

Quartz

Explosionproof valve monitoring

The Quartz is available in explosionproof (QX), nonincendive, intrinsically safe (QN), 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. A broad range of switching, position transmitter and communication options may be selected to accommodate most applications.

This versatile platform adapts to a wide variety of valve systems. Attach the Quartz to quarter-turn actuators, manual operators, linear operators and positioners using readily available stainless steel mounting systems.

The Quartz series

The Stonel Quartz series is durable, corrosion resistant, and versatile, making it ideal for most of your process valve monitoring requirements.

Enclosures optimized for environment



QX: Explosionproof, water tight and corrosion-resistant enclosure is approved for use in Div. 1/Zone 1 hazardous areas.



QN: Nonincendive is approved for Div. 2/Zone 2 hazardous environments with proximity sensors using a clear cover. Intrinsically safe Namur sensors or passive switches are available for Div. 1/Zone 0 applications.



QG: General purpose features a clear Lexan cover with mechanical switches. All enclosures are rated NEMA 4, 4x, and 6.

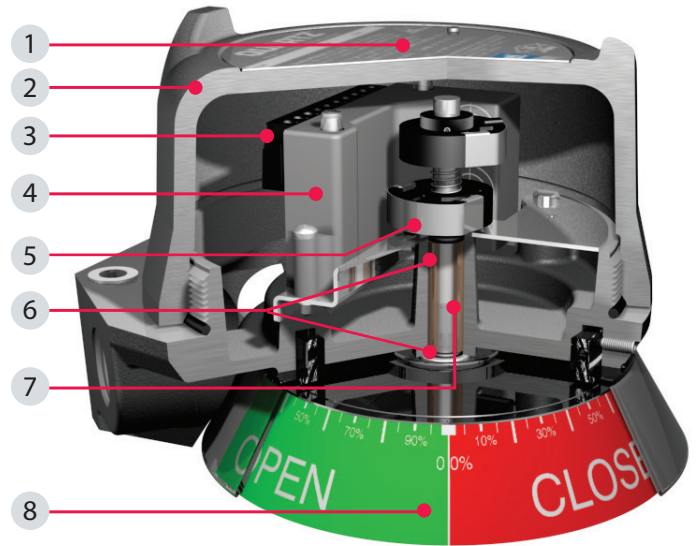
Save space with low profile design

Clearance above the actuator is critical in complex piping systems. Quartz boldly displays valve position and encloses all electrical components in an explosionproof compartment with less than 5" clearance requirement.



Features

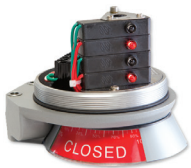
- 1. Enclosures optimized for environment**
Available in three enclosure styles suitable for use in various process environment areas.
- 2. Rapid enclosure access**
Screw-on cover allows quick enclosure access, saving you valuable maintenance and set-up time. The cover provides a vapor tight seal and allows entry to internal components in less than five seconds.
- 3. Faster wiring**
Pre-wired and labeled terminal strip enables quick, convenient attachment of field wires.
- 4. Wide variety of switching & communication**
Switching options include dual module sensors and communication, Maxx-Guard proximity switches, and mechanical switches. Continuous signal output is available in a 4 to 20 mA position transmitter.
- 5. Quick set cams are easy to adjust**
Touch and tune switch settings allow you to make adjustments in seconds without the use of tools.
- 6. Dual shaft o-ring seals eliminate corrosion**
Top inner and bottom outer shaft o-rings seal the drive bushing from both external corrosives and internal contaminants that enter the enclosure.



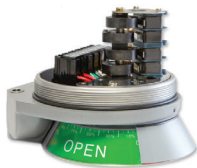
- 7. Special drive bushing assures long cycle life**
The oil impregnated bronze bushing maintains smooth operation and eliminates the potential for shaft seizure due to actuator shaft eccentricity.
- 8. Space saving visual indication**
Visual indicator offers excellent viewability without sacrificing accessibility or adding to space requirements. Indicators are also available with continuous percentage or three-way indication. (See page 31)

Wide variety of switch/sensor functions

A wide variety of switch/sensor communications and position transmitters may be selected for the Quartz series. Options include 2, 4 or 6 mechanical or proximity switches, position transmitters with or without switches, and the Stonel dual module with two SST or two Namur sensors or AS-Interface, DeviceNet or Foundation Fieldbus communication capabilities.



Proximity switches



Mechanical switches

Speed installation with LED indication

Stonel's coordinated visual indicator and LEDs give you an extra measure of safety and increased convenience during plant start-up and operation. Green visual indication and green LED means the valve is open and the computer circuit is properly operating. Red visual indication and red LED means the valve is closed and the computer is properly matched. All systems are functioning properly.



