

Certificate of Compliance

Certificate:	80139740	Master Contract:	303075	
Project:	80186876	Date Issued:	2024-01-30	
Issued To:	Tissin Co., Ltd. 201-1105, 397, Seokcheon-ro Bucheon-si, Gyeonggi-do, 14449			

Attention: Ha Hae-Lip

South Korea

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.



PRODUCTS

CLASS - C225804 - PROCESS CONTROL EQUIPMENT - Intrinsically Safe, Entity - For Hazardous Locations CLASS - C2258 84 - PROCESS CONTROL EQUIPMENT - Intrinsically Safe, Entity - For Hazardous Locations - Certified to US Standards

Class I, Division 1, Groups A, B, C, D T5...T6 Ex ia IIC T5...T6 Ga Class I, Zone 0, AEx ia IIC T5...T6 Ga Class II, Division 1, Groups E, F, G T112°C...T92°C; Class III Ex ia IIIC T112°C...T92°C Da Zone 20, AEx ia IIIC T112°C...T92°C Da

• Electro-Pneumatic Valve Positioners with Intrinsically Safe, TS 800 series - Model TS8aabScdefg; Enclosure Type 4/4X.

Ambient temperature: T5 (T112°C) -40°C \leq Ta \leq +60°C ; or T6 (T92°C) -40°C \leq Ta \leq +40°C ;



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ENTITY PARAMETERS: DC, Ui(Vmax)=28V, Ii(Imax)=101mA, Pi=707mW, Ci=0.6nF, Li=6uH (for Main circuit, PTM, Alarm1, Alarm2, Limit Switches "Dry Contact") DC, Ui(Vmax)=16V, Ii(Imax)=26mA, Pi=34mW, Ci=30nF, Li=50uH (for Limit Switches "Proximity")

Supply pressure: 140 kPa to 700 kPa. Intrinsically safe when wired per drawing TS800 WD 01 A2.

Model Coding:

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 (T112°C) $-40^{\circ}C \le Ta \le +60^{\circ}C$ T6 (T92°C) $-40^{\circ}C \le Ta \le +40^{\circ}C$ f = Communications: 0 = None1 = 4 - 20mA position transmitter 2 = HART3 = HART with 4 - 20mA position transmitter g = Limit Switch (for TS800/TS805):0 = NoneM = Mechanical type P = Proximity typeD = With dome cover (no limit switch)= Cable (for TS820): 0 = None1 = 5 m long remote cable 2 = 10 m long remote cable X = User defined remote cable length (<20 m long)

Conditions of Acceptability:



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- 1. The equipment may only be powered by a certified intrinsically safe associated apparatus power supply unit meeting the entity concept for the assigned entity parameters defined in the Canadian Electrical Code C22.1 and/or National Electrical Code (NFPA 70).
- 2. The enclosure made of aluminum alloy is considered to present a potential risk of ignition by impact or friction. Particularly, care must be taken during installation and use to prevent impact or friction for applications that specifically require EPL Ga equipment.
- 3. If the enclosures of the equipment incorporates the non-metallic parts which may generate an ignition capable level of electrostatic charge, the equipment shall be installed in a location where the external conditions cannot result in the build-up of electrostatic charge on such surfaces. For example, the equipment shall be installed in the location protected from direct airflow causing a charge transfer. Additionally, the equipment shall only be cleaned with a damp cloth and caution should be used when being handled.
- 4. Do not open when an explosive atmosphere is present. The equipment shall not be opened for installation, repair or overhaul in hazardous area. The user shall consult the manufacturer if there is any problem during the usage.

CLASS - C225803 - PROCESS CONTROL EQUIPMENT - Intrinsically Safe and Non-Incendive Systems - For Hazardous Locations

CLASS - C225883 - PROCESS CONTROL EQUIPMENT - Intrinsically Safe and Non-Incendive Systems - For Hazardous Locations - Certified to US Standards

Class I, Division 2, Groups A, B, C, D T5...T6 Class II, Division 2, Groups F, G T112°C...T92°C ; Class III

• Electro-Pneumatic Valve Positioners with Nonincendive, TS 800 series - Model TS8aabScdefg; Enclosure Type 4/4X.

