

INDUSTRIAL MINI I/O CONNECTOR

The Industrial Mini I/O connector system is a compact, wire to wire and wire-to-board solution for reliably serial, bus and Ethernet connections in industrial applications.

With only 25% of the size of a conventional RJ45, TE's Industrial Mini I/O solution allows you to save on valuable boards space. Combined with reduced height, it allows for building very compact DIN rail system modules.

TE's Industrial Mini I/O solution has been designed for the stringent demands of industrial environments.

High retention of the board connectors, combined with a compact metal latching mechanism prevents accidental pull and/or unmating, reducing potential system down time. Stable connections are guaranteed and unnecessary consequential communication losses are prevented by a contact system with double point of contact, designed to deal with the shock and vibrations common to industrial environments.

The upgraded generation of SMT PCB Mini I/O portfolio meet the latest requirements of the industrial assembly processes. With an improved co-planarity of 0.08mm, the amount of solder paste can be reduced. Together with the use of LCP materials in the connector, it allows for higher reflow solder temperatures, increasing processing efficiency and extending durability over lifetime.

EMI and Signal Integrity are optimized by the signal path design and the 360 degrees shielding brings in next generations to CAT6A performance.

Key Features

- Small form factor reduces PCB area and equipment height
- High board retention and metal latch prevents unnecessary disconnections
- Improved coplanarity and LCP materials allow for the latest assembly process technologies
- Two unique interfaces (Type 1 and Type 2) prevent unwanted mismatching
- Stable connections are guaranteed by the optimized signal path design, 360 degrees shielding and a contact system with double contact point

Industrial Mini I/O Cable Assemblies

TE offers a broad range of Industrial Mini I/O cable assemblies. Not only Mini-I/O to Mini-I/O but also connectivity to the RJ45 is offered. Various cable types covers a broad range of application needs from high temperatures to high flexible for drag chains.



Applications

- Industrial Communications
- PLCs
- Motion & Drives
- Robotics

Mechanical

- Operating Temperature: -40 °C - +85 °C
- Durability: 1500 Cycles
- Cable retention force: 100N

Electrical

- 60 V rated
- Current rating: > 1 A

Materials

- Shell: Copper alloy
- Contact: Copper alloy
- Housing: Thermoplastic

Standards and Specifications

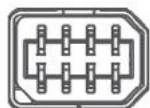
- Up to Cat6A performance in an Ethernet Environment
- Product specification: 108-78405
- Application specification: 114-5431

Product Dimensions

- SMT Type (mm): 15.85 x 7.4 x 11.41

Mini I/O Connectivity Solutions (Type I)

Connector Type	Latch	Wire Connection	Packaging	Part Number
Cable Plug Kit Mini I/O Type I Black	Standard Black	Solder	Single Piece Blister	2013595-1
Cable Plug Kit Mini I/O Type I Black	Standard Black	Solder	100 Pcs Package (Bags/Box)	2069577-1
Cable Plug Kit Mini I/O Type I Black	Standard Black / White Arrow	Solder	Single Piece Blister	2013595-2
Cable Plug Kit Mini I/O Type I Black	Standard Black / White Arrow	Solder	100 Pcs Package (Bags/Box)	2069577-2
Cable Plug Kit Mini I/O Type I Grey	Standard Black	Solder	Single Piece Blister	2013595-3
Cable Plug Kit Mini I/O Type I Grey	Standard Black	Solder	100 Pcs Package (Bags/Box)	2069577-3
Cable Plug Kit Mini I/O Type I Yellow	Standard Black / White Arrow	Solder	Single Piece Blister	2013595-4
Cable Plug Kit Mini I/O Type I Yellow	Standard Black / White Arrow	Solder	100 Pcs Package (Bags/Box)	2069577-4
Cable Plug Kit Mini I/O Type I Black	Extended Black B	Solder	Single Piece Blister	2069250-1
Cable Plug Kit Mini I/O Type I Black	Extended Black B	Solder	100 Pcs Package (Bags/Box)	2069772-1
Cable Plug Kit Mini I/O Type I Black	Extended Orange A	Solder	Single Piece Blister	2069250-3
Cable Plug Kit Mini I/O Type I Black	Extended Orange A	Solder	100 Pcs Package (Bags/Box)	2069772-3
Cable Plug Kit Mini I/O Type I Black (L)	Standard Black	Piercing	Single Piece Blister	2201855-1
Cable Plug Kit Mini I/O Type I Black (L)	Standard Black	Piercing	100 Pcs Package (Bags/Box)	2335143-1
Cable Plug Kit Mini I/O Type I Black (M)	Standard Black	Piercing	Single Piece Blister	2201855-2
Cable Plug Kit Mini I/O Type I Black (M)	Standard Black	Piercing	100 Pcs Package (Bags/Box)	2335143-2
Cable Plug Kit Mini I/O Type I Black (LM)	Standard Black	Piercing	Single Piece Blister	2201855-3
Cable Plug Kit Mini I/O Type I Black (LM)	Standard Black	Piercing	100 Pcs Package (Bags/Box)	2335143-3
Cable Plug Kit Mini I/O Type I Black (LL)	Standard Black	Piercing	Single Piece Blister	2201855-6
Cable Plug Kit Mini I/O Type I Black (LL)	Standard Black	Piercing	100 Pcs Package (Bags/Box)	2335143-6
Cable Plug Kit Mini I/O Type I Yellow (M)	Standard Black	Piercing	Single Piece Blister	2335145-2
Cable Plug Kit Mini I/O Type I Yellow (M)	Standard Black	Piercing	100 Pcs Package (Bags/Box)	2294893-2



