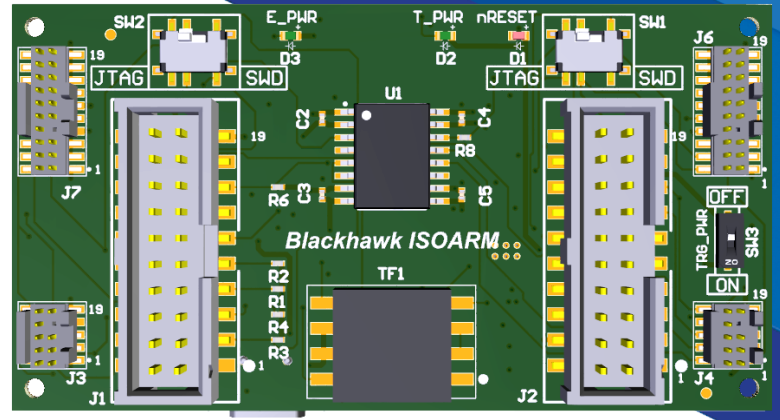


## What's Included

- Isolation Adapter PC Board
- 20-pin Ribbon Cable (0.100" x 0.100")
- 10-pin Ribbon Cable (0.050" x 0.050")
- Bump-ons (4)
- Quick Start Guide
- Warranty and Product Registration Information



## Blackhawk JTAG Isolation Adapter for ARM®

# JTAG Isolation Protection for your Equipment (ISOARM)

### Features

- Supports I/O voltages of 1.8V-5.0V targets
- Serial wire debug (SWD) and IEEE 1149.1 (JTAG) protocols supported
- High electromagnetic immunity
- High Speed operation: up to 24MHz TCK
- Connections: ARM Std 20-pin, ARM Cortex 10 & 20-pin
- Voltage Isolation: 5K Vrms
- Powered by USB, Target VCC or Emulator
- Current consumption is 20-80mA (varies with I/O voltage level and SW3 setting)
- RoHS Compliant

### JTAG Connector Signal Definitions [SWD signals]

PIN	20-pin ARM	20-pin Cortex	10-pin Cortex	PIN	20-pin ARM	20-pin Cortex	10-pin Cortex
1	VCC ♦	VCC ♦	VCC ♦	2	VCC ♦	TMS [SWDIO]	TMS [SWDIO]
3	nTRST	GND	GND	4	GND	TCK [SWDCLK]	TCK [SWDCLK]
5	TDI [NC]	GND	GND	6	GND	TDO [SWO]	TDO [SWO]
7	TMS [SWDIO]	KEY	KEY	8	GND	TDI [NC]	TDI [NC]
9	TCK [SWDCLK]	GND	GND	10	GND	nRESET	nRESET
11	RTCK	PWR +		12	GND	GND	
13	TDO [SWO]	PWR +		14	GND	GND	
15	nRESET	GND		16	GND	GND	
17	NC	GND		18	GND	GND	
19	PWR +	GND		20	GND	GND	

✦ J1 Pin 19: This pin is used as power input from the emulator (i.e. JLINK).

✦ J7 Pins 11 & 13: These pins are used as power input from the emulator (i.e I-JET).

♦ VCC J2, J4 & J6: The VCC signal pins on the target side supply power for isolator IC logic, LEDs and emulator side.  
J1, J3 & J7: The VCC signal pins on the emulator side are fixed at 3.3V.  
(SW3 can be used to turn off power to emulator side if necessary).

The Blackhawk JTAG Isolation Adapter for ARM is a board that connects between your JTAG emulator and the JTAG connection of your target board. The adapter is designed to minimize and protect connected devices (PC/Emulator/Target) from ground loop voltage, harsh environments and new, untested designs.

The adapter is very flexible by providing three JTAG connection options (Std. 20-pin ARM, 10 and 20-pin ARM Cortex) on both emulator and target sides. This also allows the adapter to be used as a converter from one JTAG connection type to another.

The signal interface supports both standard JTAG (1149.1) and serial wire debug (SWD) protocols, eliminating the need to purchase two different isolators.

The emulator and target sides of the adapter are powered from the target side VCC signals, however, the emulator side can be powered from USB or JTAG Emulator connectors with SW3 off to reduce power draw from the target should it be necessary.

These features in addition to the high electromagnetic immunity, make this adapter a very versatile solution to protect your equipment.

### Ordering Information

**Part Number: BH-ADP-ISOARM**

**SKU: 12216**

For more information, or to order this product online, please visit our website at [www.blackhawk-dsp.com](http://www.blackhawk-dsp.com)

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