PURETORQ

Rotary Actuators

www.puretorq.com

V-Solenoid II™ Solenoid Valve

The V-Solenoid II™ Line

Standard Series

ATEX Ex Series

Intrinsically Safe Series

Ex-Proof Series

Features

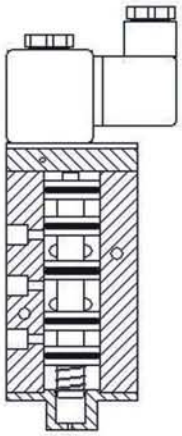
- Multi-million cycle life reliability. The innovative design and all composite construction means the V-Solenoid II™ is not affected by wear or corrosion
- Set 5/2 or 3/2 function simply by turning the rotary sealing plate 180°, dramatically reducing parts inventory
- High airflow: Cv>1.1 (1100 L/min) (I-Safe Cv=0.8)
- Manual override built in - no extra parts required
- Operating temperature range: -4°F to +140°F (-20°C to +60°C)
- For extreme environmental corrosion protection, all port threaded inserts and armature components can be supplied in stainless steel
- Direct mounting conforms to Namur VDI/VDE 3845 standard
- Exhaust feedback – provides spring chamber with instrument air preventing corrosion
- Very competitively priced with a wide variety of available options

Patented Poppet Valve Design

- Unique patented poppet valve technology provides **high flow**, **fast response**, **high temperature range** and **multi-million** cycle life reliability
- Patented poppet valve design minimizes friction by utilizing dual static rolling diaphragm-poppet seals
- Advantage of this design is its suitability for cryogenic environments. Wide operating temperature range -4°F to +140°F (-20°C to +60°C)

Poppet Valve Design

Typical O-ring Seal Design

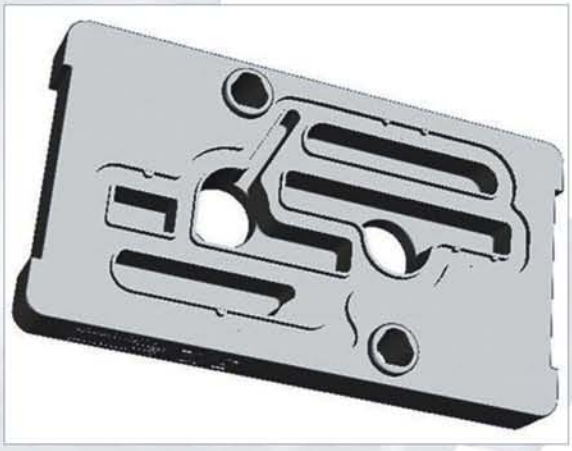


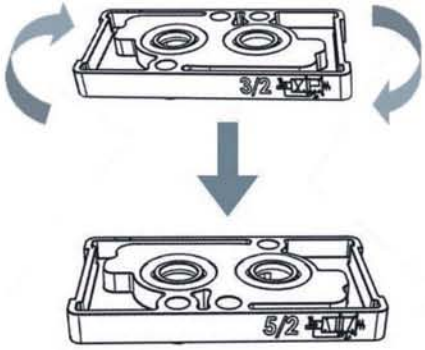
- Traditional solenoid valves operate a spool to direct airflow
- The o-ring type seals are subject to constant abrasion, reducing their lifetime and reliability
- The operating temperature usually is limited to no less than -5°C

Poppet valve design offers better characteristics and reliability

Patented Rotary Sealing Plate

- By turning the patented rotary sealing plate 180° the operating mode can be easily changed from 5/2 to 3/2 function
- The V-Solenoid II™ can to be used on both double acting and single acting actuators
- Many competitors' solenoid valves either work 5/2 or 3/2 function requiring stocking for both solenoid valves





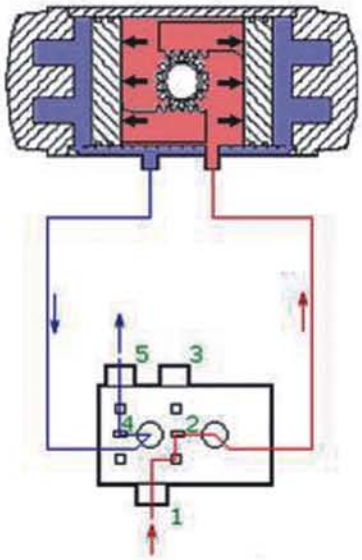
The V-Solenoid II™ rotary sealing plate results in less inventory

