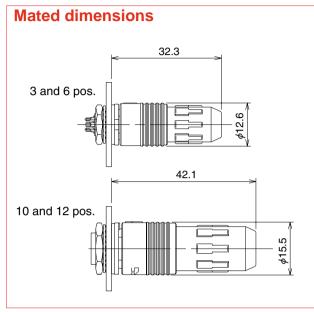
Miniature Waterproof Plastic Connectors

HR30 Series





■Features

1. Small size

Short in length when fully terminated and mated.

2. Water and dust protected

IP67 protection rating: Complete protection against dust penetration and against water penetration when submerged 1 meter deep for half hour. Mated with corresponding connector or protective cap.

3. Simple pull lock release

Built-in lock/release mechanism securely locks mated connectors while allowing quick disconnection by simply pulling on the plug's release collar. Molded-in grooves prevent hand slippage when pulled.

The round configuration of the collar allows easy side-byside panel mounting and will not snag on objects when the cable is pulled-out.

4. Light weight, corrosion resistant

Glass reinforced thermoplastic compounds and noncorrosive components are used in all assemblies.

5. Contact protection and self- alignment

Multiple polarizing keys protect the contacts from missalignment or attempted insertion of the wrong connector, while assuring correct mating between the corresponding connectors.

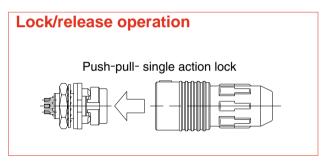
6. Visual alignment indicators

Permanent alignment indicators in a contrasting color on all connectors aid in correct alignment and engagement.

7. Built-in cable strain relief

Applications

Test and measuring equipment, portable devices, instrumentation, industrial devices, recreational equipment, I/O applications and other applications requiring use of lightweight, corrosion resistant quick mate/ release cable connections.





■Product Specifications

Potin	200	Current rating	5A (3 pos.) 2A (6,10,12 pos.)	Operation Temperature Range	-25°C to +85°C
Ratings	iys	Voltage rating	100V AC,140V DC(3,6 pos.) 30V AC,42V DC(10,12 pos.)	StorageTemperature Range	-25℃ to +85℃

Characteristic	Specification	Conditions
1.Contact resistance	5m ohms max. (3 pos.) 15m ohms max. (Solder type: 6, 10, and 12 pos.) 30m ohms max. (Through hole type: 6 and 12 pos.)	1A DC
2.Insulation resistance	1000M ohms min.	100 V DC
3.Withstanding voltage	No flashover or insulation breakdown	300 V AC / one minute
4.Vibration	No electrical discontinuity of 10 μ s or more	Frequency: 10 to 55 Hz, single amplitude of 0.75 mm, 1 cycle= 5min, 10 cycles in each of the 3 directions.
5.Durability (mating/un-mating)	Contact resistance 10m ohms min.(3 pos.) Contact resistance 30m ohms min. (Solder type: 6, 10, and 12 pos.) Contact resistance 100m ohms min. (Through hole type: 6 and 12 pos.)	1000 cycles
6.Temperature cycle	Insulation resistance 100 M ohms min.	(-55°C: 30 minutes → Room temperature: 10 to 15 minutes → +85°C: 30 minutes → Room temperature: 10 to 15 minutes) for 5 cycles
7.Humidity resistance	Insulation resistance 10M ohms min. (when humidity high) 100M ohms min. (when dry)	96 hours at temperature of 40ohmsC and humidity of 90% to 95%
8.Waterproof performance	No penetration inside.	While mated with corresponding or protective cap submerged at
9.Dust protection		depth of 1m for half hour.

■Material

Assembly	Component	Material	Finish	Remarks
		PPS	Black	UL94V-0
	Insulator	PBT	Black	UL94V-0
Dlug		Polyacetal	Natural	
Plug	Gasket	Silicone rubber, chloroprene rubber	Red/Black	
	Contacts	Brass, phosphor bronze	Gold plated	
	Spring	Stainless steel		
	Insulator	PPS	Black	UL94V-0
	Gasket	Chloroprene rubber	Black	
Receptacles	Contacts	Brass, phosphor bronze	Gold plated	
	Hexagonal nut	Zinc alloy	Chromate	
	Washer	Phosphor bronze	Nickel plated	
Crimp contact (male/female)	Contacts	Phosphor bronze	Selective gold plated	

