



Certificate of Compliance

Certificate: 80139740

Master Contract: 303075

Project: 80139740

Date Issued: 2022-10-03

Issued To: Tissin Co., Ltd.
201-1105, 397, Seokcheon-ro
Bucheon-si, Gyeonggi-do, 14449
South Korea

Attention: Myoung-Sung Ha

The products listed below are eligible to bear the CSA Mark shown with adjacent indicators 'C' and 'US' for Canada and US or with adjacent indicator 'US' for US only or without either indicator for Canada only.



Issued by: *Ronald (Ron) Bell*
Ronald (Ron) Bell

PRODUCTS

CLASS 2258 04 - PROCESS CONTROL EQUIPMENT - Intrinsically Safe, Entity - For Hazardous Locations

CLASS 2258 84 - PROCESS CONTROL EQUIPMENT - Intrinsically Safe, Entity - For Hazardous Locations - Certified to US Standards

Class I, Division 2, Groups A, B, C, D; T5...T6

Ex ib IIC T5...T6 Gb

Class I, Zone 1 AEx ib IIC T5...T6 Gb

Class II, Division 2, Groups E, F, G; T100°C...T85°C; Class III

Ex ib IIIC T100°C...T85°C Db

Zone 21 AEx ib IIIC T100°C...T85°C Db

Type 4/4X

TS800 Series Electro-Pneumatic Valve Positioners – Model TS8aabScdefg

Supply pressure: 140 kPa to 700 kPa.

Intrinsically safe when wired per drawing TS800 WD 01 A1, TS800 WD 01 A2.



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ENTITY PARAMETERS:

DC, $U_i=28V$, $I_i=101mA$, $P_i=707mW$, $C_i=0.6nF$, $L_i=6uH$ (for Main circuit, PTM, Alarm1, Alarm2, Limit Switches "Dry Contact")

DC, $U_i=16V$, $I_i=26mA$, $P_i=34mW$, $C_i=30nF$, $L_i=50uH$ (for Limit Switches "Proximity")

Where:

aa = Enclosure ratings

00 = (standard) Enclosure Type 4

20 = (remote) Enclosure Type 4

05 = (stainless steel) Enclosure Type 4X

b = L (linear) or R (rotary)

c = Conduit entry and air connection:

3 (NPT 1/2 conduit, NPT 1/4 air),

4 (M20 conduit, 1/4 NPT air),

d = Lever:

1 (10 – 80 mm linear, or M6 x 34L rotary)

2 (70 - 150 mm linear)

3 (Adapter 70 mm linear)

5 (NAMUR rotary)

e = Temperature Code and Ambient Temperature rating (All Hazloc models):

T5 (T100°C) $-40^{\circ}C \leq T_a \leq +60^{\circ}C$

T6 (T85°C) $-40^{\circ}C \leq T_a \leq +40^{\circ}C$

Or, for installation in non-hazardous location: Ambient temperature rating: S (Standard) or L (Low temperature)

S = $-30^{\circ}C \leq T_a \leq +85^{\circ}C$

L = $-40^{\circ}C \leq T_a \leq +85^{\circ}C$

f = Communications:

0 = None

1 = 4 – 20mA position transmitter

2 = HART

3 = HART with 4 – 20mA position transmitter

g = Limit Switch (for TS800/TS805) or cable (for TS820):

0 = None

M = Mechanical type (for TS800/TS805)

P = Proximity type (for TS800/TS805)

D = With dome cover (no limit switch)

1 = 5 m long remote cable (for TS820)

2 = 10 m long remote cable (for TS820)

X = User defined remote cable length (<20 m long) (for TS820)

Conditions of Acceptability:

1. This equipment may only be powered by a power supply unit with a limited energy electric circuit in accordance with CAN/CSA C22.2 No. 61010-1-12 and ANSI/UL 61010-1, or Class 2 as defined in the Canadian Electrical Code C22.1, Section 16-200 and/or National Electrical Code (NFPA 70), article 725.121.



