DISCRETE VALVE CONTROLLERS
POSITION MONITORING AND CONTROL OF AUTOMATED ON/OFF VALVES

- Suitable for use on rotary and linear applications
- Certified for use in all hazardous areas
- Integrated solutions (bus + sensors + pilot)
- Technology leadership in fieldbus networks
TopWorx™, a business within Emerson™ Process Management, is a global leader in on/off valve control and position monitoring for the process industries. Our solutions enable plants, platforms, and pipelines to manage and control operations more intelligently and efficiently under the most demanding and extreme conditions.

**GLOBAL TECHNOLOGY LEADERSHIP**
TopWorx technology advancements are at the forefront of innovation in the process automation industry. TopWorx uses wireless technologies and fieldbus protocols such as FOUNDATION Fieldbus, DeviceNet, AS-Interface, Profinet, and HART to reduce installation costs and enable predictive maintenance.

**GLOBAL HAZARDOUS AREA CERTIFICATIONS**
In addition to high temperature (175°C), cold temperature (-60°C), and sub-sea (6,800 meters) applications, TopWorx products are suitable for use in Flame-proof/Explosion Proof, Non-Incendive, and Intrinsically Safe hazardous areas with IECEx, ATEX, GOST, InMetro, UL, CSA, KOSHA, and NEPSI certifications.

**GLOBAL SERVICE & SUPPORT**
With company locations in the United States, United Kingdom, South Africa, Bahrain, and Singapore, TopWorx is strategically positioned to provide outstanding support. In addition, over 200 Certified Product Partners throughout the world are available to provide competent local support when needed.

**WWW.TOPWORX.COM**
Visit www.topworx.com for comprehensive information on our company, capabilities, and products – including model numbers, data sheets, specifications, dimensions, and certifications.
Valvetop™ discrete valve controllers enable automated on/off valves to communicate via FOUNDATION Fieldbus, DeviceNet, AS-Interface, Profibus, and HART protocols. They attach to all rotary and linear valves and actuators, operate in the most demanding environmental conditions, and carry a variety of hazardous area certifications.

Discrete Valve Controllers for:
• Any bus network
• Any hazardous area
• Any valve or actuator
• Anywhere in the world

TopWorx Valvetop valve control solutions deliver on today’s new customer requirements. With the Valvetop program, customers enjoy:

• A complete line of valve controllers and monitors for every protocol, application, environment, and hazardous area.

• The world’s leading selection of valve networking products, including FOUNDATION Fieldbus, DeviceNet, AS-Interface, Profibus, and HART.

• The most reliable and durable valve position sensor on the planet.

• Quality products with global agency approvals including IECEx, ATEX, CE, UL, CSA, as well as NEPSI, KOSHA, InMetro, and GOST.

• The unmatched process experience and bus networking expertise of TopWorx, the leading provider of valve control and position sensing solutions for the process industries.
Valvetop D-Series discrete valve controllers are certified for use in every world area. They carry IECEx, ATEX, UL, and CSA certifications in a single model, making it easier for global customers to standardize across plants in multiple world areas. Other certifications available include NEPSI, KOSHA, InMetro, and GOST.

Valvetop D-Series discrete valve controllers can survive in virtually any plant condition. Their heavy-duty construction and corrosion resistance enable superior performance in the most demanding applications.

The Valvetop D-Series is Built Tough!

Designed to provide reliable service for a lifetime, the Valvetop D-Series has been built to last in the most demanding applications, and endurance tested for over 3.5 million cycles to prove it.

- **Wet**
  Tested against intense water pressure blasts and complete submersion underwater for 96 hours at a depth of 30 meters.

- **Hot**
  Tested for long-term functionality in temperatures up to 176°F/80°C

- **Cold**
  Tested for endurance in temperatures down to -76°F/-60°C

- **Dirty**
  Tested in dust chamber and proven dust tight

- **Abusive**
  Tested against the “300 pound man step test” and proven impact and step resistant

- **Corrosive**
  Tested against hundreds of corrosive and caustic elements and proven to resist deterioration or chipping

- **Explosive**
  Tested by UL and Sira for use in explosive environments with no seal-off fittings required (DXP, DXS)

- **Chemical Compatibility**
  Tested against hundreds of chemicals with varying exposure times, temperatures, and concentrations. Please contact factory for compatibility information.

“I like the fact that the D-Series has world wide approvals since we have projects throughout the world.”

- Project Engineer, Global Engineering Firm
**Visual Display**
- Impact resistant polycarbonate
- Intuitive colors (Green/Red)
- Adjustable/customizable
- Pre-adjusted to 90° for easy installation
- Less than 1 3/4" tall

**Bus Networking / Sensor options**
- FOUNDATION, DeviceNet, AS-Interface, HART
- GO™ Switch, Proximity, P+F™, Mechanical, 4-20mA Transmitter

**Stainless Steel Shaft & Fasteners**
- 1/8” DD or NAMUR Shaft
- Captive cover bolts
- Captive dome screws

**Pilot Valves**
- Aluminum, 304, 316 Stainless steel available
- Low Power Solenoid or Ultra-Low Power Piezo
- Single or Dual Coil
- 1.2 Cv or 3.0 Cv
- Integrally mounted for extra protection
- Built-in, 5-micron filter protects the pilots against debris
- Fast, easy troubleshooting:
  - Pneumatic tubing is color-coded for trouble shooting while system is pressurized
  - Troubleshoot valve without removing the cover

**Environmental extremes**
- Rated for environments from –76°F/–60°C to 347°F/175°C
- NEMA Type 4, 4X, IP66/67

**MULTIPLE D-SERIES PLATFORMS FOR EVERY ENVIRONMENT**

**DXP**
- Tropicalized Aluminum Flameproof/Explosion Proof/Intrinsically Safe
- Class I Division 1 Groups A-D
- Class I Division 2 Groups A-D
- Class II Division 2 Groups F and G
- Ex ia IIC T4 Tamb
  - -50°C to +50°C
- Ex d IIB+H2 T6...T3 Tamb
  - -60°C to +175°C
- Ex d IIC T6...T3 Tamb
  - -60°C to +175°C
- Ex tb IIIC T135°C Tamb
  - -50°C to +110°C
- II2GD, IP66/67, Type 4X

**DXS**
- 316 Stainless Steel Flameproof/Explosion Proof/Intrinsically Safe
- Class I Division 1 Groups A-D
- Class I Division 2 Groups A-D
- Class II Division 2 Groups F and G
- Ex ia IIC T6 Tamb
  - -50°C to +50°C
- Ex d IIB+H2 T6...T3 Tamb
  - -60°C to +175°C
- Ex d IIC T6...T3 Tamb
  - -60°C to +175°C
- Ex tb IIIC T135°C Tamb
  - -50°C to +110°C
- II2GD, IP66/67, Type 4X

**D-ESD**
- Partial Stroke Testing for Emergency Shutdown Valves
- Suitable for use in SIL-3 applications
- Stainless, Aluminum, or Resin Flameproof/Explosion Proof/Non-Incendive
- Class I Division 1 Groups C & D
- Class I Division 2 Groups A-D
- Ex d IIB+H2 T6 Tamb
  - -50°C to +60°C
- Ex tb IIIC T135°C Tamb
  - -50°C to +110°C
- II2GD, IP66/67, Type 4X

**DXR**
- Composite Resin Non-Incendive/Intrinsically Safe
- Class I Division 2 Groups A-D
- Class II Division 2 Groups F & G
- Ex ia IIC T6 Tamb
  - -20°C to +50°C
- Ex e mb IIC
  - -20°C to 44°C T4
- Ex tb IIIC T66C II2D
  - II2GD, IP67, Type 4X

**Rugged Enclosures for every environment**
- Aluminum, Composite, Stainless
- Up to four conduit entries (English or Metric)
- O-ring seals everywhere
- Buna, Viton, EPDM, Silicone o-ring options
Valvetop T-Series switchboxes deliver outstanding value by providing full functionality in compact, direct-mount enclosures.

