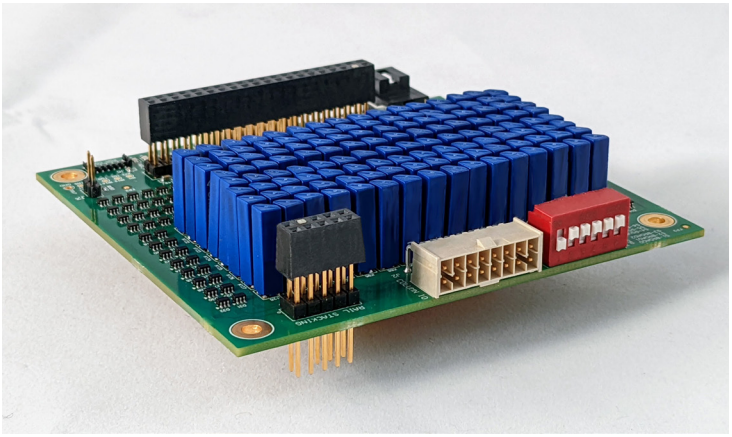
Embedded Solutions
SMARTER BY DESIGN™

ADLREL-8x16

Stackable, 8x16 (128) Matrix Relay board, PC/104 Compatible



OVERVIEW

- Designed for rugged ATE and data acquisition switching and signal routing applications
- High density 1.0A SPST relays
- Switch voltages up to 200V max, 20W max
- Stackable PC/104 Form Factor up to eight 8x16 matrix relay boards (8x128 = 1024 total relays) per stack.
- Compact mPCIe FPGA controller can control up to 8 stacks with eight boards each; up to 8x1024 (8,192) total relays.
- CUSTOM configurations available: 16x64, 16x512, 32x256, etc.

DESCRIPTION

The ADLREL-8x16 relay matrix board can be stacked up to eight boards high for a total matrix size of 8x128 (1024) relay switches. Relay control is via an mPCIe FPGA controller that can control up to eight stacks of ADLREL-8x16 relay cards.

The ADLREL-8x16 conforms to the PC/104 footprint with external power and data (cable ADLREL-CBL1). Each stack requires discrete 3.3VDC power to the top of each stack and a control data cable from the 40-pin mPCIe controller. Board to board spacing is 0.75" to accomodate the 1A, 20W reed relays. A 0.5A relay option is available which allows for 0.6" PC/104 board spacing.

Coupled with an ADL Intel Atom or Intel Core PCIe/104 CPU board, a complete solution can be accomplished in a very compact and rugged design

RoHS compliant

TECHNICAL SPECIFICATIONS

FEATURES	FUNCTIONS
Matrix Relays	• 128 relays/board (max. 26 energized at any time. • SPST 1-A Dry Reed • 200V max, </= 1.25 MHz freq., 20W max • Switching Current = 1.0A max • Carrying current = 1.2A max. • Capacitance: 2.9 pF closed switch to coil; 0.14 pF across open switch
Relay Contacts	• Contact resistance = 0.18 ohm, max initial • Contact Life: 10^9 min, 10V @ 10mA; 10^7 min, max resistive load
Relay Board Form Factor	• PC/104 footprint with Board to Board spacing = 0.75"
Input Power	• +3.3VDC @ 60mA (typical) • 490mA max (16.5mA per relay energized)
Operating Temperature	• Relay board = -20C to 85C • mPCIe Controller = -40C to 85C
Column I/O Connector	• Onboard: Samtec IPL1-108-01-L-D-RA-K • Mating: Samtec MMSD-08-20-L-08.00-D-K-LUS
Controller Connector	• Onboard: Molex 501190-4017 40-pin, latching • Mating: Molex 501189-4010
Power Connector	• Onboard: Molex 1723103202 • Mating: Molex 1722563102
Shock and Vibration	• Designed for MIL-STD 810
Environmental	• 5% to 95% non-condensing • Optional conformal coating

ORDERING INFORMATION

ITEM CODE	PART #	DESCRIPTION
ADLREL-8x16	TBD	8x16 Matrix Relay Board, -20C to 85C
ADLREL-CTRL1	TBD	mPCIe ADLREL-8x16 Controller, includes 9" CPU to Relay Matrix Cable, -40C to 85C
ADLREL-CBL1	TBD	ADLREL-8x16 DB37 I/O Cable
Compatible CPUs	TBD	Call ADL Sales Team for options.

