

# Plastic-Shelled Waterproof Connectors for Outdoor Use

## HR41 Series



### ■Features

#### 1. Weather-resistant and waterproof connectors for outdoor use

Lightweight, outdoor, waterproof connectors that utilize stout plastic shells that are also resistant to corrosive weather.

#### 2. Waterproof ability

With its IP68 rating, it is guaranteed to ensure a waterproof seal while in the mated state.

#### 3. Operator-friendly bayonet-locking system

Single action locking mechanism, its bayonet-lock makes it easier to complete the connection even in the dark.

#### 4. Field wire connection applicable

Wire crimping type is operator-friendly and has an easy-to-assemble structure suited for wire connecting work in the field.

#### 5. Compatible with general-purpose tools

Crimp terminals can be connected to wire using crimping tools in accordance with JIS C 9711.

#### 6. Specialized sequence structure

3-step sequence structure design for 5-pin plugs protects the system in case of hot plugging.

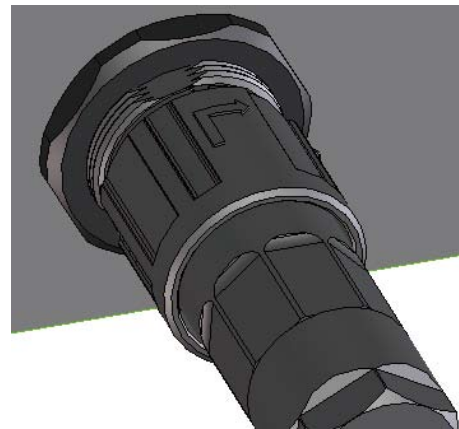
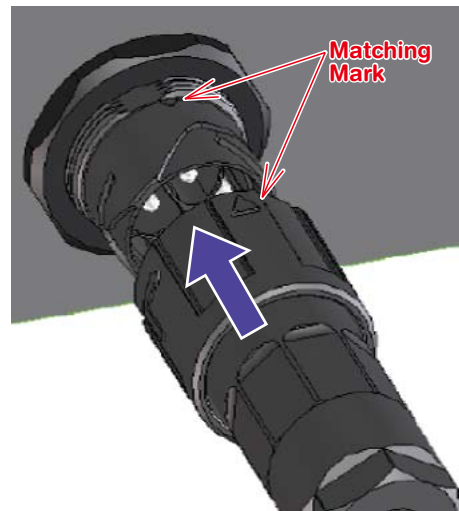
#### 7. Gold plated contacts

Gold plated terminal contacts provide a reliable connection.

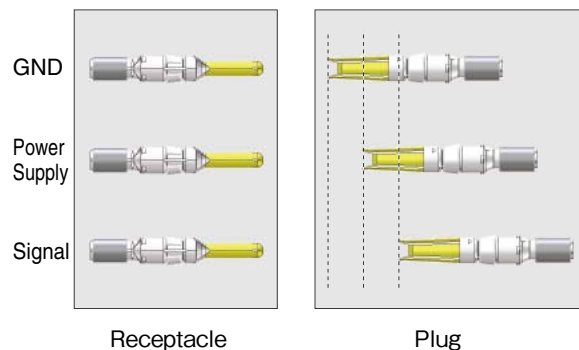
#### 8. Safety standards

Certifications pending on various safety standards.

### Bayonet Lock



### Sequence Structure (5-Pin)



Note\* Waterproof performance

IPx8: Immersion in water 2m deep for 14 days.

IPx7: Immersion in water 1m deep for 30 minutes.

## ■Product specification

Rating	Rated current	3-pin: 20A 5-pin: 10A	Service temperature range	-40℃ to +85℃
	Rated voltage	3-pin: AC 400V, DC 400V 5-pin: AC 600V, DC 400V	Storage temperature range	-10℃ to +60℃

