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# EM Series

## Waterproof Bayonet Lock Connector for Power Supply

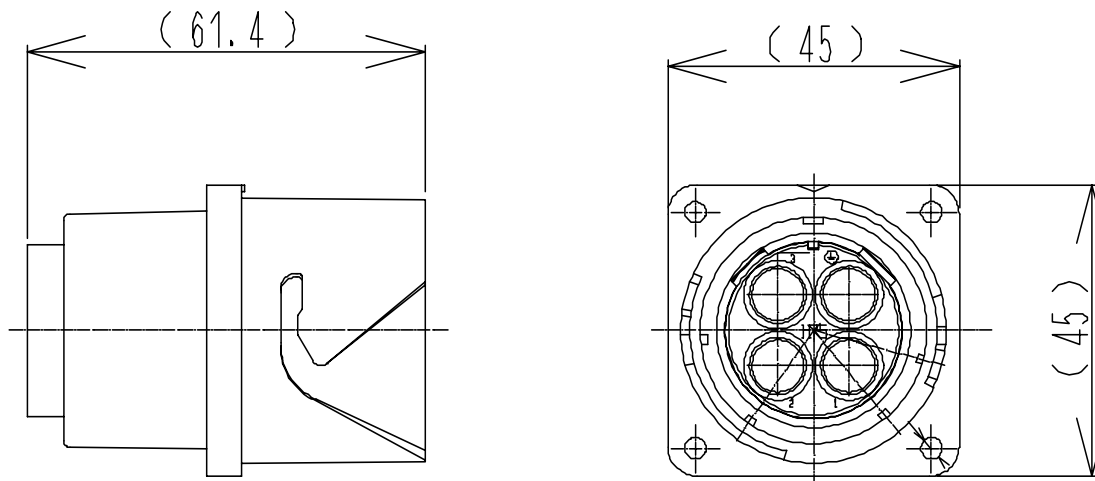


### ◆ Features

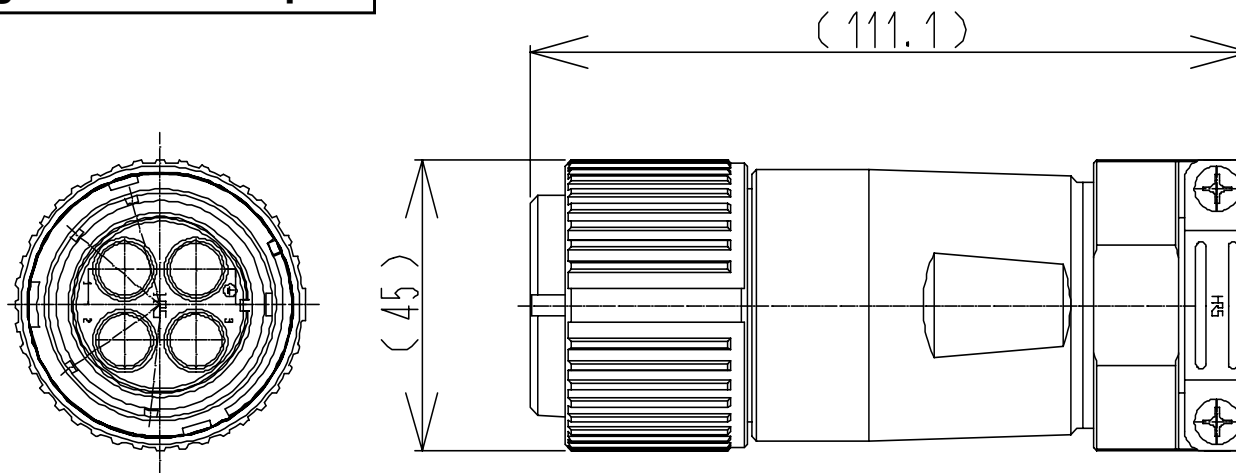
1. High current 4 pos. connector (Three-phase power source + ground)
2. Rated current: 50 A per contact (Refer to the derating curve on page 3)
3. Applicable cable conductor size: 8 mm<sup>2</sup>
4. Easy crimp termination with standard tool
5. Quick and secure bayonet lock
6. Waterproof structure in mated condition [IP67]
7. Sequential ground contact
8. RoHS compliant

