Title of Document:	HANDLING MANUAL	Issue No. CHM-1-2755	Rev. 1
Customer:	GENERAL	Issue date: March 25, 2022	
Title subject:	GX, GXW Connector	Revision date: April 14, 2023	

This manual describes important and required points of handling the GX, GXW connector.
Be sure to read this manual thoroughly before using the connector.

C O N T E N T S

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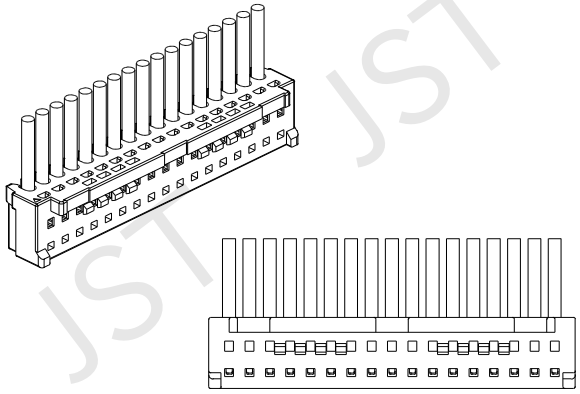
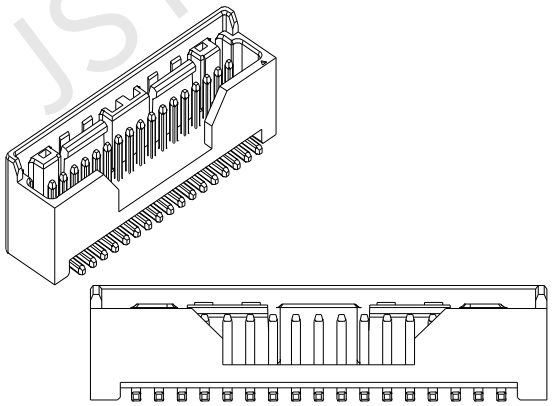
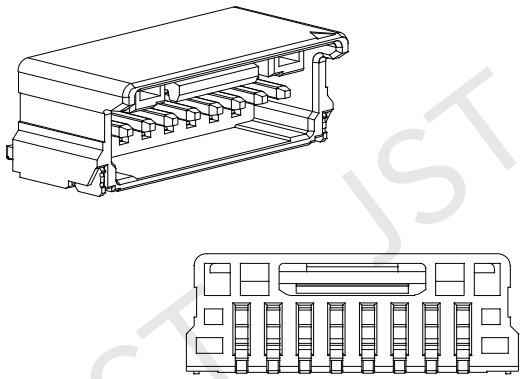
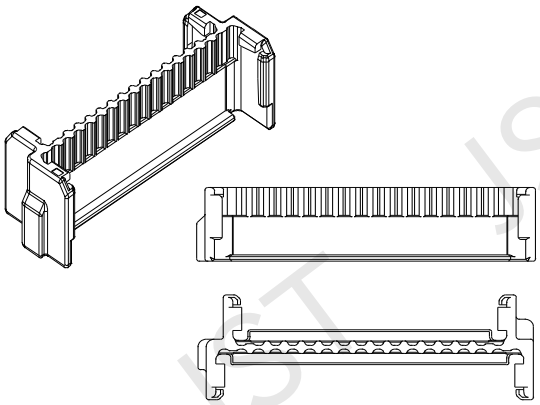
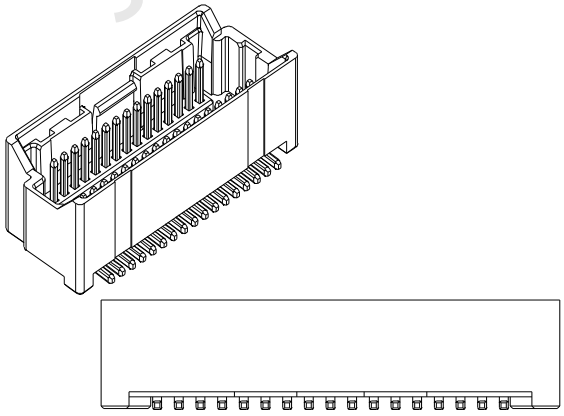
1. Components

