Valmet FORWARD

Smart – not complicated

Stonel™ valve communication and network solutions

Smart – not complicated

The Stonel™ brand is synonymous with performance and reliability. You can improve process performance by integrating your automated valves. Our solutions are known for reliability and precision in valve control and monitoring. The full portfolio of Stonel technologies is aimed at providing field-proven, industry-leading performance at a competitive life cycle cost.

Simplicity

The inherent simplicity of our products helps make them durable, long-lasting and high-performing. They are moisture, vibration and corrosion resistant, designed to deliver reliability in a wide range of applications.

Simple to use, yet smart where it counts. Our devices deliver powerful insights into your valve assemblies with intuitive diagnostics that keep operations running smoothly. Engineered with robust features and built-to-last durability, they're the perfect fit for the rigorous demands of today's process industries.

Ease

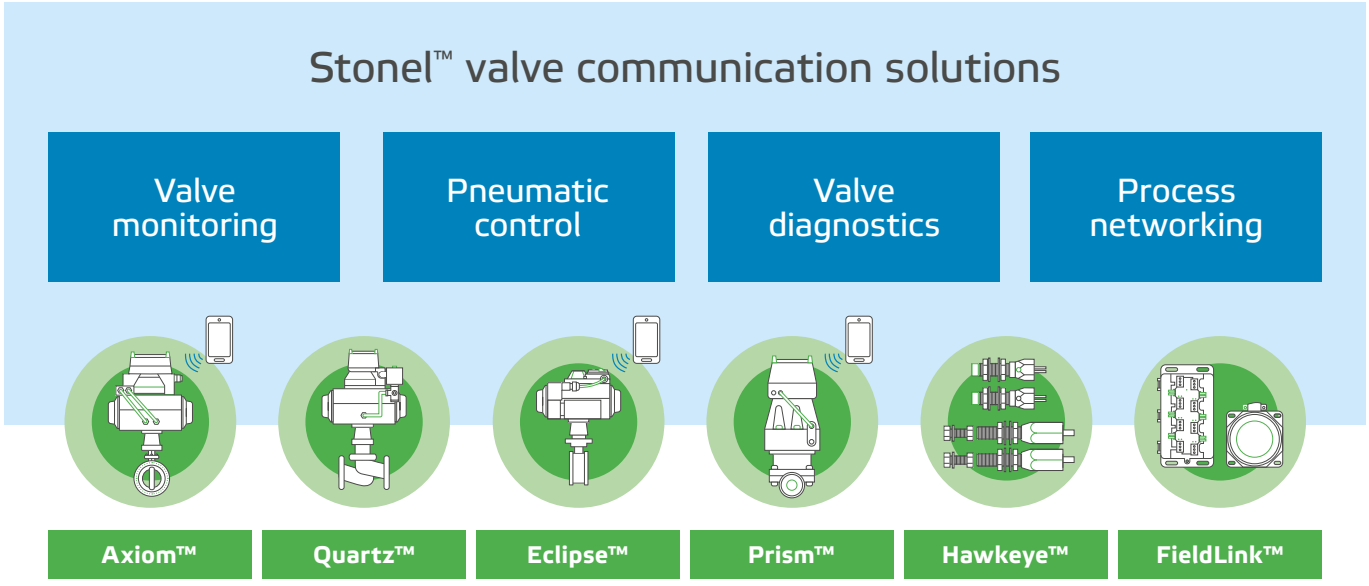
Savings in time and space translate into savings that can be measured in money. Compact sizing paired with smart design results in products that require less space and are faster and easier to install. A reduced component count makes for easy maintenance and repairs. That's the essence of smart design.

Easy access to information allows for the planning of predictive maintenance, helping you avoid costly unplanned downtime. Remote access to valve function data can help quickly identify and address issues before they result in valve failure.

Reliability

Smart design choices based on simplicity and rugged construction result in products that are both safe and reliable. They have been engineered to maintain long-term performance and repeatability in operation in demanding industrial environments. The uninterrupted availability of data is the foundation for informed operations and safety-conscious decision-making at your plant.

Integrated valve automation solutions for your industrial process



Stonel solutions

Our technology features user-friendly devices that allow automated valves to be connected easily and reliably into the control system. Minimize total life cycle cost when implementing our proven, field-based digital communication technologies.

Valve controller for rotary applications

The **Stonel™ Axiom™** discrete valve controller can be ordered with multiple options to fulfill your requirements; standard solid state, network- enabled, and Stonel's Wireless Link diagnostics and advanced capabilities. Each share most of the same components and functions. (AN/ANX series)

Valve controller for linear applications

The **Stonel™ Prism™** intelligent valve controller integrates an advanced position sensing system and integral pneumatic control for sanitary diaphragms and other linear applications. Its intuitive operation means set up is easy and can be completed in only seconds. (PI series)

Limit switches for rotary applications

The **Stonel™ Eclipse™** limit switch is compact and modular with solid state reliability. It delivers many of the same features and benefits as the Stonel Axiom, with some exceptions. Options in this series are the solution of choice in applications and processes that require the solenoid to be mounted externally. (EC series)

The **Stonel™ Quartz™** limit switch is durable, corrosion resistant, and versatile. Options include explosionproof, nonincendive, and general purpose. This product fits most applications and processes that require the solenoid to be mounted externally. (QX/QC/QN/QG series)

Limit switches for point sensing

The **Stonel™ Hawkeye™** proximity sensor is for linear valve position sensing. It can be ordered in options to fulfill requirements that are nonincendive, instrically and explosionproof.

Use in process environments for gate and globe valves. (HK/HX series)

Process networking components

The **Stonel™ FieldLink™** networking components enable taking advantage of field-based communication technologies to cut installation and maintenance costs and improve operating performance.

The enclosures, drop connectors, I/O modules, gateways and other devices support networking protocols including AS-Interface, DeviceNet, Modbus, Profibus, FOUNDATION Fieldbus and more. (JX/FN series and accessories)

Stonel product mapping

	1/4-turn			Linear	
Specifications	**Axiom**	**Eclipse**	**Quartz**	**Prism**	**Hawkeye**
Non-contact solid state sensors with LEDs and 5 year warranty	●	●	●	●	HK
2-wire solid state sensors are both AC and DC compatable	●	●	●	●	●
PNP/NPN self calibration 3-wire unit, patented technology		●		●	
Universal voltage capability	●	●	●	●	●
Feedback "Input" options					
On/off (Discrete Input = DI)	●	●	●	●	●
4-20mA (Analog Input = AI)			●	●	
Optional communication technology					
AS-interface	versions 3 & 5	version 3	version 3	versions 3 & 5	Specialty application module
DeviceNet™	●	EN & EG	●	●	
IO-Link		●		●	
Diagnostics available as an option	●	●		●	
Red/green LEDs are coordinated with red/green mechanical visual indicator (Prism; green only)	●	●	●	●	
Push button calibration and wireless calibration option	●	●		●	
Integral solenoid	Standard			Optional	
Rebreather (prevents ingestion of contaminated air into actuator)	●				
Control "Output" options					
On/off (Discrete Output = DO)	●	●	●	Optional	
4-20mA (Analog Output = AO)			Optional	Optional	
General purpose and Division 2 (nonincendive) standard; Division 1 (I.S.) optional	●	●	●	●	●
Pin-connector options (not viable in CID1 XP applications)	AN only	●		●	
NPT conduit options	●	●	●	●	●
Screw on cover allows quicker access for maintenance needs; no special tools required	●	●	●	●	
Anodized aluminum with low copper content materials and stainless steel hardware	●		●		
Stainless steel enclosure and hardware	ANX only		●		HX
Polycarbonate materials with stainless steel hardware		●		●	HK
5 year bumper to bumper warranty (includes solenoid and mounting hardware)	●				

Stonel Axiom

The Stonel Axiom provides advanced monitoring and control in explosionproof, nonincendive, intrinsically safe and general-purpose applications. It is a discrete on/off valve controller with proximity switches for quarter-turn automated valves. The rugged construction will withstand the most challenging plant environments. It features wireless capabilities, advanced diagnostics, and an integral solenoid valve in single or dual pilot configurations. Overall, the Axiom offers unrivaled convenience and cost savings in hazardous and general-purpose applications.