# Dimensions (EM35)

## Receptacle



## Plug + Cable Clamp



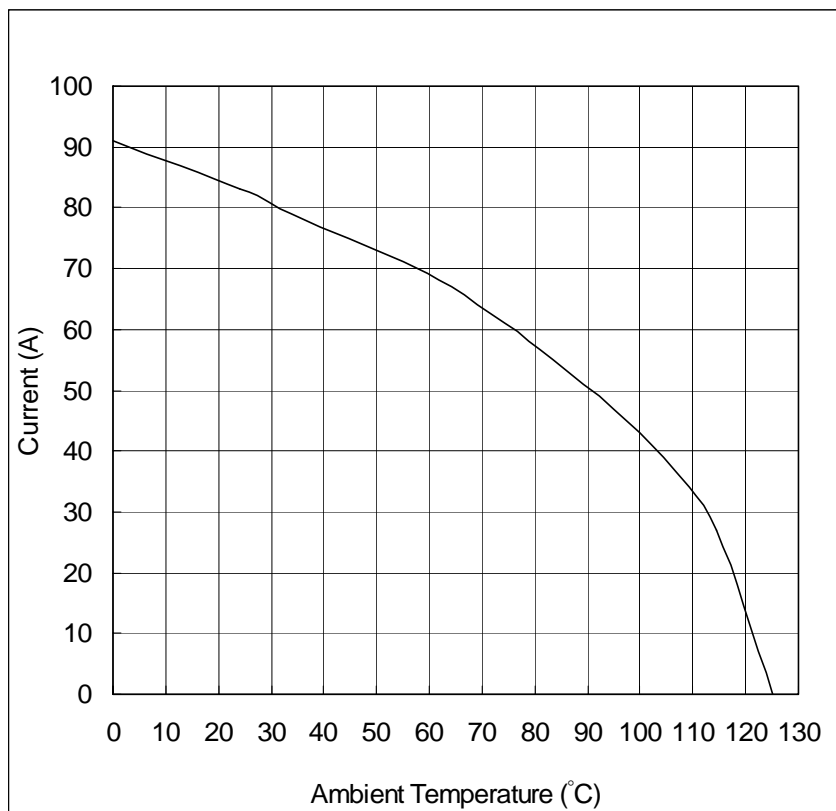
NOTE: All the dimensions in millimeters

Specifications herein are subject to change without notice.  
Contact Hirose for latest specifications, drawings, or availabilities.

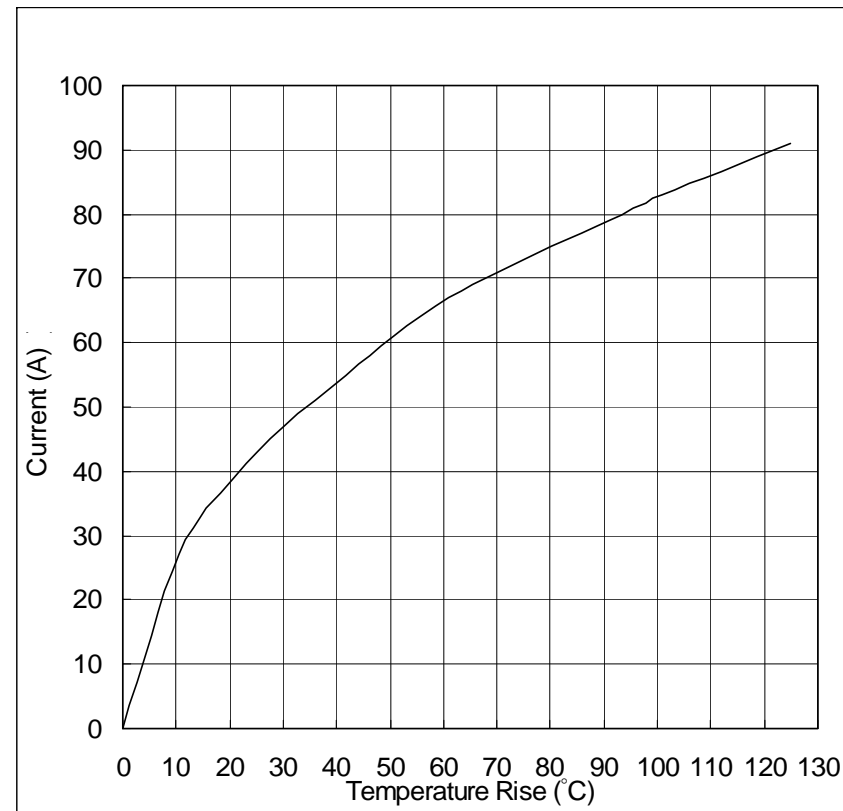
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# High Current Capability

[Derating Curve (Basic Curve)]



[Temperature Rise Curve]



**Measuring Method: Serially connect 3 contacts except for the grounding contact with 8 mm<sup>2</sup> wire. Plug is sealed to provide water tightness.**

# Easy Crimp Termination

◆ Crimp termination

Saves time comparing to solder termination, taking long to carry soldering heat to thick wire.

