IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION
IEC Certification System for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.:	**IECEx FMG 19.0016X**	Page 1 of 4	Certificate history:
Status:	**Current**	Issue No: 1	Issue 0 (2019-10-09)
Date of Issue:	2020-04-21		
Applicant:	**Neles USA Inc. dba StoneL** 26271 US Hwy 59 Fergus Falls MN 56537 **United States of America**		
Equipment:	**Quartz QN, QX and QC Series Valve Position Monitors**		
Optional accessory:			
Type of Protection:	**Intrinsic safety ia**		
Marking:	IECEx FMG 19.0016X QN and QX Series: Ex ia IIC T6…T1 Ga Ta*, IP66 IP67 QC Series: Ex ia IIC T6…T1 Ga Ta*, IP66 *See attachment		

Approved for issue on behalf of the IECEx Certification Body: **J. E. Marqudant**

Position: **VP, Manager - Electrical Systems**

Signature: (for printed version)

Date:

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
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Certificate issued by:

FM Approvals LLC
1151 Boston-Providence Turnpike
Norwood, MA 02062
United States of America

FM Approvals
Member of the FM Global Group

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Manufacturer:
Neles USA Inc. dba StoneL
26271 US Hwy 59
Fergus Falls MN 56537
United States of America

Additional manufacturing locations:
Neles Flow Control (Shanghai) Co., Ltd
261 Meiyue Rd
Waigaoqiao Free Trade Zone
200131 Shanghai
China

Neles Finland Oy
Vanha Porvoontie 229
Vantaa FIN-01380
Finland

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements.This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended

STANDARDS :
The equipment and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards

IEC 60079-0:2017 Explosive atmospheres - Part 0: Equipment - General requirements
Edition:7.0

IEC 60079-11:2011 Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
Edition:6.0

This Certificate **does not** indicate compliance with safety and performance requirements other than those expressly included in the Standards listed above.

TEST & ASSESSMENT REPORTS:
A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in:

Test Reports:

US/FMG/ExTR19.0012/00 US/FMG/ExTR19.0012/01

Quality Assessment Reports:

GB/FME/QAR20.0004/00 NO/DNV/QAR09.0008/08

IECEx Certificate of Conformity

EQUIPMENT:
Equipment and systems covered by this Certificate are as follows:

QNabcdef-g.Valve Position Monitor.
Ex ia IIC T6…T1 Ga Ta*, IP66 IP67
See Annex.
QXabcdef-g.Valve Position Monitor.
Ex ia IIC T6…T1 Ga Ta*, IP66 IP67
See Annex.
QCabcdef-g.Valve Position Monitor.
Ex ia IIC T6…T1 Ga Ta*, IP66
See Annex.

SPECIFIC CONDITIONS OF USE: YES as shown below:

1. Parts of the enclosure are non-conducting and may generate an ignition-capable level of electrostatic charge under certain extreme conditions. The user should ensure that the equipment is not installed in a location where it may be subjected to external conditions which might cause a build up of electrostatic charge on non-conducting surfaces. Additionally, cleaning of the equipment should be done only with a damp cloth.
2. When installed within a Zone 0 location, the aluminium alloy enclosure shall be installed in such a manner as to prevent the possibility of sparks resulting from friction or impact.
3. Using the box provided on the nameplate, the user shall permanently mark the type of protection chosen for the specific installation. Once the type of protection has been marked it shall not be changed.

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Date of issue: 2020-04-21 Issue No: 1

DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)
Company name change.

Annex:

Annex to IECEx certificate IECEx FMG 19.0016X.pdf

Annex to IECEx Certificate IECEx FMG 19.0016X

QNabcdef-g.Valve Position Monitor.
Ex ia IIC T6…T1 Ga Ta*, IP66 IP67

a = Function: 2J, 4J, 5J, 7J, BJ, CJ, 2M, 4M, 5M, 7M, BM, CM, 5O, 7O, TO, BO, CO, 2N, 4N, 5N, 6N, 7N, TN, BN, CN, 2A, 4A, 5A, 7A, TA, BA, CA, 2B, 44, 54, 74, B4, C4, 45, 5R, 7R, TR, BR or CR
b= Enclosure: D, R, A, K, T, N, Z, or Q
c= Junction: 02, 03, 05, or 06
d= Shaft Output: X, S, N or H
e= Visual Indication: X, G, R, C, 1, 2, 3, 4, 5, 0, B, E, Y, H, J, K, M, P, N, D, A, S, T, U, V or W
f= Branding: A or M
g= Options: '1-5 alpha or numeric digits for special and marketing identification'

