

Experion LS I/O Specifications and Technical Data



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5.1 Power Calculations

The Chassis Series-A power supply provides 24 Vdc, 5 Vdc, 3.3 Vdc, and 1.2 Vdc. Each module that is inserted into the chassis will consume a portion of the available power. The user must ensure that the planned configuration and mix of modules does not exceed the capability of the power supply. See power consumption section “Module Power Consumption Data”.

5.2 Series-A Power Supply Specifications

Table 5-1 – Standard (non-redundant) Power Supply Modules

Model	Uncoated:	TC-FPCXX2	TC-FPDXX2
	Coated:	TK-FPCXX2	TK-FPDXX2
Input Voltage Range		85-132 VAC or 170-265 VAC (selectable)	19.2-32 VDC ¹
Input Power ²		150 VA, 92 W	100 W
Maximum Inrush Current		15 A	30 A
Frequency Range		47-63 Hz	DC
Total power output maximum, watts		70 W @ 60 °C	70 W @ 60 °C
Backplane Output Current, Maximum ³		1.5 A @ 1.2 V 4 A @ 3.3 V 10 A @ 5.1 V 2.8 A @ 24.0 V	
Fuse Protection ⁴		non-replaceable fuse is soldered in place	
Wiring		#14 AWG (1.4 mm)	
Dimensions (L x D x H)		11.2 x 14.5 x 14.0 cm (4.41 x 5.71 x 5.51 in)	
Weight – Approximate		1.1 kg (2.5 lb.)	
Location		Left side of chassis (does not consume a slot)	
<ol style="list-style-type: none"> 1. Input may drop to 16 V for a maximum of 2 minutes each hour for motor starting. 2. Note earlier models were rated as follows: TC-FPCXX1 -- 55 W @ 60°C; 70 W @ 45°C and TC-FPDXX1 -- 50 W @ 60°C; 70 W @ 40°C. 3. The combination of all output power (5 V backplane, 24 V backplane, 3.3 V backplane and 1.2 V backplane) cannot exceed 70 W. 4. This fuse is intended to guard against fire hazard due to short circuit conditions and may not protect the power supply from damage under overload conditions. 			

Table 5-2 Redundant Power Supply Modules

Model	Uncoated:	TC- RPCXX1	TC- RPDXX1
	Coated:	TK- RPCXX1	TK- RPDXX1
Input Voltage Range		85 – 265 VAC	16 – 32 VDC
Input Power		110VA, 110 W (estimated)	110 W (estimated)
Maximum Inrush Current		20 A	30 A @ 19 – 32 VDC
Frequency Range		47 – 63 Hz	DC
Total power output maximum, watts		75 W @ 60 C	75 W @ 60 C
Backplane Output Current, Maximum ¹		1.5 A @ 1.2 V 4 A @ 3.3 V 13 A @ 5.1 V 2.8 A @ 24.0 V	
Input Power Wiring		#14 AWG (1.4 mm)	
Annunciation User Connection ²		Solid state relay rated for 120 VAC/DC at 100ma maximum	
Dimensions (L x D x H)		14.4 x 13.7 x 17.5 cm (5.67 x 5.39 x 6.89 in)	
Weight – Approximate		1.1 kg (2.5 lb.)	
Redundant Power Supply Cable Model (3ft)		TC-RPSC03 (one required per power supply)	
Power Supply Cable Weight – Approximate		0.57 kg (1.25 lb.)	
Location ³		Upright mounting, typically above/below chassis to be powered.	
1. The combination of all output power (5 V backplane, 24 V backplane, 3.3 V backplane and 1.2 V backplane) cannot exceed 75 W. 2. In order to pass certain input power surge testing for CE certification, the length of the wiring from this relay must be limited to ten (10) meters. 3. It is not recommended to mount the power supply above/below its partner power supply as this could create ambient temperatures that are greater than 60 C within 1.0 inch of the bottom of the power supply.			

