



Hirose
industrial connectors

Introduction

As a world class Japanese manufacturer of high-quality connectors, Hirose continues to accelerate its product development to support the technologies of the future. Developing industrial connectors that are both durable and compact for industrial equipment, Hirose continues to provide a fresh approach to connectivity.

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Ask an expert

Our Europe wide team of product specialists works closely with Hirose to offer you the highest levels of engineering support for your design. To arrange a visit or to discuss your design requirements, contact this team in your local language or at [avnet-abacus.eu/ask-an-expert](https://www.avnet-abacus.eu/ask-an-expert)



Hirose Industrial connectors

HR34B SERIES PUSH-ON BAYONET LOCK MINIATURE WATERPROOF CONNECTORS

The HR34B series push-on bayonet lock miniature waterproof connectors feature water and dust protection, easy and precise mating, and multi-directional cable exits. The connectors are IP67 and IP68 rated when fully mated

and are resistant to industrial grade oils, while straight insertion of the plug completes mating and three guide keys make blind mating possible.

PRODUCT FEATURES

- Number of contacts: 4,10
- IP67 and IP68 waterproof rating
- Current rating: 3A, 5A
- Easy and precise mating
- Multi-directional cable exit
- Corrosion resistance: 48 h
- Mating/unmating cycles: 500
- Rated voltage (AC): 200V, 400V
- Rated voltage (DC): 250V, 400V
- Recommended min. wire size: AWG 16, 18, 20, 22

- Recommended max. wire size: AWG 20-25
- Max. operating temperature: 85, 110, 125 °C
- Min. operating temperature: -55, -20 °C

APPLICATIONS

- Medical equipment
- Servo motors
- Robotics
- Motor drives



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ER8 SERIES HIGH-SPEED BOARD-TO-BOARD CONNECTORS

Hirose's ER8 series of connectors support high-speed transmission of more than 10+Gbps for industrial applications. Contacts are optimised for signal integrity performance ensuring reliable high speed transmission performance. An excellent insertion loss-to-crosstalk ratio with a 5-aggressor differential far end crosstalk (FEXT) meets the IEEE802.3ap specification for 10+Gbps and more.

Self aligning connectors have mating/unmating forces up to six times greater than typical micro pitch connectors. Increased contact wipe and insertion depth makes the ER8 series ideal for applications that require high-mating cycles and resistance to shock and vibration.

FEATURES

- Number of contacts: 10, 20, 30, 40, 50, 60, 70, 80, 100, 120
- Contact pitch: 0.8mm
- Current rating: 0.5A
- Stack height: 7mm – 12mm
- Voltage rating: 100V
- Mating cycles: 100

APPLICATIONS

- Suitable for servo motors/amps
- Car navigation
- Medical equipment
- Broadcasting equipment
- POS terminals and industrial machinery
- Industrial robots
- Motor drives



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DF58 SERIES WIRE-TO-BOARD CONNECTORS

The DF58 series was developed to deliver a space-saving, low profile, wire-to-board connectivity solution for miniature applications. The connector range consists of crimp sockets and headers in a single row. Although miniature in size the power rating is not comprised. A high current rating capability

of 3A (using the 2 contact version with 28AWG cable) can be achieved to support power supply applications. Secure connection is guaranteed with the ViSe (Vertical-insertion Swing-extraction) double-locking mechanism.

FEATURES

- Contact positions: 2, 3, 4, 6
- Contact pitch: 1.2mm
- Current rating: 3.0A (2 contact version: 28 AWG cable)
- Voltage rating: AC-DC 100V
- Mating cycles: 10
- Cable size: AWG 28-30
- Mated height: 1.0mm
- Depth: 4.97mm

APPLICATIONS

- Wearable devices
- Service robots, drones
- Medical devices
- Point-of-sale equipment
- Digital cameras
- Many other small portable devices



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HR41 SERIES CIRCULAR CONNECTORS

Hirose HR41 series circular connectors feature an IP67 and IP68 rated, lightweight, waterproof design for outdoor applications. The connectors feature a user-friendly bayonet locking system that facilitates blind mating in dark or low-light areas and are compatible with JIS C 9711 standard

FEATURES

- IP67 and IP68 waterproof rating
- Bayonet lock and tactile plug alignment indication
- Current rating is 20A for 3 pin configuration, 10A for 5 pin (20A if using 4 pins and 1 GND)
- Rated voltage is AC 600V, DC 400V for the 3 pin configuration and AC 600V, DC 400V for the 5 pin

- Anti-loosening mechanical structure for clamp tightening

APPLICATIONS

- Outdoor lighting
- Lighting in harsh environments

commercial tooling. A 5 position plug is designed to facilitate hot swapping, and the walled structure isolates contacts and provides insulation against up to 15kV surges caused by lightning.



