

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, and optional stainless steel version, makes this platform extremely durable and well-suited for use in corrosive, heavy washdown environments.

Options may be selected to accommodate most applications.

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. Available options include stainless steel and epoxy-coated anodized aluminum.



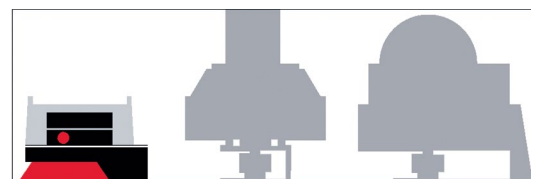
QN: Nonincendive is approved for Div. 2/Zone 2 hazardous environments with proximity sensors using a clear cover. Intrinsically safe NAMUR sensors or passive switches are available for Div. 1/Zone 0 applications.



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 vaportight 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

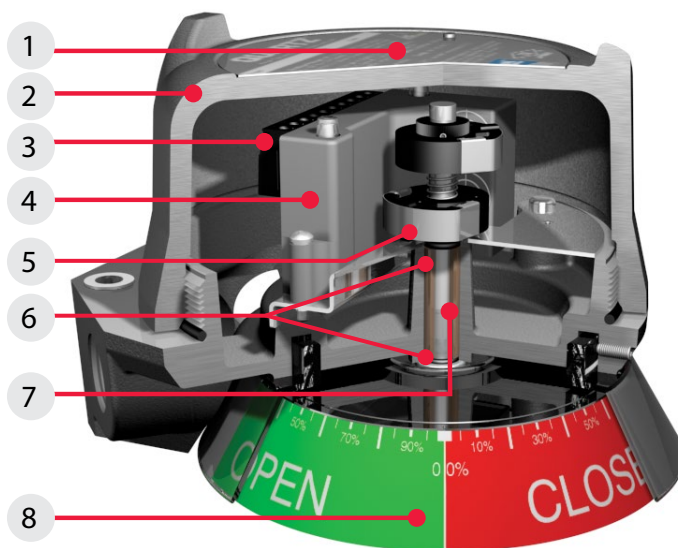
Switching options include dual module sensors and communication, Maxx-Guard proximity switches, and mechanical switches. Continuous signal output is available in a 4 to 20 mA position transmitter.

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 49)

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.



Quartz Stainless Steel option



For the most challenging environments

The explosionproof Quartz for process valve monitoring is available with a 316 stainless steel enclosure that is extremely durable and well-suited for use in corrosive, heavy washdown and high seas environments. A broad range of switching, position transmitters and communication options may be selected to accommodate most applications. You can attach the Quartz to quarter-turn actuators, manual operators, linear operators, and positioners using readily available stainless steel mounting systems.



Available in short, medium and tall cover versions.

Quartz Expeditor



Enables automated on/off valves to be used for flow dampening, fill control and partial stroke testing applications. In combination with two solenoid valves, the intermediate switch may be used to stop the on/off valve in mid-stroke. This option is also available with DeviceNet (82) and AS-Interface (86) protocols.



DeviceNet

Mounting kits

All StoneL kits are stainless steel. Kits can also be ordered 316 stainless steel available. For all 316 mounting kits consult StoneL.

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.



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

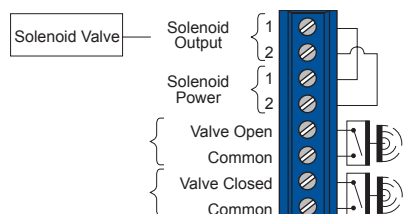
SST switching sensors (33)

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

Wiring diagram

(33)

SST



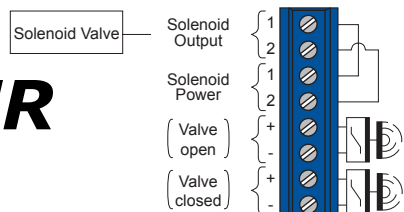
NAMUR sensors (44)

Configuration	(2) NAMUR sensors (EN 60947-5-6; I.S.) Wire terminations for one or two solenoids
Operation	Normally closed NAMUR sensors (solid state)
Voltage range	5 to 25 VDC
Current ratings	Target on <1 mA Target off >3 mA