V-Solenoid II™ Solenoid Valve

5/2 Mode for Double Acting Operation

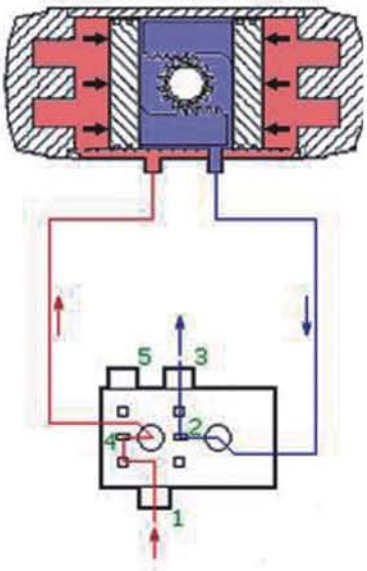
Energized State

- Air supply through port 1, flow is directed to port 2
- Port 4 is vented to atmosphere via port 5



De-energized State

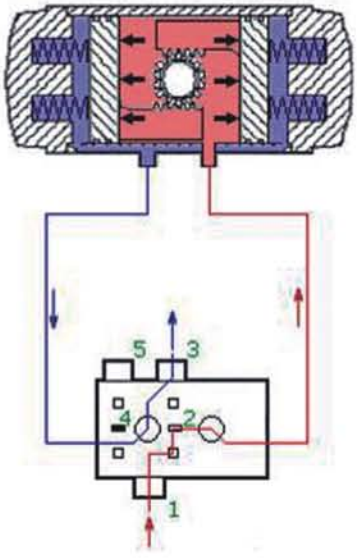
- Air supply through port 1, flow is directed to port 4
- Port 2 is vented to atmosphere via port 3



3/2 Mode for Single Acting Operation

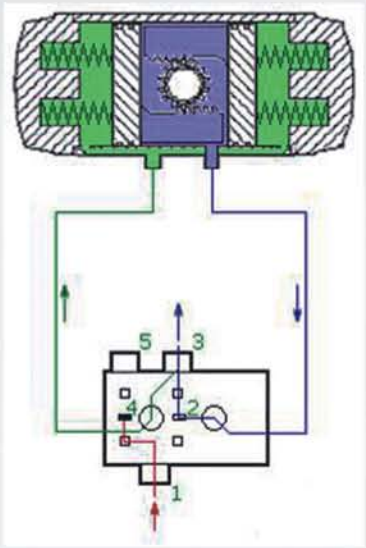
Energized State

- Air supply through port 1, flow is directed to port 2
- Exhaust air is directed to port 4 and vented to atmosphere via port 3



De-energized State

- Air supply through port 1, flow is blocked
- Exhaust air is directed through port 2 to port 4 with excess air vented to atmosphere via port 3