■Ordering information

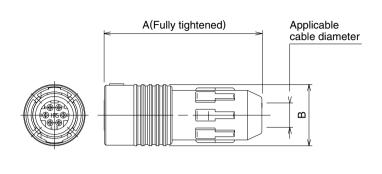
HR 3 0 - 6 P A - 6 S C (**)

1 Series name : HR30	6 Number of Contacts: 3, 6, 10 and 12
Shell size : Outside diameter/plug mating side	Contact type S : Female contact
S Connector type : P : Plug	P : Male contact
R : Receptacle	Contact wiring type
J : Jack	Blank: Solder
4 Variation	C : Crimping
Blank: Standard	D : Through hole
A : Fine wire	8 Plating (71) : Gold plated (Except caps)

■Plugs

Solder Type

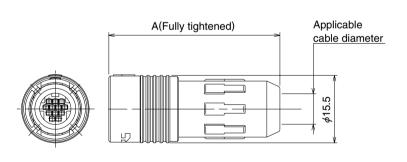




Part Number	CL No.	Α	В	Solder pot inner diameter	Applicable cable diameter range	Weight	RoHS
HR30-6P-3S(71)	130-0004-1-71	00.0		1.1 mm			
HR30-6P-6S(71)	130-0010-4-71	29.8	0.8 mm		4.2 to 5	4g	
HR30-6P-6P(71)	130-0009-5-71	30.3					
HR30-6PA-3S(71)	130-0021-0-71	00.0	12.0	1.1 mm		79	YES
HR30-6PA-6S(71)	130-0019-9-71	29.8		0.0	3.5 to 4.3		
HR30-6PA-6P(71)	130-0020-8-71	30.3		0.8 mm			
HR30-7P-12S(71)	130-0027-7-71	20.0	45.5	0.0	6.2 to 7	6.7g	
HR30-8P-12P(71)	130-0026-4-71	39.8	15.5	0.6 mm	0.2 10 7	0.79	

Crimp Type





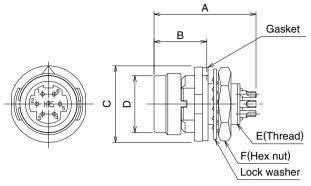
Part Number	CL No.	Α	Crimp contact	Applicable cable diameter range	Weight	RoHS
HR30-7P-10SC(71)	130-0013-2-71		HR30-SC-211			
HR30-7P-12SC(71)	130-0014-5-71	39.8 HR30-SC-211		6.2 to 7	6g	YES
HR30-8P-12PC(71)	130-0015-8-71		HR30-PC-211			

Note: Crimp contacts are not included. Please order applicable contacts separately.

■Receptacles

Solder Type

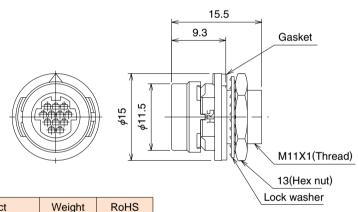




Part Number	CL No.	Α	В	С	D	Е	F	Solder pot inner diameter	Weight	RoHS
HR30-6R-3P(71)	130-1003-4-71	16		12	8.9	M8×0.75		1.1mm		
HR30-6R-6P(71)	130-1009-0-71	10	8.3				10	0.8mm	2g	
HR30-6R-6S(71)	130-1008-8-71	18.4								YES
HR30-7R-12P(71)	130-1016-6-71	18.6	9.3	15	11 5	M11×1	13	0.000	2.40	
HR30-8R-12S(71)	130-1018-1-71	10.0	9.3	15	11.5	IVITIAL	13	0.6mm	3.4g	

Crimp Type

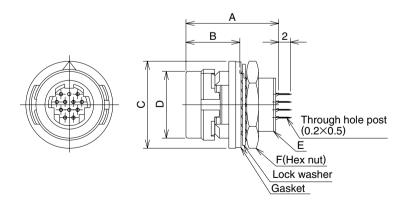




Part Number	CL No.	Crimp contact	Weight	RoHS
HR30-7R-10PC(71)	130-1012-5-71	HR30-PC-211		
HR30-7R-12PC(71)	130-1013-8-71	11130-FG-211	3g	YES
HR30-8R-12SC(71)	130-1014-0-71	HR30-SC-211		

