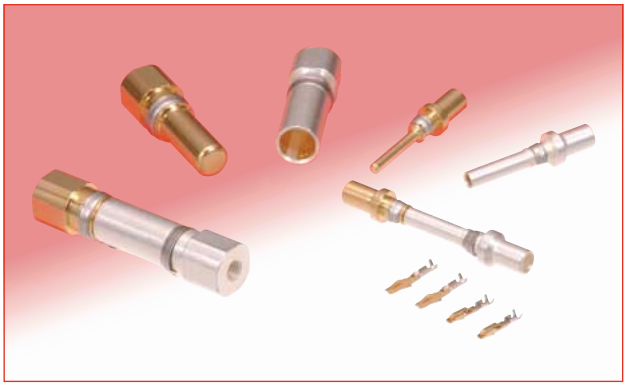
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NEW

High-Current Connectors

PS Series





Overview

High quality connectors combining two different current capacity power contacts and signal contacts, allowing power connections and signal control between power rectifier units.

Features

1. Sequential power connection

Power contacts can be arranged to connect in 3-stage sequence (Fig. 1)

2. Live line connection (low current contacts)

Connectors can be mated / un-mated with power applied through the low current contacts.
Safety rated at 35 A, 120 V (50 insertions/removals).

3. Protection against contact deformation

Below-configured signal contacts will not deform during mating of the connectors.

4. Crimp termination

Crimp termination of the conductors for the Low current and Signal contacts.

5. Threaded termination

Threaded termination with a separate crimp ring terminal, spring washer and M6 screw for the High current contacts.

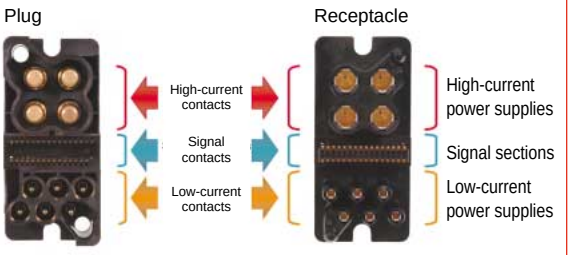
6. Self-alignment when mating

Increased self-alignment within ± 0.5mm, with the use of Floating Screws to mount the plug or receptacle assemblies.

Applications

Uninterruptible power supplies (UPS), power supplies for base stations, electric cars, power supplies of semiconductor manufacturing machines, electrical generators and other large-current power supplies.

2 Types of Power Contacts plus Signal Contacts



Current Capacity of the contacts

Contact	Wire size	Current Capacity	Remarks
High-current contacts	AWG# 0	150A	——
	AWG# 4	100A	——
	AWG# 0	200A	✻ With bus bar
	AWG# 4	150A	✻ With bus bar
Signal contacts	AWG# 20~22	2.5A	——
	AWG# 24	2A	——
Low-current contacts	AWG# 8	50A	——
	AWG# 10	40A	——

✻ Current capacity has been established during the testing. Contact Hirose Electric when using the bus bar for higher current capacity applications.

3-Stage Sequential contact engagement

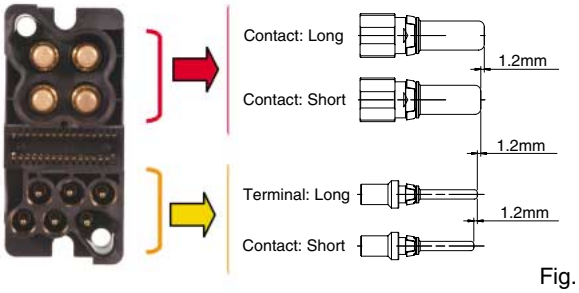


Fig.1

Current Capacity Ratings in Various Safety Standards

	Wire size	UL	C-UL	TÜV
High-current contacts	AWG 0	150A-125V	150A-125V	150A-125V
	AWG 0 + Bus bar	200A-125V	200A-125V	200A-125V
	AWG 4	100A-125V	100A-125V	100A-125V
	AWG 4 + Bus bar	150A-125V	150A-125V	150A-125V
Signal contacts	AWG 20~22	2.5A-125V	1.5A-125V	2.5A-125V
	AWG 24	2A-125V	1A-125V	2A-125V
Low-current contacts	AWG 8	50A-600V	40A-600V	50A-600V
	AWG 10	40A-600V	30A-600V	40A-600V
	Insertion and removal of live wires: 35 A - 120 V, 50 cycles			

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■Product specifications

Ratings (High-current contacts)	Operating temperature / humidity range	-55℃ to +125℃ / relative humidity 90% max. (Note 1)
	Storage temperature / humidity range	-55℃ to + 85℃ / relative humidity 95% max. (Note 2)
	Voltage rating	125V AC/DC
	Current rating	200A(AWG #0) With bus bar
		150A(AWG #0) Without bus bar
		150A(AWG #4) With bus bar
		100A(AWG #4) Without bus bar