Available with a variety of position sensors, integral solenoid valves, and bus networks, the T-Series is suitable for use in all hazardous areas and carry IECEx, ATEX, UL and CSA certifications.

The Valvetop T-Series Delivers Outstanding Value!
Designed to provide maximum functionality in a compact form factor, the Valvetop T-Series has a number of unique features that save space, time, and money.

**Optimum Use of Space**
The unique layout supplies ample working space inside the enclosure for wiring and setting of the switches while taking up very little space above the actuator.

**Low Profile Design**
The unique direct-mounting feature eliminates expensive mounting brackets while reducing the height of the switchbox and the overall footprint above the actuator.

**TwistSet™ Cams**
Unique TwistSet cam design allows easy access and accurate stepless setting of sensor position with minimum hysteresis.
Color-coded strikers enable quick identification of open/closed switches.

**Direct Mounting**
Unique mounting design enables simple attachment to any ISO/NAMUR actuator without the need for expensive mounting brackets.

“I like the features of the T-Series products. The direct mount feature saves money on the cost of brackets.”
- President, Valve Distributor
**Solid Enclosures for Every Environment**
- Aluminum, Composite, Stainless
- Up to four conduit entries (English or Metric)
- O-ring seals everywhere

**Environmental Extremes**
- Operating temperatures from -76°F/-60°C to +175°F/80°C
- NEMA 4, 4X, IP66/67

**Pilot Valves**
- Low Power Solenoid
- Single Coil
- 1.0 Cv
- Integrally mounted for extra protection

**Visual Display**
- Impact resistant polycarbonate
- Intuitive colors (Green/Red)
- Pre-adjusted to 90° for easy installation
- Low profile/High visibility
- Customizable

**Bus Networking / Sensor Options**
- AS-Interface, Profibus
- GO Switch, Proximity, P+F, Mechanical

**Stainless Steel Shaft and Fasteners**
- NAMUR Shaft
- Captive cover bolts and indicator screws

**MULTIPLE T-SERIES PLATFORMS FOR EVERY ENVIRONMENT**

**TVA**
- Direct-Mount Composite Resin
- Intrinsically Safe
- General Purpose
- Ex ia IIC T4 II2G
- Tamb -40°C to 60°C

**TVP**
- Direct-Mount Aluminum
- Flameproof/Intrinsically Safe/
- Explosion Proof /Non-Incendive
- Class I Division 1 Groups C & D
- Class I Division 2 Groups A-D
- Class II Division 1 Groups E-G
- Class II Division 2 Groups F and G
- Ex ia IIC T4 Tamb -50°C to 85°C
- Ex d IIIC T4 Tamb -60°C to 80°C
- Ex d IIC T4 Tamb -60°C to 80°C
- Ex tb IIIC T135C Tamb -50°C to 80°C
- II2GD, IP66/67, Type 4X

**TXS**
- Direct-Mount Stainless Steel
- Flameproof/Intrinsically Safe/
- Explosion Proof /Non-Incendive
- Class I Division 1 Groups C & D
- Class I Division 2 Groups A-D
- Class II Division 1 Groups E-G
- Class II Division 2 Groups F and G
- Ex ia IIC T4 Tamb -50°C to 85°C
- Ex d IIIB T4 Tamb -60°C to 80°C
- Ex d IIC T4 Tamb -60°C to 80°C
- Ex tb IIIC T135C Tamb -50°C to 80°C
- II2GD, IP66/67, Type 4X

**Visual Display**
- Impact resistant polycarbonate
- Intuitive colors (Green/Red)
- Pre-adjusted to 90° for easy installation
- Low profile/High visibility
- Customizable

**Bus Networking / Sensor Options**
- AS-Interface, Profibus
- GO Switch, Proximity, P+F, Mechanical

**Stainless Steel Shaft and Fasteners**
- NAMUR Shaft
- Captive cover bolts and indicator screws

**MULTIPLE T-SERIES PLATFORMS FOR EVERY ENVIRONMENT**

**TVA**
- Direct-Mount Composite Resin
- Intrinsically Safe
- General Purpose
- Ex ia IIC T4 II2G
- Tamb -40°C to 60°C

**TVP**
- Direct-Mount Aluminum
- Flameproof/Intrinsically Safe/
- Explosion Proof /Non-Incendive
- Class I Division 1 Groups C & D
- Class I Division 2 Groups A-D
- Class II Division 1 Groups E-G
- Class II Division 2 Groups F and G
- Ex ia IIC T4 Tamb -50°C to 85°C
- Ex d IIIB T4 Tamb -60°C to 80°C
- Ex d IIC T4 Tamb -60°C to 80°C
- Ex tb IIIC T135C Tamb -50°C to 80°C
- II2GD, IP66/67, Type 4X

**TXS**
- Direct-Mount Stainless Steel
- Flameproof/Intrinsically Safe/
- Explosion Proof /Non-Incendive
- Class I Division 1 Groups C & D
- Class I Division 2 Groups A-D
- Class II Division 1 Groups E-G
- Class II Division 2 Groups F and G
- Ex ia IIC T4 Tamb -50°C to 85°C
- Ex d IIIB T4 Tamb -60°C to 80°C
- Ex d IIC T4 Tamb -60°C to 80°C
- Ex tb IIIC T135C Tamb -50°C to 80°C
- II2GD, IP66/67, Type 4X
Compact, rugged, and dependable solution for discrete valve control and valve position monitoring where weight and real estate are at a premium. Light weight and robust enclosures specially designed for non-incendive, intrinsically safe and general purpose application. Each enclosure is suited for heavy wash down and corrosive environments and IP66/68 tested.
Light, Rugged and Compact Enclosure
- Aluminum, Stainless or Aluminum base with clear polycarbonate options
- (2) M20, M25, 1/2NPT, or 3/4NPT conduit options
- Direct ISO/NAMUR mount
- Silicone seals everywhere

Up to (4) Four Sensors Inside
- Mechanical – SPDT or DPDT
- Inductive
- Proximity
- NAMUR

Environmental Extremes
- Operating temperatures from -58°F/-50°C to +185°F/85°C
- NEMA Type 4, 4X

Stainless Steel Shaft and Fasteners
- NAMUR Shaft
- Captive cover bolts and indicator screws

Visual Display
- Impact resistant polycarbonate
- Pre-adjusted to 90° for easy installation
- Intuitive colors
- Customizable

Pilot Valves
- Low or high power solenoid options
- Single of dual coil—single acting or double acting actuators
- Aluminum or Stainless Steel spool valve options

MULTIPLE TV-SERIES PLATFORMS FOR EVERY ENVIRONMENT

TVH | Stainless Steel Intrinsically Safe/Non-Incendive Class I & II Division 1 & 2 Ex ia IIC T4 GD Ex tb IIIC T135°C Tamb -50°C to +85°C Ex nAnC IIC T4 Tamb -40°C to +95°C

TVL | Tropicalized Aluminum Intrinsically Safe/Non-Incendive Class I & II Division 1 & 2 Ex ia IIC T4 GD Ex tb IIIC T135°C Tamb -50°C to +85°C Ex nAnC IIC T4 Tamb -40°C to +95°C

TVF | Tropicalized Aluminum Base with Polycarbonate Lid Intrinsically Safe/Non-Incendive Class I & II Division 1 & 2 Ex ia IIC T4 G Tamb -20°C to +40°C
**SENSOR-COMMUNICATION MODULES**

TopWorx Sensor-Communication Modules are microprocessor based ‘brains’ that mount inside Valvetop enclosures to deliver position sensing and bus networking functionality to on/off valves. They combine position sensors, bus communications, solenoid outputs, and wiring terminals into a compact, sealed module that drops into various Valvetop enclosures.

**SCM Features:**
- Short-circuit protection
- Resistant to impact, moisture, shock, vibration, contamination
- LEDs indicate valve position and facilitate sensor set-up

**BUS NETWORKS**

TopWorx Sensor-Communication Modules make it easy to connect automated on/off valves to modern bus networking protocols such as FOUNDATION Fieldbus, DeviceNet, AS-interface, Profinet, and HART.
FOUNDATION FIELDBUS
- Factory programmed with: (2) DI, (1) DO, (1) AI, (1) PID, with the ability to add any additional 10 function blocks.
- Emerson DeltaV, Honeywell, Yokogawa, ABB, Invensys approved
- Pre-defined templates, on-board diagnostics, and EDDL-enhanced on-board diagnostics.
- Consumes only 17mA to operate, reduces VCRs and DSTs required
- Local calibration button for factory setting of GO switches.
- Position feedback via DO read back reduces number of function blocks.

BEST-IN-CLASS CAPABILITIES
- Reduced macrocycle times with 15 to 20ms block execution times
- Reduced VCR Links (Publisher/Subscriber)
- ITK 6.0 registered guaranteeing the latest advancements in field diagnostics per NAMUR NE 107, with 17 diagnostics and alerts.
- Live updates without process interruptions - Device Descriptions (DD’s) can be updated without taking the device offline.
- Link Active Scheduler (LAS) capable, allowing for communication backup.

MONITORING FEATURES
- The two built in cycle counters, a life cycle counter and adjustable counter, with high limit alarm that gives the user needed information to implement a preventative maintenance strategy.
- With built in timers that record valve time in open position, open travel time, and close travel time allowed for failure prediction by trending opening and closing times.

CALIBRATION SWITCH
The D2-FF is equipped with a local calibration button for pre-installation function testing of the valve actuator package. This ensures that all valve automators can function test packages before installation without having to purchase expensive test equipment. LEDs indicate correct position setting of the switches.

ASCO® PIEZO TECHNOLOGY
TopWorx discrete valve controllers incorporate the best piezo technology available on the market today. With a response time of under 50mS and a high flow rate, we ensure the spool valve reacts immediately to a change in signal.

- 3 Discrete Inputs, 2 Discrete Outputs, 1 Analog Input
- Rockwell, Emerson DeltaV approved
- On-board diagnostics and early warning LEDs

DeviceNet
- ASI 2.1 with up to 4 Discrete Inputs and 3 Discrete Outputs
- Early warning LEDs

PROFIBUS
- Profibus DP V0
- 4 Discrete Inputs 2 Discrete Outputs
- Early warning LEDs
- Auto-calibration via handheld
Valvetop™ provides the industry’s leading selection of valve position sensors, including GO™ Switch leverless limit switches, proximity sensors, mechanical limit switches, potentiometers, and 4-20mA position transmitters.

All in one proximity sensor and limit switch

GO™ Switches are hermetically sealed to outperform all other position sensors in hot, cold, wet, dirty, abusive, corrosive, and explosive conditions. GO Switches deliver best-in-class capabilities:

- Highest amp rating (4amp/120vac, 3amp/24vdc)
- Highest temperature rating: 80°C
- Up to four GO Switches inside
- Hermetically Sealed contacts
- SPDT, DPDT, and Stainless Steel options
- Proximity operation – nothing to jam, bend, break, or wear out
- Resistant to electrical noise, radio frequency interference, dust, dirt, and most chemicals
- No leakage current, not voltage or polarity sensitive
- Simple device – inherently intrinsically safe with barrier
- Unlike Reed Switches, Gold flashed contacts allow for use in both low and high current applications within a single switch

Unique pushset cam design allows quick and accurate setting of the GO Switch positions reducing deadband and hysteresis to a minimum. Switches can easily be set in the mid-position for control applications such as 3-way ball valves or diverter valves.

4-20mA POSITION TRANSMITTER

- Fully potted electronic module with LEDs and Auto Calibration feature
- Precise setting of the zero and span can be done in seconds for both CW and CCW rotation with a simple push button
- Position feedback sensor is mounted directly to the switchbox shaft eliminating backlash caused by traditional gear train
- Up to 300° rotation for choke valve applications
- The need for re-calibration is eliminated
- Available with GO Switches and HART Protocol

PULLER

PULLER

PROXIMITY SENSORS

Choose from a variety of proximity sensors including reed switches and inductive proximity sensors such as Pepperl+Fuchs™ and others.

- Up to 6 proximity sensors
- AC, DC, Namur versions available

MECHANICAL LIMIT SWITCHES

- Up to 6 mechanical switches
- 15A/120vac
- SPDT and DPDT contacts available
- Up to 6 mechanical switches

PNEUMATIC SWITCHES

- Common in marine/shipbuilding industry
- Ideal for explosive or intrinsically safe environments

SENSORS & SWITCHES

- GO™ Switch leverless limit switches
- 4-20mA position transmitters with HART protocol
- Proximity
- Reed
- Mechanical

GO Gets It.
Valvetop provides a portfolio of self-contained pilot valves to control pneumatic actuators. These compact, high flow spool valves are all low power and can deliver significant operating cost savings. Integral pilot valve options include solenoid and piezo pilots, aluminum and 316 or 304 stainless steel valve bodies, and pushbutton or palm actuated manual overrides.

**Valvetop PILOT VALVES**  
Solenoid Valves to Pilot Any Actuator

- **PILOTS**
  - Internally mounted for protection from the environment
  - Low Power Solenoid or Ultra-Low Power Piezo pilots
  - Single or Dual Pilots
  - Fail open, Fail closed, Fail in last position
  - 50 million cycle minimum life
  - Class F coil insulation
    (Class H available on request)
  - Response time 10mS

- **VALVE BODIES**
  - Anodized Aluminum
  - 316 Stainless Steel
  - 304 Stainless Steel

- **MANUAL OVER RIDES**
  - Momentary
  - Latching
  - Manual Reset
    - Prevents accidental opening of a tripped ESD valve
  - Local operator intervention is required before valve can be re-opened

- **DUAL VALVE**
  - Two integral solenoid valves configured in series or parallel
  - For applications where a redundant solenoid is required
  - For ESD valves or control of 3-position actuators

- **MANUAL RESET SOLENOID VALVE**
  - Designed for Critical Service or Emergency Shutdown Valve applications which often require operators to manually verify a system prior to restarting a process
  - Features a 1.2 Cv flow rate and rugged 316 stainless steel housing, ideal for offshore applications

**How It Works**

a) The pushbutton on the Manual Reset solenoid valve is manually pushed and latched. The inward movement of the pushbutton causes the valve to shift.

b) The pilot is then energized, which unlatches the manual pushbutton, but does not change the valve state.

c) When the coil is de-energized, the valve is returned to its original fail-safe mode.

- **SOLENOID VALVES**
  - 24vdc, 120vac, 220vac
  - Aluminum, 316 Stainless, 304 Stainless
  - Single Coil, Dual Coil, Blocked Center
  - High Flow up to 3.0 Cv
  - Low Power Consumption (solenoid 0.5 watts; piezo 12mw)

- **FLOW RATES**
  - 1.2 Cv
  - 3.0 Cv

- **FLAME ARRESTORS**
  - These double as in line filters, protecting the pilot against damage caused by dirty air. This design also allows the users to replace or work on the external valve in situ without affecting the integrity of the explosion proof enclosure.
TopWorx SIL-3 ESD Valve Controllers provide a complete Partial Stroke Test Solution with unique features and functionality that enable partial stroke testing of emergency shutdown valves without disrupting or shutting down the process.

The **TopWorx Partial Stroke Test Solution** comes complete with:

- Sensor Control Module to partially close the valve without disrupting the process
- Pass/Fail indication via high/low response on the return signal
- Open and Closed position sensors for feedback to the DCS or PLC
- Onboard Diagnostics to enable predictive maintenance and early-warning alerts
- Aluminum, Composite, and 316 Stainless Steel platforms certified for use in Flameproof/Explosion Proof, or Non-Incendive hazardous areas
- An optional local, lockable partial stroke Test Button integral to the unit

The **TopWorx Partial Stroke Test Solution** provides Onboard Diagnostics to alert the user to the following Dangerous Failures:

- Valve packing/shaft damage
- Actuator spring fatigue/breakage
- Solenoid pilot exhaust blockage
- Solenoid spring failure
Available in two platforms suitable for your particular application:

- **DXP** | Tropicalized Aluminum Flameproof/Explosion Proof
- **DXS** | 316 Stainless Steel Flameproof/Explosion Proof
- **DXR** | Composite Resin Non-Incendive

Capabilities

- Suitable for use in SIL-3 applications
- Certified for use in hazardous areas
- Integrated solution with all controls in a single housing
- Onboard diagnostics for performance validation
More Monitoring Points
The TopWorx™ 4310 Wireless Position Monitor is a component of Emerson’s Smart Wireless solutions for field instrumentation. Smart Wireless extends PlantWeb’s predictive intelligence into areas that were previously out of physical or economic reach, opening the door for new possibilities in process management. The TopWorx 4310 Wireless Position Monitor sends a wireless feedback signal through the Gateway to indicate valve position, device temperature, and power module status. This non-obtrusive position monitor won’t disrupt your existing process and is easy to overlay. The 4310 can be used to monitor equipment such as process valves, regulators, and displacement and float level sensors.

Ease of Use
Specially designed for the wireless monitoring of open/closed position in linear and rotary valves, no conduit easements or permits are needed for the battery-powered TopWorx 4310 Wireless Position Monitor. This reduces the time needed for installation, setup, and commissioning. The non-contact linkage-less design and multi-language local user interface allows for easy calibration and monitoring. The TopWorx 4310 Wireless Position Monitor is compact, simple to use, and easily mounted on various valves from modulating control to automated quarter-turn or manual. Emerson’s Smart Wireless solutions are very scalable. Users can start small and add devices later, improving the network reliability. The more wireless devices on a network, the more reliable the network will become.

Rugged and Reliable
The TopWorx 4310 Wireless Position Monitor delivers scalable functionality in a small package. Its rugged, engineered resin enclosure and variety of hazardous area certifications make the 4310 a perfect solution for most applications, including those in corrosive or remote environments. The 4310 Wireless Position Monitor is a component of a self-organizing network that is not hindered by obstacles and disruptions. With frequency hopping technologies and redundant paths for information to travel along, the network delivers greater than 99% data reliability. Anti-jamming technology with 128-bit AES encryption, key rotation, authentication, and verification protects the data to give you peace of mind.

Safe and Cost Effective
The TopWorx 4310 Wireless Position Monitor installs quickly with no wiring or conduit of any kind, reducing not only the cost of installation but safety risks, monitoring time, and labor. Sites that present potential human safety risks may now be monitored easily from a safe location.
How many devices can be on a single Wireless Gateway?
Up to 100.

How many hosts can communicate with a Wireless Gateway?
Many at the same time. For example: Legacy host systems (PLCs, DCS) and AMS® Device Manager.

Can you have more than one network?
Yes, for example when separating areas by function or location.

What is the maximum spacing between wireless devices?
75m is typical inside buildings, 200m is typical outside.
4-20mA TRANSMITTERS WITH HART PROTOCOL

The 2-wire position transmitter with HART will generate a nominal 4-20mA signal proportional to valve position output for full-range actuation of the valve. The transmitter is capable of generating signals below 4mA and above 20mA if the position sensor indicates an out-of-range value. With the added HART digital communication capability, remote calibration and parameter configuration can be performed via a handheld.

Features:
- Remote set point calibration using a handheld device for calibration and monitoring
- Selectable over and under travel settings
- 4 to 20mA variable reading
- Monitoring and setting of alarms with advanced diagnostics. Includes deadband detection, out of range indication and detection of internal memory errors

THE STAINLESS STEEL, 35-SERIES GO™ SWITCH

Hermetically-Sealed, Stainless Steel, DPDT Proximity Switch

For over fifty years, GO™ Switch, all in one proximity sensor and limit switches, have set the standard for reliability and durability in the process industries. Their unique operating principle and best-in-class capabilities have made them the most specified switch in the world for demanding process applications.

**TopWorx™ has once again improved on greatness.**
The 35-Series GO™ Switch is now available in two versions: The original Single Pole Double Throw GO™ Switch or the stainless steel, Double Pole Double Throw, version.

Features:
- One-piece, stainless steel housing
- Hermetically-sealed, Double Pole Double Throw contacts
- Suitable for both Ex d and Intrinsically Safe applications
- Up to four (4) switches in a single enclosure
- Extremely low hysteresis
- PLC and higher current ratings with AC/DC - NO/NC wiring flexibility
- 4amp/120vac and 3amp/24vdc
- Available with SOV and HART options
LINEAR VALVE MONITORS & SENSORS

Valvetop discrete valve controllers are the products of choice for linear valves of all types. Their precision sensing and proven reliability deliver the best position feedback available. Options such as 4-20mA transmitters with end-of-stroke sensors and HART protocol provide continuous monitoring and confirmation of valve position. Custom mounting kits are available to ensure reliable operation for the life of the valve package.

DXP WITH IEC/ATEX IIC CERTIFICATION

The Only IIC Valve Controller with an Integral Solenoid.

Most ATEX Ex d IIC valve controllers have small containers with screw-top lids and very few options. Often the threads on the screw-top lids bind up, causing safety issues on multiple levels. TopWorx™ is changing all of that with the IIC-certified DXP valve controller.

There is no competition.

The unique modular design of the Valvetop™ DXP discrete valve controller combines bus networking, pilot valve and position sensors into a globally certified, explosion proof enclosure that attaches to any automated valve package.

Features:
- Serrated Flange (No binding of threads)
- Improved ingress protection
- IECEX, ATEX, & Ex d Group IIC
- The only IIC Box with integral solenoid
- Available with all Bus & Sensor options!
DUAL PILOT VALVE FOR DRIBBLE FEED CONTROL
By using a unique dual valve option, the solenoids can be configured to allow two stage closing of the valve for applications such as tank filling where the valve needs to be throttled to prevent overflowing.

VALVETOP VISUAL INDICATORS
A variety of indicators to fit every application, including multiple color combinations such as Green/Red and Yellow/Black, plus three-way, 90° and 180° flow paths. Other languages are also available upon request.

DUAL PILOT VALVE FOR DRIBBLE FEED CONTROL
By using a unique dual valve option, the solenoids can be configured to allow two stage closing of the valve for applications such as tank filling where the valve needs to be throttled to prevent overflowing.

COLD TEMP TO -60°C/-76°F
The Valvetop D-Series will give accurate position indication down to -60°C with the use of the GO Switch.

DXP VALVETOP WITH MANUAL RESET SOLENOID VALVE
The Valvetop DXP with Manual Reset is designed for critical service or emergency shutdown valve applications. It is ideal for oil & gas, chemical, or refining industries, which are often subject to strict safety regulations that require operators to manually verify a system prior to restarting a process.

The unique modular design of the Valvetop DXP discrete valve controller combines bus networking, pilot valve and position sensors into a single, globally certified explosion-proof enclosure that attaches to any automated valve package. The Manual Reset solenoid valve features a 1.2 Cv and a rugged 316 stainless steel housing, which is ideal for offshore applications.

"We replaced all of a competitor’s switchbox with the TopWorx Valvetop using GO Switches. We can set the DXPs and walk away from them knowing that they work great."
- I&C Leader, Japanese Chemical Company

"The TopWorx product was attractive to us because the enclosure was resilient and able to survive in a hazardous and corrosive environment."
- Process Engineer, German Chemical Company
VIP MOUNTING KIT

With over 1,500 mounting kit designs, Valvetop valve controllers can be mounted on any rack-n-pinion, scotch-yoke, or vane actuator, quarter-turn manual valves, linear knifegate and control valves, and positioners. Visit www.topworx.com for a complete list of available kits or to request a custom design.

TopWorx has thousands of mounting kits available to fit Valvetop and GO Switch products to a wide variety of valves and actuators. Each kit comes complete with parts list and installation instructions.

3Z Valve Larox
Actreg Ledeen
Airtorque MAGNETROL
ANCHOR DARLING Marwin
Apollo Masoneilan
Automax Mogas
AXELSON Neles-Jamesbury
Baumann Neway
Bettis Newcon Valve
Bifi Orbinox
Bray Orbit
BROOKS BRODIE PBM
Cameron PBV
CCI PVC
ChemValve Protech
Clarkson RCS
Compaq QTRCO
Conbraco Radius
Contromatics Remote Control
COPES VULCAN RF Technologies
Crane Rhino
DeZurik Rotork
Durco SAMSON
El-O-Matic Severn Glocon
Fabri Valve SPEAKMAN
Fisher Poyam
Flowbus PVC
Flowsserve Triac
General Valve Trutorq
Grinnell Unitorq
HAWS Valtek
HONEYWELL Valvtechnologies
Hytork Vanessa
ITT Velan
KENNETH ELLIOT VTI
Keystone-Morin Watts
Kinetrol WKMS
Kitz Worcester
KTM Xomox-Matryx
KTM
DRY-CONTACT POSITION SENSORS

Electrical ratings:
- L (GO Switch): 4amp/120vac, 3amp/24vdc
- P (Hi-Amp Prox): 3amp/120vac, 2amp/24vdc
- R (Low-Amp Prox): .2amp/30vdc
- M (Mechanical Switch): 15A/120vac
- _X (4-20mA Transmitter): 8.5-34vdc

INDUCTIVE PROXIMITY SENSORS

- Available with all types of inductive proximity sensors, including Pepperl & Fuchs™, IFM™, and Turck™
- 3-Wire PNP/NPN:
  : Voltage: 10-30vdc
  : Power Consumption: 15mA
  : Operating Current: 0-200mA
- 2-Wire N/O & N/C
  : Voltage: 5-250vac/vdc
  : Power Consumption: <0.5mA
  : Operating Current: 0-200mA
- Namur Output:
  : 8vdc
  : Current consumption:
  : Switched: <1mA
  : Unswitched: >3mA

SOLENOID VALVES

Pressure rating: 30-100psi (2 - 8 bar)
Temperature rating:
- Standard: -20°C to +60°C
- Standard Piezo: -20°C to +60°C
Power consumption:
- Standard: 0.5Watts
- Piezo: 12mWatts
Voltages:
- 12/24vdc
- 110vac
- 220vac
Choose one option from each category to build a complete model number. Consult factory for options not shown below.

### Enclosure
- **DXP** Tropicalized Aluminum
- **DXR** Composite Resin ("S" Silicone O-Rings only; Stainless steel conduit entries required for North American Approvals)
- **DXS** 316 Stainless steel

### Bus/Sensor
- **DXR** Composite Resin
- "S" Silicone O-Rings only; Stainless steel conduit entries required for North American Approvals

### Area Classification
- 0 Intrinsically safe (Bus/sensor cannot be A5, DN, ES, or _X_; Requires appropriate I.S. barrier)
  - North America
  - Class I Div 1 & 2
    - Groups A, B, C, D
    - Type 4, 4X
  - ATEX/IECEx
    - Zone 0
    - I1G, I1D, I2GD, T6/T4
    - Ex ia IIC
    - Ex tb IIIC
    - IP66/67
  - North America
    - Class I Div 1 & 2
      - Groups C, D
      - Class II Div 2
      - Groups A, B, C, D
      - (Groups A & B must be hermetically sealed)
      - Type 4, 4X, 7
    - ATEX/IECEx
      - Zone 1
      - I1D, I2GD, T6/T4/T3
      - Ex d IIIB+H2
      - Ex tb IIC IP66/67
      - (O-Rings must be S or E for DUST certification)
  - 1 Non-incendive (Bus/sensor must be L, Z, P, A5, FF or DN)
    - North America
      - Class I Div 1 & 2
      - Groups A, B, C, D
      - Class II Div 2
      - Groups F, G
      - ATEX (DXR/S only)
        - II3G Ex nAnC tD, IP66/67
        - (O-Rings must be S or E for DUST certification)
  - 2 Non-incendive (Bus/sensor must be L, Z, P, A5, FF or DN)
    - North America
      - Class I Div 1 & 2
      - Groups A, B, C, D
      - Class II Div 2
      - Groups F, G
      - ATEX (DXR/S only)
        - II3G Ex nAnC tD, IP66/67
        - (O-Rings must be S or E for DUST certification)

### Visual Display
- **G** Standard 90°
  - Green OPEN
  - Red CLOSED
- **B** 90° Black OPEN
  - Yellow CLOSED
- **Y** 90° Yellow OPEN
  - Black CLOSED

### Shaft
- **S** 1/2” DD
  - 304 stainless steel
- **N** NAMUR
  - 304 stainless steel
- **R** 1/2” DD
  - 316 stainless steel (Shaft & external hardware)
- **M** NAMUR
  - 316 stainless steel (Shaft & external hardware)

### Conduit Entries
- **DXP/DXS**
  - (Metal Conduit Entries)
  - E (2) 3/4” NPT
- **DXR**
  - (Stainless Conduit Entries Required for North American approval)
  - P (2) 1/2” NPT
  - E (2) 3/4” NPT
  - M (2) M20
- **DXR**
  - (Resin Conduit Entries)
  - A (2) 1/2” NPT
  - B (2) 3/4” NPT
  - C (2) M20

### Ordering Guide
Fill in the boxes to create your ordering number.

For complete information on certification options, go to www.topworx.com and download the applicable product certificate.
## Ordering Examples:
- DXP-FF0GNEBPA2
- DXP-L21GNEB1A2

TopWorx preferred options.

### O-Rings
- B: Buna-N
- S: Silicone
- E: EPDM
- V: Viton

**NOTE:** For temperatures below -40°C, Silicone or EPDM o-rings are recommended.

### Pilot
- Blank: No pilot device(s)
- 1: (1) 24 Vdc pilot, fail open/closed
  - 0.5 W (non-I.S.)
  - 0.7 W (I.S.)
- 2: (2) 24 Vdc pilots, fail last position
  - 0.5 W (non-I.S.)
  - 0.7 W (I.S.)
- 4: (1) 220 Vac pilot, 2W, fail open/closed
- 5: (2) 220 Vac pilots, 2W, fail last position
- 7: (1) 110 Vac pilot, 1.1W, fail open/closed
- 8: (2) 110 Vac pilots, 1.1W, fail last position
- P: (1) piezo pilot, fail open/closed (FF only)
- R: (2) piezo pilots, fail last position (FF only)

### Spool Valve
- Blank: No Spool Valve
- A: Aluminum
  - Hard coat anodized
- B: Buna-N
- S: Silicone
- E: EPDM
- V: Viton
- 304 Stainless steel
- 316 Stainless steel

### Valve Cv
- Blank: No Spool Valve
- 1: 1.2 Cv (1/4" NPT Ports)
  - 0.5 W (non-I.S.)
  - 0.7 W (I.S.)
- 3: 3.0 Cv (1/2" NPT Ports)
  - Fail Open/Closed
  - (Spool Valve A)
  - (Spool Valve 6)
- C: Cold temperature valve
  - 1.0 Cv (1/4" NPT Ports)
  - -30°C (-22°F)
  - (Available only with the following options: Bus/sensor = FF, Approvals 1, G or W, Pilot = P or R, O-Rings = E or S, Spool Valve = S or 6)

### Override
- Blank: No override
- 1: Single Pushbutton
  - Momentary/Latching
- 2: Dual Pushbutton
  - Momentary/Latching
- 3: Single Pushbutton
  - Momentary
- 4: Dual Pushbutton
  - Momentary
- 5: Manual Reset, No voltage release, latching with push button
  - (Consult factory if used with ES sensor option)
  - (Spool valve must be 6)
- A: Single palm actuator
  - Momentary/Latching
- B: Dual palm actuator
  - Momentary/Latching
- C: Single palm actuator
  - Momentary
- D: Dual palm actuator
  - Momentary
- E: Manual Reset, No voltage release latching with palm actuator
  - (Consult factory if used with ES sensor option)
  - (Spool valve must be 6)
- 7: Partial stroke test button
  - with lockable cover
  - (Sensor ES only)
  - (Not avail w/ Area Class C)
  - (DXP/S - Conduit Entries 4 or 3 only)
  - (DXR - consult factory)

### Regional Certs
- Blank: No Regional Cert
- B: InMetro
- N: NEPSI (DXP/S only)
- F: FISCO
  - (Bus/Sensor must be FF; Area Class 0)
- K: KOSHA (DXP/S only)
  - (Area Class I or C)
- R: GOST (DXP/S only)
  - (O-Rings must be B, S, or E; B= -20° to +55°C Gas Approved; S or E= -50° to +60°C Gas/Dust Approved)
- A: ANZE
  - ex d IIC, Ex d IIIB+H2 (DXP/S only)
- P: PESO (India)
  - (Area Class 1 or C only)

### Pneumatic Accessories
- Description: Flow Control, 1/8" NPT (1 per kit) (DVC/IVC) ................................................................. AL-M20
- Description: Flow Control, 1/4" NPT (1 per kit) (DXP/TXP/TVA) .......................................................... AL-M21
- Description: Flow Control, 1/2" NPT (1 per kit) (DXP w/3.0Cv spool valve) ....................................... AL-M22
- Description: Breathers, 1/8" NPT (2 per kit) (DVC/IVC) ................................................................. AL-M30
- Description: Breathers, 1/4" NPT (2 per kit) (DXP) ................................................................. AL-M31

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**Don’t Forget!**
Filtered air is required for proper valve operation. Reference www.topworx.com for additional Air Filter information.
# VALVETOP™ T-SERIES, TXP, TXS, TVA ORDERING GUIDE

Choose one option from each category to build a complete model number. Consult factory for options not shown below.

## Enclosure

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>✓ TXP</td>
<td>Tropicalized Aluminum</td>
</tr>
<tr>
<td>✓ TXS</td>
<td>316 Stainless Steel</td>
</tr>
<tr>
<td>✓ TVA</td>
<td>Engineered Resin (Area Class must be W or 0)</td>
</tr>
</tbody>
</table>

## Bus/Sensor

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>✓ Bus Network</td>
<td></td>
</tr>
<tr>
<td>✓ AS</td>
<td>AS-Interface (Area class cannot be 0)</td>
</tr>
<tr>
<td>✓ PB</td>
<td>Profibus (Area class must be 1, C, or W)</td>
</tr>
<tr>
<td>Mechanical Switches</td>
<td></td>
</tr>
<tr>
<td>✓ M2</td>
<td>(2) Mech SPDT (Area class cannot be 2)</td>
</tr>
<tr>
<td>M4</td>
<td>(4) Mech SPDT</td>
</tr>
<tr>
<td>K2</td>
<td>(2) Mech SPDT w/gold contacts</td>
</tr>
<tr>
<td>✓ T2</td>
<td>(2) Mech DPDT</td>
</tr>
<tr>
<td>Proximity Switches</td>
<td></td>
</tr>
<tr>
<td>✓ R2</td>
<td>(2) SPDT 200mA.max</td>
</tr>
<tr>
<td>R4</td>
<td>(4) SPDT 200mA.max</td>
</tr>
<tr>
<td>P2</td>
<td>(2) SPDT 3A.max</td>
</tr>
<tr>
<td>GO Switches</td>
<td></td>
</tr>
<tr>
<td>✓ L2</td>
<td>(2) GO Switches SPDT hermetically sealed (TXP/TXS w/ no pilot valve only)</td>
</tr>
<tr>
<td>Inductive Sensors</td>
<td></td>
</tr>
<tr>
<td>✓ EZ</td>
<td>(2) p+f N/J2+V3-N inductive NAMUR</td>
</tr>
<tr>
<td>✓ T2</td>
<td>(2) Ind prox PNP N/O (Area class cannot be 0)</td>
</tr>
</tbody>
</table>

## Area Classification

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Intrinsically safe ATEX/IECEEx Zone 1</td>
</tr>
<tr>
<td></td>
<td>I2GD Ex ia IIC Ex ib A21, IP66/67 (TXP/TXS only)</td>
</tr>
<tr>
<td></td>
<td>I2G Ex ia IIC, T4 (TVA only)</td>
</tr>
<tr>
<td>✓ C</td>
<td>Flame Proof (TXP &amp; TXS w/o pilot valve only)</td>
</tr>
<tr>
<td></td>
<td>ATEX/IECEEx</td>
</tr>
<tr>
<td></td>
<td>I2GD Ex d IIC Ex ID A21, IP66/67</td>
</tr>
<tr>
<td>1</td>
<td>Flame proof (TXP &amp; TXS only)</td>
</tr>
<tr>
<td></td>
<td>C1 i Div 1 Grps C,D</td>
</tr>
<tr>
<td></td>
<td>C II Div 1 Grps E-G</td>
</tr>
<tr>
<td></td>
<td>ATEX/IECEEx</td>
</tr>
<tr>
<td></td>
<td>I2GD Ex d IIC Ex ID A21, IP66/67</td>
</tr>
<tr>
<td>2</td>
<td>Non-incendive (TXP/TXS only)</td>
</tr>
<tr>
<td></td>
<td>C1 i Div 2 Grps A-D</td>
</tr>
<tr>
<td></td>
<td>C II Div 2 Grps F&amp;G</td>
</tr>
<tr>
<td></td>
<td>ATEX I2GD (Not available with all sensing options)</td>
</tr>
<tr>
<td></td>
<td>Ex nAnC IIC, IP66/67</td>
</tr>
<tr>
<td>G</td>
<td>General Purpose (TXP/TXS only)</td>
</tr>
<tr>
<td>W</td>
<td>No approvals Nema 4, 4x IP66/67</td>
</tr>
</tbody>
</table>

## Visual Display

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>✓ G</td>
<td>Standard 90° Green OPEN, Red CLOSED</td>
</tr>
<tr>
<td>✓ B</td>
<td>90° Black OPEN, Yellow CLOSED</td>
</tr>
<tr>
<td>✓ F</td>
<td>Flat-top with skirt indicator (TXP &amp; TXS only)</td>
</tr>
<tr>
<td></td>
<td>(Indicator not provided with “L” Shaft option)</td>
</tr>
<tr>
<td>✓ Y</td>
<td>90° Yellow OPEN, Black CLOSED</td>
</tr>
<tr>
<td>✓ J</td>
<td>3 Way T Port, Green/Red</td>
</tr>
<tr>
<td>✓ K</td>
<td>3 Way L Port, Green/Red</td>
</tr>
</tbody>
</table>

## Shaft

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>✓ N</td>
<td>NAMUR 304 stainless steel</td>
</tr>
<tr>
<td>✓ P</td>
<td>1&quot; Extended Linear Shaft (TXP/TXS only)</td>
</tr>
<tr>
<td>✓ M</td>
<td>(2) M20</td>
</tr>
<tr>
<td>✓ E</td>
<td>(2) 3/4&quot; NPT (Not available with pilot valve)</td>
</tr>
<tr>
<td>✓ L</td>
<td>(2) 3/4&quot; NPT (Not available with pilot valve)</td>
</tr>
<tr>
<td></td>
<td>(2) 1/2&quot; NPT</td>
</tr>
</tbody>
</table>

## Conduit Entries

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>✓ TXP/TXS</td>
<td></td>
</tr>
<tr>
<td>✓ P</td>
<td>(2) 1/2&quot; NPT</td>
</tr>
<tr>
<td>✓ M</td>
<td>(2) M20</td>
</tr>
<tr>
<td>✓ E</td>
<td>(2) 3/4&quot; NPT (Not available with pilot valve)</td>
</tr>
<tr>
<td>✓ L</td>
<td>(2) 1/2&quot; NPT</td>
</tr>
<tr>
<td>✓ C</td>
<td>(2) M20 Resin</td>
</tr>
</tbody>
</table>

## TVA

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>✓ A</td>
<td>(2) 1/2&quot; NPT</td>
</tr>
</tbody>
</table>

NOTE: TVA and TXP mounting accessories now sold separately. See listing below for kit #s and description.

## Ordering Guide

Fill in the boxes to create your 'ordering number.'

For complete information on certification options, go to [www.topworx.com](http://www.topworx.com) and download the applicable product certificate.
### T-SERIES MOUNTING KITS

<table>
<thead>
<tr>
<th>Description</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resin Mounting Kits for TVA</td>
<td></td>
</tr>
<tr>
<td>Mounting Kit for 20 x 80</td>
<td>AL-TR01</td>
</tr>
<tr>
<td>Mounting Kit for 30 x 80</td>
<td>AL-TR04</td>
</tr>
<tr>
<td>Mounting Kit for 30 x 130</td>
<td>AL-TR07</td>
</tr>
<tr>
<td>Mounting Kit for 50 x 130</td>
<td>AL-TR09</td>
</tr>
<tr>
<td>Mounting Kits for TXP*</td>
<td></td>
</tr>
<tr>
<td>Mounting Kit for 20 x 80</td>
<td>AV-TA09</td>
</tr>
<tr>
<td>Mounting Kit for 20 x 80 (flattop only)</td>
<td>AV-TA10</td>
</tr>
<tr>
<td>Mounting Kit for 30 x 80</td>
<td>AV-TA11</td>
</tr>
<tr>
<td>Mounting Kit for 30 x 80 (flattop only)</td>
<td>AV-TA12</td>
</tr>
<tr>
<td>Mounting Kit for 30 x 130</td>
<td>AV-TA13</td>
</tr>
<tr>
<td>Mounting Kit for 30 x 130 (flattop only)</td>
<td>AV-TA14</td>
</tr>
<tr>
<td>Mounting Kit for 50 x 130</td>
<td>AV-TA15</td>
</tr>
<tr>
<td>Mounting Kit for 50 x 130 (flattop only)</td>
<td>AV-TA16</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Description</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stainless Steel Mounting Kits for TXS*</td>
<td></td>
</tr>
<tr>
<td>Non-NAMUR Interface Kit</td>
<td>Z001205</td>
</tr>
<tr>
<td>Mounting Kit for 20 x 80</td>
<td>AV-TS09</td>
</tr>
<tr>
<td>Mounting Kit for 20 x 80 (flattop only)</td>
<td>AV-TS10</td>
</tr>
<tr>
<td>Mounting Kit for 30 x 80</td>
<td>AV-TS11</td>
</tr>
<tr>
<td>Mounting Kit for 30 x 80 (flattop only)</td>
<td>AV-TS12</td>
</tr>
<tr>
<td>Mounting Kit for 30 x 130</td>
<td>AV-TS13</td>
</tr>
<tr>
<td>Mounting Kit for 30 x 130 (flattop only)</td>
<td>AV-TS14</td>
</tr>
<tr>
<td>Mounting Kit for 50 x 130</td>
<td>AV-TS15</td>
</tr>
<tr>
<td>Mounting Kit for 50 x 130 (TXS flattop only)</td>
<td>AV-TS16</td>
</tr>
</tbody>
</table>

---

**Ordering Examples:**
- **TXS-ASCGNPM1A1**
- **TXP-M21GNPB1A1**

**TopWorx preferred options.**

- **O-Rings**
  - M Silicone

- **Pilot**
  - Blank
  - 1 (1) 24Vdc pilot, fail open/closed
    - 1W (non I.S)
    - 0.7 W (I.S)
  - 7 (1) 110Vac pilot, 3VA, fail open/closed
  - 4 (1) 220Vac pilot, 3VA, fail open/closed

- **Spool Valve**
  - Blank
  - No spool valve
  - A Aluminum
    - Hard coat anodized
  - 6 316 Stainless steel

- **Valve Cv**
  - Blank
  - No spool valve
  - 1 1.0 Cv
    - (1/4” NPT Ports)
  - 8 1.0 Cv
    - (1/4” BSP Ports)

- **Manual Override**
  - Blank
  - No override
  - 1 Single Pushbutton
    - Momentary/Latching

- **Regional Certs**
  - Blank
  - No Regional Cert
  - N NEPSI
  - R GOST (TXP/S only)
  - B InMetro

---

**Resin Mounting Kits for TVA**
- Mounting Kit for 20 x 80 ................................ AL-TR01
- Mounting Kit for 30 x 80 ................................ AL-TR04
- Mounting Kit for 30 x 130 ................................ AL-TR07
- Mounting Kit for 50 x 130 ................................ AL-TR09

**Mounting Kits for TXP**
- Mounting Kit for 20 x 80 ................................ AV-TA09
- Mounting Kit for 20 x 80 (flattop only) ............... AV-TA10
- Mounting Kit for 30 x 80 ................................ AV-TA11
- Mounting Kit for 30 x 80 (flattop only) ............... AV-TA12
- Mounting Kit for 30 x 130 ................................ AV-TA13
- Mounting Kit for 30 x 130 (flattop only) ............... AV-TA14
- Mounting Kit for 50 x 130 ................................ AV-TA15
- Mounting Kit for 50 x 130 (flattop only) ............... AV-TA16

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**Don’t Forget!**
Filtered air is required for proper valve operation. Reference www.topworx.com for additional Air Filter information.
**Enclosure**
- TVF Tropicalized Aluminum base with clear resin lid
- TVL Tropicalized Aluminum base and lid
- TVH 316 Stainless Steel base and lid

**Bus/Sensor**

**Mechanical Switches**
- Area class cannot be 2)
- (2) Mech SPDT
- (4) Mech SPDT
- (2) Mech SPDT w/ gold contacts
- (2) Mech DPDT

**Proximity Switches**
- (2) SPDT 200mA max
- (4) SPDT 200mA max
- (2) SPDT 3A max

**Inductive Sensors**
- (2) p+f NJ2+V3= N
- (2) Ind prox PNP N/O (Area class cannot be 0)

**Area Classification**
- 0 Intrinsically safe ATEX/IECEx Zone 1
- I2GD Ex ia IIC Ex tA21, IP64 (Dust groups TVL/TVH only) CI I Div 1 Grps A-D; CI I Div 1 Grps E-G
- 2 Non-incendive ATEX/IECEx Zone 2
- IIIGD Ex nAcC IIC Ex tc IIC, IP64 CI I Div 2 Grps A-D: CI I Div 2 Grps F & G
- General Purpose
- No approvals

**Visual Display**
- (2) Standard 90° Green OPEN, Red CLOSED
- (2) 90° Black OPEN, Yellow CLOSED
- (2) Flat-top with skirt indicator (TVL & TVH only) (Indicator not provided with “L” Shaft option)
- (2) 90° Yellow OPEN, Black CLOSED
- (2) 3 Way T Port, Green/Red
- (2) 3 Way L Port, Green/Red

**Shaft**
- TVF
- TVL
- TVH
- 8
- 19
- 25

**Conduit Entries**
- (2) 1/2" NPT
- (2) M20
- (2) 3/4" NPT
- (2) M25

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**For complete information on certification options, go to www.topworx.com and download the applicable product certificate.**
**Ordering Examples:**
TVF-M20GNPM1A1
TVL-R4WGNPM

**TopWorx preferred options.**

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**Mounting Kits for TVF/TVL**

<table>
<thead>
<tr>
<th>Description</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mounting Kit for 20 x 80</td>
<td>AV-TA01</td>
</tr>
<tr>
<td>Mounting Kit for 20 x 80 (flattop only)</td>
<td>AV-TA02</td>
</tr>
<tr>
<td>Mounting Kit for 30 x 80</td>
<td>AV-TA03</td>
</tr>
<tr>
<td>Mounting Kit for 30 x 80 (flattop only)</td>
<td>AV-TA04</td>
</tr>
<tr>
<td>Mounting Kit for 30 x 130</td>
<td>AV-TA05</td>
</tr>
<tr>
<td>Mounting Kit for 30 x 130 (flattop only)</td>
<td>AV-TA06</td>
</tr>
<tr>
<td>Mounting Kit for 50 x 130</td>
<td>AV-TA07</td>
</tr>
<tr>
<td>Mounting Kit for 50 x 130 (flattop only)</td>
<td>AV-TA08</td>
</tr>
</tbody>
</table>

**Stainless Steel Mounting Kits for TXS**

<table>
<thead>
<tr>
<th>Description</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-NAMUR Interface Kit</td>
<td>Z001205</td>
</tr>
<tr>
<td>Mounting Kit for 20 x 80</td>
<td>AV-TS01</td>
</tr>
<tr>
<td>Mounting Kit for 20 x 80 (flattop only)</td>
<td>AV-TS02</td>
</tr>
<tr>
<td>Mounting Kit for 30 x 80</td>
<td>AV-TS03</td>
</tr>
<tr>
<td>Mounting Kit for 30 x 80 (flattop only)</td>
<td>AV-TS04</td>
</tr>
<tr>
<td>Mounting Kit for 30 x 130</td>
<td>AV-TS05</td>
</tr>
<tr>
<td>Mounting Kit for 30 x 130 (flattop only)</td>
<td>AV-TS06</td>
</tr>
<tr>
<td>Mounting Kit for 50 x 130</td>
<td>AV-TS07</td>
</tr>
<tr>
<td>Mounting Kit for 50 x 130 (TXS flattop only)</td>
<td>AV-TS08</td>
</tr>
</tbody>
</table>

---

**Description**

<table>
<thead>
<tr>
<th>O-Rings</th>
<th>Pilot</th>
<th>Spool Valve</th>
<th>Valve Cv</th>
<th>Manual Override</th>
</tr>
</thead>
<tbody>
<tr>
<td>✓ M Silicone</td>
<td>✓ Blank</td>
<td>✓ Blank</td>
<td>✓ Blank</td>
<td>✓ Blank</td>
</tr>
<tr>
<td>✓ 1 (1) 24Vdc pilot, fail open/closed</td>
<td>✓ 1.0 Cv (1/4” NPT Ports)</td>
<td>✓ Aluminum, Hard coat anodized</td>
<td>✓ 1.0 Cv (1/4” NPT Ports)</td>
<td>✓ Blank, No override</td>
</tr>
<tr>
<td>✓ 2 (2) 24Vdc pilots, fail last position</td>
<td>✓ 1.0 Cv (1/4” NPT Ports)</td>
<td>✓ 316 Stainless steel</td>
<td>✓ 1.0 Cv (1/4” NPT Ports)</td>
<td>✓ 1 Single Pushbutton Momentary/Latching</td>
</tr>
<tr>
<td>✓ 4 (1) 220Vac pilot, 3VA fail open/closed</td>
<td>✓ 1.0 Cv (1/4” NPT Ports)</td>
<td>✓ 0.7 W (I.S.)</td>
<td>✓ 1.0 Cv (1/4” NPT Ports)</td>
<td>✓ 0.7 W (I.S.)</td>
</tr>
<tr>
<td>✓ 5 (2) 220Vac pilots, 3VA fail last position</td>
<td>✓ 1.0 Cv (1/4” NPT Ports)</td>
<td>✓ 0.7 W (I.S.)</td>
<td>✓ 1.0 Cv (1/4” NPT Ports)</td>
<td>✓ 0.7 W (I.S.)</td>
</tr>
<tr>
<td>✓ 7 (1) 110Vac pilot, 3VA, fail open/closed</td>
<td>✓ 1.0 Cv (1/4” NPT Ports)</td>
<td>✓ 1W (non I.S.)</td>
<td>✓ 1.0 Cv (1/4” NPT Ports)</td>
<td>✓ 0.7 W (I.S.)</td>
</tr>
<tr>
<td>✓ 8 (2) 110Vac pilots, 3VA, fail last position</td>
<td>✓ 1.0 Cv (1/4” NPT Ports)</td>
<td>✓ 1.0 W (non-I.S.)</td>
<td>✓ 1.0 Cv (1/4” NPT Ports)</td>
<td>✓ 0.7 W (I.S.)</td>
</tr>
</tbody>
</table>

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**Don’t Forget!**

Filtered air is required for proper valve operation. Reference www.topworx.com for additional Air Filter information.

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**Conduit Entries**

- **For Stainless Steel Mounting Kits for TXS:**
  - Non-NAMUR Interface Kit
  - Mounting Kit for 20 x 80
  - Mounting Kit for 20 x 80 (flattop only)
  - Mounting Kit for 30 x 80
  - Mounting Kit for 30 x 80 (flattop only)
  - Mounting Kit for 30 x 130
  - Mounting Kit for 30 x 130 (flattop only)
  - Mounting Kit for 50 x 130
  - Mounting Kit for 50 x 130 (TXS flattop only)

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**O-Rings**

- Blank

**Pilot**

- No pilot device(s)

**Spool Valve**

- No spool valve

**Valve Cv**

- Aluminum
- Hard coat anodized
- 316 Stainless steel