



Pushing Performance  
Since 1945

# ix Industrial 10B-1 plug A1-S



Image is for illustration purposes only. Please refer to product description.

|                    |                                                                                   |
|--------------------|-----------------------------------------------------------------------------------|
| Part number        | 09 45 181 9020 XL                                                                 |
| Specification      | ix Industrial 10B-1 plug A1-S                                                     |
| HARTING eCatalogue | <a href="https://harting.com/09451819020XL">https://harting.com/09451819020XL</a> |

## Identification

|                |                        |
|----------------|------------------------|
| Category       | Connectors             |
| Series         | HARTING ix Industrial® |
| Identification | Signal                 |
| Element        | Cable connector        |
| Specification  | Angled bottom          |

## Version

|                    |                                        |
|--------------------|----------------------------------------|
| Termination method | Solder termination                     |
| Shielding          | Fully shielded, 360° shielding contact |
| Number of contacts | 10                                     |
| Coding             | Type B                                 |
| Pack contents      | Bulk packaging                         |

## Technical characteristics

|                               |                                                     |
|-------------------------------|-----------------------------------------------------|
| Conductor cross-section [AWG] | AWG 28/7 ... AWG 22/7                               |
| Wire outer diameter           | ≤1.55 mm                                            |
| Rated current                 | 1.5 A                                               |
| Rated current                 | 3 A per contact when used with 4 contacts (1,2,6,7) |
| Rated voltage                 | 50 V AC<br>60 V DC                                  |
| Insulation resistance         | >500 MΩ                                             |
| Contact resistance            | ≤30 mΩ                                              |
| Shielding resistance          | ≤100 mΩ                                             |



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## Technical characteristics

|                                        |                                                                            |
|----------------------------------------|----------------------------------------------------------------------------|
| Limiting temperature                   | -40 ... +85 °C                                                             |
| Storage temperature                    | -30 ... +60 °C                                                             |
| Relative humidity                      | 95 % Non-condensing (operation)<br>95 % Non-condensing (storage/transport) |
| Insertion force                        | ≤25 N                                                                      |
| Withdrawal force                       | ≤25 N                                                                      |
| Mating cycles                          | ≥5,000                                                                     |
| Degree of protection acc. to IEC 60529 | IP20                                                                       |
| Cable diameter                         | 5.5 ... 7.2 mm                                                             |
| Test voltage $U_{r.m.s.}$              | 0.5 kV                                                                     |
| Retention force                        | ≥80 N locking                                                              |

## Material properties

|                                           |                                                                                                                  |
|-------------------------------------------|------------------------------------------------------------------------------------------------------------------|
| Material (insert)                         | Polyamide (PA)                                                                                                   |
| Colour (insert)                           | Black                                                                                                            |
| Material (shielding)                      | Stainless steel<br>Ni ≥ 1 µm Termination side (shielding case)<br>Ni ≥ 0.2 µm Termination side (shielding shell) |
| Material (contacts)                       | Copper alloy                                                                                                     |
| Surface (contacts)                        | Au ≥ 0.2 µm over Ni ≥ 2 µm Mating side<br>Au ≥ 0.03 µm over Ni ≥ 2 µm Termination side                           |
| Material (hood/housing)                   | Polycarbonate (PC)                                                                                               |
| Colour (hood/housing)                     | Grey                                                                                                             |
| Material flammability class acc. to UL 94 | V-0                                                                                                              |
| RoHS                                      | compliant                                                                                                        |
| ELV status                                | compliant                                                                                                        |
| China RoHS                                | e                                                                                                                |
| REACH Annex XVII substances               | Not contained                                                                                                    |
| REACH ANNEX XIV substances                | Not contained                                                                                                    |
| REACH SVHC substances                     | Not contained                                                                                                    |
| California Proposition 65 substances      | Yes                                                                                                              |
| California Proposition 65 substances      | Lead<br>Nickel                                                                                                   |



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Specifications and approvals

|                |                                          |
|----------------|------------------------------------------|
| Specifications | IEC 61076-3-124                          |
|                | EN 45545-2                               |
|                | IEEE 802.3af Power over Ethernet (PoE)   |
|                | IEEE 802.3at Power over Ethernet (PoE+)  |
|                | IEEE 802.3bt Power over Ethernet (4PPoE) |
| UL / CSA       | UL 1977 ECBT2.E102079                    |
|                | CSA-C22.2 No. 182.3 ECBT8.E102079        |

Commercial data

|                                |                                                     |
|--------------------------------|-----------------------------------------------------|
| Packaging size                 | 100                                                 |
| Net weight                     | 11 g                                                |
| Country of origin              | Japan                                               |
| European customs tariff number | 85366990                                            |
| GTIN                           | 5713140223325                                       |
| eCl@ss                         | 27440114 Rectangular connector (for field assembly) |
| ETIM                           | EC002636                                            |
| UNSPSC 24.0                    | 39121408                                            |

Contact configuration





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## Environmental specifications

|                                             |                                                                                                                                                        |
|---------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| Rapid change of temperature (IEC 60512-11d) | 10 cycles between -55°C and 85°C<br>with 30 minutes dwell at temp. extremes and 2 to 3 minutes transition between temperatures                         |
| Dry heat (IEC 60512-11i)                    | +85°C, 500 h                                                                                                                                           |
| Damp heat, steady state (IEC 60512-11-3)    | 40°C; relative humidity 93%; 500 h (Test 11c)                                                                                                          |
| Damp heat, cycles (IEC 60068-2-38)          | 25°C to 65°C; cold sub-cycle: -10°C; relative humidity 93%;<br>10 cycles, 1 cycle/24h                                                                  |
| Cold (IEC 60512-11j)                        | -55°C, 240h                                                                                                                                            |
| Flow mixed gas test (IEC 60068-2-60)        | 4 d, Method 4 (mated and unmated)                                                                                                                      |
| Corrosion salt mist                         | Exposed at 5% salt water, 35°C, 48h (unmated);<br>no heavy corrosion of contacts                                                                       |
| Vibration, sinusoidal (IEC 60512-test 6d)   | 10 to 500 Hz; 0.35 mm, 50 m/s <sup>2</sup> , 2h / 3 axis;<br>no contact disturbances $\geq 1\mu\text{s}$                                               |
| Mechanical shock (IEC 60512-test 6d)        | half-sine shock 300 m/s <sup>2</sup> , 11 ms<br>3 shocks / both directions / 3 axis - totally 18 shocks<br>no contact disturbances $\geq 1\mu\text{s}$ |
| Fretting Corrosion                          | 490 m/s <sup>2</sup> , 30 times/min at 1000 times<br>no contact disturbances $\geq 1\mu\text{s}$                                                       |
| Wrenching Strength                          | Applying 25 times / 30N for 1s / in 2 axis on tip of plug case in mated condition<br>no damage, no cracks or looseness of parts                        |