Product Selection Guide

Find Control and Signaling products based on common needs per segment

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Select a segment from the options below

Food and Beverage

Oil & Gas

Packaging

Water and Waste Water

Control Panel Builder

Product Reference

Food and Beverage

The food and beverages industry are all companies involved in processing raw food materials, packaging, and distributing them. This includes fresh, prepared foods as well as packaged foods, and alcoholic and nonalcoholic beverages.

Need / Issue	Product	Features and Benefits
Refrigerated areas and Outdoor environments with rain and extreme temperatures	▪ 30mm Pushbuttons - 9001SK ▪ 22mm Pushbuttons - XB5 ▪ Control Stations - XAL	▪ -40°F to 158°F operating temperature range. Water and dust resistant solutions: XB5 (IP66, 67, 69, 69K), and 9001SK (IP66, UL Type 4X)
Dusty environments	▪ 30mm Pushbuttons - 9001SK ▪ 22mm Pushbuttons - XB5 ▪ Control Stations - XAL	▪ Water and dust resistant solutions: XB5 (IP66, 67, 69, 69K), and 9001SK (IP66, UL Type 4X)
Work areas that require constant cleaning/wash-down	▪ 22mm Pushbuttons - XB5F	▪ Flush mounted solutions enable easier cleaning and lower dust accumulation
Hazardous Environment	▪ 22mm Pushbuttons - Haz Loc XB4-GEX ▪ 30mm Pushbuttons - 9001SK (with Reed contacts) ▪ Legacy Relays - 750H ▪ Zelio Relays - SS solid state relays	▪ Dedicated hazardous location offer (IEC, UL & ATEX standards). Class 1, Division 2 rated relay ▪ Arc-Less Switching
Operator efficiency	▪ 22mm Pushbuttons - XB5 ▪ 30mm Pushbuttons - 9001SK	▪ A large, flat pushbutton head, optimized for button actuation while wearing gloves
Dust may accumulate on top of lights, dimming their brightness and hiding their signal	▪ 22mm Pushbuttons - XB5 ▪ 30mm Pushbuttons - 9001SK ▪	▪ High brightness and full-surface illumination of pushbuttons and switches
Corrosive chemicals, either used for cleaning (alcohol, etc.) or from primary materials (milk, beer, etc.)	▪ 22mm Pushbuttons - XB5 ▪ 30mm Pushbuttons - 9001SK	▪ Plastic heads resisting to most chemicals used in Food and Bev applications
Management	▪ Push Buttons, 22mm - XB5S Biometric Switch	▪ Limits access; improves security and increases safety

Oil & Gas

Oil and Gas industry is comprised of a variety of companies that are involved in the on-shore and off-shore production as well as distribution of petroleum and liquid natural gas (LNG).

Need / Issue	Product	Features and Benefits
Outdoor environments with rain, salt, and extreme temperatures	▪ 30mm Pushbuttons -9001K, 9001SK ▪ 22mm Pushbuttons - XB4, XB5 ▪ Control Stations - XAP, XAL	▪ -40°F to 158°F operating temperature range. Water and dust resistant solutions: XB4/XB5 (IP66, 67, 69, 69K), 9001K (IP66, UL Type 4), 9001SK (IP66, UL Type 4X) ▪ Salt robustness – proven in a 200-hour salt mist test defined by the IEC for metal heads.
Maintenance cost	▪ 22mm Pushbuttons - XB4, XB5 ▪ 30mm Pushbuttons - 9001K ▪ Zelio Relays - RXM, RPM, RUM ▪ Legacy Relays - 792, 781, 782, 783, 784, 750	▪ Unique and patented shake proof terminal screw so connections are unaffected by vibrations. ▪ Singe screw contact block mounting. ▪ Quick and easy replacement of plug-in electromechanical relays without disturbing wiring LED, test button, and locking test buttons available for easy troubleshooting
Operator efficiency	▪ 22mm Pushbuttons - XB4, XB5 ▪ 30mm Pushbuttons - 9001K	▪ Large flat pushbutton heads optimized for button actuation while wearing gloves.
Reduced visibility in direct sunlight	▪ 22mm Pushbuttons - XB4, XB5 ▪ 30mm Pushbuttons - 9001K	▪ High brightness and full-surface illumination of pushbuttons and selector switches.
Hazardous Environment	▪ 22mm Pushbuttons - Haz Loc XB4-GEX ▪ 30mm Pushbuttons - 9001SK (with Reed contacts) ▪ Legacy Relays - 750H ▪ Zelio Relays - SS solid state relays	▪ Dedicated hazardous location offer (IEC, UL & ATEX standards). ▪ Class 1, Division 2 rated relay ▪ Arc-Less Switching

