas industry. Harsh conditions such as pressure, extreme temperatures, vibrations and shock explosions are some of the common impediments impacting this sector. In an industry with such high-stakes whereby downtime or accidents can have the most catastrophic of consequences, high-performance and extremely reliable solutions are fundamental to prevent this from occurring in both topside and subsea applications.

Bulgin has a variety of solutions to deal with these challenging environments. For instance our Atex Zone 2 and IP rated connectors are perfectly suited to withstand the challenges of explosive and hazardous environments which constantly affect topside systems. We also have the knowledge and in house expertise to provide you with bespoke custom solutions for the most challenging of subsea applications – typified by our deep sea ROV tether connector.

## Applications

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Pipe Inspection System

Industrial Pressure Washer

Security Video Monitoring

Oil Rig Surveillance Control Units

Pump Motors

# Product Lines

## Piezo Switches



- Extremely robust: resistant to dust, dirt, chemicals, water & contaminants
- Sealed to IP68 & IP69K
- 16, 19 or 22mm diameter
- Millions of cycles/actuations
- Illuminated & non-illuminated options

## Vandal Resistant Switches



- High resistance to wear & tear, corrosion & harsh use
- Domed, low & prominent profiles
- IP66 & IP68 sealing versions
- Illuminated & non-illuminated options
- Front & rear panel mount versions

## EXPlora Series



- Ratings up to 12A, 277V ac/dc
- 2, 3, 4, 6, 7, 9, 12 & 25 contacts
- IP67 & IP68 protection
- Plug & receptacle connectors
- CCC, UL, CSA & VDE approvals
- ATEX Zone 2 & 22

## 6000 Series Power



- 2 - 22 Contacts
- Plastic or Metal Housing
- IP66, IP67, IP68 & IP69K protection
- Secure, quick mating & release connectors
- cULus, UL, VDE Approvals

# Subsea



## 1. The Challenge

In environments where connectors and cables are exposed to high pressures and submerged in water for extended periods, secure and waterproof electrical connections are vital for ensuring that installations can be easily assembled, modified and maintained.

As pioneers in environmentally sealed connectors, Bulgin was approached by the largest manufacturer of subsea ROVs to develop a connector which combined quick and convenient connectivity with long-term corrosion-resistance.

## 2. The Solution

Drawing on Bulgin's extensive expertise in environmental sealing, the ROV Tether Connector is a custom solution that provides a quick yet secure coupling and locking mechanism.

It can withstand demanding subsea conditions such as high pressures and extreme temperatures whilst providing uninterrupted power and data, as well as fibre optic signal feeds.

## 3. The Result

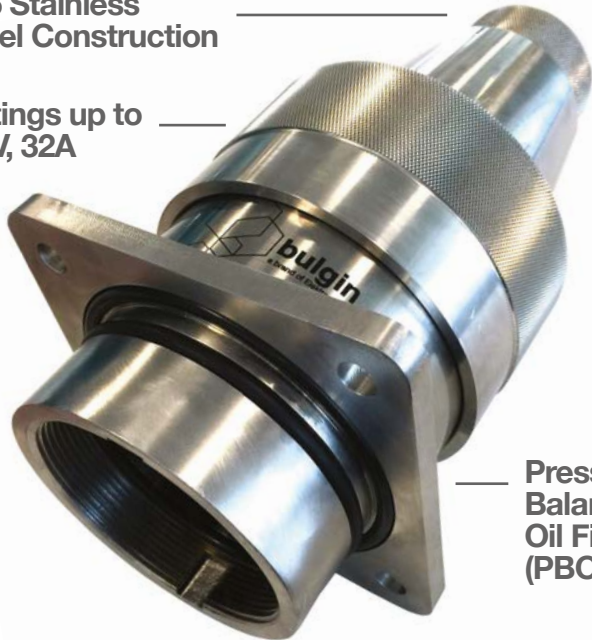
Engineered to prevent problems happening in the first instance, the ROV Tether Connector helps reduce cable termination time and potential downtime for subsea projects.

Dynamic pressure balancing via free flow of dielectric oil from the surface to the connector enables ROVs to operate at subsea depths of up to 7000m.

# ROV Tether Connector Specifications

316 Stainless  
Steel Construction

Ratings up to  
5KV, 32A



Capable of up to  
7000m subsea depths



Pressure  
Balanced  
Oil Filled  
(PBOF)

Data, Power &  
Fibre Optics

# Data & Telecoms.



With the rise of big data, the Internet of Things (IoT), Industry 4.0 and the race for superfast broadband in recent years, the demand for electronic components is higher than ever before. Despite an increasing shift towards wireless technologies, the core equipment that enables these systems to operate are still heavily reliant on physical components such as electrical connectors, battery holders & switches.

