

Shielded Small Waterproof Connector



Bayonet



Waterproof

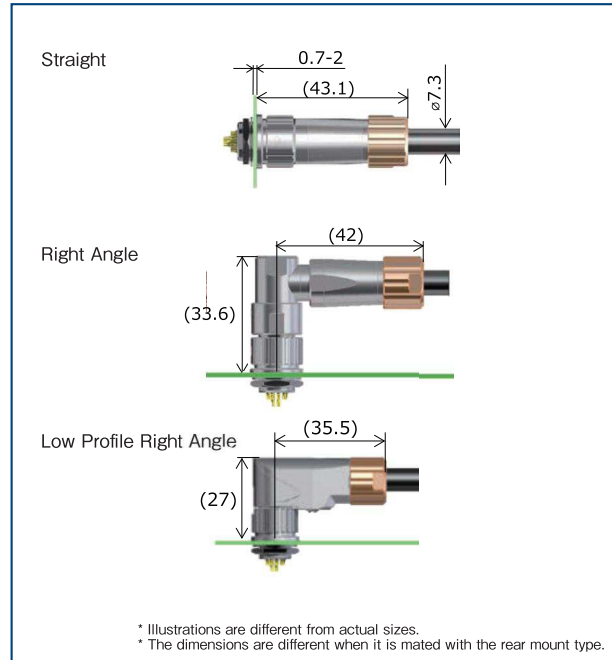


Compact

Features

1. Small, Robust Design

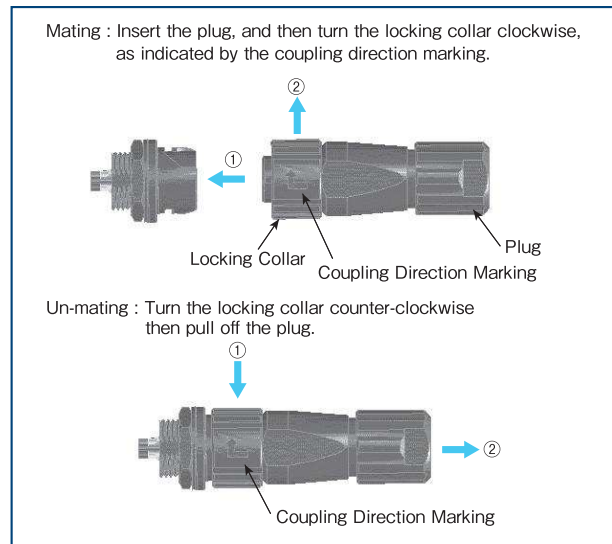
Small, robust design with metal shell



Dimensions Example
(LF10 Plug Mated with Front Mount Receptacle)

2. Bayonet Lock

User-friendly lock with superior vibration resistance.



Lock Design

3. Waterproof : IP67/IP68* Compliant

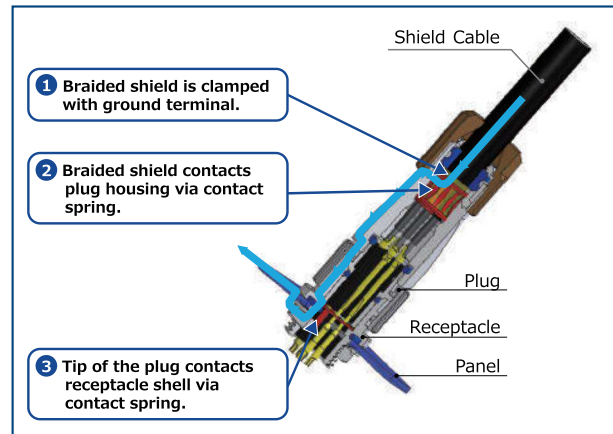
IP67/IP68 waterproof performance when mated.

* IP67 : Left at a water depth of 1 meters for 30 minutes in mated condition.

IP68 : Left at a water depth of 2 meters for 14 days in mated condition.