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FX18 SERIES HIGH SPEED TRANSMISSION PITCH CONNECTORS

The FX18 series consists of high speed board to board connectors capable of transmission rates up to 10Gbps. Mating guide posts doubling as multi-functional (MF) contacts enhance ground connections between PCB's, can be used as

power source lines as well as providing a sequenced 3-level structure containing signal contacts. The 2.0mm effective mating length of the signal contacts provides sufficient amount of margin for its mating sequence.

FEATURES

- Guided mating for secure connection
- Pitch: 0.8mm
- Connection type: coplanar, right angle, parallel
- Number of positions: 40, 60, 80, 100, 120, 140
- Effective mating length for signal: 2.0mm

APPLICATIONS

- Medical equipment
- Visual display equipment
- Industrial robots
- FA cameras
- Motor drives

FunctionMAX



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DF63S SERIES HIGH POWERED WIRE-TO-BOARD CONNECTORS

Hirose developed the DF63S series to meet the increased requirement for small, high powered wire-to-board connectors offering advanced reliability for industrial equipment. The main connector range consists of cable mount, female crimp sockets and board mount, vertical and right angle male headers that can handle up to 15A max current rating. Waterproof and non-waterproof in-line versions have been added to the range (DF63W waterproof).

The overall size has been designed with space saving in mind. The three position header for example, only occupies 88mm² approximate board space due to the small pitch. Secure locking is guaranteed by the robust lock that gives a clear tactile click when mated. This confirms the connector is fully engaged guaranteeing complete electrical and mechanical connection.

FEATURES

- Contact positions: 1 - 6 (most sizes)
- Pitch: 3.96mm, 7.92mm
- Current rating: 15A (max)
- Voltage rating: AC-DC 630V
- Tin plating: 30 gold plating: 50
- Cable size: AWG 16-22
- Versions: straight, right angle, in-line, waterproof in-line (DF63W)

APPLICATIONS

- Industrial robots
- Medical devices
- Industrial machinery
- Smart meters
- Gaming equipment
- Home appliances
- Motor drives



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CX70 SERIES COMPACT USB 3.1 TYPE-C CONNECTORS

The CX70 series of Type-C connectors conform to the next-generation USB 3.1 standard. Developed to meet the changing interface requirements for various devices in the consumer, industrial machinery and automobile market. The receptacle features a hybrid design and utilises both surface-mount and

through-hole soldering to improve mounting accuracy and minimise the board mounting space required. The design also facilitates automated optical inspection and eases reworking of the solder terminal joints with a visible lead design.

FEATURES

- Number of contacts: 24
- Pitch: 0.5mm SMT
- Length: 0.835mm
- Mating cycles: 10000
- Current rating: 5A
- Voltage rating: AC 20V
- Transmission speed: 10Gbps

APPLICATIONS

- Automotive
- Consumer electronics
- Industrial robots



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FH63 SERIES FFC/FPC SHIELD CONNECTORS

The Hirose FH63 series of Flat Flexible Circuit/Flat Printed Circuit (FFC/FPC) connectors allows automated insertion of an FFC/FPC, ideal for industrial and automotive applications. The connector series is 105°C heat resistant and meets severe automotive requirements, as well as supporting the signal transmission requirements of Embedded Display Port 1.3, HDMI 1.4a, USB 3.0, and V-by-One HS.

A unique single action lock allows an FFC/FPC to be inserted into the connector without opening the lock lever. This can be done with one hand or by automated machinery to save valuable assembly time and reduce mating failure.

Two-point independent spring beam contacts are utilised to reduce contact failure caused by contamination.

FEATURES

- Number of contacts: 10, 30, 40
- Pitch: 0.5mm
- Current rating: 0.5A
- Voltage rating: AC-DC 50V
- Single action lock
- RoHS compliant
- Halogen free

APPLICATIONS

- Car navigation systems
- In vehicle cameras
- Car infotainment
- Handheld gaming systems
- FA camera
- Industrial control equipment
- Servo amplifier
- Medical devices and others
- Industrial robots



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HR41A SERIES CIRCULAR CONNECTORS

Designed for outdoor use, the HR41A series are light-weight waterproof connectors resistant against 15kV lightning surges and optimised for user-friendly assembly. Optimised for easy field assembly, the waterproof gasket and cable

can be clamped and sealed in one simultaneous step. The crimps can be easily and reliably terminated with the crimp hand tool whilst the push-on bayonet lock eliminates screw tightening and torque management.

FEATURES

- IP67 and IP68 waterproof rating
- Easily operated push-on bayonet locking system
- Current rating up to 13A
- Surge resistant up to 15kV
- 3 and 5 position push-on bayonet locking

APPLICATIONS

- LED lighting
- Construction, fishing, and offshore lighting
- Industrial robots
- Electronic toll systems
- Industrial applications



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