In an increasingly connected world, we have the necessary solutions to fulfil the ongoing needs of data centres and telecom networks across the globe. From power distribution to high speed data transmissions and user interface components, we have the solutions that you need to manage the stringent data demands of the future.

## Applications

- Small Cell Backhaul Systems
- Specialist Outdoor Telephones
- UPS - Uninterruptable Power Supply
- Smart Metering
- Portable Satellite Equipment
- Satellite Communication Networks
- Network Server Cabinets

- Telecom Towers
- Mobile Network Transmitter
- Network Encryption Equipment
- Military Vehicle Datacoms
- Network Security & Communication Equipment

# Product Lines

## Standard Power



- Rating up to 12A, 277V ac/dc
- 2, 3, 4, 6, 7, 9, 12 & 25 contacts
- IP66, IP67, IP68 & IP69K protection
- Plug & receptacle connectors
- CCC, UL, CSA & VDE approvals

## Standard Ethernet



- Cat5e RJ45 Ethernet Connectors
- Data rates up to 100MHz
- IP66, IP67, IP68 & IP69K protection
- Shielded system
- High noise immunity & EMI protection

## Mini Series Power



- Ratings up to 10A, 380V ac
- 2, 3, 4, 6 or 8 contacts
- IP67 & IP68 protection
- Plug & receptacle connectors
- UL approved, compact design

## 6000 Series Ethernet



- Cat5e RJ45 Ethernet Connectors
- Data rates up to 100MHz
- IP67, IP68 & IP69K protection
- Shielded system
- Quick 30° turn locking mechanism

## Battery Holders



- AAA, AA, C, D & PP3 battery sizes
- Accommodating 1, 2, 3 or 4 cells
- IP67 sealed versions
- Suitable for PCB mounting
- Panel mounting versions

## Toggle Switches



- Nylon & Metal variants
- Multiple Lever options
- Ratings up to 20A, 250Vac - 277Vac
- IP67 panel seal versions
- Quick Connect, Solder, Screw & PCB termination options

## Indicators



- LED, Neon & Filament options
- Panel sealed IP66 & IP67 versions
- Wide choice of bezel sizes & styles
- Multiple termination types
- Rugged stainless steel variants

## Fuse Holders



- In-line, panel, PCB & base mounting
- Screw or snap fit variants
- PC1, PC2 & PC3 shock protection categories
- IP66, IP67 & IP68 sealed versions
- Ideal for 5 x 20mm & 6.3 x 32mm fuse sizes

# Agriculture.

The agricultural market has many diverse applications requiring a whole host of electronic components. From marine fish farming systems to agricultural equipment, applications in this market are exposed to a wide variety of harsh conditions including water, dust, dirt, chemicals and extreme temperatures.

To meet the challenging needs of the agriculture industry, we have developed an extensive range of robust sealed connectors that ensure optimal protection against external influences in harsh environments.

We also produce numerous types of switches and indicators that are used around the world on heavy duty farming vehicles and equipment.



## Applications

- Livestock Process Control Systems
- Agricultural Vehicles
- Dairy Analyser
- Cattle Feeding Machines
- Livestock Heaters
- Washdown Scales

- Heating Systems
- Fish Feeding Systems
- Land Surveying Equipment
- Bioacoustics Monitoring System
- Vehicle Control Joysticks

# Product Lines

## 400 Series Power



- Ratings up to 8A, 250V ac/dc
- 2, 3, 4, 6, 8, 10 & 12 contacts
- IP66, IP67, IP68 & IP69K protection
- Pin or socket, screw thread locking
- CE, UL, CSA & VDE approvals

## 4000 Series Power



- Ratings up to 13A, 600V ac/dc
- 3, 8 & 12 contacts
- IP66, IP67, IP68 & IP69K protection
- Pin or socket, bayonet locking
- UL, CSA & VDE approvals

## Standard Power



- Rating up to 12A, 277V ac/dc
- 2, 3, 4, 6, 7, 9, 12 & 25 contacts
- IP66, IP67, IP68 & IP69K protection
- Plug & receptacle connectors
- CCC, UL, CSA & VDE approvals

