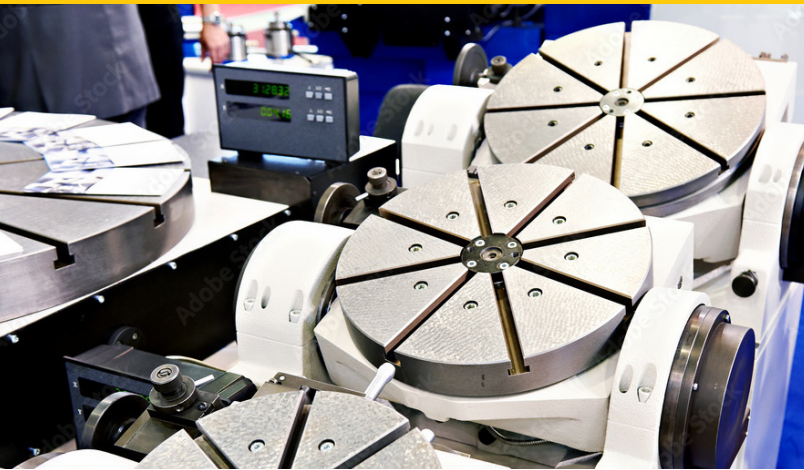


## Multiprotocol Ethernet Inductive Coupler



### Expand the Possibilities for Non-contact Power & Data Transmission

With latency-free communication, wear-free coupling, and multiprotocol flexibility, the NIC-Q86-ETH from Turck enables the next generation of motion-based automation: rugged, fast and ready for Industry 4.0. This solution is ideal for motion-intensive applications, and those with frequent tool changes or fast cycle times. Traditional solutions can suffer from wear, dirt or misalignment over time, but inductive coupling ensures maintenance-free and reliable operation. By transmitting both up to 50 W of power and 100 Mbit/s of full-duplex data with virtually no latency ( $<1 \mu\text{s}$ ), the NIC-Q86-ETH delivers an unmatched interface solution where reliability, speed and flexibility are critical.

This new system is an ideal non-contact interface between moving assemblies

for real-time performance and fast data rate requirements, especially when they are connected via Turck's multiprotocol and EtherCAT I/O modules, and controllers that operate automatically in Profinet, EtherNet/IP, Modbus TCP, and EtherCAT networks.

The solution's non-contact connection eliminates mechanical contacts, enabling permanent operation in moving, rotating or vibration-prone environments. Multiprotocol Ethernet support ensures that these devices integrate seamlessly into all common industrial Ethernet environments without additional hardware, ensuring flexibility across projects.

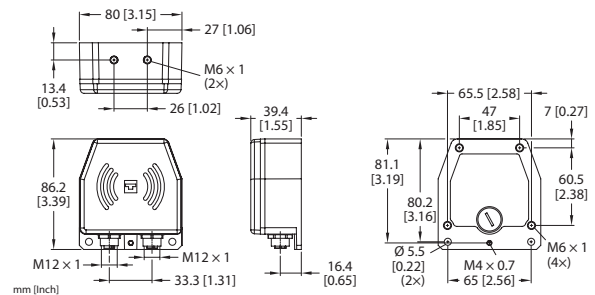
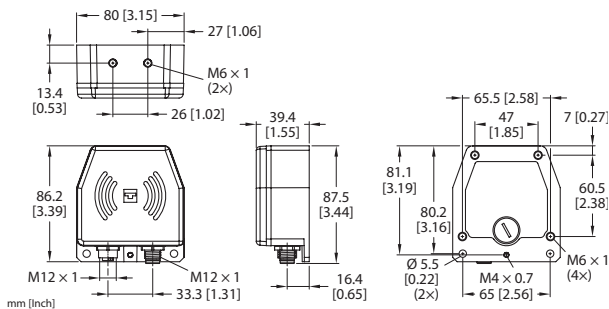
### Your benefits

- Built for use in advanced manufacturing environments where motion and data must coexist seamlessly
- Built to last with an IP65 protection rating
- Fast startup with up to 50 W of power transmission
- High data transmission reliability with 100 Mbit/s
- Multiprotocol compatibility: PROFINET, EtherNet/IP, Modbus TCP, EtherCAT

# Technical Data

## General data

|                            |                |
|----------------------------|----------------|
| Transmission distance      | 0...10 mm      |
| Lateral offset             | 5 mm           |
| Angular misalignment       | 15 ° max       |
| Transmit power             | up to 50 W     |
| Ambient temperature        | -20...+55 °C   |
| Protection class           | IP65           |
| Rotation speed             | up to 1450 rpm |
| Protocol detection         | automatic      |
| Startup time               | 2000 ms        |
| Latency                    | < 1 µs         |
| Transmission rate Ethernet | 10/100 Mbps    |



### NICP-Q86-ETH-H1141, Primary

|                                                                             |                                                                                                  |
|-----------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|
| ID                                                                          | 100050310                                                                                        |
| Description                                                                 | Inductive coupler, primary part, connection: Male M12, L-coded. Data IN/OUT: Female M12, D-coded |
| Supply voltage, primary side                                                | 19 VDC                                                                                           |
| Typical current consumption, without secondary side                         | 170 mA at 24 VDC at 25 °C                                                                        |
| Maximum current consumption, with secondary side                            | 480 mA at 24 VDC at 25 °C                                                                        |
| Maximum current consumption, with secondary, 2-A load, input voltage 19 VDC | 3.7 A                                                                                            |
| Reverse polarity protection                                                 | Yes                                                                                              |

### NICS-Q86-ETH-HK1141, Secondary

|                                |                                                                                                      |
|--------------------------------|------------------------------------------------------------------------------------------------------|
| ID                             | 100050311                                                                                            |
| Description                    | Inductive coupler, secondary part, connection: Female M12, L-coded. Data IN/OUT: Female M12, D-coded |
| Supply voltage, secondary side | 24 VDC ± 5%                                                                                          |
| Maximum output current         | 2 A                                                                                                  |

#### Inductive transmission system

|                                                          |                  |
|----------------------------------------------------------|------------------|
| Frequency range for energy transmission                  | 110 ...148.5 kHz |
| Frequency range for data transmission                    | 59...64 GHz      |
| Ambient temperature                                      | -20...+55 °C     |
| Permissible humidity                                     | 10...95%         |
| Ethernet interface, 100Base-T(X) according to IEEE 802.3 | 100 Mbps         |
| Transmission length via twisted pair, shielded           | 100 m            |

## Wiring accessories

| Type                       | ID        | Description                                                                                                                                                   |
|----------------------------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
| RKP46PL-2-RSP46PL          | UX11803   | Extension cable, M12 female connector, straight, 4-pin, L-coded; M12 male connector, straight, 4-pin, L-coded; cable length: 2 m, jacket material: TPU, black |
| PSU67-1P-1S-2L-24150-IOL-F | 100028305 | 1-phase power supply unit in IP67, 24 VDC, 15-A output current with IO-Link                                                                                   |
| PSU67-11-2440/M            | 6884141   | Power supply unit in IP67, 24 VDC, 4 A output current                                                                                                         |
| RSSD-RSSD-441-2M           | U-02482   | Cable for Industrial Ethernet, M12 male connector, D-coded, straight to M12 male connector, straight, cable length: 2 m, jacket material: TPE, teal           |

Over 30 subsidiaries and  
60 representatives worldwide!