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)
SDI FTA—Toledo Scale Cell	MU-TSDT02	1	65
SDI FTA—Manual/Auto Station	MU-TSDM02	1	65
SDI FTA—UDC6000	MU-TSDU02	1	65
Manual/Auto Station	MU-MASX02	N/A	800
SI FTA—Allen-Bradley	MU-TSIA12	1	65
SI FTA—Modbus	MU-TSIM12	1	65
Power Adapter (LLMux, SDI, SI FTAs)	MU-TLPA02	2	360
Galvanically Isolated HLAI FTA	MU-GAIH12/82	16	1200
Galvanically Isolated HLAI/STI FTA	MU-GAIH13/83	16	1200
Galvanically Isolated HLAI/STI FTA	MU-GAIH14/84	16	1200
Galvanically Isolated HLAI FTA	MU-GAIH22/92	16	1200
Galvanically Isolated AO FTA	MU-GAOX02/72	8	440
Galvanically Isolated AO FTA	MU-GAOX12/82	8	440
Galvanically Isolated 24 Vdc DI FTA	MU-GDID12/82	32	800
Galvanically Isolated 24 Vdc DI FTA	MU-GDID13/83	32	800
Galvanically Isolated 24 Vdc DO FTA	MU-GDOD12/82	16	1800
Galvanically Isolated 24 Vdc DO FTA	MU-GDOL12/82	16	1800
Combiner Panel	MU-GLFD02	N/A	0
Marshalling Panel	MU-GMAR02	N/A	0
Galvanic Isolation Power Distribution Assembly	MU-GPRD02	N/A	160
Long Distance I/O Link Extender Cards/Couplers	MU-ILDX02	N/A	300
Long Distance I/O Link Extender Cards/Couplers	MU-ILDX03	N/A	300
Standard I/O Link Extender Cards/Couplers	MU-IOLM02	N/A	196
Standard I/O Link Extender Cards/Couplers	MU-IOLX02	N/A	190
Analog Output Standby Manual with case	MU-SMAC02	4	250
Analog Output Standby Manual - Digital	51401926-100	8	2200
Digital Output Standby Manual with case	MU-SMDC02	16	70
Digital Output Standby Manual without case	MU-SMDX02	16	100

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4.2 FTA Selection, Continued

Standard FTAs, continued

Table 4-1 Standard FTAs and Associated Assemblies, Continued

Model Number	Description	Terminal Type	Channels	Mounting Size
MU-TSIM12	Serial Interface—Modbus RTU	C/DB-25	1	A
MU-TDPR01	Digital Input Power Distribution Assembly—16 outputs	S	N/A	A
MU-TDPR02	Digital Input Power Distribution Assembly—12 outputs	S	N/A	A
MU-TLPA02	Power Adapter (supports LLMux, SDI, and SI)	C	2	A

Galvanically Isolated FTAs

For Galvanically Isolated FTAs, the terminal connector types are compression (C) and crimp pin (CP). The Marshalling Panel has nonremovable screw (S) terminals.

Table 4-2 Galvanically Isolated FTAs and Associated Assemblies

Model Number	Description	Terminal Type	Channels	Mounting Size
MC-GRMT01	Remote Hardened Low Level Analog Input Multiplexer TC with Local CJR	S	16	Non Standard
MU-TRPA01 *	Remote Hardened Non-Incendive Power Adapter	C	2	B
MU-GRPA01 *	Remote Intrinsically Safe Power Adapter	C	2	A
MU-GAIH12	High Level Analog Input	C	16	B
MU-GAIH82	High Level Analog Input	CP	16	B
MU-GAIH13	High Level Analog Input/Smart Transmitter Interface	C	16	B
MU-GAIH83	High Level Analog Input/Smart Transmitter Interface	CP	16	B
MU-GAIH14	High Level Analog Input/Smart Transmitter Interface (High drive)	C	16	B
MU-GAIH84	High Level Analog Input/Smart Transmitter Interface (High drive)	CP	16	B
MU-GAIH22	High Level Analog Input (Auxiliary receiver output)	C	16	B
MU-GAIH92	High Level Analog Input (Auxiliary receiver output)	CP	16	B

* The RHMUX Power Adapter receives +24 V power through the cable that interfaces with the RHMUX IOP, not the GI Power Distribution Assembly (MU-GPDR02). The Power Adapter provides the interface between one RHMUX IOP and two RHMUX FTAs.

