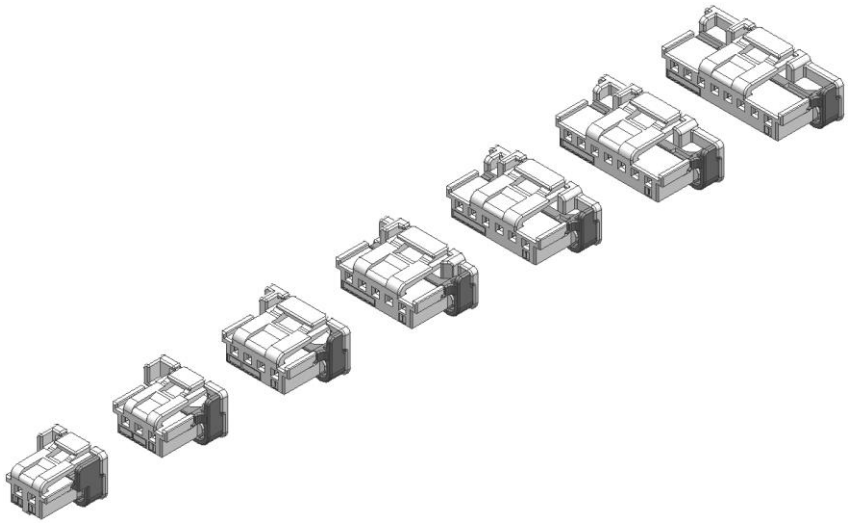
APPLICATION SPECIFICATION

2.0mm PITCH W/B CONN. DURACLIK™ ISL SERIES APPLICATION GUIDE

[PURPOSE AND SUMMARY]

이 지침서는 한국 몰렉스의 2.0mm PITCH W/B CONN. DURACLIK™ ISL (INDEPENDENT SECONDARY LOCK) SERIES의 HEADER ASSY 제품 및 상대물 FEMALE CONNECTOR에 대한 취급 매뉴얼 목적으로 사용한다. (HEADER ASSY (R/A) : 502352 시리즈, HEADER ASSY (S/T) : 560020 시리즈, FEMALE CONNECTOR : 560123 시리즈, ISL RETAINER : 560125 시리즈, FEMALE TERMINAL : 560124 시리즈)

THE PURPOSE OF THIS MANUAL IS TO BE USED FOR USING 2.0mm PITCH W/B CONN. DURACLIK™ ISL (INDEPENDENT SECONDARY LOCK) SERIES, HEADER ASSY PARTS AND COUNTER PARTS OF FEMALE CONNECTOR (HEADER ASSY (R/A) : 502352 SERIES, HEADER ASSY (S/T) : 560020 SERIES, FEMALE CONNECTOR : 560123 SERIES, ISL RETAINER : 560125 SERIES, FEMALE TERMINAL : 560124 SERIES)



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1.0 PRODUCT INTRODUCTON

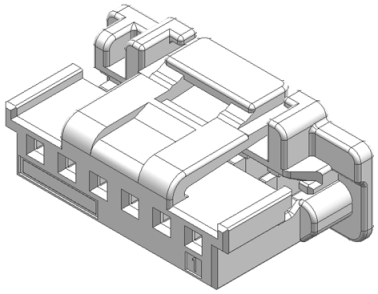
Characteristic and Standard

몰렉스 DuraClik™ 2.00mm (.079") pitch wire-to-board interconnect system은 진동 환경의 기기를 위한 PCB에 대한 고정과 안정적인 접속을 제공하며, 이는 wiper/blinker levers, front/back lights 및 기타 운송 수단의 내부 응용 기기에 이상적으로 적합하다.
자동차용 응용 기기의 Lighting module은 광원의 안정성과 무결성을 유지하기 위하여 더욱 높은 단자의 유지력을 요구하였다. 이에 대하여 Molex's DuraClik™ 2.0mm pitch connectors ISL Series는 ISL (Independent Secondary Lock) Retainer 구조의 단자 고정 장치를 통하여 50N 이상의 단자 유지력을 확보 하였으며, 단자 원재료는 특수 동합금을 적용하여 경쟁되는 제품 보다 뛰어난 성능으로 고객 규격에 적합한 125℃의 고온 환경에 적용이 가능하다.
새로운 Female Housing과 Retainer는 양산 제품인 DuraClik™ headers (502352 R/A, 560020 S/T)에 적용 가능하며, 공간 절약, 접속 안정성 및 체결 보호의 502351 DuraClik™ 규격과 같은 Inner-lock system을 제공한다.
본 제품은 DuraClik™ ISL Female Terminal (560124)를 적용하며 적용 Wire 사양은 AVSS 0.3Sq, FLRY-A 0.35Sq가 적용 가능하며, 기타 제품관련 상세한 사항은 http://www.molex.com 사이트에 방문하여 상세 사양을 확인할 수 있다.
DuraClik™ 2.00mm (.079") pitch wire-to-board interconnect system provide fixation on PCB and stable connectivity for equipment of vibration environment. This is suitable for wiper/blinker levers, front/back lights and other internal applied equipment of transportation etc.
Lighting module of transportation applied equipment is required to have high retention force of terminal for maintaining light source and integrity. As to Molex's DuraClik™ 2.0mm pitch connectors ISL Series, it has more than 50N retention force through ISL (Independent Secondary Lock) Retainer structure. Raw Material is special copper alloy which could be applied in high temperature such as 125℃. New Female Housing and Retainer would be applied to DuraClik™ headers (502352 R/A, 560020 S/T) which already got down to Mass Production. It's space efficiency and reliable connectivity and Inner-lock system such as 502351 DuraClik™. This product is applied to DuraClik™ ISL Female Terminal (560124) and applied wire specification is AVSS 0.3Sq, FLRY-A 0.35Sq. If you want to know about more detail things, please visit http://www.molex.com

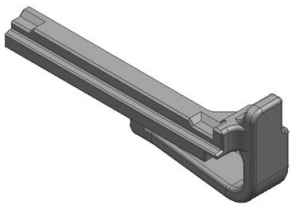
2.0 PRODUCT SUMMARY

Female Connector & TPA (ISL Retainer) : 560123 / 560125 (series)

커넥터는 아래 그림과 같이 Female Housing과 ISL Retainer로 각각 최종 공급한다.
ISL Retainer는 고객사에 공급되어 모든 적용 단자들이 체결된 Female Housing에 체결해야 한다.
Female Housing and ISL Retainer would be applied as below. ISL Retainer would be supplied to customer and they need to mate it with Female Housing applied all terminals.