More information in bulletins **7AN21, 7STWL70**

Feature	Benefit
Integrated pneumatic valve	Parts and labor cost savings over component installations and easier maintenance
Wireless capabilities (optional)	Reduces setup time and improves plant safety
Advanced diagnostics	Reduces maintenance costs
Universal voltage	May be used for standard AC or DC applications, reducing stocking requirements
Compact mounting manifold system	Uses less space and fits applications with space constraints
Directly attaches to VDI/VDE 3845 mounting patterns	Mounts flush to actuator simply and quickly
Internal and optional external manual pneumatic overrides	Enables local valve operation
Supports AS-interface and DeviceNet communication protocols	Provides wiring and labor savings
Wiring terminations or quick connector	Quick and convenient wiring and maintenance access for easy set-up and installation
Non-contact continuous position sensing system	Eliminates shafts, bushings, and wear parts prone to failure
Push button set points	Easily lock in position settings, remaining locked in even when power is removed and reapplied
Exceptionally reliable	Reduces maintenance costs

Technical specifications

Function	Electrical	Application
35 (2) SST NO switching	0.1 amp @ 125 VAC/125 VDC; 0.1 amp @ 250 VAC/VDC	AC & DC computer inputs
45 (2) NAMUR sensors (EN 60947-5-6)	I < 1 mA to I > 2.1 mA @ 5 - 25 VDC	Intrinsically safe repeater barrier input
92 DeviceNet	2 DI & 2 DO, 1 AI auxiliary	4-wire network with 62 devices/ segment, optional Wireless Link
97 AS-Interface (extended addressing)	2 DI & 2 DO, 2 DI auxiliary	2-wire discrete bus network (62 devices/ network), optional Wireless Link
98 AS-Interface (ASi-5)	2 DI & 2 DO, 2 DI auxiliary	2-wire discrete bus network (62 devices/ network), optional Wireless Link

Stonel Quartz

The Stonel Quartz limit switch is durable, corrosion resistant, and versatile, making it ideal for most of your process valve monitoring requirements. It is available in explosionproof (QX), nonincendive, intrinsically safe (QN), low temperature (QC), and general purpose (QG) versions. The robust epoxy-coated anodized aluminum construction makes this platform extremely durable and well-suited for use in corrosive, heavy washdown environments.

More information in bulletin **7QZ22**

Feature	Benefit
Quick access screw-on cover is vapor tight	Easy switch access for setup and maintenance
Universal voltage	May be used for standard AC or DC applications, reducing stocking requirements
Bright LED indicators	Easy to locate in processes and know the state
Supports multiple switch types	Solid state, magnetic reed proximity, or mechanical switches can be selected
Quick set cam	Easy set-up, push-pull cam system with no set screws or tools
Directly attaches to VDI/VDE 3845 mounting patterns	Mounts flush to actuator simply and quickly

Technical specifications

Function	Electrical	Application
35 (2) SST NO solid state switching	0.1 amp @ 20 - 250 VAC or 8 - 250 VDC	AC & DC computer inputs
45 (2) NAMUR sensors (EN 60947-5-6)	I < 1 mA to I > 2.1 mA @ 5 - 25 VDC	Intrinsically safe repeater barrier input
92 DeviceNet	2 DI & 2 DO, 1 AI auxiliary	4-wire network with 62 devices/ segment, optional Wireless Link
96 AS-Interface	2 DI & 2 DO	2-wire discrete bus network (31 devices/ network)
97 AS-Interface (extended addressing)	2 DI & 1 DO	2-wire discrete bus network (62 devices/ network), optional Wireless Link

Other switch types	Electrical	Application
_S,_H,_G,_P,_L,_M Maxxguard proximity (hermetically sealed)	SPDT or SPST	Reed type switching - medium current applications
V, _W, 14 Mechanical (gold or silver contacts)	SPDT or DPDT	AC or DC higher current applications
5_, 7_, T_ Position transmitters (standard or high performance)	4-20mA with or without switches	Position transmitter applications 4-20mA

Stonel Eclipse

The Stonel Eclipse limit switch features dual solid state sensors with optional communication. Electronicis are neatly integrated into a sealed module. The function module and trigger/indicator are in an ultra compact housing that attaches quickly and conveniently to standard VDI/VDE 3845 (NAMUR) actuator accessory mounting pads. It is suitable for general purpose, nonincendive and intrinsically safe applications and available with optional wireless capabilities.

More information in bulletins **7EC20, 7STWL70**

Feature	Benefit
Extremely compact design	Minimal clearance is needed when mounted
Wireless capabilities (optional)	Reduces setup time and improves plant safety
Directly attaches to VDI/VDE 3845 mounting patterns	Mounts flush to actuator simply and quickly
High intensity red and green LEDs	Highly visual switch status for confirming electrical operation
Touch pad sensor settings	Easy fast commissioning that allows for settings to be locked in even when power has been removed
Capable of high pressure washdowns	Sensors and electronics are fully sealed to eliminate threats from corrosion, debris, or water intrusion
Durable construction	Rugged corrision resistant enclosure for long life
Power outputs provided for solenoids	Convenient and protected place that allows you to easily power external solenoids
Automatic detection and selection of PNP/NPN input card (patented)	Connection flexibility to different I/O cards and circuits to ease installation
Universal voltage	Easily lock in position settings, remaining locked in even when power is removed and reapplied

Technical specifications

AS-i IO-Link Bluetooth

Function	Electrical	Application
30 (2) 24 VDC NO solid state sensors (1) 24 VDC output for external solenoid: IO-Link	0.1 amp @ 18 - 30 VDC	DC computer inputs, optional Wireless Link
34 (2) SST NC sensors	0.1 amp @ 20 - 250 VAC or 20 - 250 VDC	AC & DC computer inputs
35 (2) SST NO switching	0.1 amp @ 20 - 250 VAC or 20 - 250 VDC	AC & DC computer inputs
45 (2) NAMUR sensors (EN 60947-5-6)	I < 1 mA to I > 2.1 mA @ 5 - 25 VDC	Intrinsically safe repeater barrier input
96 AS-Interface	2 DI & 2 DO	2-wire discrete bus network (31 devices/network)
97 AS-Interface (extended addressing)	2 DI & 1 DO	2-wire discrete bus network (62 devices/ network), optional Wireless Link

Stonel Hawkeye

The Stonel Hawkeye point sensors are ideal limit switches for linear valve positioning sensing. They feature solid state electronic sensing and are designed for harsh environments. Speed your setup and installation by confirming power up and switch status when using the option with red/green LEDs. Select the stainless steel option (HX series) for your explosionproof applications. The sensor is encased in a shock absorbent urethane potting material making the design ideal for service in harsh process environments.

More information in bulletins **7HK21, 7HX21**

Feature	Benefit
Solid state proximity sensor	Unlimited switching capabilities
Triggers on any metal	Eliminates costly magnets and triggering systems and cuts installation time
Stainless steel washers and fasteners	Extremely durable and corrosion resistant.
NAMUR sensors for intrinsically safe circuits	Suitable for most hazardous locations
Universal voltage	May be used for standard AC or DC applications, reducing stocking requirements

Technical specifications

Function (HK series)	Electrical	Application
30 (1) SST NO switching	0.1 amp @ 125 VAC or 24 VDC	AC & DC computer inputs
40 (1) NAMUR (EN 60947-5-6)	I < 1 mA to I > 2.1 mA @ 5 - 25 VDC	Intrinsically safe repeater barrier input
50 DC 3-wire PNP	6 - 28 VDC, 200 mA	FOUNDATION Fieldbus I/O inputs

Function (HX series)	Electrical	Application
35 (1) SST NO switching	0.1 amp @ 20 - 250 VAC or 8 - 250 VDC	AC & DC computer inputs
45 (1) NAMUR (EN 60947-5-6)	I < 1 mA to I > 2.1 mA @ 5 - 29 VDC	Intrinsically safe repeater barrier input

Stonel Prism

The Stonel Prism intelligent valve controller attaches directly to sanitary diaphragm and angle valves. It is compact, durable and suited for corrosive, heavy washdown and hazardous areas. This feature-rich platform offers a full array of network communications and switching options, as well as discrete integral pneumatic control for single-acting valve actuator operation.

More information in bulletins 7PI22, 7STWL70

Feature	Benefit
High strength polycarbonate enclosure	Corrosion resistance and exceptional temperature stability
Wireless capabilities (optional)	Reduces setup time and improves plant safety
Visual LED and mechanical indication	Highly visual switch status for confirming electrical operation
Integral pneumatic valve	Isolated from environmental contamination and offers high tolerance to dirty air and allows for rapid valve operation
Self-adjusting triggering system	Provides consistent open closed indication even with diaphragm compression with no resetting required
Non-contact continuous position sensing system	Seals all position sensing communication and control electronics in a vibration proof package
Manual override function	Enables valve function without energizing
Supports AS-interface and DeviceNet communication protocols	Provides wiring and labor savings
Heavy wash down area ready	Sealed to provide water intrusion protection and temporary submergibility
Universal voltage	May be used for standard AC or DC applications, reducing stocking requirements

Technical specifications

AS-i IO-Link DeviceNet Bluetooth

Function	Electrical	Application
30 (2) 24 VDC NO solid state sensors (1) 24 VDC: IO-Link	0.1 amp @ 18 - 30 VDC	DC computer inputs, optional Wireless Link
33 (2) SST NO switching	0.1 amp @ 125 VAC or 24 VDC	AC & DC computer inputs, optional Wireless Link
45 (2) NAMUR sensors (EN 60947-5-6)	I < 1 mA to I > 2.1 mA @ 5 - 25 VDC	Intrinsically safe repeater barrier input
80 Expeditor	4-20 mA, 9 - 30 VDC, loop power control input	Intermediate position control, optional Wireless Link
81 Expeditor	4-20 mA, 9 - 30 VDC loop power control and feedback 5 - 30 VDC discrete feedback	Intermediate position control and feedback
92 DeviceNet	2 DI & 2 DO, 1 AI auxiliary	4-wire network with 62 devices/ segment, optional Wireless Link
96 AS-Interface	2 DI & 2 DO	2-wire discrete bus network (31 devices/ network)
97 AS-Interface (extended addressing)	2 DI & 1 DO	2-wire discrete bus network (62 devices/ network), optional Wireless Link