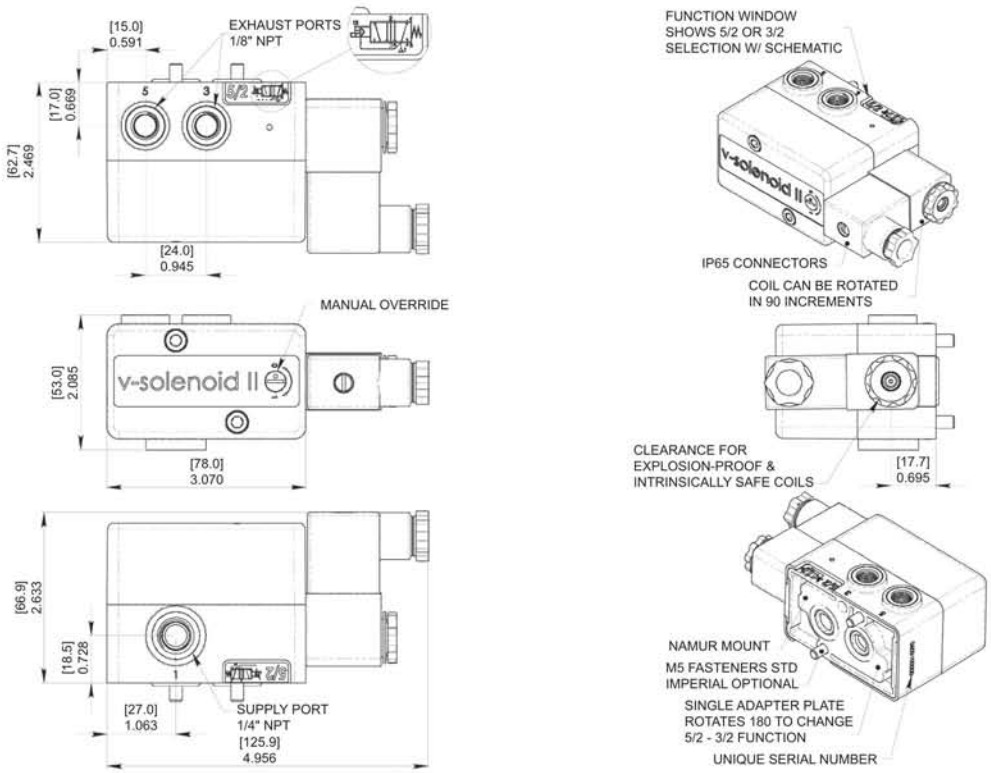


Specifications

	Standard Series	Explosion Proof		
		ATEX Ex	Ex-Proof	I-Safe
Temperature	-4°F to 140°F (-20°C to 60°C)	-4°F to 122°F (-20°C to 50°C)	-4°F to 140°F (-20°C to 60°C)	-4°F to 140°F (-20°C to 60°C)
Flow	Cv>1.1	Cv>1.1	Cv>1.1	Cv=0.8
Operating Pressure	35 to 120 psi (2.4 to 8.3 bar)			
Ports	1/4" NPT and Namur flange			
Response	Opening (on) 20ms, closing (off) 40ms			
Media	Compressed air-lubricated or unlubricated, instrument air and nitrogen			
Valve Body	Reinforced polyamide (PA)			
Sealing Material	Exhaust ports o-ring: NBR Armature o-ring: Vilton			
Ports	Supply ports: MS zinc plated (standard) or Stainless (corrosion resistant)			
Voltage	24VDC, 24VAC 120VAC, 240VAC	24VDC, 120VAC, 230VAC	24VDC, 120VAC, 230VAC	24VDC
Power Consumption	DC 4.8W, AC@60Hz 6.9VA AC@50Hz 8.5VA	Temp class T4, 24VDC, rated power 5.2W Temp class T6, 220V 50/60Hz, rated power 2.5VA	DC 4.8W, AC@60Hz 6.9VA AC@50Hz 8.5VA	Voltage range 21.6 to 28 VDC Peak values 28VDC, 115mA, 1.6w Temp (Max): 50°C
Duty Cycle	100% continuous service			
Insulation Class	F	F	H	F
Connection	DIN industrial form	Encapsulated coil and connector, with cable	1/2'' NPT conduit entry	DIN EN 175301-803-A/ ISO 4400
Protection Class	IP65 NEMA types 1,2,3,3S,4&index	IP65	NEMA types 7,8&9	NEMA types 1,2,3,3S,4&4X
Approvals		PTB, ATEX	CSA, FM	CSA, FM, PTB
Hazardous Locations		• II 2G EEx m II T6, T5 or T4 approved • IEC Ex m II T6, T5, T4 approved coils are approved according to EN 50 • 014:1997 +A1+A2 and EN50028:1987 by the Physikalisch-Technischen Bundesanstalt (PTB)	• Class 1; Zone1 • Ex m II; AEx m II • Class I; Division 1;Groups A,B,C and D • Class II; Group E,F and G • Class III • Tested according to CAN/ CSA-E79-0-95 and CAN/ CSA-E79-18-95 for CSA, according to ANSI/ ISA-S12.00.01-1999 and ANSI/ISA-S12.23.01-1998 for FM	• Ex II 2G EEx ia IIC T6 approved • IEC Ex ia IIC T6 approved • FM IS /I, II, III/ ABCDEFG approved • Coils are approved according to EN 50 020 resp • DIN VDE 0170/0171, part 5 by the PTB