Eliminate seal fittings in Division 1 and 2 areas

FMus ratings certify the Quartz QX series with proximity switches for use without seal fittings in all hazardous areas. By passing special pressure piling tests, the all aluminum enclosure was certified for this elite distinction. Now, a time-consuming procedure can be safely eliminated in Division 1 and Division 2 areas.

Consolidate your components and minimize costs

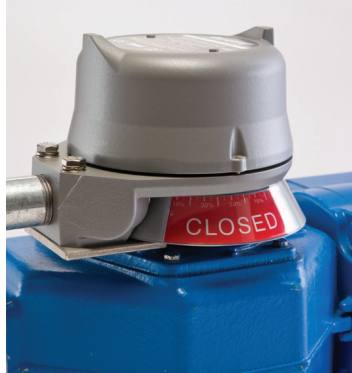
The Quartz design offers up to three conduit entries with extra wire terminations. By terminating solenoid valves in the switch enclosure, significant savings are realized by eliminating a junction box, wiring, conduit materials, and labor.



Mounting kits

Quarter-turn actuators

Low profile convenient mounting systems are readily available in stainless steel for most non-Namur and Namur (VDI/VDE 3845) actuators.



Manual valves

Proper fit and operation is assured with StoneL's custom designs for each manual valve. Hundreds of unique mounting systems have been designed and fabricated for manually operated valves.



Positioners

Quartz position transmitter and switches may be retrofitted directly to most positioners. 4 to 20 feedback may be provided on simple pneumatic positioners.



Linear operators

Precision ball joint connections attach the Quartz to valve travel stems. Stroke lengths ranging from 20 mm to 150 mm (3/4" to 6") may be easily accommodated.



Quartz Expeditor

Fill control applications

Fill tanks and hoppers rapidly and accurately. The Quartz Expeditor's field adjustable intermediate position reduces flow as the full level approaches. You get fast, economical "topping off" of every batch.

Flow dampening applications

The Quartz Expeditor allows fast closure yet gentle, gradual shut-off from a preset intermediate position. You get prolonged piping life, improved process flow performance, and less potential for catastrophic failure.

Emergency Shut Down (ESD) applications

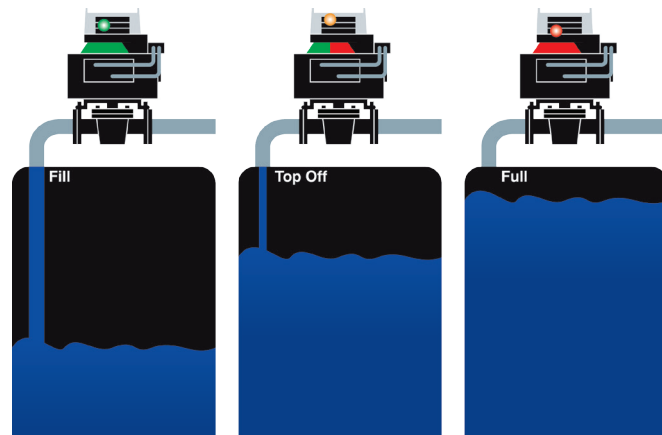
Test your ESD valves by actuating them to a preset intermediate position that does not shut down the process. Reduce costs and increase safety by eliminating several cumbersome manual operations.



Communication enabled Expeditor (82, 86)

Improve process performance and take advantage of incredible cost savings by utilizing proven bus networking technology with the communication-enabled Expeditor. The Expeditor functions are available in the Quartz with either AS-Interface or DeviceNet protocols. An additional switch

and cam are integrated into the VCT which may be set to a pre-determined intermediate position enabling fill control, flow dampening or ESD capabilities. Please specify the "82" or "86" for DeviceNet or AS-Interface Expeditor respectively.

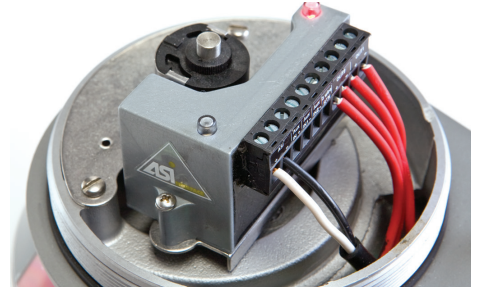


The Quartz Expeditor enables three position control of on/off valves in combination with two standard solenoid valves.