Wiring diagram

(44)

NAMUR



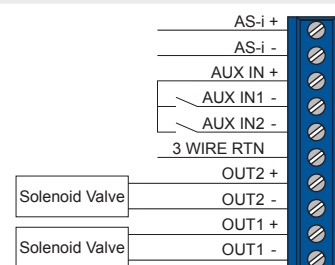
Valve Communication Terminal (VCT) specifications

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	ID=F, IO=4; user defined (4DI/2DO)
AS-i version	3.0
Devices per network	31

Wiring diagram

(96)

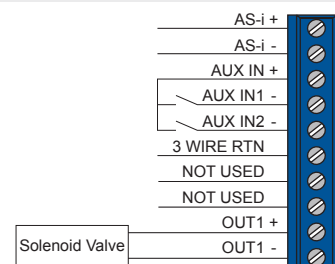


AS-Interface VCT with extended addressing (97)

Configuration	(2) Discrete sensor inputs (2) Auxiliary discrete inputs (1) Power output (solenoid)
Maximum current	100 mA
Auxiliary inputs	24 VDC @ 2 mA (self-powered)
Output	2 watts @ 24 VDC
Output, voltage	21 to 26 VDC
Configuration code	ID=A, IO=4; user defined (4DI/1DO)
AS-i version	3.0
Devices per network	62

Wiring diagram

(97)



Sensors and communications continued

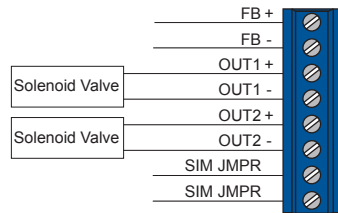
Valve Communication Terminal (VCT) specifications

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

Wiring diagram

(93)



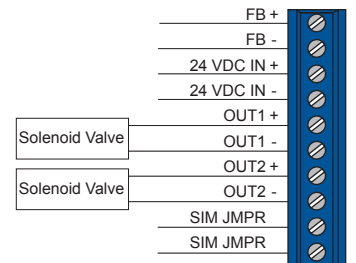
Valve Communication Terminal (VCT) specifications

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

Wiring diagram

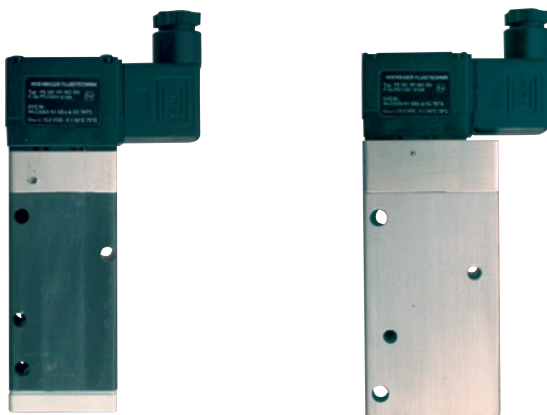
(94)



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 five-way two-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

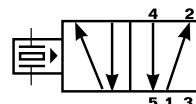
Configuration	Piezo operated 5-way spool valve, 2-position, spring return
Operating pressure	36 to 120 psi (2.5 to 7.5 bar)
Media	Dried/filtered air (30 micron)
Operating life	1 million cycles
Operating temperature	-10° to 60°C (14° to 140°F)
DC coil power	2 mA @ 6.5 VDC
Operating voltage	5.5 to 9 VDC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

NAMUR mount 0.5 Cv (ST443015)

Flow rating	Cv - 0.5 (Kv - 7.1)
Manifold porting	G 1/8" (BSP)
Exhaust porting	G 1/8" (BSP)

NAMUR mount 1.3 Cv (ST443016)

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



Sensors and communications

Valve Communication Terminal (VCT) specifications

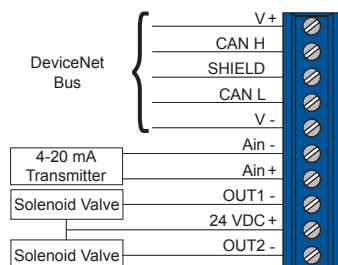
DeviceNet (92)