Platform reference guide

Quarter-turn: Communication/monitoring with integral control

Platform	Hazardous ratings*	Enclosure ratings	Capabilities	Typical applications	Protocols
Axiom AN series 	• Class I & II Div 1&2 intrinsically safe • Class I & II Div 2 nonincendive • Ex ia IIC T5 intrinsically safe (Zone 0, 1, 2)	• Type 4, 4X and 6 • IP 66, IP 67, IP 69K	• Discrete monitoring • Discrete pneumatic control • Optional fieldbus technologies (VCT) • Advanced optional diagnostics • Optional wireless technology • Standard pneumatic rebreather	• ¼ turn pneumatically actuated valves	• ASi-3 & 5 • DeviceNet • Wireless Link/ Bluetooth
Axiom ANX series 	• Class I & II Div 1&2 explosionproof • Class I & II Div 1&2 intrinsically safe • Class I & II Div 2 nonincendive • Ex d IIC T6 flameproof (Zone 1, 2)	• Type 4, 4X • IP 66	• Discrete monitoring • Discrete pneumatic control • Optional fieldbus technologies (VCT) • Advanced optional diagnostics • Standard pneumatic rebreather	• ¼ turn pneumatically actuated valves	• ASi-3 & 5 • DeviceNet

Quarter-turn: Communication/monitoring

Platform	Hazardous ratings*	Enclosure ratings	Capabilities	Typical applications	Protocols
Eclipse EC series 	• Class I & II Div 1&2 intrinsically safe • Class I & II Div 2 nonincendive • Ex ia IIC T5 intrinsically safe (Zone 0, 1, 2)	• Type 4, 4X and 6 • IP 66, IP 67	• Discrete monitoring • Optional fieldbus technologies (VCT) • Optional wireless technology	• ¼ turn pneumatically actuated valves	• ASi-3, IO-Link • Wireless Link/ Bluetooth
Quartz QX/QN/ QC/QG series 	• Class I & II Div 1&2 explosionproof • Class I & II Div 1&2 intrinsically safe • Class I & II Div 2 nonincendive • Ex d/tb IIC T5 flameproof (Zone 1, 2) • Ex ia IIC T5 intrinsically safe (Zone 0, 1, 2)	• Type 4, 4X and 6 • IP 66, IP 67	• Discrete & analog monitoring • Optional fieldbus technologies (VCT) • Uses dual module system • Uses individual sensor/ switches (multiples of 2, 4 or 6) and position transmitters	• ¼ turn pneumatically actuated valves • ¼ turn manually operated valves • Positioner mounted • Linear globe, gate (Stroke lengths from ½" to 6")	• ASi-3 • DeviceNet

* Only models listed on manufacturer's official web site are approved per specific rating.

Point sensing: Monitoring

Platform	Hazardous ratings*	Enclosure ratings	Capabilities	Typical applications	Protocols
Hawkeye HK series 	• Class I & II Div 2 nonincendive • Ex ia IIC T6 intrinsically safe (Zone 0, 1, 2)	• Type 4, 4X and 6 • IP 67	• Discrete monitoring • Single switch/sensors	• Linear globe, gate (Stroke lengths from 3/8" to unlimited)	• AS-i (Specialty application with Junction module JX)
Hawkeye HX series 	• Ex d, Class I & II Div 1 (Zone 1) Explosionproof • Class I & II Div 1 intrinsically safe • Ex ia intrinsically safe (Zone 0)	• Type 4, 4X and 6 • IP 66, IP 68	• Discrete monitoring • Single switch/sensor	• Linear globe, gate (Stroke lengths from 3/8" to unlimited)	• AS-i (Specialty application with Junction module JX)

Linear: Communication/monitoring with integral control

Platform	Hazardous ratings*	Enclosure ratings	Capabilities	Typical applications	Protocols
Prism PI series 	• Class I & II Div 1&2 intrinsically safe • Class I & II Div 2 nonincendive • Ex ia intrinsically safe (Zone 0)	• Type 4, 4X and 6 • IP 66, IP 67, IP 69K	• Discrete monitoring • Communication terminal (VCT) • Discrete pneumatic control • Uses intelligent linear magnetic resistive sensor system • Wireless Link	• Linear diaphragm valves • Linear angle valves (Stroke lengths from 1/8" to 2 5/8")	• ASi-3, IO-Link • DeviceNet • Wireless Link/ Bluetooth

FieldLink process networking components

Platform	Hazardous ratings*	Enclosure ratings	Capabilities	Typical applications	Protocols
FieldBlock FN series	• Class I, Div 2 nonincendive	• Type 4, 4X	• Discrete Wiring block(s); network connections	• Wiring General purpose, nonincendive and intrinsically safe processes	• ASi-3 & 5 • DeviceNet • Profibus, Modbus
Junction module JX series	• Ex d, Class I, Division 1 and Class I, Division 2	• Type 4, 4X and 6 • IP 66, IP 67	• Discrete Wiring block(s); for extreme environments	• Environmentally extreme corrisve and hazardous process environemnts	• ASi-3 & 5 • DeviceNet
Gateways	• Class I, Div 2 nonincendive	• n/a Din Rail	• Gateway interfaces the ASi network to a master network; including ProfiBus, Modbus, Ethernet/IP	• Networks up to 62 devices on the ASi network to a master network	• ASi-3 & 5
Drop connectors	• Class I, Div 2 nonincendive	• n/a Din Rail	• Passive/protective network drop connections	• Wiring network devices and protecting devices	• ASi-3 & 5 • DeviceNet • Foundation Fieldbus • Profibus, Modbus
I/O modules	• Class I, Div 2 nonincendive	• n/a Din Rail	• Network connections for input/output/relay outputs	• Connecting conventional devices to bus networks	• ASi-3 • DeviceNet

* Only models listed on manufacturer's official web site are approved per specific rating.

Switch and sensor reference guide

Solid state switches/sensors (SST)

Platform	Function	Electrical	Application
Axiom AN **Axiom ANX** 	**35** (2) SST NO switching	0.1 amp @ 125 VAC/125 VDC; 0.1 amp @ 250 VAC/VDC	AC & DC computer inputs
	45 (2) NAMUR sensors (EN 60947-5-6)	I < 1 mA to I > 2.1 mA @ 5 - 25 VDC	Intrinsically safe repeater barrier input
Eclipse **Quartz** **Prism** 	**30** (2) 24 VDC NO solid state sensors; (1) 24 VDC output for external solenoid (Eclipse, Prism)	0.1 amp @ 18 - 30 VDC	DC computer inputs, optional Wireless Link
	33 (2) SST NO switching (Prism)	0.1 amp @ 125 VAC or 24 VDC	AC & DC computer inputs, optional Wireless Link
	34 (2) SST NC sensors (Eclipse)	0.1 amp @ 20 - 250 VAC or 20 - 250 VDC	AC & DC computer inputs
	35 (2) SST NO switching (Eclipse, Quartz)	0.1 amp @ 20 - 250 VAC or 20 - 250 VDC	AC & DC computer inputs
	45 (2) NAMUR sensors (EN 60947-5-6) (Eclipse, Quartz, Prism)	I < 1 mA to I > 2.1 mA @ 5 - 25 VDC	Intrinsically safe repeater barrier input
Hawkeye HK 	**30** (1) SST NO switching	0.1 amp @ 125 VAC or 24 VDC	AC & DC computer inputs
	40 (1) NAMUR (EN 60947-5-6)	I < 1 mA to I > 2.1 mA @ 5 - 25 VDC	Intrinsically safe repeater barrier input
	50 DC 3-wire PNP	6 - 28 VDC, 200 mA	DC computer inputs
Hawkeye HX 	**35** (1) SST NO switching	0.1 amp @ 20 - 250 VAC or 8 - 250 VDC	AC & DC computer inputs
	45 (1) NAMUR (EN 60947-5-6)	I < 1 mA to I > 2.1 mA @ 5 - 29 VDC	Intrinsically safe repeater barrier input

Valve Communication Terminals (VCTs)

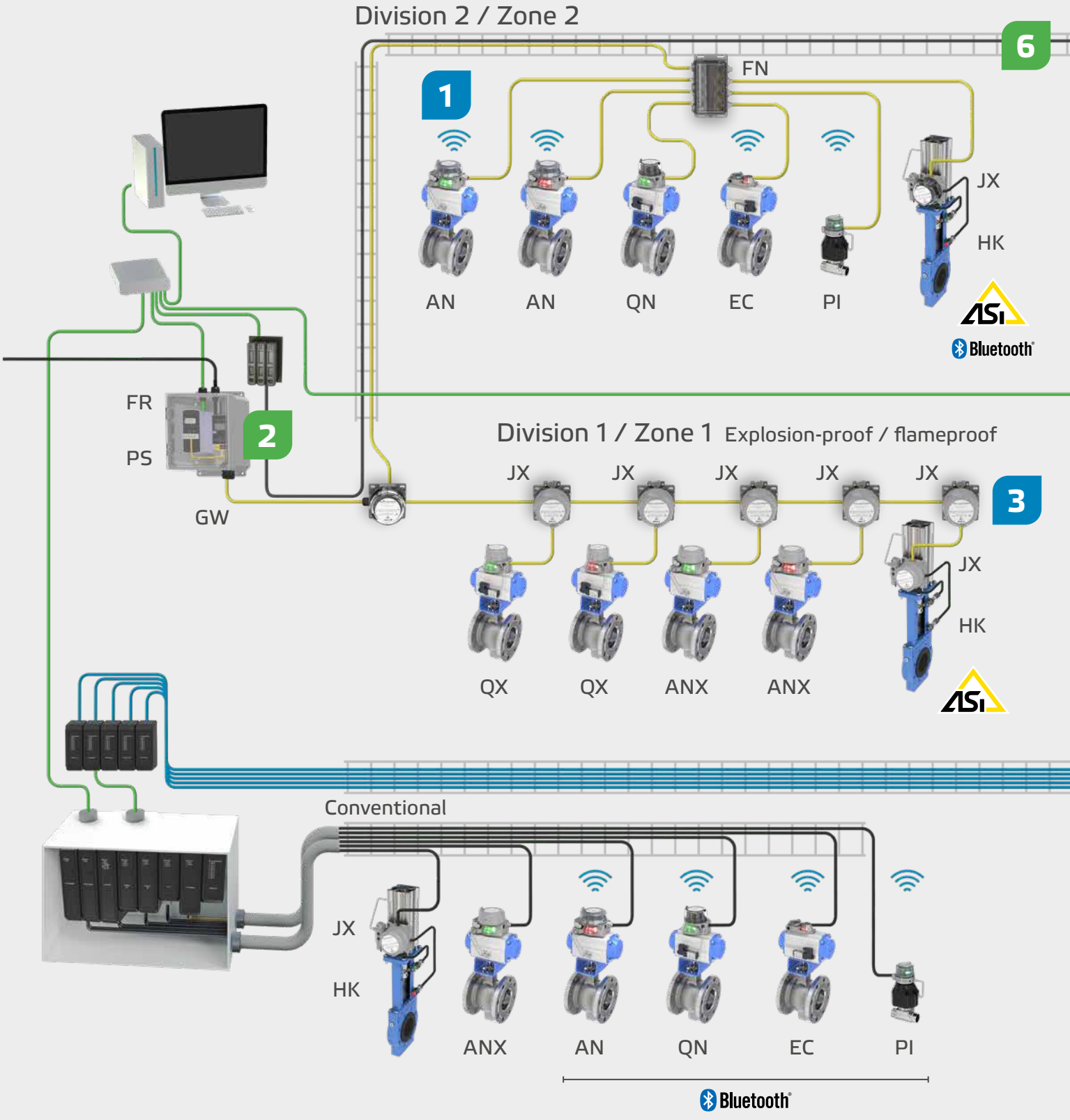
Platform	Function	Electrical	Application
Axiom AN **Axiom ANX** **Eclipse** **Quartz** **Prism**  	**30** (2) 24 VDC NO solid state sensors; (1) 24 VDC output for external solenoid (Eclipse, Prism): IO-Link*	0.1 amp @ 18 - 30 VDC	3-wire point-to-point, optional Wireless Link
	80 Expeditor (Prism)	4-20 mA, 9 - 30 VDC, loop power control input	Intermediate position control
	81 Expeditor (Prism)	4-20 mA, 9 - 30 VDC loop power control and feedback 5 - 30 VDC discrete feedback	Intermediate position control
	92 DeviceNet (Axiom, Quartz, Prism)	2 DI & 2 DO, 1 AI auxiliary	4-wire network with 62 devices/segment, optional Wireless Link (Axiom, Prism)
	96 AS-Interface (Eclipse, Quartz, Prism)	2 DI & 1 DO (Eclipse, Prism); 2 DI & 2 DO, 2 DI auxiliary (Quartz)	2-wire discrete bus network (31 devices/network), optional Wireless Link (Axiom, Prism)
	97 AS-Interface (extended addressing) (all platforms)	2 DI & 2 DO, 2 DI auxiliary (Axiom); 2 DI & 1 DO (Eclipse, Prism); 2 DI & 1 DO, 2 DI (Quartz)	2-wire discrete bus network (62 devices/network), optional Wireless Link (Axiom, Eclipse, Prism)
	98 AS-Interface (ASi-5) (Axiom)	2 DI & 2 DO, 2 DI auxiliary	2-wire discrete bus network (62 devices/network), optional Wireless Link

* also solid state

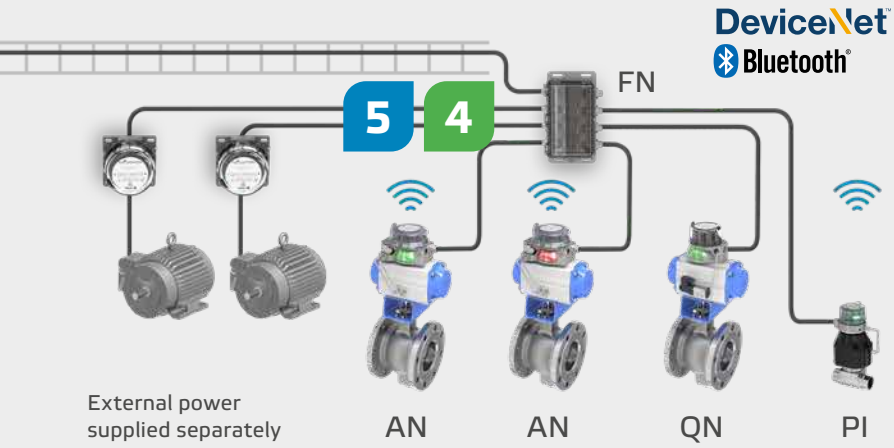
Quartz switches/sensors

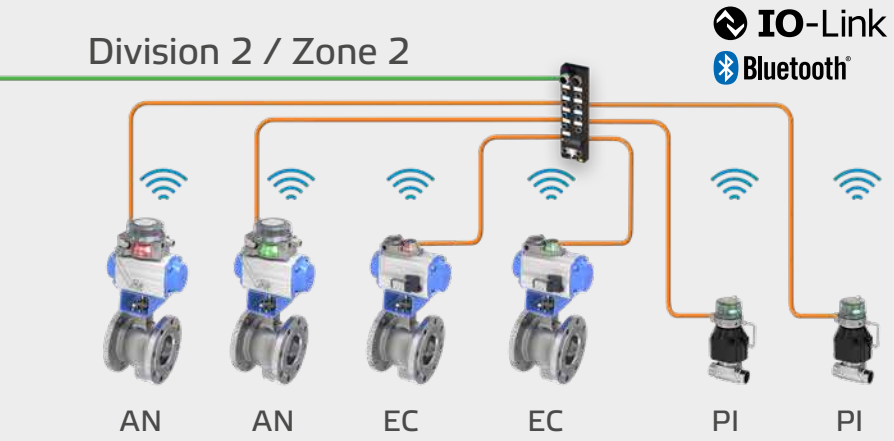
Type	Function	Electrical	Application
Maxx-Guard (hermetically sealed proximity switches) 	**G** SPDT (rhodium contacts)	0.20 amp @ 120 VAC; 0.30 amp @ 24 VDC	Computer input for AC & DC circuits
	H SPDT (tungsten contacts)	240 volts max; 3 amp max or 100 watts max; 2.0 watts min	High power switching
	J SPST passive (ruthenium contacts)	0.10 amp @ 10 - 30 VDC	Intrinsically safe passive switching input
	M SPDT; passive (rhodium contacts)	0.10 amp @ 10 - 30 VDC	Intrinsically safe passive switching input
	P SPST (ruthenium contacts)	0.15 amp @ 125 VAC/30 VDC	Computer input for AC & DC circuits
	S SPDT (LED); (rhodium contacts)	0.10 amp @ 120 VAC; 0.10 amp @ 24 VDC	Computer input for AC & DC circuits
Mechanical  	**V** SPDT silver contacts	10 amp @ 125/250 VAC; 0.5 amp @ 125 VDC	High power switching and AC computer inputs
	W SPDT gold contact	1.0 amp @ 125 VAC; 0.5 amp @ 30 VDC	AC & DC computer inputs; intrinsically safe; limited life
	14 (2) DPDT switches	4.5 amp @ 125/250 VAC	High power switching and AC computer inputs
Other sensors	**N** P+F NAMUR sensors (EN 60947-5-6) NJ2-V3-N	I<1 mA to I> 2.1 mA @ 6 - 29 VDC	Intrinsically safe repeater barrier input
	F P+F 3-wire PNP sourcing sensor NBB2-V3-E2-V5	0.10 amp @ 10 - 30 VDC	Special solid state, no leakage current
	X SST NO switching (LED)	0.10 amp @ 125 VAC or 24 VDC	AC & DC computer inputs
Position transmitter  	**5** Standard	4-20 mA @ 10 - 40 VDC	Standard analog feedback
	7 High performance	4-20 mA @ 10 - 40 VDC	Long life analog feedback with high vibration tolerance
	T Solid state (SST)	4-20 mA @ 10 - 40 VDC	Non-contact magnetic sensor with push button calibration and outstanding vibration tolerance