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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-TDON12	24 Vdc Nonisolated Digital Output with compress terminals
MU-TDON52	24 Vdc Nonisolated Digital Output with screw terminals
MU-TDOY22	24 Vdc Isolated Digital Output with compression terminals
MU-TDOY62	24 Vdc Isolated Digital Output with screw terminals
MU-TDPR02	Digital Input Power Distribution Assembly
MU-TLPA02	Power Adapter (LLMux, SDI, SI)
MU-TPIX12	Pulse Input with compression terminals
MU-TPIX52	Pulse Input with screw terminals
MU-TSDM02	Serial Device Interface—Manual/Auto Station
MU-TSDT02	Serial Device Interface—Toledo Weigh Cell
MU-TSIM12	Serial Interface—Modbus EIA-232
MU-TSTX03	Smart Transmitter Interface with compression term
MU-TSTX13	Smart Transmitter Interface with compression term
MU-TSTX53	Smart Transmitter Interface with screw terminals

Continued on next page

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7.5 FTAs, Continued

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
SDI—Toledo	MU-TSDT02	51303932-201	N/A
SDI—Manual/Auto	MU-TSDM02	51303932-202	N/A
SDI—Toledo	MU-TSDU02	51303932-203	N/A
SI—Modbus	MU-TSIM12	51303932-401	51303932-426
SI—Allen-Bradley	MU-TSIA12	51303932-403	51303932-428
Power Adapter	MU-TLPA02	51304467-100	51309204-125
DI Power Dist Assembly	MU-TDPR02	51304425-100	51304425-125
GI Power Dist Assembly	MU-GPRD02	51304644-100	51304644-125
GI HLAI/STI	MU-GAIH13	51304718-100	51304718-125
GI HLAI/STI	MU-GAIH14	51304730-100	51304730-125
GI HLAI/STI	MU-GAIH83	51304718-300	51304718-325
GI HLAI/STI	MU-GAIH84	51304730-300	51304730-325
GI HLAI	MU-GAIH12	51304636-100	N/A
GI HLAI	MU-GAIH22	51304748-100	51304748-125
GI HLAI	MU-GAIH82	51304636-300	N/A
GI HLAI	MU-GAIH92	51304748-300	51304748-325
GI AO	MU-GAOX02	51304638-100	51304638-125
GI AO	MU-GAOX12	51304638-500	51304638-525
GI AO	MU-GAOX72	51304638-300	51304638-325
GI AO	MU-GAOX82	51304638-700	51304638-725
GI 24 Vdc DI	MU-GDID12	51304640-100	51304640-125
GI 24 Vdc DI	MU-GDID13	51304728-100	51304728-125
GI 24 Vdc DI	MU-GDID82	51304640-300	51304640-325
GI 24 Vdc DI	MU-GDID83	51304728-300	51304728-325

Continued on next page

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Section 14 – Serial Interface Planning

14.1 Overview

Section contents

The topics covered in this section are:

	Topic	See Page
14.1	Overview	241
14.2	Serial Interface Configurations	241
14.3	Serial Interface IOP Placement	247
14.4	Power Adapter Placement	247
14.5	IOP to Power Adapter Cabling	247
14.6	Serial Interface FTA Placement	248
14.7	FTA to Power Adapter Cabling	248
14.8	FTA Field Cabling	250
14.9	Serial Interface FTA Models	251
14.10	Communications Interface Specifications	252

14.2 Serial Interface Configurations

CE Compliance

Some Serial Interface (SI) Field Termination Assemblies (FTAs) are CE Compliant, while others are not. The CE Compliant and non-CE Compliant models with their part numbers are listed in Table 14-1. CE Compliant SI assemblies are identified by the tab number of the part number that ends in "26" or "28." They do not have a unique model number.

CE Compliant FTA assemblies have a FASTON terminal that is located at one corner of the FTA. It is secured by the FTA mounting screw and ensures a Safety Ground connection. The terminal is used only when the FTA is mounted at a remote location that is external to the cabinet or cabinet complex in which the Power Adapter is mounted.

For CE Compliant installations, if the Power Adapter is remotely mounted in a cabinet that is separate from the cabinet in which its associated IOP is mounted, it is mandatory that a model MU-KFTSxx shielded IOP to FTA cable be used between the assemblies.

Table 14-1 Serial Interface FTAs

Model Number	Non-CE Compliant Part Number	CE Compliant Part Number
MU-TSIM12	51303932-401	51303932-426
MU-TSIA12	51303932-403	51303932-428

Continued on next page

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14.2 Serial Interface Configurations, Continued

Introduction

The model MU-TSIM12 or MU-TSIA12 Serial Interface (SI) FTA communicates with the model MU-PSIM11 Serial Interface IOP through the model MU-TLPA02 Power Adapter.

FTA plug-in module determines application

The firmware that is resident in the FTA's plug-in module, M1, identifies it as a Serial Interface FTA and determines the selected serial communications interface type (EIA-232 or EIA-422/485) and the interface application. The FTA is assigned a unique model number depending upon the application.

EIA-232 and EIA-422/485 interfaces

The Serial Interface FTA has both EIA-232 (RS-232) and EIA-422/485 (RS-422/485) asynchronous serial communications interfaces, one of which is active depending on the software-selected application, using either a DB-25 or a 5-terminal compression-type connector, respectively.

The EIA-232 cable is limited to a distance of 15 meters (50 feet). The cable must be supplied by the user and terminate in a DB-25 connector.

ATTENTION

ATTENTION—The EIA-232 interface is a point-to-point interface on which only one serial device can be connected. The EIA-422/485 interface is configured as a multidrop interface on which up to fifteen serial devices can be connected.

Modbus protocol device

A Modbus protocol device that interfaces with the Serial Interface FTA must qualify as compatible though Honeywell's Multivendor Interface Program.