◆ Standard crimp tool is applicable.

**JIS C 9711: Wire termination tool for interior wiring**

Recommended Part No.: P-75 manufactured by Hozan Tool Industrial Co., Ltd.

AK15A manufactured by Lobtex Co., Ltd.

NH1 manufactured by Nichifu Co., Ltd.

◆ Easy termination procedure

1. Strip the wire jacket



2. Insert the wire to the contact



3. Crimp them by the tool

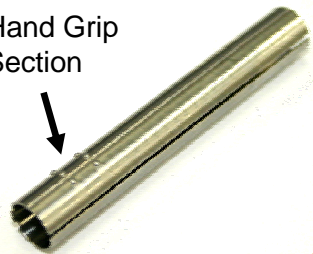


**No special tool is required.**



◆ Contact removal tool

Hand Grip Section



1. Insert the tool into contact cavity



2. Pull the cable



3. Removed

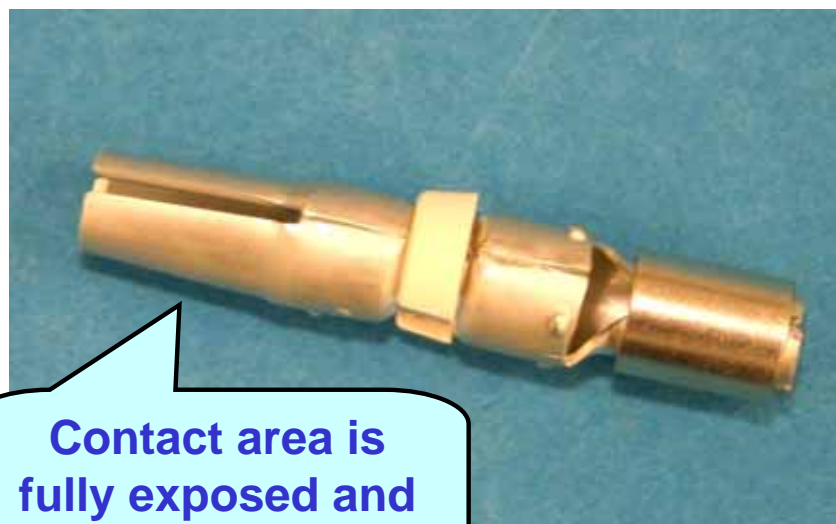


Simple and quick crimp termination by standard JIS tool

# Protected Female Contact

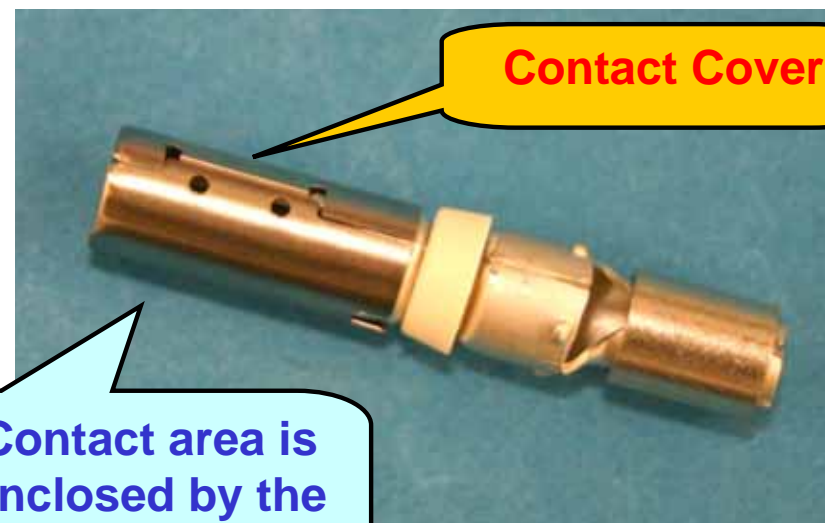
- ◆ Female contact is protected by the cover.

Without Contact Cover



Contact area is fully exposed and could be damaged.

With Contact Cover

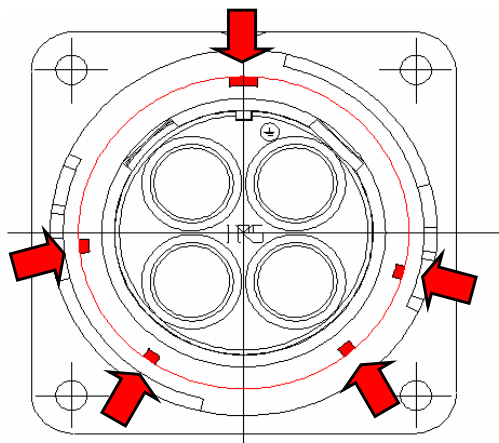


Contact area is enclosed by the cover.