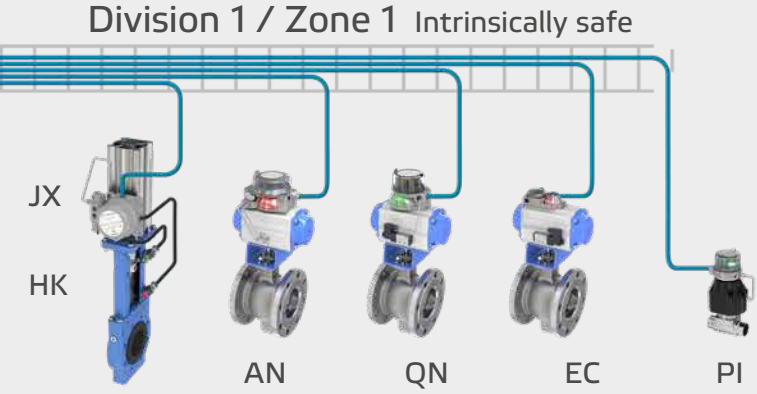
Stonel valve communications and networking solutions



Improve process performance and reduce total life cycle costs by integrating your automated valves. Stonel brand valve communication and control products, along with our networking components, enable you to take advantage of proven, field-based digital communication technologies to minimize total life cycle cost.







Protection concepts shown are for illustration purposes. Final acceptance of installation including wiring practices is subject to the authority having jurisdiction.

1. Wireless Link (secure)

Enables safe, easy local access to valve status and diagnostics (optional feature)

2. Gateways

EtherNet/IP and other networks for easy network integration

3. Disconnect switches

Enable easy maintenance in XP/Exd applications

4. Drop connectors

Make wiring networks secure and protected

5. Multidrop wiring

Saves space and installation costs

6. Bus networks

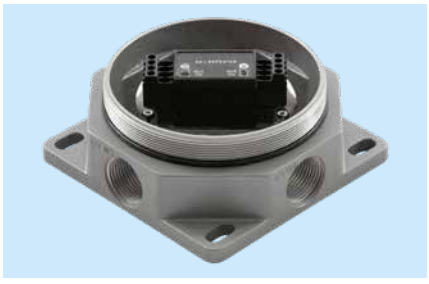
Most support XP/Exd wiring (some support Exi wiring)

Process networking

Stonel FieldLink enables you to take advantage of field-based communication technologies to cut installation and maintenance costs and utilize valve diagnostics. In thousands of applications FieldLink has demonstrated installation savings up to 40 percent, improved flexibility, and reduced infrastructure requirements.

Junction Module (JX)

JX explosionproof module is suitable for use in corrosive process environments with hard conduit or flexible wiring systems. It features external drop switching capability with explosionproof ratings for use in hazardous zone 1/Div 1 areas. In addition to drop connectors the JX also is available with I/O module, repeater, power conditioner, and many other functional capabilities.



Specialty applications

Integrated pneumatics, special sensor connectivity and other arrangements may also be configured with the JX.

Install the JX with integrated pneumatics and the Stonel Hawkeye point sensors for a clean installation and easy setup on knifegate applications.

Complementary offering

FieldBlock (FN)

The FieldBlock platform is designed to interconnect field devices to the communication network in nonincendive, intrinsically safe, and general purpose applications. It may be used for flexible and hard conduit wiring systems. With its rugged corrosion proof enclosure, variety of drop connector, and I/O module configurations it will prove invaluable in field networking applications.

Internal components also available separately.
Drop connectors and I/O modules are also available for DIN attachment or direct mounting.

Networking accessories

Drop connectors, I/O modules and other accessories used in the JX and FN are also sold separately for DIN rail or conventional attachment in other field enclosures.

Repeater/power conditioners

These components are readily available to extend or enhance your network's performance.

I/O modules

Interface conventional discrete and analog field devices into communication networks. Select from multiple configurations and protocols.

Drop connectors

Available to connect 1, 2, or 6 devices into the network with switched protected, protected, and unprotected versions for most field-based protocols.

Other networking components

Select from an array of components to complete your network

Masters/gateways

Control the network segment and may interface from one protocol to another. Many options are available with emphasis on AS-Interface to higher level networks.

Power supplies

Specially designed for process applications. Ideally suited for communication applications. Units available for hazardous nonincendive applications in the field and are short circuit protected.

Additional components

Field enclosures
Terminators and tuners
Network cable
And more . . .

FieldLink selection guide

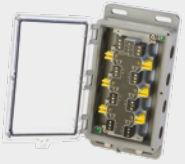
Product guide - Protocol availability

Our Stonel FieldLink offering provides an array of best in class networking products to optimize your process valve network. This guide helps identify component availability based on protocol and product type.

Protocol	Network descriptions	Masters and gateways	Power supplies
AS-Interface	AS-Interface networks up to 62 field devices onto a single pair of wires that delivers both signal and power. Widely used in process industries throughout the world, AS-Interface may be used in hazardous process environments using explosion proof, tray cable, and nonincendive protection concepts.	✓	✓
DeviceNet™	The DeviceNet protocol dramatically reduces costs by integrating up to 62 devices on a 4-wire trunk network. Communications data is carried over two wires with a second pair of wires carrying power. DeviceNet may be used in hazardous process environments using explosion proof, tray cable, and nonincendive protection concepts.		✓
FOUNDATION	FOUNDATION Fieldbus H1 level is widely used for instruments in process automation with built-in capability to distribute the control application across the network. The physical wiring is compatible with intrinsic safety (IS) or nonincendive wiring standards and may be used in hazardous, as well as general purpose areas.		✓
PROFIBUS	Profibus has become a worldwide standard because of its performance attributes. Profinet is Profibus over Ethernet, Profibus-DP (Distributed Peripherals) uses the RS485 physical layer while Profibus-PA (Process Automation) uses the IEC 61158-2 physical layer designed primarily for process applications.		✓
MODBUS	Modbus is widely used for interfacing remote I/O and PLCs into legacy process DCS /PLC systems. Because of this strong history, most legacy control systems interface conveniently with the Modbus standard.		✓

Enclosure guide

Select from a variety of enclosures that protect components from the process environment. Match the components with the appropriate enclosure using the chart below.

Enclosure	Enclosure descriptions	Masters and gateways	Power supplies
	**FieldBlock** Use in general purpose, nonincendive and intrinsically safe process applications with flexible or hard conduit wiring systems.		
	**Junction Module** Use in corrosive process environments with hard conduit or flexible wiring systems.		

Product guide - Protocol availability





Input/output modules	Drop connectors	Power conditioners and repeaters	Cabling	Accessories (Tuners, Terminators, Hand-helds etc.)	Accessories (Commissioning kits and software)
✓	✓	✓	✓	✓	✓
✓	✓	✓			✓
	✓				
	✓				
	✓				

Enclosure guide

Input/output modules	Input/output modules	Drop connectors	Special models	Type
✓	✓			• Nonincendive equipment • Type 4, 4x, and 6
✓	✓	✓	✓	• Explosionproof and nonincendive equipment • Type 4, 4x, and 6

Communication networks

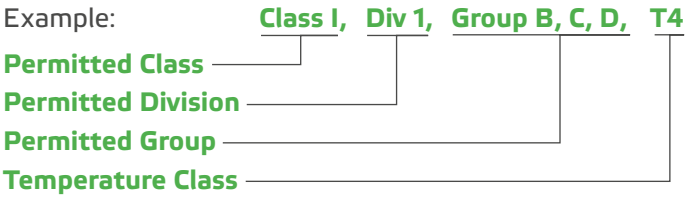
	AS-Interface (ver. 3 and 5)	DeviceNet	Foundation Fieldbus	Profibus-DP
				