D-shape

Mini I/O Connectivity Solutions (Type I)

	Connector Type	Latch	Wire Connection	Packaging	Part Number
 <p>D-shape</p>	Cable Plug Receptacle Kit Mini I/O Type I Black (L)	N/A	Piercing	Single Piece Blister	2201864-1
	Cable Plug Receptacle Kit Mini I/O Type I Black (M)	N/A	Piercing	Single Piece Blister	2201864-2
	Cable Plug Receptacle Kit Mini I/O Type I Black (LM)	N/A	Piercing	Single Piece Blister	2201864-3
	Cable Plug Receptacle Kit Mini I/O Type I Black (LL)	N/A	Piercing	Single Piece Blister	2201864-4
	Bypass Connector Type I	N/A	N/A	Single Piece Bag	1971153-1
	PCB Header Mini I/O Type I Black Vertical	N/A	N/A	Tray	2271656-1
	PCB Header Mini I/O Type I Black Vertical with CAP	N/A	N/A	Tray	1-2271656-1
	PCB Header Mini I/O Type I Black Vertical with CAP	N/A	N/A	Tape & Reel	2-2271656-1
	PCB Header Mini I/O Type I Black R/A	N/A	N/A	Tray	2294415-1
	PCB Header Mini I/O Type I Black R/A	N/A	N/A	Tape & Reel	2294417-1

	Insulation Diameter	Typ. Wire Size
XL - cable stuffer color: BLUE L 13 & RED L26	1.5mm max.	AWG22
LL - cable stuffer color: GREEN	1.10-1.20mm	AWG23
L - cable stuffer color: BLUE	1.05-1.15mm	AWG24
M - cable stuffer color: RED	0.93-1.05mm	AWG26
LM - cable stuffers colors: BLUE & RED	mixed version	AWG24-26

Mini I/O Connectivity Solutions (Type I)

CA Mini I/O Type I Pigtail - 2205129

Length	TE PN	Connector PN	Cable Version
0.5 mtr	2-2205129-1	2201855-2	HiFlex Multipurpose 70° C PUR
1 mtr	2-2205129-2	2201855-2	HiFlex Multipurpose 70° C PUR
2 mtr	2-2205129-3	2201855-2	HiFlex Multipurpose 70° C PUR
3 mtr	2-2205129-4	2201855-2	HiFlex Multipurpose 70° C PUR
5 mtr	2-2205129-5	2201855-2	HiFlex Multipurpose 70° C PUR
10 mtr	2-2205129-6	2201855-2	HiFlex Multipurpose 70° C PUR

CA Mini I/O Mini I/O Type I - 2205131

Length	TE PN	Connector PN	Cable Version
0.5 mtr	2-2205131-1	2201855-2	HiFlex Multipurpose 70° C PUR
1 mtr	2-2205131-2	2201855-2	HiFlex Multipurpose 70° C PUR
2 mtr	2-2205131-3	2201855-2	HiFlex Multipurpose 70° C PUR
3 mtr	2-2205131-4	2201855-2	HiFlex Multipurpose 70° C PUR
5 mtr	2-2205131-5	2201855-2	HiFlex Multipurpose 70° C PUR
10 mtr	2-2205131-6	2201855-2	HiFlex Multipurpose 70° C PUR

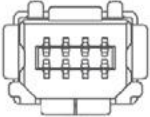
CA Mini I/O Type I Industrial RJ45 - 2205133

Length	TE PN	Connector Mini IO Type I	Connector RJ45 PN	Cable Version
0.5 mtr	2-2205133-1	2201855-2	1903527-1	HiFlex Multipurpose 70° C PUR
1 mtr	2-2205133-2	2201855-2	1903527-1	HiFlex Multipurpose 70° C PUR
2 mtr	2-2205133-3	2201855-2	1903527-1	HiFlex Multipurpose 70° C PUR
3 mtr	2-2205133-4	2201855-2	1903527-1	HiFlex Multipurpose 70° C PUR
5 mtr	2-2205133-5	2201855-2	1903527-1	HiFlex Multipurpose 70° C PUR
10 mtr	2-2205133-6	2201855-2	1903527-1	HiFlex Multipurpose 70° C PUR

Mini I/O Connectivity Solutions (Type II)

