

## ix Industrial™ IP20 Connectors



### ix Industrial™: Next Generation Industrial IoT Connectivity

ix Industrial™ connectors enable IoT connectivity for Ethernet and other Industrial protocols through all levels of an operation from the Enterprise/Cloud to the sensors/actuators at the factory floor. These 10mm pitch connectors featuring 2-point metal latches are just 25% of the size of an RJ45 connector, and as such allow much greater port density and mating security. They are PoE capable, provide data performance to Cat6A level (10GBASE-T), and feature 360° shielding through the mated pair for superior EMI protection.

- Increased port density compared to RJ45
- High data rate performance for 10G Ethernet, with PoE capability
- Excellent EMI protection for noisy environments
- Robust 2 point metal latches for secure mating
- Fully intermateable with ix Industrial™ products from other authorized vendors



#### TARGET MARKETS



#### FEATURES

- Complies with IEC61076-3-124
- 75% smaller than RJ45
- 10 position connector with Cat6A 10GBASE-T performance and PoE capability
- 360° shielding through mated pair
- 2-point metal latching
- Heavy duty shield solder hold-down tabs on PCB mount receptacles
- 5000 mating cycles
- Field terminable IDC plugs with solder options
- Keyed Housings (Type-A, -B, -C)

#### BENEFITS

- Fully qualified second source intermateable with other vendors' products
- 10mm connector pitch provides greater port density
- Supports Ethernet/IP and common protocols including Profinet, DeviceNet, EtherCAT, Modbus and others
- Provides excellent EMI immunity for use in electrically noisy environments
- Extremely robust mating to prevent accidental disconnection, and more durable than RJ45 latch
- Provides secure connection to the PCB protecting SMT joint integrity under mechanical stresses
- High durability
- Ease of custom cabling or repair in the field with IDC contacts
- Solder version for high volume assembly
- Controlled mating for Ethernet, Signal/Bus, other ports

## TECHNICAL INFORMATION

### MATERIAL

- External Shields: Stainless steel, nickel plated (plugs) or tin plated (receptacles)
- Insulators: Thermoplastic, UL94V-0
- Contacts: Copper alloy plated with gold over nickel (mating area)

### MECHANICAL PERFORMANCE

- Insertion/Withdrawal Force: 25N (5.6 lbs-force) max. (IEC 60512-13-2, Test 13b)
- Pull-Out Force: 80N (18 lbs-force) min. (IEC 60512-15-6, Test 15f)
- Mechanical Shock: 300m/s<sup>2</sup>, half-sine pulses, 11ms (IEC 60512-6-3, Test 6c)
- Vibration, Sinusoidal: 10Hz – 500Hz, 0.35mm, 50m/s<sup>2</sup> (IEC 60512-6-4, Test 6d)
- Durability: 5000 mating cycles (IEC 60512-9-1, Test 9a)

### ELECTRICAL PERFORMANCE

- Current Rating: 1.5A @ 40°C (per IEC 60512-5-2, Test 5b)
- Voltage Rating: 50V AC max., 60V DC max.
- Initial Contact Resistance: 30mΩ max. (per IEC 60512-2-1, Test 2a)
- Shielding Resistance: 100mΩ max. (per IEC 60512-2-1, Test 2a)
- Insulation Resistance: 500MΩ min. @ 500V DC (per IEC 60512-3-1, Test 3a)
- Dielectric Withstanding Voltage: 500V DC (per IEC 60512-4-1, Test 4a, Method A)

### PACKAGING

- Tray (Plug Connectors)
- Carton (Cables)
- Tape & Reel (SMT Receptacles)

### SPECIFICATION

- IEC-61076-3-124
- Amphenol Specification: S6168C

### ENVIRONMENTAL

- Thermal Shock: 10 cycles between -55°C and +85°C (IEC 60512-11-4, test 11d)
- Humidity: Low temperature +25°C, high temperature +65°C, cold sub-cycle -10°C, 93% humidity (IEC 60068-2-38, Text Z/AD)
- Operating Temperature Range: -55°C to +85°C

### APPROVALS AND CERTIFICATIONS

- RoHS
- UL E64911 Vol. 1

### TARGET MARKETS/APPLICATIONS



Switches  
Traffic Control  
Monitoring systems



Industrial Internet of Things (IIoT)  
Factory/Process Automation –  
Machine to Machine, Sensors,  
Actuators, Nodes  
Robotics  
Building Automation  
Test Equipment



Healthcare  
Medical Equipment

## PART NUMBERS

Description	Part Numbers
Receptacle, Type-X, Plating Y, Right Angle Flag, SMT	ND9-XS1Y-00
Receptacle, Type-X, Plating Y, Right Angle Horizontal, SMT	ND9-XS3Y-00
Receptacle, Type-X, Plating Y, Vertical SMT	ND9-XS2Y-00
Plug, Type-X, Plating Y, IDC Termination, 24-26AWG	ND9-XP6Y-00
Plug, Type-X, Plating Y, IDC Termination, 28AWG	ND9-XP7Y-00
Plug, Type-X, Plating Y, Solder Pad	ND9-XP5Y-00

X = Key (A, B or C)

Y = Contact Plating: 1=Gold Flash; 2=8μ" Gold; 3=30μ" Gold; 4=50μ" Gold; 7=30μ" PdNi+Gold Flash

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