4. Easy Shielding Termination

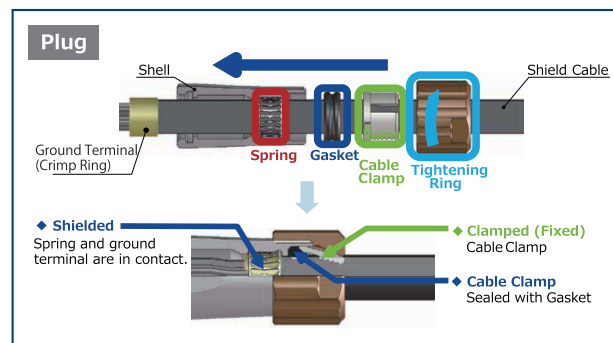
The cable shield is easily connected to the connector shell by attaching the metal clamp to the cable sheath.



Shield Connection Phase Diagram

5. Easy Assembly

Waterproof performance and shielding of the plug are attained just by tightening the ring. The plug design reduces component and assembly costs.



6. Wide Variety of Configurations

- 2 types of cable assembly: solder and crimp
- Hybrid type with power and signal contacts in a single shell for space-saving
- Plug with easy to grip sleeve that prevents slipping for enhanced operability
- 2 receptacle mounting options: front mount and rear mount

7. High Speed Transmission

Supports Cat.5e(1Gbps) high speed Ethernet

*Based on EtoE Standard Class D 3-Conn E3

*Characteristics depend on pin assignment, cable specifications and cable assembly conditions. Please check prior to use.

*Please contact a Hirose representative for questions on the recommended pin assignment.

8. Suited for Long-Term Outdoor Use

Sunshine weather meter test performed for 2,000 hours.

9. Safety Standard Certified

The 4 position variation meets TÜV safety standards at a current of 10A.
 The 3 position and 4 position variations also meet UL safety standards.

10. RoHS2 Compliant

Product Specifications

Rated Current	3pos. : 5A 4pos. : 10A 6, 12, 20pos. : 2A Hybrid 6pos. : Power 2pos. 4A, Signal 4pos. 1A Hybrid 11pos. : Power 4pos. 10A, Signal 7pos. 2A	Operating Temperature (Note 1)	-25 to +85°C
Rated Voltage	3pos. : 125V AC / 175V DC 4pos. : 125V AC/DC 6, 12, 20pos. : 30V AC / 42V DC Hybrid 6pos. : Power 2pos. 60V AC/DC, Signal 4pos. 60V AC/DC Hybrid 11pos. : Power 4pos. 125V AC/DC, Signal 7pos. 30V AC / 42V DC	Storage Temperature Range	-10 to +60°C

Items	Specifications	Conditions
Contact Resistance	3, 6, 12, 20, Hybrid 6pos. : 15mΩ Max. 4pos. : 5mΩ Max. Hybrid 11pos. : Power 4pos. 5mΩ Max., Signal 7pos. 15mΩ Max.	Measured at 1A DC
Insulation Resistance	1000MΩ Min.	3, 4pos. : Measured at 500V DC 3, 6, 12, 20, Hybrid 6pos. : Measured at 100V DC Hybrid 11pos. : Power 4pos. : Measured at 500V DC, Signal 7pos. : Measured at 100V DC
Withstand Voltage	No flashover and insulation breakdown	3, 4pos. : 1250V AC for 1 min. 3, 6, 12, 20, Hybrid 6pos. : 300V AC for 1 min. Hybrid 11pos. : Power 4pos. 1250V AC, Signal 7pos. : 300V AC for 1 min.
Mating Durability	3, 6, 12, 20, Hybrid 6pos. : 30mΩ Max. 4pos. : 10mΩ Max. Hybrid 11pos. : Power 4pos. 10mΩ Max., Signal 7pos. 30mΩ Max.	1000 times
Vibration Resistance	No electrical interruption of 10 μs or more. No damage, cracks or parts dislocation.	Frequency : 10 to 55 to 10Hz/cycle Half amplitude 0.75mm, 5 minutes/cycle 10 cycles each in 3 axis directions
Shock Resistance	No electrical interruption of 10 μs or more. No damage, cracks or parts dislocation.	Acceleration : 490m/s ² , duration : 11ms, 3 times each in 3 axis directions
Humidity Resistance (Normal Condition)	Insulation resistance : 10MΩ Min. (at high humidity condition) 100MΩ Min. (at dry condition)	Temperature : 40°C , relative humidity : 90 to 95%, left for 96 hours
Temperature Cycle	Insulation resistance : 100MΩ Min. No damage, cracks or parts dislocation.	-55°C for 30 minutes → Room temperature for 2 to 3 minutes → +85°C for 30 minutes → Room temperature for 2 to 3 minutes, Repeated for 5 cycles.
Water Resistance	No water intrusion inside connector	At a water depth of 1.8 meters for 48 hours in mated condition.