Decreased damage of female contact during cable assembly and delivery, improving workability.

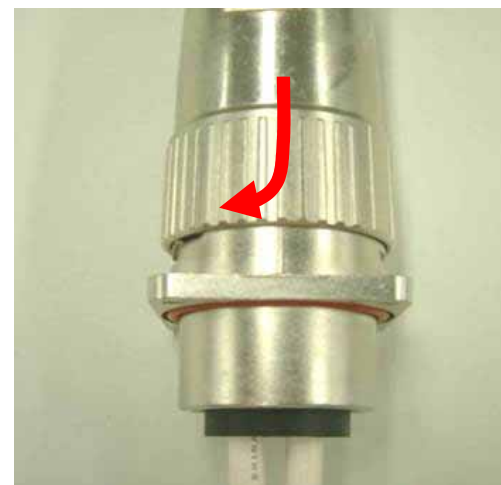
# User-Friendly & Reliable Mating Operation

## 5-Keing Interface



- Reliable mating positioning
- Stable mating against vibration

## Bayonet Lock



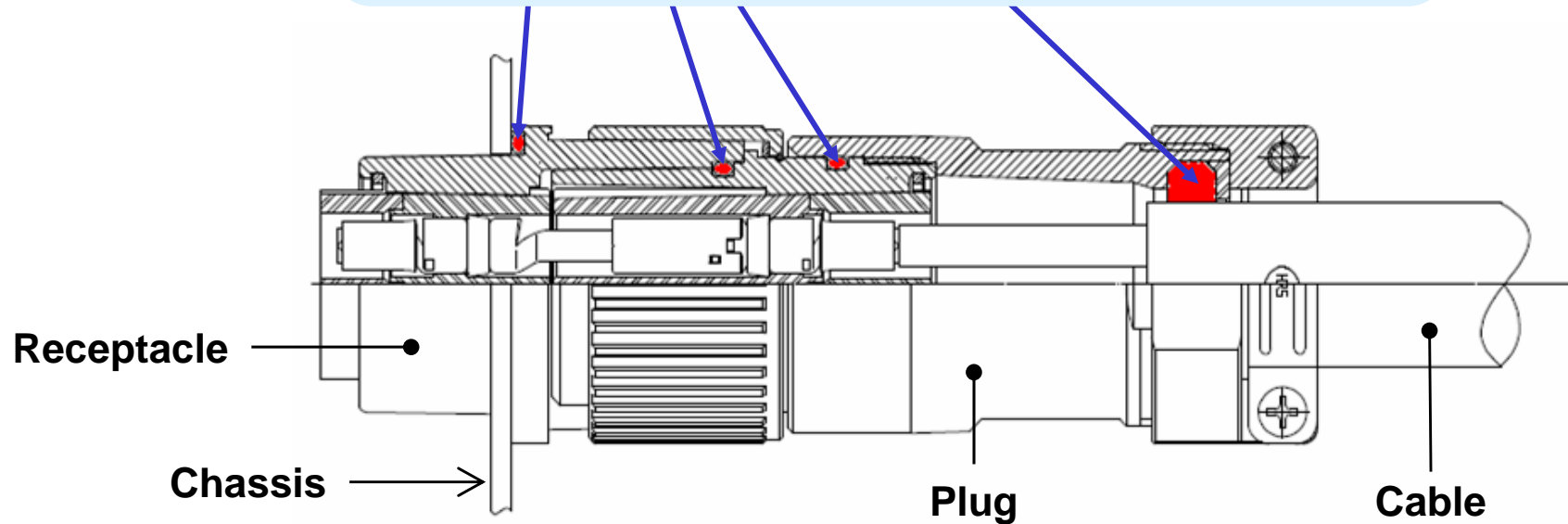
- Quick lock (One-touch lock)
- Clear tactile click
- No screw loosening as often occurred to terminal block.

Smooth and reliable connector mating.

# Waterproof Structure in Mated Condition [IP67]

## Gasket

Gasket is provided at each connected point, preventing water intrusion to inside the connector.