Through hole Type



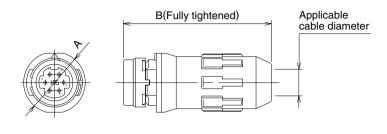


Part Number	CL No.	Α	В	С	D	Е	F	Weight	RoHS	
HR30-6R-6PD(71)	130-1020-3-71	14.9	8.3	12	8.9	M8×0.75	10	2g		
HR30-6R-6SD(71)	130-1021-6-71	15.2	0.3	12					YES	
HR30-7R-12PD(71)	130-1017-9-71	16	9.3	15	11.5	M11×1	13	3.4g	ILS	
HR30-8R-12SD(71)	130-1019-4-71	10					13			

■Jacks

Solder Type

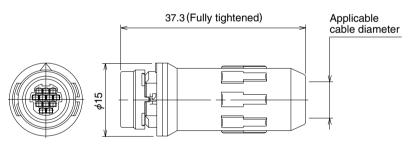




Part Number	CL No.	Α	B Applicable cable diameter range S		Solder pot inner diameter	Weight	RoHS
HR30-6J-6P(71)	130-2009-6-71	12	28.9	4.2 to 5	0.8 mm	3g	
HR30-6JA-6P(71)	130-2018-7-71	12	20.9	3.5 to 4.3	0.0 111111	J	YES
HR30-7J-12P(71)	130-2020-9-71	15	37.3	6.2 to 7	0.6 mm	5.7g	
HR30-8J-12S(71)	130-2019-0-71	13	37.3	0.2 to 7	0.0111111	5.9g	

Crimp Type





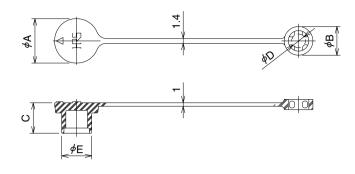
Part Number	CL No.	Crimp contact	Applicable cable diameter range	Weight	RoHS
HR30-7J-10PC(71)	130-2015-9-71	HR30-PC-211			
HR30-7J-12PC(71)	130-2017-4-71	11K30-FG-211	6.2 to 7	5g	YES
HR30-8J-12SC(71)	130-2016-1-71	HR30-SC-211			

Note: Crimp contacts are not included. Please order applicable contacts separately.

■Caps

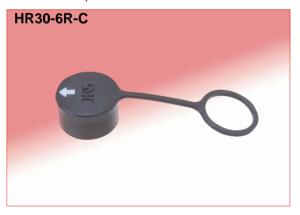
For Plugs

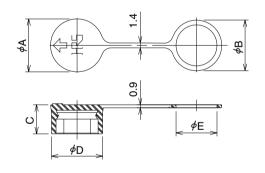




Part Number	CL No.	Applicable connector	Α	В	С	D	Е	Weight	RoHS
		HR30-6P-3S(71)		8.4	8.9	4	8.8	1g	YES
		HR30-6P-6S(71)	13						
LID20 CD C(74)	130-3000-7-71	HR30-6P-6P(71)							
HR30-6P-C(71)	130-3000-7-71	HR30-6PA-3S(71)							
		HR30-6PA-6S(71)							
		HR30-6PA-6P(71)							TES
		HR30-7P-10SC(71)			10.5				
HR30-7P-C(71)	130-3004-8-71	HR30-7P-12S(71)				6			
		HR30-7P-12SC(71)	16	10.4			11.4	2g	
LID20 0D C(74)	120 2002 F 71	HR30-8P-12P(71)							
HR30-8P-C(71)	130-3003-5-71	HR30-8P-12PC(71)							

For Receptacle





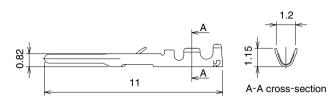
Part Number	CL No.	Applicable connector	Α	В	С	D	E	Weight	RoHS
HR30-6R-C(71)		HR30-6R-3P(71)		11.8	7.5	12.1		1g	YES
		HR30-6R-6P(71)	12.6						
	130-3001-0-71	HR30-6R-6PD(71)					9.1		
		HR30-6R-6S(71)							
		HR30-6R-6SD(71)							
	130-3002-2-71	HR30-7R-10PC(71)		5.5 14.8		8.5 15	12.1		
		HR30-7R-12P(71)							
		HR30-7R-12PC(71)							
HR30-7R-C(71)		HR30-7R-12PD(71)	15.5		4.8 8.5				
		HR30-8R-12S(71)							
		HR30-8R-12SC(71)							
		HR30-8R-12SD(71)							

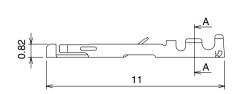
Note: When using these caps, do not use the gasket that is normally supplied with the receptacle. The "B" diameter end of the receptacle cap will serve as the gasket.

