

Introduction

Purpose

- To Introduce the HRS waterproof connector series

Objective

- To show our variety of waterproof connectors and to explain the features of each

Content

- 12 pages

Learning time

- 5 minutes

Welcome to the introduction to **HRS Waterproof Connector Series** Product Training Module. The goal of this training module is to show the variety of waterproof connectors that are available from Hirose and to explain the features of each.

HRS waterproof connector Introduction



We offer several series to choose from

Hirose Electric offers several IP67 and IP68 rated waterproof circular connector series which are available in plastic, or metal housings. This module will provide an overview of the HR30, HR34B, LF, RM-W, JR-W and HR22 products.

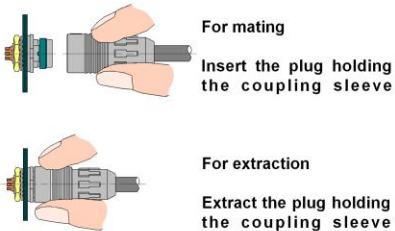
Small waterproof plastic push-pull lock connector HR30 Series



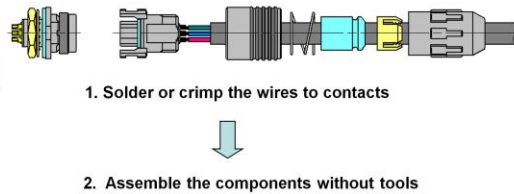
Features

1. User-friendly push pull lock
2. Varieties: Plug, Receptacle and In-line jack
Pin count: 3, 6, 10, 12
3. Easy shielding termination
4. Light weight and IP68 waterproof suitable for outdoor mobile units
5. Over-mold version available (HR30-B)

User-friendly push-pull lock



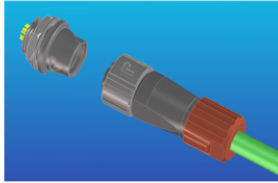
Shielding structure



The HR30 series is a miniature waterproof plastic connector series. When mated or used with a protective cap, it offers complete protection against dust and water submersion up to 1 meter for 30 minutes. It has a user friendly push pull locking mechanism. The connectors are lightweight and corrosion resistant with solder or crimp contacts.

Small waterproof bayonet lock connector

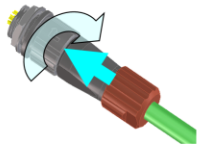
LF Series



Features

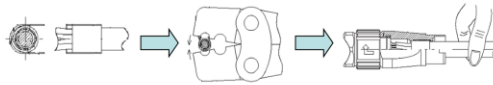
1. User-friendly bayonet lock
2. Varieties: Plug, Receptacle and In-line jack
3, 4, 6, 11 (Hybrid 4-pin (10A)+7-pin (2A)), 12, 20
3. Easy shielding termination
4. IP68 waterproof

Bayonet lock structure

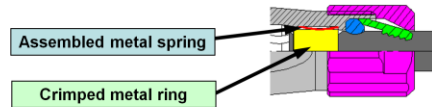


Insert the plug into the receptacle then turn the coupling sleeve to complete the locking process

Shielding structure



1. Slide the metal ring to the shielding
2. Crimp the metal ring
3. Assemble them to the body



The LF series is a small waterproof connector series with metal shielding. It features a robust bayonet locking system and is waterproof while in the mated condition when submerged in up to 1.8 meters of water for 48 hours. The LF07 connectors are available in 3 and 6 positions. The LF10 connectors are available in 4 and 12 positions and the LF13 connectors are available in 11 and 20 positions.

Waterproof one-action lock connector for servo motors

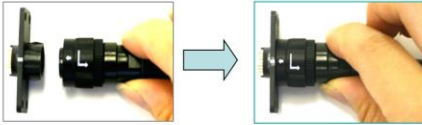
HR34B Series



Features

1. User-friendly one action bayonet lock
2. 4-pin for braking power and 10-pin for encoder are available
3. Straight and right angled plugs are available
4. IP68 waterproof and oil resistance

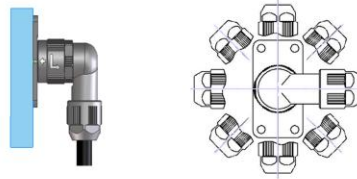
One action bayonet lock structure



Easy to find polarizing key with white marking

Reliable audible lock with one action bayonet

Right angle plug structure



The right angle plug is helpful for narrow space cabling. Able to terminate in 8-directions with a 45 degree pitch

The HR34B series is a quick mating small waterproof circular connectors that features a self-locking bayonet collar. The mated connectors are designed to pass a water submersion test for 48 hours at the depth of 1.8 meters. Plugs are available in straight and right-angle configurations which allow the cable to exit in 8 direction, in 45 degree increments.

Waterproof connector for outdoor units

RM-W Series



Features

1. Wide varieties: Pin count : 2, 3, 4, 8, 10, 12, 20, 31, 40, 55
Plug: Straight and right angle
Receptacle: 4 screw and bulk head mount
2. IP67 waterproof during mating type and isolated type
3. Reliable cable clamp

Waterproof plug and receptacle structure



Right angle plug is suitable for narrow space cabling



Isolated waterproof receptacle is available for outdoor use
RM15 : 3, 4, 8, 10 pin

Cable clamp structure



Reliable cable clamp structure with metal clamp and 2 screws fixing

Wide varieties cable clamp size
RM15: 4 to 12 mm, RM21: 4 to 14 mm

The RM-W is a high performance waterproof circular connector series which meets the requirements of IP67 when submerged for 48 hours at a depth of 1.8 meters. It offers a wide range of pin counts and 3 types of plug configurations, straight/long back shell, straight/short back shell, and right angle back shell. Waterproof receptacles come in front, back or flange panel mounting.

