

# ScanTAP IsoPod™

**CORELIS**  
An EWA Company

Complete TAP Signal Isolation  
for Corelis Boundary-Scan Controllers

Preferred JTAG Solutions—Acclaimed Technical Support



## Features

- 4 kV isolation barrier helps prevent damage to hardware
- 3.3 V TAP interface
- Supports JTAG test clock (TCK) frequencies up to 40 MHz
- Supports I<sup>2</sup>C and SPI programming speeds up to 1 MHz
- Compatible with Corelis boundary-scan controllers
- Compatible with the ScanExpress™ family of boundary-scan and functional test products
- Standard Corelis 20-pin TAP connectors

## Benefits

- **Prevent time losses** due to manufacturing lines and development grinding to a halt when a boundary-scan controller is damaged.
- **Cut costs** from repairing test machines, controllers, and targets due to damage.
- **Limit damage** to the boundary-scan controller caused by operator error.
- **Simple to use**, the ScanTAP IsoPod is functionally transparent so no changes to the hardware test setup are needed.
- **Compatible** with all Corelis boundary-scan controllers without the need for custom test cables.

## Protect your Hardware!

The Corelis ScanTAP IsoPod™ is an add-on accessory that provides a galvanic isolation barrier between the target system and the boundary-scan (JTAG) controller hardware. While the Corelis boundary-scan controllers are highly robust and reliable, the complete electrical isolation helps prevent damage to the controller from harsh electrical environments where over-voltage and over-current can damage components.

This Corelis ScanTAP IsoPod was designed to add an additional layer of protection with minimal cost and effort. Open the box and plug it in; everything *just works*.

## Applications

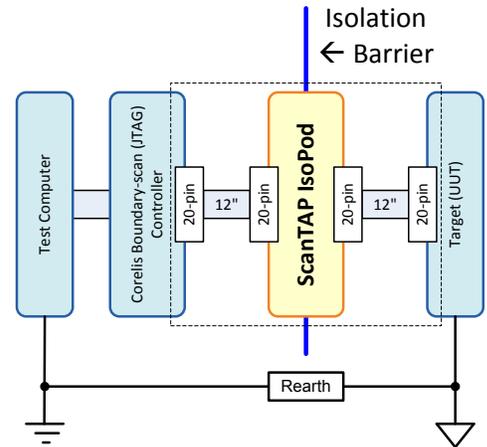
- **Harsh Electrical Environments** may damage boundary-scan controllers and test PCs through over-voltage or ESD.
- **Untested Targets** pose the greatest risk for damage to boundary-scan controllers if TAP signals are shorted to power.
- **Un-keyed TAP Connectors** where user error can often result in accidentally driving signals into power or ground.
- **Ground Potential Mismatches** often cause damage due to over-voltage and over-current when connecting components from different systems.
- **Ground-loops** occasionally cause signal integrity issues that are eliminated using digital isolation.

**Learn More:** For more information about Corelis products, please visit [www.corelis.com](http://www.corelis.com)

The digital isolation offered by the ScanTAP IsoPod protects boundary-scan controller hardware from ground potential differences that are often present on production floors and in other industrial environments. Ground potential differences are harmful in a noisy industrial environment when using USB based bus-powered test and measurement equipment, especially where the computer and the target system are powered from different AC power outlets.

While the Corelis boundary-scan controllers are highly robust and reliable, they are often used in harsh environmental conditions where electrical isolation is desired between the boundary-scan controller and the target system. The ScanTAP IsoPod also helps to eliminate signal stress that might be caused by ground loops or voltage/ground potential mismatches in applications where there might be large electrical potentials present in the system between different pieces of equipment with floating ground references.

The use of electrical isolation often limits the performance of the equipment on both sides of the isolator, because of this the ScanTAP IsoPod was designed with high speed in mind and supports JTAG test clock (TCK) frequencies up to 40 MHz. The ScanTAP IsoPod utilizes the standard 20-pin universal Corelis TAP connector pinout and is an easy drop in replacement for most Corelis TAP cables.



Typical ScanTAP IsoPod Application

## ScanTAP IsoPod Hardware Specifications

### General

Mechanical Dimensions	2.75 inches x 2.0 inches x 0.80 inches (+/- 0.10")
Shipping Weight	2.5 pounds (approximate)
Certifications	RoHS Compliant

### JTAG Controller Interface

Connector (connects to controller)	20-pin header AMP P/N 104130-4
Cable Length	20-pin to 20-pin (12"), Corelis P/N 15312-2 (standard). Other options are available.

### Target Interface

Connector (connects to target)	20-pin header, AMP part no. 104130-4
Recommended TAP Connector (on target)	20-pin IDC (flat cable), 3M part no. 3421-6620
TAP Cable Length	20-pin to 20-pin (12"), Corelis P/N 15312-2 (standard). Other options are available.

## ScanTAP IsoPod Electrical Specifications

Minimum TCK Frequency	50 KHz
Maximum TCK Frequency	40 MHz
TAP Voltage	3.3 V
Power Requirements	5V (an external power supply is provided)

## Ordering Information:

**Part Number—10406**

For more information, or to order this product online, please visit our website at <http://www.corelis.com/>

## Additional Information:

- **Application Note #09-0106**  
Using the ScanTAP IsoPod to Prevent Hardware Damage in Harsh Electrical Environments
- ScanTAP IsoPod Quick Start Tutorial
- ScanTAP IsoPod User's Manual

For more information about this product, please contact the Corelis Sales Department:

**Email: [sales@corelis.com](mailto:sales@corelis.com)**

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