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PM150 vs PM100 Comparison

Revision 0.1



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Revision History

Version	Description of Versions / Changes	Responsible Party	Date
0.1	Initial version	Chris Brune	9/23/2011

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1. Introduction

The PM150 Family has a new internal control board as compared to the PM100 Family. In response to customer needs the number of I/O signals has been modified.

The change in signals should be largely transparent to most users.

The connector types are exactly the same.

The total number of RTDs has been reduced from 5 to 2. However the 2 RTDs have the ability with the PM150 to be configured as either PT100 or PT1000 via software.

Additional Features added:

A Hall Encoder interface has been added this will allow the control of motors that use this type of encoder.

Two additional analog inputs have been added for future use.

An analog output has been added for future use.

Two high side relay drivers have been added for future use.

Two digital inputs have been added for future use.



2. Connector Pin Out Changes

The PM150 connections are generally backwards compatible to the signals of the PM100. The only change that may be required for some installations is the RTD sensors. If RTD sensors are used make sure that they are connected to the RTD1 and RTD2 inputs.

J1 Connector

Pin #	PM100 Pin Name	PM100 Description	PM150 Pin Name	PM150 Description
1	XDCR_PWR	+5V @ 80mA max	same	same
13	AIN1	Analog Input 1 0-5V _{FS}	same	same
24	AIN2	Analog Input 2 0-5V _{FS}	same	same
2	AGND	Analog Ground	same	same
14	XDCR_PWR	+5V @ 80mA max	same	same
25	AIN3	Analog Input 3 0-5V _{FS}	same	same
3	AIN4	Analog Input 4 0-5V _{FS}	same	same
15	AGND	Analog Ground	same	same
26	XDCR_PWR	+5V @ 80mA max	same	same
4	RTD1	1000 Ohm RTD Input	AOUT	Analog Output (0 – 5V)
16	RTD2	1000 Ohm RTD Input	AIN6	Analog Input 6 0-5V _{FS}
27	RTD3	1000 Ohm RTD Input	RLY6	High-side Relay Driver
5	RTD4	100 Ohm RTD Input	RTD1	PT100 or PT1000 RTD
17	AGND	Analog Ground	same	
28	XDCR_PWR	+5V @ 80mA max	same	
6	RTD5	100 Ohm RTD Input	RTD2	PT100 or PT1000 RTD
18	<reserved>	DO NOT CONNECT	AIN5	Analog Input 5 0-5V _{FS}
29	<reserved>	DO NOT CONNECT	RLY5	High-side Relay Driver
7	/PROG_ENA	Serial Boot Loader enable	same	
19	AGND	Analog Ground	same	
30	DIN1	Digital Input 1 – STG ⁽¹⁾	same	
8	DIN2	Digital Input 2 - STG	same	
20	DIN3	Digital Input 3 - STG	same	
31	DIN4	Digital Input 4 - STG	same	
9	DIN5	Digital Input 5 – STB ⁽²⁾	same	
21	DIN6	Digital Input 6 - STB	same	
32	<reserved>	DO NOT CONNECT	DIN7	Digital Input 7 - STB
10	<reserved>	DO NOT CONNECT	DIN8	Digital Input 8 - STB



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22	GND	Ground	same	
33	CANA_H	CAN Channel A Hi	same	
11	CANA_L	CAN Channel A Low	same	
23	CANB_H	CAN Channel B Hi	same	
34	CANB_L	CAN Channel B Low	same	
12	TXD	RS-232 Transmit	same	
35	RXD	RS-232 Receive	same	

(1) – Switch to GND; (2) – Switch to Battery

J2 Connector

Pin#	PM100 Pin Name	PM100 Description	PM150 Pin Name	PM150 Description
1	XDCR_PWR	+5V @ 80mA max	same	
9	ENCA	Encoder Channel A input	same	
16	ENCB	Encoder Channel B input	same	
2	ENCZ	Encoder Channel Z input (Index)	same	
10	GND	GND	same	
17	EXC	Resolver excitation output	same	
3	EXC_RTN	Resolver excitation return	same	
11	SIN	Resolver Sine winding +	same	
18	/SIN	Resolver Sine winding -	same	
4	COS	Resolver Cosine winding +	same	
12	/COS	Resolver Cosine winding -	same	
19	SHIELD	Resolver Shield	same	
5	<reserved>	DO NOT CONNECT	HALL_A	Hall Encoder Chan. A
13	<reserved>	DO NOT CONNECT	HALL_B	Hall Encoder Chan. B
20	<reserved>	DO NOT CONNECT	HALL_C	Hall Encoder Chan. C
6	GND	Main 12V return	same	
14	GND	Main 12V return	same	
21	RLY1	Hi-Side Relay Driver	same	
7	RLY2	Hi-Side Relay Driver	same	
15	RLY3	Lo-Side Relay Driver	same	
22	RLY4	Lo-Side Relay Driver	same	
8	BATT+	Main 12V power source	same	
23	BATT+	Main 12V power source	same	