Highlights

The Harmony Rack Mount Termination System (Fig. 1) is a field wiring termination solution for process applications where space is limited. By terminating the I/O field wires behind the module mounting unit a very compact control system can be created.

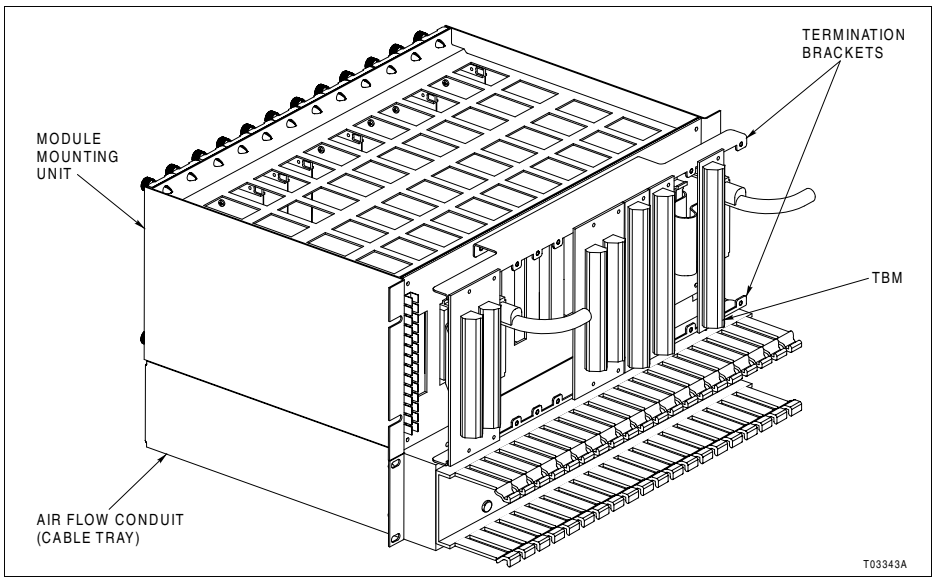

Figure 1. Harmony Rear Mount Termination System

The rack mount termination system consists of a module mounting unit (MMU), cable tray, termination brackets, and a series of termination devices. I/O modules can be easily installed from the front of the module mounting unit into the respective termination device that is attached to the rear of the module mounting unit.

The cable tray is mounted to an air flow conduit and is used to keep field wires and cables organized and untangled. The air flow conduit is mounted below the rack mount termination system and provides a path for cabinet cooling.

There are several termination devices (TBM) to choose from for the rack mount termination system. The termination device (Fig. 2) is selected based on the application requirements. The available termination devices cover a wide range of I/O applications. The width of the termination device varies from one to two slots in a module mounting unit. Easy to use clamp terminals accept up to 2.1 square millimeter (14 AWG) wire.

