

**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 <sup>1</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |           | 1.5 A @ 1.2 V<br>4 A @ 3.3 V<br>13 A @ 5.1 V<br>2.8 A @ 24.0 V |                    |
| Input Power Wiring                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |           | #14 AWG (1.4 mm)                                               |                    |
| Annunciation User Connection <sup>2</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |           | 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 <sup>3</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |           | Upright mounting, typically above/below chassis to be powered. |                    |
| <div>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.</div> <div>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.</div> <div>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.</div> |           |                                                                |                    |

**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 <sup>1</sup>                                                                                                                                                                                                                                   |           | 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)<br>-40 to 85°C (-40 to 185°F)<br>5 to 95% noncondensing<br>≤ 1°C/min. (≤ 5°C/min. storage)                                                                                                                                |                                       |
| Coated Models (TK-xxxxxx) <sup>2</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Mild (G1)<br>Moderate (G2) or Harsh (G3)                                                                                                                                                                                                           |                                       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Operative and Storage Limits                                                                                                                                                                                                                       | Transportation Band                   |
| Vibration (3 axes)<br>Frequency<br>Acceleration<br>Displacement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 10 to 60 Hz<br>0.5 g max.<br>0.1 inches                                                                                                                                                                                                            | 10 to 60 Hz<br>1 g max.<br>0.1 inches |
| Mechanical Shock<br>Acceleration<br>Duration                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 5 g max.<br>30 ms max.                                                                                                                                                                                                                             | 20 g max.<br>30 ms max.               |
| Barometric Pressure<br>Altitude                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | -300 to +3000 m                                                                                                                                                                                                                                    | Any                                   |
| Agency Certification<br>(when product is marked)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  UL 508 Industrial Control Equipment                                                                                                                             |                                       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  Class I, Div 2, Groups A, B, C & D Hazardous and Ordinary locations<br>(Maintenance may require a hot work permit)                                             |                                       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  89/336/EEC, EMC Directive<br>EN 50081-2, Emissions, Industrial<br>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)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <b><u>NOT PERMITTED</u></b> when equipment is installed in a Class I, Division 2, Hazardous (Classified) Location.<br><b><u>PERMITTED</u></b> when equipment is installed in ordinary, non-hazardous, locations (I/O modules reload automatically) |                                       |
| The above environmental and agency specifications apply to all Experion Chassis Series A models, including Controllers, Power Supplies and I/O, except where noted. <ul style="list-style-type: none"><li>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.</li><li>With an enclosure.</li><li>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.</li></ul> |                                                                                                                                                                                                                                                    |                                       |

**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.**

## 6.1 Summary of Series-A Modules and Model Numbers

**Table 6-2: Standard/Traditional I/O Modules & Model Numbers**

| Module Description<br>(All modules below are single-wide modules) | No. of I/O<br>Channels | No. of TB<br>Pins (1) | Honeywell Model<br>(2) TC <u>or</u> TK- |
|-------------------------------------------------------------------|------------------------|-----------------------|-----------------------------------------|
| <i>Analog Input and Output</i>                                    |                        |                       |                                         |
| High Level Analog Input, (10V & 4-20ma)                           | 6                      | 20                    | IAH061                                  |
| Analog Output, (4-20ma)                                           | 6                      | 20                    | OAH061                                  |
| Analog Output, (10v)                                              | 6                      | 20                    | OAV061                                  |
| Thermocouple Input <i>see note (4)</i>                            | 6                      | 20                    | IXL061                                  |
| Thermocouple Input                                                | 6                      | 20                    | IXL062                                  |
| RTD Input                                                         | 6                      | 20                    | IXR061                                  |
| Analog Input, Voltage and Current                                 | 16                     | 36                    | IAH161                                  |
| Analog Output, Current/Voltage                                    | 8                      | 20                    | OAV081                                  |
| Analog Input, Voltage/Current/HART enabled                        | 8                      | 36                    | HAI081                                  |
| Analog Output, Voltage/Current/HART enabled                       | 8                      | 20                    | HAO081                                  |
| <i>Isolated Discrete Relay</i>                                    |                        |                       |                                         |
| 24-220 VAC Output (8 NO & 8 NC)                                   | 8                      | 36                    | ORC081                                  |
| 24-220 VAC Output (16 NO)                                         | 16                     | 36                    | ORC161                                  |
| <i>AC Input (Discrete)</i>                                        |                        |                       |                                         |
| 120 VAC, (Isolated)                                               | 16                     | 36                    | IDK161                                  |
| 220 VAC, (Isolated)                                               | 16                     | 36                    | IDW161                                  |
| 120 VAC, (Diagnostic)                                             | 8                      | 20                    | IDX081                                  |
| 120 VAC                                                           | 16                     | 20                    | IDA161                                  |
| 120 VAC (2 Isolated Groups)                                       | 32                     | 36                    | IDB321                                  |
| <i>AC Output (Discrete)</i>                                       |                        |                       |                                         |
| 120/220 VAC, (Isolated)                                           | 16                     | 36                    | ODK161                                  |
| 120 VAC, (Diagnostic)                                             | 8                      | 20                    | ODX081                                  |
| 120/220 VAC,                                                      | 16                     | 20                    | ODA161                                  |
| <i>DC Input (Discrete)</i>                                        |                        |                       |                                         |
| 24 VDC (Isolated)                                                 | 16                     | 36                    | IDJ161                                  |
| 10-30 VDC (Diagnostic)                                            | 16                     | 36                    | IDX161                                  |
| 24 VDC                                                            | 32                     | 36                    | IDD321                                  |
| <i>DC Output (Discrete)</i>                                       |                        |                       |                                         |
| 24 VDC (Isolated)                                                 | 16                     | 36                    | ODJ161                                  |
| 10-30 VDC (Diagnostic)                                            | 16                     | 36                    | ODX161                                  |
| 24 VDC                                                            | 32                     | 36                    | ODD321                                  |