## Standard Ethernet



- Cat5e RJ45 Ethernet Connectors
- Data rates up to 100MHz
- IP66, IP67, IP68 & IP69K protection
- Shielded system
- High noise immunity & EMI protection

## Push Buttons



- Miniature, round, rectangular & vandal options available
- Domed, low & prominent profiles
- IP66, IP67 & IP68 sealed versions
- Illuminated & non-illuminated options
- Front & rear panel mounted versions

## Rocker Switches



- Ratings from 10A, 250Vac - 20A, 277Vac
- Push-on, solder & PCB terminals
- Splash resistant & antimicrobial options
- Illuminated & Non-Illuminated options
- Large choice of bezel styles & sizes, panel cut-outs, actuators & switching circuits

## Toggle Switches



- Nylon & Metal variants
- Multiple Lever options
- Ratings up to 20A, 250Vac - 277Vac
- IP67 panel seal versions
- Quick Connect, Solder, Screw & PCB termination options

## Indicators



- LED, Neon & Filament options
- Panel sealed IP66 & IP67 versions
- Wide choice of bezel sizes & styles
- Multiple termination types
- Rugged stainless steel variants

# Renewable Energy.

A row of white wind turbines stretches across a field under a clear sky. In the foreground, a large array of solar panels is visible, partially overlapping the bottom right corner of the image.

Renewable energy technologies operate in some of the harshest environments on the planet. Extreme temperatures, UV exposure, vibrations and water all pose complex challenges in establishing and keeping renewable energy systems operational. With more moving parts than other renewable energy systems, wind turbines in particular require extremely robust connectors to cope with such extreme conditions.

Thoroughly tested and designed specifically to operate reliably in harsh conditions, Bulgin's rugged power and data connectors are the ideal solutions for green and renewable energy applications including wind and solar energy systems.

## Applications

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- Solar Power Inverters
- Solar Lighting Panels
- Solar Battery Enclosures
- Solar PV Combiner Boxes
- Wind Turbine Vibration Monitoring System
- Solar Water Pump Controller

# Product Lines

## Standard Power



- Rating up to 12A, 277V ac/dc
- 2, 3, 4, 6, 7, 9, 12 & 25 contacts
- IP66, IP67, IP68 & IP69K protection
- Plug & receptacle connectors
- CCC, UL, CSA & VDE approvals

## Standard Ethernet



- Cat5e RJ45 Ethernet Connectors
- Data rates up to 100MHz
- IP66, IP67, IP68 & IP69K protection
- Shielded system
- High noise immunity & EMI protection

## 400 Series Power



- Ratings up to 8A, 250V ac/dc
- 2, 3, 4, 6, 8, 10 & 12 contacts
- IP66, IP67, IP68 & IP69K protection
- Pin or socket, screw thread locking
- CE, UL, CSA & VDE approvals

## 4000 Series Power



- Ratings up to 13A, 600V ac/dc
- 3, 8 & 12 contacts
- IP66, IP67, IP68 & IP69K protection
- Pin or socket, bayonet locking
- UL, CSA & VDE approvals

## 900 Series Power



- 32A, 600V ac/dc max rating
- 2, 3, 4, 5, 7 & 10 contacts
- IP66, IP67, IP68 & IP69K protection
- Single or 3 phase applications
- CCC, UL, CSA & VDE approvals

## 6000 Series Power



- 2 - 22 Contacts
- Plastic or Metal Housing
- IP66, IP67, IP68 & IP69K protection
- Secure, quick mating & release connectors
- cULus, UL, VDE Approvals

# Recreation & Leisure.



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**Water Systems**

**43**

**Entertainment & Hospitality**

**45**



# Water Systems

Whether indoor or outdoor, water systems such as swimming pools and water fountains require highly ruggedized and sealed solutions. Our robust connectivity solutions power water features in some of the world's most renowned hotels and amusement parks. But that's not where our sealed capabilities end. We also have numerous sealed switches and fuse holders in operation worldwide to compliment systems utilising our watertight connectors and provide a truly comprehensive sealed solution.