Packaging

The industrial packaging market is segmented based on product, material, application, and geography. Based on product, it is divided into drums, intermediate bulk containers (IBCs), sacks, pails, and crates/totes. Based on material, it is classified into paperboard, plastic, metal, wood, and fiber.

Need / Issue	Product	Features and Benefits
High-pressure water washing & Dusty Environments	▪ 22mm Pushbuttons - XB4, XB5 ▪ 30mm Pushbuttons – 9001SK	▪ Water and dust resistant solutions: XB5 (IP66, 67, 69, 69K), and 9001SK (IP66, UL Type 4X)
Maintenance cost	▪ 22mm Pushbuttons - XB4, XB5 ▪ 30mm Pushbuttons - 9001K ▪ Zelio Relays - RXM, RPM, RUM ▪ Legacy Relays - 792, 781, 782, 783, 784, 750	▪ Unique and patented shake proof terminal screw so connections are unaffected by vibrations. ▪ Singe screw contact block mounting. ▪ Quick and easy replacement of plug-in electromechanical relays without disturbing wiring LED, test button, and locking test buttons available for easy troubleshooting
Needs to assess process issues quickly	▪ Tower Lights - XVU, XVC ▪ Illuminated E-Stop - XB5AS (Complete Illuminated E-Stop); XALK (Illuminated E-Stop Control Box)	▪ High visibility from a distance of running and tripped statuses
Operator efficiency	▪ 22mm Pushbuttons - XB4, XB5 ▪ 30mm Pushbuttons - 9001K	▪ A large, flat pushbutton head, optimized for button actuation while wearing gloves
Dust may accumulate on top of lights, dimming their brightness and hiding their signal	▪ 22mm Pushbuttons - XB4, XB5 ▪ 30mm Pushbuttons - 9001K	▪ High brightness and full-surface illumination of pushbuttons and selector switches

Wastewater

Wastewater treatment plant and system operators manage a system of machines, often using control boards, to transfer or treat water or wastewater.

Need / Issue	Product	Features and Benefits
Outdoor environments with rain, salt, and extreme temperatures	▪ 30mm Pushbuttons -9001K, 9001SK ▪ 22mm Pushbuttons - XB4, XB5 ▪ Control Stations - XAP, XAL ▪ Control Stations - 9001KYSS, 9001SKY	▪ -40°F to 158°F operating temperature range. Water and dust resistant solutions: XB4/XB5 (IP66, 67, 69, 69K), 9001K (IP66, UL Type 4), and 9001SK (IP66, UL Type 4X) ▪ Salt robustness – proven in a 200-hour salt mist test defined by the IEC for metal heads.
Corrosive and Toxic environments	▪ 30mm Pushbuttons -9001SK ▪ 22mm Pushbuttons - XB4, XB5 ▪ Control Stations - XAP, XAL	▪ Water and corrosion resistant solutions: XB5 (IP66, 67, 69, 69K), and 9001SK (IP66, UL Type 4X)
Lower Initial Investment and Maintenance costs	▪ 22mm Pushbuttons - XB4, XB5 ▪ 30mm Pushbuttons - 9001K ▪ Zelio Relays - RXM, RPM, RUM ▪ Legacy Relays - 792, 781, 782, 783, 784, 750	▪ Unique and patented shake proof terminal screw so connections are unaffected by vibrations. Singe screw contact block mounting. ▪ Quick and easy replacement of plug-in electromechanical relays without disturbing wiring LED, test button, and locking test buttons available for easy troubleshooting
High Reliability and Long Life	▪ 30mm Pushbuttons -9001K, 9001SK ▪ 22mm Pushbuttons - XB4, XB5	▪ Operators are rated for a minimum of 10 million operations. A longer lasting operator reduces expenses by 50% compared to the competition over the life of the device.