Ratings (Low-current contacts)	Operating temperature / humidity range	-55℃ to +125℃ / relative humidity 90% max. (Note 1)
	Storage temperature / humidity range	-55℃ to +85℃ / relative humidity 95% max. (Note 2)
	Voltage rating	600V AC/DC
	Current rating	50A (AWG#8)
		40A (AWG#10)

Ratings (Signal contacts)	Operating temperature / humidity range	-55℃ to +125℃ / relative humidity 90% max. (Note 1)
	Storage temperature / humidity range	-55℃ to +85℃ / relative humidity 95% max. (Note 2)
	Voltage rating	125V AC
	Current rating	2.5A (AWG#20～22)
		2A (AWG#24)

Note 1: Includes temperature rise caused by current flow.
Note 2: The term “storage” refers to products stored for long period of time prior to mounting and use. Operating temperature range and humidity range covers non-conducting condition of installed connectors in storage, shipment or during transportation.

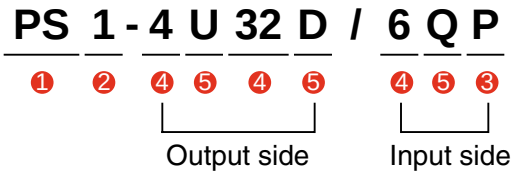
■Materials/Finish

Component	Material	Finish/Color	Remarks
Housing	PBT	Black	UL94V-0
High-current contacts	Copper alloy Stainless steel (Stop ring)	Gold plated (Contact area)	——
Low-current contacts	Copper alloy Stainless steel (Stop ring)	Gold plated (Contact area)	——
Signal contacts	Copper alloy	Gold plated	——

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■Ordering Information

1. Housing



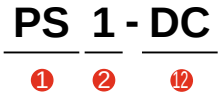
2. Contact



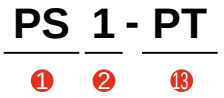
3. Floating screw



4. Dust cover



5. Partition



❶	Series name: PS	
❷	Series ID: 1	
❸	Housing type:	P : Plug, for male contact S : Receptacle, for female contact
❹	Number of contacts	
❺	Contact size	D : 3A current N : 40A current Q : 50A current U : 150A current
❻	Contact type:	P : Male contact S : Female contact
❼	Terminal type:	C : Crimp J : Screw clamp
❽	Contact type:	1 : Stamped, loose 3 : Machined, loose
❾	Plating specification:	1 : Gold plated
❿	Contact length:	A : Standard (Short) B : Sequenced (Long)
⓫	FS : Floating screw	
⓬	DC : Dust cover	
⓭	PT : Partition	

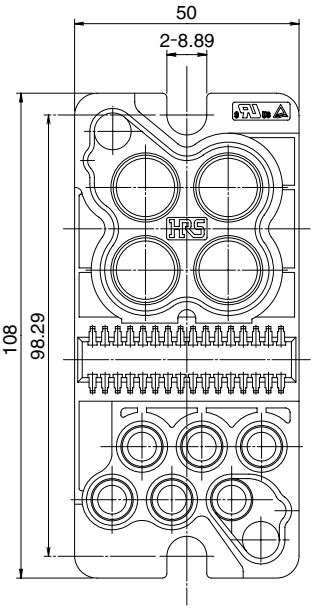
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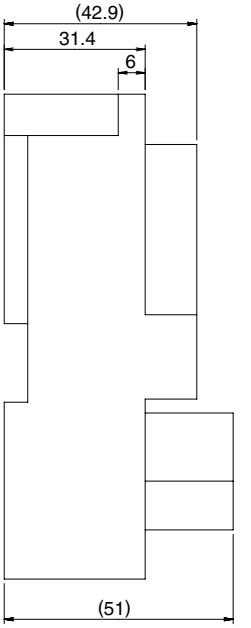
■Plug housing

