I/O Expansion Boards

XV110

16-channel Isolated Digital Input Module with 16-bit Counters

Features

- 16-channel Digital Inputs
- Dry and Wet Contact, Selectable via Wire Connections
- Photocouple Isolation
- Long Distance Measurement
- 4 KV ESD Protection
- All Channels can be used as 16-bit Counters
- 3750 V_{DC} Intra-module Isolation
- Dual Watchdog
- Wide Operating Temperature Range: -25 ~ + 75°C

Introduction

The XV110 provides 16 channels for digital input, catering for both dry and wet contact, with an effective distance for dry contact of up to 500 meters. All channels feature photocouple isolation, and can be used as 16-bit counters. In addition, either sink- or source-type digital input can be selected via wire connections. 4 kV ESD protection and 3750 V_{DC} intra-module isolation are also provided to enhance noise immunity capabilities in industrial environments.

Applications

- Industrial Automation
- Building Automation
- Food and Beverage Systems
- Control Systems

System Specifications

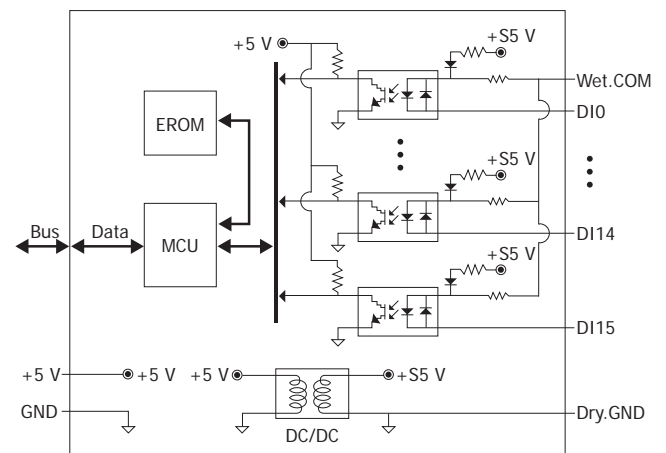| Communication	
Interface	RS-232/TTL
Format	N, 8, 1
Baud Rate	115200 bps
Protocol	Modbus/RTU
Dual Watchdog	Yes, Module (2.3 seconds), Communication (Programmable)
Isolation	
Intra-module Isolation, Field-to-Logic	3750 V_{DC}
EMS Protection	
ESD (IEC 61000-4-2)	+/-4kV Contact For Each Terminal
	+/-8kV Air For Random Terminal
Power	
Reverse Polarity Protection	-
Powered from Terminal Block	5 V_{DC}
Consumption	0.25 W Max.
Mechanical	
Dimensions (W x L x H)	59 mm x 82 mm x 13 mm
Environment	
Operating Temperature	-25 ~ +75°C
Storage Temperature	-30 ~ +75°C
Humidity	10 ~ 95% RH, Non-condensing

I/O Specifications

Digital Input/Counter		
Input Channels		16
Type	Dry Contact	Source
	Wet Contact	Sink/Source
On Voltage Level	Dry Contact	Close to GND
	Wet Contact	+3.5 ~ +50 V_{DC}
Off Voltage Level	Dry Contact	Open
	Wet Contact	+1 V_{DC} Max.
Input Impedance		10 KΩ, 0.5 W
Counters	Channels	16
	Max. Count	16-bit (65535)
	Max. Input Frequency	100 Hz
	Min. Pulse Width	5 ms
Overvoltage Protection		70 V_{DC}
Effective Distance for Dry Contact		500 m Max.

XV110

Pin Assignments

| Dry.GND | Wet.COM | DI15 | DI14 | DI13 | DI12 | DI11 | DI10 | DI9 | DI8 | DI7 | DI6 | DI5 | DI4 | DI3 | DI2 | DI1 | DI0 |

XV110

Internal I/O Structure

Wire Connections

Digital Input/Counter	Readback as 1	Readback as 0
Wet Contant (Sink)	+3.5 ~ +50 VDC	+1 VDC Max.
Wet Contant (Source)	+3.5 ~ +50 VDC	+1 VDC Max.
Dry Contant	Closed to Dry.GND	Open

Ordering Information

XV110 CR	16-channel Isolated Dry and Wet Contact Digital Input Module With 16-bit Counters (RoHS)