GX connector		
	Socket	
		
	Top entry type header (Single)	Side entry type header (Single)
GXW connector		
	Socket holder	Header (Double)

3. Part Name and Model Number

Product name	Part name		Model number
GX connector	Socket		**GX-6S
	Header (Single)	Top entry type	BM**B-GXKS (LF)(SN)
		Side entry type	SM**B-GXKS (LF)(SN)
GXW connector	Socket holder		GXWH-**-(※1)-(※2)
	Header (Double)		BM**B-GXW(※1)S-(※2) (LF)(SN)

Note$_1$: 2-digit figures in asterisks denote the circuit number.
Note$_2$: A letter (※1) denotes the color.
Note$_3$: A letter (※2) denotes the key type.
Note$_4$: The identification symbol, (LF)(SN) denotes the lead-free connector. It is shown on the label.

3. Storage

3-1 Storing the connector

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), dusty place and 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 products in the original package to store.

Recommended storage period: Within 6 months after delivering to you

3-2 Storing the processed products

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. Applicable Wire

4-1 Applicable wire

Applicable wire for GX connector socket (insulation displacement type)

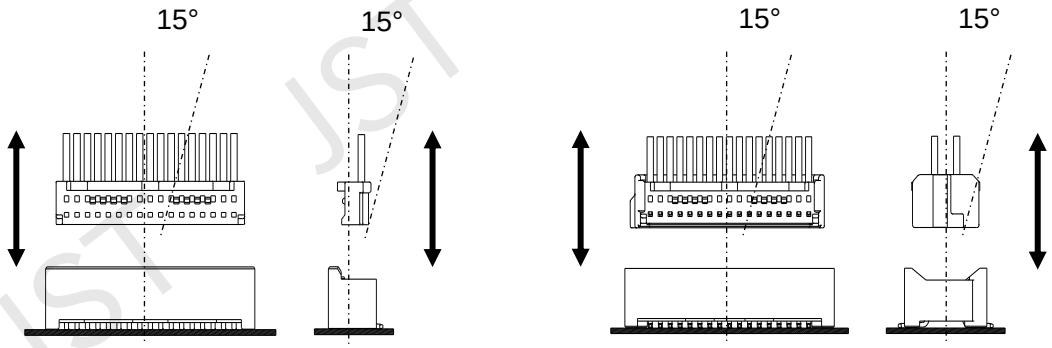
Item	Rating
Conductor size	AWG#26, #28 Annealed stranded copper wire with tin plating
Insulation outer diameter	ϕ0.75 - 0.83mm
Recommended UL style	UL11079, UL10272
Other	Only wires confirmed by JST

5. Handling Precautions

5-1 Mating operation

Do the mating and unmating operation “straight” and “quickly” along the mating axis.

① Do the operation along the mating axis.
When it is difficult to conduct it, tilt the connector at an angle within 15°.