Note 1 : Includes temperature rise caused by current flow.

Note 2 : Depending on the cable construction and specifications, the cable clamp force, rotational force, waterproof performance, etc. may differ. Please use after confirming in advance.

Materials / Finish

Component	Material	Finish / Remarks	UL
Outer Shell	Zinc Alloy	Nickel Plating	-
	PPS Resin	Brown	UL94V-0
Insulator	PPS Resin	Black	UL94V-0
Contact	Copper Alloy	Partial Gold Plating Over Nickel Underplating	-
Gasket, O-ring	Chloroprene Rubber	Black	-

Product Number Structure

Refer to the chart below when determining the product specifications from the product number.
Please select from the product numbers listed in this catalog when placing orders.

● Connector

LF 07 W B P# - 6 S# - A (##)

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨

① Series Name	LF	⑥ No. of Pos.	
② Shell Size	07, 10, 13	⑦ Contact Gender	P : Male Contact S : Female Contact (Changed specifications for products of the same category.)
③ Specialty	W : Waterproof Type	⑧ Difference in Contact Arrangement	Added when contact arrangement differs from the standard type. A : Contact Arrangement Difference
④ Lock Mechanism	B : Bayonet Lock	⑨ Other Specifications	① to ⑧ # two-digit character is added to indicate other specifications as needed.
⑤ Shell Type	P : Plug LP : Right Angle Plug R : Receptacle J : Jack (Changed specifications for products of the same category.)		

● Crimp Contact

HR10 - P C - 1 1 1

① ② ③ ④ ⑤ ⑥

HR12 - S C - 1 1 1

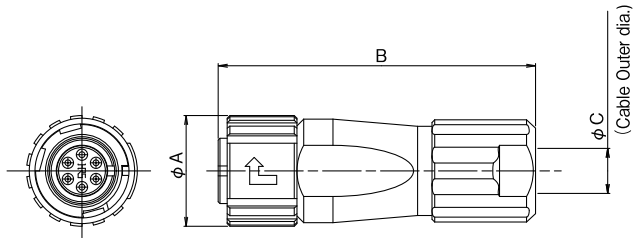
① ② ③ ④ ⑤ ⑥

① Series Name	HR10 HR12	④ Contact Shape	1 : Loose Piece Contact 2 : Reel Contact
② Contact Gender	P : Male Contact S : Female Contact	⑤ Design	1 : If the design of contacts of the same size differs, 1, 2, 3 etc. are added to distinguish them
③ Contact Assembly	C : Crimp	⑥ Contact Area Plating	1 : Gold Plated

Note : The LF Series uses the contacts from the existing HR10/HR12 Series.

Straight Plug

Solder Type



(Example of product appearance.)

Unit : mm

Part No.	HRS No.	Shell Size	No. of Pos.	ϕA	B	ϕC	Weight	Purchase Unit
LF07WBP-3S(31)	CL0136-0003-7-31	LF07	3	12.3	35.8	5.0	11g	50pcs per tray
LF07WBP-3P(31)	CL0136-0004-0-31		6					
LF07WBP-6S(31)	CL0136-0001-1-31							
LF07WBP-6P(31)	CL0136-0002-4-31							
LF07WBP-6S-A(31)	CL0136-0029-0-31	LF07-A	Hybrid 6pos. (Note 1)	12.3	35.8	5.0	11g	
LF07WBP-6P-A(31)	CL0136-0016-0-31							
LF10WBP-4S(31)	CL0136-0005-2-31	LF10	4	14.8	41.8	7.3	17g	
LF10WBP-4P(31)	CL0136-0006-5-31		12					
LF10WBP-12S(31)	CL0136-0007-8-31							
LF10WBP-12P(31)	CL0136-0008-0-31		16g					
LF13WBP-11S	CL0136-0011-5-00	LF13	Hybrid 11pos. (Note 2)	17.9	51.9	8.7	29g	
LF13WBP-11P	CL0136-0012-8-00							
LF13WBP-20S	CL0136-0009-3-00		20					
LF13WBP-20P	CL0136-0010-2-00							

Note 1 : Power 2pos.+ Signal 4pos.

Note 2 : Power 4pos.+ Signal 7pos.