Honeywell

High-Performance Process Manager Planning

HP02-500

TotalPlant

Section 2 – HPM Description

2.1 Overview

Section contents

The topics covered in this section are:

HPM major assemblies

The High-Performance Process Manager subsystem (HPM) consists of major assemblies described in the following subsections. The major High-Performance Process Manager assemblies are

- High-Performance Process Manager Module (HPMM) card file
- Input/Output Processor (IOP) card file
- Input/Output Processor (IOP) card
- I/O Link Extender
- Field Termination Assembly (FTA)
- Power System

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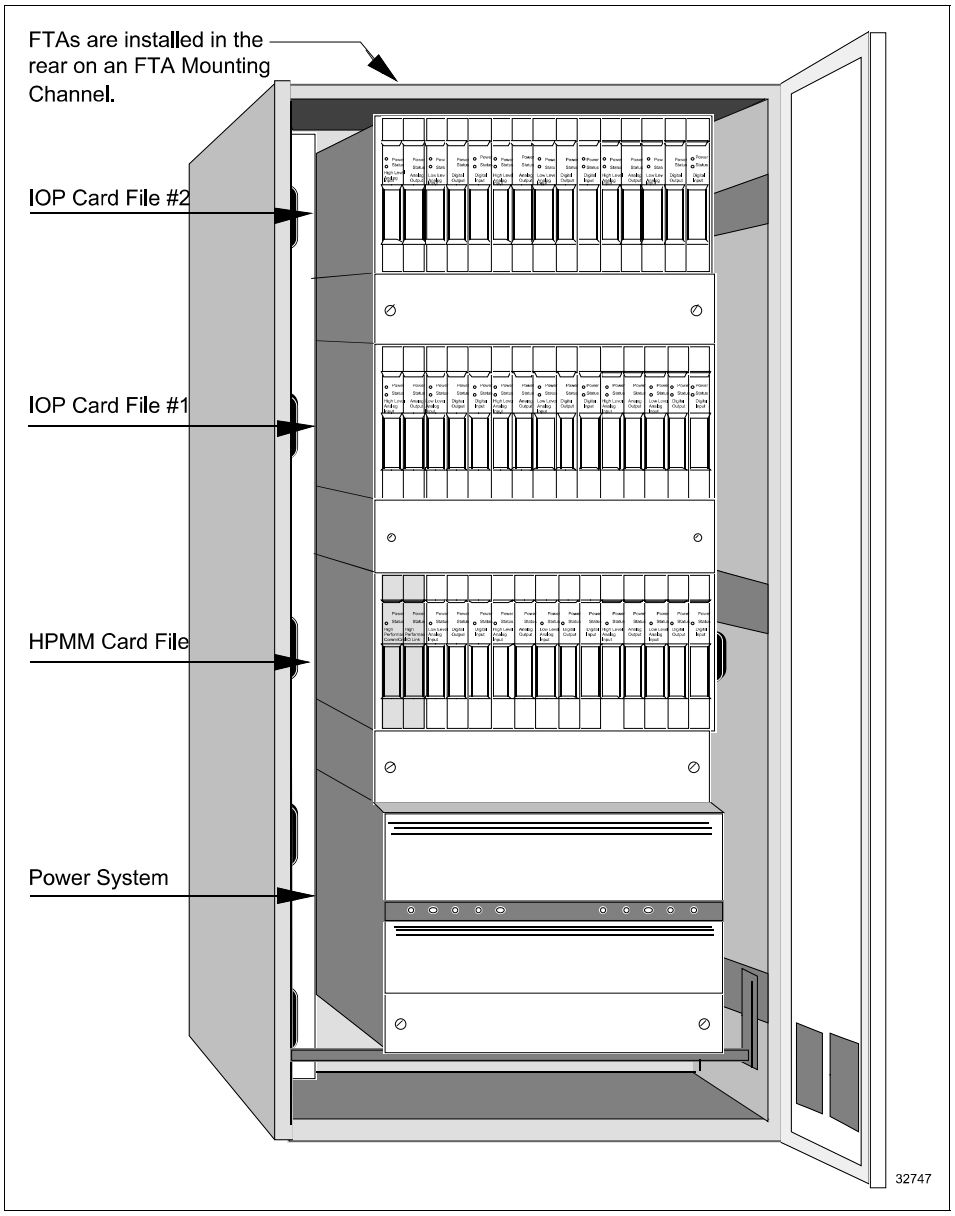
Nonredundant HPM cabinet layout