	Connector Type	Latch	Wire Connection	Packaging	Part Number
 <p>U-shape</p>	Cable Plug Kit Mini I/O Type II Black	Standard Black	Solder	Single Piece Blister	2040008-1
	Cable Plug Kit Mini I/O Type II Black	Standard Black	Solder	100 Pcs Package (Bags/Box)	2069578-1
	Cable Plug Kit Mini I/O Type II Black	Standard Black / White Arrow	Solder	Single Piece Blister	2040008-2
	Cable Plug Kit Mini I/O Type II Black	Standard Black / White Arrow	Solder	100 Pcs Package (Bags/Box)	2069578-2
	Cable Plug Kit Mini I/O Type II Yellow	Standard Black / White Arrow	Solder	Single Piece Blister	2040008-3
	Cable Plug Kit Mini I/O Type II Yellow	Standard Black / White Arrow	Solder	100 Pcs Package (Bags/Box)	2069578-3
	Cable Plug Kit Mini I/O Type II Black	Extended White / Black Arrow	Solder	Single Piece Blister	1-2069250-2
	Cable Plug Kit Mini I/O Type II Black	Extended White / Black Arrow	Solder	100 Pcs Package (Bags/Box)	1-2069772-2
	Cable Plug Kit Mini I/O Type II Black (L)	Standard Black	Piercing	Single Piece Blister	1-2201855-1
	Cable Plug Kit Mini I/O Type II Black (L)	Standard Black	Piercing	100 Pcs Package (Bags/Box)	1-2335143-1
	Cable Plug Kit Mini I/O Type II Black (M)	Standard Black	Piercing	Single Piece Blister	1-2201855-2
	Cable Plug Kit Mini I/O Type II Black (M)	Standard Black	Piercing	100 Pcs Package (Bags/Box)	1-2335143-2
	Cable Plug Kit Mini I/O Type II Black (XL)	Standard Black / White Arrow	Piercing	Single Piece Blister	2287107-1
	Cable Plug Kit Mini I/O Type II Black (XL)	Standard Black / White Arrow	Piercing	100 Pcs Package (Bags/Box)	2287107-2
	Cable Plug Kit Mini I/O Type II Yellow (M)	Standard Black	Piercing	Single Piece Blister	1-2335145-2
	Cable Plug Kit Mini I/O Type II Yellow (M)	Standard Black	Piercing	100 Pcs Package (Bags/Box)	1-2294893-2

Mini I/O Connectivity Solutions (Type II)

	Connector Type	Latch	Wire Connection	Packaging	Part Number
 <p>U-shape</p>	Cable Plug Receptacle Kit Mini I/O Type II Black (L)	N/A	Piercing	Single Piece Blister	1-2201864-1
	Cable Plug Receptacle Kit Mini I/O Type II Black (M)	N/A	Piercing	Single Piece Blister	1-2201864-2
	PCB Header Mini I/O Type II Black Vertical	N/A	N/A	Tray	2271656-2
	PCB Header Mini I/O Type II Black Vertical with CAP	N/A	N/A	Tray	1-2271656-2
	PCB Header Mini I/O Type II Black Vertical with CAP	N/A	N/A	Tape & Reel	2-2271656-2
	PCB Header Mini I/O Type II Black R/A	N/A	N/A	Tray	2294415-2
	PCB Header Mini I/O Type II White R/A	N/A	N/A	Tape & Reel	2294417-4

	Insulation Diameter	Typ. Wire Size
XL - cable stuffer color: BLUE L 13 & RED L26	1.5mm max.	AWG22
LL - cable stuffer color: GREEN	1.10-1.20mm	AWG23
L - cable stuffer color: BLUE	1.05-1.15mm	AWG24
M - cable stuffer color: RED	0.93-1.05mm	AWG26
LM - cable stuffers colors: BLUE & RED	mixed version	AWG24-26

Mini I/O Connectivity Solutions (Type II)

CA Mini I/O Type II Pigtail - 2205130

Length	TE PN	Connector PN	Cable Version
0.5 mtr	2-2205130-1	1-2201855-2	HiFlex Multipurpose 70° C PUR
1 mtr	2-2205130-2	1-2201855-2	HiFlex Multipurpose 70° C PUR
2 mtr	2-2205130-3	1-2201855-2	HiFlex Multipurpose 70° C PUR
3 mtr	2-2205130-4	1-2201855-2	HiFlex Multipurpose 70° C PUR
5 mtr	2-2205130-5	1-2201855-2	HiFlex Multipurpose 70° C PUR
10 mtr	2-2205130-6	1-2201855-2	HiFlex Multipurpose 70° C PUR

Mini I/O Mini I/O Type II - 2205132

Length	TE PN	Connector PN	Cable Version
0.5 mtr	2-2205132-1	2201855-2	HiFlex Multipurpose 70° C PUR
1 mtr	2-2205132-2	2201855-2	HiFlex Multipurpose 70° C PUR
2 mtr	2-2205132-3	2201855-2	HiFlex Multipurpose 70° C PUR
3 mtr	2-2205132-4	2201855-2	HiFlex Multipurpose 70° C PUR
5 mtr	2-2205132-5	2201855-2	HiFlex Multipurpose 70° C PUR
10 mtr	2-2205132-6	2201855-2	HiFlex Multipurpose 70° C PUR

1-1773703-8 SL 06/2018

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