Sensors and communications

Dual module system

The Quartz series is available with the dual module in its various configurations. Two solid state sensors and/or communications and other electronics are sealed in for the ultimate in reliability and convenience. All dual module versions have a five year warranty.



Switching and sensor specifications

SST switching sensors (33)

Configuration	(2) SST solid state sensors Wire terminations for one or two solenoids
Operation	NO/NC (cam selectable)
Maximum current inrush	2.0 amps @ 125 VAC/VDC
Maximum current continuous	0.3 amps @ 125 VAC/VDC
Minimum on current	2.0 mA
Maximum leakage current	0.5 mA
Voltage range	8 to 125 VDC 24 to 125 VAC
Maximum voltage drop	6.5 volts @ 10 mA 7.0 volts @ 100 mA

Namur sensors (44)

Configuration	(2) Namur sensors (EN 60947-5-6) Wire terminations for one or two solenoids
Voltage range	6 to 29 VDC
Current ratings	Target on I<1 mA Target off I>3 mA

Valve Communication Terminal (VCT) specifications

AS-Interface (96)

Configuration	(2) discrete sensor inputs (2) auxiliary discrete inputs (2) power outputs (solenoids)
Maximum current	160 mA, both outputs combined
Auxiliary inputs	24 VDC @ 2 mA (self-powered)
Output	4 watts @ 24 VDC both outputs combined
Outputs, voltage	21 to 26 VDC
Configuration code	F4; user defined 4 in/2 out
AS-i version	3.0
Devices per network	31

AS-Interface VCT with extended addressing (97)

Configuration	(2) discrete sensor inputs (2) auxiliary discrete inputs (1) power output (solenoid)
Maximum current	100mA
Auxiliary inputs	24 VDC @ 2 mA (self-powered)
Output	2 watts @ 24 VDC
Output, voltage	21 to 26 VDC
Configuration code	A4; user defined 4 in/1 out
AS-i version	3.0
Devices per network	62

Sensors and communications continued

Valve Communication Terminal (VCT) specifications

Foundation Fieldbus VCT, Bus Powered (93)

Configuration	(2) Discrete Inputs, DI (open and closed) (2) Discrete Outputs, DO (piezo valves) Multiple DI/DO blocks or modified output block
Outputs	2 mA @ 6.5 VDC each; current limited to 2 mA (bus powered)
Devices per network	Max of 16 devices recommended

The diagram shows a terminal block with 12 pins. The top two pins are labeled FB+ and FB-. The next four pins are labeled OUT1+, OUT1-, OUT2+, and OUT2-. The bottom four pins are labeled SIM JMPR and SIM JMPR. Two piezo valve symbols are connected to the OUT1+ and OUT1- pins, and another two piezo valve symbols are connected to the OUT2+ and OUT2- pins.

Valve Communication Terminal (VCT) specifications

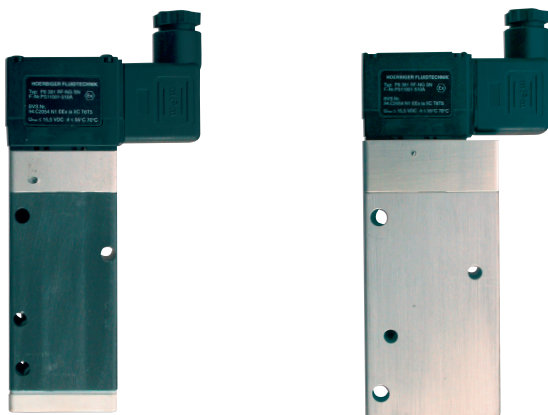
Foundation Fieldbus VCT, externally powered (94)

Configuration	(2) Discrete Inputs, DI (open and closed) (2) Discrete Outputs, DO (solenoids) Multiple DI/DO blocks or modified output block
Outputs	4 watts @ 24 VDC both outputs combined; (externally powered)
Devices per network	Max of 16 devices recommended

The diagram shows a terminal block with 12 pins. The top two pins are labeled FB+ and FB-. The next four pins are labeled 24VDC IN+, 24VDC IN-, OUT1+, and OUT1-. The bottom four pins are labeled OUT2+, OUT2-, SIM JMPR, and SIM JMPR. Two solenoid valve symbols are connected to the OUT1+ and OUT1- pins, and another two solenoid valve symbols are connected to the OUT2+ and OUT2- pins.