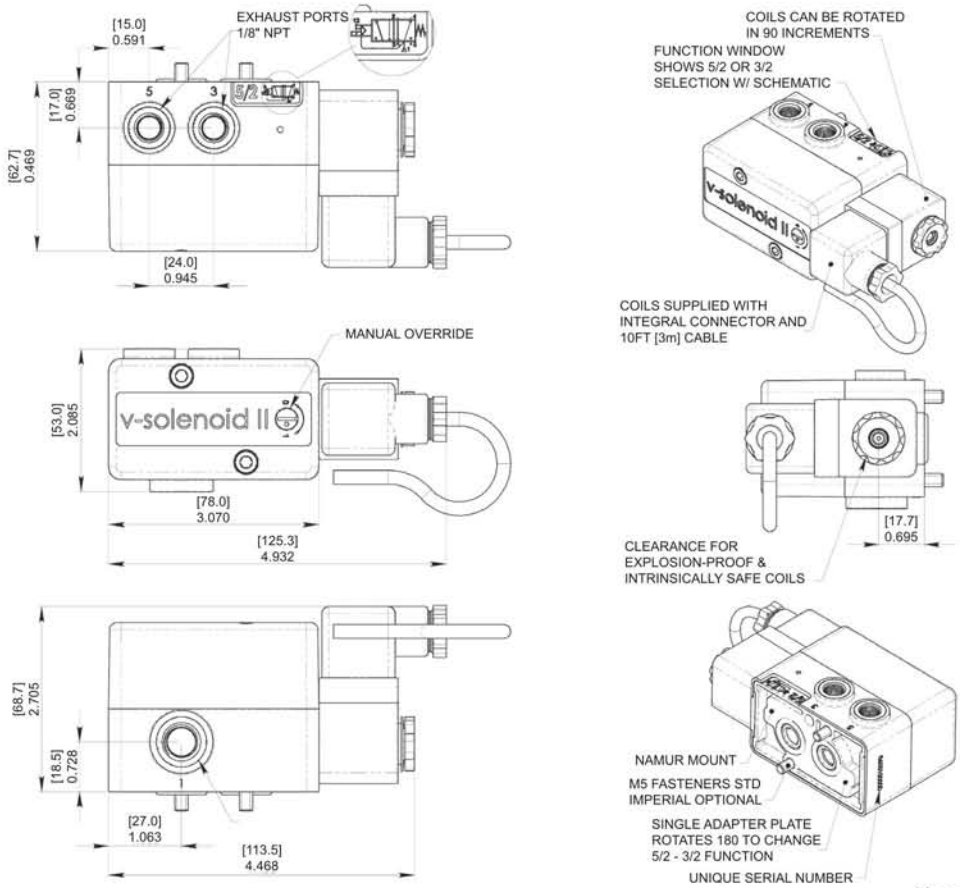
V-Solenoid II™ Solenoid Valve

Dimensions: V-Solenoid II STANDARD SERIES



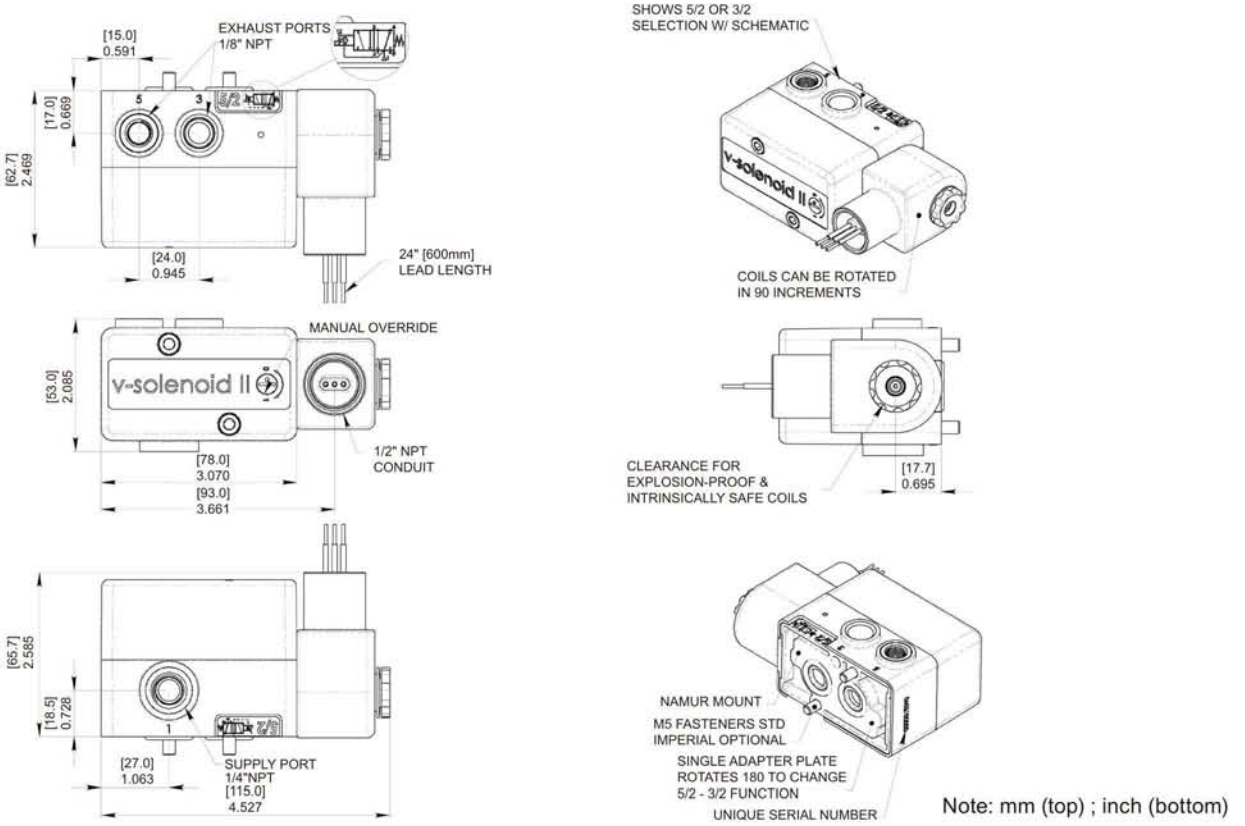
Note: mm (top) ; inch (bottom)

