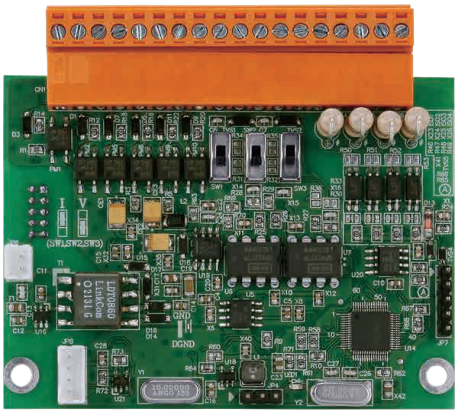


XV315

3-ch RTD Input, 3-ch AO and 4-ch DI(Wet) Expansion Board

Introduction

The XV315 is a 3-channels RTD input, 3-channels analog output, 4-channels digital input modules that are used for measuring temperatures using RTD sensors and each channel can be connected to a different type of sensor.
It is specifically designed for long-distance RTD measurement, and features automatic compensation for three wire RTD, meaning that accurate measurements can be obtained regardless of the length of the wires.
It provides a programmable output range on all analog output channels (0~10 VDC, 0 ~+20 mA or +4 ~ +20 mA).
It provides 4 channels for digital input, each of which features photocoupler isolation. Either sink- or source-type inputs can be selected via wire connections, and all channels can be used as 32-bit counters.
It is fully RoHS-compliant and features 4 kV ESD protection as well as 2000 VDC intra-module isolation are also provided to enhance noise immunity capabilities in industrial environments.

Applications

- Building Automation
- Machine Automation
- Remote Diagnosis
- Factory Automation
- Remote Maintenance
- Testing Equipment

Ordering Information

XV315 CR	3-ch RTD Input, 3-ch AO, 4-ch Digital Input (Wet) Expansion Board (RoHS)

Features

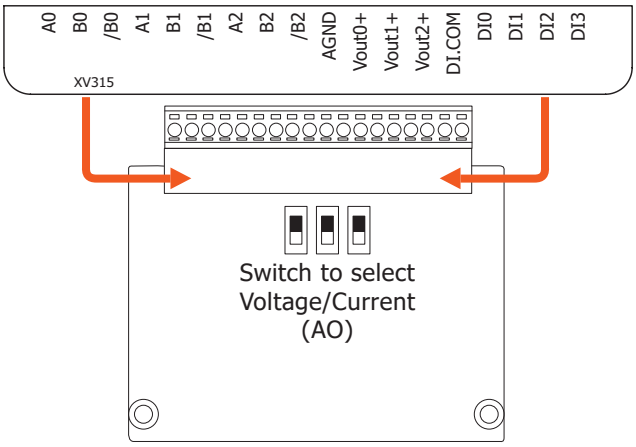
- Multifunction (3RTD, 3AO, 4DI)
- 3-channel RTD Input
- 3-wire RTD Input with Lead Resistance Elimination
- RTD Inputs Supports Individual Channel Configuration
- RTD Inputs Supports "Open Wire Detection"
- Switch Selectable Voltage or Current Output
- 4-channel Digital Input channels