Control Panel Builder

Control Panel Builders are companies that are contracted to build control panels for a variety of customers including OEMs, Systems Integrators and End Users.

Need / Issue	Product	Features and Benefits
Dusty environments	▪ 22mm Pushbuttons - XB4, XB5 ▪ 30mm Pushbuttons - 9001K	▪ Water and dust resistant solutions: XB5 (IP66, 67, 69, 69K), and 9001K (IP66, UL Type 4)
Installation cost	▪ 22mm Pushbuttons - XB4, XB5 ▪ 22mm Pushbuttons - XB7 ▪ Customizable Legend Panels ▪ Zelio Relays - RXM, RPM, RUM ▪ Legacy Relays - 792, 781, 782, 783, 784, 750	▪ Monolithic pilot lights and spring clamp terminal blocks are easier to install and wire than standard products, decreasing your cost ▪ Minimizes time required for door layout ▪ Quick and easy replacement of plug-in electromechanical relays without disturbing wiring LED, test button, and locking test buttons available for easy troubleshooting
Your reputation as a robust panel provider for demanding machinery	▪ 22mm Pushbuttons - XB4, XB5 ▪ 30mm Pushbuttons - 9001K ▪ Zelio Relays - SS solid state relays	▪ Harmony pushbutton heads are designed for up to 10 million operations ▪ Extremely long life due to no moving parts
Dust accumulation on top of lights, dimming their brightness and hiding their signal	▪ 22mm Pushbuttons - XB4, XB5 ▪ 30mm Pushbuttons - 9001K	▪ High brightness and full-surface illumination of pushbuttons and selector switches
Set my product apart aesthetically	▪ 22mm Pushbuttons - XB4F, XB5F ▪ Customizable 22mm Pushbuttons ▪ Customizable Legend Panels	▪ Gives the control panel a clean aesthetically pleasing appearance ▪ Design your own custom pushbuttons, pilot lights and legend panels with custom graphics, logos, colors, etc.

Push Buttons

A push-button is a simple switch mechanism to control some aspect of a machine or a process.

The term "pushbutton" is used to refer to two different things. The first is a specific type of button assembly that you push on a panel. The second is the general group of components, or mechanical man/machine interface products, which includes: Indicating Lights, Selector Switches, Potentiometers — and pushbuttons — by which people interact with machines.

| Selector Switch | Emergency Stop | Key Selector Switch | Push Button |

Push-buttons are the most common type of control devices found in industrial and some commercial facilities. Almost all industrial machines contain push-buttons even if the facilities operation is to set to run automatically.

Where Are Pushbuttons Used?

Pushbuttons are used in applications that require people to start, stop or change a machine as well as wherever workers need to keep track of what stage the machine is in.

Assembly lines — From bottling plants to automobiles, pushbuttons set machines for varying operations to help workers make inspections, add parts, correct tools and route equipment. Modern production would be difficult without pushbuttons.

Stand-alone machines — Every industrial machine, an air compressor, a drill, a saw or a molding clamp, is controlled by a pushbutton.

Car washes — Did you want a little hot wax and an under flush with your car wash? The operator who hosed off your wheel rims hits the pushbutton that automates the rest of your passage. At every stage, indicating lights tell you what's going on.

