

# M-7024R Release Note *Ver. 1.0*

*Last Modified 05/31/2012*

## ***M-7024R Specification***

<b><i>Analog Output</i></b>	
<b>Output Channels</b>	4
<b>Output Type</b>	0~20 mA, 4~20 mA, 0~5 V, +/-5 V, 0~10 V, +/-10 V
<b>Resolution</b>	14-bit
<b>Accuracy</b>	$\pm 0.1\%$ or better
<b>Zero Drift</b>	Voltage output : +/-30 $\mu\text{V}/^\circ\text{C}$
	Current output : +/-0.2 $\mu\text{A}/^\circ\text{C}$
<b>DA Response Time</b>	10 ms per channel
<b>Voltage Output Capability</b>	20 mA, 10 V
<b>Current Load Resistance</b>	External +24 V <sub>DC</sub> power : 1050 Ohms
<b>Intra-module Isolation</b>	3000 V <sub>DC</sub>
<b><i>Digital Input</i></b>	
<b>Input Channels</b>	5
<b>Input Type</b>	Dry Contact, Source
<b>Contact Level</b>	Off : Open On : Connect to GND
<b>Counters</b>	Max. Counts: 16-bit (65535) Max. Frequency: 50Hz
<b>ESD Protection</b>	+/- 4kV Contact (IEC61000-4-2 Level 2)
<b>EFT Protection</b>	+/- 4kV Power (IEC61000-4-4 Level 4)
<b>Power Consumption</b>	3.2W max.