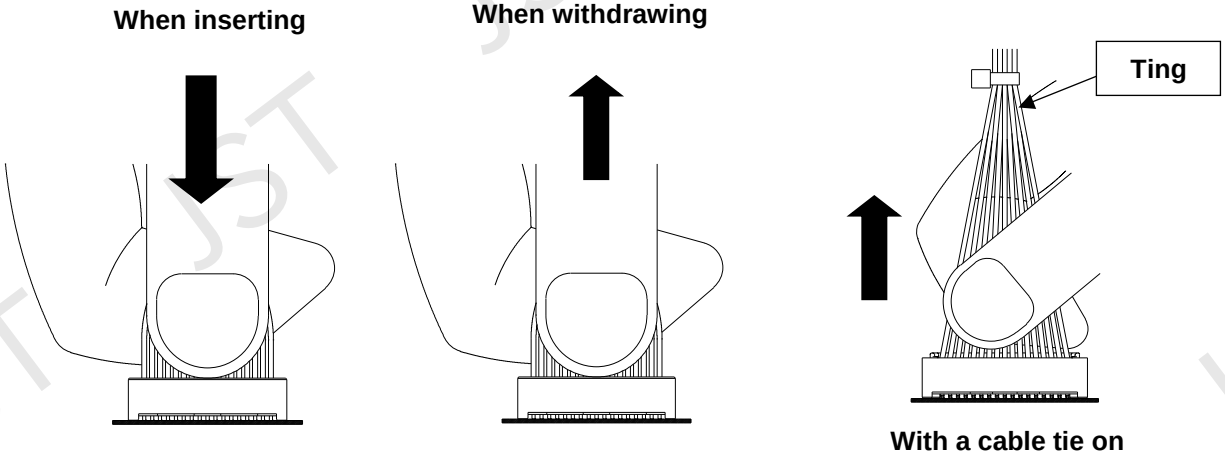


GX connector GXW connector

② Do the operation according to the following procedure.

In inserting
Hold all the wire roots and straight mate the socket into the header along the mating axis while pushing the center of the socket.
Inserting the socket at an angle may lead to breakage on the connector.

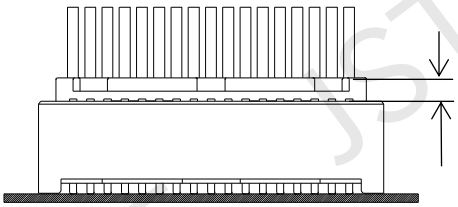
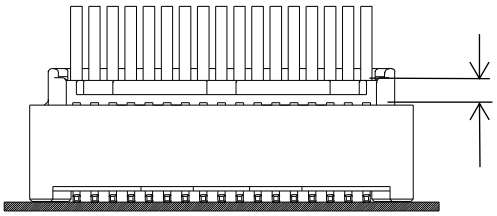
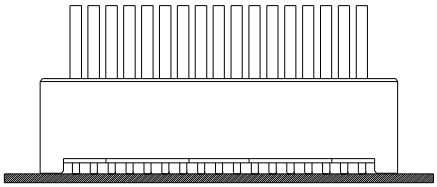
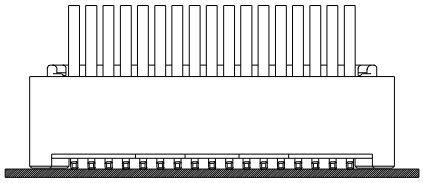
In withdrawing
Hold all wires to apply an even load to them and withdraw the socket straight along the mating axis.
Do not operate only one row (row A or B).
(Note that the mating and unmating operation with applying a load to some wires may cause breakage on the connector.)
When wires (harnesses) are tied with a cable tie and the like, hold a wire at a place between the connector and a tie and unmate the connector.



How to hold wires (harnesses)

5-2 How to judge the mating condition

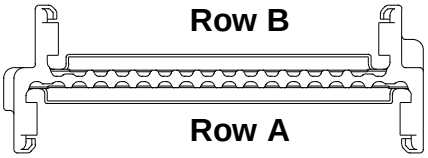
When inserting, you can feel a sense of clicking in locking. Complete the insertion until locking.
(Short mating or diagonal mating of the socket becomes a factor of electrical discontinuity.)
Reference: Socket shall not protrude from the header.)

GX connector	GXW connector	Judgement
		**Short mating** 
There is a space between the socket and the		
		**Perfect mating** 
There shall be no space between the socket and the header.		

5-3 Handling precautions of the harnesses

How to insert the socket and the socket holder of GXW connector

① Distinguishing the circuit row A and B
As shown in photo on the right-handed side, distinguish the long circuit row and the short circuit row as row A and B respectively. In case of the 32-circuit connector, the row A is 17 circuits and the row B is 15 circuits.