●4 High Current contacts, 6 Low current contacts, 32 Signal contacts

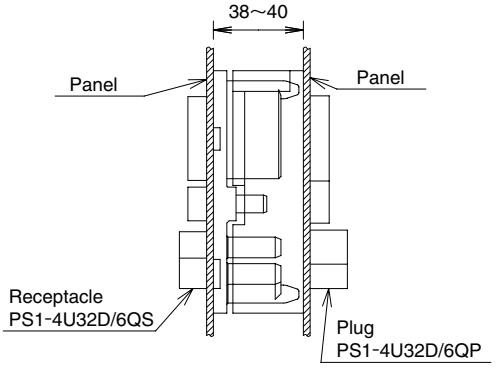


Part number	CL No.	RoHS
PS1-4U32D/6QP	CL236-1000-2	YES

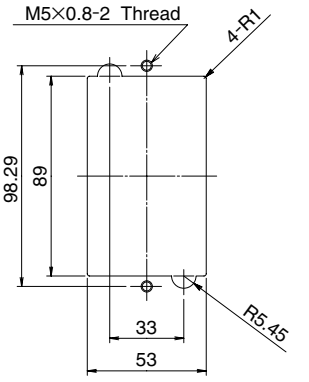




◆Shown panel mounted and mated with corresponding part



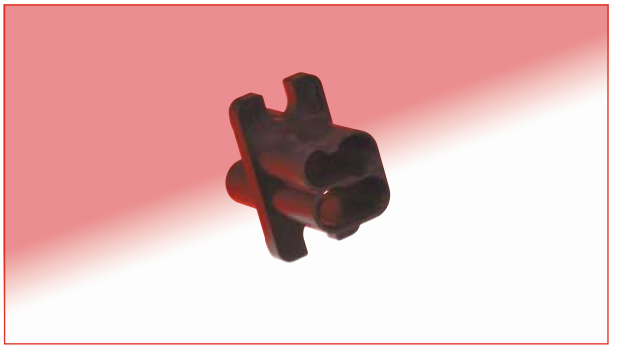
◆Panel cutout Viewed from the front



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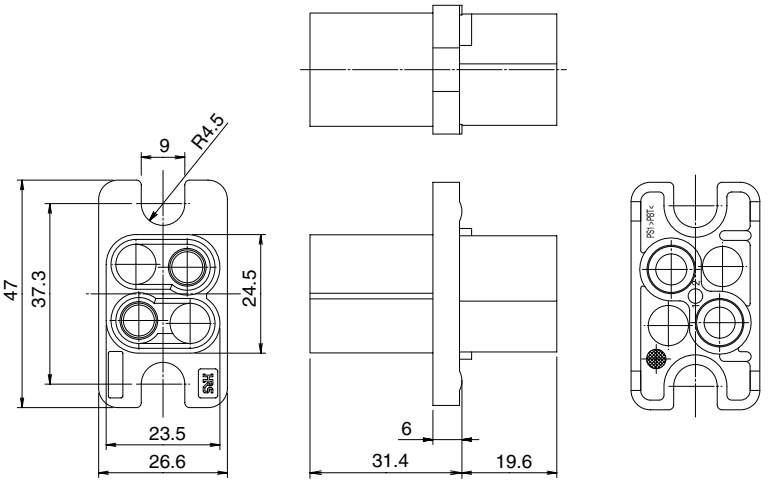
■Plug housing

●Low current, 2 contacts

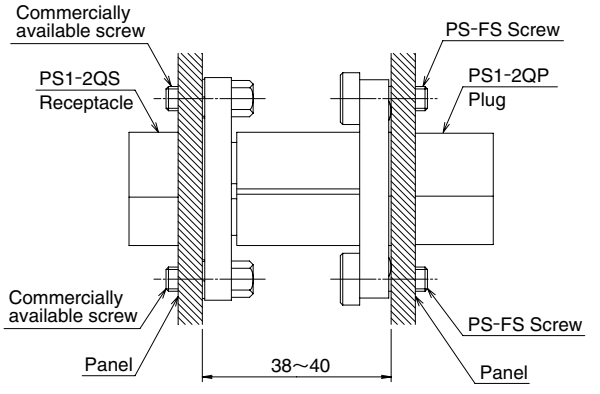


Part number	CL No.	Packaging	RoHS
PS1-2QP	CL236-1020-0	Bag (10 pieces / bag)	YES

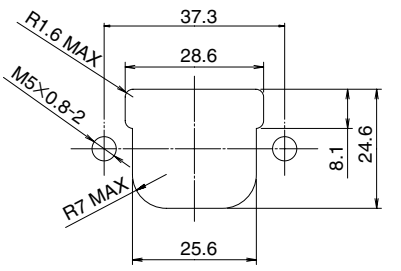
Refer to Page 6 for contacts (PS-PAC-3*1).



◆Shown panel mounted and mated with corresponding part



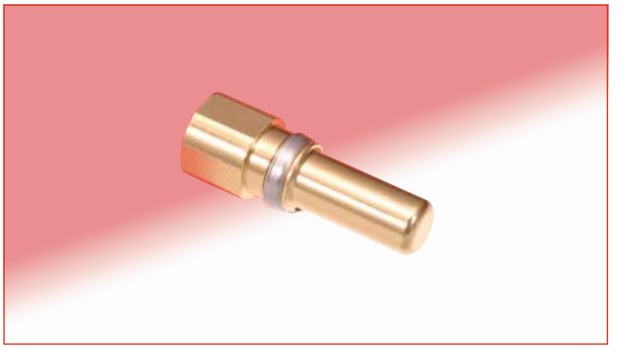
◆Panel cutout Viewed from the front

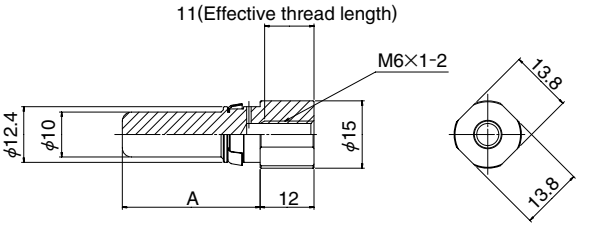


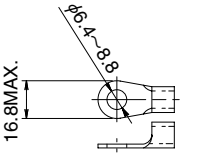
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■Male contacts for Plug

