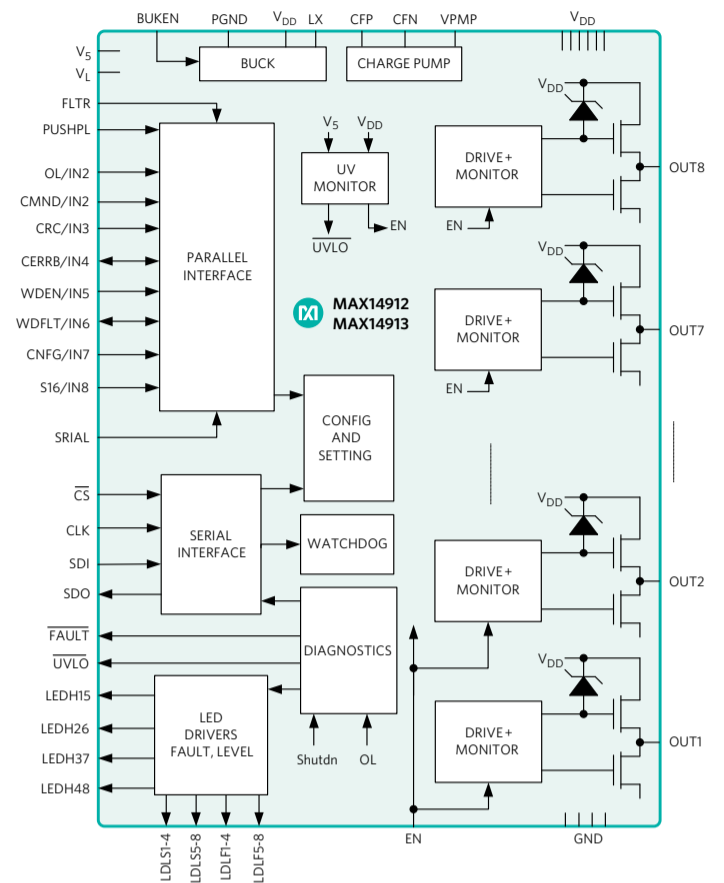


DESCRIPTION

Our **digital I/O interface ICs** are low-power solutions that reduce heat generation. Wide operating voltages provide design flexibility, while robust protection with extensive diagnostics reduces downtime. A proprietary process allows an absolute voltage rating in the 60V to 70V range to increase system robustness. Low on-resistance reduces power dissipation and heat for improved system reliability with operation in a wide -40°C to +125°C temperature range. Small packages with a high level of integration enable compact, high-density digital I/O modules.

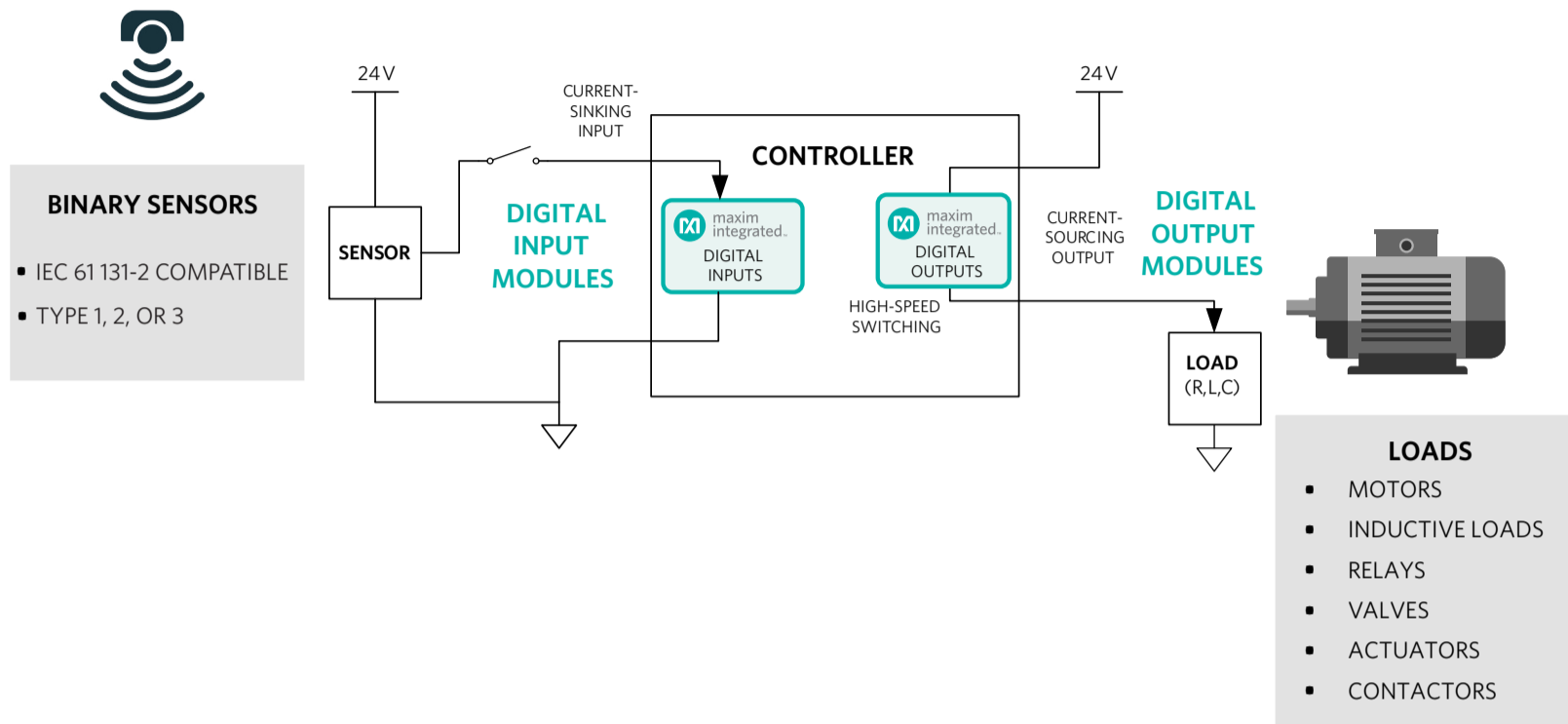
Diagnostics include:

- Thermal Warning and Shutdown
- Supply Undervoltage Lockout
- Open-Wire Detection
- Undervoltage and Overvoltage Detection
- Overcurrent Detection
- LED Drivers for Visual Fault and Output State Indication



Part Number	Digital In/Out	Interface	Channels	Pins/Package	Size	Features
MAX22190	DI	SPI	8	32/TQFN-CU	5mm x 5mm	Low Power, Wide Supply Range, Integrated Diagnostics
MAX22191	DI	Single DI	1	6/SOT23	2.9mm x 2.8mm	Low Power, Wide Supply Range, Sink and Source Capability
MAX22192	DI	SPI	8	70/GQFN-CU	6mm x 10mm	Integrated Isolation, Wide Supply Range, Integrated Diagnostics
MAX22195	DI	Parallel	8	32/TQFN-CU	5mm x 5mm	Low Power, Wide Supply Range, Integrated Diagnostics
MAX14900E	DO	Parallel/Serial	8	48/TQFN-EP	7mm x 7mm	Push-Pull
MAX14912/13	DO	Parallel/Serial	8	56/QFN	8mm x 8mm	Push-Pull, Fast and SafeDemag™, Surge Protection
MAX14914	DIO	Pin	1	16/TQFN	4mm x 4mm	Push-Pull, Fast and SafeDemag, Surge Protection
MAX14915	DO	Serial	8	48/FC2QFN	6mm x 6mm	High Side, Fast Demag, Surge Protection

Industrial Digital I/O System



FEATURED PRODUCTS

MAX14912/MAX14913

Octal High-Speed, High-Side Switch/Push-Pull Drivers

The MAX14912/MAX14913 have eight 640mA smart high-side switches that can be configured as push-pull drivers for high-speed switching. The propagation delay from input to switching of the high-side/low-side drivers is 1 μ s (max). Each high-side driver has a low on-resistance of 230m Ω (max) at 500mA load current at $T_A = +125^\circ\text{C}$.

RELATED RESOURCES



Industrial Digital I/O Interface ICs



Industrial Digital I/O Design Guide



MAXREFDES212: Go-IO Industrial IoT Reference Design



MAX14912EVKIT: Evaluation Kit for the MAX14912 and MAX14913



App Note 6635 FAQ: The MAX22190 Octal Industrial Digital Input Device with Diagnostics



App Note 6798: Guidelines to Implement CRC Algorithm for the MAX22190 and MAX22192 Octal Industrial Digital Input with Diagnostics



App Note 6339: Digital Output Drivers: Understanding Key Features and Challenges



App Note 6307: Switching Inductive Loads with Safe Demagnetization



App Note 6644: Frequently Asked Questions (FAQs) About the MAX22191 Parasitically Powered, Industrial Digital Input



App Note 6002: CRC Programming for the MAX14900E Octal, High-Speed Industrial Switch



App Note 6633: Guidelines to Implement CRC Programming for the MAX14915 Octal, Industrial, High-Side Switch