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APPLICABLE REQUIREMENTS

CAN/CSA C22.2 No. 94.2:20 Third Edition	Enclosures for electrical equipment, environmental considerations
CAN/CSA-C22.2 No. 61010-1-12 + UPD1:2015, UPD2:2016, Amd 1 - 18	Safety Requirements for Electrical equipment for Measurement, Control, and Laboratory Use – Part 1 General Requirements
CAN/CSA-C22.2 No. 61010-2-201:18	Safety requirements for electrical equipment for measurement, control, and laboratory use — Part 2-201: Particular requirements for control equipment
CAN/CSA C22.2 No. 60079-0:19	Explosive Atmospheres - Part 0: Equipment - General requirements
CSA-C22.2 No. 60079-11:14 (R2018)	Explosive Atmospheres – Part 11: Equipment protection by intrinsic safety "i"
ANSI/UL 50E-2020 Third Edition	Enclosures for electrical equipment, environmental considerations
ANSI/UL 61010-1-2018 Third Edition)	Safety Requirements for Electrical Equipment for Measurement, Control, and Laboratory Use – Part 1: General Requirements
ANSI/UL 61010-2-201-2018 Second Edition	Safety requirements for electrical equipment for measurement, control, and laboratory use — Part 2-201: Particular requirements for control equipment
ANSI/UL 60079-0:2020 Seventh Edition	Explosive Atmospheres - Part 0: General Requirements
ANSI/UL 60079-11:2018 Sixth Edition	Explosive Atmospheres – Part 11: Equipment protection by intrinsic safety "i"

MARKINGS

The manufacturer is required to apply the following markings:

- Products shall be marked with the markings specified by the particular product standard.
- Products certified for Canada shall have all Caution and Warning markings in both English and French.

Additional bilingual markings not covered by the product standard(s) may be required by the Authorities Having Jurisdiction. It is the responsibility of the manufacturer to provide and apply these additional markings, where applicable, in accordance with the requirements of those authorities.

The products listed are eligible to bear the CSA Mark shown with adjacent indicators 'C' and 'US' for Canada and US (indicating that products have been manufactured to the requirements of both Canadian and U.S. Standards) or with adjacent indicator 'US' for US only or without either indicator for Canada only.

The following marking details can be stamped, etched, silkscreened, molded or embossed on a nameplate or directly onto the enclosure body in a permanent manner. Markings may appear on a minimum 0.02-inch-thick aluminum or stainless-steel nameplate, secured to the outside of the enclosure using non-removable fasteners in blind holes.



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- Manufacturer's name: "Tissin Co., Ltd ", or CSA Master Contract Number "303075", adjacent to the CSA Mark in lieu of manufacturer's name.
 - Model number: As specified in the PRODUCTS section, above.
 - Electrical ratings: As specified in the PRODUCTS section, above.
 - Ambient Temperature range: As specified in the PRODUCTS section, above.
 - Manufacturing date in MMY format, or serial number, traceable to year and month of manufacture.
 - The CSA Mark, with or without the "C" and "US" indicators, as shown on the Certificate of Conformity.
 - The CSA Certificate designation "CSA 21CA80139740X".
 - The following words, or equivalent:
 - "INTRINSICALLY SAFE" or "IS" or "I.S."
 - "Install per drawing TS800 WD 01 A1, TS800 WD 01 A2."
 - Hazardous Location designation: As specified in the PRODUCTS section, above. The word "Class" may be abbreviated "CL", the word "Division" may be abbreviated "DIV", and the word "Groups" may be abbreviated "GRP" or "GP".
 - Method of Protection markings: (Ex – markings): As specified in the PRODUCTS section, above. The word "Class" may be abbreviated "CL", the word "Zone" may be abbreviated "ZN".
 - Enclosure ratings: As specified in the PRODUCTS section, above.
 - The manufacturing location shall be identified if the equipment can be produced in more than one facility.
 - Additionally:
 - ISO 60417, Symbol 5031 \equiv shall be marked adjacent to the DC input terminal rating.
 - ISO 60417, Symbol 5019 \oplus shall be marked adjacent to the equipment ground (protective conductor) terminal.
 - Terminal Designations shall be marked adjacent to each field wiring terminal.

Notes:

Products certified under Class C225804, C225884 have been certified under CSA's ISO/IEC 17065 accreditation with the Standards Council of Canada (SCC). www.scc.ca





Supplement to Certificate of Compliance

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*The products listed, including the latest revision described below,
are eligible to be marked in accordance with the referenced Certificate.*

Product Certification History

Project	Date	Description
80139740	2022-10-03	Original cCSAus Certification of TS800 Series Smart Valve Positioner for Class I, Div 1, Ex ib IIC, IIIC, Class I Zone 1, Zone 21. Type 4/4X; IP66.