■Crimp Contacts

Male contact

Female contact





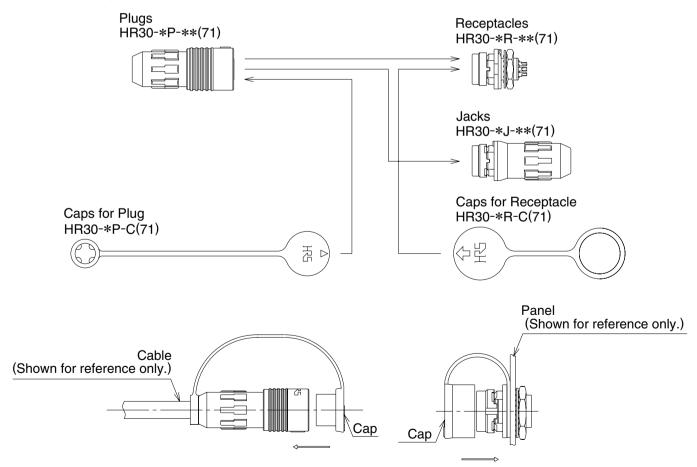


Part Number CL No.		Packaging type	Weight	RoHS
HR30-PC-111	130-0022-3	100pcs/bag	0.03g/1per pin	YES
HR30-PC-211	130-0016-0	10,000pcs/reel		IEO

Note : Use wire siz	ze AWG 26 to 30) with a iacket d	iameter of 1 mm max.

Part Number CL No. F		Packaging type	Weight	RoHS	
	HR30-SC-111	130-0023-6	100pcs/bag	0.03g/1 pin	YES
	HR30-SC-211	130-0017-3	10,000pcs/reel	0.03g/1 pin	TES

●Connecting Combinations



Note 1: When selecting connectors, take into account the shell size, contact count and gender of the contacts.

Note 2: When using the protective caps for the receptacles, do not use the gaskets normally supplied with the receptacle. Protective caps must be fully inserted to assure specified IP67 water and dust protection.

● Applicable Fixtures

Solder termination fixture

Part Number	CL No.	Applicable Connectors	
HR30-6P-3S-T01	150-0220-1	HR30-6P-3S(71)	
HK30-0P-35-101	150-0220-1	HR30-6PA-3S(71)	
HR30-6P-6S-T01	150-0214-9	HR30-6P-6S(71)	
HK30-0P-03-101	150-0214-9	HR30-6PA-6S(71)	
HR30-6P-6P-T01	150-0221-4	HR30-6P-6P(71)	
HR30-0P-0P-101	150-0221-4	HR30-6PA-6P(71)	
HR30-7P-10SC-T01	150-0228-3	HR30-7P-10SC(71)	
HR30-7P-12SC-T01	150-0223-0	HR30-7P-12S(71)	
HR30-7P-125C-101	150-0223-0	HR30-7P-12SC(71)	
HR30-8P-12PC-T01	150-0227-0	HR30-8P-12P(71)	
HR30-0P-12PC-101	150-0227-0	HR30-8P-12PC(71)	
HR30-6R-3P-T01	150-0225-5	HR30-6R-3P(71)	
		HR30-6R-6P(71)	
HR30-6R-6P-T01	150-0218-0	HR30-6J-6P(71)	
		HR30-6JA-6P(71)	
HR30-6R-6S-T01	150-0222-7	HR30-6R-6S(71)	
HR30-7J-10PC-T01	150-0231-8	HR30-7J-10PC(71)	
HR30-7J-12PC-T01	150-0230-5	HR30-7J-12PC(71)	
HR30-8J-12SC-T01	150-0226-8	HR30-8J-12SC(71)	

Note: The back shell tightening collar is used to tighten the back shell to the specified torque. Refer to assembly procedures.

Tightening collar for back shell

Part Number	CL No.	Applicable Connectors	
HR30-6P-T02	150-0216-4	3 and 6 pos.	
HR30-8P-T02	150-0224-2	10 and 12 pos.	