*When a = 5O, 7O
For T4 Ta* = -40ºC to +80ºC
Entity Limitation Parameters: Ui = 30 Vdc, Ii = 100 mA, Ci = 66 nF, Li = 0 H, Pi = 0.75 W

*When a = TO
For T5 Ta* = -40ºC to +80ºC; For T6 Ta* = -40°C to +65°C
Energy Limitation Parameters:
Transmitter: Ui = 30 Vdc, Ii = 100 mA, Ci = 3 nF, Li = 0 H, Pi = 0.75 W
Solenoid Connection Terminals: Ui = 30 Vdc, Ii = 120 mA

*When a = BO, CO
For T5 Ta* = -40ºC to +80ºC; For T6 Ta* = -40°C to +65°C
Energy Limitation Parameters: Ui = 26 V, Ii = 14 mA, Pi = 50 mW, Ci = 0 nF, Li = 0 mH

*When a = 2J, 4J, 2M, 4M
For T5 Ta* = -40ºC to +80ºC; For T6 Ta* = -40°C to +65°C
Energy Limitation Parameters:
Switch/Sensor: Ui = 30 Vdc, Ii = 100 mA, Ci = 66 nF, Li = 0.8 mH, Pi = 2.0 W

*When a = 5J, 7J, 5M, 7M
For T4 Ta* = -40ºC to +80ºC
Energy Limitation Parameters:
Switch/Sensor: Ui = 30 Vdc, Ii = 100 mA, Ci = 66 nF, Li = 0.8 mH, Pi = 2.0 W
Transmitter: Ui = 30 Vdc, Ii = 100 mA, Ci = 66 nF, Li = 0 H, Pi = 0.75 W

*When a = BJ, CJ, BM, CM
For T5 Ta* = -40ºC to +80ºC; For T6 Ta* = -40°C to +65°C
Energy Limitation Parameters:
Switch/Sensor: Ui = 30 Vdc, Ii = 100 mA, Ci = 66 nF, Li = 0.8 mH, Pi = 2.0 W
Potentiometer: Ui = 26 Vdc, Ii = 14 mA, Ci = 0 nF, Li = 0 mH, Pi = 50mW

*When a = 44
For T5 Ta* = -40ºC to +80ºC; For T6 Ta* = -40°C to +65°C
Energy Limitation Parameters:
Sensor Module: Ui = 22V, Ii = 120 mA, Pi = 2W, Ci = 98 nF, Li = 0.8 mH
Solenoid Connection Terminals: Ui = 30V, Ii = 120mA

*When a = 54, 74
For T4 Ta* = -40ºC to +80ºC
Energy Limitation Parameters:
Sensor Module: Ui = 22V, Ii = 120 mA, Pi = 2W, Ci = 98 nF, Li = 0.8 mH
Solenoid Connection Terminals: Ui = 30V, Ii = 120mA

Transmitter: Ui = 30 Vdc, Ii = 100 mA, Ci = 66 nF, Li = 0 H, Pi = 0.75 W

*When a = B4, C4
For T5 Ta* = -40ºC to +80ºC; For T6 Ta* = -40°C to +65°C
Energy Limitation Parameters:
Sensor Module: Ui = 22V, Ii = 120 mA, Pi = 2W, Ci = 98nF, Li = 0.8 mH
Solenoid Connection Terminals: Ui = 30V, Ii = 120mA
Potentiometer: Ui = 26 Vdc, Ii = 14 mA, Ci = 0 nF, Li = 0 mH, Pi = 50mW

*When a = 45
For T5 Ta* = -40ºC to +80ºC; For T6 Ta* = -40°C to +65°C
Energy Limitation Parameters:
Sensor Module: Ui = 22V, Ii = 120 mA, Pi = 0.4W, Ci = 3 nF, Li = 0 mH
Solenoid Connection Terminals: Ui = 30V, Ii = 120mA