Topology	Not limited	Trunk/drop with branching	Trunk with branching or chicken foot	Trunk/drop
Max distance (Voltage drop may further limit distance)	100 m (328 ft) 300 m (984 ft) with 2 repeaters Additional distance with multiple parallel repeaters. Tuners and terminators available for special extensions.	500 m @ 125 Kbit/s 250 m @ 250 Kbit/s 100 m @ 500 Kbit/s [Based on thick cable. Max spur length 6 m; cumulative spur length 156 m/125 Kb, 78 m/250 Kb, 39 m/500 Kb]	1900 m (6200 ft) 120 m spur5 Using FISCO 1000 m [Max spur length 2-12 devices 120 m, 13-14 devices 90 m, 15-16 devices 60 m]	1200 m @ 94 Kb/s 400 m @ 500 Kb/s 100 m @ 12 Mb/s
Max # devices	31 62 with extended addressing	62	32 theoretical [16 practical maximum]	32 up to 126
Cabling	Unshielded untwisted pair	(2) 2-wire with shield (5-wire bundle)	Shielded twisted pair	Shielded twisted pair
Max power delivery	Current: up to 8 amps Voltage range: 26.5 to 31.6 VDC	Current: up to 8 amps Voltage range: 11 to 25 VDC	Current: up to 500 mA Voltage range: 9 to 32 VDC	Current: up to 8 amps Voltage range: 11 to 25 VDC [Power supplied on separate wire pair from communication signal.]
Hazardous area wiring	Explosionproof and nonincendive devices; conduit, tray cabling and nonincendive wiring	Explosionproof and nonincendive devices; conduit and tray cabling	IS, explosionproof and nonincendive devices; conduit, IS, tray cabling and nonincendive wiring	Explosionproof and nonincendive devices; conduit and tray cabling
Data transfer size	4 bits	1 byte variable up to 8 bytes	2 bytes discrete 5 bytes analog variable	1 byte variable, up to 244 bytes
Bus access method	Cyclic polling	Selectable: cyclic polling, change of state and more (device specific)	Publisher-subscriber method with data transfer. Token passing client-server for calibration and diagnostics.	Token passing for multi-master, cyclic polling for data to master; acyclic for diagnostic and calibration
Transmission rate	167 Kbit/s	125 Kbit/s | 250 Kbit/s | 500 Kbit/s	31.25 Kbit/s | (IEC 61158-2)	9.6 Kbit/s to 12 Mbit/s
Approximate cycle time	3 ms | Varies with # of devices and times scanned [3 I/O per device with 16 devices]	9 ms | 6 ms | 3 ms [3 I/O per device with 16 devices using cyclic polling]	1 second [3 I/O per device with 16 devices assuming use of 50% of macrocycle]	0.5 ms @ 12 Mb/s [3 I/O per device with 16 devices using cyclic polling]
Special features	Analog available with 2.1 version masters with multi-scan 3.0 version offers diagnostic and data transfer capabilities.	EDS file used for device parameters and rapid start-up	Function blocks used for process control may be distributed into field devices. Time stamping of data optimizes control.	GSD file used for device parameters
Strengths	• Low cost • Easy to install • Easy to support • Fast • Supports high power • Flexible topology	• Interfaces to A-B • Flexible implementation • Flexible data capabilities • Supports high power • ODVA marketing	• Long length • Well supported • Convenient user objects • Extensive diagnostics • Capable of being IS	• Long length • Very fast • Well supported in Europe and North America
Weaknesses	• Short bus length • Limited data/node	• 4-20 mA instrumentation not widely available	• Moderate speed • Expensive field devices • Limited bus power	• Must have auxiliary power
Optimal applications	Use for discrete I/O where low cost and simplicity are important. May readily interface with most PLC, DCS systems. Gateways conveniently to high level protocols.	Use for discrete I/O into Allen Bradley PLCs. Also may be desirable for motor control applications.	Use for analog I/O in process or discrete I/O over long distance. Use for IS analog & discrete I/O. Supported by many process instrument manufacturers throughout the world.	Use for high speed analog and discrete I/O and for variable speed drives. Supported by European manufacturers. Ideal for high speed AS-i gateway applications.

	Profibus-PA	Modbus	IO-Link	Ethernet
				Ethernet-APL **Profinet** **Ethernet/IP**
Topology	Trunk with branching or chicken foot	Trunk/drop	Star (point-to-point from master to device)	Star (point-to-point switch/ router to device) Ring (DLR)
Max distance (Voltage drop may further limit distance)	1900 m (6200 ft) 120 m spur Using FISCO 1000 m	1200 m (4000 ft)	20 m max per drop	100 m max per drop APL: 200 m max per spur APL: 1000 m max per trunk
Max # devices	32	32	1 per connection port : typically 8 ports per gateway	100 m max between switches/ routers 1000 m max APL trunk between field switches
Cabling	Shielded twisted pair	Shielded twisted pair	3 or 5 conductor unshielded cable	Shielded twisted multiconductor
Max power delivery	Current: up to 500 mA Voltage range: 9 to 32 VDC	Current: up to 87 amps Voltage range: 11 to 25 VDC	Current: 3.5 A (combined all 8 ports) Voltage range: 18 to 30 VDC	Separate power source is normally used POE: can supply 90 W per device APL: 2 conductor Ethernet with power
Hazardous area wiring	Intrinsically Safe (IS), explosionproof and nonincendive devices; conduit, IS, tray cabling and nonincendive wiring	Explosionproof and nonincendive devices; conduit and tray cabling	Explosionproof and nonincendive devices; conduit and tray cabling	Explosionproof and nonincendive devices; conduit and tray cabling APL: 2 conductor Ethernet with power capable of I.S.
Data transfer size	1 byte variable, up to 244 bytes	1 byte variable (RTU mode)	Up to 32 bytes	64-1518 bytes or more
Bus access method	Transparent to Profibus-DP w/ coupler. Cyclic polling for data & acyclic for diagnostics & calibration with link master.	Synchronous and asynchronous poll and response	Master slave	Protocol dependent. Typically producer - consumers for cyclic data
Transmission rate	31.25 Kbit/s (IEC 61158-2)	9 Kbit/s to 56 Kbit/s	4.8 Kbit/s to 230 Kbit/s	10 Mbs / 100 Mbs / 1000 Mbs
Approximate cycle time	100 ms [3 I/O per device with 16 devices using cyclic polling]	75 ms @ 38.4 Kbit/s [3 I/O per device with 16 devices using synchronous polling]	18 ms (4.8 kB) 2.3 ms (38.4 Kb), 0.4 ms (230 kB)	<1 ms possible
Special features	Couples directly to DP in transparent manner (DP limited to 45 Kbit/sec) or links to DP as a slave/master to PA	—	IODD file used for device parameters, events, and special features	Prototcol options include: EtherCAT, EtherNet/IP, PROFINET, POWERLINK, SERCOS III, CC-Link IE, and Modbus TCP, OPC UA, Webserver
Strengths	• Long length • Well supported in Europe • Capable of being IS	• Easy to install • Easy to support • Long length • Widely used on existing DCS systems	• Easy to install • Easy to support • Easy device replace / parameterization • Widely supported on PLC/DCS systems	• Very fast • Large data volume • Moderate lengths • Widely supported on PLC/ DCS systems • Capable of being I.S.
Weaknesses	• Moderate speed • Limited bus power • Connected to control system via Profibus-DP	• Moderate speed • Must have auxiliary power	• Higher installed cost than conventional • Not a bus network, point-to-point • Connectors generally required • Limited Haz Loc gateways and devices	• Not really a bus network, point-to-point • Connectors generally used • Must have auxiliary power, POE injector, or APL
Optimal applications	Use for analog I/O in process or discrete I/O over long distance. Use for IS analog and discrete I/O. Supported by many European instrument manufacturers.	Use for field devices with discrete and analog I/O over long distances. Common legacy bus used with AS-i gateways.	Use for complex discrete field devices. Strong support in Factory Automation	Use for complex field devices with discrete and analog I/O over long distances.

Hazardous area descriptions

National Electrical Code (NEC) 500

Traditional standards used in North America.



Permitted Class

Class I: gas vapors
Class II: dusts
Class III: fibers

Permitted Division

Division 1: gasses or vapors exist under normal conditions
Division 2: gasses or vapors are present but are normally contained and can escape only through accident or abnormal operation

Permitted Group

Group A: acetylene
Group B: hydrogen or equivalents
Group C: ethyl ether, ethylene or cylclopropane
Group D: gasoline, hexane, naphtha, benzene, butane, propane, alcohol, acetone, benzol, lacquer, and natural gas
Group E: metal dust
Group F: carbon black
Group G: flour, starch, grain dusts

Temperature Class*

T1: 450°C (842°F)
T2: 300°C (572°F)
T3: 200°C (392°F)
T4: 135°C (275°F)
T5: 100°C (212°F)
T6: 85°C (185°F)

*Device may be exposed to gases whose ignition temperature is higher than this value

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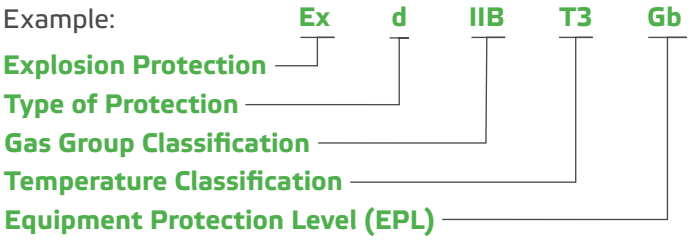
IEC & EU (European) Standards