Piezo ultra low power valve for use with (93) bus powered Foundation Fieldbus

Use either the 0.5 Cv or the 1.3 Cv Namur mount pneumatic valve with StoneL Foundation Fieldbus bus powered VCTs. These are ultra low power valves that use piezo technology to actuate, utilizing less than 2 mA @ 6.5 VDC to operate either device. Both of these 5-way 2-position, spring return pneumatic valves are designed to meet the Namur standards for actuator pad mount solenoid valves.



Piezo specifications

0.5 Cv and 1.3 Cv models

Configuration	Piezo operated 5-way spool valve, 2-position, spring return
Operating pressure	36 to 120 psi (2.5 to 7.5 bar)
Media	Dried/filtered air (30 micron)
Operating life	1 million cycles
Operating temperature	-10° to 60°C (14° to 140°F)
DC coil power	2 mA @ 6.5 VDC
Operating voltage	5.5 to 9 VDC
Mounting	2 screws (M5) per Namur standards
Connection	Plug to DIN 43650B
Electrical protection	Ex ia IIC T6

Namur mount 0.5Cv (ST443015)

Flow rating	Cv - 0.5 (Kv - 7.1)
Manifold porting	G 1/4" (BSP)
Exhaust porting	G 1/4" (BSP)

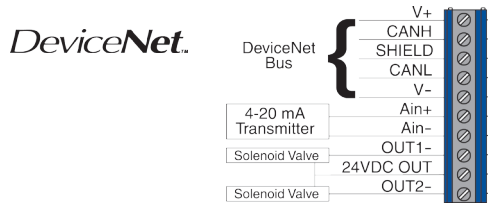
Namur mount 1.3Cv (ST443016)

Flow rating	Cv - 1.3 (Kv - 18.5)
Manifold porting	G 1/4" (BSP)
Exhaust porting	G 1/4" (BSP)

The schematic diagram shows a 5-way spool valve. Port 1 is the inlet, port 2 is the outlet, port 3 is the exhaust, port 4 is the manifold, and port 5 is the exhaust. The diagram shows the valve in its 2-position, spring return state.

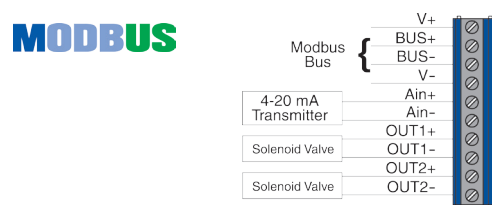
Valve Communication Terminal (VCT) specifications

DeviceNet (92)	
Configuration	(2) discrete inputs (open and closed) (2) power outputs (solenoids) (1) 4-20 mA auxiliary analog input, 10-bit resolution; no additional power source required
Transmission rate	Software selectable 125K, 250K or 500K baud
Messaging	Polling, cyclic and change of state
Outputs	4 watts @ 24 VDC both outputs combined
Outputs, voltage	24 VDC (with input voltage ranging from 10 to 24 VDC)
Other features	Predetermined output fail state



Valve Communication Terminal (VCT) specifications

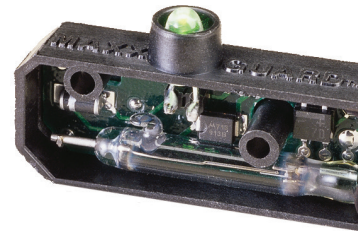
Modbus (95)	
Configuration	(2) discrete inputs (open and closed) (2) power outputs (solenoids) (1) 4-20 mA auxiliary input, 10-bit resolution
Analog input impedance	250 Ω
Outputs	4 watts @ 24 VDC both outputs combined
Outputs, voltage	24 VDC (with input voltage ranging from 10 to 24 VDC)
Transmission rate	Software selectable for 9.6, 19.6 or 38.4 kbits/sec
Transmission mode	RTU (Remote Terminal Unit)
Other features	Predetermined output fail state



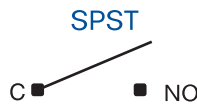
Sensors, switches and transmitter

Maxx-Guard proximity switch

Maxx-Guard hermetically-sealed switches are suitable for computer input circuits and general purpose applications. SPDT tungsten contacts are designed for 125 VAC computer inputs and 240 VAC moderate power applications. SPDT rhodium contacts are suitable for both 24 VDC and 120 VAC computer inputs. SPST ruthenium contacts are ideal for either 24 VDC or 125 VAC low power computer inputs.



