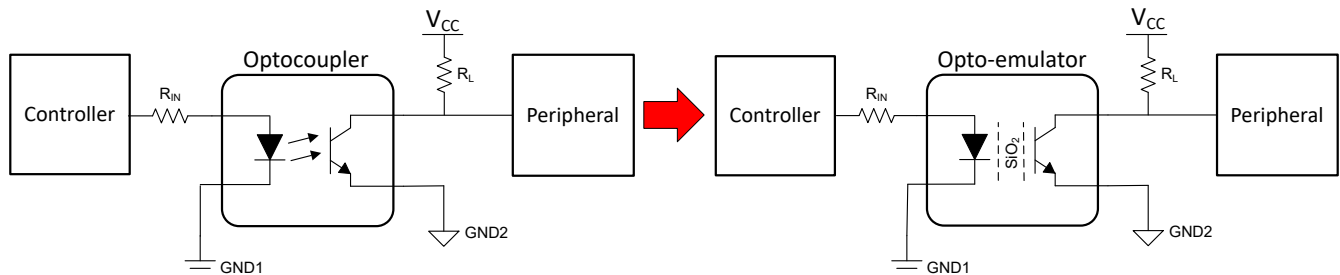


Replacing Optocouplers With Opto-emulators



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
ISOM8111			1.4 V	150% to 230%	ACPL-217
ISOM8112			1.4 V	255% to 380%	LTV356T
ISOM8113			1.4 V	375% to 560%	LTV357T
ISOM8115	Bidirectional DC Input		1.5 V	100% to 155%	TLP185
ISOM8116			1.5 V	150% to 230%	TLP181
ISOM8117			1.5 V	255% to 380%	PS2701A
ISOM8118			1.5 V	375% to 560%	PS2811-1
					EL816
					EL3H7
					and more

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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