ADL Corporate: 4411 Morena Blvd. Suite 101 | San Diego, CA 92117-4345

T: 855.727.4200 (toll free)
sales@adl-usa.com

F: 858.490.0599
www.adl-usa.com

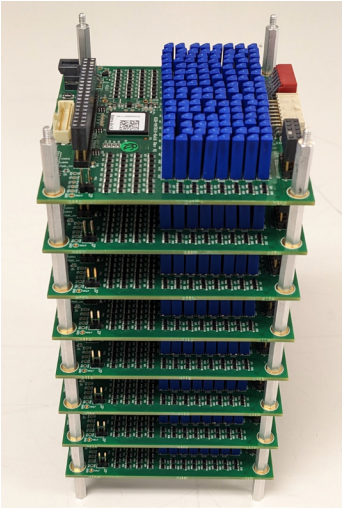
Embedded Solutions
SMARTER BY DESIGN™

ADLREL-8x16

Stackable, 8x16 (128) Matrix Relay board, PC/104 Compatible

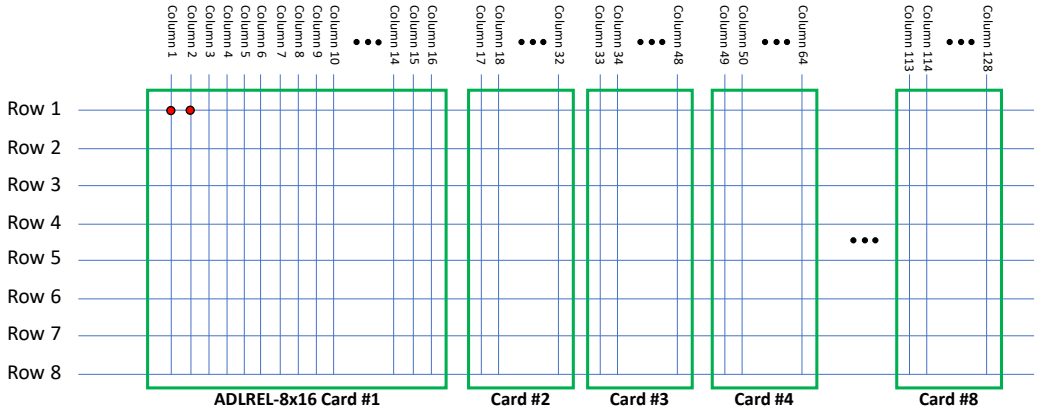
8 X 16 MATRIX ROW & COLUMN DIAGRAM

Stackable up to 8 cards



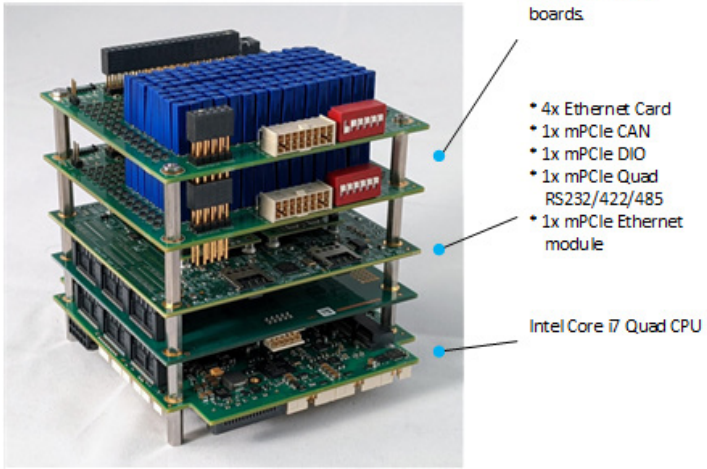
ADLREL-8x16 can be stacked up to eight board high for a total of 8x128 (1024) relays per stack. The ADLREL-CTRL1 mPCIe controller can control up to 8 stacks for a total of 8x1024 (8,192) relays.

The ADLREL-8x16 is highly modular and can be CUSTOM configured via cabling and controller firmware into almost any matrix size from 8x16 to 8x1024 or any size in between: 16x512, 32x256, 16x256, etc. Please contact sales@adl-usa.com for details.



COMPACT, RUGGED MIL-STD 810 CPU/RELAY SOLUTIONS

PCIe/104 CPU with Relay Matrix and other peripheral functionality.



The ADLREL-8x16 PC/104 form factor makes it possible to create compact, rugged complete solutions including Intel Atom and Intel Core CPUs, one or more ADLREL-8x16 boards, and a vast array of PC/104 and mPCIe peripheral functionality including:

- Custom ATE solutions built to customer specifications.
- COTS and custom relay boards
- Additional ethernet ports
- CAN 2.0 modules
- Quad/Dual RS232/422/485 modules
- AIO and DIO modules
- 802.11ac or 6/6E Wifi
- MIL-STD 1553
- and more...

*Data subject to change without notice.

ADL Corporate: 4411 Morena Blvd. Suite 101 I San Diego, CA 92117-4345

T: 855.727.4200 (toll-free) **F:** 858.490.2599

sales@adl-usa.com www.adl-usa.com