Table 5-3 Redundant Power System Chassis Adaptor

Model	Uncoated:	TC-RPSCA2
	Coated:	TK-RPSCA2
Dimensions (L x D x H)		3.4 x 14.4 x 15.0 cm (1.34 x 5.67 x 5.91 in.)
Weight – Approximate		0.228 kg (0.50 lb.)
Location		Left side of chassis (does not consume a slot)
Environmental Conditions		See Table 3.
Chassis compatibility ¹		TC-FXX042, TC-FXX072, TC-FXX102, TK-FXX102, TC-FXX132, TK-TXX132, TC-FXX172
1. The Chassis Adapter Module will only mount to Chassis model numbers identified above due to a physical interlock. These chassis models are rated for the 13 A supplied by the redundant power supplies. Earlier versions of the chassis were only rated for 10 A.		

The Redundant Power Supply System is designed with the following features:

- Current Sharing Control between each supply – for maximum power supply life
- Error Detection – for maximum security
- Error Annunciation – for immediate notification
- LED Indication – indicating redundant, non-redundant, and failure conditions

6. General Module Specifications

Table 6-1 General Environmental and Agency Certifications

Parameter	Specification	
Environmental Conditions	0 to 60 °C (32 to 140°F) -40 to 85°C (-40 to 185°F) 5 to 95% noncondensing ≤ 1°C/min. (≤ 5°C/min. storage)	
Coated Models (TK-xxxxx) ²	Mild (G1) Moderate (G2) or Harsh (G3)	
	Operative and Storage Limits	Transportation Band
Vibration (3 axes)		
Frequency	10 to 60 Hz	10 to 60 Hz
Acceleration	0.5 g max.	1 g max.
Displacement	0.1 inches	0.1 inches
Mechanical Shock		
Acceleration	5 g max.	20 g max.
Duration	30 ms max.	30 ms max.
Barometric Pressure	-300 to +3000 m	Any
Altitude		
Agency Certification (when product is marked)	 UL 508 Industrial Control Equipment	
	 Class I, Div 2, Groups A, B, C & D Hazardous and Ordinary locations (Maintenance may require a hot work permit)	
	 89/336/EEC, EMC Directive EN 50081-2, Emissions, Industrial EN 50082-2, Immunity, Industrial	
	 (C-Tick) Meets requirements of the Australian Radiocommunications Act of 1992, Section 182, relating to electromagnetic compatibility.	
Removal/Insertion Under Power (RIUP)	<p>NOT PERMITTED when equipment is installed in a Class I, Division 2, Hazardous (Classified) Location.</p> <p>PERMITTED when equipment is installed in ordinary, non-hazardous, locations (I/O modules reload automatically)</p>	
<p>The above environmental and agency specifications apply to all Experion Chassis Series A models, including Controllers, Power Supplies and I/O, except where noted.</p> <ul style="list-style-type: none"> • The maximum relative humidity specification applies up to 40°C. Above 40°C the RH specification is de-rated to 55% to maintain constant moisture content. • With an enclosure. • The 1/2AA Control Processor Lithium Battery (TC-BATT01) has a non-restricted classification due to its size. It can be shipped without any special documentation or note on the shipping list. The battery is specified for operation from -55 °C to +85 °C. 		

CE-Mark Approval. The C200 and Series-A I/O system fully meet stringent industrial CE-Mark (European Community) immunity and emissions requirements.

Conformal Coating Corrosion Protection. Corrosion is one of the leading failure mechanisms of electronic boards in harsh environments. To insure the maximum possible reliability in corrosive industrial environments, Honeywell provides an optional conformal coating solution. Conformal coating is highly recommended for any installations for which the ambient environment meets either Moderate (G2) or Harsh (G3) conditions as defined by *ANSI/ISA-S71.04-1985, "Environmental Conditions for Process Measurement and Control Systems: Airborne Contaminates."*

Chassis Series-A Model Numbers beginning with a TK- have conformal coating applied. Model numbers beginning with TC- do not.