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EXPERION PKS

Universal Process Cabinet Planning, Installation, and Service Guide

EPDOC-X637-en-B

January 2021

Part Number	Description
50154983-001	Cabinet, SS 316L, 1.3M
50154751-001	1.3M Back Plate - Power
50154751-002	1.3M Back Plate - Comm
50154751-003	1.3M Back Plate - IO
FC-PSUNI2424	Power Supply, ATDI, 600W
51198685-100	Power Supply, ATDI
51454235-100	Power Supply, ATDI, Power Shelf
51202676-300	Power Supply, ATDI, Mounting Bracket
50151665-001	Power Supply, QUINT 4+ AC/DC
50165610-001	Power Supply, QUINT 4+ DC/DC
CC-USCA01	Assembly, Integrated FTA, USCA
CC-UPTA01	Module, Pass Thru, UPTA
CC-UDOR01	Module, Pass Thru, UPTA, LV DO Relay, UDOR
CC-UDIR01	Module, Pass Thru, UPTA, LV DI Relay, UDIR
50159943-003	USCA 24V DC Terminal Block
50159943-004	Field Power 24V DC Terminal Block
CC-IION01	CN100 I/0 Networking & Control Module
50154761-001	CN100 SFP Module - Single Mode
50154762-001	CN100 SFP Module - Multi Mode
CC-TION13	CN100 IOTA - Din Rail Mount
CC-INAM01	CN100 Network Adapter Module
STT650-T2-0-B-CH0-13SA-00	STT650 Module DC
FC-MCAR-03	Panel Carrier Assembly, 36”
CC- TUI041	UIO2 IOTA Redundant
CC-TUI031	UIO2 IOTA Non-redundant
CC-PUI031	UIO2 Module
50159943-001	DC Distribution Terminal Block
51202694 -100	AC Terminal Block, 49 Amps
CC-TA I L51	LLAI 9-inch IOTA
CC -PA I L51	LLAI Process Module
51121566-100	Ground Bar Assembly, Safety
51121566-101	Instrument Ground Bar
51121566-102	Shield Ground Bar
ICF 1150I-SSCT-HPSC	Fiber Optic Transceiver, Isolated
ICF 1150I-MSTT-HPSC	Fiber Optic Transceiver, Isolated, Multimode
4600135	Ethernet Switch, CC, MOXA PN: EDS-305-S-SC-T (HPS-C)
4600120	Ethernet Switch, CC, MOXA PN: EDS-305-M-SC-T (HPS-C)
51509541-001	Patch Panel

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2.3 UPC Configuration Options

The following are some of the features of UPC:

- IP66 316L stainless steel cabinets
- Hazardous Location (HAZLOC) approvals
- Maximum of 96 redundant points which can be a combination of Intrinsically Safe (IS) and non-IS points:
  - 64 IS and 32 Non-IS, or
  - 32 IS and 64 Non-IS, or
  - 96 IS, or
  - 96 non-IS
- CN100 supporting Experion PKS IO HIVE and optional Control Solver License
- Extended temperature ranges of -40°C minimum, +55°C maximum with no external cooling or heating. Refer to “About heat dissipation in the cabinet” in the Planning section for further information regarding temperature ranges and configuration allowances.
- Document holder on the inside of the door
- This product can provide power and communication to an external Field Device Access Point
- This product supports FOE “leapfrogging” to enable cabinet-to-cabinet connection
- This product supports redundant AC mains power
- This product supports AC power “daisy chaining” from cabinet to cabinet, up to 3 cabinets total

UPC hardware is configured based on the user’s functional needs.

Power Supply Options:

- ATDI Power Supply: 51198685-100, 20A
- ATDI Power Supply: FC-PSUNI2424, 25A
- Phoenix Contact Power Supply: Quint 4+, 20A

IO Link Options:

- Experion PKS IO HIVE: CN100 Ethernet, Single Mode or Multi Mode Fiber
- Ser-C Serial IO Link: Single mode or Multi Mode Fiber Optic Extenders

Marshalling Options:

- Directly on IOTA: Not Additional hardware required
- Universal Marshalling: CC-USCA01 with Signal Conditioning Adapters
- VIPER Marshalling: VIPER Terminal Assembly with Input/Output Accessories
- Weidmuller: Field Termination Assembly

The certified permissible configurations of the UPC are shown in the table below, with default CSA IEC Ex Class1 Div 2/ ATEX Zone 2 Certification.

Cabinet Identifier: ABC-DEF-GHJKLM-NP-QR

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2.5 Cabinet Temperature Limits and Heat Dissipation

Ambient temperature range in the cabinet is a minimum of -40°C to a maximum of +55°C.

Current limit ranges from 10 A to 16 A.

A detailed breakdown of loading allowances per configuration and output temperatures can be found in the Hazloc manual.

The table below shows maximum output currents for various power supply types.

