

HRS I/O CONNECTOR

Purpose

- To Introduce the HRS I/O connector.

Objective

- To explain features.

Content

- 10 pages

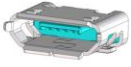



Learning time

- 5 Minutes

Welcome to the I/O Connectors Product Training Module (PTM). This module is intended to introduce the various I/O connectors manufacture by Hirose and to discuss some of their features and construction.

HRS I/O Connector Introduction

Summary

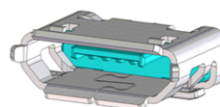
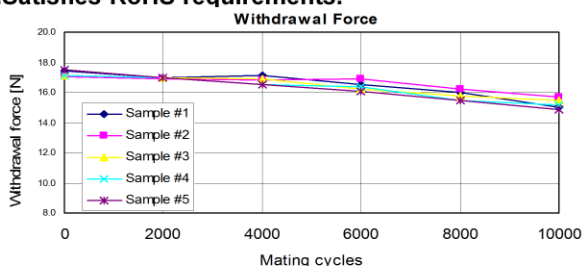
	USB I/O		HRS Original I/O		
	ZX (Micro USB) 	UX (Mini USB) 	LX 	ST 	3500 
Profile (mm)	2.5	3.95	2.0	3.0	5.3
Durability (time)	10,000	5,000	5,000	10,000	20,000
Varieties of position	5	5	12, 16, 20	10, 18, 24, 36	10, 16, 24

Hirose Electric is a leader in the development of I/O connectors. This module will introduce the ZX micro USB, the UX mini USB, the LX, the ST and the 3500 series.

ZX Series

Micro-USB connectors compliant with USB 2.0

1. Micro-USB compliant interface connector
2. Highly reliable and established finished products as the original connector design proposer in Micro-USB committee.
3. Small form factor suitable for mobile equipment
4. Superior mechanical and electrical performance to Mini-USB connector in much smaller size restriction.
5. Withdrawal force remains high over 10000 cycles of mechanical operations.
6. Many varieties already available.
7. Satisfies RoHS requirements.

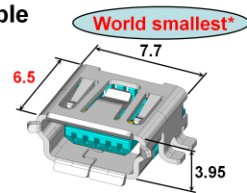


There are a number of new and important features that the Hirose Micro-USB connector offers. These include several different plug/receptacle combinations, small form factor, increased withdrawal force and RoHS compliant. Extremely small and highly reliable, the Hirose ZX series complies with physical, electrical and environmental requirements of Micro-USB standard (USB 2.0)

UX Series

Mini-USB connectors compliant with USB 2.0

1. World smallest class Mini-USB connector*
2. Advantageous plug design:
 - Low skew design by applying equal electric path between differential pair (contact No. 2 and 3)
 - Cable assembled product with environment-friendly Halogen free material is also available.
3. Reverse face receptacle is also available.
4. Wide Varieties:
 - On-board mount and off-set mount type receptacle
 - Vertical style plug for cradle I/F use is also available
 - Space saving type
 - Enhanced shield type
5. Satisfies RoHS requirement



* As of June 2006

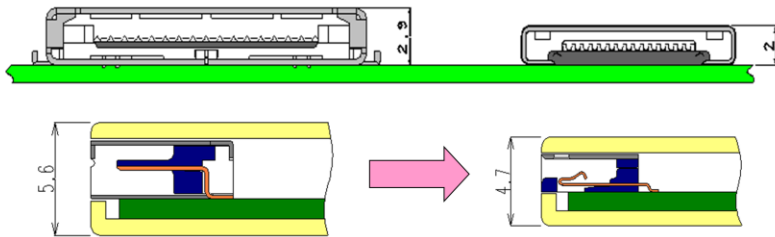
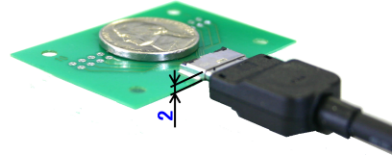
The Hirose UX series meets all requirements of USB 2.0 and is the world's smallest in this class.

This series offers several design advantages such as low skew design, Halogen free cable on assembled products, and a wide variety of styles.

LX SERIES

Ultra-low Profile Receptacle

1. World's lowest profile receptacle: 2.0 mm height
2. Sequential mate high performance bellows contact design
3. User-friendly tactile sensation snap lock
4. Robust against twisting operation
5. Mis-insertion prevention design
6. Varieties: 16 pos. 12 and 20 pos.
7. Durability: 5,000 cycles
8. Satisfies RoHS requirements



Hirose's next generation of interface connectors, the LX series, further reduces the mounting height of the receptacles. High durability, secure mating, electrostatic protection and ease of operation guarantees reliable and consistent performance.

