



Analog Output

2

RS-485 Remote I/O Modules



Introduction

The I-87024DW is a serial interface and 4-channel analog output module. The programmable analog outputs are 14-bit resolution and support an output range of 0 ~ 5 V, +/-5 V, 0 ~ 10 V, +/-10 V, 0 ~ +20 mA, or +4 ~ +20 mA.

Features

- 4-channel Analog Output
- D-Sub 37-Pin Connector
- 4 kV ESD Protection
- Dual Watchdog
- Configurable Power-on Value
- Configurable Safe Value
- 3000 V_{oc} Intra-Module Isolation, Field-to-Logic
- Open Daughter Board Detection
- RF Immunity
- RoHS Compliant
- Wide Operating Temperature Range: -25 ~ +75°C



Applications

Building Automation, Factory Automation, Machine Automation, Remote Maintenance, Remote Diagnosis, Testing Equipment.

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I-87KW Series

System Specifications

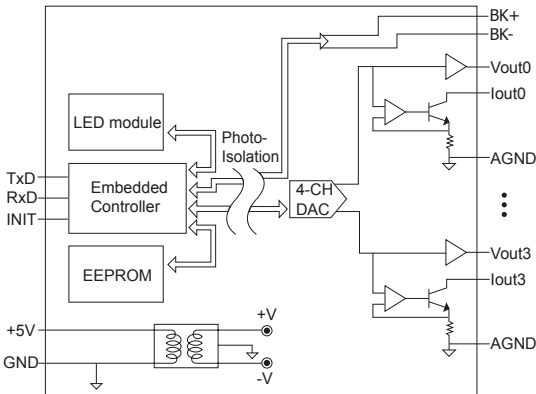
Communication		
Interface	RS-485	
Format	N, 8, 1	
Baud Rate	1200 ~ 115200 bps	
Protocol	DCON	
Dual Watchdog	Yes, Module (1.6 Seconds), Communication (Programmable)	
LED Indicator/Display		
System LED Indicator	1 LED as Power/Communication Indicator	
I/O LED Indicator	16 LEDs as High/Low Alarm Signals	
Isolation		
Intra-Module Isolation, Field-to-Logic	3000 V _{oc}	
EMS Protection		
ESD (IEC 61000-4-2)	4 kV Contact for Each Terminal	
RS (IEC 61000-4-3)	3 V/m, 80 MHz ~ 1GHz	
Power		
Power Consumption	Typical	1.3 W
	Maximum	3.1 W (4-channel Output 20 mA at 10 V)
Mechanical		
Dimensions (W x L x H)	30 mm x 102 mm x 115 mm	
Environment		
Operating Temperature	-25 ~ +75°C	
Storage Temperature	-40 ~ +85°C	
Humidity	10 ~ 95% RH, Non-condensing	

I/O Specifications

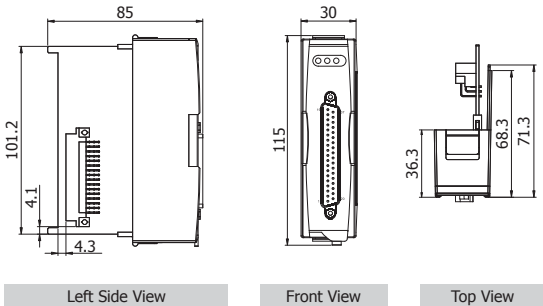
Analog Output		
Channels	4	
Wiring	Bipolar/Unipolar	
Range	0 ~ +5 V _{oc} , +/-5 V _{oc} , 0 ~ +10 V _{oc} , +/-10 V _{oc} , 0 ~ +20 mA, +4 ~ +20 mA	
Resolution	14-bit	
Accuracy	+/- 0.1% of FSR	
Zero Drift	Voltage	+/-30 µV/°C
	Current	+/-0.2 µA/°C
Span Drift	+/-20 ppm/°C	
DA Output Response Time	10 ms per channel	
ESD Protection	4 kV (Contact for each channel)	
Programmable Output Slope	0.125 ~ 2048 mA/Second	
	0.0625 ~ 1024 V/Second	
Output Capacity	Voltage	10 V _{oc} @ 20 mA
	Current	External +24 V _{oc} @ 1050 Ω
Open Wire Detection	Yes	
Short Circuit Protection	Yes	
Power-on Value	Yes	
Safe Value	Yes	
Open Daughter Board Detection	Yes	

I-87024DW

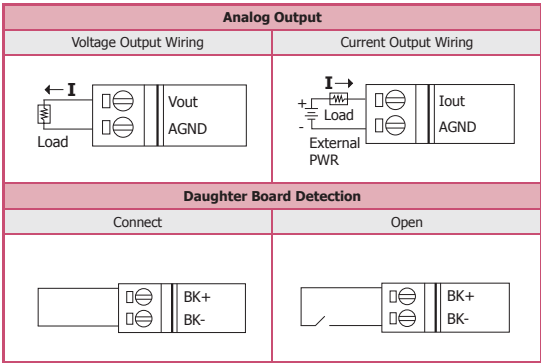
Internal I/O Structure



Dimensions (Units: mm)



Wire Connections



Pin Assignments

Pin Assignment	Terminal	No.	Pin Assignment
N/A	19	37	BK+
N/A	18	36	N/A
AGND	17	35	N/A
Vout3	16	34	N/A
AGND	15	33	N/A
Vout2	14	32	N/A
AGND	13	31	N/A
Vout1	12	30	N/A
AGND	11	29	N/A
Vout0	10	28	N/A
AGND	09	27	N/A
Iout3	08	26	N/A
AGND	07	25	N/A
Iout2	06	24	N/A
AGND	05	23	N/A
Iout1	04	22	N/A
AGND	03	21	N/A
Iout0	02	20	N/A
BK-	01		

37-pin Male D-Sub Connector

Ordering Information

I-87024DW-G CR	4-channel 14-bit Analog Output Module (Gray Cover) (RoHS)
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Accessories

DN-37-A	I/O Connector Block with DIN-Rail Mounting and 37-pin D-sub Connector (pitch:5.08 mm)	CA-3710A	Male-Female D-sub Cable 1 M
DN-37-381-A	I/O Connector Block with DIN-Rail Mounting and 37-pin D-sub Connector (pitch:3.81 mm)	CA-3715A	Male-Female D-sub Cable 1.5 M
CA-3705A	Male-Female D-sub Cable 0.5 M	SG-770 CR	7 channel differential or 14 channel single-ended surge protector (RoHS)