Maxx-Guard proximity switch Single-Pole Single-Throw (SPST)	
J switch	
Configuration	SPST; passive (intrinsically safe)
Electrical ratings	0.15 amp @ 30 VDC
Maximum voltage drop	0.1 volts @ 10 mA 0.5 volts @ 100 mA
Contact composition	Ruthenium
P switch	
Configuration	SPST
Electrical ratings	0.15 amp @ 30 VDC/125 VAC
Maximum voltage drop	0.1 volts @ 10 mA 0.5 volts @ 100 mA
Contact composition	Ruthenium



Specifications	
Temperature range	-40° C to 80° C (-40° F to 176° F)
Seal	Hermetically-sealed
Operating life	5 million cycles
Warranty	Two years


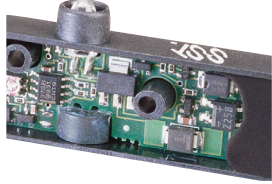
Maxx-Guard proximity switch Single-Pole Double-Throw (SPDT)	
G switch	
Configuration	SPDT
Electrical ratings	0.30 amp @ 24 VDC 0.2 amp @ 120 VAC
Maximum voltage drop	0.1 volts @ 10 mA 0.5 volts @ 100 mA
Contact composition	Rhodium
H switch	
Configuration	SPDT
Electrical ratings	240 VAC max; 3 amp max 100 watts max; 2.0 watts min
Maximum voltage drop	0.1 volts @ 10 mA 0.5 volts @ 100 mA
Contact composition	Tungsten
M switch	
Configuration	SPDT; passive (intrinsically safe)
Electrical ratings	0.15 amp @ 24VDC
Maximum voltage drop	0.1 volts @ 10 mA 0.5 volts @ 100 mA
Contact composition	Rhodium
S switch	
Configuration	SPDT (LED)
Electrical ratings	0.30 amp @ 24 VDC 0.2 amp @ 120 VAC
Maximum voltage drop	3.5 volts @ 10 mA 6.5 volts @ 100 mA
Contact composition	Rhodium



SST switching sensor

Solid state SST proximity sensors are ideal for use in AC and DC computer input circuits.

SST switching sensors (X)	
Operation	NO/NC (cam selectable)
Maximum current	
Inrush	2.0 amps @ 125 VAC/VDC
Continuous	0.3 amps @ 125 VAC/VDC
Minimum on current	2.0 mA
Leakage current	Less than 0.50 mA
Voltage range	8 to 125 VDC 24 to 125 VAC
Maximum voltage drop	6.5 volts @ 10 mA 7.0 volts @ 100 mA
Operating life	Unlimited
Warranty	Five years

4 to 20 mA position transmitter

Position transmitters provide a precise 4 to 20 mA signal on a two-wire DC loop. Control valves and dampers are accurately monitored through their range of travel offering assurance of exact valve position at all times. Select a standard potentiometer or a vibration proof, high-performance potentiometer on your position transmitter.

Position transmitter (5, 7)	
Output	Two-wire 4 to 20 mA
Supply source	10-40 VDC
Span range*	35° to 270° (adjustable)
Maximum loading	700 ohms @ 24 VDC
Linearity error	
Standard (5)	+/-0.85° maximum
High performance (7)	+/-0.35°
Cycle life	
Standard (5)	2 million rotations
High performance (7)	50 million rotations
Vibration tolerance	
Standard (5)	Acceptable
High performance (7)	Outstanding

*Please consult factory for higher spans.





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Mechanical switch (SPDT)

Low cost single-pole double-throw mechanical switches with silver contacts are recommended for high power 125 VAC applications. Gold contacts may be used in 24 VDC computer input applications.

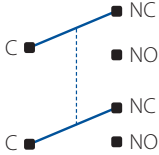

Mechanical switch (SPDT)	
Silver contacts (V switch)	
Electrical ratings	10 amp @ 125/250 VAC 0.5 amp @ 125 VDC
Operating life	400,000 cycles
Not recommended for electrical circuits operating at less than 20 mA @ 24 VDC.	
Gold contacts (W switch)	
Electrical ratings	1 amp @ 125 VAC 0.5 amp @ 30 VDC
Operating life	100,000 cycles

Mechanical switch (DPDT)

Double-pole double-throw mechanical switches enable two electrical circuits to be activated simultaneously. Each switch circuit is electrically isolated from the other. As with standard silver contacts, DPDT switches are designed to operate in high-power applications.

Mechanical switch (DPDT)	
14 switch	
Electrical ratings	4.5 amp @ 125/250 VAC
Operating life	250,000 cycles
Not recommended for electrical circuits operating at less than 20 mA @ 24 VDC.	