Female Connector
560123 series

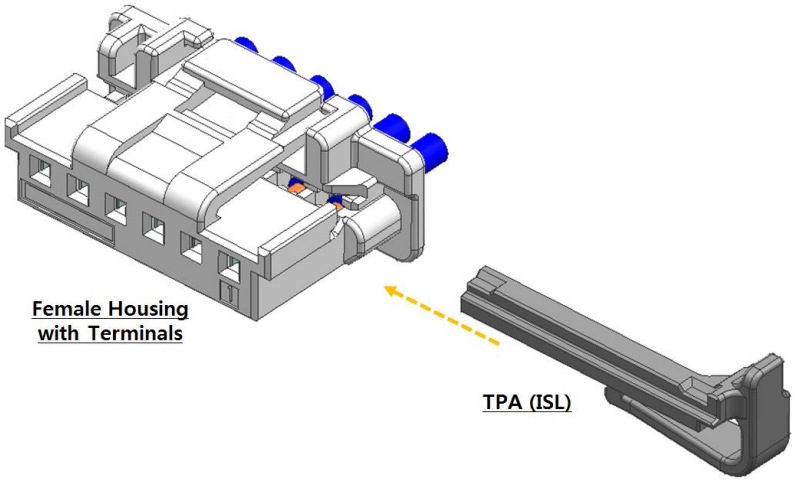


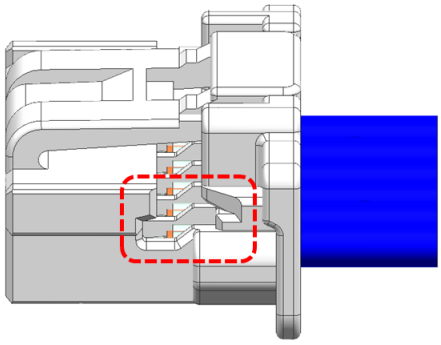
ISL Retainer
560125 series

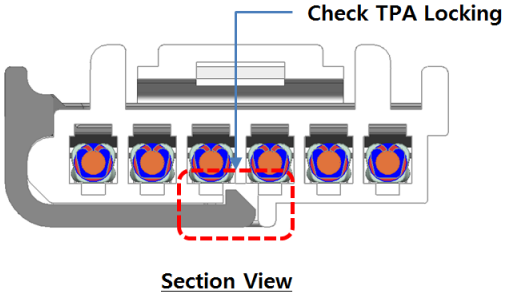
※ Please refer to sales drawing (SD 560123/560125 -***) for product form and its dimensions.
※ Please do not use Female connector only without ISL Retainer.

TPA Connector Housing 체결방법

TPA의 HSG 체결방법은 아래 그림과 같다. 적용 단자가 모두 조립된 Female HSG에 TPA의 삽입 방향을 확인 후 하단 Locking부에서 "딸깍" 소리가 날 때까지 삽입한다.
Assembly method between TPA and HSG is as below. After you check out insertion direction of TPA on Female HSG applied terminal, you insert it until you hear 'clack' on the bottom side of locking area.

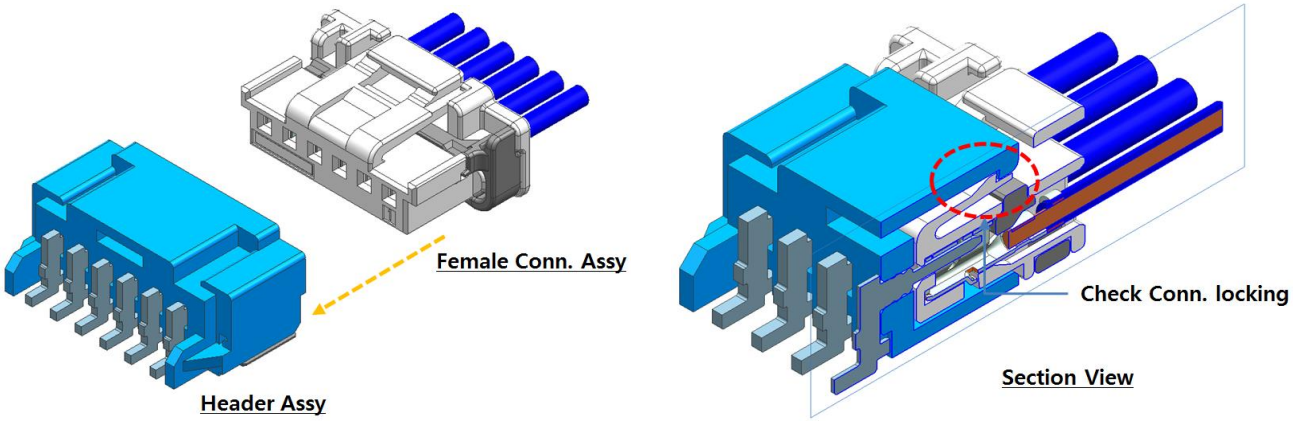






How to assemble Header Assembly & Female Connector

Header Assembly 제품에 Female Connector를 체결할 때, 제품의 Key-Coding 형상에 주의하며 Female Connector의 Locking부의 "딸깍" 소리가 날 때까지 삽입하여 체결을 한다.
작업자 작업 실수를 방지하고자 Fool-Proof 형상을 적용하여 입구부터 결합이 되지 않도록 하였으나, 작업 도중 고의의 과도한 힘으로 강제 삽입 시 제품이 파손 및 변형될 수 있으니 주의한다.
When mating Header Assembly with Female Connector, Need to be cautious about Key-coding form and insert it until you hear 'clack' on the locking area of Female Connector. We applied Fool-proof method from the entrance so as to prevent operator mistake. However, please aware that it could be broken or deformed if operator insert it by force.