Item	Specification	Condition
1. Contact resistance	2mΩ or lower	Measure at DC 1A
2. Insulation resistance	5,000MΩ or higher	Measure at DC 500V
3. Voltage resistance	No flashover or breakdown	3-pin: AC 4,260V × 1 min 5-pin: AC 2,200V × 1 min
4. Vibration resistance	No temporary electric interruption for 10μs or longer	Frequency 10-500-10Hz/cycle Half amplitude 0.75mm, 5 min/cycle 10 cycles each in 3 axis directions
5. Impact resistance	No temporary electric interruption for 10μs or longer	Acceleration 490m/s <sup>2</sup> , duration 11ms, 3 cycles each in 3 axis directions
6. Repeated motions	Contact resistance 4mΩ or lower	50 cycles of repeated motions
7. Temperature cycle	Insulation resistance 5,000MΩ or higher	-55℃ × 30 min → room temp. × 2-3 min → 85℃ × 30 min → room temp. × 2-3 min × 5 cycles
8. Salt water spray	No functional problem	Exposure to 5% salt water spray × 1,000 hours in a mated condition
9. Humidity resistance (in steady state)	Insulation resistance: 50MΩ or higher (at high temperatures), 500MΩ or higher (in dry conditions)	Temperature 40℃, Humidity 90-95%RH × 96 hours
10. Water pressure resistance	No water seepage into the connector	Immersed in water 2m deep for 14 days in a mated condition

## ■Materials

Item	Material	Treatment	Remarks
Insulator	Polyamide resin, PBT resin	—	UL94V-0
Terminal	Copper alloy	Partially gold plated	—
O-ring, gasket	Silicon rubber	—	—

## ■Product Number Structure

Type codes imbedded in a part number will tell you about the product specifications.

### ●Connectors

**HR41 - 25 W B P A - 3 S C (\*\*)**

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩

### ●Crimp terminals

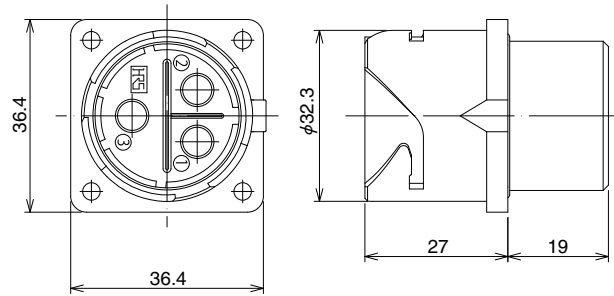
**HR41 - S C - 1 2 1 (\*\*)**

① ⑧ ⑨ ⑪ ⑫ ⑬ ⑩

① Series name: HR41	⑧ Terminal shape S: female terminal, P: male terminal
② Shell size: 25	⑨ Terminal connection type C: crimping
③ Special property W: waterproof type	⑩ List additional specifications following (01), (02)...
④ Lock mechanism B: bayonet lock	⑪ Terminal form 1: pin terminal
⑤ Shell type P: plug, R: receptacle, J: jack	⑫ Shape 2: distinguish between different terminal shapes in the same size by 1, 2, 3...
⑥ Serial code	⑬ Plating on contacts 1: gold plating
⑦ Pole No.: 3, 5	

### ■ 3-Pin Type

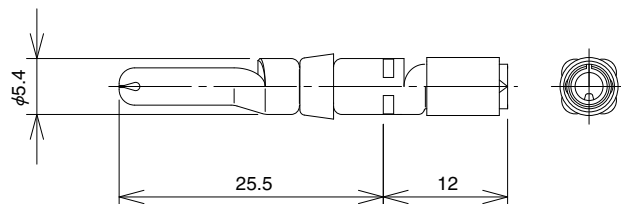
#### ● Receptacle (Screw-fastened Type)



Product No.	HRS No.	Pole No.
HR41-25WBR-3PC	CL141-0006-0	0

\*Note: The above product can be mated with male terminals.

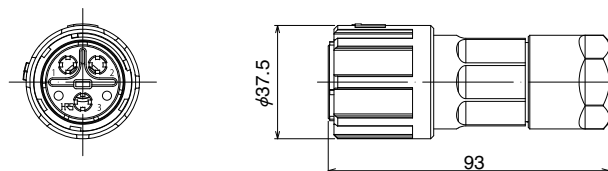
#### ● Male terminals



Type	Product No.	HRS No.	Thickness of gold plating on contacts	Applicable wires (to satisfy the requirements 1, 2, 3)
Pin terminal	HR41-PC-111	CL141-0002-0	0.2 $\mu$ m	1) Conductor cross sectional area: 3.3-5.5mm <sup>2</sup> 2) Conductor diameter: 3.1mm or smaller 3) Covered wire diameter: 6mm or smaller (AWG #10-#12)
	HR41-PC-111(01)	CL141-0002-0-01	0.76 $\mu$ m	
	HR41-PC-121	CL141-0004-5	0.2 $\mu$ m	1) Conductor cross sectional area: 1.3-2.5mm <sup>2</sup> 2) Conductor diameter: 2.0mm or smaller 3) Covered wire diameter: 6mm or smaller (AWG #14-#16)
	HR41-PC-121(01)	CL141-0004-5-01	0.76 $\mu$ m	

\*One pack contains 3 connectors.