**Table 6-3: Chassis - Series A Network and Specialty I/O Module Model Numbers**

| Description                                                                                                                                                                   | Chassis Slots Used | Model Number    |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-----------------|
| Specialty Modules                                                                                                                                                             |                    |                 |
| PI (High Speed Pulse Input). 8-high speed counter inputs & 2- On/Off outputs. This module uses a 36 pin Terminal Block (TC-TBCH). Corresponding A-B model number is 1756-IJ4. | 1                  | TK-MDP081       |
| SI (Serial Interface) module. Provides 2-Serial Channels to communicate with smart devices.                                                                                   | 2                  | TC or TK-MUX021 |
| C200 Control Processor<br>For complete information, consult the C200 Specification document.                                                                                  | 2                  | TK-PRS021       |
| RM (Redundancy Module) to support C200 redundancy                                                                                                                             | 2                  | TK-PRR021       |
| Communication/ Network/ Gateway Modules                                                                                                                                       |                    |                 |
| PBIM (PROFIBUS DP Interface Module)<br><i>Order directly from SST</i><br>For complete information, consult the PBIM Specification document.                                   | 1                  | SST-PFBCLX      |
| DeviceNet Bridge Module. <i>Order directly from Allen-Bradley</i><br>For complete information, consult the DeviceNet Specification document.                                  | 1                  | 1756-DNB        |
| IOLIM (I/O Link Module), Interface for PMIO.<br>For complete information, consult the PMIO Specification document.                                                            | 2                  | TK-IOLI01       |
| CNI (Single media Type)                                                                                                                                                       | 1                  | TC-CCN014       |
| CNI (Dual Media Type)                                                                                                                                                         | 1                  | TC OR TK-CCR014 |
| Ethernet Module                                                                                                                                                               | 1                  | TK-FTEB01       |

## 6.2 Series-A Chassis Summary

**Table 6-4 – Series-A Chassis Types & Specifications**

| Table 7. TC-FXX041, TC-FXX071, TC-FXX102, TC-FXX132, TC-FXX171, TK-FXX101, TK-FXX131 |              |                                                            |                                  |
|--------------------------------------------------------------------------------------|--------------|------------------------------------------------------------|----------------------------------|
| Model                                                                                | Module slots | Dimensions (with mounting tabs & power supplies) W x H x D | Approx. weight (without modules) |
| TC-FXX042                                                                            | 4            | 26.3 x 16.9 x 14.5 cm (10.3 x 6.7 x 5.8 in)                | 0.75 kg (1.6 lbs)                |
| TC-FXX072                                                                            | 7            | 36.8 x 16.9 x 14.5 cm (14.5 x 6.7 x 5.8 in)                | 1.1 kg (2.4 lbs)                 |
| TC-, TK-FXX102                                                                       | 10           | 48.3 x 16.9 x 14.5 cm (19.0 x 6.7 x 5.8 in)                | 1.45 kg (3.2 lbs)                |
| TC-, TK-FXX132                                                                       | 13           | 58.8 x 16.9 x 14.5 cm (23.1 x 6.7 x 5.8 in)                | 1.9 kg (4.2 lbs)                 |
| TC-FXX172                                                                            | 17           | 73.8 x 16.9 x 14.5 cm (29.1 x 6.7 x 5.8 in)                | 2.2 kg (4.8 lbs)                 |
| Minimum Chassis-to-Cabinet Vertical Distance                                         |              | 15.2 cm (6.0 in)                                           |                                  |
| Minimum Chassis-to-Cabinet Horizontal Distance                                       |              | 10.2 cm (4.0 in)                                           |                                  |
| Minimum Chassis-to-Chassis Vertical Distance                                         |              | 20.3 cm (8.0 in)                                           |                                  |
| Minimum Chassis-to-Chassis Horizontal Distance                                       |              | 10.2 cm (4.0 in)                                           |                                  |
| Type of mount                                                                        |              | Panel mount                                                |                                  |
| Environmental Conditions Agency Certification                                        |              | Same as Power Supply Specifications                        |                                  |
| Minimum Enclosure Depth                                                              |              | 20.3 cm (8.0 in)                                           |                                  |