Airline passenger bridges — Look for the pushbutton station the next time you board an airplane. Operators use pushbuttons to extend passenger bridges up to the aircraft, rotate into exact position, then lock on to the plane's hatchway.
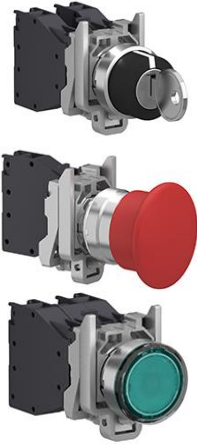
Product Type	Pilot Lights	Pushbuttons, selector switches, and pilot lights			
Component Name and Description	XVL 8 and 12 mm, Push button	XB6 16 mm, Push button	XB4 22 mm, Metal Push Button	XB5 22 mm, Plastic Push button	XB7 22 mm, Monolithic Push button
Typical Applications	▪ Mounting on small control panels ▪ Shallow depth mounting ▪ Where a large number of signaling units are required on a control panel ▪ Low power dissipation	▪ Suitable for installation on small machines and control panels. ▪ Well suited to applications where less space is available for mounting ▪ Available with solder pins or Faston connections	▪ High vibration environment (Metal fixation is stronger vs plastic) ▪ High temperature applications (metal is less prone to melting) ▪ High resistance to Ink and paint vapors applications	▪ High resistance to chemicals. Strong for Salts (sea & road), Aggressive vapors, Oils, Milk, Beer, Alcohol, Alkali detergents, and other cleaning products.	▪ Fully assembled product for easy stocking and installation is needed (contact blocks cannot be added) ▪ Designed for use in the industrial and building sectors.
Advantages	▪ Very long life and low maintenance costs ▪ Highly resistant to shocks, vibrations, and over voltage ▪ Low power consumption. ▪ No sudden failure	▪ Flexible and simple to install ▪ Mounting by single installer (self-maintaining head in its cut-out) ▪ Clip-together component system (head, body, contact blocks, and LED)	▪ Simplicity of installation, flexibility, and robustness. ▪ Sealing effectiveness rated up to IP66, IP67, IP68, IP69, IP69K, and UL Type 4X ▪ High impact resistance up to IK06 rating ▪ Operating temperature ranging from -40 to +158 °F; ▪ High electrical performance, contacts and heads designed to prevent vibration ▪ Lower maintenance. Designed to perform up to 10 million operations, this represents more than 1,000 operations a day for 27 years. ▪ Variety of contact block options including spring clamp, Faston, high current rated, and others.		▪ Competitive price compared to XB4 and XB5, simple to use and quick to installation.

Product Type	30mm Pushbuttons, selector switches, and pilot lights	Biometric switches	Wireless and battery less Push buttons	Specialty products
				3-phase indicator *USB Port* *RJ45 Port* *Timer* *Buzzer* *Basic Display*
Component Name and Description	**9001K, 9001SK** 30 mm Push button	**XB5S** 22 mm, Biometric Switch	**XB5R, XB4R** 22 mm, Wireless and Battery less Push button	**XB5** 22 mm, Specialty product
Typical Applications	▪ Used in traditional NEMA segments where this product is viewed as more robust. ▪ Oil & Gas, ▪ Water/Wastewater ▪ Metal Mining & Minerals ▪ Large MRO business	▪ Machine use limited to authorized users ▪ Room or area access limited to authorized personnel ▪ Available in standalone, PC connected, or HMI connected versions	▪ Wireless pushbuttons ▪ Wireless rope pull-switches ▪ Wireless sensors including limit switches, proximity switches, and temperature sensors	▪ 3-phase indicator ▪ USB and RJ45 ports ▪ Timer ▪ Buzzer ▪ Basic 7 segment display for analog signal monitoring
Advantages	▪ Quick Installation ▪ Single screw contact block mounting ▪ Self-grounding ▪ Color coded contact blocks ▪ Finger safe contact blocks ▪ Robust – oil tight, dust tight, water tight ▪ Metal, chromium plated (9001K) ▪ Plastic, double insulated (9001SK)	▪ Easily configured as standalone or through PC or HMI database ▪ Mounts in single 22mm hole ▪ Controls access to critical machines and areas by checking user's authorization by checking fingerprint recognition	▪ Battery less wireless pushbuttons using ZigBee technology ▪ Single receivers easily configured to work with pushbuttons ▪ Harmony hub connects up to 60 devices and can be connected to communications network. ▪ Eliminates a significant amount of traditional operator wiring. ▪ Increases operator mobility and flexibility	▪ Monolithic design ▪ Only requires single 22mm hole ▪ Allows user to obtain status of power, control system, and critical processes without opening door.