Power Supply Type	Temperature Range	Output Current Limits[1]	Internal Fans	Power Dissipation Limits
QUINT4-PS/1AC/24DC/20/+ or QUINT4-PS/24DC/24DC/20/SC/+	-40°C min, +40°C max	20A[2] max	no	80W
	-20°C to +50°C...+55°C	16A-20A[2] max	yes	70W to 80W max
	-20°C to +55°C	4A	yes	101.04W
51454235-100 w/ 51198685-100 or FC-PSUNI2424	-20°C to +50°C...+55°C	10A-16A max	yes	30W to 50W max
	-40°C min, +40°C max	16A max	no	50W

Temperature limits of UPC systems (Maximum range)

Notes:

1. Refer to Hazloc manual 51156760 for further details regarding loading limits per configurations.

2. For power supply redundancy consideration, limit the output current to 15.5A to ensure one power supply can support the full output load at maximum rating ambient conditions.

NOTE
The following SCA Barriers & Isolators are not available for this configuration: CC-UGAI01, CC-UAIA01, CC-UGAO01, CC-UAOA01.

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2.6 Supported power system

The UPC is configured with one of the following AC/DC redundant power supply systems.

Power supply system	Part Number	Description
ATDI power shelf	51198685-100 (2x)	Power module
	51454235-100 (1x)	Two PSU Chassis
Phoenix Contact AC/DC	50151665-001 (2x)	QUINT 4+ Power supply
Phoenix Contact DC/DC	50165610-001 (2x)	QUINT4+ Power Supply
ATDI	FC-PSUNI2424 (2x)	POWER SUPPLY, 600W

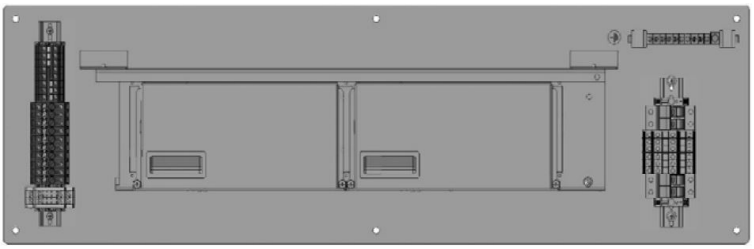
Supported power module and Two PSU Chassis

ATTENTION
The following options are not available for the power supply system:

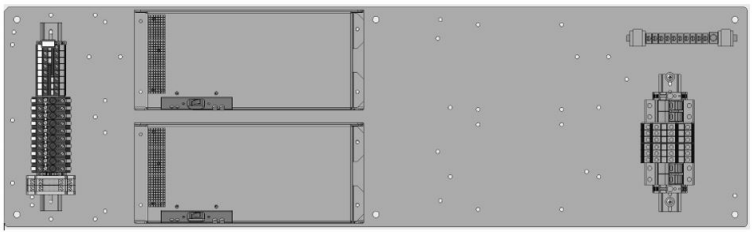
- Cabinet level battery backup unit
- External +24VDC support for UPC

For more information about the power supply, see AC Input Requirements.

2.6.1 Backplates Power Supplies



Back Plate for ATDI power shelf



Back Plate for ATDI 600W power supply

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5.4 Optimal replaceable units

This subsection identifies the assemblies that may be required for maintenance during the life of the UPC.

Part Number	Description
CC-TUIO41	Universal I/O-2 IOTA, Redundant
CC-TUIO31	Universal I/O-2 IOTA, Non-Redundant
CC-PUIO31	Universal I/O-2 Module
CC-TAIL51	LLAI IOTA
CC-PAIL51	LLAI Module
FC-PSUNI2424	POWER SUPPLY, ATDI, 600W
51198685-100	POWER SUPPLY, ATDI
51454235-100	POWER SUPPLY, ATDI, POWER SHELF
51202676-300	POWER SUPPLY, ATDI, MOUNTING BRACKET
50151665-001	POWER SUPPLY, QUINT 4+ AC/DC
ICF-1150I-S-SC-T	MOXA Single Mode Fiber Optic Extender, extended temp, isolated
ICF-1150I-MSTT-HPSC	MOXA Multi Mode Fiber Optic Transceiver, isolated
51454248-100	Fan Assembly
SPH-01P	Corning Patch Panel
CC-USCA01	Universal Signal Conditioning Assembly
CC-UPTA01 Universal Pass Through Adapter	Universal Pass Through Adapter
CC-UDIR01	Digital Input Relay Adapter
CC-UDOR01	Digital Output Relay Adapter
CC-ULLI01	Universal Low Level Input Adapter
CC-UAIA01	Universal Analog Input Isolator
CC-UAOA01	Universal Analog Output Isolator
CC-UDXA01	Universal Digital Input/Output Isolator
CC-UGAI01	Universal Analog Input Barrier
CC-UGAO01	Universal Analog Output Barrier
CC-UGDA01	Universal Digital Input/Output Barrier

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PRODUCT: FC-PSUNI2424 SPS6061-LF / 600 W UNIVERSAL PROCESS CABINET POWER SUPPLY

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