Model selector - Dual modules and VCTs

SERIES	
QX	Explosionproof (aluminum cover)
FUNCTION	
Sensor/switching modules (proximity type)	
33	SST N.O. switching sensor dual module
44	NAMUR (EN 60947-5-6; I.S.)
Valve Communication Terminals (VCTs)	
92	DeviceNet
93	Foundation Fieldbus (bus powered; I.S.)
94	Foundation Fieldbus (externally powered)
95	Modbus
96	AS-Interface
97	AS-Interface (with extended addressing)
Expeditors	
82	DeviceNet
86	AS-Interface
ENCLOSURE	
E	North American
R	International
F	Brazilian
<i>All QX models have epoxy-coated anodized aluminum housing and cover.</i>	
CONDUIT ENTRIES	
02	(1) 3/4" NPT & (1) 1/2" NPT
03	(1) (1) 3/4" NPT & (2) 1/2" NPT
05	(2) M20
06	(3) M20
VISUAL INDICATION**	
SRA	Red closed/green open
SGA	Green closed/red open
S1A	T-1 three-way flow path
S2A	T-2 three-way flow path
S3A	T-3 three-way flow path
S4A	T-4 three-way flow path
S5A	T-5 three-way flow path
S0A	No indication
SXA	Special
SCA	Continuous

MODEL NUMBER	Partnership ID*
Mounting hardware required and sold separately.	*Some models may include 5-digit suffix for partnership identification.
Model number example: QX 33 E 02 SRA	(optional)

Model selector - Proximity switches

SERIES	
QX	Explosionproof (aluminum cover)
FUNCTION	
Sensors	
2G	(2) SPDT Maxx-Guard (low current)
2H	(2) SPDT Maxx-Guard (3 amp)
2P	(2) SPST Maxx-Guard
2S	(2) SPDT Maxx-Guard (LED)
4G	(4) SPDT Maxx-Guard (low current)
4H	(4) SPDT Maxx-Guard (3 amp)
4P	(4) SPST Maxx-Guard
4S	(4) SPDT Maxx-Guard (LED)
4X	(4) SST sensor (LED)
Expeditors	
8H	Expeditor with (3) SPDT Maxx-Guard (3 amp)
8Y	Expeditor with (3) switches
ENCLOSURE	
E	North American
R	International
F	Brazilian
<i>All QX models have epoxy-coated anodized aluminum housing and cover.</i>	
CONDUIT ENTRIES	
02	(1) 3/4" NPT & (1) 1/2" NPT
03	(1) (1) 3/4" NPT & (2) 1/2" NPT
05	(2) M20
06	(3) M20
VISUAL INDICATION**	
SRA	Red closed/green open
SGA	Green closed/red open
S1A	T-1 three-way flow path
S2A	T-2 three-way flow path
S3A	T-3 three-way flow path
S4A	T-4 three-way flow path
S5A	T-5 three-way flow path
S0A	No indication
SXA	Special
SCA	Continuous

MODEL NUMBER	Partnership ID*
Mounting hardware required and sold separately.	*Some models may include 5-digit suffix for partnership identification.
Model number example: QX 2G E 02 SRA	(optional)

** See visual indication designations chart on page 31.

Model selector - Mechanical switches and transmitters

SERIES

QX Explosionproof (aluminum cover)

FUNCTION

Mechanical switches

- 2V (2) SPDT switches
- 2W (2) SPDT switches, gold contact
- 4V (4) SPDT switches
- 4W (4) SPDT switches, gold contact
- 14 (2) DPDT switches

Position transmitters

- 5O Standard with no switches
- 5G Standard with (2) SPDT Maxx-Guard (low current)
- 5V Standard with (2) SPDT mechanical switches
- 5W Standard with (2) SPDT mechanical switches, gold contact
- 5X Standard with (2) SST sensor (LED)
- 7O High performance with no switches
- 7G High performance with (2) SPDT Maxx-Guard (low current)
- 7X High performance with (2) SST sensors (LED)

ENCLOSURE

- E North American
- R International
- F Brazilian

All QX models have epoxy-coated anodized aluminum housing and cover.

CONDUIT ENTRIES

- 02 (1) 3/4" NPT & (1) 1/2" NPT
- 03 (1) 1 3/4" NPT & (2) 1/2" NPT
- 05 (2) M20
- 06 (3) M20

VISUAL INDICATION**

- SRA Red closed/green open
- SGA Green closed/red open
- S1A T-1 three-way flow path
- S2A T-2 three-way flow path
- S3A T-3 three-way flow path
- S4A T-4 three-way flow path
- S5A T-5 three-way flow path
- S0A No indication
- SXA Special
- SCA Continuous

MODEL NUMBER

Mounting hardware required and sold separately.