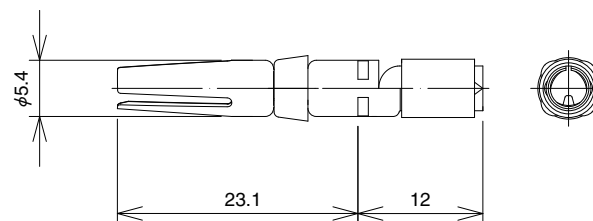
## ●Plug



Product No.	HRS No.	Pole No.	Applicable cable	Remarks
HR41-25WBPD-3SC	CL141-0023-0	3	$\phi 9.0 \pm 0.6$	—
HR41-25WBPE-3SC	CL141-0024-2	3	$\phi 10.1 \pm 0.6$	—
HR41-25WBPF-3SC	CL141-0026-8	3	$\phi 13.5 \pm 0.7$	—

\*Note: The above products can be mated with female terminals.

## ●Female terminals



Type	Product No.	HRS No.	Thickness of gold plating on contacts	Applicable wires (to satisfy the requirements 1, 2, 3)
Pin terminal	HR41-SC-111	CL141-0001-7	0.2 $\mu$ m	1) Conductor cross sectional area: 3.3-5.5mm <sup>2</sup> 2) Conductor diameter: 3.1mm or smaller 3) Covered wire diameter: 6mm or smaller (AWG #10-#12)
	HR41-SC-111(01)	CL141-0001-7-01	0.76 $\mu$ m	
	HR41-SC-121	CL141-0003-2	0.2 $\mu$ m	1) Conductor cross sectional area: 1.3-2.5mm <sup>2</sup> 2) Conductor diameter: 2.0mm or smaller 3) Covered wire diameter: 6mm or smaller (AWG #14-#16)
	HR41-SC-121(01)	CL141-0003-2-01	0.76 $\mu$ m	
	HR41-SC-141	CL141-0008-6	0.2 $\mu$ m	1) Conductor cross sectional area: 5.5-6.5mm <sup>2</sup> 2) Conductor diameter: 3.4mm or smaller 3) Covered wire diameter: 6mm or smaller (AWG #10)
	HR41-SC-141(01)	CL141-0008-6-01	0.76 $\mu$ m	

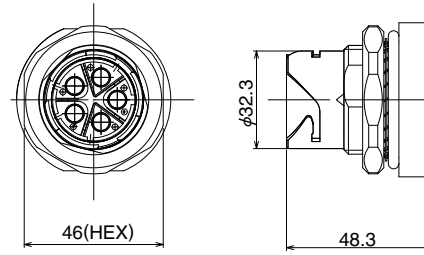
\*One pack contains 3 connectors.

\*\*Note: HR41-SC-151 has a different terminal structure than the following connectors, HR41-SC-111, HR41-SC-121, and HR41-SC-141.

Please pay attention to the combined use of these connectors.

## ■ 5-Pin Type

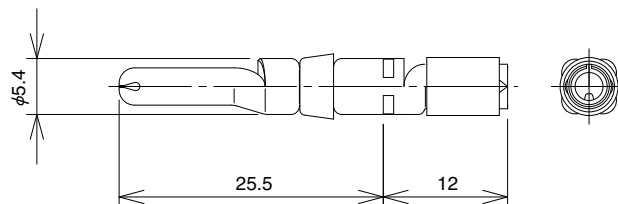
### ● Nut-fastened back mount type



Product No.	HRS No.	Pole No.
HR41-25WBRA-5PC	CL141-0010-8	5

\*Note: The above product can be mated with male terminals.

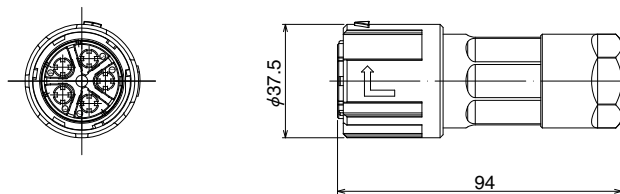
### ● Male terminal



Type	Product No.	HRS No.	Thickness of gold plating on contacts	Applicable wires (to satisfy the requirements 1, 2, 3)
Pin terminal	HR41-PC-151	CL141-0012-3	0.2μm	1) Conductor cross sectional area: 0.75-2.5mm <sup>2</sup> 2) Conductor diameter: 2.4mm or smaller 3) Covered wire diameter: 6mm or smaller (AWG#14-#18)

\*One pack contains 5 connectors.