Note: The back shell tightening collar is used to tighten the back shell to specified torque. Refer to assembly procedures.

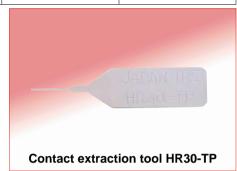


■Applicable Tools

Туре	Description	Part Number	CL No.	Applicable contact	Applicable wire
Manual	Manual crimping tool	HT-102/HR30-1	150-0229-6	HR30-SC-111	AWG#26~#30
Mariuai				HR30-PC-111	
	Automatic crimping machine	CM-105	901-0005-4		
Automatic	Applicator	AP105-HR30-1	901-2015-9	HR30-SC-211	AWG#26~#30
				HR30-PC-211	
				HR30-SC-111	
Extraction tool		HR30-TP	150-0219-2	HR30-SC-211	
		HR30-1F		HR30-PC-111	
				HR30-PC-211	



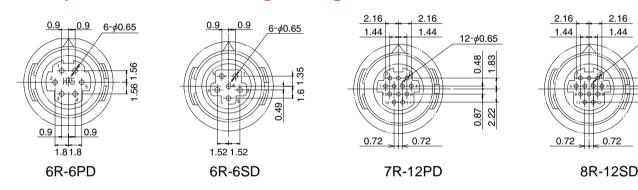




12-*φ*0.65 0.48 1.83

0.87

♠ Receptacle, Board Mounting Through Hole Pattern

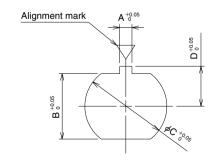


- Notes 1.The receptacle through hole configuration depicts a view from the mating side of the connector.
 - 2. The recommended board maximum thickness: 1.2 mm.
 - 3. Tolerance of +0.03 mm is recommended for the plated through hole location.
 - Tolerance of +0.02 mm is recommended for the plated through hole diameter.

Contact Position Arrangement

Alignment mark 1 3 4 3 HR30-6P-3S(71) HR30-6P-6S(71) HR30-6P-6P(71) 321 ്നമദ 321 7654 4567 7654 (10) (9) (8) (8)(9)(0)10 9 8 12 (1) 11 12 HR30-7P-10SC(71) HR30-7P-12SC(71) HR30-8P-12PC(71)

◆Panel Cutout

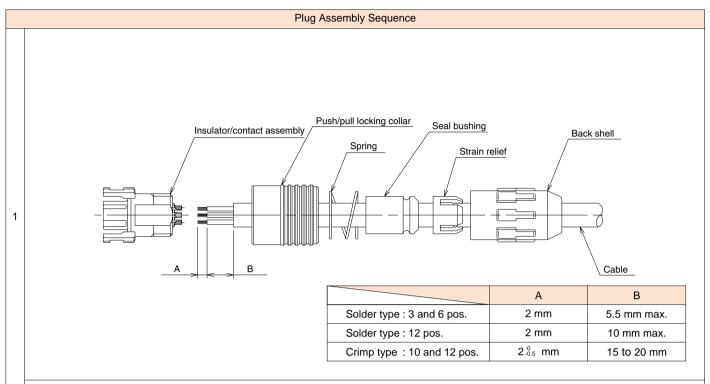


	Α	В	С	D	Panel Thishness
3,6 pos	1.25	6.45	8.05	3.95	0.7~2
10,12 pos	1.35	9.25	11.05	5.45	0.7~3

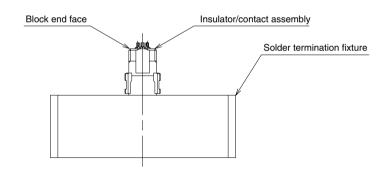
1. The contact configuration depicts a view from the wiring side.

2. Mounting to the panel is accomplished by tightening the hexagonal nut from the rear side of the panel.

Assembly Procedures



Thread the back shell, strain relief, seal bushing, spring and push/pull locking collar over the cable as shown above.

