*Product Overview*
Use Fewer Inputs to Monitor Error Signals

![TEXAS INSTRUMENTS]

Error source signals can be combined to reduce the number of required inputs to a system controller when it is more important to know *that* an error has occurred than it is to know which device triggered the error. For example, if an overheating condition is detected, it is likely that the system will increase fan speed or shut down operations to respond to the issue regardless of which device signaled the error.
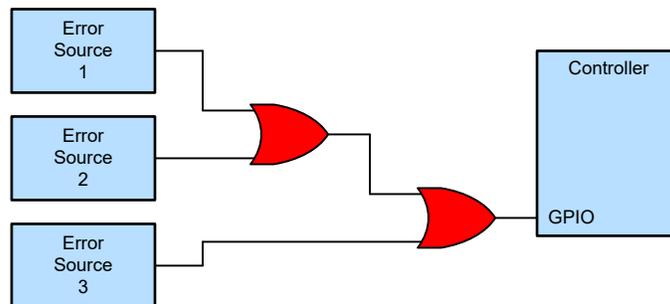
Example Block Diagram for Combining Three Error Sources Into One Error Signal Using OR Gates

See more about this use case in the *Logic Minute* video *Use Fewer Inputs to Monitor Error Signals*.

Design Considerations

*   Ensure that the input signals are digital; analog signals should be converted using a comparator
*   Inputs should be active high for this combination method
*   *[FAQ] How does a slow or floating input affect a CMOS device?*
*   Ask a question on our *Engineer-to-Engineer forum*

Recommended Parts

Part Number	AEC-Q100	V_{CC} Range	Channels	Features
SN74AUP2G32		0.8 V – 3.6 V	2 × 2 input gates	Low power – I_{CC} < 0.9 µA
SN74HCS32		2 V – 6 V	4 × 2 input gates	Schmitt-Trigger input architecture Low power – I_{CC} < 2 µA
SN74HCS32-Q1	✓			
SN74HCS4075		2 V – 6 V	3 × 3 input gates	
SN74HCS4075-Q1	✓			

For more devices, browse through the *online parametric tool* where you can sort by desired voltage, channel numbers, and other features.

IMPORTANT NOTICE AND DISCLAIMER