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 outputs combined
Outputs, voltage	24 VDC (with input voltage ranging from 10 to 24 VDC)
Other features	Predetermined output fail state

Wiring diagram

(92)

DeviceNet



Valve Communication Terminal (VCT) specifications

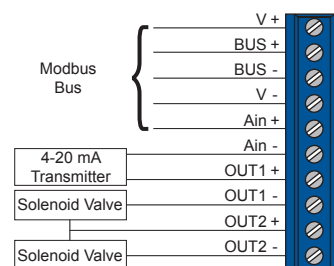
Modbus (95)

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

Wiring diagram

(95)

MODBUS



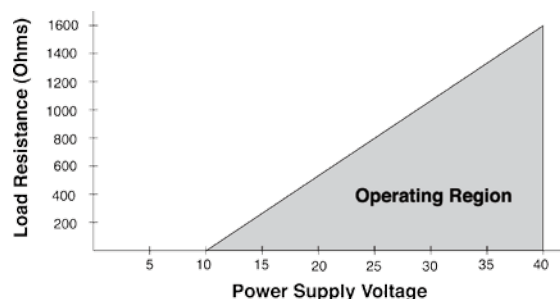
Position transmitter

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.



Load curve



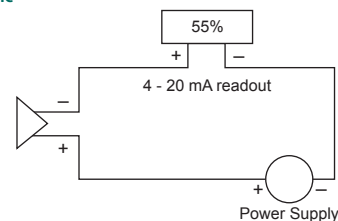
Position transmitter specifications

Position transmitter (5_, 7_)

Output	2-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.

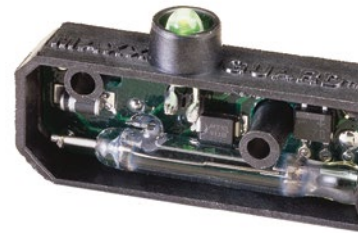
Electrical schematic



Sensors and switches

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.



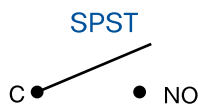
Maxx-Guard proximity switch Single-Pole Single-Throw (SPST)

J switch

Configuration	SPST; passive (intrinsically safe)
Electrical ratings	0.10 amp @ 10 to 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	0.10 amp @ 10 to 30 VDC
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



Sensors and switches

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 when cycle life does not exceed 100,000 operations.

Mechanical switch (SPDT)

Silver contacts (_V switch)

Electrical ratings 10 amp @ 125/250 VAC
0.5 amp @ 125 VDC

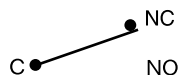
Operating life 400,000 cycles

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.

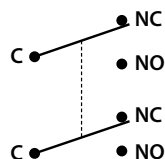
Mechanical switch (DPDT)

14 switch

Electrical ratings 4.5 amp @ 125/250 VAC, 24 to 125 VDC

Operating life 250,000 (VAC), 100,000 (VDC) cycles

Not recommended for electrical circuits operating at less than 20 mA @ 24 VDC.



SST switching sensor

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

SST switching sensors

_X switch

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

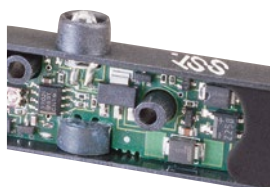
Leakage current Less than 0.50 mA

Voltage range 8 to 125 VDC
24 to 125 VAC

Maximum voltage drop 6.5 volts @ 10 mA
7.5 volts @ 100 mA

Operating life Unlimited

Warranty Five years



Model selector - Dual modules and VCTs

SERIES

QX Explosionproof (aluminum cover)

FUNCTION

Sensor/switching modules (proximity type)

33 SST NO 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

S* Stainless steel North American (NEC/CEC)

T* Stainless steel International (IEC)

M* Stainless steel Brazilian

**Available with 03 or 06 conduit entry only*

CONDUIT ENTRIES

02 (1) ¾" NPT & (1) ½" NPT

03 (1) ¾" NPT & (2) ½" 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 33 E 02 SRA

Partnership ID*

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

(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)

2L (2) SPST Maxx-Guard (LED)