The IEC (International Electrotechnical Commission) markings are as follows:



Type of Protection

d: flameproof enclosure - contain explosion and quench flame
p: pressurized enclosure - fill with inert gas
ia: intrinsically safe for Zone 0 - limit energy
ib: Intrinsically safe for Zone 1 - limit energy
o: oil immersion
s: special protection
e: increased safety - no arcing, sparking or hot surfaces
m: encapsulation - sealed arcing devices or non-arcing
q: sand-filled
nL: nonincendive - limited energy
nA: nonincendive - non sparking
t: dust explosion protection by enclosure

Gas Group Classification

IIC: acetylene and hydrogen
IIB: diethel ether, ethylene, cyclopropane and others
IIA: gasoline, hexane, butane, naphtha propane, isoprene and many others

Temperature Classification*

T1: 450°C (842°F)
T2: 300°C (572°F)
T3: 200°C (392°F)
T4: 135°C (275°F)
T5: 100°C (212°F)
T6: 85°C (185°F)

*Device may be exposed to gases whose ignition temperature is higher than this value

Equipment Protection Level (EPL)

		Applicable Zone
Gas	Ga:	0
	Gb:	1
	Gc:	2
Dust	Da:	20
	Db:	21
	Dc:	22

Hazardous area descriptions

ATEX Directive 2014/34/EU

All equipment exported into European member countries must meet the ATEX hazardous and essential health and safety requirements for acceptance.

Example: II 1 G

European Community Explosion Protection Symbol

Equipment Group

Category

Explosive Atmosphere

Equipment Group

I: mines
II: other than mines

Category

1: Zone 0
2: Zone 1
3: Zone 2

The ATEX markings are in addition to the standard Zone markings and indicate compliance to the directives.

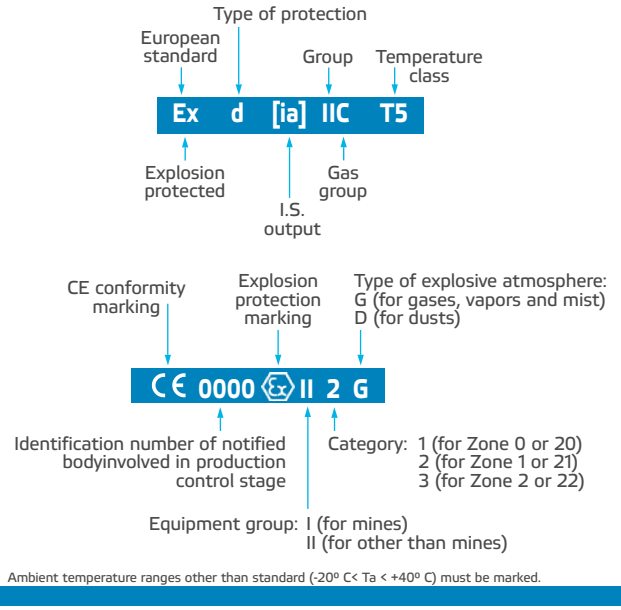
Explosive Atmosphere

G: gases/vapors
D: dusts

Other hazardous area information

European Union

EU (directive 2014/34/EU) - ATEX



Ambient temperature ranges other than standard (-20º C< Ta < +40º C) must be marked.

Area Classification

	Flammable Material Present Continuously	Flammable Material Present Intermittently	Flammable Material Present Abnormally
IEC/EU	Zone 0	Zone1	Zone 2
US NEC® 505	Zone 0	Zone1	Zone 2
NEC® 500	Division 1		Division 2
CA CEC Section 18	Zone 0	Zone1	Zone 2
CEC Annex J	Division 1		Division 2

IEC classification per IEC 60079-10
EU classification per EN 60079-10
US classification per ANSI/NFPA 70 National Electric Code® (NEC®) Article 500 or Article 505
CA Classification per CSA C22.1 Canadian Electrical Code (CEC) Section 18 or Annex J

Enclosure standards and protection concepts

NEMA enclosure type standards

NEMA (National Electrical Manufacturers' Association) has established standards for enclosures to provide protection from environmental contamination. A description of the more common standards is listed below. Type definitions are from NEMA 250-1997.

For more detailed and complete information, NEMA Standards Publication 250-1997, "Enclosures for electrical equipment (1000 Volts Maximum)" should be consulted. This Standards Publication, as well as all other NEMA publications, is available from IHS at 1-800-854-7179.

Comparison of specific applications of enclosures for outdoor nonhazardous locations

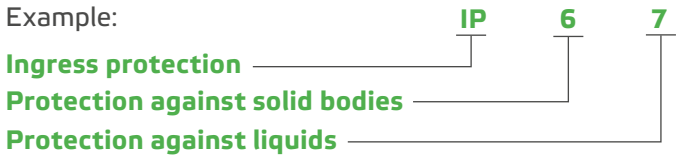
	NEMA enclosure type guide						
Provides a degree of protection against the following environmental conditions	3	3R*	3S	4	4X	6	6P
Incidental contact with the enclosed equipment	X	X	X	X	X	X	X
Rain, snow, and sleet**	X	X	X	X	X	X	X
Sleet***	...	...	X	...	...	...	...
Windblown dust lint, fibers, and flyings	X	...	X	X	X	X	X
Hosedown	...	...	...	X	X	X	X
Corrosive agents	...	...	...	...	X	...	X
Occasional temporary submersion	...	...	...	...	...	X	X
Occasional prolonged submersion	...	...	...	...	...	...	X

* These enclosures may be ventilated.
** External operating mechanisms are not required to be operable when the enclosure is ice covered.
*** External operating mechanisms are operable when the enclosure is ice covered.

IEC enclosure standards

The International Electrotechnical Commission has established enclosure standards for protection from environmental contamination as shown below. These standards are used widely in Europe, the Middle East, Africa and parts of Asia.

Example:



Protection against solid bodies

0: no special protection
1: protected against solid objects greater than 50 mm
2: protected against solid objects greater than 12 mm
3: protected against solid objects greater than 2.5 mm
4: protected against solid objects greater than 1 mm
5: dust protected
6: dust-tight

Protection against liquids

0: no special protection
1: protected against vertical falling water drops
2: protected against vertical falling water drops when enclosure is tilted at 15°
3: protected against sprayed water
4: protected against splashing water
5: protected against water jets
6: protected against heavy seas
7: protected from the effects of temporary immersion
8: protected from the effects of continuous immersion
9: protected against high pressure and temperature water jets
9K: protected against high pressure/steam jet cleaning

Chemical compatibility

The chemical compatibility reference guide has been developed to assist you in selecting the best Stonel products and material options for your applications. While this chart should assist you in selecting compatible materials, it is not a substitute for careful testing of a specific product in your operating environment. For additional assistance please contact Stonel technical support.

Key

A No effect (recommended)
B Moderate effect
U Severe effect (not recommended)
FC Fusion coating recommended on polycarbonate
--- No test data or experience available

Chemical	Aluminum	Polycarbonate	Stainless Steel	Epoxy	Polysulfone
Acetic acid	A	B	A	B	A
Acetone	A	FC	A	U	B
Acetylene	A	--	A	A	--
Alcohol, amyl-	B	FC	A	A	A
Alcohol, butyl-	B	FC	A	A	A
Alcohol, ethyl-	B	FC	B	A	B
Ammonia, liquid	A	--	A	A	A
Ammonium hydroxide	B	FC	B	A	B
Beer	A	A	A	A	A
Benzene	B	FC	A	B	U
Boric acid	B	A	B	A	U
Brine	U	B	B	--	A
Bromine	U	FC	U	U	U
Calcium carbonate	U	--	B	A	--
Calcium chloride	B	A	B	A	A
Carbon tetrachloride	U	FC	B	A	A
Chlorine	B	FC	B	--	U
Chromic acid	U	B	U	B	U
Citric acid	U	B	A	A	A
Creosote	B	FC	B	--	--
Ethyl chloride	--	--	A	A	U
Ethylene	A	--	A	--	A
Ethylene oxide	U	--	B	A	A
Fluorine	B	--	A	U	U
Freon (and other similar refrigerant)	B	--	A	A	B
Gasoline	A	FC	A	A	B
Heptane and hexane	A	B	A	A	A
Hydrochloric acid, 10%	U	A[1]	U	A	A
Hydrogen (gas)	A	--	A	--	--
Hydrogen peroxide	A	A	B	B	A
Hydrogen sulfide	B	A	A	A	--
Isopropyl ether	A	A	A	U	A
Jet fuel (JP 4,5,6)	A	--	A	A	B
Kerosene	A	--	A	A	B

