

XV308

8-channel Isolated Analog Input and 8-channel Isolated Universal Digital Input/Output Expansion Board

Introduction

The XV308 provides 8 channels for analog input and 8 channels for universal digital input/output. Analog Input channels are Single-ended type and provide a programmable input range (± 1 V, ± 2.5 V, ± 5 V, ± 10 V, ± 20 mA, $0 \sim 20$ mA, $4 \sim 20$ mA). Each Analog Input channels also provides a high overvoltage protection of 120 VDC. Universal digital input/output can be selected via wire connections. Digital input channels are source-type and can be used as 32-bit counters. Digital output channels are sink-type with short circuit protection and options for configuring power-on digital output values.

System Specifications

Communication	
Interface	RS-232/TTL
Format	N, 8, 1
Baud Rate	115200 bps
Protocol	Modbus/RTU
Isolation	
Intra-module Isolation, Field-to-Logic	2000 Vdc
EMS Protection	
ESD (IEC 61000-4-2)	± 4 kV Contact For Each Terminal
	± 8 kV Air For Random Terminal
Power	
Power from Terminal Block	5 VDC
Consumption	0.8 W Max.
Mechanical	
Dimensions (W x L x H)	59 mm x 82 mm x 13 mm
Environment	
Operating Temperature	-25 \sim +75°C
Storage Temperature	-40 \sim +85°C
Humidity	10 \sim 95% RH, Non-condensing

Features

- 8-channel Analog Input
- 8-channel Universal Digital Input/Output
- Digital Input Channels can be used as 32-bit Counters
- Configurable Power-on Value Settings
- Open Wire Detection for 4 \sim 20 mA
- Individual Channel Configuration
- 120 VDC Overvoltage Protection for Analog Input
- 60 VDC Overvoltage Protection for Digital Input
- Overload Protection for Digital Output
- Short-circuit Protection for Digital Output



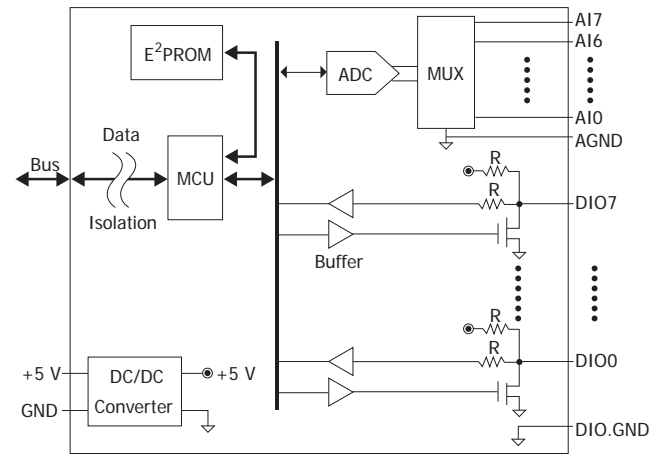
I/O Specifications

Analog Input				
Channels		8		
Type		± 1 V, ± 2.5 V, ± 5 V, ± 10 V, ± 20 mA, $0 \sim 20$ mA, $4 \sim 20$ mA (Jumper Selectable)		
Resolution		16-bit		
Sampling Rate	Normal Mode	10 Hz		
	Fast Mode	200 Hz		
Accuracy	Normal Mode	± 0.1 %		
	Fast Mode	± 0.5 %		
Input Impedance		20 M Ω		
Overvoltage Protection		120 VDC		
Universal Digital Input/Output				
Channels		Digital Input and Digital Output=8 (By Wire Connection)		
Digital Input	Wet Contact	On Voltage Level	+1 VDC Max.	
		Off Voltage Level	+4 \sim 30 VDC	
	Dry Contact	On Voltage Level	Close to GND	
		Off Voltage Level	Open	
	Counters	Max. Count	32-bit ($0 \sim 4,294,967,285$)	
		Max. Input Frequency	50 Hz	
Min. Pulse Width		10 ms		
Overvoltage Protection		60 VDC		
Digital Output	Output Type		Sink	
	Max. Load Current		700 mA	
	Load Voltage		3.5 \sim 50 VDC	
	Overvoltage Protection		60 VDC	
	Overload Protection		Yes	
	Short-circuit Protection		Yes	
Power-on Value		Yes, Programmable		

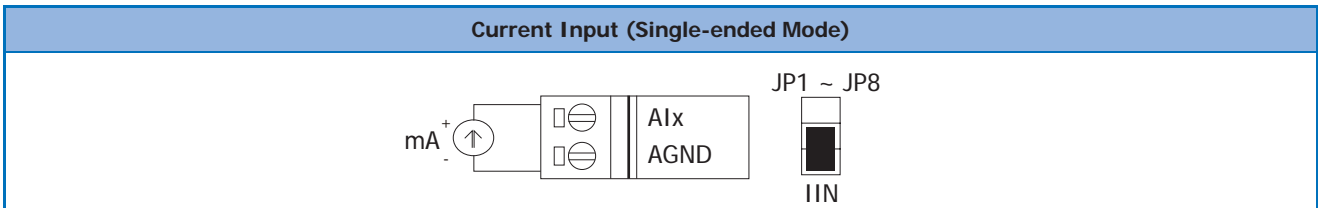
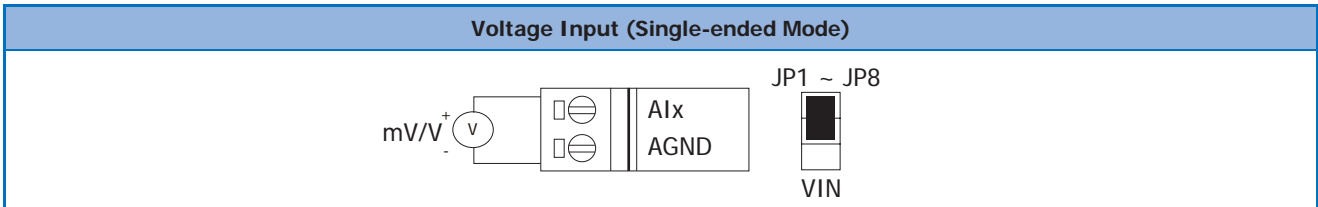
Pin Assignments

AGND	A17	A16	A15	A14	A13	A12	A11	A10	DIO.GND	DIO7	DIO6	DIO5	DIO4	DIO3	DIO2	DIO1	DIO0
XV308																	

Internal I/O Structure



Wire Connections



Digital Input/Counter	ON State Readback as 1	OFF State Readback as 0
	+1 VDC Max.	+4 ~ 30 VDC
Wet Contact (Sink)		
Dry Contact (Source)		
Digital Output	ON State Readback as 1	OFF State Readback as 0
Open Collector (Sink)		
	3.5 ~ 50 Vdc	3.5 ~ 50 Vdc

Ordering Information

XV308 CR	8-channel Isolated Analog Input and 8-channel Isolated Universal Digital Input/Output Expansion Board.
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