Model number example:

QX 2V E 02 SRA

Partnership ID*

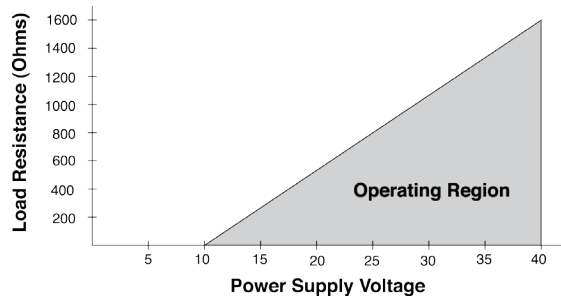
*Some models may include 5-digit suffix for partnership identification.

(optional)

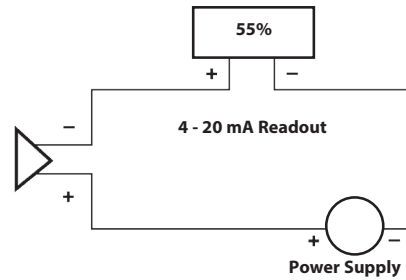
** See visual indication designations chart on page 31.

Position transmitter

Load curve



Electrical schematic



Model selector - Dual modules and VCTs

SERIES	
QN	Nonincendive and intrinsically safe
FUNCTION	
Sensor/switching modules (proximity type)	
33	SST N.O. switching sensor
44	NAMUR (EN 60947-5-6; I.S.)
Valve Communication Terminals (VCTs)	
92	DeviceNet
93	Foundation Fieldbus (bus powered; I.S.)
94	Foundation Fieldbus (externally powered)
95	Modbus
96	AS-Interface
97	AS-Interface (with extended addressing)
Expeditors	
82	DeviceNet
86	AS-Interface
ENCLOSURE	
Clear Cover	
C	North American
D	International
Aluminum cover (not explosionproof)	
E	North American
R	International
F	Brazilian
CONDUIT ENTRIES	
02	(1) 3/4" NPT & (1) 1/2" NPT
03	(1) (1) 3/4" NPT & (2) 1/2" NPT
05	(2) M20
06	(3) M20
VISUAL INDICATION**	
SRA	Red closed/green open
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S1A	T-1 three-way flow path
S2A	T-2 three-way flow path
S3A	T-3 three-way flow path
S4A	T-4 three-way flow path
S5A	T-5 three-way flow path
S0A	No indication
SXA	Special
SCA	Continuous

MODEL NUMBER

Mounting hardware required and sold separately.

Model number example:

QN 33 C 02 SRA

Partnership ID*

*Some models may include 5-digit suffix for partnership identification.

(optional)

** See visual indication designations chart on page 31.

Model selector - Proximity switches and transmitters

SERIES	
QN	Nonincendive and intrinsically safe
FUNCTION	
Sensors	
2G	(2) SPDT Maxx-Guard (low current)
2H	(2) SPDT Maxx-Guard (3 amp)
2P	(2) SPST Maxx-Guard
2S	(2) SPDT Maxx-Guard (LED)
4G	(4) SPDT Maxx-Guard (low current)
4H	(4) SPDT Maxx-Guard (3 amp)
4P	(4) SPST Maxx-Guard
4S	(4) SPDT Maxx-Guard (LED)
4X	(4) SST sensor (LED)
Intrinsically safe	
2J	(2) SPST (passive)
2M	(2) SPDT (passive)
2N	(2) P+F NAMUR sensors
4N	(4) P+F NAMUR sensors
4J	(4) SPST (passive)
4M	(4) SPDT (passive)
Position transmitters	
50	Standard with no switches
5G	Standard with (2) SPDT Maxx-Guard (low current)
5X	Standard with (2) SST sensor (LED)
70	High performance with no switches
7G	High performance with (2) SPDT Maxx-Guard (low current)
7X	High performance with (2) SST sensors (LED)
Expeditors	
8H	Expeditor with (3) SPDT Maxx-Guard (3 amp)
8Y	Expeditor with (3) switches
ENCLOSURE	
Clear Cover	
C	North American
D	International
Aluminum cover (not explosion proof)	
E	North American
R	International
F	Brazilian
CONDUIT ENTRIES	
02	(1) 3/4" NPT & (1) 1/2" NPT
03	(1) (1) 3/4" NPT & (2) 1/2" NPT
05	(2) M20
06	(3) M20
VISUAL INDICATION**	
SRA	Red closed/green open
SGA	Green closed/red open
S1A	T-1 three-way flow path
S2A	T-2 three-way flow path
S3A	T-3 three-way flow path
S4A	T-4 three-way flow path
S5A	T-5 three-way flow path
S0A	No indication
SXA	Special
SCA	Continuous

MODEL NUMBER

Mounting hardware required and sold separately.