## Applications

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Pool Heating Equipment

Filtration Box

Hotel Water Fountains

Water Quality System

Motorised Swimming Pool Cover

High End Jacuzzi

Water & Light Show Equipment

Robot Pool Cleaning Equipment

# Product Lines

## Rocker Switches



- Ratings from 10A, 250Vac - 20A, 277Vac
- Push-on, solder & PCB terminals
- Splash resistant & antimicrobial options
- Illuminated & Non-Illuminated options
- Large choice of bezel styles & sizes, panel cut-outs, actuators & switching circuits

## 900 Series Power



- 32A, 600V ac/dc rating
- 2, 3, 4, 5, 7 & 10 contacts
- IP66, IP67, IP68 & IP69K protection
- Single or 3 phase applications
- CCC, UL, CSA & VDE approvals

## Standard Ethernet



- Cat5e RJ45 Ethernet Connectors
- Data rates up to 100MHz
- IP67, IP68 & IP69K protection
- Shielded system
- High noise immunity & EMI protection

## 6000 Series Power



- 2 - 22 Contacts
- Plastic or Metal Housing
- IP66, IP67, IP68 & IP69K protection
- Secure, quick mating & release connectors
- cULus, UL, VDE Approvals

## Standard Power



- Rating up to 12A, 277V ac/dc
- 2, 3, 4, 6, 7, 9, 12 & 25 contacts
- IP66, IP67, IP68 & IP69K protection
- Plug & receptacle connectors
- CCC, UL, CSA & VDE approvals

## Fuse Holders



- In-line, panel, PCB & base mounting
- Screw or snap fit variants
- PC1, PC2 & PC3 shock protection categories
- IP66, IP67 & IP68 sealed versions
- Ideal for 5 x 20mm & 6.3 x 32mm fuse sizes



# Entertainment & Hospitality

Power connections and switches are fundamental for activating and controlling a variety of electronic equipment in entertainment and hospitality applications. Whether you require a waterproof power connector for outdoor events and productions or interface components for electrical appliances, we are sure to have the suitable solution for your design and development needs.

## Applications

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**Water & Light Show Equipment**

**Popcorn Machines**

**Vending Machines**

**Champagne Dispensers**

**Electronic Scoreboards**

**Event and Stage Lighting**

**Pool Cleaning Robots**

**Roulette Machines**

# Product Lines

## Rocker Switches



- Ratings from 10A, 250Vac - 20A, 277Vac
- Push-on, solder & PCB terminals
- Splash resistant & antimicrobial options
- Illuminated & Non-Illuminated options
- Large choice of bezel styles & sizes, panel cut-outs, actuators & switching circuits

## IEC Connectors



- IEC Connectors, Inlets & Outlets
- Conforming to IEC & EN 60320 Standards
- C13, C14, C15, C16, C18, C19 & C20 as well as Sheet E, F, H, I & J types available
- Variety of mounting styles & terminations
- UL, CSA, VDE & CE approved versions

## Vandal Resistant Switches



- High resistance to wear & tear, corrosion & harsh use
- Domed, low & prominent profiles
- IP66 & IP68 sealing versions
- Illuminated & non-illuminated options
- Front & rear panel mount versions

## Standard Power



- Rating up to 12A, 277V ac/dc
- 2, 3, 4, 6, 7, 9, 12 & 25 contacts
- IP66, IP67, IP68 & IP69K protection
- Plug & receptacle connectors
- CCC, UL, CSA & VDE approvals

## 900 Series Power



- 32A, 600V ac/dc max rating
- 2, 3, 4, 5, 7 & 10 contacts
- IP66, IP67, IP68 & IP69K protection
- Single or 3 phase applications
- CCC, UL, CSA & VDE approvals

## 400 Series Power



- Ratings up to 8A, 250V ac/dc
- 2, 3, 4, 6, 8, 10 & 12 contacts
- IP66, IP67, IP68 & IP69K protection
- Pin or socket, screw thread locking
- CE, UL, CSA & VDE approvals

## 4000 Series Power



- Ratings up to 13A, 600V ac/dc
- 3, 8 & 12 contacts
- IP66, IP67, IP68 & IP69K protection
- Pin or socket, bayonet locking
- UL, CSA & VDE approvals

# Appliances.



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**Commercial Goods**

**49**

**Consumer Goods**

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# Commercial Goods

From hospitality applications to catering and retail equipment, we have a broad portfolio of connectivity solutions and user interface components to help engineers design new, innovative appliances and goods for commercial use.