Continued on next page

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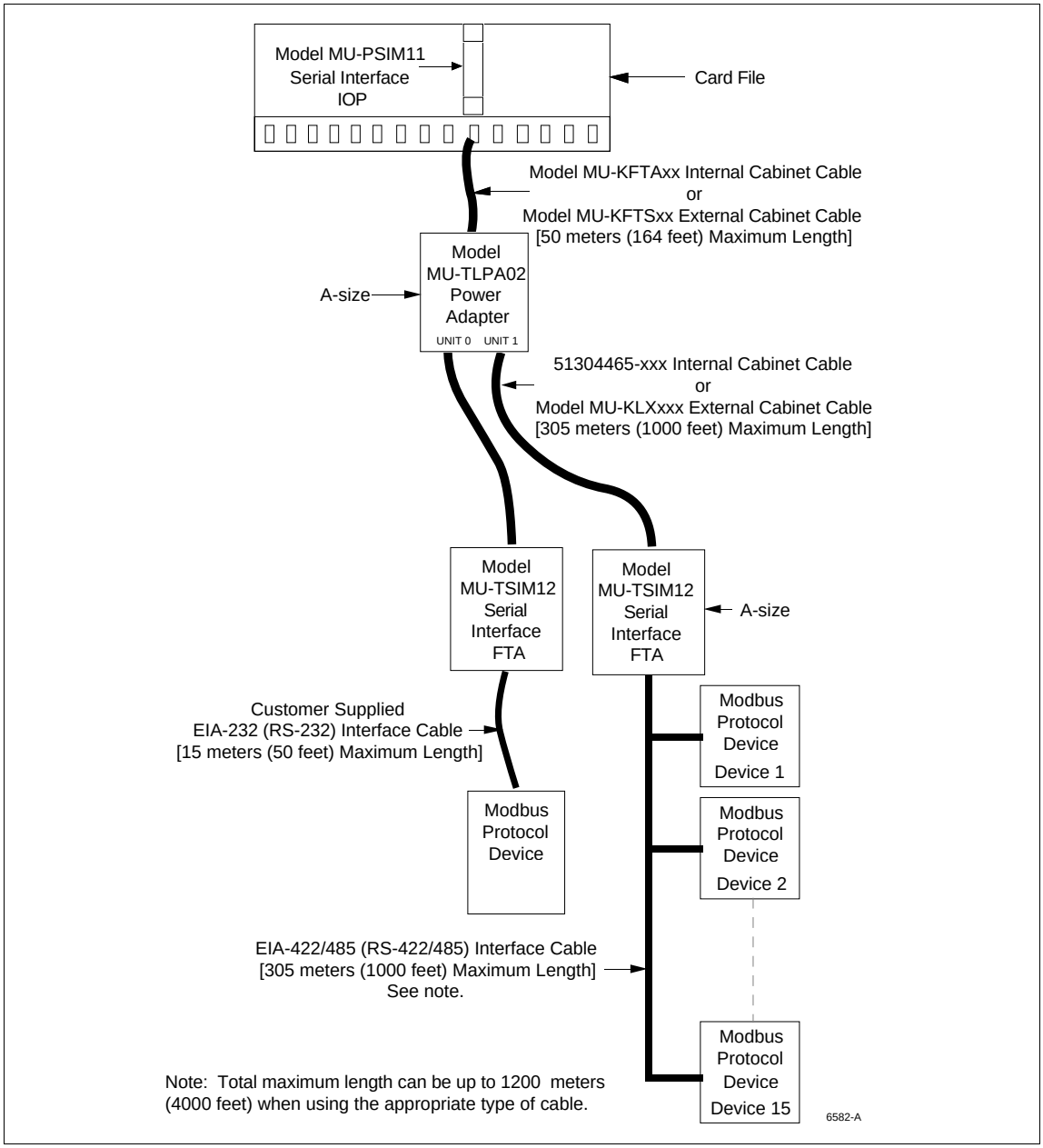
14.2 Serial Interface Configurations, Continued

Model MU-TSIM12 FTA Modbus EIA-232 and EIA-422/485 interfaces

Figure 14-1 illustrates the model MU-TSIM12 Serial Interface FTA to Modbus device EIA-232 and EIA-422/485 interfaces.

Figure 14-1 Serial Interface FTA to Modbus Device EIA-232 and EIA-422/485 Interconnections



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14.9 Serial Interface FTA Models

Model MU-TSIM12 Interface configurations	By configuration, the Honeywell model MU-TSIM12 Serial Interface FTA will accommodate either a single EIA-232 Modbus-compatible device through its EIA-232 interface, or up to 15 EIA-422/485 Modbus-compatible devices through its EIA-422/485 interface.
Model MU-TSIM12 Modbus protocol	The type of device that interfaces the model MU-TSIM12 Serial Interface FTA must be compatible with Modbus RTU protocol. When the EIA-422/485 interface is active, the subsystem performance is dependent upon the number of devices, their baud rate, the number of transactions, and the FTA device driver firmware.
Model MU-TSIA12 Allen-Bradley device	The model MU-TSIA12 Serial Interface FTA accommodates a single EIA-232 compatible Allen-Bradley device through its EIA-232 interface.

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