●High current







Ring crimp terminal dimensions Fig.1

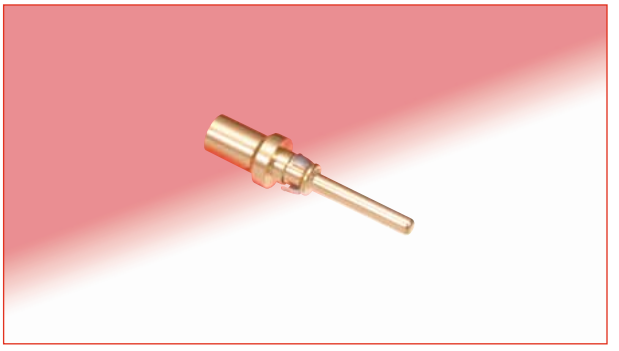
Part number	CL No.	A	Packaging	RoHS
PS-PAJ-3U1	CL236-1002-8	30.7	Bag (5 pieces / bag)	YES
PS-PBJ-3U1	CL236-1003-0	31.9		

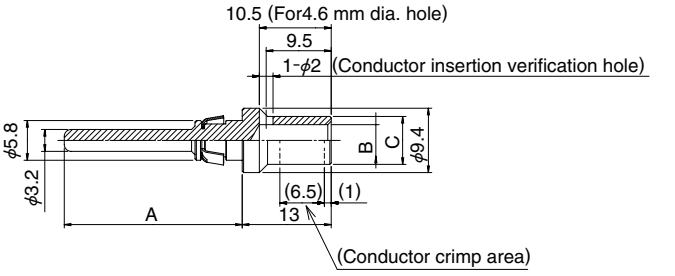
Note 1: To terminate with recommended wire
(stranded conductor nominal cross section: 42.2 to 60.57 mm—)
use non-insulated barrel ring crimp terminal (as shown in Fig. 1).
Example of the ring crimp terminal: P.N 60-S6, manufactured by J.S.T. MFG. Co., Ltd. Verify the correct current rating of the ring terminal and required crimp dimensions with the terminal manufacturer.

Note 2: The contact is terminated with M6 x1-2 (JIS B 1188) screw (nominal thread length of 12mm) with corresponding size spring washer.
Recommended tightening torque:400 to 490 N·cm. In high vibration environments it is recommended to use thread-locking compounds.

Note 3: The terminal extraction tool (PS-PA(B)J-3/REMD CL902-2115-0) is available separately.

●Low current





Part number	CL No.	A	B	C	Conductor cross section (AWG#)	JIS applicable crimp size	Packaging	RoHS
PS-PAC-3Q1	CL236-1004-3	26	φ4.6	φ7	6.64~10.52mm² (AWG # 8)	8	Bag (10 pieces / bag)	YES
PS-PAC-3N1	CL236-1013-4	26	φ3.5	φ5.5	2.63~6.64mm² (AWG #10)	5.5		
PS-PBC-3Q1	CL236-1005-6	27.2	φ4.6	φ7	6.64~10.52mm² (AWG # 8)	8		
PS-PBC-3N1	CL236-1014-7	27.2	φ3.5	φ5.5	2.63~6.64mm² (AWG #10)	5.5		

Note 1: Verify that the conductor remains fully inserted and visible through the 2mm dia. hole after crimping

Note 2: The terminal extraction tool (PS-PA(B)C-3/REMD CL902-2116-2) is available separately.

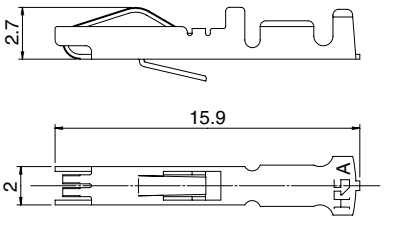
●Signal

Part number	CL No.	Packaging	RoHS
PS-SAC-1D1	CL236-1006-9	Bag (100 pieces / bag)	YES

Note 1: Applicable wire AWG #20 to 24.

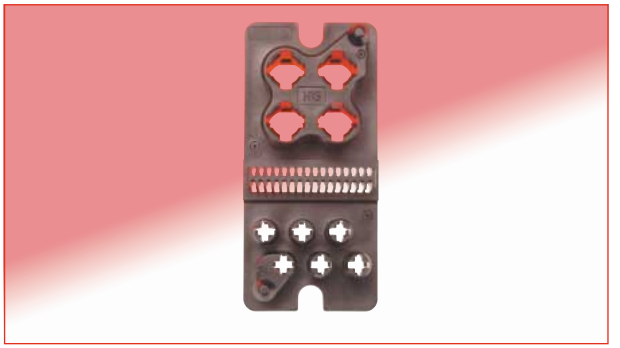
Note 2: Crimping tool: HT201/PS-SC

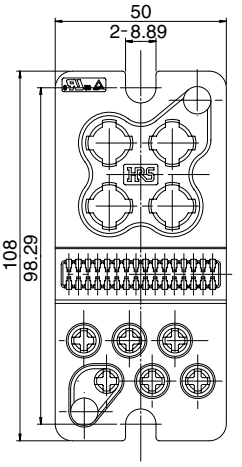
Note 3:The terminal extraction tool (PS-P(S)AC-1/REMD CL902-2119-0) is available separately.