Dimensions: V-Solenoid II ATEX Ex SERIES



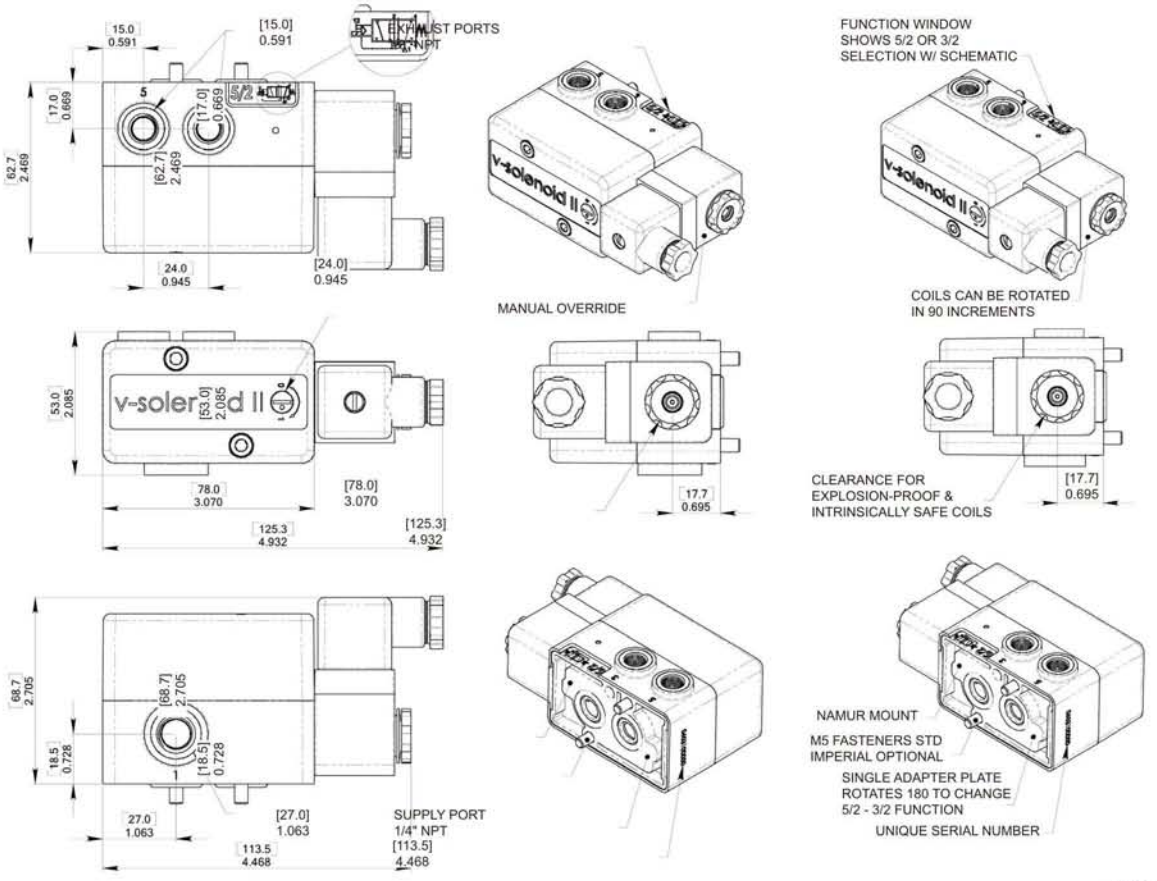
Note: mm (top) ; inch (bottom)

