Title of Document:	**HANDLING MANUAL**	Issue No. CHM-1-2612	Rev. 2
Customer:		Issue date: November 30, 2017	
Title subject:	ACH Connector (Halogen-Free Type)	Revision date: April 20, 2020	

This handling manual describes the important and required operation points of the ACH connector.
Be sure to read through this manual before using and follow it strictly.
Keep it at the place where you can check and see it anytime when required.

C O N T E N T S

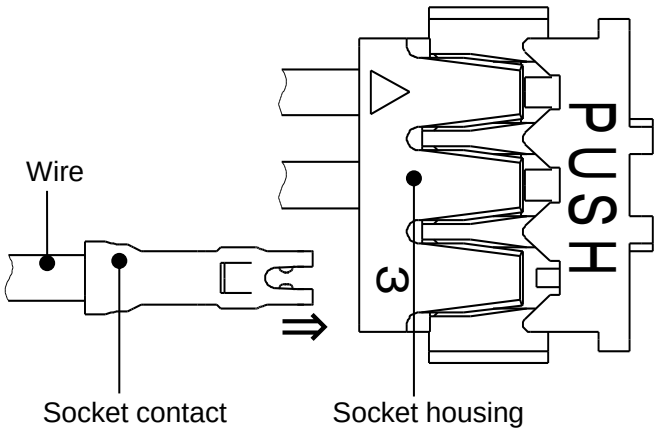
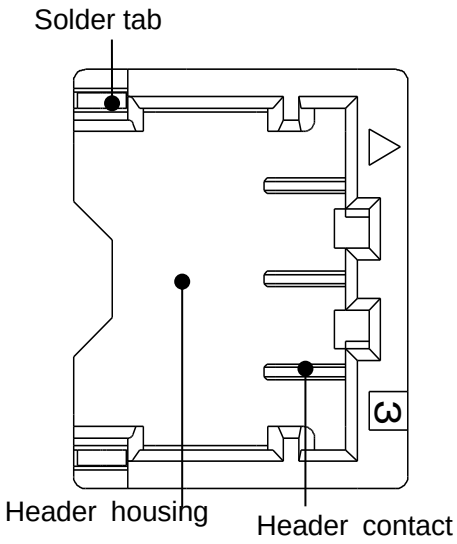
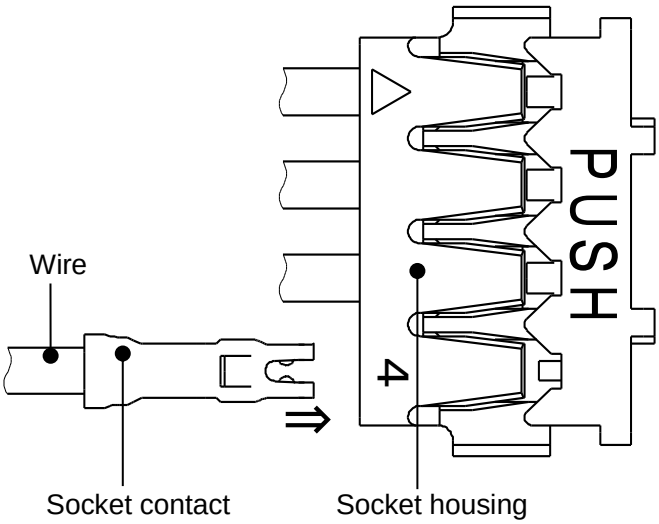
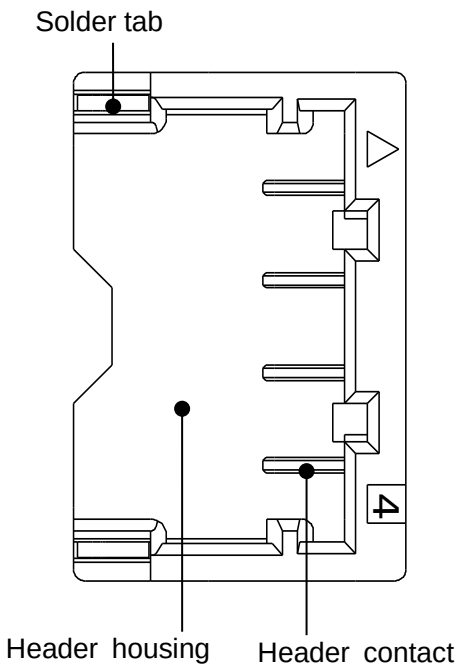
1. Model Number and Part Name

1.1. Model number

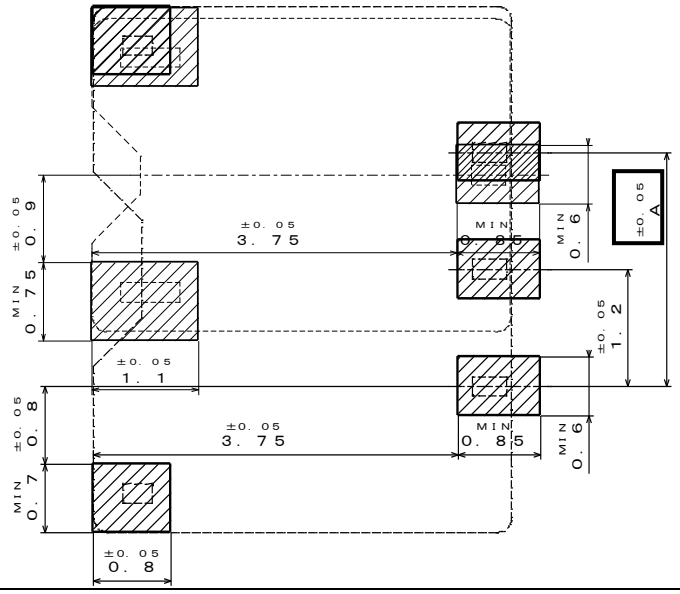
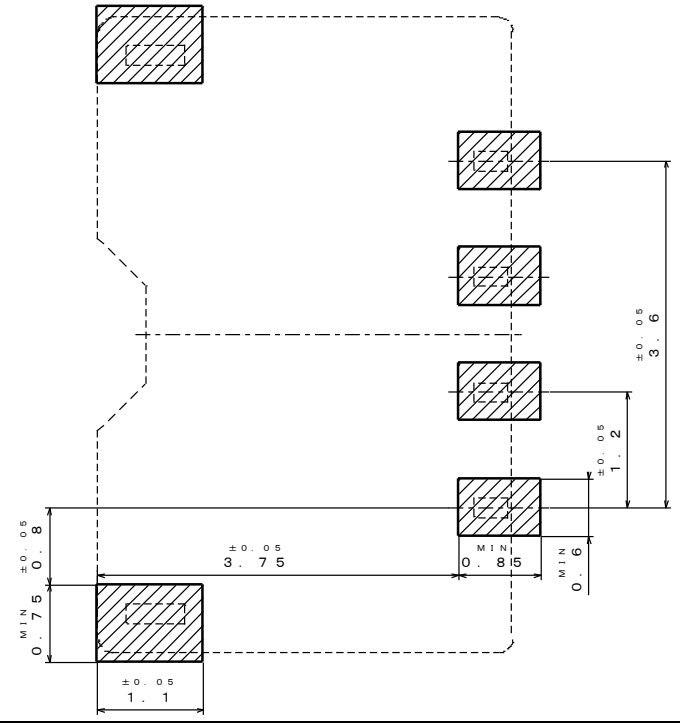
Part name		Type/Circuit No./Wire size		Model No.
Header	Taping product	2 & 3 circuits		BM**B-ACHKS-GAN-ETF(HF)
		4 & 5 circuits		BM**B-ACHKS-A-GAN-ETF(HF)
	Loose piece product	2 & 3 circuits		BM**B-ACHKS-GAN(HF)
		4 & 5 circuits		BM**B-ACHKS-A-GAN(HF)
Socket	Housing	2 & 3 circuits		ACHR**V-K(HF)
		4 circuits		ACHR-04V-A-K(HF)
		5 circuits		ACHR-05V-B-K(HF)
	Contact	Type 003 (Standard type)	#28 ~ #30	SACH-003G-P0.2
		Type 003B (For thin wire)	#30 ~ #32	SACH-003G-P0.2B

Note$_1$: 2-digit figures in " **" denotes the circuit number.
Note$_2$: A letter in "( )" denotes the color.
Note$_3$: The ACH connector is supplied on the embossed-tape (4,500 pcs./reel).

1.2. Part name

Circuit	Socket	Header
2,3		
4,5		

2. PC Board Pattern Layout

Circuit	Layout	Remarks
2,3		Circuits / Dimension-A 2 / 1.2 3 / 2.4 The pattern layout of the solder tab is different from that for the 4 and 5 circuits.
4,5		Circuits / Dimension-B 4 / 3.6 5 / 4.8 The pattern layout of the solder tab is different from that for the 2 and 3 circuits.

3. Storage

3.1. Storing the connectors

Recommended storage condition: Temperature: 5 – 35 ˚C, Relative humidity 60 % or less
(Under packaging like the state of JST shipment)

Keep off direct sunlight, places exposing to such corrosive gas as industrial gas (generate from a stove and whatnot) and ammonia gas (generate from a toilet and whatnot) and dusty place.
Especially, note that the seal ring and the seal rubber plate exposed to direct sunshine brings about deterioration of the rubber and adhesion of dust, affecting the waterproof performance. Also, keep the storage room from condensation.