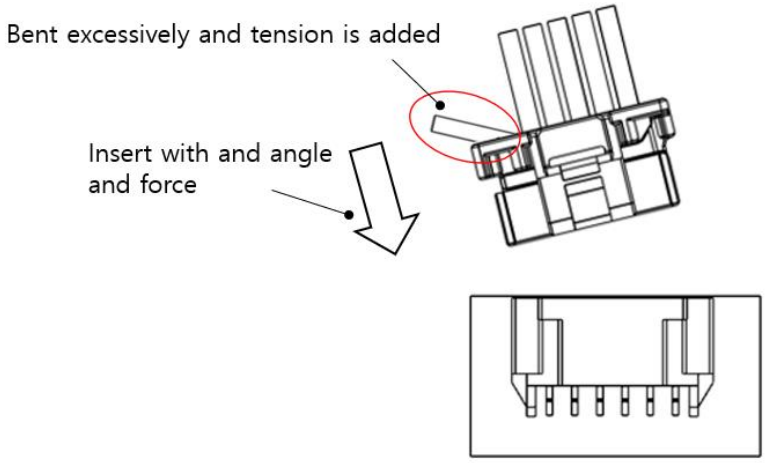


RECOMMENDED MATING METHOD

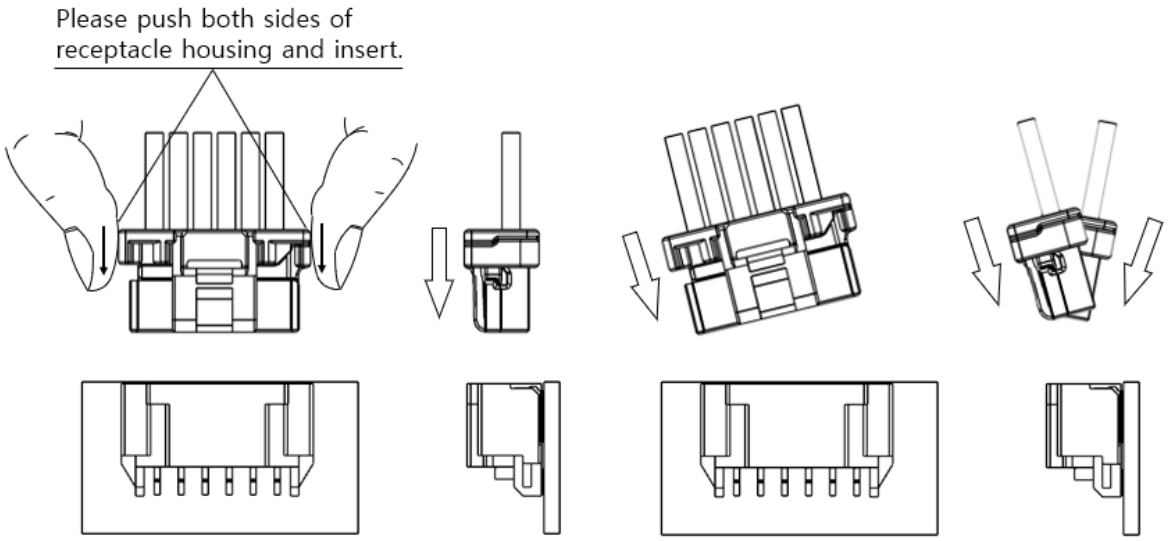
① Please check the wire routing on edge of receptacle housing (harness side). Tilted terminal in housing cavity by wire bending affect damage on Header pin and terminal during insertion connectors with angle.

② Please set mating direction of receptacle housing (harness side) and plug housing (header side), and push both sides of receptacle housing to pitch direction (as shown with arrows) until both connectors meet each other (complete mating position).

③ After mating, please confirm that the lock has fastened completely.



✕ The case of pin damaged insertion



O Insert straight

X Insert with an angle

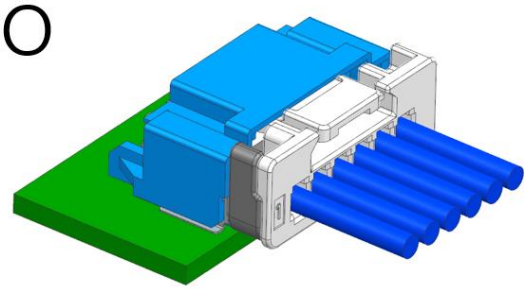
<Instruction>

※When mating, please do not push positive lock of receptacle housing. It prevents the lock part of correct movement, and it might damage by being applied excessive load or might leave half-mating.

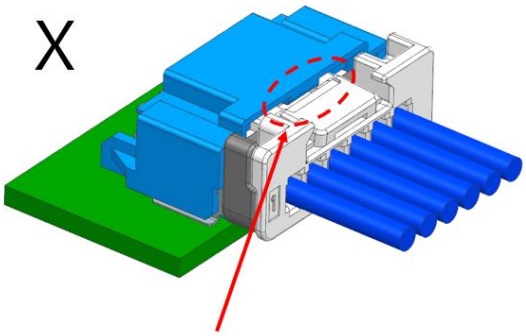
※Please push receptacle housing and insert it straightly until they touch each other. If you cannot insert smoothly, please insert again after confirming if there is no transformation of terminal and receptacle housing etc.

※After insertion, please confirm not to come off connectors with pulling all wires lightly (about 2 ~ 3 N). When pulling wires, you should care not to apply the force to particular wire. Additionally, please confirm visually that the lock release position of receptacle housing returns to original position. If not, it might be incompletion mating. Please withdraw the connector according to recommended withdrawal method, and check the terminals that have transformation.

O



X



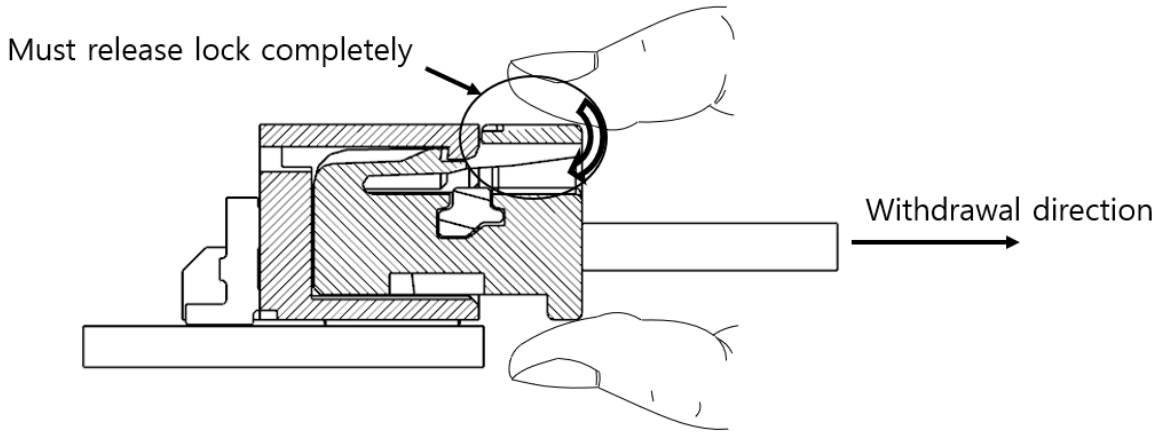
The lock release position of receptacle housing returns to original position

Confirmation of mating

RECOMMENDED WITHDRAWAL METHOD

Please hold wires all together lightly. After releasing lock completely by attaching fingers to the lock and pushing bar for releasing lock using flat part of finger, please withdraw receptacle

housing slowly, axially and straightly. Please avoid withdrawing them with an angle and roughly. That might cause damage to connector.



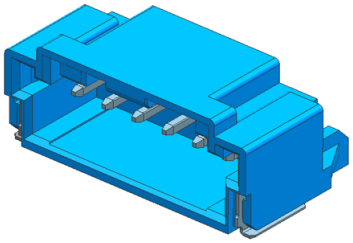
<Instruction>

※Please do not withdraw with holding only a few particular wires. As excessive force is applied to particular terminals, the connector might be damaged or a terminal might come off.

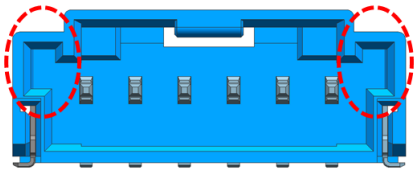
※When withdrawing, please release the lock completely. This product has the structure of connector coming off prevention that depends on positive lock. If you pull off it by force, without the lock releases incompletely, the connector might damage.

-. 커넥터 KEY-CODE 형상 : HEADER 및 FEMALE 하우징 별 KEY-CODE 형상 및 위치로 구분되어 해당되는 상대 제품에 체결 됨. (아래그림 참조)

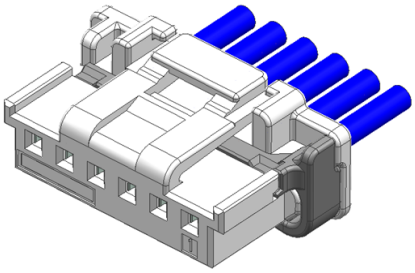
-. Connector Key-code form : Header and female housing are separated by Key-code form and location. those are applied to mating parts. (please refer to below picture.)



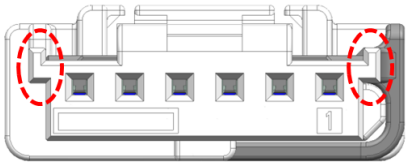
DuraClik 6P Header Assy



Front View & Key-Code

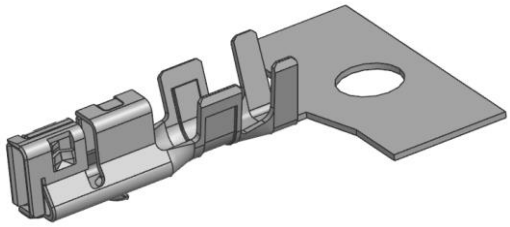


DuraClik ISL 6F Connector Assy



Front View & Key-Code

Receptacle Crimp Terminal : 560124 (series)



※ Please refer to sales drawing (SD 560124 -***) for product form and its dimensions.

—APPLICABLE WIRE AND APPLICABLE CRIMP DIE MODEL—

Part Number	Crimp Specification	Conductor spec.
560124-****	CS-560124-***	Tinned copper wire
Applicable crimp die model No.		638084400 638084410
Applicable crimping hand tool No.		638277800

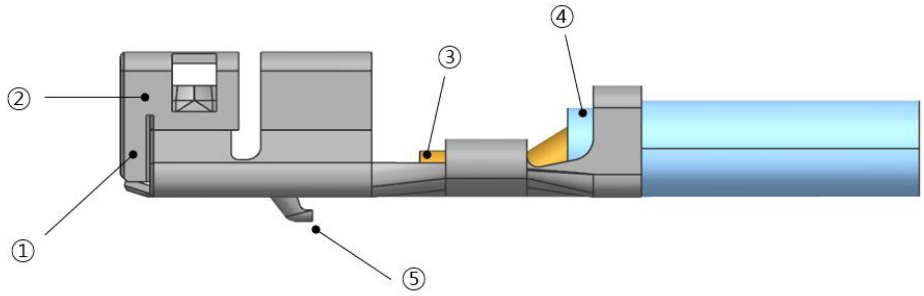
THE APPEARANCE BEFORE CRIMPING

A. When using the loose terminals products before crimping, please make sure that there is no deformation of the crimp Terminal. If you find that the terminals are tangled, please do not remove them forcibly.

B. Please refer to sales drawing (SD-560124-***) for product form and its dimensions.

THE APPEARANCE AFTER CRIMPING

A. Confirmation items and crimping failure after crimping are shown as follows. Please refer to CS560124-*** for specified crimp height, pull testing, and applicable wire specifications.



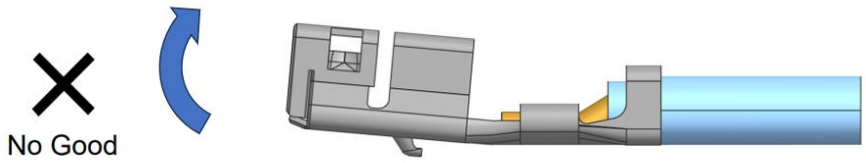
① No visible damage on terminal.
② No visible damage or deformation on spring contact area.
③ All wire strands are in conductor barrel.
④ The insulator part of the electric wire is located in the intermediate position of wire barrel and insulation barrel.
⑤ No damage on terminal lance.
⑥ No damage on appearance. (Dirt / foreign objects)

CRIMPING FAILURE

A. Please be careful of the crimping failure as shown below. It may affect the insertion to housing and affect a product function.
B. The crimping failure affect to make skiving burr of housing terminal cavity wall during terminal insertion.

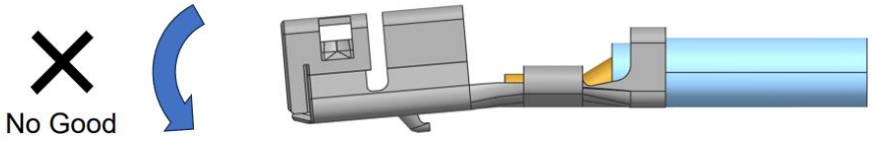
① Bend up

It may deteriorate insertion to housing and terminal retention force or cause contact failure. And it may occur skiving burr of housing terminal cavity wall.



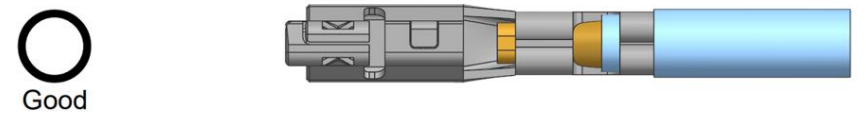
② Bend down

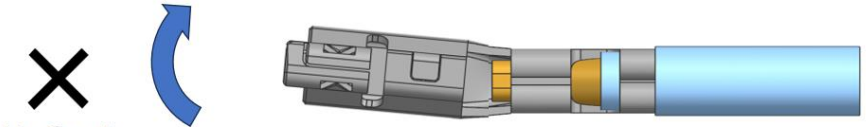
It may deteriorate insertion to housing and terminal retention force or cause contact failure. And it may occur skiving burr of housing terminal cavity wall.

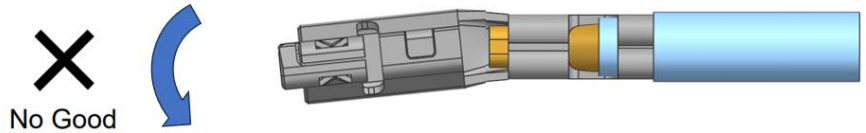


③ Twist

It may deteriorate insertion to housing and terminal retention force or cause contact failure. And it may occur skiving burr of housing terminal cavity wall.

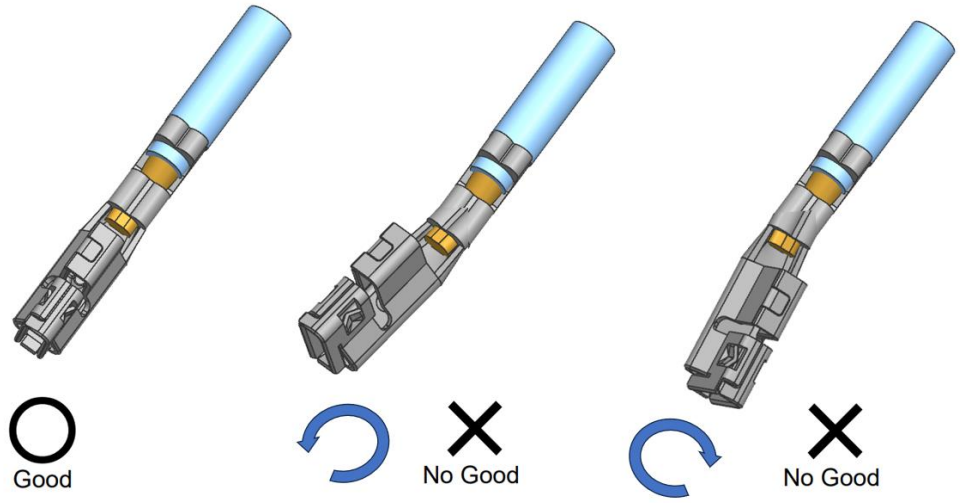






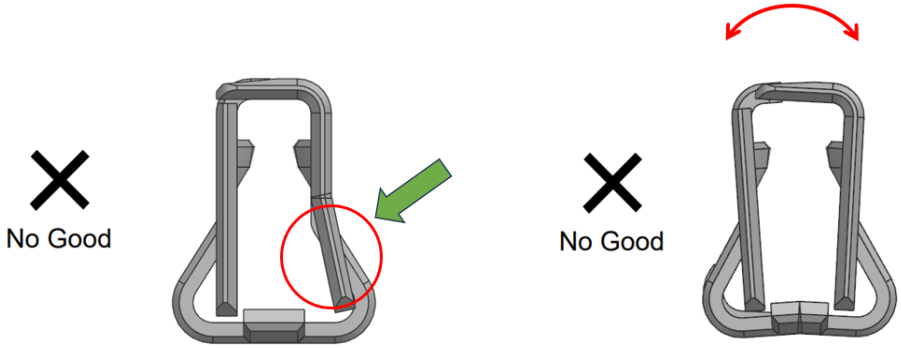
④ Rolling

It may deteriorate insertion to housing and terminal retention force or cause contact failure. And it may occur skiving burr of housing terminal cavity wall.



⑤ Crush and deformation of contact area and contact box

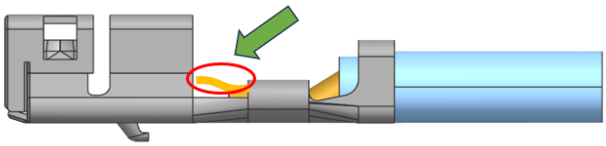
It may deteriorate insertion to housing and terminal retention force or cause contact failure. And it may occur skiving burr of housing terminal cavity wall.



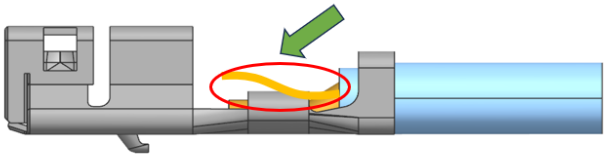
⑥ Wire strands are not inside the conductor barrel

It may deteriorate insertion to housing and terminal retention force or cause contact failure. And it may occur skiving burr of housing terminal cavity wall.

No Good



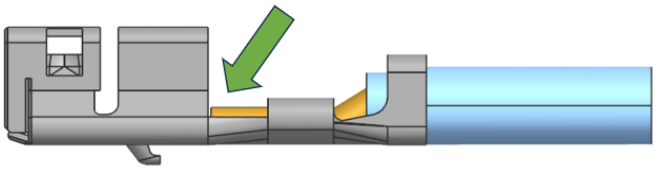
No Good



⑦ Crimping position : Too front

It may cause breaking of wire, deterioration of wire crimping strength and disconnection by crimping insulator.

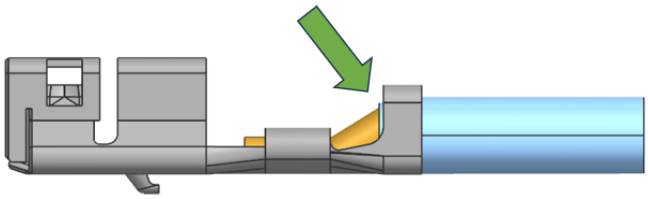
No Good



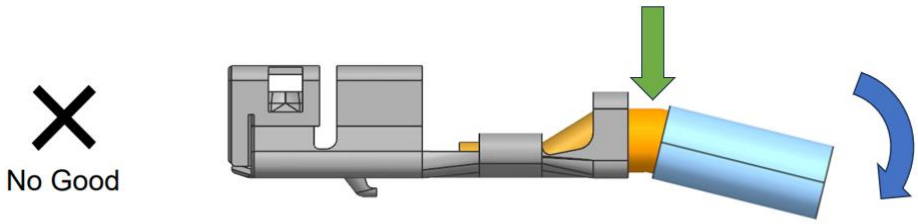
⑧ Crimping position : Too back

It may cause breaking of wire, deterioration of wire crimping strength and disconnection by crimping insulator.

No Good

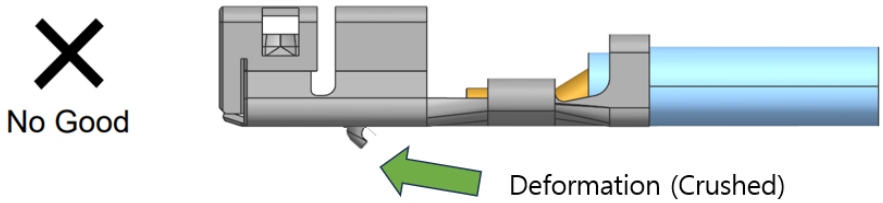


As wire Insulation is not crimped completely, wire insulation falls off easily when wire is pulled.



