

XV484

4-/8-channel Counter/Frequency/Encoder Input Expansion Board

Features

- 8 Up Counter/Frequency Channels or 4 Encoder Input Channels
- Programmable Digital Filter
- 32-bit Counter
- Individual Channel Configuration
- Virtual Battery Backup to Preserve Counter Values
- ±4 kV ESD Protection
- Preset Values for Counter Input
- RoHS Compliant
- Wide Operating Temperature Range: -25 to +75°C



Introduction

The XV484 is a 32-bit high-speed Counter/Frequency/Encoder input Expansion Board that offers a variety of mode options, including "Up Counter", "Frequency Input", "Up/Down Counter", "Direct/Pulse Counter" and "A/B Phase Counter" modes. The mode combinations can be individual set for all 8 channels, where some channels can be set to "Up Counter" mode and other channels can be simultaneously set to "Frequency", "Up/ Down Counter" or "Encoder input" mode. The built-in digital filter can filter out noise where the high/ low pulse width is smaller than the minimum high/low width of the digital filter.

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	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 ~ +80°C
Humidity	10 ~ 90% RH, Non-condensing

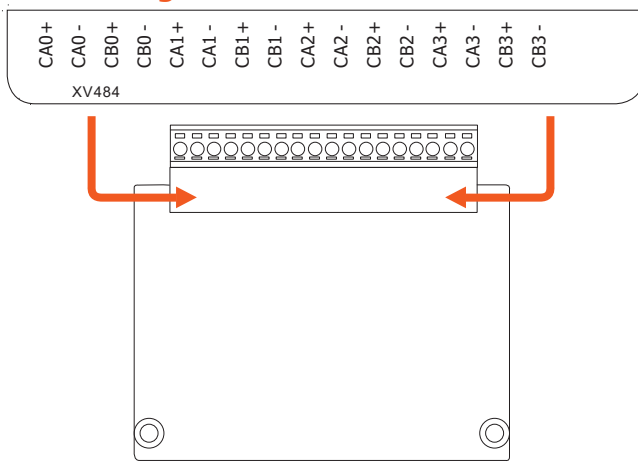
I/O Specifications

Counter/Frequency/Encoder Input	
Channels	4-channel Up/Down Counter (CW/CCW) 4-channel Dir/Pulse Counter (Bi-direction) 4-channel A/B Phase (Quadrant Counting) 8-channel Up Counter 8-channel Frequency
Contact	Wet
Sink/Source (NPN/PNP)	Sink
Types	Counter, Frequency or Encoder
Counter/Encoder-bits	32-bit (4,294,967,295)
ON Voltage Level	+3.5 VDC ~ +30 VDC
OFF Voltage Level	+1 VDC Max.
Programmable Digital Filter	1 ~ 32767 μs
Individual Channel Configuration	Yes
Counter Mode	Up or Up/Down
Encoder Mode	CW/CCW, Dir/Pulse, AB Phase
Frequency Mode	Yes
Max. Speed	3.5 VDC ~ 10 VDC: 200 kHz 10 VDC ~ 30 VDC: 150 kHz
Frequency Accuracy	1 Hz~200 kHz = ±0.025% of Input Frequency (Note1)
Virtual Battery Backup to preserve Counter Values	Yes

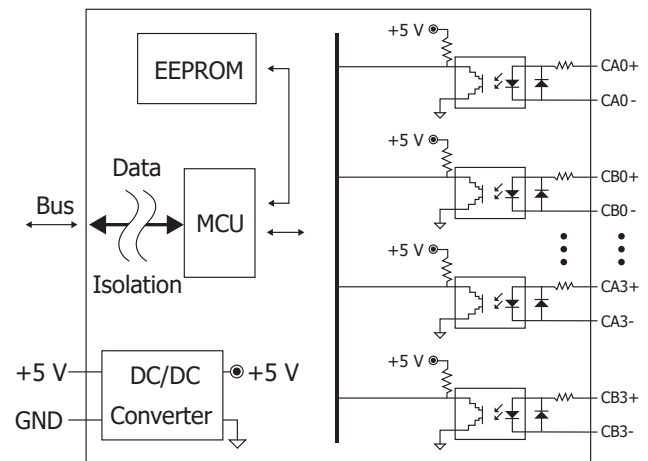
Note1:

Frequency Range	Frequency Error (typical)
1 Hz ~ 10 Hz	0.01 Hz
10 Hz ~ 10 KHz	0.5 Hz
10 KHz ~ 100 KHz	15 Hz
100 KHz ~ 200 KHz	30 Hz

Pin Assignments



Internal I/O Structure



Wire Connections

Counter Type	
Up	Up+ — CAx+ Up- — CAx-
Up/Down	Up+ — CAx+ Up- — CAx- Down+ — CBx+ Down- — CBx-
Dir/Pulse	Pulse+ — CAx+ Pulse- — CAx- Dir+ — CBx+ Dir- — CBx-
A/B Phase	A0+ — CAx+ A0- — CAx- B0+ — CBx+ B0- — CBx-
Frequency Type	
Frequency	Freq+ — CAx+ Freq- — CAx-

Ordering Information

XV484 CR	4-/8-channel Counter/Frequency/Encoder Input Expansion Board (RoHS)
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