

# ERA-01

Electromechanical  
8-Channel SPDT Relay  
Output Accessory Board

## Screw Terminal Definitions

Screw Terminal Block	Screw Terminal Label	SIGNAL IDENTITY		Directly attached pin on D connector (11)
		When the ERA-01 is connected to DASCON-1 card	When the ERA-01 is connected to a PIO-12/PIO-24 card or to a DAS-1200/DAS-1600 card (at auxiliary connector)	
Relay Outputs (J2 and J3)	PB0, PB1, PB2, ..., PB7 - NO (normally open) - C (common) - NC (normally closed)	Relay contacts corresponding to digital outputs PB0, PB1, PB2, ..., and PB7 from the digital I/O "PB" port	Relay contacts corresponding to digital outputs PB0, PB1, PB2, ..., and PB7 from the digital I/O "PB" port	N/A*
Digital Signals (J5)	IRQ IN	INTERRUPT INPUT	INTERRUPT INPUT	1
	CC	CONV COMP	INTERRUPT ENABLER	2
	PC0	PC0 Directly from lower bits	PC0 Directly from lower bits	29
	PC1	PC1 of the digital I/O "PC" port	PC1 of the digital I/O "PC" port	28
	PC2	PC2 port. (A 10kΩ pull-up resistor is attached to each.)	PC2 (A 10kΩ pull-up resistor is attached to each.)	27
	PC3	PC3	PC3	26
	BSY	BUSY	PC4 Directly from upper bits	25
	CH0 ADR	CH ADDR 0	PC5 of the digital I/O "PC" port	24
	CH1 ADR	CH ADDR 1	PC6 (no pull-up resistors)	23
	LD ADR	LD CH ADDR	PC7	22
	R/H	RUN/HOLD	Digital signal common	21
	GND	Digital signal common	Digital signal common	11
External Power (J4)	AC	10VAC from Keithley external adapter, part number OPA-01	10VAC from Keithley external adapter, part number OPA-01	N/A
	AC			N/A
	DC -	Regulated 5VDC from external supply	Regulated 5VDC from external supply	11
	DC -			N/A

\*N/A = not applicable

### Relays

NUMBER OF RELAYS: 8.  
RELAY TYPE: Form C (SPDT).  
CONTACTS: Silver alloy.  
CONTACT RATING: 3A at 125V rms or 28VDC (resistive), Installation Category II.  
CONTACT LIFE MECHANICAL: 10<sup>7</sup> operations.  
CONTACT LIFE ELECTRICAL: 10<sup>5</sup> operations at full load.  
OPERATE TIME: 20ms max.  
RELEASE TIME: 10ms max.

### Other Hardware

BREADBOARD AREA: 0.7 in × 1.2 in (1.78 cm × 3.05 cm) (8 × 13 solder pad matrix).  
PC BUS POWER AVAILABLE: +5V.  
NUMBER OF LEDS: 8 red, one per relay.

### GENERAL

#### ENVIRONMENTAL:

Operating Temperature Range: 0° to 60°C.  
Storage Temperature Range: -40° to +100°C.  
Humidity: 0 to 90% non-condensing.

#### POWER AND SIGNAL REQUIREMENTS:

+5V Power: 760mA typical, 800mA max. (all relays energized).  
Logic Level to Energize Relay (Make): "1" logic high.  
Switching Load Current for Relay "Off" (Break): 0.018mA.

#### PHYSICAL:

Dimensions (with enclosure): 17cm long × 13.0cm wide × 6cm high (6.687 in × 5.125 in × 2.375 in).  
Dimensions (without enclosure): 15.7cm long × 11.9cm wide × 3.3cm high (6.187 in × 4.687 in × 1.3 in).  
Weight (with enclosure): 0.482kg (17 oz).  
Weight (without enclosure): 0.285kg (9 oz).  
Screw Terminal Wire Spacing: 5mm (0.197 in).  
Screw Terminal Wire Sizes: 12-22 AWG.  
Mounting holes (without enclosure): 3.17mm (0.125 in).