Figure 2-1 is an illustration of a single High-Performance Process Manager cabinet containing a nonredundant High-Performance Process Manager Module (HPMM) with supporting assemblies. The HPMM cards (2) and the IOPs cards are installed in 15-Slot HPMM card files. IOP cards occupy the IOP card files.

Figure 2-1 Nonredundant HPMM Cabinet Layout



2.2 Card Files

Introduction

There are nine card file models. Three models are not CE Compliant and six models are CE Compliant. Table 2-1 lists the nine card file models. All models are also available with conformal coating (a model number with a prefix of MC, rather than MU).

Table 2-1 Card File Models

Card File Description	CE Compliant	Non-CE Compliant
Left 7-Slot HPMM or IOP	N/A	MU-HPFH01
Right 7-Slot HPMM or IOP	N/A	MU-HPFH11
15-Slot HPMM or IOP	N/A	MU-HPFX02
Left 7-Slot HPMM	MU-HPFH03	N/A
Right 7-Slot HPMM	MU-HPFH13	N/A
15-Slot HPMM	MU-HPFX03	N/A
Left 7-Slot IOP	MU-HPFI03	N/A
Right 7-Slot IOP	MU-HPFI13	N/A
15-Slot IOP	MU-HPFI23	N/A

Non-CE Compliant card file models

The non-CE Compliant card file models can be designated as an HPMM card file or an IOP card file by either installing an HPMM card set in the two left-most card slots or installing IOP cards.

CE Compliant card file models

Unlike the non-CE Compliant card file models, the CE Compliant card file models are designated either an HPMM card file or an IOP card file because even though their is no electrical difference in the backpanel, they differ mechanically. The addition of a ground plate and filtered IOP connectors in the two left-most slots prohibits the installation of an HPMM card set.

The card file is designated an IOP card file when the ground plate and filtered connectors are present.

The card file is designated an HPMM card file when the ground plate and filtered connectors are absent.

Conversion kit

A CE Compliant HPMM card file can be converted to an IOP card file with a model MU-ZPFI03 upgrade kit. The kit adds 2 filtered IOP adapter connectors to the two left-most card slots and a ground plate extension.

2.2.1 HPMM Card Files

Three types of HPM card files

There are three types of HPMM card files. The two left-most slots of each type are populated by the three assemblies that comprise the HPMM. The remaining slots accommodate IOPs.

If the card file is a non-CE Compliant card file, the two left-most slots of each type can also accommodate IOPs with no alterations. The card file is then designated an IOP card file.

HPMM description

The High-Performance Process Manager Module (HPMM) is composed of two card assemblies that install in the two left-most slots in a 7-Slot or 15-Slot card file, and a UCN interface module that mounts and connects to the 50-pin connector that is directly below the left-most card.

The three HPMM assemblies are identified as follows:

- High-Performance Communications/Control (High-Performance Comm/Control) card
- High-Performance I/O Link Interface (High-Performance I/O Link) card
- High-Performance UCN Interface (HPM UCN Interface) module

The HPM UCN Interface module connects to the 50-pin connector below the High-Performance Comm/Control card.

Left 7-Slot HPMM card file description

The Left 7-Slot card file accepts the two HPMM cards and the HPM UCN Interface module that comprise the HPMM, and accommodates up to five IOP cards. The card slots are numbered 1 through 7, starting at the left-most position.

The High-Performance Comm/Control and High-Performance I/O Link cards occupy slots 1 and 2, while the HPM UCN Interface module mounts below slot 1 and connects to its 50-pin connector.