Note that the resin molding part may break due to transportation and handling, such as processing and mating, under dry or low temperature condition.
After unpacking, return the products in the original package to store.

3.2. Storing the crimped contacts

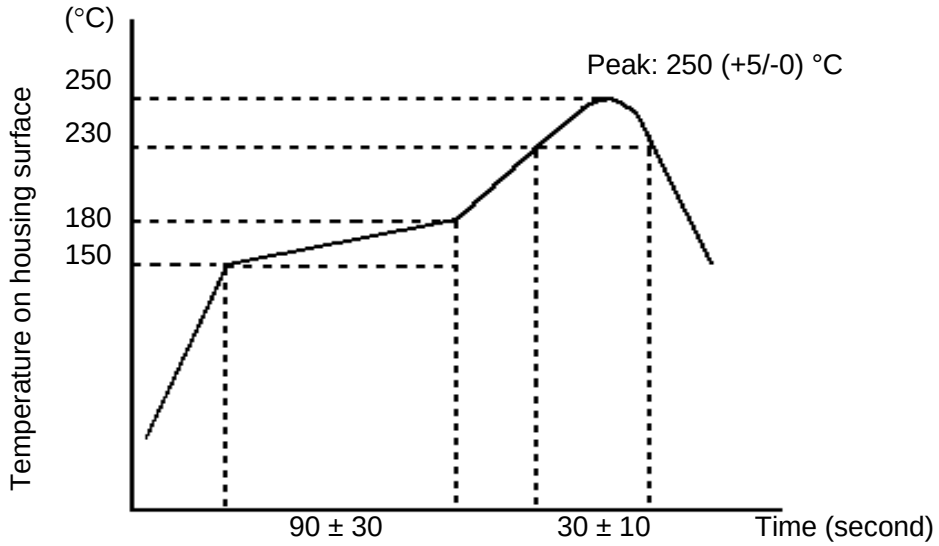
Not leaving the crimped contact to stand in a place exposed to high humidity and direct sunshine, and not placing them directly on the ground. Keep them in a clean storage room.

4. Precautions for Soldering Operation

4.1. Reflow soldering method

We recommend soldering at the lower temperature than the temperature profile shown below.
As the recommended reflow temperature condition varies depending on the materials, such as solder paste, soldering check is necessary before the use.

We recommend using the 0.1 to 0.15mm-thick metal mask which area of the blanking part is same as PC board pad area. In case that the metal mask thickness is more than 0.15 mm, adjust the amount (area) of soldering coat by making the opening area smaller than the PC board pad area.