⑨ Deformation of terminal lance

Locking of the terminal becomes insufficient and causes lowering of the terminal retention force.



PRODUCT EXTERIOR

A. There is no influence on the product performance though the black spots or bubbles etc. might be confirmed on the plastic part of this product and the color might be different (discoloration by secular distortion etc.).
B. Slide marks may sometimes appear in plating part of the product, but there is no impact on the function of this product.
C. Resin and terminal plating may have some changes in color after reflow but there is no negative impact on the function of this product.
D. Connectors may be damaged by applying force in the machines. Please confirm before use.

APPLICABLE WIRE AND CRIMP TOOLING

A. Guarantee is void when product is used with wire out of application range specified in the product specifications.
B. Guarantee is void when product is used with tooling not specified by Molex.

C. The recommended electric wire is tin plating. Please confirm separately about the use of other electric wires.

ABOUT SAFEKEEPING BEFORE HARNESS PROCESS AND THE SURFACE MOUNT PROCESS

A. Please keep the products with the delivery being in a state. Also, please keep it under normal temperature and humidity avoiding direct sunlight.
B. Please do not allow external force from being applied during the storage.
C. During handling, avoid shock or dropping products as it may cause damage.
D. First-in, first-out of the stock is recommended.
E. Keep product in original packaging before using.
F. This product should be inspected its appearance and solder performance before using after expiration date.

HARNESS PROCESS AND SURFACE MOUNT PROCESS INSTRUCTION

A. Please confirm if the products and crimp machine, crimp condition, an applicable wire are equal to product drawing, crimp specifications before use.
B. Beware of unintended damage caused by dust, debris, or foreign objects before using this product. It may result in un-satisfaction of the insertion performance to the housing and electric performance.
C. Please do not touch the terminal by bare hand.
D. When a terminal is twisted or tangled before or after crimping, please do not pull it by force. The terminal may become damaged.
E. Do not apply force to the product during work in process or in finishing goods. Product may be damaged and may not function properly as a connector.
F. Please do not expose a product and a harness half-finished goods to the following condition.
   - Dust
   - Corrosive material
   - Corrosive gas
   - High temperature and high humidity

・Direct sunlight

The above-mentioned conditions may cause poor contact and the corrosion of the terminal and the insulation performance deterioration of the housing. Please keep in boxes.

G. Please do not add loads to connector and harness half-finished goods during production, packaging, transportation, or storage. It may cause damage and result in poor performance.

H. When pulling the electric wire of harness half-finished goods, contact defect may be caused by adding load to contacts, crimp parts and lock parts. When performing the guidance wiring of the electric wire, do not apply excessive forces that the connector can't withstand.

I. Do not damage receptacle crimp housing and a crimp terminal intentionally. Product performance can be affected by this condition.

J. Please use the product within the day the package is opened. Moisture absorption or drying may cause the deterioration of materials by neighboring atmospheres. When you cannot use it up, please seal the bag again and keep it in a box.

K. Please be careful not to be injured by the edges part such as metal parts when handling a connector.

L. To avoid injury, please be careful when handling the paper between terminals and metal carrier on reels.

M. Our evaluation is with the use of standard rigid PCB. When the product is used on flexible printed circuits (FPC) please evaluate in advance.

N. Please solder all the terminal departments and the nail part. Non-soldered part may cause defect.

O. In the case of changing our recommended board pattern size or design, please consult us in advance because such changes may cause defects.

P. Please do not apply to load the connector. For example, carrying the PCB when connector is mated may cause damage.

Q. Please do not stack PCB after connector has soldered to PCB.

R. Please follow the conditions of specifications, when the connecting connector with a soldering iron. For conditions exceeding specifications, the connector may be damaged.

S. When using a solder iron, please do not use excessive solder and flux. It may cause poor contact performance by solder wicking and flux wicking.

T. There may be changes in color of the resin part and twisting in the terminal plating parts depending on the flow conditions, but it does not degrade product performance.

U. Do not coil electric wires around the housing or the gap of the housing lock during harness processing and packaging of harness product. In addition, please do not pull an electric wire by force when an electric wire has coiled itself around the housing and the gap of the housing lock. If wire becomes tangled, it may cause terminal damage. Please do not apply load to housing lock when removing wires.

ABOUT USE IN THE MACHINERY

A. Vibration of an electric wire or printed circuit board due to machinery vibration or rotation must be avoided to prevent damage to connector at contact area. Contact failure due to abrasion may be caused. Therefore, please fix electric wires and printed circuit boards in the machinery and take measures to hold resonances.

B. Do not fix printed circuit boards only by using connectors. They must be fixed or supported by other means.

C. Please do not touch terminals and fitting nails before and after mounting on the circuit board.

D. Please insert and withdraw connector along fixed axis. The diagonal insertion and withdrawal cause damage to the connector.

E. After mating, do not intentionally apply force to span or rotate a connector. Such force may cause damage to connector or solder cracking.

F. If an electric wire is pulled after mating a connector, it may damage contact or crimping areas or the lock area and result in contact failure. When performing the guidance wiring of the electric wire. Please keep the wire loose to avoid applying excessive force to connector.

G. When withdrawing the connector, please hold wire lightly and remove the lock securely using the entire finger.

H. Plastic lances may be damaged after removing crimp terminals. Therefore, please use a new crimp housing when repairing a connector.

ABOUT RATING / PERFORMANCE STANDARD

A. Please use the product within the rating / the standard of product specifications (PS-560123-*/PS-560124-*)
B. This product is not designed for usage in "hot-swap" applications where power is on.
C. Please confirm that machinery design standards are satisfied before using the connector.
D. In order to avoid short circuits, please do not allow connectors to contact with metal objects.
E. Please avoid using current higher than the rated current.

USE OF THE PRODUCT

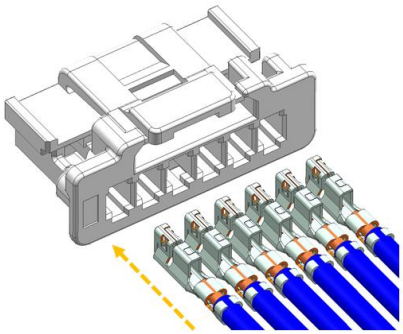
A. This product is not designed and produced for the machine to be used under the condition involving human lives or for the use of system. If you use this product for special use such as medical, aerospace and nuclear power etc., please confirm us before using.
B. Please avoid using the product outdoors or under similar environment.