Slots 3 through 7 can accommodate IOP cards. The IOP card slots assume numerical I/O Link Interface addresses of 3 through 7 and binary I/O Link Interface addresses of 2 through 6.

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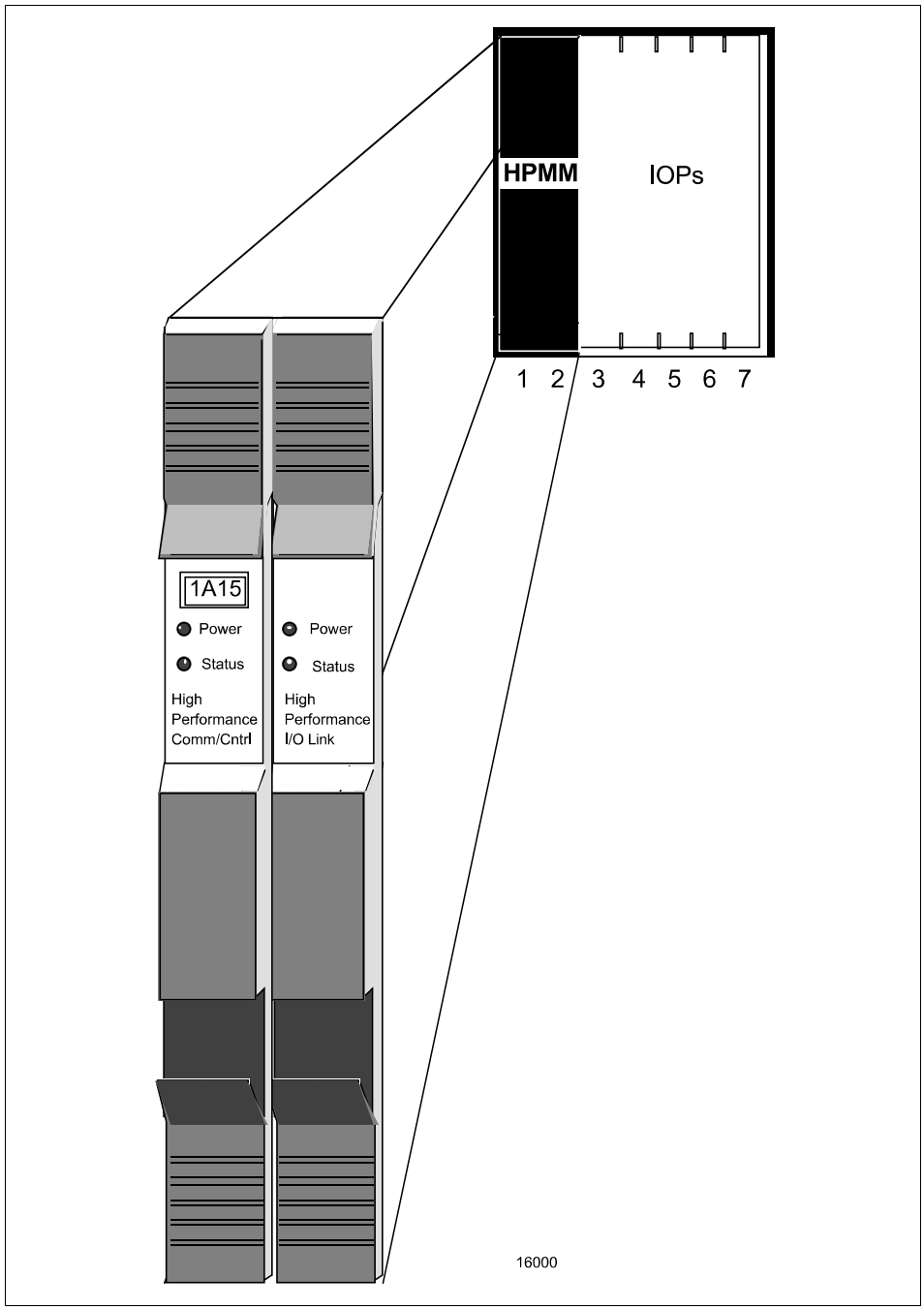
2.2.1 HPMM Card Files, Continued

Left 7-Slot HPMM card file illustration

Figure 2-2 is an illustration of a Left 7-Slot HPMM card file and the two HPMM cards that occupy slots 1 and 2.