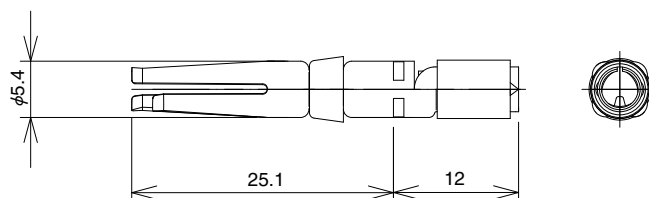
# ●Plug



Product No.	HRS No.	Pole No.	Applicable cable	Remarks
HR41-25WBP-5SC	CL141-0009-9	5	$\phi 11 \pm 0.3$	3-step sequence

\*Note: The above product can be mated with female terminals.

# ●Female terminal



Type	Product No.	HRS No.	Thickness of gold plating on contacts	Applicable wires (to satisfy the requirements 1, 2, 3)
Pin terminal	HR41-SC-151	CL141-0011-0	0.2 $\mu$ m	1) Conductor cross sectional area: 0.75-2.5mm <sup>2</sup> 2) Conductor diameter: 2.4mm or smaller 3) Covered wire diameter: 6mm or smaller (AWG #14-#18)

\*One pack contains 5 connectors.

\*\*Note: HR41-SC-151 has a different terminal structure than the following connectors, HR41-SC-111, HR41-SC-121, and HR41-SC-141.  
Please pay attention to the combined use of these connectors.

## ■ Tool

Type	Product name	HRS No.
Terminal extracting tool	HR41-TP	CL150-0256-9



### ● Recommended crimping tools

#### ◆ Manual-type crimping tools

Tool maker	Product No.
Hozan Tool Industrial Co., Ltd.	P-75
LOBTEX Co., Ltd.	AK15A
NICHIFU Co., Ltd.	NH11



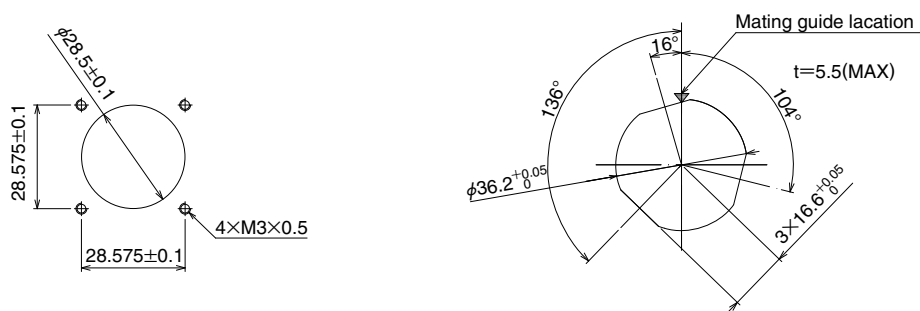
#### ◆ Air-type crimping tool

Tool maker	Product No.
Izumi Products Company	AC-5N.D. Dies: No.1 head



\*Note: Please maintain your crimping tools in accordance with the manufacturer's instruction manuals.

## ■ Dimensional drawing for receptacle panel mounting holes





**USA:**

**HIROSE ELECTRIC (U.S.A.), INC. Headquarters**

2688 Westhills Court, Simi Valley, CA 93065-6235  
Phone : +1-805-522-7958  
Fax : +1-805-522-3217  
<http://www.hiroseusa.com>

**USA:**

**HIROSE ELECTRIC (U.S.A.), INC. San Jose Office**

3255 Scott Boulevard, Building 7, Suite 101 Santa Clara, CA 95054  
Phone : +1-408-253-9640  
Fax : +1-408-253-9641  
<http://www.hiroseusa.com>

**USA:**

**HIROSE ELECTRIC (U.S.A.), INC. Detroit Office (Automotive)**

37677 Professional Center Drive, Suite #100C Livonia, MI 48154  
Phone : +1-734-542-9963  
Fax : +1-734-542-9964  
<http://www.hiroseusa.com>

**THE NETHERLANDS:**

**HIROSE ELECTRIC EUROPE B.V.**

Hogehillweg #8 1101 CC Amsterdam Z-O  
Phone : +31-20-6557460  
Fax : +31-20-6557469  
<http://www.hiroseeurope.com>