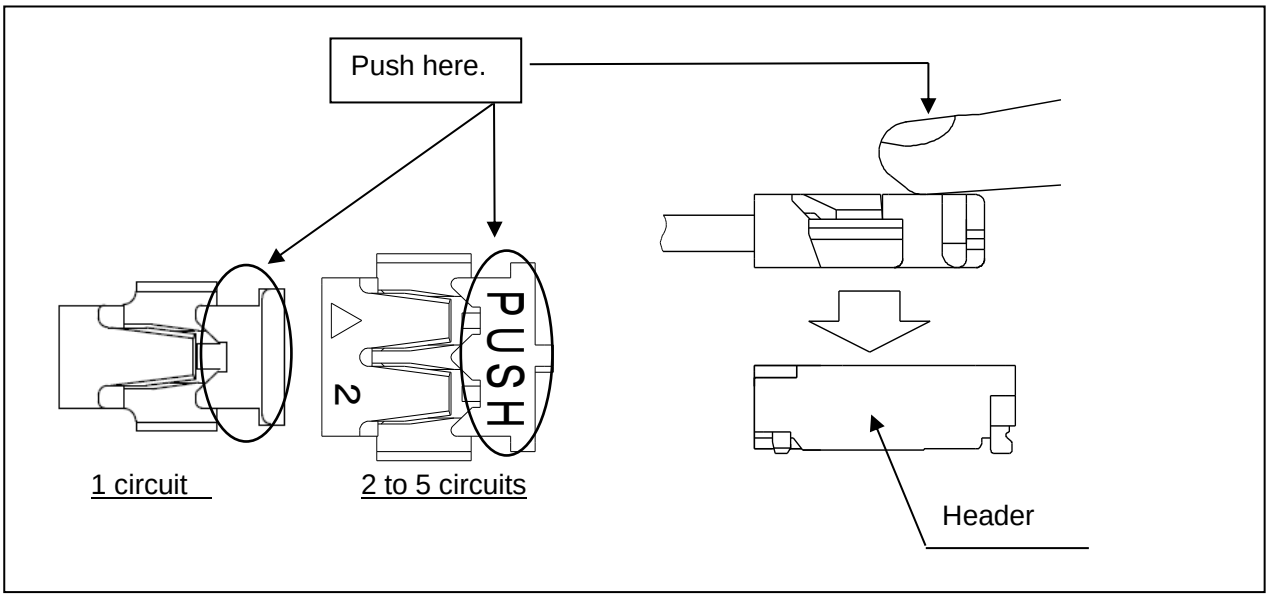


Temperature profile of reflow soldering

5. Handling Precautions

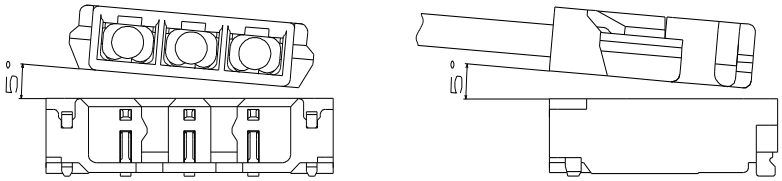
5.1. Mating operation

Mate the socket with the header on the mating axis.
Push the “PUSH” part of the socket housing and check secure mating.

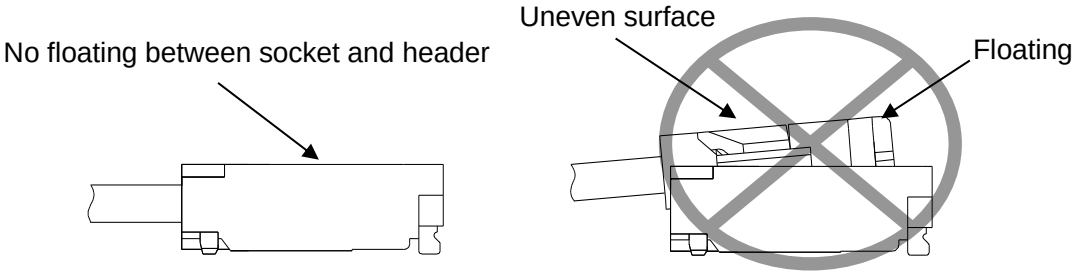


Precautions

① Mate the connector with the counterpart as parallel as possible (MAX. 5°).
Do not mate the connectors by force by pushing one end of the socket or prying wires, because the housing may damage or the contact may be deformed.



② After mating the connectors, check secure mating, referring to the following.
In case of insufficient mating, retry the mating, referring to item 4-2.
(When the socket floats a little from the header due to insufficient mating, push it in without removing.)



5.2. Unmating operation

Hold all wires of all circuits in a bundle and unmate straightly the socket connector on the mating axis.

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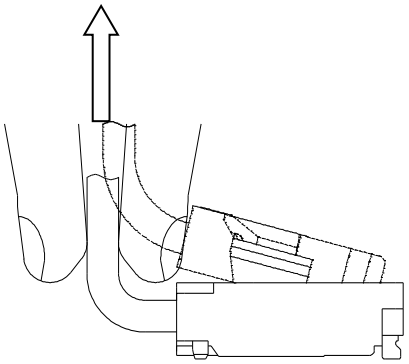
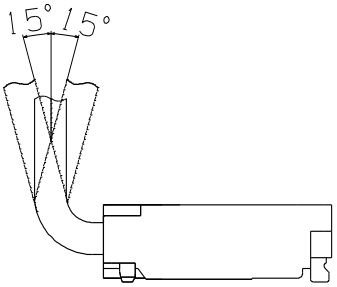
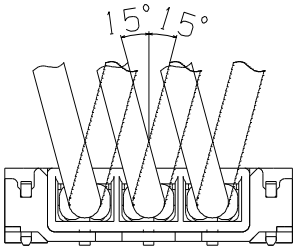


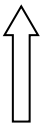
Unmate the connector by holding wires at the angle within 15 degrees to the mating axis.





Precautions

Do not unmate the connectors holding only several wires or on the perpendicular direction to the mating axis because the contact is deformed or the housing cuts and cracks, resulting in troubles.



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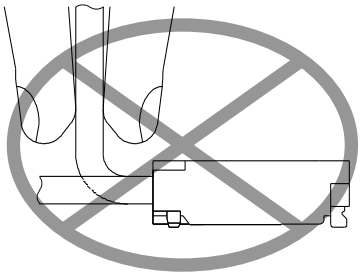

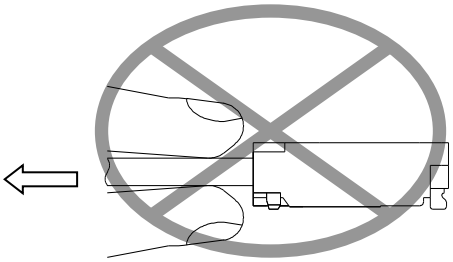

5.3. Handling of wires

Handle the wires with care so as not to apply to the connector a larger load than tension due to bending wires.
Provide a space above the connector and form the wire by bending not to apply tension to the connector as below.