

What module can replace an optocoupler cable



Article Overview

Digital isolators, particularly opto-replace isolators like the Si87xx family, can replace traditional optocoupler cables while offering higher reliability and performance.

Overview of Replacement Options

Traditional optocouplers use an LED and photodetector to provide electrical isolation, but they suffer from aging, limited speed, and variable current transfer ratios (CTR). Modern alternatives, called digital isolators or opto-replace isolators, use CMOS-based isolation technology to emulate the behavior of optocouplers while eliminating LED degradation and improving timing consistency .

Opto-Replace Isolators

Opto-replace isolators are designed to match the pinout, timing, and logic behavior of legacy optocouplers, making them suitable for drop-in replacements . Key features include:

- Pin-fit: Compatible with existing VCC, GND, IN, OUT, and EN pins.
- Timing-fit: Propagation delay and pulse distortion remain within the original circuit's timing budget.
- Behavior-fit: Default states during power-up or power-down match the legacy system.
- Safety-fit: Insulation ratings meet system safety requirements. These isolators are...

Article Content

Aug 16, 2025

An Optocoupler Alternative | Analog Devices

These alternatives to standard optocouplers can also be embedded with other data acquisition, communications and

Mar 30, 2026

AN729: Replacing Traditional Optocouplers with Si87xx Digital Isolators

The Si87xx family can be used as a pin-compatible optocoupler upgrade in existing systems or as a design-in component for new

May 08, 2026

ANO007 | Understanding Phototransistor Optocouplers

Unlike transformers or capacitors, which can only transfer AC signals across the isolation barrier, optocouplers can transfer both DC

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Did You Know Optocouplers Are Not Needed for Isolated DC-to-DC ...

The optocoupler faces another major issue: its performance varies with temperature and degrades over time, which can cause

Nov 24, 2025

SSZT391 Technical article | TI

Optocoupler standards have not historically included lifetime reliability performance data or high-voltage stress testing for sustained

Mar 27, 2026

How to Replace Optocouplers with Digital Isolators in Standard ...

However, digital isolators can now provide a cost-competitive, easy-to-implement, and higher-performance solution, all in a small

Sep 16, 2025

opto isolator

Just wanted to understand if there are more reliable and "easy to get" options available. Any other device which can

May 03, 2026

What Is Optocoupler and Its Application with Examples

They contain an optocoupler plus the high-power switching components and protection circuitry inside a single, larger

Sep 05, 2025

What is Optocoupler and How it works?

What is Optocoupler and How It Works As we have already learnt about transistors, an ideal transistor will not allow

Jul 10, 2026

Optoelectronics: Optocouplers

This learning module covers the concepts, design, and implementation of optocouplers, a light emitting diode

May 15, 2026

What Is An Optocoupler And How Does It Work?

Learn what an optocoupler is, how it works, and why it's essential for isolating electronic signals in industrial and

Nov 11, 2025

Optocouplers 101: A Comprehensive Guide for PCB

Optocouplers are a cornerstone of modern PCB design, offering isolation, noise reduction,

Jan 18, 2026

Optocoupler: Its Types and Various Application in DC/AC Circuits

Applications of Optocoupler As discussed before few Optocoupler used in DC circuit and few Optocoupler used in AC

Jun 23, 2026

AN729: Replacing Traditional Optocouplers with Si87xx Digital Isolators

The Si87xx digital optocoupler upgrade is the first and only enhanced optocoupler replacement technology available. This device

Apr 14, 2026

Improve your system performance by replacing optocouplers with

Optocoupler solution: Optocouplers do not have built-in current limit and require large external circuit to limit current whose accuracy

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NVE's IL600 Series: The True Optocoupler Alternative

NVE's IL600-Series is the only optocoupler replacement family that can be driven in current mode or voltage mode, single ended or

Sep 11, 2025

Optocouplers Guide: Understanding Types, Applications, and ...

By exploring these examples, you can see how optocoupler applications enhance circuit performance and safety.

Dec 22, 2025

opto isolator

I'm using a microcontroller like an ESP32 that works on 3.3VDC to read these signals. My current prototype setup is

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Optocouplers in Electrical Isolation and Signal Transmission

High-speed optocouplers are used for fast-switching applications, and the optocoupler with the logic output can be

Feb 16, 2026

Optocouplers, Optoisolators | Isolators | DigiKey

The choice of optocoupler depends on factors such as current transfer ratio (CTR), switching speed (measured in Mbps), and output

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Optocouplers Desig

Insulation Defined The electrical insulating capability of an optocoupler, sometimes referred to as withstand voltage, is determined

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Optocoupler Replacement Digital Isolator Guide

An opto-replace isolator is a digital isolator engineered to replace legacy optocouplers under drop-in constraints: the package/pin

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Digital Isolator Evolution Drives Optocoupler Replacement

For example, the Si87xx digital isolators from Skyworks directly replace 6- and 8-pin optocouplers and are suitable for both

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Digital Isolator Evolution Drives Optocoupler Replacement

Summary ideal upgrade solution to replace outdated optocouplers. Advanced optocoupler replacements, such as the Si87xx digital

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Optocouplers / Photocouplers – Mouser

Types: Common optocoupler types include phototransistor, photodiode, phototriac, and logic gate optocouplers, as well as high

Oct 26, 2025

Optocouplers, Part 1: Principles and usefulness FAQ

Q: Can optoisolator be used for analog and digital signals? A: Yes, absolutely. Some are optimized for digital (on/off)

Nov 18, 2025

opto isolator

The "connection" between the two sides of an optocoupler is just light. The emitter and detector are physically

May 25, 2026

Optocoupler Tutorial for Beginners

An optocoupler uses light to transfer signals from one circuit over to another. This guide shows you how they work

Dec 08, 2025

What is an optoisolator and how does it work?

Optoisolator components can also protect Ethernet and fiber optic cables from electrical surges. In VoIP phones,

Aug 20, 2025

The Ultimate Optocouplers Guide: Isolation, Types, and Applications

Our complete optocouplers guide covers what they are, how they work, the different types, and key applications.

Sep 06, 2025

How to Replace Optocouplers with Digital Isolators in Standard ...

This article compares common optocoupler circuits to digital isolator circuits used to isolate common digital interfaces and

Contact Us

For more information, pricing, or custom solutions, please contact us:

Website: <https://www.chromadecksigns-eastrand.co.za>

Email: sales@chromadecksigns-eastrand.co.za

Phone: +32 2 318 5792

Address: Avenue Louise 500, 1050 Brussels, Belgium

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