**GERMANY:**

**HIROSE ELECTRIC EUROPE B.V. German Branch**

Herzog-Carl-Strasse 4 D-73760 Ostfildern (Scharnhäuser Park)  
Phone : +49-711-4560-02-1  
Fax : +49-711-4560-02-299  
<http://www.hirose.de>

**UNITED KINGDOM:**

**HIROSE ELECTRIC EUROPE B.V. UK Branch**

22 Vincent Avenue, Crownhill Business Centre, Crownhill, Milton Keynes, MK8 0AB  
Phone : +44-1908-305750  
Fax : +44-1908-305768  
<http://www.hirose.co.uk>

**CHINA:**

**HIROSE ELECTRIC TRADING (SHANGHAI) CO., LTD.**

1601, Henderson Metropolitan, NO.300, East Nanjing Road, Huangpu District, Shanghai, China 200001  
Phone : +86-21-6391-3355  
Fax : +86-21-6391-3335  
<http://www.hirose-china.com.cn>

**CHINA:**

**HIROSE ELECTRIC TRADING (SHANGHAI) CO., LTD. Beijing Branch**

A1001, Ocean International Center, Building 56# East 4th Ring Middle Road, Chao Yang District, Beijing, 100025  
Phone : +86-10-5165-9332  
Fax : +86-10-5908-1381  
<http://www.hirose-china.com.cn>

**CHINA:**

**HIROSE ELECTRIC TECHNOLOGIES (SHENZHEN) CO., LTD.**

Room 09-13, 19/F, Office Tower Shun Hing Square, Di Wang Commercial Centre 5002, ShenNanDong Road, ShenZhen City, Guangdong Province, 518008  
Phone : +86-755-8207-0851  
Fax : +86-755-8207-0873  
<http://www.hirose-china.com.cn>

**HONG KONG:**

**HIROSE ELECTRIC HONGKONG TRADING CO., LTD.**

Room 1001, West Wing, Tsim Sha Tsui Centre, 66 Mody Road, Tsim Sha Tsui East, Kowloon, Hong Kong  
Phone : +852-2803-5338  
Fax : +852-2591-6560  
<http://www.hirose-hongkong.com.hk>

**TAIWAN:**

**HIROSE ELECTRIC TAIWAN CO., LTD.**

103 8F, No.87, Zhengzhou Rd., Taipei  
Phone : +886-2-2555-7377  
Fax : +886-2-2555-7350  
<http://www.hirose-taiwan.com.tw>

**KOREA:**

**HIROSE KOREA CO., LTD.**

1261-10, Jeoungwhang-Dong, Shihung-City, Kyunggi-Do 429-450  
Phone : +82-31-496-7000, 7124  
Fax : +82-31-496-7100  
<http://www.hirose.co.kr>

**SINGAPORE:**

**HIROSE ELECTRIC SINGAPORE PTE. LTD.**

10 Anson Road #26-1 International Plaza 079903  
Phone : +65-6324-6113  
Fax : +65-6324-6123  
<http://www.hirose-singapore.com.sg>

**INDIA:**

**HIROSE ELECTRIC SINGAPORE PTE. LTD. Bangalore Liaison office**

Unit No.03, Ground Floor, Explorer Building International Tech Park Whitefield Road, Bangalore 560066 Karnataka, India  
Phone : +65-6324-6113  
Fax : +65-6324-6123  
<http://www.hirose-singapore.com.sg>

**INDIA:**

**HIROSE ELECTRIC SINGAPORE PTE. LTD Delhi Liaison Office**

Suite No. 606 5th Floor SB Tower 1A/1 Sector 16 A Filmcity Noida 201301 Uttar Pradesh-India  
Phone : +91-120-4804917  
Fax : +91-120-4804949  
<http://www.hirose.com/sg/>

**MALAYSIA:**

**HIROSE ELECTRIC SINGAPORE PTE. LTD (Representative office)**

1-10-07, Suntech @ Penang Cybercity (1164), Lintang Mayang Pasir 3, 11950, Bayan Baru, Penang, Malaysia.  
Phone : +604-619-2564  
Fax : +604-619-2574  
<http://www.hirose.com/sg/>



## HIROSE ELECTRIC CO.,LTD.

6-3, Nakagawa Chuoh-2-Chome, Tsuzuki-Ku, Yokohama-Shi 224-8540, JAPAN  
TEL: +81-45-620-3526 Fax: +81-45-591-3726  
<http://www.hirose.com>  
<http://www.hirose-connectors.com>



# Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

[Hirose Electric:](#)

[HR41-SC-161\(01\)](#)