Figure 2-2 Left 7-Slot HPMM Card File



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3.4.1 Typical 24 Vdc Power Draw Calculations, Continued

Assembly 24 Vdc power usage, continued

Table 3-1 HPM Assembly 24 Vdc Power Usage, Continued

Description	Model Number	Channels	Assembly Current (Milliamps)
AO FTA	MU-TAOX02	8	160
AO FTA	MU-TAOX12/52	8	171
AO FTA	MU-TAOY22/52	16	324
AO FTA	MU-TAOY23/53	16	324
24 Vdc DI FTA	MU-TDID12/52	32	408
24 Vdc DI FTA	MU-TDID72	32	410
24 Vdc Power Distribution Assembly	MU-TDPR02	12	200
24 Vdc DI FTA	MU-TDIY22/62	32	196
120 Vdc DI FTA	MU-TDIA12/52	32	192
120 Vdc DI FTA	MU-TDIA72	32	200
240 Vdc DI FTA	MU-TDIA22/62	32	192
24 Vdc Nonisolated DO FTA	MU-TDON12/52	16	0
24 Vdc Isolated DO FTA	MU-TDOY22/62	32	004
3-30 Vdc Solid-State DO FTA	MU-TDOD12/52	16	160
3-30 Vdc Solid-State DO FTA	MU-TDOD13/53	16	160
3-30 Vdc Solid-State DO FTA	MU-TDOD14/54	16	160
31-200 Vdc Solid-State DO FTA	MU-TDOD22/62	16	160
5-200 Vdc Solid-State DO FTA	MU-TDOD23/63	16	160
24-240 Vac Solid-State DO FTA	MU-TDOA12/52	16	160
120/240 Vac Solid-State DO FTA	MU-TDOA13/53	16	160
120 Vac/125 Vdc Relay DO FTA	MU-TDOR12/52	16	470
240 Vac/125 Vac Relay DO FTA	MU-TDOR22/62	16	470
240 Vac/125 Vac Relay DO FTA	MU-TDOY23/63	16	228
PI FTA	MU-TPIX12/52	8	136

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Standard FTAs, continued

Table 4-1 Standard FTAs and Associated Assemblies, Continued

Model Number	Description	Terminal Type	Channels	Mounting Size
MC-GRMT01	Remote Hardened Low Level Analog Input Multiplexer TC Local CJR	S	16	Non Standard
MU-GRPA01	RHMUX GI/IS Power Adapter	C	2	A
MU-TRPA01	RHMUX GI/NI Power Adapter	C	2	B
MU-TAOX02	Analog Output (Single IOP)	C	8	A
MU-TAOX12	Analog Output	C	8	B
MU-TAOX52	Analog Output	S	8	B
MU-TAOY22	Analog Output with Standby Manual Connector	C	16	B
MU-TAOY23	Analog Output without Standby Manual Connector	C	16	B
MU-TAOY52	Analog Output with Standby Manual Connector	S	16	B
MU-TAOY53	Analog Output without Standby Manual Connector	S	16	B
MU-TDID12	24 Vdc Digital Input	C	32	C
MU-TDID52	24 Vdc Digital Input	S	32	C
MU-TDID72	24 Vdc Digital Input (Single IOP)	RS	32	C
MU-TDIY22	24 Vdc Digital Input	C	32	B
MU-TDIY62	24 Vdc Digital Input	S	32	B
MU-TDIA12	120 Vdc Digital Input	C	32	C
MU-TDIA52	120 Vdc Digital Input	S	32	C
MU-TDIA72	120 Vdc Digital Input (Single IOP)	RS	32	C
MU-TDIA22	240 Vdc Digital Input	C	32	C
MU-TDIA62	240 Vdc Digital Input	S	32	C
MU-TDON12	24 Vdc Nonisolated Digital Output	C	16	B
MU-TDON52	24 Vdc Nonisolated Digital Output	S	16	B
MU-TDOY22	24 Vdc Isolated Digital Output	C	32	B
MU-TDOY62	24 Vdc Isolated Digital Output	S	32	B