ST Series

Space Saving Interface Connectors

Features

< Plug >

- **Small size and Lightweight** (compared to HRS conventional 24pos. type)
Approx. 40% saving in volume and 15% lighter in weight.

<Receptacle >

- **Low profile: only 3.0mm protrusion above mounting surface.**
- **HRS unique design saves opposite side of PCB.**
- **Shielding allows use in GPRS applications.**
- **Mating strength allows 49N max. pull**
- **Design will not allow incorrect partial insertion of the plug to damage contacts in receptacle.**

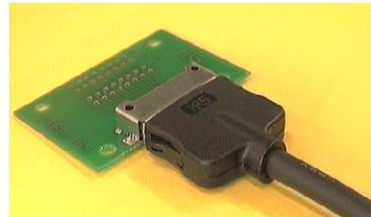
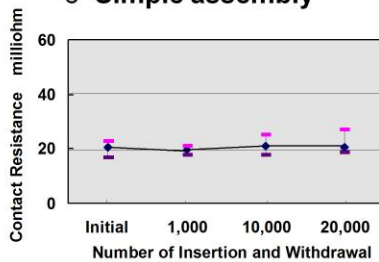


The ST series was developed as an external input/output connector system for portable and mobile devices. The connectors incorporate features required to assure reliable electrical and mechanical performance under extreme and unpredictable conditions. These features include a strong locking mechanism, prevention against reversed or angle insertion, and EMI protection.

3500 Series High Durability I/O Connector

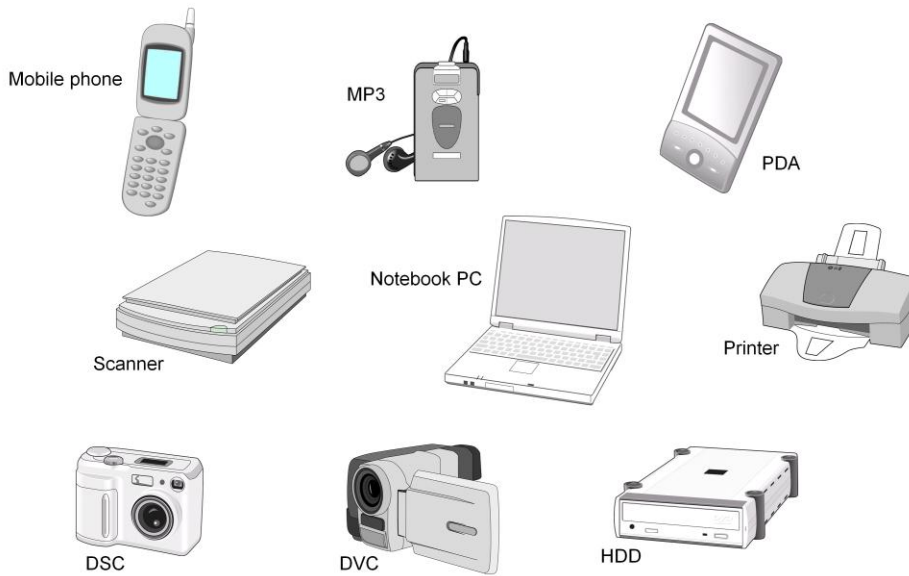
Features

- 1 20,000 times of insertion and withdrawal
- 2 Stable mating condition
- 3 Damage prevention of devices
- 4 Small size and lightweight
- 5 EMI and ESD prevention
- 6 Simple assembly



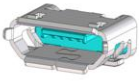
The Hirose 3500 series of shielded interface connectors were designed for use with portable terminal equipment. This robust connector system withstands up to 20,000 mating cycles and uses a snap-lock system with relieves stress while un-mating. Release of the lock is achieved with a simple operation of the push buttons at the sides of the plug.

Applications



Hirose's I/O connector series work in a variety of applications such as mobile communications, PDAs, scanners, digital cameras and several other devices where high reliability is necessary..

Module Summary



ZX

(Micro USB)



UX



LX



ST



3500

- Wide variety of product offerings
- The ZX and UX series meet industry standards of USB 2.0
- Extremely reliable and technically advanced product

In summary, Hirose's ZX micro USB, the UX mini USB, the LX, and ST, and the 3500 I/O connector series are available in a wide variety of configurations and options.