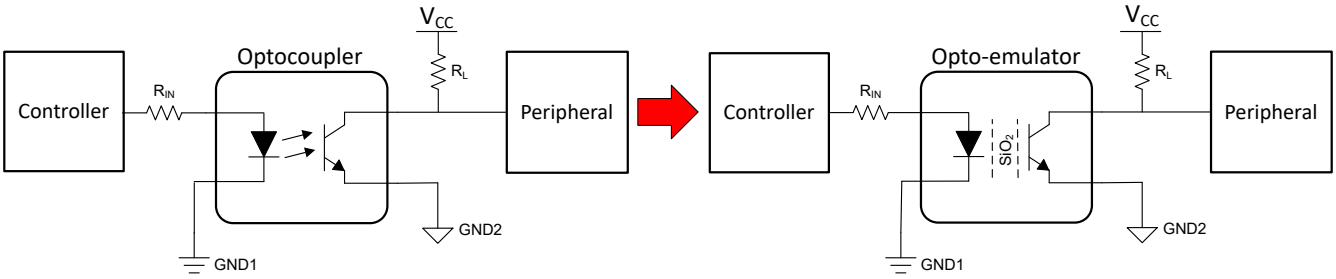
Product Overview

Replacing Optocouplers With Opto-emulators



Example Block Diagram of Replacing an Optocoupler With an Opto-emulator

Design Considerations

- Opto-emulators are pin-to-pin drop-in replacements for optocouplers
- TI offers opto-emulators with different output types: Digital and Analog
- Protects low voltage parts in a system from high-voltage circuits
- Allows signal transfer between controller devices and peripheral ICs
- [FAQ] What are the benefits of Opto-emulators vs. Optocouplers? TI E2E™ support forums
- [FAQ] Opto-emulators - Top Questions, Answered TI E2E support forums
- Opto-emulators explained: Why you should upgrade your optocoupler technology TI E2E support forums
- Opto-emulators | TI.com

Need additional assistance? Ask our engineers a question on the *TI E2E™ Isolation Support Forum*.

Recommended Parts

Table 1. Digital Output Opto-emulators

Part Number	Output Type	V_{CC}	Data Rate	Pin-to-Pin Optocouplers
ISOM8710	CMOS	2.7 V to 5.5 V	25Mbps	ACPL-M21L ACPL-M75L TLP2366 LTV-M601 and more
ISOM8711	Open Collector			

Table 2. Analog Output Opto-emulators

Part Number	Input Type	Output Type	V_F (MAX)	CTR	Pin-to-Pin Optocouplers
ISOM8110	DC Input	Open Collector	1.4 V	100% to 155%	HCPL-181 ACPL-217 LTV356T LTV357T TLP185 TLP181 PS2701A PS2811-1 EL816 EL3H7 and more
ISOM8111			1.4 V	150% to 230%	
ISOM8112			1.4 V	255% to 380%	
ISOM8113			1.4 V	375% to 560%	
ISOM8115	Bidirectional DC Input		1.5 V	100% to 155%	
ISOM8116			1.5 V	150% to 230%	
ISOM8117			1.5 V	255% to 380%	
ISOM8118			1.5 V	375% to 560%	

To find a pin-to-pin alternative to the optocouplers in your design, search TI's *cross reference tool*.
For more opto-emulators, browse through the *online parametric tool*.

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