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5.3 Mounting and Operating the HPM in a Division 2 Location, Continued

Approved Division 2 area equipment, continued

Table 5-2 HPM Equipment Approved for Use in Division 2 Areas, Continued

Model Number	Description
Standard FTA Components, continued	
MU-TDIA12	120 Vac Digital Input with compression terminals
MU-TDIA22	240 Vac Digital Input with compression terminals
MU-TDIA52	120 Vac Digital Input with fixed screw terminals
MU-TDIA62	240 Vac Digital Input with fixed screw terminals
MU-TDID12	24 Vdc Digital Input with compression terminals
MU-TDID52	24 Vdc Digital Input with fixed-screw terminals
MU-TDID72	24 Vdc Digital Input with removable-screw terminals
MU-TDIY22	24 Vdc Digital Input with compression terminals
MU-TDIY62	24 Vdc Digital Input with screw terminals
MU-TDOA12	120/240 Vac Solid-State Digital Output with Comp terminals
MU-TDOA13	120/240 Vac Solid-State Digital Output with Comp terminals
MU-TDOA52	120/240 Vac Solid-State Digital Output with Screw terminals
MU-TDOA53	120/240 Vac Solid-State Digital Output with Screw terminals
MU-TDOD12	3-30 Vdc Digital Output with compression terminals
MU-TDOD13	3-30 Vdc Digital Output with compression terminals
MU-TDOD14	3-30 Vdc Digital Output with compression terminals
MU-TDOD22	31-200 Vdc Digital Output with compression terminals
MU-TDOD23	5-200 Vdc Digital Output with compression terminals
MU-TDOD52	3-30 Vdc Digital Output with screw terminals
MU-TDOD53	3-30 Vdc Digital Output with screw terminals
MU-TDOD54	3-30 Vdc Digital Output with screw terminals
MU-TDOD62	31-200 Vdc Digital Output with fixed-screw terminals
MU-TDOD63	5-200 Vdc Digital Output with screw terminals

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Nonconformally coated FTAs, continued

Table 7-4 Field Termination Assemblies—Nonconformally Coated, Continued

FTA Type	Model Number	Non-CE Compliant Part Number	CE Compliant Part Number
HLAI	MU-TAIH23	N/A	80369165-125
HLAI	MU-TAIH53	N/A	51309138-225
STI	MU-TSTX03	N/A	51309136-125
STI	MU-TSTX13	N/A	51309138-125
STI	MU-TSTX53	N/A	51309138-225
AO	MU-TAOX02	51304476-100	51304476-125
AO	MU-TAOX12	51304335-100	51304335-125
AO	MU-TAOX52	51304335-200	51304335-225
AO	MU-TAOY22	80366177-100	80366481-125
AO	MU-TAOY23	80366177-200	N/A
AO	MU-TAOY52	80364007-100	80366484-125
AO	MU-TAOY53	80364007-200	N/A
24 Vdc DI	MU-TDID12	51304441-100	51304441-125
24 Vdc DI	MU-TDID52	51304441-200	51304441-225
24 Vdc DI	MU-TDID72	51303928-100	N/A
24 Vdc DI	MU-TDIY22	80366180-100	80366180-125
24 Vdc DI	MU-TDIY62	80364010-100	80364010-125
120 Vac DI	MU-TDIA12	51304439-100	51304439-125
120 Vac DI	MU-TDIA52	51304439-200	51304439-225
120 Vac DI	MU-TDIA72	51303930-100	N/A
240 Vac DI	MU-TDIA22	51304431-100	51304431-125
240 Vac DI	MU-TDIA62	51304431-200	51304431-225
24 Vdc Nonisolated DO	MU-TDON12	51304446-100	N/A
24 Vdc Nonisolated DO	MU-TDON52	51304446-200	N/A
24 Vdc Isolated DO	MU-TDOY22	80366183-100	80366183-125

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