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)

4L (4) SPST Maxx-Guard (LED)

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

S* Stainless steel North American (NEC/CEC)

T* Stainless steel International (IEC)

M* Stainless steel Brazilian

**Available with 03 or 06 conduit entry only*

CONDUIT ENTRIES

02 (1) ¾" NPT & (1) ½" NPT

03 (1) ¾" NPT & (2) ½" 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 2G E 02 SRA

Partnership ID*

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

(optional)

** See visual indication designations chart on page 49.

Model selector - Mechanical switches and transmitters

SERIES

QX Explosionproof (aluminum cover)

FUNCTION

Mechanical switches

2V (2) SPDT switches

2W (2) SPDT switches, gold contacts

4V (4) SPDT switches

4W (4) SPDT switches, gold contacts

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 contacts

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

S* Stainless steel North American (NEC/CEC)

T* Stainless steel International (IEC)

M* Stainless steel Brazilian

*Available with 03 or 06 conduit entry only

CONDUIT ENTRIES

02 (1) ¾" NPT & (1) ½" NPT

03 (1) ¾" NPT & (2) ½" 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)

Visual indicator designations

DESIGNATION	0°	90°	180°
R	RED CLOSED	GREEN OPEN	
G	GREEN CLOSED	RED OPEN	
1			
2			
3		CLOSED	
4			
5			
C			
X	Specialty configuration - please consult factory		

** See visual indication designations chart on page 49.

Model selector - Dual modules and VCTs

SERIES

QN Nonincendive and intrinsically safe

FUNCTION

Sensor/switching modules (proximity type)

- 33 SST NO 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) ¾" NPT & (1) ½" NPT
 03 (1) ¾" NPT & (2) ½" 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 33 C 02 SRA

Partnership ID*

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

(optional)

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)
 2L (2) SPST Maxx-Guard (LED)
 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)
 4L (4) SPST Maxx-Guard (LED)
 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 explosionproof)

- E North American
 R International
 F Brazilian

CONDUIT ENTRIES

- 02 (1) ¾" NPT & (1) ½" NPT
 03 (1) ¾" NPT & (2) ½" 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)

** See visual indication designations chart on page 49.

Model Selector - Mechanical switches

SERIES

QG General purpose (clear cover)

FUNCTION

Mechanical switches

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

ENCLOSURE

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

CONDUIT ENTRIES

02 (1) ¾" NPT & (1) ½" NPT
 03 (1) ¾" NPT & (2) ½" 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:

QG 2V C 02 SRA

Partnership ID*

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

(optional)

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

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

Enclosure protection

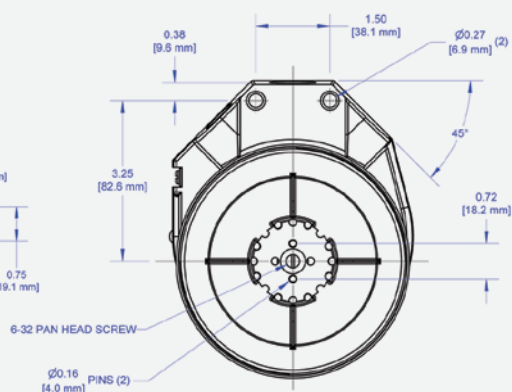
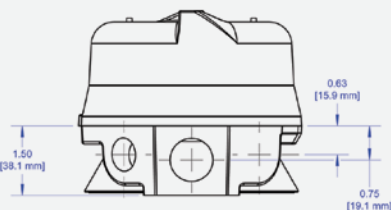
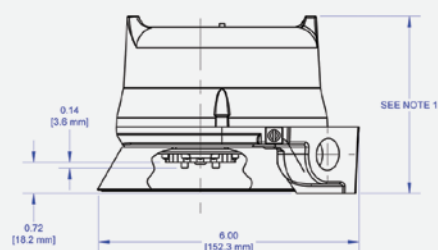
NEMA 4, 4X and 6	All models
Ingress Protection 67	All models

Approvals* See StoneL.com/approvals

* Only models listed on StoneL's official website are approved per specific rating.

** See visual indication designations chart on page 49.

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]

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