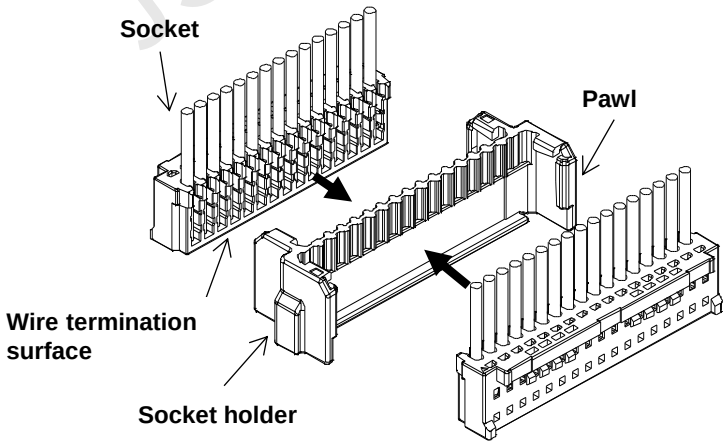


Socket holder

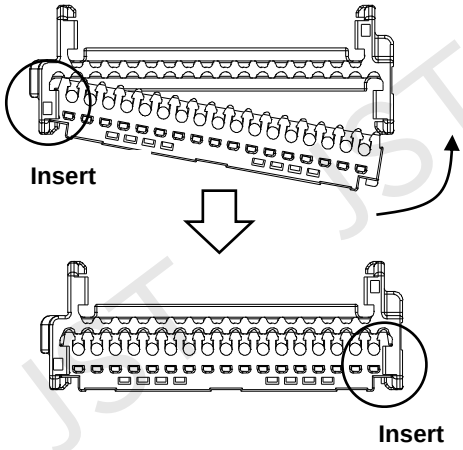
② How to insert the socket
Insert the socket into the socket holder as below.

(a) Turn the wire termination surface toward the inside.

(b) Insert the socket so that it hooks on the pawls of the socket holder every one side. (Inserting the both sides of the socket at one time causes difficulties in positioning, leading to breakage on the connector.)
First, insert row A side, and then row B side.



(a) Inserting direction



(b) How to insert

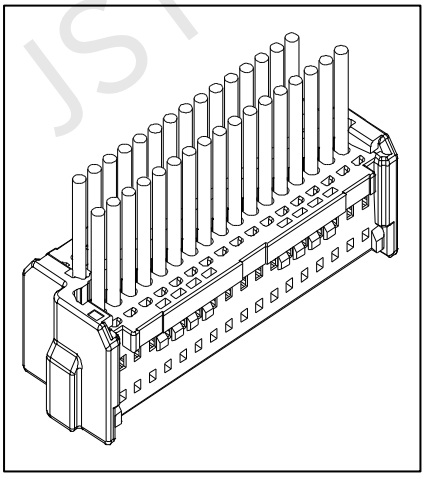
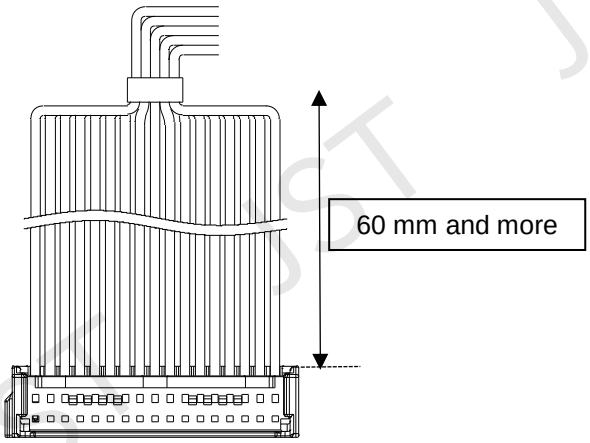


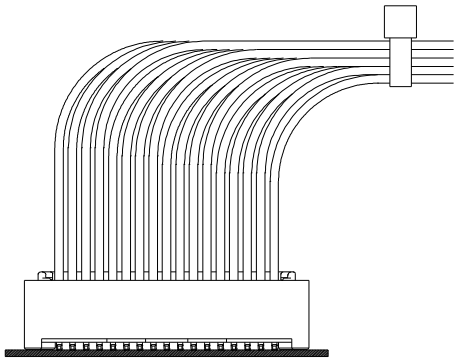
Figure of insertion complete

Reusing the socket holder is not allowed. Use the new holder.
If the pawl of the holder had deformation and breakage by inserting the socket in the incorrect direction and removing the miss-inserted socket, the socket would become easy to come off the holder.
Do not reuse the socket holder but use the new one.