Specifications

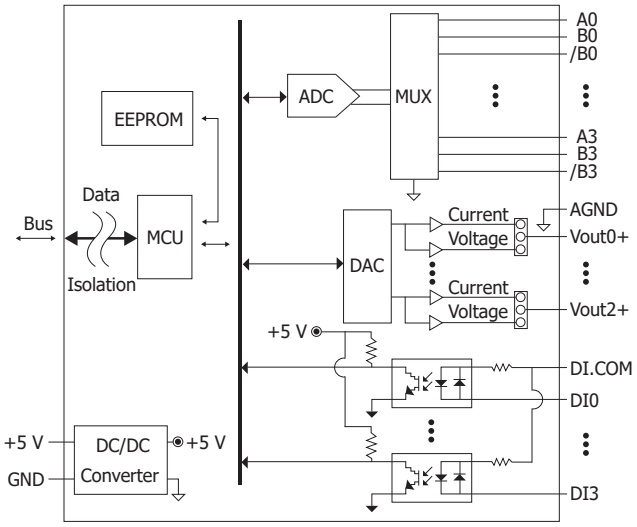
Isolation	
Intra-module Isolation	2000 VDC
EMS Protection	
ESD (IEC 61000-4-2)	±4kV Contact For EachTerminal ±8kV Air For Random Terminal
Analog Input	
Channels	3
Type	RTD
Sensor Type	Pt100, Pt1000, Ni120, Cu50, Cu100, Cu1000
Resolution	16-bit
Accuracy	±0.1% of FSR
Sampling Rate	10 Hz (Total)
Overvoltage Protection	120 VDC
Individual Channel Configuration	Yes
Open Wire Detection	Yes
3-wire RTD Lead Resistance Elimination	Yes
Analog Output	
Channels	3
Type	0 ~ +10 VDC , 0 ~ +20 mA , +4 ~ +20 mA
Resolution	12-bit
Accuracy	±0.2 %
Voltage Output Capability	10 V @ 10 mA
Current Load Resistance	500 Ω
Power-on Value	Yes, Programmable
Digital Input/Counter	
Channels	4
Type	Wet Contact
Sink/Source (NPN/PNP)	Sink/Source (NPN/PNP)
ON Voltage Level	+3.5 ~ +30 VDC
OFF Voltage Level	+1 VDC Max.
Max. Counts	32-bit (0 ~ 4,294,967,285)
Frequency	3k Hz
Input Impedance	3 kΩ, 0.5 W
COM Ports	
Ports	1 x RS-232
Baud Rate	115200 bps
Data Format	N, 8, 1
Protocol	Modbus/RTU
Power	
Consumption	1.7 W Max.
Powered from Terminal Block	5 VDC
Mechanical	
Dimensions (mm)	59 mm x 82 mm x 13 mm (W x L x H)
Environment	
Operating Temperature	-25 ~ +75 °C
Storage Temperature	-30 ~ +80 °C
Humidity	10 ~ 90% RH, Non-condensing

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Pin Assignments

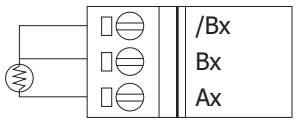


Internal I/O Structure

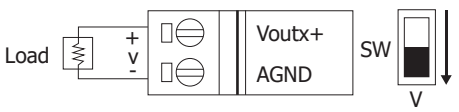


Wire Connections

3-wire RTD Wire Connection

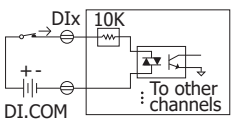
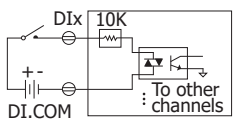
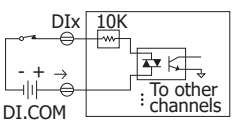
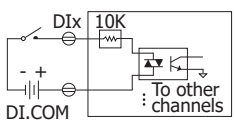


Voltage Output



Current Output



Digital Input	Readback as 1	Readback as 0
Wet Contact (Sink)	+3.5 ~ +30 V_{DC}	+1 VDC Max.
		
Wet Contact (Source)	+3.5 ~ +30 V_{DC}	+1 VDC Max.
		

RDT Type Settings(TT)

Type Code	RTD Type	Temperature Range
20	Platinum 100, α= 0.00385	-100 to +100°C
21	Platinum 100, α= 0.00385	0 to +100°C
22	Platinum 100, α= 0.00385	0 to +200°C
23	Platinum 100, α= 0.00385	0 to +600°C
24	Platinum 100, α= 0.003916	-100 to +100°C
25	Platinum 100, α= 0.003916	0 to +100°C
26	Platinum 100, α= 0.003916	0 to +200°C
27	Platinum 100, α= 0.003916	0 to +600°C
28	Nickel 120	-80 to +100°C
29	Nickel 120	0 to +100°C
2A	Platinum 1000, α= 0.00385	-200 to +600°C
2B	Cu 100 at 0°C, α= 0.00421	-20 to +150°C
2C	Cu 100 at 25°C, α= 0.00427	0 to +200°C
2D	Cu 1000 at 0°C, α= 0.00421	-20 to +150°C
2E	Platinum 100, α= 0.00385	-200 to +200°C
2F	Platinum 100, α= 0.003916	-200 to +200°C
80	Platinum 100, α= 0.00385	-200 to +600°C
81	Platinum 100, α= 0.003916	-200 to +600°C
82	Cu 50 at 0°C	-50 to +150°C
83	Nickel 100	-60 to +180°C

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