

SENSOR PRODUCTS



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Contactless Power and Data Transmission with IO-Link

Minneapolis, MN—July 3, 2014—TURCK USA is launching the NIC contactless inductive coupler, a wear free alternative to classic connectivity solutions. The new NIC series can be used for data and energy transmission and is able to transfer up to 12 Watts and .5 amps of power across an air gap of 7 mm. With a tolerated angle offset up to 15 degrees and a parallel offset up to 5 millimeters, the couplers can also be fitted in restricted and non-standard mounting locations while still allowing for full power transfer.

The current version of the NIC series transfers two PNP switch signals. If the primary unit is connected to an IO-Link master, signals can be transferred bi-directionally from IO-Link-capable sensors and signals from IO-Link-capable DI/ DO junction modules can also be controlled. When using a primary unit with an integrated IO-Link master and a 12-pole plug connector, and with a TBIL- M1-16DIP I/O hub on the secondary side, up to eight switching signals can be transferred, which can be used on the primary side as separate outputs.

A diagnostic function detects the presence of the secondary unit as well as any metal objects in the air gap which may weaken a transfer.

As a “contactless connector” the new product series is an ideal solution for the wear problems occurring with plug and wiper contacts subject to severe stress. In overhead conveyor systems or on rollers, the inductive couplers offer a maintenance-free alternative to the wear-intensive slip ring. The speed of the system is ideal for use in applications with high cycle rates such as tool changer robots or rotary indexing tables: The secondary unit is operational within 10 milliseconds and supports Dynamic Pairing, i.e. the coupling of any primary and secondary units. The application specific tag in the IO-Link protocol makes it possible to identify the relevant IO-Link device precisely, which means it is possible to replace the use of additional identification equipment such as RFID for a tool or skid change application.

Please see page 2 to learn more about where the contactless inductive coupler could be used.

For other TURCK product or technical information, contact:
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Solutions for Different Application Scenarios



Solution option #1: Two PNP switching signals

Up to two PNP switching signals can be transmitted via the secondary part NICS-M30-IOL2P8-0,3-RKC4.4T (right) – either from power clamp sets or from two different sensors that are connected via a VB2-splitter.



Solution option #2: One IO-Link device

If the primary part NICP-M30-IOL2P8X-H1141 (left) is connected to an IO-Link master, data from measuring IO-Link sensors can be transmitted bidirectionally. You can, of course, also connect IO-Link-capable actuators such as tower lights or the TBIL-M1-16DIP I/O hub with 16 digital PNP inputs.



Solution option #3: Eight PNP switching signals

The primary part NICP-M30-8P8-0.3-RSC12T works as an IO-Link master, allowing up to eight switching signals to be processed via the I/O hub TBIL-M1-16DIP (right). The entire IO-Link communication is handled internally, requiring no configuration for the user.