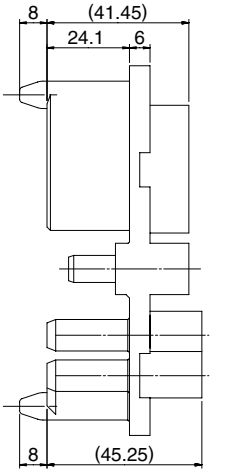


■Receptacle housing

●4 High Current contacts, 6 Low current contacts, 32 Signal contacts

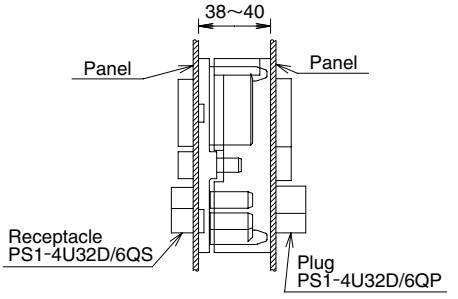




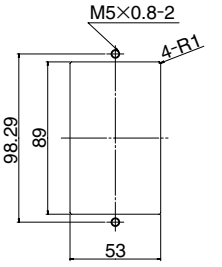


Part number	CL No.	RoHS
PS1-4U32D/6QS	CL236-1001-5	YES

◆Shown panel mounted and mated with corresponding part

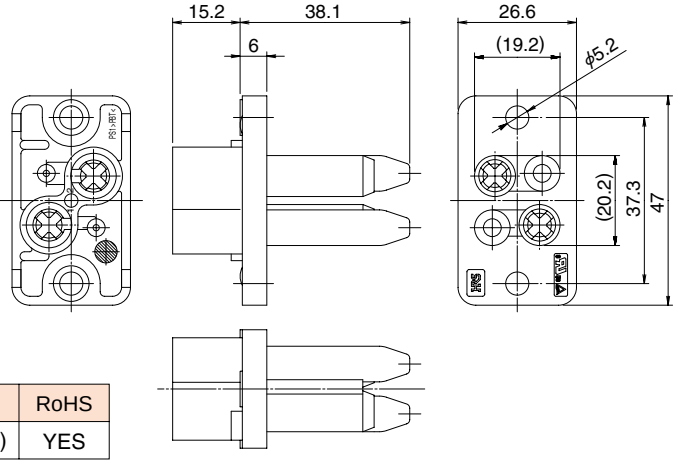


◆Panel cutout Viewed from the front



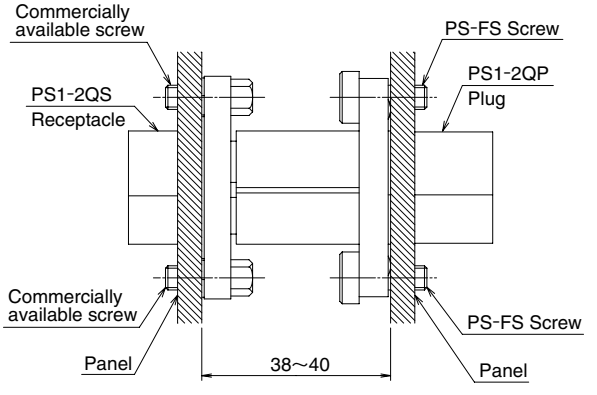
●2 Low current contact



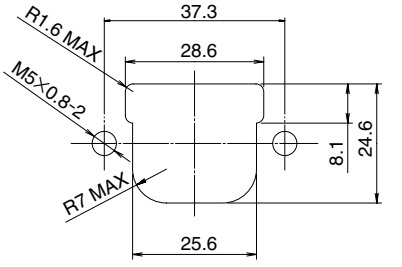


Part number	CL No.	Packaging	RoHS
PS1-2QS	CL236-1021-2	Bag (10 pieces / bag)	YES

◆Shown panel mounted and mated with corresponding part



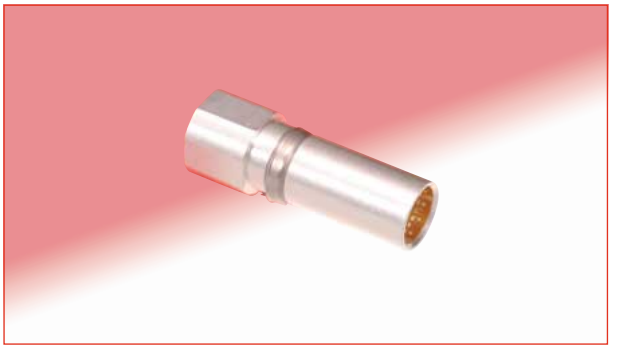
◆Panel cutout Viewed from the front

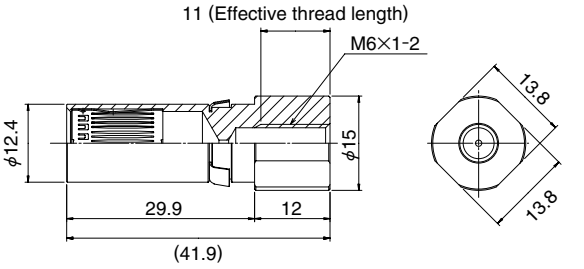


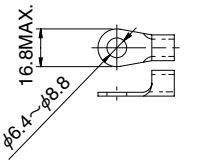
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■Female contacts for Receptacle

●High current





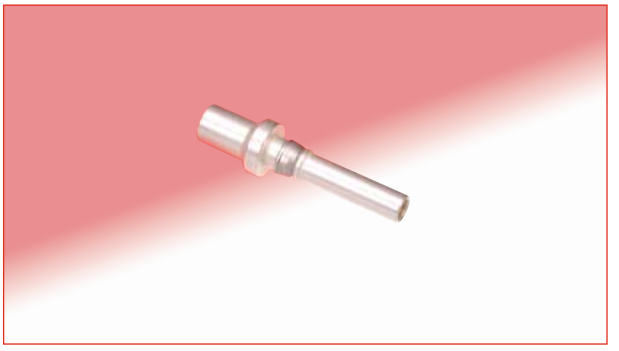


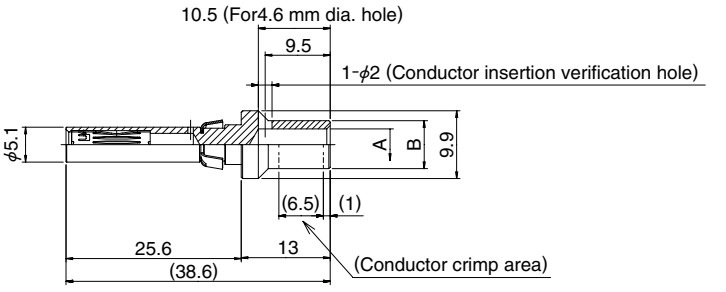
Ring crimp terminal dimensions Fig.1

Part number	CL No.	Packaging	RoHS
PS-SAJ-3U2	CL236-1007-1	Bag (5 pieces / bag)	YES

Note 1: To terminate with recommended wire
(stranded conductor nominal cross section: 42.2 to 60.57 mm—)
use non-insulated barrel ring crimp terminal (as shown in Fig. 1).
Example of the ring crimp terminal: P.N 60-S6, manufactured by J.S.T. MFG. Co., Ltd. Verify the correct current rating of the ring terminal and required crimp dimensions with the terminal manufacturer.
Note 2: The contact is terminated with M6 x1-2 (JIS B 1188) screw (nominal thread length of 12mm) with corresponding size spring washer.
Recommended tightening torque:400 to 490 N·cm. In high vibration environments it is recommended to use thread-locking compounds.
Note 3: The terminal extraction tool (PS-SAJ-3/REMD CL902-2117-5) is available separately.

●Low current





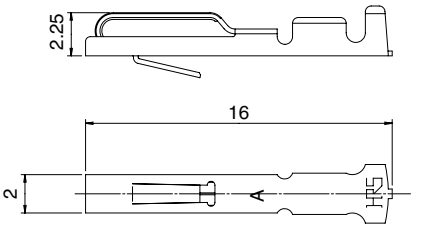
Part number	CL No.	A	B	Conductor cross section (AWG#)	JIS applicable crimp size	Packaging	RoHS
PS-SAC-3Q2	CL236-1008-4	φ4.6	φ7	6.64~10.52mm² (AWG # 8)	8	Bag (10 pieces / bag)	YES
PS-SAC-3N2	CL236-1015-0	φ3.5	φ5.5	2.63~6.64mm² (AWG #10)	5.5		

Note 1: Verify that the conductor remains fully inserted and visible through the 2mm dia. hole after crimping
Note 2: The terminal extraction tool (PS-SAC-3/REMD CL902-2118-8) is available separately.

●Signal

Part number	CL No.	Packaging	RoHS
PS-PAC-1D1	CL236-1009-7	Bag (100 pieces / bag)	YES

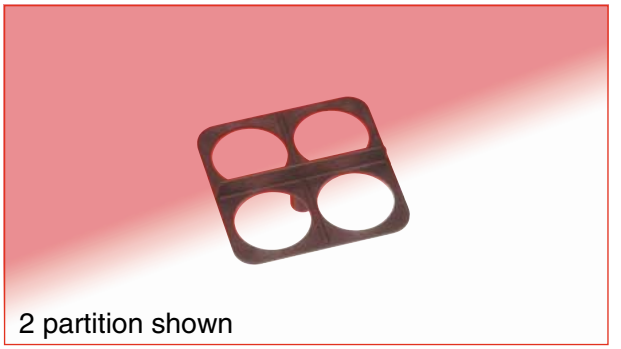
Note 1: Applicable wire AWG #20 to 24.
Note 2: Crimping tool: HT201/PS-PC
Note 3: The terminal extraction tool (PS-P(S)AC-1/REMD CL902-2119-0) is available separately.



The product information in this catalog is for reference only. Please request the Engineering Drawing for the most current and accurate design information.
All non-RoHS products have been discontinued, or will be discontinued soon. Please check the products status on the Hirose website RoHS search at www.hirose-connectors.com, or contact your Hirose sales representative.

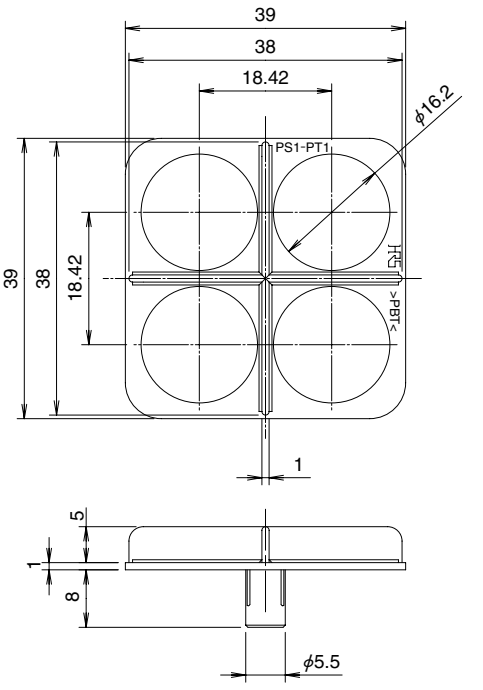
■Components

●Partitions (insulation)



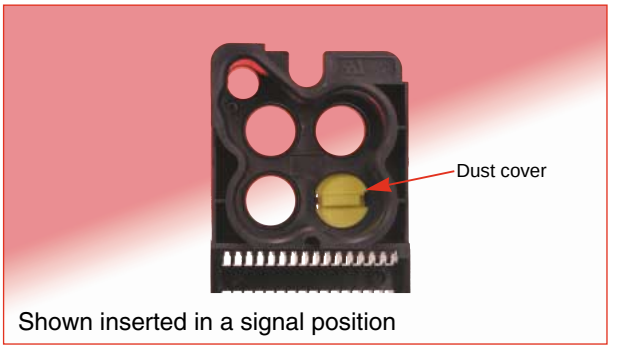
Part number	CL No.	Type	RoHS
PS1-PT1	CL236-1016-2	4-partition	YES
PS1-PT2	CL236-1017-5	2-partition	

Note 1: Used in the 4 contact high current area of the plug or receptacle.
Note 2: Sold in quantities of 10 pieces.



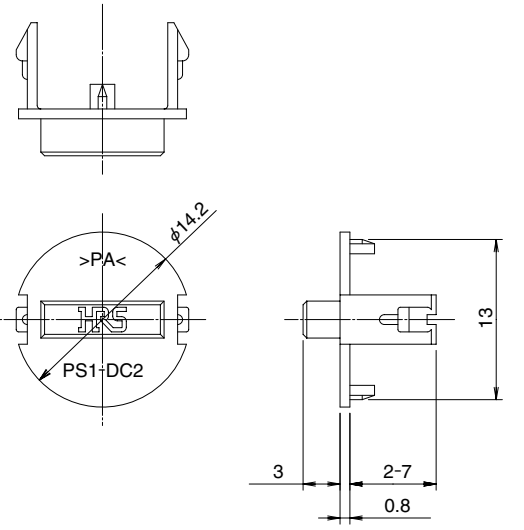
2 partition shown

●Dust cover (Plug, high current)



Part number	CL No.	RoHS
PS1-DC2	CL236-1019-0	YES

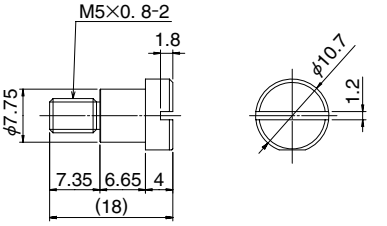
Note 1: Used in the 4 contact high current area of the plug.
Note 2: Sold in quantities of 10 pieces.



●Floating Screw

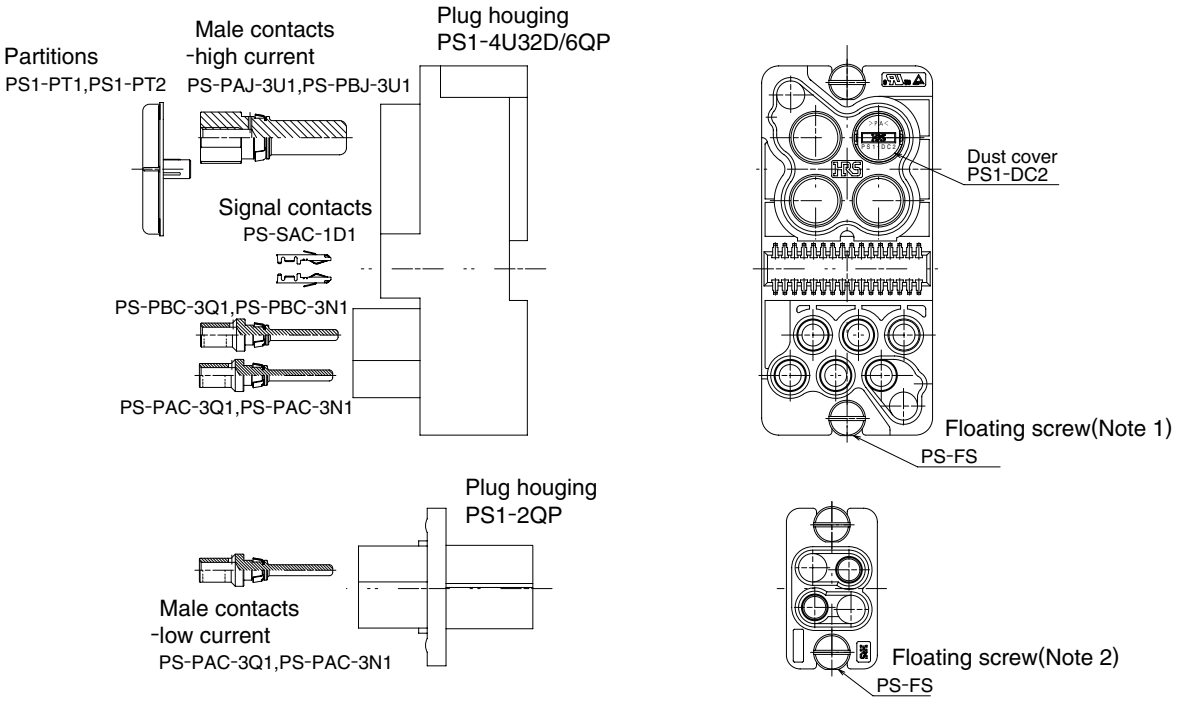
Part number	CL No.	RoHS
PS-FS	CL236-1010-6	YES

Note 1: Used for plugs or receptacles.(Except PS1-2QS)
Note 2: Floating distance ± 0.5 mm.

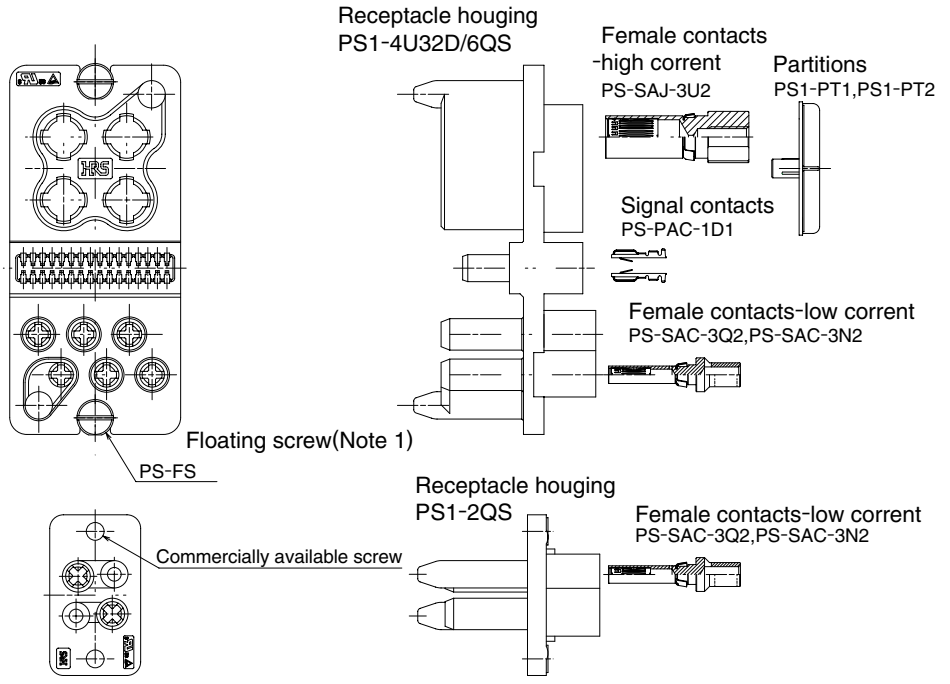


■Houging/Contacts Combinations

●Plugs



●Receptacles



Note 1: Use the floating screw (PS-FS) whem using PS1-4U3U32D/6QP or PS1-4U33D/6QS, or PS1-2QP houging.
Note 2: Use commercially available screw for PS1-2QS housing.