## Applications

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- Rotisserie Ovens
- Vending Machines
- Kitchen Climate Control System
- Food & Drink Cleaning Machines
- Air Compressor
- Awning Motors
- Electric Insect Control Device
- Commercial Coffee Machines
- Champagne Dispensing Machines
- Commercial Freezers
- Commercial Kitchen Grills

# Product Lines

## Rocker Switches



- Ratings from 10A, 250Vac - 20A, 277Vac
- Push-on, solder & PCB terminals
- Splash resistant & antimicrobial options
- Illuminated & Non-Illuminated options
- Large choice of bezel styles & sizes, panel cut-outs, actuators & switching circuits

## Vandal Resistant Switches



- High resistance to wear & tear, corrosion & harsh use
- Domed, low & prominent profiles
- IP66 & IP68 sealing versions
- Illuminated & non-illuminated options
- Front & rear panel mount versions

## Piezo Switches



- Extremely robust: resistant to dust, dirt, chemicals, water & contaminants
- Sealed to IP68 & IP69K
- 16, 19 or 22mm diameter
- Millions of cycles/actuations
- Illuminated & non-illuminated options

## IEC Connectors



- IEC Connectors, Inlets & Outlets
- Conforming to IEC & EN 60320 Standards
- C13, C14, C15, C16, C18, C19 & C20 as well as Sheet E, F, H, I & J types available
- Variety of mounting styles & terminations
- UL, CSA, VDE & CE approved versions

## Mini Series Power



- Ratings up to 10A, 380V ac
- 2, 3, 4, 6 or 8 contacts
- IP67 & IP68 protection
- Plug & receptacle connectors
- UL approved, compact design

## Battery Holders



- AAA, AA, C, D & PP3 battery sizes
- Accommodating 1, 2, 3 or 4 cells
- IP67 sealed versions
- Suitable for PCB mounting
- Panel mounting versions

## Refrigerator Door Switches



- Door switches
- Switch rating from 0.2A, 250Vac up to 5A, 250Vac
- Splash resistant variants
- Choice of actuators
- Momentary on & momentary off switching



# Consumer Goods

The modern day home is filled with many consumer electronics and devices that require reliable electronic components.

With smart homes becoming increasingly connected along with the growth of the consumer electronics market, our range of power connection and switch solutions are perfect for meeting the needs of many small or large domestic appliances including brown and white goods as well as outdoor gardening equipment.

## Applications

- Popcorn Machine
- Mini Drinks Cooler
- Professional Hairdryer
- Cooker Oven
- Vacuum Cleaner
- High End Jacuzzi
- Portable Alarm Systems
- Coffee Machines
- Food Mixer
- Chest Freezer
- Amplifiers

# Product Lines

## Rocker Switches



- Ratings from 10A, 250Vac - 20A, 277Vac
- Push-on, solder & PCB terminals
- Splash resistant & antimicrobial options
- Illuminated & Non-Illuminated options
- Large choice of bezel styles & sizes, panel cut-outs, actuators & switching circuits

## Vandal Resistant Switches



- High resistance to wear & tear, corrosion & harsh use
- Domed, low & prominent profiles
- IP66 & IP68 sealing versions
- Illuminated & non-illuminated options
- Front & rear panel mount versions

## IEC Connectors



- IEC Connectors, Inlets & Outlets
- Conforming to IEC & EN 60320 Standards
- C13, C14, C15, C16, C18, C19 & C20 as well as Sheet E, F, H, I & J types available
- Variety of mounting styles & terminations
- UL, CSA, VDE & CE approved versions

## Push Buttons



- Miniature, round, rectangular & vandal options available
- Domed, low & prominent profiles
- IP66, IP67 & IP68 sealed versions
- Illuminated & non-illuminated options
- Front & rear panel mounted versions

## 400 Series Power



- Ratings up to 8A, 250V ac/dc
- 2, 3, 4, 6, 8, 10 & 12 contacts
- IP66, IP67, IP68 & IP69K protection
- Pin or socket, screw thread locking
- CE, UL, CSA & VDE approvals

## Refrigerator Door Switches



- Door switches
- Switch rating from 0.2A, 250Vac up to 5A, 250Vac
- Splash resistant variants
- Choice of actuators
- Momentary on & momentary off switching



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

### **Europe**

Bulgin  
Broers Building,  
JJ Thomson Avenue,  
Cambridge, CB3 0FA UK  
tel: +44 (0)1223 371 000  
e: [info@bulgin.com](mailto:info@bulgin.com)

### **The Americas**

Bulgin  
11849 Telegraph Road  
Santa Fe Springs  
CA 90670 USA  
tel: +1 760-343-3650  
e: [info@bulgin.com](mailto:info@bulgin.com)

### **Asia Pacific**

Bulgin  
3 Temasek Avenue  
Centennial Tower, Level 34  
Singapore 039190  
tel: +65 6549 7161  
e: [info@bulgin.com](mailto:info@bulgin.com)