Chemical	Aluminum	Polycarbonate	Stainless Steel	Epoxy	Polysulfone
Methane	A	--	B	--	--
Methyl chloride	U	FC	A	A	U
Methyl ethyl ketone	B	FC	A	B	U
Methylene chloride	B	FC	A	A	U
Naptha	A	FC	B	A	A
Natural gas	A	--	A	--	--
Nickel chloride	U	FC	B	A	--
Nitric acid (10%)	B	A	A	A	A
Nitric acid (80%)	U	B	B	U	U
Nitrous oxide	U	--	B	--	--
Oils (animal)	A	B	A	A	--
Oil (diesel)	A	A	A	A	A
Oil (mineral)	A	B	A	A	A
Phosphoric acid (85%)(air free)	U	B	U	B	A
Potassium chloride	U	A	B	A	A
Potassium hydroxide (10%)	U	FC	A	A	A
Potassium hydroxide (70%)	U	FC	A	A	A
Potassium phosphate	U	---	A	--	--
Propane (LP gas)	A	A	B	A	B
Soaps and detergents	B	B	A	A	A
Sodium chloride	B	A	B	A	A
Sodium hydroxide (10%) (caustic soda)	U	B	A	A	A
Sodium hydroxide (50%) (caustic soda)	U	FC	B	A	A
Sodium phosphate (monobasic)	U	--	A	A	--
Sulfur dioxide	B	B	A	A	B
Sulfuric acid (7-40%)	U	A	U	A	A
Tannic acid	B	B	B	A	A
Toluol and toluene	A	FC	A	B	U
Turpentine	B	B	B	B	B
Urea	B	A	B	--	B
Vinyl Chloride	B	--	B	--	--
Water, salt	U	--	B	A	A

[1] Temperatures less than 30º C

Stonel Wireless Link capabilities

Easily access hard-to-reach automated valves

Discover convenient remote access of your automated valves when you install Stonel field devices featuring *Bluetooth*® technology. Devices may be remotely accessed from up to 50 meters depending on obstructions. Setting changes and solenoid control are enabled through the DeviceNet or AS-Interface network or by the AS-Interface power supply jumper.

Special features

- Improve safety by easily controlling hard-to-reach automated valves without putting plant personnel at risk.
- Look up factory preset module code and serial number remotely.
- Electronically enter and store key automated valve system information including user tag and maintenance log.
- Reduce network commissioning time by accessing the VCT address to make changes.
- Reduce maintenance time by monitoring valve cycle count, cycle times, storing maintenance logs, and accessing multiple valves from one location.
- Conveniently retrieve installation manuals for additional technical information when connected to internet.

Operating information

Customize the tag for a device, change the address, force the solenoids on or off, wink the device, and set the valve limits.

Diagnostic data

Store and view additional information about a specific valve, real time valve position, cycle count, cycle timing, current valve temperature, error status, and more.

Advanced configuration

Apply fail safe settings, cycle count alarms, stroke time thresholds, and more.

Interfacing devices

Compatible with Android and iOS devices.

Download on the App Store | GET IT ON Google Play

Stonel Wireless Link User guide is available

1. By selecting the Menu option in the app
2. At https://www.valmet.com/flowcontrol/stonel-wireless-link-user-guide and
3. By scanning this QR code

Set up and operation

Units with the wireless function are commissioned and set up identically to a standard unit. In addition, when powered up with a conventional power source or by the network, it may be accessed by standard Android or iOS devices. The device is accessed with the Bluetooth® protocol using the Stonel Wireless Link application.

Sequence of operation is:

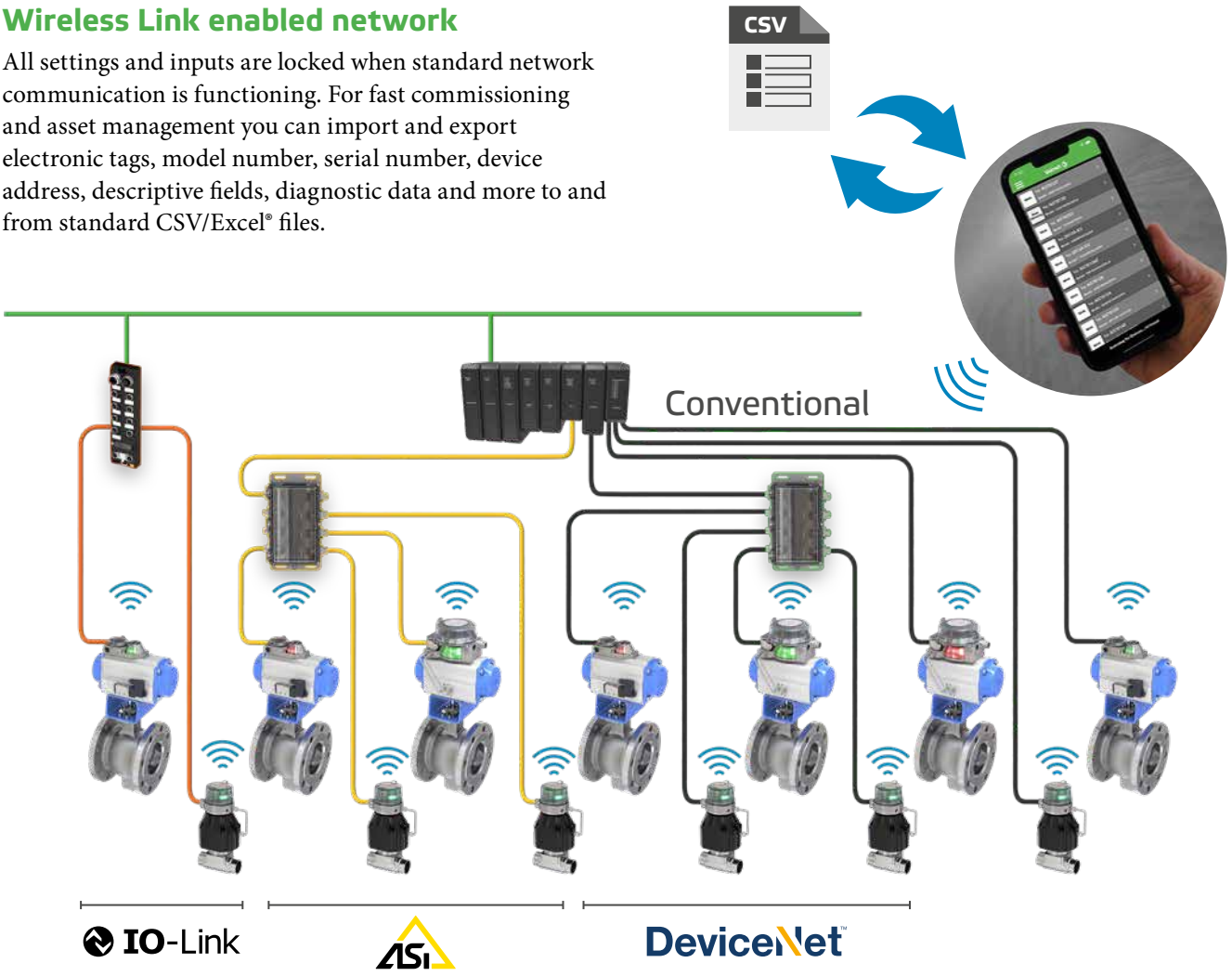
1. Download the Stonel application onto your device (free of charge)
2. Start the application in your device
3. All energized wireless modules in range will come up
4. Push wink to positively confirm the device you have linked (device LEDs will flash)
5. Touch the specific ID tag to link with your handheld.

You can then monitor all status and diagnostic information and make necessary information changes to the free form fields at any time. Switch settings, address changes, and solenoid operation may be performed only if network- or power supply-enabled. Other information may also be added to the free form fields.

Specifications for Wireless Link	
Applies to Axiom, Eclipse and Prism units with "W" in the model code	
Communication	Bluetooth® technology; single mode (not compatible with Bluetooth Classic)
Transmit power	4dBm or ~2.5 milliwatts
Data rate	1 Mbit/second; effective information transmit rate ~10 Kbits/second
Range	Up to 100 meters (330 feet) in free space. Range is reduced by obstructions between hand-held device and Wireless Link VCT. Line of site is not necessary.
Registrations	FCC, IC, CE
CE compliance	Exceeds industrial compliance standards
VCT identification	VCTs in range will be displayed
VCT link	One device accessed at a time between client (hand-held device) and server (VCT). Each server accessed by one client at a time
Application	Stonel Wireless Link available from the App store
Hand-helds	Compatible with Android and iOS devices.

Wireless Link enabled network

All settings and inputs are locked when standard network communication is functioning. For fast commissioning and asset management you can import and export electronic tags, model number, serial number, device address, descriptive fields, diagnostic data and more to and from standard CSV/Excel® files.



Valmet's professionals around the world work close to our customers and are committed to moving our customers' performance forward – every day.

Valmet Flow Control Oy
Vanha Porvoontie 229
01380 Vantaa, Finland
flowcontrol@valmet.com
+358 10 417 5000
valmet.com/flowcontrol

Valmet Flow Control Inc.
26271 US Hwy 59
Fergus Falls, MN 56537, USA
sales.stonel@valmet.com
+1 218 739 5774

For more information,
valmet.com/flowcontrol/stonel