Product Type	Pushbuttons, selector switches, and pilot lights		Customization PBs and Legend Panels	E-Stops with Illuminated rings
Component Name and Description	**XB4F, XB5F** 22 mm, Flush Push Button	**XB4…GEX,** **XB5…GEX** 22 mm, Hazardous Location Push Button	**XB5, ZB5 and ZBY** 22 mm, Customized Push buttons	**XB5, ZB5 and ZBY** 22 mm, Illuminated E-Stop Push buttons
Typical Applications	▪ Machines that are susceptible to protruding devices being damaged. ▪ Locations that are required to have a clean modern appearance. ▪ Panels that need to be wiped down easily	▪ Locations with combustible gases possible in the environment. (Oil & Gas) ▪ Locations with combustible dust or fibers (Grain elevators, dry food processing)	▪ Custom OEM equipment ▪ Equipment needing visibility of contact information or QR codes on the front of the panel. ▪ Elimination of legend plates that become crooked over time	▪ Process lines with multiple E-Stops ▪ Conveyor systems with multiple E-Stops ▪ Dimly lit work areas
Advantages	▪ Modern aesthetically pleasing design ▪ Flush operators are less likely to be damaged by passing equipment or personnel ▪ Works in existing 30mm holes, eliminating need to redesign panel layout to use	▪ The first and only 22mm Hazardous Location Pushbutton in the market ▪ The only product triple rated for explosive gas, dust/fiber standards. US (UL&NEC), Europe(IECEx), and Globally (ATEX)	▪ Define your own style that is uniquely yours. ▪ Create pushbuttons and pilot lights with specific names, markings and instructions ▪ Design a legend panel that eliminates the need for legend plates, adds company logo, is aesthetically pleasing and also serves as a drilling template for the panel door	▪ Allows machine operator to quickly find E-Stop (normally illuminated white) when emergency occurs. ▪ Allows maintenance staff to quickly find depressed E-Stop (illuminated red) to minimize downtime ▪ Illumination can be viewed from 180 degrees

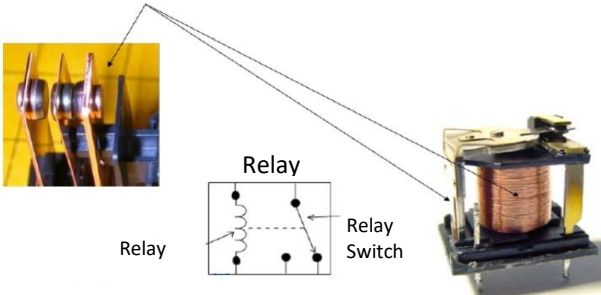| Product Type	Pendant Control Stations		Remote Control Stations	Control Stations and Enclosures	
Component Name and Description	**XAC** Medium- Duty 22 mm	**9001 BW and 9001 SKYP** Rugged- Duty 30mm	**ZART** Remote Control Stations	**XAL / XAP** Control Stations 22mm	**9001B and 9001KY / SKY** Control Stations 30mm
Typical Applications	▪ Crane and Hoist applications with up to 12 operators ▪ XACA available in pistol grip	▪ BW is for 2 function crane and hoist operation ▪ SKYP is available with up to 10 operators.	▪ eXLhoist standard and eXLhoist compact can be used for wireless crane and hoist or any wireless machine operation ▪ Harmony Pocket provides simple wireless machine control with up to 10 buttons in light industrial environments	▪ Motor and machine control from stationary control station ▪ XALD are complete with 1,2, or 3 devices ▪ XALK are available with 1-5 holes ▪ XAP available with 1-12 holes	▪ 9001B are fully assembled for control of motor starters ▪ 9001KY/SKY available in many configurations and hole count to meet needs of any machine control application.
Advantages	High impact thermoplastic enclosure with self-extinguishing flammability rating	▪ BW has easy to hold contoured grip ▪ High impact thermoplastic	▪ eXLHoist standard and compact available with SIL3 compliant E-Stop ▪ Customizable legend for Harmony Pocket ▪ Large amount of configurable control	▪ XAL are plastic enclosures available as complete solutions or customizable ▪ XAP are die cast metal enclosures for more rugged environments	▪ Available in painted steel or stainless steel ▪ Very rugged to stand up to harsh industrial environments

Relays

A relay is an electrically operated switch. Relays use an electromagnet to operate a switching mechanism mechanically. Relays are used where it is necessary to control a circuit by a low-power signal (with complete electrical isolation between control and controlled circuits), or where several circuits must be controlled by one signal.
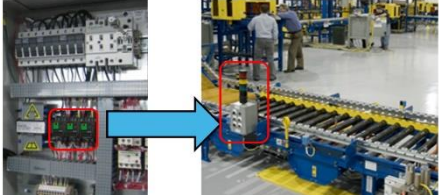
How Relays work