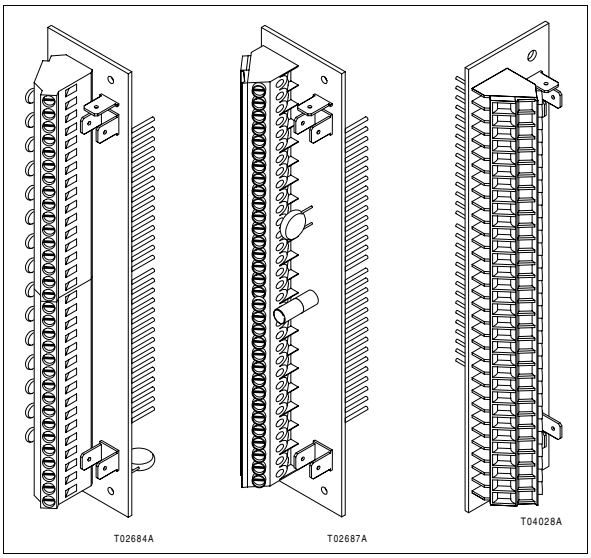

Figure 2. Rack Mount Termination Devices

Device Application

Termination Device Type	MMU Slots Occupied	Function	Power	I/O Modules
NTBMA2	1	16 digital inputs	Field	IMDSI12, IMDSI13, IMDSI4, IMDSI15, IMDSI22
		16 digital outputs	Field	IMDSO14
		14 analog outputs	System	IMASO11
		8 single-pole double-throw relay outputs	Field	IMDSO15
NTBMB2	2	16 digital inputs switching common	System	IMDSI12, IMDSI13, IMDSI14, IMDSI15, IMDSI22
		16 digital outputs	System	IMDSO14
NTBMB4	1	14 digital inputs switching hot	System	IMDSI12, IMDSI13, IMDSI14, IMDSI15, IMDSI22
		14 digital outputs	System	IMDSO14
NTBMC2	1	15 analog inputs (4-20 mA current loop) FSK (P to P mode)	System	IMFEC11 (analog mode) FSK (P to P mode)
NTBMD2	1	15 analog inputs (4-20 mA current loop or differential voltage)	Field	IMFEC11 (analog mode)
NTBMG2	1	3 digital inputs 4 digital outputs 4 analog inputs 2 analog outputs	Field Field Field System	IMCIS12, IMQRS12, IMCIS22, IMQRS22
NTBMH2	1	3 digital inputs 4 digital outputs 4 analog inputs 2 analog outputs	Field Field System System	
NTBMJ2	2	16 analog inputs (2 wire 4-20 mA devices)	System	IMASI13
NTBML2	2	16 analog inputs (TC, 3-wire-RTD, and differential analog volt)	Field	
NTBML4	2	16 analog inputs (4-20 mA)	Field	

Termination Device Type	MMU Slots Occupied	Function	Power	I/O Modules
NTBMM1	2	Vacant slot cover	N/A	—
NTBMM2	1	Vacant slot cover	N/A	—
NTBMN2	1	16 digital inputs	Field	IMSET01, IMSED01
NTBMO2	1	16 digital inputs switching common	System	
NTBMO4	1	16 digital inputs switching hot	System	

Specifications

Property	Characteristic/Value
Mounting	Screw mount to bracket on rear of the module mounting unit
Wire size - clamp terminal	0.32 sq-mm to 2.1 sq-mm (22 AWG to 14 AWG)
Dimensions	
Single slot	35 mm (1.38 in.)
Double slot	70 mm (2.76 in.)
Environmental	
Temperature	0° to 70°C (32° to 158°F)
Relative humidity	5% to 90% up to 55°C (131°F) noncondensing 5% to 40% up to 70°C (158°F) noncondensing
Air quality	Equipment should be operated and stored in a noncorrosive environment
Pollution	Pollution degree 1
Cooling requirements	None necessary when used in a Symphony™ enclosure
CE Mark Declaration	This product, when installed in a Harmony enclosure, complies with the following directives/standards requested for CE marking:
EMC 89/336/EEC	EN50081-2 Generic Emission Standard - Part 2: Industrial Environment EN50082-2 Generic Immunity Standard - Part 2: Industrial Environment
Low Voltage Directive 73/23/EEC	EN61010-1 Safety Requirements for Electrical Equipment for Measurement, Control and Laboratory Use - Part 1: General Requirements
Certifications (*pending*)	
Canadian Standards Association (CSA)	Certified for use as process control equipment in an ordinary (nonhazardous) location
Factory Mutual (FM) (*pending*)	Approval as nonincendive equipment for use in Class I; Division 2; Groups A, B, C, D; hazardous locations
Over voltage (installation) category	I for circuits above 150 V; II for circuits below 150 V

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Design Standards

Category	Standard	Description
Safety	IEC 61010-1 EN 61010-1 CSA C22.2 No. 1010.1	Safety standards for electrical equipment for measurement and control
Environmental	IEC 60068-2-1,2,14	Ambient temperature
	IEC 60068-2-3	Relative humidity
	ISA S71.04 (Class LA, IB, LC-Level1)	Air quality

Category	Standard	Description
EMI, RFI, and electrical surge susceptibility[1]	IEC 61000-4-2 IEC 61000-4-3 EMI	Electrostatic discharge
	IEC 61000-4-4 IEC 61000-4-6 conducted immunity	Fast transient bursts
	IEC 61000-4-5	Voltage-current surge
	IEC 61000-4-8	Power frequency magnetic field
	IEC 61000-4-9	Pulse magnetic field
	IEC 61000-4-10	Damped oscillatory magnetic field
	IEC 61000-4-12	Damped oscillatory wave
	IEC 61000-4-12	Ring wave
Flammability of product components	UL 94 V-0, V-1, V-2	Flammability of plastic materials

NOTE:
1. Verify the severity level of the relevant module used with the NTBM module.

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For more information on the Control^{IT} *suite of products , contact us at ControlIT@us.abb.com*
For the latest information on ABB visit us on the World Wide Web at http://www.abb.com

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