Dimensions: V-Solenoid II EX-PROOF Series



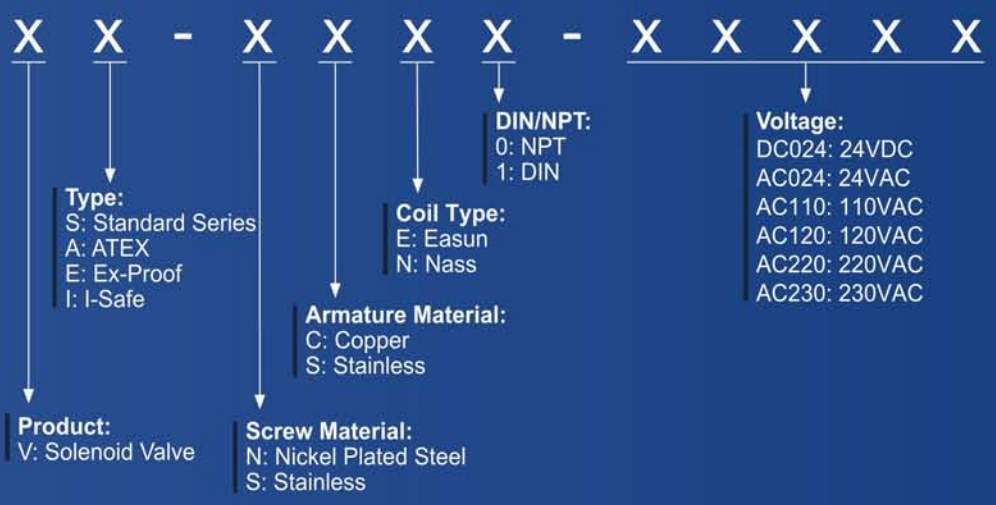
Note: mm (top) ; inch (bottom)

Dimensions: V-Solenoid II I-SAFE SERIES



Note: mm (top) ; inch (bottom)

V-Solenoid II P/N Coding Rule



V-Solenoid II: Standard Series	
Standard P/N	
VS110S	VS-NCE0-AC110
VS220S	VS-NCE0-AC220
VS24DS	VS-NCE0-DC024
VS24AS	VS-NCE0-AC024
Corrosion Resistant P/N	
VS110C	VS-SSE0-AC110
VS220C	VS-SSE0-AC220
VS24DC	VS-SSE0-DC024
VS24AC	VS-SSE0-AC024

V-Solenoid II: ATEX Series	
Standard	New P/N
VA120S	VA-NCN0-AC120
VA230S	VA-NCN0-AC230
VA24DS	VA-NCN0-DC024
Corrosion Resistant P/N	
VA120C	VA-SSN0-AC120
VA230C	VA-SSN0-AC230
VA24DC	VA-SSN0-DC024

V-Solenoid II: Ex-Proof Series	
Standard P/N	
VE120S	VE-NCN0-AC120
VE230S	VE-NCN0-AC230
VE24DS	VE-NCN0-DC024
Corrosion Resistant P/N	
VE120C	VE-SSN0-AC120
VE230C	VE-SSN0-AC230
VE24DC	VE-SSN0-DC024

V-Solenoid II: I-Safe	
Standard	New P/N
VI24DS	VI-NSN0-DC024
Corrosion Resistant P/N	
VI24DC	VI-SSN0-DC024

Taiwan

Puretorq Industrial Co., Ltd.

Phone : 886-37-861-202

Fax:886-37-855-962

www.puretorq.com

E-mail:Sales@puretorq.com

Distributed by: