A COMPLETE ECOSYSTEM FOR IO-LINK DESIGN

Maxim’s long-standing history with IO-Link® technology is the foundation for a proven portfolio of transceivers on both the master and device sides, featuring low power dissipation, small solution size, and robust communications. In addition to IO-Link, our tiny, flexible binary sensor drivers are optimized for use in industrial sensors.

A full ecosystem of IO-Link device and master reference designs and evaluation kits enables you to perform quick evaluation and development of IO-Link technology.

IO-LINK PRODUCT SELECTOR TABLE

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Function</th>
<th>Interface</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAX14819</td>
<td>Master Transceiver</td>
<td>IO-Link</td>
<td>Low-Power, Dual-Channel, IO-Link Master Transceiver + Supply Controllers + UART Framer +DI</td>
</tr>
<tr>
<td>MAX14824</td>
<td>Master Transceiver</td>
<td>IO-Link</td>
<td>IO-Link Master Transceiver</td>
</tr>
<tr>
<td>MAX14828</td>
<td>Device Transceiver</td>
<td>IO-Link</td>
<td>Low-Power, Ultra-Small, IO-Link Device Transceiver + DI</td>
</tr>
<tr>
<td>MAX14827A</td>
<td>Device Transceiver</td>
<td>IO-Link</td>
<td>Tiny, Low-Power, Dual-Channel, IO-Link Device Transceiver</td>
</tr>
<tr>
<td>MAX14838/9</td>
<td>Sensor Driver</td>
<td>Binary</td>
<td>24V/100mA Tiny, Pin-Configurable, Industrial Sensor Output Driver + Protection</td>
</tr>
<tr>
<td>MAX14832</td>
<td>Sensor Driver</td>
<td>Binary</td>
<td>24V/100mA Tiny, One-Time-Programmable (OTP), Industrial Sensor Output Driver + Protection</td>
</tr>
<tr>
<td>MAX14836</td>
<td>Sensor Driver</td>
<td>Binary</td>
<td>24V Dual-Output Sensor Transceiver</td>
</tr>
</tbody>
</table>

PARAMETRIC SEARCH

- IO-Link Master Transceivers
- IO-Link Device Transceivers
- Binary Drivers
MAX14827A Dual 250mA IO-Link Transceiver

Key Benefits

- Low 2.3Ω (typ) $R_{ON}$ Saves 80% Power Dissipation
- Tiny WLP (2.5mm x 2.5mm)/24-Pin TQFN (4mm x 4mm) Packages Saves 60% Space
- High Integration and Configurability Reduces SKUs
  - C/Q, Auxiliary Digital Input/Digital Output
  - 3.3V/5V LDOs
  - SPI/Pin-Control Interface for Diagnostics/Monitoring
- Integrated Robustness for Harsh Environments
  - 65V Absolute Maximum Ratings for Smaller External Protection
  - Reverse Polarity/Short-Circuit Protection
  - -40°C to +125°C Operation

Applications

- Industrial Binary Sensors
- Proximity Switches
- Capacitive and Inductive Sensors
### Key Benefits

- Low Power Architecture Dissipates 50% Less Heat
- $1\Omega$ (typ) Driver On-Resistance
- $1.9\text{mA}$ (typ) Total Supply Current for 2 Channels
- Current Limiters with 15mV Sense Voltage
- Integrated IO-Link Framer Eliminates Need for External UARTS
- High Configurability and Integration Reduce SKUs
- Two Auxiliary Type 1/Type 3 Digital Inputs
- Supports NPN Sensors
- $\mathrm{C/Q}$ Driver $R_{\text{ON}} = 2\Omega$ (max) at $T_A = +125^\circ\text{C}$
- Integrated Protection Enables Robust Systems
- Reverse-Polarity Protection on All Interface Pins
- Fully Compliant with IO-Link 1.1.2 and SIO IEC 61131-2/IEC61131-9
- Reverse-Current Blocking on L+ and C/Q
- 65V Absolute Maximum Ratings for TVS Flexibility
- Operating Temperature $-40^\circ\text{C}$ to $+125^\circ\text{C}$
- TQFN-48 (7mm x 7mm) Package

### Applications

- IO-Link Master Systems
- IO-Link Gateways

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**MAX14819 Dual IO-Link Master Transceiver + 2DI**

THE MAX14819 IS A DUAL-CHANNEL MASTER TRANSCEIVER. ONLY ONE CHANNEL IS SHOWN HERE. OPERATED WITH INTERNAL IO-LINK FRAMER.
IO-LINK REFERENCE DESIGNS

<table>
<thead>
<tr>
<th>Product Line</th>
<th>Description</th>
<th>Order</th>
</tr>
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<tbody>
<tr>
<td>Master</td>
<td></td>
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</tr>
<tr>
<td>MAXREFDES145</td>
<td>8-Port IO-Link Master</td>
<td>🛒</td>
</tr>
<tr>
<td>MAXREFDES79</td>
<td>4-Port IO-Link Master</td>
<td>🛒</td>
</tr>
<tr>
<td>Sensor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MAXREFDES27</td>
<td>Optical Proximity Sensor with IO-Link Interface</td>
<td>🛒</td>
</tr>
<tr>
<td>MAXREFDES36</td>
<td>16-Channel Digital Input with IO-Link Interface</td>
<td>🛒</td>
</tr>
<tr>
<td>MAXREFDES37</td>
<td>IO-Link Quad Servo Driver</td>
<td>🛒</td>
</tr>
<tr>
<td>MAXREFDES42</td>
<td>RTD Temp Sensor with IO-Link Interface</td>
<td>🛒</td>
</tr>
</tbody>
</table>

RELATED RESOURCES

- Video: Dual IO-Link Master Tranceiver: MAX14819 Demo
- MAX14819EVKIT: Evaluation Kit for the MAX14819
- IO-Link Handbook
- Video: What is IO-Link?