*When a = 5R, 7R
For T4 Ta* = -40ºC to +80ºC
Energy Limitation Parameters:
Sensor Module: Ui = 22V, Ii = 120 mA, Pi = 0.4W, Ci = 3 nF, Li = 0 mH
Solenoid Connection Terminals: Ui = 30V, Ii = 120mA
Transmitter: Ui = 30 Vdc, Ii = 100 mA, Ci = 66 nF, Li = 0 H, Pi = 0.75 W

*When a = TR
For T5 Ta* = -40ºC to +80ºC; For T6 Ta* = -40°C to +65°C
Energy Limitation Parameters:
Sensor Module: Ui = 22Vdc, Ii = 120 mA, Pi = 0.4W, Ci = 3 nF, Li = 0 mH
Solenoid Connection Terminals: Ui = 30V, Ii = 120 mA
Transmitter: Ui = 30 Vdc, Ii = 100 mA, Ci = 3 nF, Li = 0 H, Pi = 0.75 W
Solenoid Connection Terminals: Ui = 30V, Ii = 120 mA
*When a = BR, CR
For T5 Ta* = -40ºC to +80ºC; For T6 Ta* = -40°C to +65°C
Energy Limitation Parameters:
Sensor Module: Ui = 22V, Ii = 120 mA, Pi = 0.4W, Ci = 3 nF, Li = 0 mH
Solenoid Connection Terminals: Ui = 30V, Ii = 120mA
Transmitter: Ui = 26 Vdc, Ii = 14 mA, Ci = 0 nF, Li = 0 mH, Pi = 50mW

* When a = 2N, 4N, 6N

For T6, Ta*=	For T5, Ta*=	For T4…T1, Ta*=	Ui V	Ii mA	Pi mW	Ci nF	Li mH
-25°C to +56°C	-25°C to +68°C	-25°C to +80°C	16	25	34	40	0.05
-25°C to +49°C	-25°C to +61°C	-25°C to +80°C	16	25	64	40	0.05
-25°C to +28°C	-25°C to +40°C	-25°C to +68°C	16	52	169	40	0.05
-25°C to +13°C	-25°C to +25°C	-25°C to +53°C	16	76	242	40	0.05

* When a = 5N, 7N
Switch/Sensor:

For T4…T1, Ta*=	Ui V	Ii mA	Pi mW	Ci nF	Li mH
-25°C to +80°C	16	25	34	40	0.05
-25°C to +80°C	16	25	64	40	0.05
-25°C to +68°C	16	52	169	40	0.05
-25°C to +53°C	16	76	242	40	0.05

Transmitter; Ui = 30Vdc, Ii = 100 mA, Ci = 66 nF, Li = 0 H, Pi = 0.75 W

* When a = TN
Switch/Sensor

For T6, Ta*=	For T5, Ta*=	For T4…T1, Ta*=	Ui V	Ii mA	Pi mW	Ci nF	Li mH
-25°C to +56°C	-25°C to +68°C	-25°C to +80°C	16	25	34	40	0.05
-25°C to +49°C	-25°C to +61°C	-25°C to +80°C	16	25	64	40	0.05
-25°C to +28°C	-25°C to +40°C	-25°C to +68°C	16	52	169	40	0.05
-25°C to +13°C	-25°C to +25°C	-25°C to +53°C	16	76	242	40	0.05

Transmitter: Ui = 30 Vdc, Ii = 100 mA, Ci = 3 nF, Li = 0 H, Pi = 0.75 W
Solenoid Connection Terminals: Ui = 30 Vdc, Ii = 120 mA

* When a = BN, CN
Switch/Sensor:

For T6, Ta*=	For T5, Ta*=	For T4…T1, Ta*=	Ui V	Ii mA	Pi mW	Ci nF	Li mH
-25°C to +56°C	-25°C to +68°C	-25°C to +80°C	16	25	34	40	0.05
-25°C to +49°C	-25°C to +61°C	-25°C to +80°C	16	25	64	40	0.05
-25°C to +28°C	-25°C to +40°C	-25°C to +68°C	16	52	169	40	0.05
-25°C to +13°C	-25°C to +25°C	-25°C to +53°C	16	76	242	40	0.05

Potentiometer; Ui = 26Vdc, Ii = 14 mA, Ci = 0 nF, Li = 0 mH, Pi = 50mW

* When a = 2A, 4A

For T6, Ta*=	For T5, Ta*=	For T4…T1, Ta*=	Ui V	Ii mA	Pi mW	Ci nF	Li mH
-40°C to +57°C	-40°C to +69°C	-40°C to +80°C	16	25	34	50	0.15
-40°C to +52°C	-40°C to +64°C	-40°C to +80°C	16	25	64	50	0.15
-40°C to +34°C	-40°C to +46°C	-40°C to +74°C	16	52	169	50	0.15
-40°C to +22°C	-40°C to +34°C	-40°C to +61°C	16	76	242	50	0.15

* When a = 5A, 7A
Switch/Sensor:

For T4…T1, Ta*=	Ui V	Ii mA	Pi mW	Ci nF	Li mH
-40°C to +80°C	16	25	34	50	0.15
-40°C to +80°C	16	25	64	50	0.15
-40°C to +74°C	16	52	169	50	0.15
-40°C to +61°C	16	76	242	50	0.15

Transmitter: Ui = 30Vdc, Ii = 100 mA, Ci = 66 nF, Li = 0 H, Pi = 0.75 W

* When a = TA
Switch/Sensor

For T6, Ta*=	For T5, Ta*=	For T4…T1, Ta*=	Ui V	Ii mA	Pi mW	Ci nF	Li mH
-40°C to +57°C	-40°C to +69°C	-40°C to +80°C	16	25	34	50	0.15
-40°C to +52°C	-40°C to +64°C	-40°C to +80°C	16	25	64	50	0.15
-40°C to +34°C	-40°C to +46°C	-40°C to +74°C	16	52	169	50	0.15
-40°C to +22°C	-40°C to +34°C	-40°C to +61°C	16	76	242	50	0.15

Transmitter: Ui = 30 Vdc, Ii = 100 mA, Ci = 3 nF, Li = 0 H, Pi = 0.75 W

Solenoid Connection Terminals: Ui = 30 Vdc, Ii = 120 mA

* When a = BA, CA
Switch/Sensor:

For T6, Ta*=	For T5, Ta*=	For T4…T1, Ta*=	Ui V	Ii mA	Pi mW	Ci nF	Li mH
-40°C to +57°C	-40°C to +69°C	-40°C to +80°C	16	25	34	50	0.15
-40°C to +52°C	-40°C to +64°C	-40°C to +80°C	16	25	64	50	0.15
-40°C to +34°C	-40°C to +46°C	-40°C to +74°C	16	52	169	50	0.15
-40°C to +22°C	-40°C to +34°C	-40°C to +61°C	16	76	242	50	0.15

Potentiometer; Ui = 26Vdc, Ii = 14 mA, Ci = 0 nF, Li = 0 mH, Pi = 50mW

* When a = 2B

For T6, Ta*=	For T5, Ta*=	For T4…T1, Ta*=	Ui V	Ii mA	Pi mW	Ci nF	Li mH
-25°C to +57°C	-25°C to +69°C	-25°C to +80°C	16	25	34	100	0.20
-25°C to +52°C	-25°C to +64°C	-25°C to +80°C	16	25	64	100	0.20
-25°C to +34°C	-25°C to +46°C	-25°C to +74°C	16	52	169	100	0.20
-25°C to +22°C	-25°C to +34°C	-25°C to +61°C	16	76	242	100	0.20

QXabcdef-g.Valve Position Monitor.
Ex ia IIC T6…T1 Ga Ta*, IP66 IP67

a = Function: 2J, 4J, 5J, 7J, BJ, CJ, 2M, 4M, 5M, 7M, BM, CM, 5O, 7O, TO, BO, CO, 2N, 4N, 5N, 6N, 7N, TN, BN, CN, 2A, 4A, 5A, 7A, TA, BA, CA, 2B, 44, 54, 74, B4, C4, 45, 5R, 7R, TR, BR or CR
b= Enclosure: R, T, K or N
c= Junction: 02, 03, 05, or 06
d= Shaft Output: X, S, N or H
e= Visual Indication: X, G, R, C, 1, 2, 3, 4, 5, 0, B, E, Y, H, J, K, M, P, N, D, A, S, T, U, V or W
f= Branding: A or M
g= Options: '1-5 alpha or numeric digits for special and marketing identification'

*When a = 5O, 7O
For T4 Ta* = -40ºC to +80ºC
Entity Limitation Parameters: Ui = 30 Vdc, Ii = 100 mA, Ci = 66 nF, Li = 0 H, Pi = 0.75 W

*When a = TO
For T5 Ta* = -40ºC to +80ºC; For T6 Ta* = -40°C to +65°C
Energy Limitation Parameters:
Transmitter: Ui = 30 Vdc, Ii = 100 mA, Ci = 3 nF, Li = 0 H, Pi = 0.75 W
Solenoid Connection Terminals: Ui = 30 Vdc, Ii = 120 mA

*When a = BO, CO
For T5 Ta* = -40ºC to +80ºC; For T6 Ta* = -40°C to +65°C
Energy Limitation Parameters: Ui = 26 V, Ii = 14 mA, Pi = 50 mW, Ci = 0 nF, Li = 0 mH

*When a = 2J, 4J, 2M, 4M
For T5 Ta* = -40ºC to +80ºC; For T6 Ta* = -40°C to +65°C
Energy Limitation Parameters:
Switch/Sensor: Ui = 30 Vdc, Ii = 100 mA, Ci = 66 nF, Li = 0.8 mH, Pi = 2.0 W

*When a = 5J, 7J, 5M, 7M
For T4 Ta* = -40ºC to +80ºC
Energy Limitation Parameters:
Switch/Sensor: Ui = 30 Vdc, Ii = 100 mA, Ci = 66 nF, Li = 0.8 mH, Pi = 2.0 W
Transmitter: Ui = 30 Vdc, Ii = 100 mA, Ci = 66 nF, Li = 0 H, Pi = 0.75 W

*When a = BJ, CJ, BM, CM
For T5 Ta* = -40ºC to +80ºC; For T6 Ta* = -40°C to +65°C
Energy Limitation Parameters:
Switch/Sensor: Ui = 30 Vdc, Ii = 100 mA, Ci = 66 nF, Li = 0.8 mH, Pi = 2.0 W
Potentiometer: Ui = 26 Vdc, Ii = 14 mA, Ci = 0 nF, Li = 0 mH, Pi = 50mW

*When a = 44
For T5 Ta* = -40ºC to +80ºC; For T6 Ta* = -40°C to +65°C
Energy Limitation Parameters:
Sensor Module: Ui = 22V, Ii = 120 mA, Pi = 2W, Ci = 98 nF, Li = 0.8 mH
Solenoid Connection Terminals: Ui = 30V, Ii = 120mA

*When a = 54, 74
For T4 Ta* = -40ºC to +80ºC
Energy Limitation Parameters:

Sensor Module: Ui = 22V, Ii = 120 mA, Pi = 2W, Ci = 98 nF, Li = 0.8 mH
Solenoid Connection Terminals: Ui = 30V, Ii = 120mA
Transmitter: Ui = 30 Vdc, Ii = 100 mA, Ci = 66 nF, Li = 0 H, Pi = 0.75 W

*When a = B4, C4
For T5 Ta* = -40ºC to +80ºC; For T6 Ta* = -40°C to +65°C
Energy Limitation Parameters:
Sensor Module: Ui = 22V, Ii = 120 mA, Pi = 2W, Ci = 98nF, Li = 0.8 mH
Solenoid Connection Terminals: Ui = 30V, Ii = 120mA
Potentiometer: Ui = 26 Vdc, Ii = 14 mA, Ci = 0 nF, Li = 0 mH, Pi = 50mW

*When a = 45
For T5 Ta* = -40ºC to +80ºC; For T6 Ta* = -40°C to +65°C
Energy Limitation Parameters:
Sensor Module: Ui = 22V, Ii = 120 mA, Pi = 0.4W, Ci = 3 nF, Li = 0 mH
Solenoid Connection Terminals: Ui = 30V, Ii = 120mA

*When a = 5R, 7R
For T4 Ta* = -40ºC to +80ºC
Energy Limitation Parameters:
Sensor Module: Ui = 22V, Ii = 120 mA, Pi = 0.4W, Ci = 3 nF, Li = 0 mH
Solenoid Connection Terminals: Ui = 30V, Ii = 120mA
Transmitter: Ui = 30 Vdc, Ii = 100 mA, Ci = 66 nF, Li = 0 H, Pi = 0.75 W

*When a = TR
For T5 Ta* = -40ºC to +80ºC; For T6 Ta* = -40°C to +65°C
Energy Limitation Parameters:
Sensor Module: Ui = 22Vdc, Ii = 120 mA, Pi = 0.4W, Ci = 3 nF, Li = 0 mH
Solenoid Connection Terminals: Ui = 30V, Ii = 120 mA
Transmitter: Ui = 30 Vdc, Ii = 100 mA, Ci = 3 nF, Li = 0 H, Pi = 0.75 W
Solenoid Connection Terminals: Ui = 30V, Ii = 120 mA

*When a = BR, CR
For T5 Ta* = -40ºC to +80ºC; For T6 Ta* = -40°C to +65°C
Energy Limitation Parameters:
Sensor Module: Ui = 22V, Ii = 120 mA, Pi = 0.4W, Ci = 3 nF, Li = 0 mH
Solenoid Connection Terminals: Ui = 30V, Ii = 120mA
Transmitter: Ui = 26 Vdc, Ii = 14 mA, Ci = 0 nF, Li = 0 mH, Pi = 50mW

* When a = 2N, 4N, 6N

For T6, Ta*=	For T5, Ta*=	For T4…T1, Ta*=	Ui V	Ii mA	Pi mW	Ci nF	Li mH
-25°C to +56°C	-25°C to +68°C	-25°C to +80°C	16	25	34	40	0.05
-25°C to +49°C	-25°C to +61°C	-25°C to +80°C	16	25	64	40	0.05
-25°C to +28°C	-25°C to +40°C	-25°C to +68°C	16	52	169	40	0.05
-25°C to +13°C	-25°C to +25°C	-25°C to +53°C	16	76	242	40	0.05

* When a = 5N, 7N
Switch/Sensor:

For T4…T1, Ta*=	Ui V	Ii mA	Pi mW	Ci nF	Li mH
-25°C to +80°C	16	25	34	40	0.05
-25°C to +80°C	16	25	64	40	0.05
-25°C to +68°C	16	52	169	40	0.05

-25°C to +53°C	16	76	242	40	0.05

Transmitter; Ui = 30Vdc, Ii = 100 mA, Ci = 66 nF, Li = 0 H, Pi = 0.75 W

* When a = TN
Switch/Sensor

For T6, Ta*=	For T5, Ta*=	For T4…T1, Ta*=	Ui V	Ii mA	Pi mW	Ci nF	Li mH
-25°C to +56°C	-25°C to +68°C	-25°C to +80°C	16	25	34	40	0.05
-25°C to +49°C	-25°C to +61°C	-25°C to +80°C	16	25	64	40	0.05
-25°C to +28°C	-25°C to +40°C	-25°C to +68°C	16	52	169	40	0.05
-25°C to +13°C	-25°C to +25°C	-25°C to +53°C	16	76	242	40	0.05

Transmitter: Ui = 30 Vdc, Ii = 100 mA, Ci = 3 nF, Li = 0 H, Pi = 0.75 W
Solenoid Connection Terminals: Ui = 30 Vdc, Ii = 120 mA

* When a = BN, CN
Switch/Sensor:

For T6, Ta*=	For T5, Ta*=	For T4…T1, Ta*=	Ui V	Ii mA	Pi mW	Ci nF	Li mH
-25°C to +56°C	-25°C to +68°C	-25°C to +80°C	16	25	34	40	0.05
-25°C to +49°C	-25°C to +61°C	-25°C to +80°C	16	25	64	40	0.05
-25°C to +28°C	-25°C to +40°C	-25°C to +68°C	16	52	169	40	0.05
-25°C to +13°C	-25°C to +25°C	-25°C to +53°C	16	76	242	40	0.05

Potentiometer; Ui = 26Vdc, Ii = 14 mA, Ci = 0 nF, Li = 0 mH, Pi = 50mW

* When a = 2A, 4A

For T6, Ta*=	For T5, Ta*=	For T4…T1, Ta*=	Ui V	Ii mA	Pi mW	Ci nF	Li mH
-40°C to +57°C	-40°C to +69°C	-40°C to +80°C	16	25	34	50	0.15
-40°C to +52°C	-40°C to +64°C	-40°C to +80°C	16	25	64	50	0.15
-40°C to +34°C	-40°C to +46°C	-40°C to +74°C	16	52	169	50	0.15
-40°C to +22°C	-40°C to +34°C	-40°C to +61°C	16	76	242	50	0.15

* When a = 5A, 7A
Switch/Sensor:

For T4…T1, Ta*=	Ui V	Ii mA	Pi mW	Ci nF	Li mH
-40°C to +80°C	16	25	34	50	0.15
-40°C to +80°C	16	25	64	50	0.15
-40°C to +74°C	16	52	169	50	0.15
-40°C to +61°C	16	76	242	50	0.15

Transmitter; Ui = 30Vdc, Ii = 100 mA, Ci = 66 nF, Li = 0 H, Pi = 0.75 W

* When a = TA
Switch/Sensor

For T6, Ta*=	For T5, Ta*=	For T4…T1, Ta*=	Ui V	Ii mA	Pi mW	Ci nF	Li mH
-40°C to +57°C	-40°C to +69°C	-40°C to +80°C	16	25	34	50	0.15
-40°C to +52°C	-40°C to +64°C	-40°C to +80°C	16	25	64	50	0.15
-40°C to +34°C	-40°C to +46°C	-40°C to +74°C	16	52	169	50	0.15

-40°C to +22°C	-40°C to +34°C	-40°C to +61°C	16	76	242	50	0.15

Transmitter: Ui = 30 Vdc, Ii = 100 mA, Ci = 3 nF, Li = 0 H, Pi = 0.75 W
Solenoid Connection Terminals: Ui = 30 Vdc, Ii = 120 mA

* When a = BA, CA
Switch/Sensor:

For T6, Ta*=	For T5, Ta*=	For T4…T1, Ta*=	Ui V	Ii mA	Pi mW	Ci nF	Li mH
-40°C to +57°C	-40°C to +69°C	-40°C to +80°C	16	25	34	50	0.15
-40°C to +52°C	-40°C to +64°C	-40°C to +80°C	16	25	64	50	0.15
-40°C to +34°C	-40°C to +46°C	-40°C to +74°C	16	52	169	50	0.15
-40°C to +22°C	-40°C to +34°C	-40°C to +61°C	16	76	242	50	0.15

Potentiometer; Ui = 26Vdc, Ii = 14 mA, Ci = 0 nF, Li = 0 H, Pi = 50mW

* When a = 2B

For T6, Ta*=	For T5, Ta*=	For T4…T1, Ta*=	Ui V	Ii mA	Pi mW	Ci nF	Li mH
-25°C to +57°C	-25°C to +69°C	-25°C to +80°C	16	25	34	100	0.20
-25°C to +52°C	-25°C to +64°C	-25°C to +80°C	16	25	64	100	0.20
-25°C to +34°C	-25°C to +46°C	-25°C to +74°C	16	52	169	100	0.20
-25°C to +22°C	-25°C to +34°C	-25°C to +61°C	16	76	242	100	0.20

QCabcdef-g.Valve Position Monitor.
Ex ia IIC T6…T1 Ga Ta*, IP66

a = Function: 45
b= Enclosure: K, N, R or T
c= Junction: 03 or 06
d= Shaft Output: X, S, N or H
e= Visual Indication: X, G, R, C, 1, 2, 3, 4, 5, 0, B, E, Y, H, J, K, M, P, N, D, A, S, T, U, V or W
f= Branding: A or M
g= Options: '1-5 alpha or numeric digits for special and marketing identification'

*When a = 45
For T5 Ta* = -55ºC to +80ºC; For T6 Ta* = -55°C to +65°C
Energy Limitation Parameters:
Sensor Module: Ui = 22V, Ii = 120 mA, Pi = 0.4W, Ci = 3 nF, Li = 0 H
Solenoid Connection Terminals: Ui = 30V, Ii = 120mA