Supply pressure: 140 kPa to 700 kPa. Nonincendive when wired per drawing TS800 WD 01 A1.

Ambient temperature: T5 (T112°C) -40°C \leq Ta \leq +60°C ; or T6 (T92°C) -40°C \leq Ta \leq +40°C ;

NONINCENDIVE PARAMETERS:

DC, Vmax=28V, Imax (for Main circuit, PTM, Alarm1, Alarm2, Limit Switches "Dry Contact") DC, Vmax=16V, (Imax (for Limit Switches "Proximity")

Model Coding:

Where: aa = Enclosure ratings 00 = (standard) Enclosure Type 4 20 = (remote) Enclosure Type 4 05 = (stainless steel) Enclosure Type 4Xb = L (linear) or R (rotary)



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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 \text{ 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 (T112°C) -40^{\circ}C \le Ta \le +60^{\circ}C
        T6 (T92°C) -40^{\circ}C \le Ta \le +40^{\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):
        0 = None
        M = Mechanical type
        P = Proximity type
        D = With dome cover (no limit switch)
  = Cable (for TS820):
        0 = None
        1 = 5 m long remote cable
        2 = 10 m long remote cable
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X = User defined remote cable length (<20 m long)

Conditions of Acceptability:

- 1. The 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.
- 2. Do not open when an explosive atmosphere is present. The equipment shall not be opened for installation, repair or overhaul in hazardous area. The user shall consult the manufacturer if there is any problem during the usage.

CAN/CSA C22.2 No. 94.2:20	Enclosures for electrical equipment, environmental considerations
Third Edition	
CAN/CSA-C22.2 No. 61010-1-12 +	Safety Requirements for Electrical equipment for Measurement, Control,
UPD1:2015, UPD2:2016, Amd 1 - 18	and Laboratory Use - Part 1 General Requirements

APPLICABLE REQUIREMENTS



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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 (R2023)	Explosive Atmospheres – Part 11: Equipment protection by intrinsic safety "i"
CAN/CSA C22.2 No. 213-17 + UPD 1 (2018) + UPD 2 (2019) + UPD 3 (2021) (R2022)	Nonincendive electrical equipment for use in Class I and II, Division 2 and Class III, Divisions 1 and 2 hazardous (classified) locations
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(R2023) Sixth Edition	Explosive Atmospheres – Part 11: Equipment protection by intrinsic safety "i"
ANSI/UL 121201-2021 Ninth Edition	Nonincendive electrical equipment for use in Class I and II, Division 2 and Class III, Divisions 1 and 2 hazardous (classified) locations

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.

• Manufacturer's name: "Tissin Co., Ltd ", or CSA Master Contract Number "303075", adjacent to the CSA Mark in lieu of manufacturer's name.



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- 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 MMYY 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.".
 - o "Install per drawing TS800 WD 01 A1, TS800 WD 01 A2."
 - "WARNING POTENTIAL ELECTROSTATIC CHARGING HAZARD-SEE INSTRUCTIONS" and "AVERTISSEMENT – DANGER POTENTIEL DE CHARGES ÉLECTROSTATIQUES – VOIR INSTRUCTIONS"
- 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:
 - \circ ISO 60417, Symbol 5031 = --- shall be marked adjacent to the DC input terminal rating.
 - ISO 60417, Symbol 5019 (=) shall be marked adjacent to the equipment ground (protective conductor) terminal.
 - o Terminal Designations shall be marked adjacent to each field wiring terminal.

Notes:

Products certified under Class C225804, C225884, C225803, C225883 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

Certificate: 80139740

Master Contract: 303075

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
00106076	2024 01 20	Undete from Zong 1, Zong 21 and Division 2 to Zong 0, Zong 20 and
80180870	2024-01-30	Division 1. Additional evaluation for Nonincendive.
80139740	2022-10-03	Original cCSAus Certification of TS800 Series Smart Valve Positioner for Class I, Div 2, Ex ib IIC, IIIC, Class I Zone 1, Zone 21. Type 4/4X; IP66.