

# EMX-7000 SERIES

PXIe PRECISION PROGRAMMABLE  
RESISTOR LADDER



## FEATURES

- (4) Independent Channels
- 1 $\Omega$  Resistance Increments
- Precision Sensor Simulation Capability
- Low Thermal Offset
- Independent Sense Feedback
- Parallel and Series Operation
- Dynamic Soft Front Panel
- IVI-COM, IVI-C, LabVIEW™ Drivers
- 3-Year Warranty

## APPLICATIONS

- Sensor Simulation
- Process Control
- ATE Calibration
- Device Loading
- Potentiometer Control

# EMX-7000 SERIES PXIe PRECISION PROGRAMMABLE RESISTOR LADDER

## Overview

The AMETEK VTI Instruments EMX-7000 SERIES PXIe Precision Programmable Resistor Ladder modules provide four independent channels of programmable resistors, each with four decades per channel. The EMX-7004 is capable delivering exceptional stability and accuracy for any resistance value between 1  $\Omega$  to 16,383  $\Omega$ , and can be adjusted in 1  $\Omega$  increments through the software application programming interface (API) or dynamic soft front panel. The EMX-7005, EMX-7006 and EMX-7007 are perfect for applications requiring higher resistance values, with programmable settings ranging from 163 k $\Omega$  to 16,383 M $\Omega$ , while the EMX-7014, 7015 and 7016 are ideal for general purpose applications not requiring ultra high accuracies.

## Specifications

Range	EMX-7004, EMX-7014	1 $\Omega$ to 16,383 $\Omega$
	EMX-7005, EMX-7015	10 $\Omega$ to 163,830 $\Omega$
	EMX-7006, EMX-7016	100 $\Omega$ to 1,638,300 $\Omega$
	EMX-7007	1000 $\Omega$ to 16,383,000 $\Omega$
Step Size	EMX-7004, EMX-7014	1 $\Omega$
	EMX-7005, EMX-7015	10 $\Omega$
	EMX-7006, EMX-7016	100 $\Omega$
	EMX-7007	1000 $\Omega$
Accuracy	EMX-7004	$\pm 0.02\%$ of programmed value $\pm 0.5 \Omega$
	EMX-7005	$\pm 0.02\%$ of programmed value $\pm 0.5 \Omega$
	EMX-7006	$\pm 0.02\%$ of programmed value $\pm 0.5 \Omega$ for values less than 200 k $\pm 0.05\%$ of programmed value $\pm 0.5 \Omega$ for values greater than or equal to 200 k
	EMX-7007	$\pm 0.02\%$ of programmed value $\pm 0.5 \Omega$ for values less than 200 k $\pm 0.08\%$ of programmed value $\pm 0.5 \Omega$ for values greater than or equal to 200 k
	EMX-7014	$\pm 2\%$ of programmed value up to 512 $\Omega$ , $\pm 1.5\%$ for all other values
	EMX-7015	$\pm 2\%$ of programmed value up to 2550 $\Omega$ , $\pm 1.5\%$ for all other values
	EMX-7016	$\pm 1.5\%$ of programmed value
Maximum Power	EMX-7004 EMX-7005 EMX-7006 EMX-7007	0.5 W to 40°C Thermal
	EMX-7014 EMX-7015 EMX-7016	0.25 W to 40°C Thermal
Thermal Offset		$\leq \pm 25 \mu V$

Specifications subject to change without notice.

## Ordering Information

Model	Configuration
EMX-7004	4-Channel, 1 $\Omega$ – 16,383 $\Omega$ Precision Programmable Resistor Ladder Card, 0.5 W
EMX-7005	4-Channel, 10 $\Omega$ – 163,830 $\Omega$ Precision Programmable Resistor Ladder Card, 0.5 W
EMX-7006	4-Channel, 100 $\Omega$ – 1,638,300 $\Omega$ Precision Programmable Resistor Ladder Card, 0.5 W
EMX-7007	4-Channel, 1000 $\Omega$ – 16,383,000 $\Omega$ Precision Programmable Resistor Ladder Card, 0.5 W
EMX-7014	4-Channel, 1 $\Omega$ – 16,383 $\Omega$ Precision Programmable Resistor Ladder Card, 0.25 W
EMX-7015	4-Channel, 10 $\Omega$ – 163,830 $\Omega$ Precision Programmable Resistor Ladder Card, 0.25 W
EMX-7016	4-Channel, 100 $\Omega$ – 1,638,300 $\Omega$ Precision Programmable Resistor Ladder Card, 0.25 W



AMETEK VTI Instruments  
2031 Main St.  
Irvine, CA 92614  
+1 949-955-1894  
vti.sales@ametek.com  
www.vtiinstruments.com