Model number example:

QN 2G C 02 SRA

Partnership ID*

*Some models may include 5-digit suffix for partnership identification.

(optional)

Model Selector - Mechanical switches

SERIES

QG General purpose (clear cover)

FUNCTION

Mechanical switches

- 2V (2) SPDT switches
- 2W (2) SPDT switches, gold contact
- 4V (4) SPDT switches
- 4W (4) SPDT switches, gold contact
- 14 (2) DPDT switches

ENCLOSURE

C General purpose, universal
All QG models have clear Lexan® cover and anodized aluminum housing.

CONDUIT ENTRIES

- 02 (1) 3/4" NPT & (1) 1/2" NPT
- 03 (1) (1) 3/4" NPT & (2) 1/2" NPT
- 05 (2) M20
- 06 (3) M20

VISUAL INDICATION**

- SRA Red closed/green open
- SGA Green closed/red open
- S1A T-1 three-way flow path
- S2A T-2 three-way flow path
- S3A T-3 three-way flow path
- S4A T-4 three-way flow path
- SSA T-5 three-way flow path
- SOA No indication
- SXA Special
- SCA Continuous

MODEL NUMBER

Mounting hardware required and sold separately.

Model number example:

QG 2V C 02 SRA

Partnership ID*

*Some models may include 5-digit suffix for partnership identification.

(optional)

** See visual indication designations chart on page 31.

Specifications

Materials of construction

Housing & aluminum cover	Epoxy-coated anodized marine grade aluminum
Clear cover & indicator	Lexan® polycarbonate
Elastomer seals	Buna-N; optional EPDM
Drive shaft	Stainless steel
Drive bushing	Bronze, oil impregnated
Fasteners	Stainless steel

Temperature ratings

Mechanical components	-40° C to 80° C (-40° F to 176° F)
Dual modules	-40° C to 80° C (-40° F to 176° F)
Maxx-Guard & SST	-40° C to 80° C (-40° F to 176° F)

Warranty

Mechanical components	Two years
SST & dual modules	Five years

Lexan® is a registered trademark of General Electric Corporation.

Ratings

Explosion proof <i>(Ex d, Zone 1 or Class I and II, Div. 1)</i>	QX models*
Nonincendive <i>(Class I and II, Div. 2)</i>	QN models*
Intrinsically safe <i>(Ex ia, Zone 0 or Class I and II, Div. 1)</i>	Functions 44, 93, _A, _J, _M and _N*

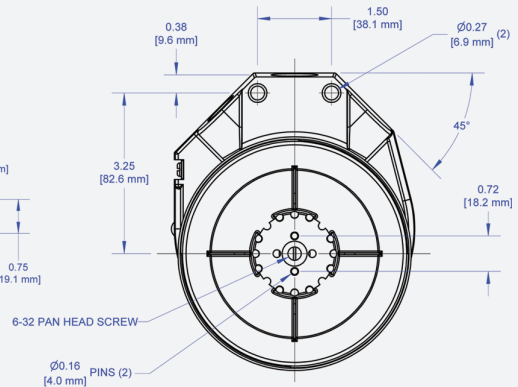
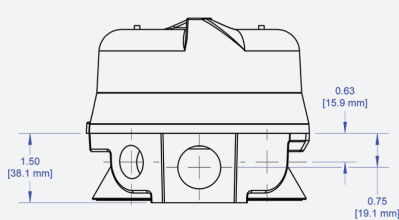
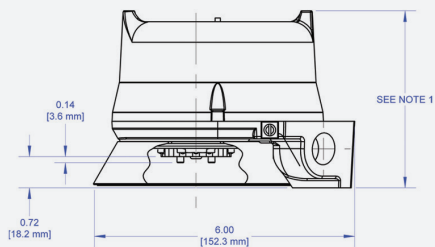
Enclosure protection

NEMA 4, 4X and 6	All models
Ingress Protection 67	All models

Approvals*

See StoneL.com/approvals
 * Only models listed on StoneL's official web site are approved per specific rating.

Dimensions inches [mm]



NOTE 1:

- Cover height varies based on model number.
- Dual module and 2-switch models use short covers.
- * Short Cover = 4.0" [102mm]
- * Medium Cover = 4.86" [123.4mm]
- * Tall Cover = 6.12" [155.4mm]