Waterproof connector for outdoor units

JR-W Series



Features

1. Wide varieties:
Pin count : 3, 4, 5, 7, 8, 10, 16, 24
Plug
Receptacle: 4 screw and bulk head mount
2. User-friendly 5-key mating interface
3. Reliable cable clamp

Waterproof receptacle structure



Cable clamp structure



Reliable cable clamp structure with metal clamp and 2 screws fixing

Wide varieties cable clamp size
JR13: 4 to 10 mm, JR16: 4 to 12 mm
JR21: 6 to 16 mm, JR25: 8 to 18 mm

The JR series is another high performance waterproof circular connector that is IP67 rated when submerged for 48 hours at a depth of 1.8 meters. The metal housings are plated with black chromium to prevent corrosion, and are available up to shell size 15. Current capacity is 5A to 30A depending on pin count and shell size.

Waterproof connector for outdoor units

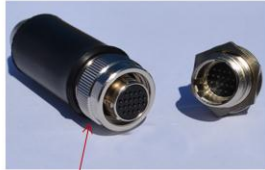
HR22 Series



Features

1. IP67 rating
2. Secure, spring equipped locking mechanism
3. Quick panel mounting design
4. Plug, Receptacle and Jack available

Screw coupling locking structure



A locking mechanism that resists disconnection due to vibration

Variations available



Waterproof or non-waterproof
Crimp or solder termination
With or without wire protection
Right angle plug available

The HR22W series is an IP67 circular connector that is waterproof for 48 hours when submerged at a depth of 1.8 meters. These connectors provide a reliable connection while offering several variations. A locking mechanism that is designed to stay engaged and the ability to quickly mount them makes this an excellent connector. It has a current capacity of 2 amps and a 21 mm maximum plug diameter to make this a high density option.

HR30, LF series Application Example



Marine GPS, Wireless terminals, mobile GPS, portable analyzer, and mobile terminals are all applications for the HR30 and LF series.

HR34B/HR22 series Application Example

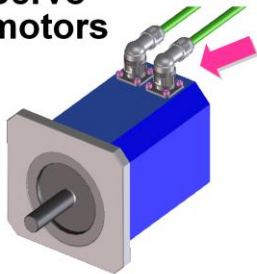
HR34B



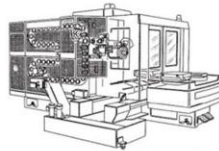
HR22



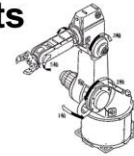
**Servo
motors**



**Machine
tools**

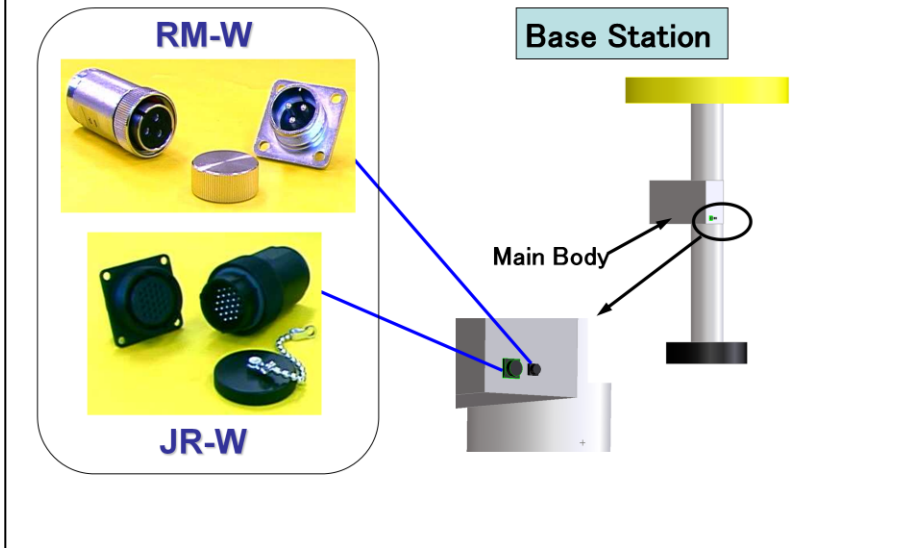


**Industrial
robots**



The HR34B and HR22W series are ideal for applications where the connectors might be exposed to oil or excessive vibration. Typical applications include construction and industrial equipment, robots, and servo motors.

RM-W, JR-W series Application Example



Factory automation, robotic equipment, base stations, and construction equipment are some examples of applications the RM-W and JR-W series of connectors could be used in.

Module Summary

Hirose offers several IP68 and IP67 waterproof connectors

- **Plastic and metal types**
- **Miniature to robust**
- **A wide variety of styles and configurations**



In summary, Hirose offers several IP68 and IP67 rated, waterproof connectors in a wide variety of styles and configurations.