A Relay uses an electro magnet (coil) inside its casing to pull in a plunger that is attached to a switch contact or set of switch contacts.
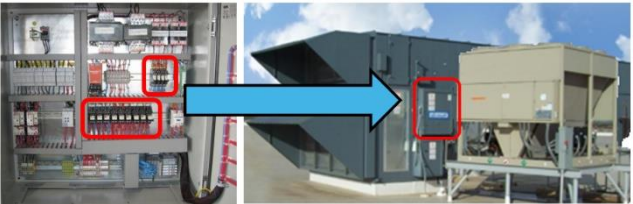

Where Are Relays Used?

The applications of the relay are limitless, its main function is to control the high voltage, high current circuit (i.e. - 240V AC circuit) with a low voltage, low available current power supply (i.e. – 24V DC circuit).

To **control electric motor starters**. To run an electric motor we need 480V AC supply, but in few cases/applications, there may be a situation to switch ON the motor with a DC supply voltage. In those cases, a relay can be used.

Automatic stabilizers are one of the applications where a relay is used. When the supply voltage is other than the rated voltage, a set of relays sense the voltage variations and controls the load circuit with the help of circuit breakers.

Other applications include traffic **signal controllers**, **temperature controllers, pumping systems, HVAC equipment, lighting control, etc.**

Product Type	Interface Relays	General Purpose Relays	Power Relays	Solid State Relays	Timing and Monitoring Relays
Component Name and Description	**RSL, RSB, RXG**	**RXM/792, RPM/780, RUM/750/788** **Class 1/ DIV 2: 8501/RS34/750H**	**300/389F, RPF/92/725, 199**	**SSP/6000, SSL/861/SSM/SSRDIN**	**REXL/RE48/TDR782/TDRPRO, 820/RE17/RE22/RENF22**
Typical Applications	▪ Interface Relays are typically used with PLC logic outputs. They act as interposing relays giving more contact closures at higher ampacities.	▪ Used for hardwired relay logic. ▪ Interposing relays to multiply and replicate circuit actions. ▪ Class 1, Div 2 relays capable of being used in combustible environments.	▪ Primarily used for switching large current loads. ▪ Solenoids ▪ Small motors ▪ Dampers ▪ Heaters ▪ Actuators	▪ Primarily used in instances where large amounts of current is not available to pull in traditional relay coils. ▪ PLC logic outputs ▪ Heaters ▪ EMI/RFI sensitive areas and applications ▪ Applications where switching speeds need to be faster than traditional relay coils.	▪ Process timing ▪ Cycle timing for pump and other motor sequencing ▪ Monitoring of power system ▪ Monitoring of process variables such as speed and temperature ▪ Various types of timing required for relay logic in complex relay based control systems.
Advantages	▪ Space saving 6mm width ▪ 6-amp load rating ▪ Reinforced PCB pins (relay) ▪ Pre-assembled option ▪ Universal AC/DC socket with built-in surge protection and LED indicator ▪ DIN rail mounting ▪ Lever for easy locking and removal of the relay ▪ Rated for -40°C to +55°C ambient.	▪ Test button with removable lock-down door for testing the contacts (depending on model) ▪ Green LED indication of relay status (depending on model) ▪ Mechanical indication of relay status ▪ Optional protection modules to protect against electrical spikes	▪ Applications up to 30 A ▪ UL Listed ▪ Sealed construction ▪ Motor load ratings: 1 hp @ 120 Vac / 3 hp @ 240 Vac (N/O contacts only) ▪ DIN rail and panel mounting capability ▪ Short circuit rating of 5,000 A rms @ 3 hp, 240 Vac (N/O contacts only)	▪ Zelio SSL solid state relays offer the advantages of several input and output configurations for both AC and DC switching ▪ Their compact size and modular design reduces space and allows easy mounting on the socket. ▪ Socket with reverse polarity protection circuit and LED indicator for easy identification of control status.	▪ Variety of configurations allowing for easy setup ▪ Clear covers to protect form inadvertent changes to settings ▪ Easy to read switches and dials ▪ Some models available with multiple functions available.

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