

1. Introduction

1.1. Overview

This document provides technical information to configure the Experion® Series 8 I/O and the C300 Controller.

1.2. Scope

The following Series 8 hardware items are included in this document.

- Series 8 C300 Controller
- Analog Input with HART – Differential
- Analog Input with HART – Single Ended
- Analog Input – Single Ended
- Low Level Analog (Temperature) Input LLAI
- Analog Output with HART
- Analog Output
- Digital Input, 24 VDC
- Digital Input Sequence of Events (SOE)
- Digital Input Pulse Accumulation
- Digital Output, 24 VDC
- DO Relay Extension Board

1.3. Definitions

- **Input Output Termination Assembly (IOTA):** An assembly that holds the IOM and the connections for field wiring,
- **Input Output Module (IOM):** A device that contains most of the electronics required to perform a specific I/O function. The IOM plugs onto the IOTA.

2. Platform Environmental Specifications

2.1. General Environmental Characteristics

This section relates to the physical characteristics applicable to Series 8 C300 controller and all Series 8 I/O components. Where applicable, specifications state limits within an approved cabinet and to the cabinet skin.

Consideration	Operating Limit ¹	Transportation and Storage Limits ^{1a}
Ambient Temp Range	External: 0 to +50°C ² Internal: 0 to +60°C ³	-40 to 85°C
Temp. Rate of Change	<= 1°C/min	<=5°C/min
Relative Humidity ³	5 to 95% (non-condensing) ⁴	5 to 95% (non-condensing) ⁴
Barometric Pressure Altitude	-300 to +3000 m	Any
Corrosives	G3 Standard (ISA S71.04) - Denoted by "8C-" model number in this doc	G3 Standard (ISA S71.04) - Denoted by "8C-" model number in this doc
Vibration (3 axes)	Sinusoidal (5 to 10 Hz) 2.54mm/0.100in Max (10 to 150 Hz) 0.5 g max. (0-Pk)	Random Vertical Shipping Axis 5 to 300 Hz 1.07 g (rms) Longitudinal and Transverse 10 to 500 Hz, 0.74 g (rms) 60 Minutes each axis
Mechanical Shock (3 Axes)	Site Induced: Terminal Peak Sawtooth waveform 4g max. @25ms	N/A
<p>Note 1 – Operating Limits define the range of operating conditions within which the system is designed to operate. Performance characteristics are defined when operating in this state. Please see ANSA/ISA D 51.1 Process Instrumentation Terminology for more information.</p> <p>Note 1a – Transportation and Storage Limits define the range of conditions to which the system may be subjected without permanent damage to the equipment. Performance is not guaranteed in this state. Please see ANSA/ISA D 51.1 Process Instrumentation Terminology for more information.</p> <p>Note 2 – This rating applies to the external ambient temperature of the Standard 2000mm enclosure with doors closed.</p> <p>Note 3 – This rating applies to the internal ambient temperature of the Standard 2000mm enclosure with the doors closed.</p> <p>Note 4 – The maximum relative humidity spec applies up to 40°C. Above 40°C the RH spec is de-rated to 55% to maintain constant moisture content.</p>		

A note on the transportation of Batteries:

Some Government agencies have regulations that may prohibit air transport of Lithium Batteries.

2.2. Approval Bodies

Approval Body	Certification Category	Description
Factory Manual	Division 2 Approvals	All models are approved as non-incendive for use in Class I, Division 2, Group A, B, C, D hazardous (classified) locations.
	Zone 2 Approvals	All models are approved as normally non-sparking apparatus for use in Class I, Zone 2, AEx nA IIC hazardous (classified) locations. Temperature rating of all individual models as well as cabinet configurations is rated T4.
Canadian Standards Association (CSA)	Division 2 Certifications	All models are certified as suitable for use in Class I, Division 2, Group A, B, C, D hazardous locations.
	Zone 2 Certifications	All models are certified as normally non-sparking apparatus, Ex nA IIC, for use in Zone 2 hazardous locations. Temperature rating of all individual models as well as cabinet configurations is not to exceed T4.
ATEX	Zone 2 Certifications	All models are certified as normally non-sparking apparatus, II 3G Ex nA IIC T4 GC, for use in Zone 2 hazardous locations. Temperature rating of all individual models as well as cabinet configurations are rated T4.
IECEX	Zone 2 Certifications	All models are certified as normally non-sparking apparatus, Ex nA IIC T4 GC, for use in Zone 2 hazardous locations. Temperature rating of all individual models as well as cabinet configurations are rated T4.
European Compliance (CE)	EMC, LVD	<ul style="list-style-type: none"> European EMC Directive 2014/30/EU EN 61326-1 2013 Electrical equipment for measurement, control and laboratory use - EMC requirements. European LVD Directive 2014/35/EU IEC/EN 61010-1:2010 Safety Requirements for Electrical Equipment for Measurement, Control and Laboratory Use. Part 1: General Requirements
Others		C-Tick