Taping (Ting)
Do not apply an abnormal load to the connector in ting the harnesses.
Provide a space 60 mm and more from the connector so as to hold the harness with your hand.
If impossible, do forming of the harness product in the handling direction before ting.

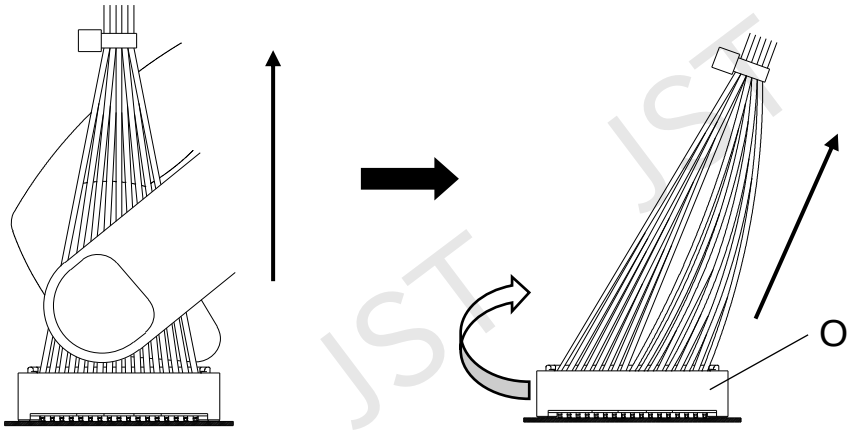


① Ting position



② Ting after forming

Harness handling in ting
When prying withdrawal is conducted with the harnesses tied, rotational moment applies to the connector through "○" of the supporting point as illustrated below, which damages the connector, possibly leading to the breakage.

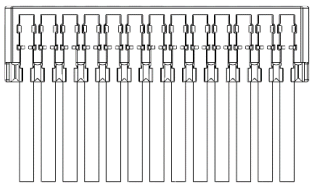


When wire length is not enough to handle, stress becomes easy to apply to wires at the end circuits.
It becomes a factor of prying withdrawal, possibly leading to wire breakage, cracks, and breakage on the header housing and bending on the post pin.

5-4 Termination

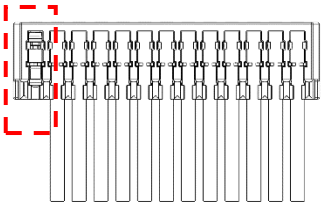
5-4-1 Basic definition

Full termination
It is to terminate wires at all circuits.
In principal, terminate all wires.



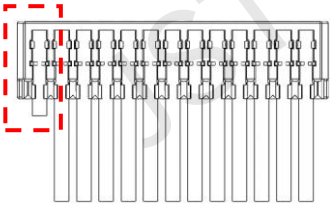
Full termination

N.C termination
It is to terminate with no wires.
We don't guarantee this termination method.
Termination with no wires affects both adjacent circuits, possibly causing falls and breakage of the strain relief, and eventually affecting the connector performance.



N.C. termination

Dummy wire
As we don't guarantee N.C termination, we request to use a dummy wire in the applicable circuit during the termination and to fill the cut wire there after the operation.



Dummy wire

5-4-2 Applicable wire

① Check that wires meet the requirements of the applicable wire (Refer to item 4.)
② Do the applicability test (matching test) to judge the availability.
③ In principal, terminate all wires. Regard passed ones as applicable wires.

5-4-3 Applicability test of N.C. termination

① The applicability test of N.C. termination is possible to conduct under the below condition.
② We report the test and the results, but they are out of our guarantee.
③ As for wire termination under conditions other than the below, we cannot evaluate to judge the availability because it affects the connector performance.

Contact JST if you have unclear and doubtful points.

Accepted evaluation condition:

Circuit No.	Condition	Example of termination
2	N.C termination impossible	—
3 - 9	Only one place allowed for N.C. termination	N.C ○ ○ ○ ○ or ○ ○ N.C ○ ○
11 – 25	・ At end cirucits, one end or both ends allowed or ・ Only one place allowed at center (other than end circuits)	N.C ○ ○ ○ N.C or ○ ○ N.C ○ ○