### ■ IP67 Water Resistance

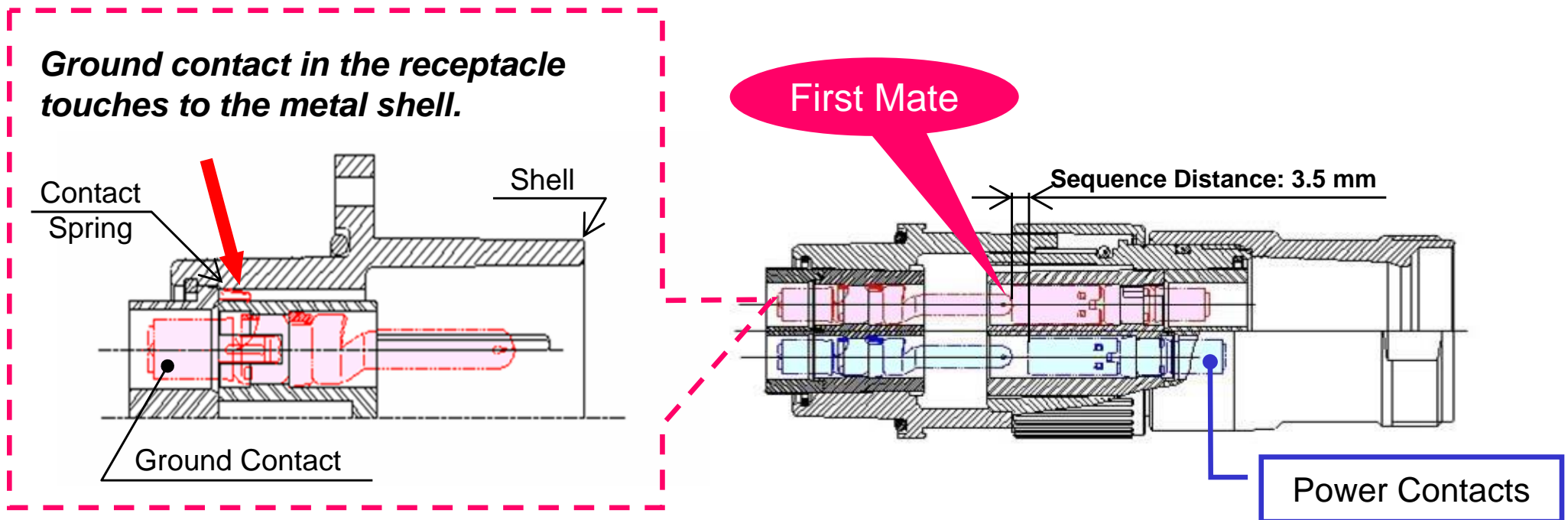
No water intrusion, while submerged in 1.8 m water for 48 hours in mated condition.

Hirose's considerable experience in waterproof circular connector delivered high water-resistant performance.



## First Mate Ground Contact

- ◆ Contact spring installed in the receptacle connects the ground contact and the metal shell for panel grounding. At mating, the ground contact is connected prior to the 3 power contacts (Sequence structure).



Grounding to panel chassis is available  
→ User-friendly structure!!

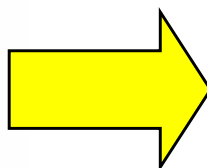
# Varieties

Type	Part No.	No. of Pos.	Male / Female	Remarks
Plug	EM35WBP-4SC	4	Female	-
	EM35WBP-4PC	4	Male	-
Receptacle	EM35WBR-4PC	4	Male	-
	EM35WBR-4SC	4	Female	-
Code Clamp	EM35WCC-23	-	-	Applicable Cable Dia.: $\phi 23 \pm 0.5$
Crimp Contact	EM-SC-133	-	Female	Applicable Wire Conductor Size: 8 mm <sup>2</sup>
	EM-PC-133	-	Male	
Tool for Contact Removal	EM-8-TP	-	-	Unisex

## Application Examples

***Power Supply Equipment*** for Semiconductor Manufacturing Machine, Generator and Fuel Battery.

Terminal Block



Connector



Switching terminal block to the connector reduces wiring procedure and maintenance time, and also contributes to stable quality, eliminating screw loosening problem.

→ Increases customer satisfaction!

# Specifications

## ■ Material and Finish

Components	Material	Remarks
Outer Shell	Aluminum Alloy	Nickel Plated
Insulator	PBT Resin	UL94V-0
Contact	Copper Alloy	Tin Plated Over Nickel Under Plating
Gasket	Silicon Rubber	-

## ■ Performance Characteristics

Rated Current	50 Amps (Refer to derating curve to see the relationship with operation temperature.)
Rated Voltage	AC 250 V, DC 250 V
Operation Temperature	- 40 °C to + 125 °C
Contact Resistance	1 mΩ max. at DC 1 Amp
Insulation Resistance	5000 MΩ min. at DC 500 V
Withstanding Voltage	AC 2210 V for 1 minute
Mechanical Operation	500 cycles
Water Resistance	IP67 compliant (in mated condition)