3.0 SERVICE INSTRUCTION

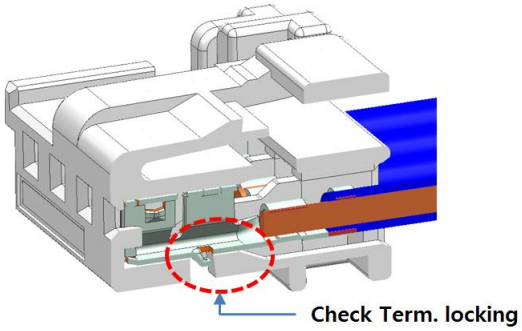
HOW TO MATE TERMINAL

아래의 그림과 같이 커넥터 후방에서 단자의 체결을 시작한다. 단자 삽입 시 오조립 방지를 위한 방향성을 가지고 있으므로 주의하고, 해당 단자를 하우징 끝 단까지 밀어 넣어 "딸깍" 소리가 들릴 때까지 삽입하여야 한다. 단자 체결 후 삽입 반대 방향으로 Wire를 조심히 당겨 단자가 Lance에 체결 되었는지 확인한 후 단자 체결을 완료한다.

Terminal would be mated from the back side of connector as below. When inserting terminal, there's directivity to prevent mis-assembly. Insert terminal to the end of housing until you hear 'clack'. Pull out wire in the opposite direction of insertion after mating terminal so as to check whether terminal has been mated with Lance or not.



Insert Female Terminal into Housing



Push crimped Terminal until "Click" Locking Sound

① Hold receptacle housing by pinching right and left side. Hold the cable at about 10mm away from the crimp-end with fingers lightly.

<Instruction>

※If you hold the wire at a position distant from terminal, wires will be easily bent and it may be difficult to insert.

※Distance value depends on wire gauge, UL, etc. Please confirm with the wire that you chose before using.

② Hold the terminal lance part toward center of receptacle housing and insert terminal slowly and straightly till the tip of terminal touches housing (with force of around 1.5 ~ 4N).

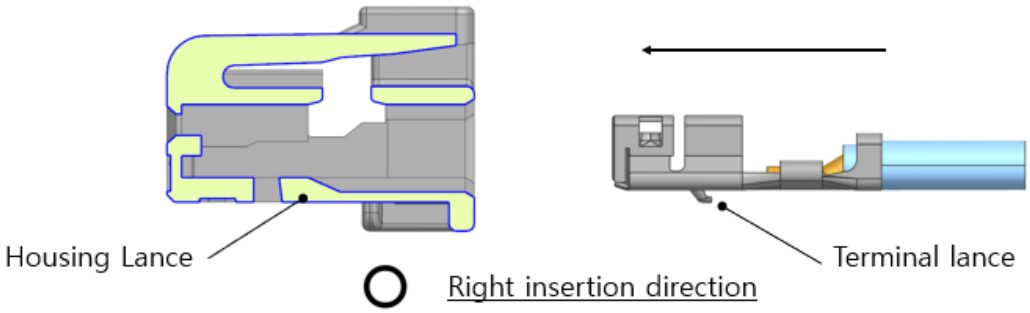
<Instruction>

※If crimping height and width are too large, there is a problem for the terminal insertion. Please follow the instructed crimping height. (Please refer to crimping specifications CS-560124-*)

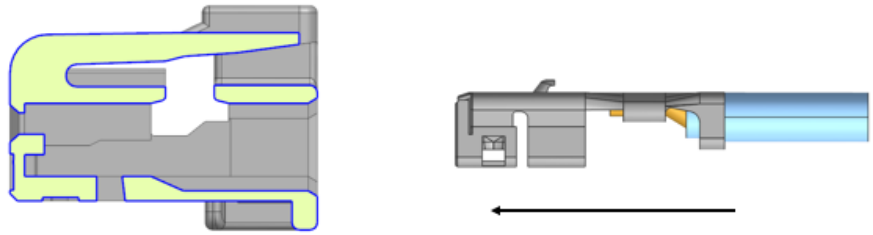
※Please use care with the direction of terminal when inserting to receptacle housing.

Please be careful that the terminal is not upside down, not having an angle, or not rotated against receptacle housing. These may cause terminal deformation or skiving burr damage to receptacle housing.

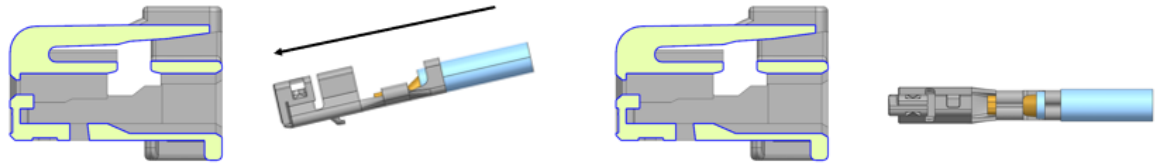
※If you feel unusual such as hooking during the insertion, please do not continue by force. After confirming there is no damage of terminal or receptacle housing, it can be inserted again. If the damage is found, do not use the terminal and receptacle housing.

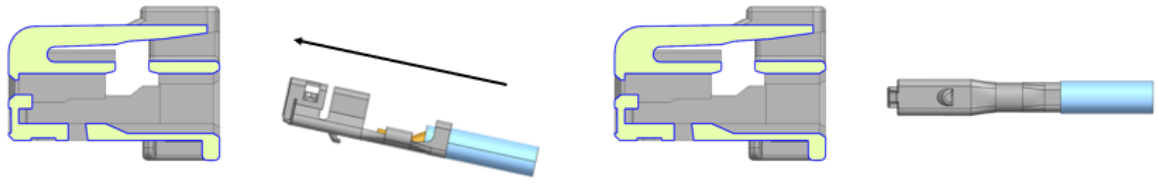


○ Right insertion direction



✕ Upside down direction





✕ Having an angle

✕ Rotated (Ex. : 90 °)