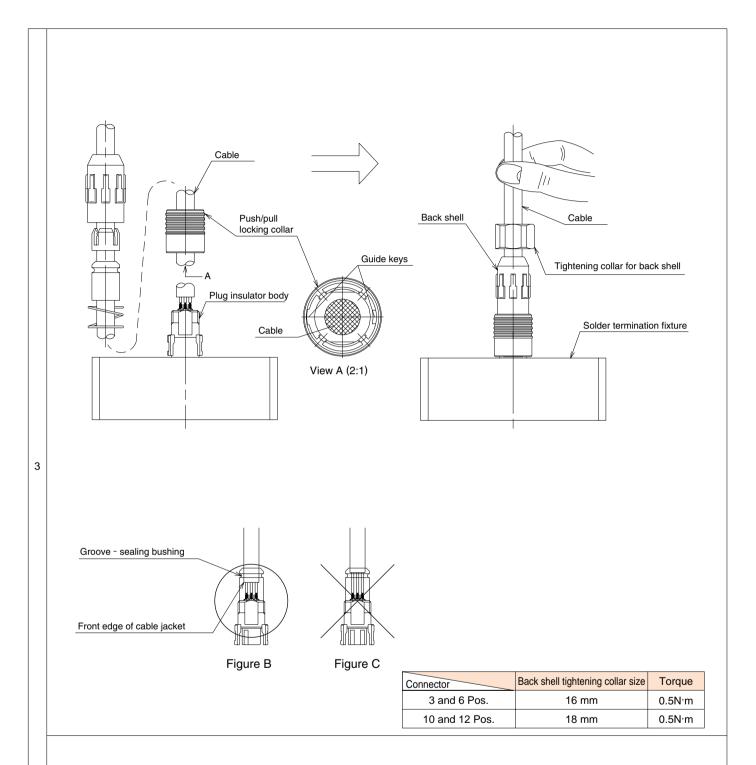


2 Solder type

- 1. Pre-solder the exposed cable conductors (dia. A). The diameter of the pre-soldered conductors should not exceed 0.7 mm for 6 contact plug and 1.0 mm for 3 contact plug.
- 2. Insert the insulator body over the applicable solder termination fixture.
- 3. Insert the pre-soldered conductors in the contact soldering pot and solder them in place. Soldering iron temperature should be 280 $\pm 10^{\circ}$ C applied for 3-4 second.

Crimp type

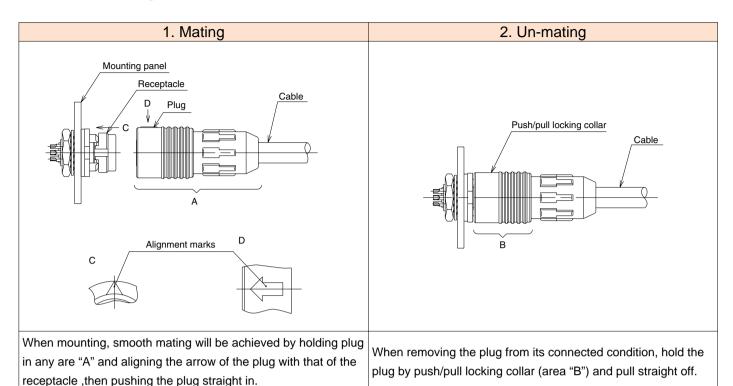
- 1. Crimp the applicable contact to the stripped conductor. Use correct crimp tools. Verify the dimensions and crimp configuration.
- 2. Insert the contact into the appropriate opening in the insulator body.
- 3. Verify fully seated position by applying a slight pull force on the conductor. The contact should remain in place. Re-insert if not seated.



- 1. To prevent accidental loosening of the back shell it is recommended that a small amount of primer (Loctite® 7649) and adhesive (Loctite® 271) be applied to the threads of the insulator body before proceeding.
- 2. Keeping the terminated insulator body on the fixture, re-assembly the plug in order shown.
- 4. Using the correct back-tightening collar tighten the back shell to the specified torque. When tightening the collar make sure that the cable will NOT turn.
- 5. Remove the assembly from the fixture.

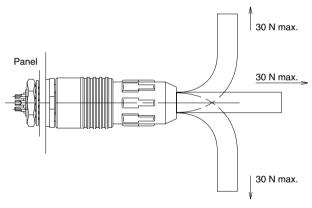
Note: Loctite is a registered trademark of the Henkel Loctite Corporation.

●General usage notes



Precautions

1. Do NOT apply force in excess of 30N in the directions shown below.



- 2. To maintain the water/dust protection performance and the cable clamp force, use a cable that is within the range of applicable cable diameter.
- 3. Consult HRS representative when using different cables.



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