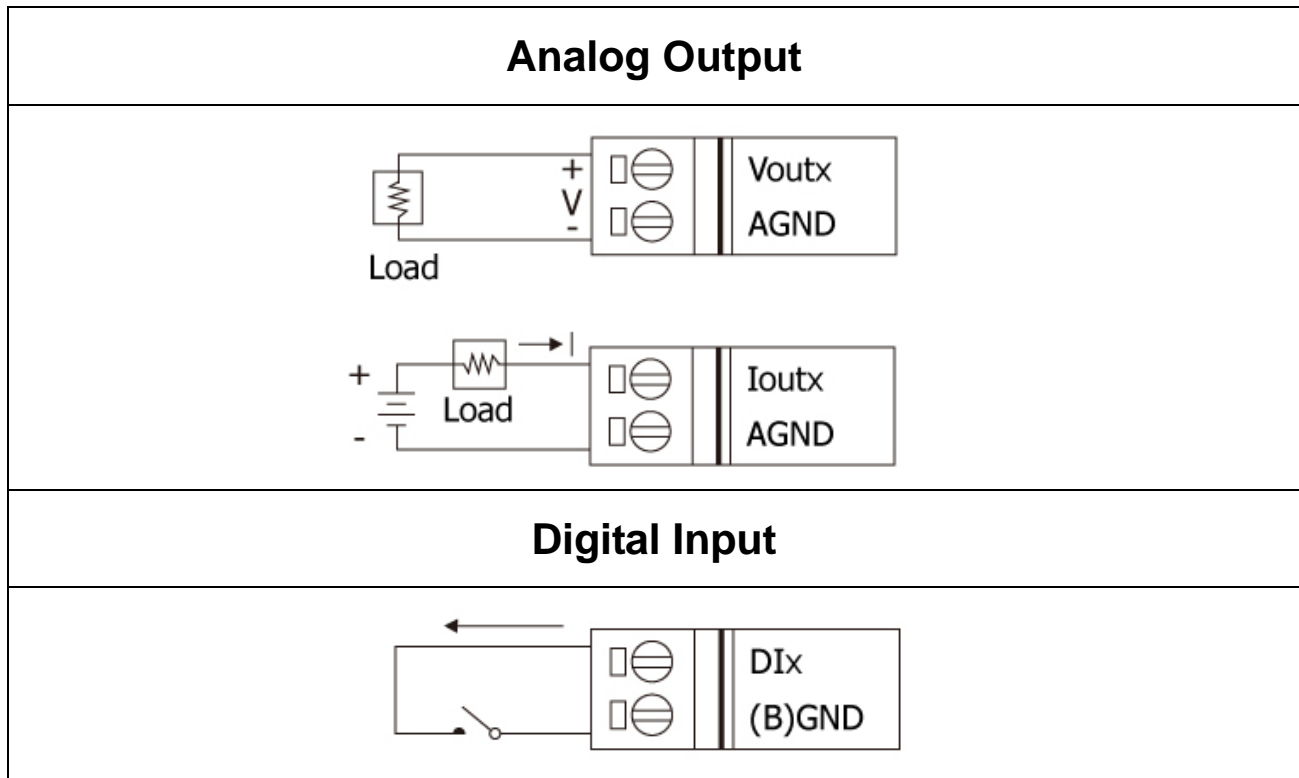
# M-7024R Pin Assignment



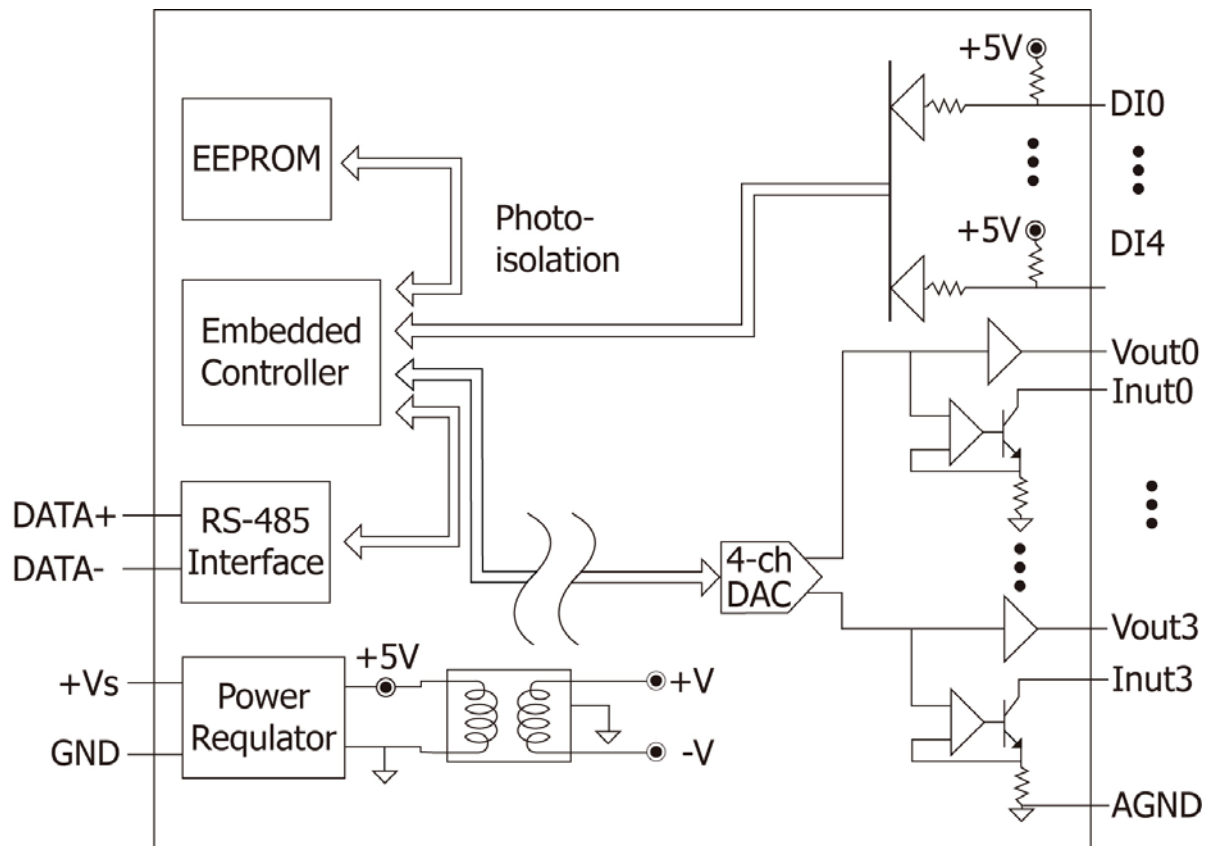
DI0 1  
 DI1  
 DI2  
 DI3  
 DI4  
 INIT\*  
 (Y)DATA+  
 (G)DATA-  
 (R)+Vs  
 (B)GND 10

20 lout0  
 lout1  
 lout2  
 lout3  
 AGND  
 AGND  
 Vout3  
 Vout2  
 Vout1  
 11 Vout0

# M-7024R Wire Connection Type



# M-7024R Internal I/O Structure



# ***M-7024R Modbus Mapping***

Address	Description	Attribute
40001 ~ 40004	Analog output value	R/W
40065 ~ 40068	Analog output read back	R
40097 ~ 40100	Safe output value	R/W
40129 ~ 40133	Counter value of digital input	R
40193 ~ 40196	Power on output value	R/W
00033 ~ 00037	Digital input value	R
00065 ~ 00069	High latched value of DI	R
00097 ~ 00101	Low latched value of DI	R
40481	Firmware version (low word)	R
40482	Firmware version (high word)	R
40483	Module name (low word)	R
40484	Module name (high word)	R
40485	Module address	R/W
40486	Baud rate	R/W
40487	Type code	R/W
40488	Modbus response delay time in ms	R/W
40489	Host watchdog timeout in 0.1s	R/W

40492	Host watchdog timeout count, write 0 to clear	R/W
40494	Slew rate	R/W
00257	Protocol, 0:DCON, 1:Modbus	R/W
00260	Modbus host watchdog mode  0: same as I-7000  1: can use AO and DO command to clear host watchdog timeout	R/W
00261	1: enable, 0:disable host watchdog	R/W
00264	Write 1 to clear latched DI	W
00269	Modbus data format, 0: hex, 1: engineering	R/W
00270	Host watch dog timeout status, write 1 to clear host watch dog timeout status	R/W
00273	Reset status, 1: first read after power ed on,  0: not the first read after powered on	R
00513 ~ 00517	Write 1 to clear DI counter value	W

## ***Output Types***

Type Code	Output Range	Data Format	Max	Min
30	0 to 20 mA	Engineering	20000	0
		Hexadecimal	3FFF	0000
31	4 to 20 mA	Engineering	20000	4000
		Hexadecimal	3FFF	0000
32	0 to +10 V	Engineering	10000	0
		Hexadecimal	3FFF	0000
33	-10 to +10 V	Engineering	10000	-10000
		Hexadecimal	3FFF	C000
34	0 to +5 V	Engineering	5000	0
		Hexadecimal	3FFF	0000
35	-5 to +5 V	Engineering	5000	-5000
		Hexadecimal	3FFF	C000

# ***M-7024R Digital Input Commands***

## **1. \$AA6**

Read Digital Input Status

Valid Response: !(Data)

## **2. #AAN**

Read Specified Digital Input Channel Counter

Response: !AANNNNN

DCON Utility 5.2.3 or later supports M-7024R module.

### **Notes:**

1. This release note is valid only for the M-7024R module.
2. The user's manual and the software utility can be downloaded from the ICP DAS web site <http://www.icpdas.com>.