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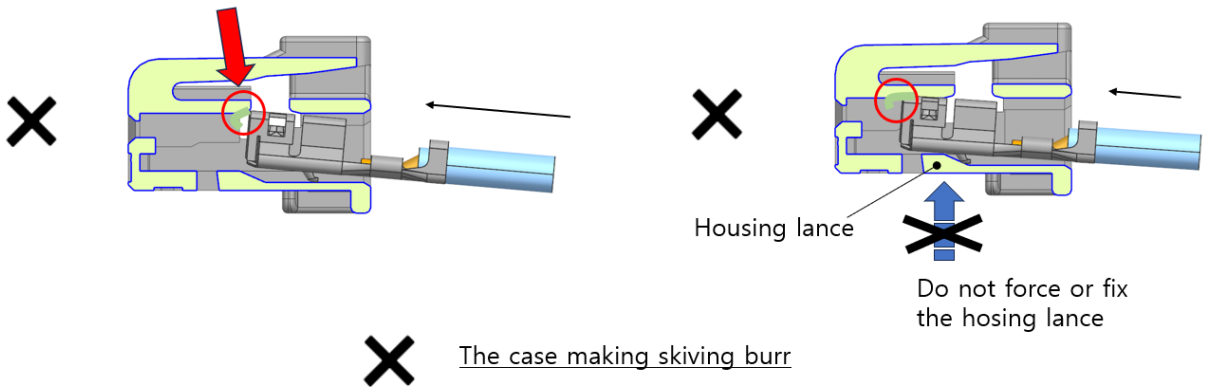
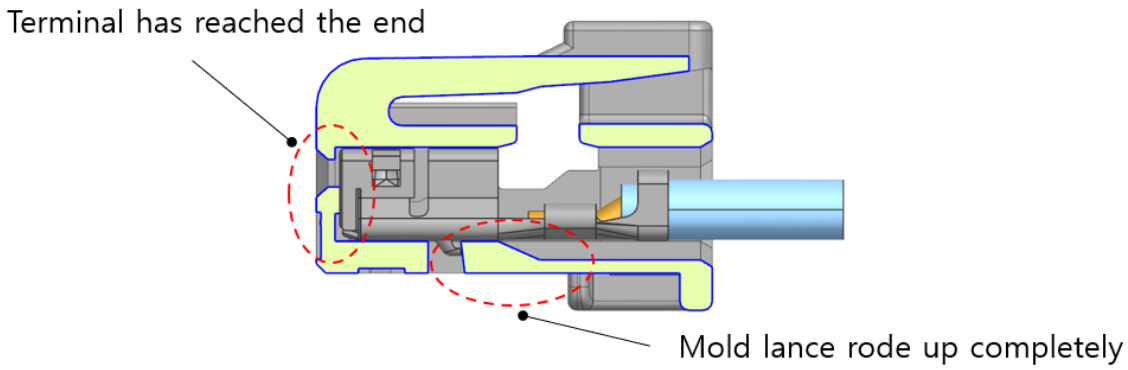
DOCUMENT NUMBER:	CREATED / REVISED BY:	CHECKED BY:	APPROVED BY:
AS-560123-001	SAKIM	TIIDA01	TIIDA01



Inappropriate insertion direction

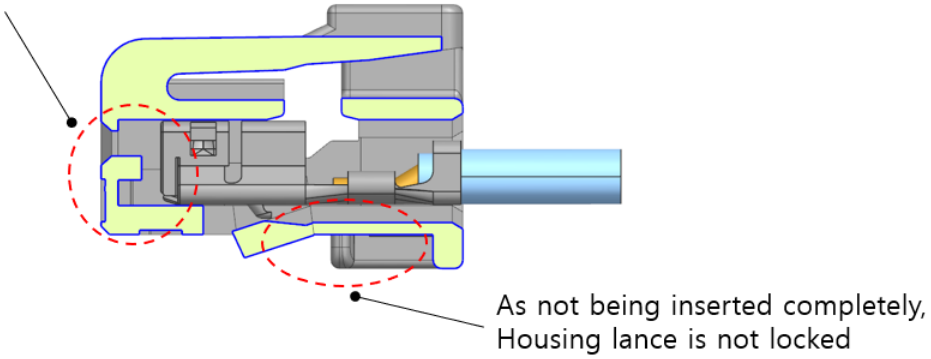
③ After inserting the terminal, please confirm if terminals are not pulled out from receptacle housing by pulling wires lightly (with about 100g force). Confirmation by excessive tension might break connector.

④ After inserting all terminals, please confirm the position of housing lance.



○ The case of correct insertion

The case of terminal insertion not reached back



✕ The case of incomplete insertion

<Instruction>

※If terminal is inserted incompletely, housing lance is not locked with terminal lance and terminal is not retained.

※In the area of incomplete insertion, housing lance is transformed the most. (Therefore, mold lance of harness with such condition is transformed and not go back to correct position, resulting in degradation of retention force even though it is re-inserted.) In this case, please be sure to change with a new housing.

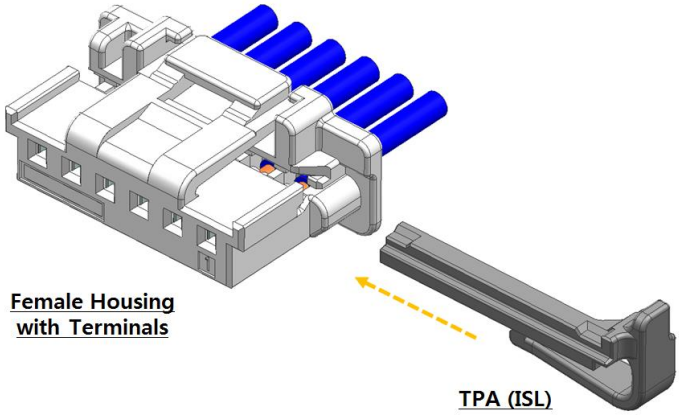
⑤ When checking harness after processing, please avoid bending wire excessively or with tension. That might cause contact failure because force was added to terminal crimping part or receptacle housing lance part.

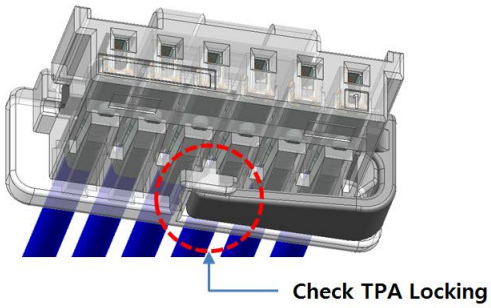
⑥ When having a conduction check, do not attach anything besides applicable mating connector. That might cause contact failure because of transformation of terminal etc.

Mating method of TPA

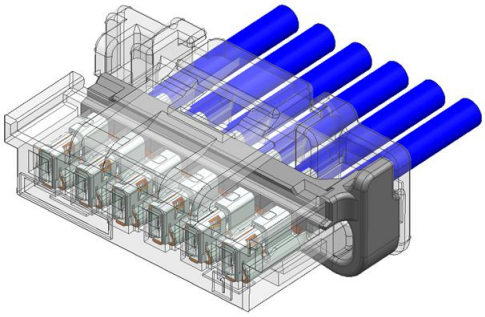
아래의 그림과 같이 단자가 체결된 Female Connector에 TPA의 삽입 방향을 확인한 후 하단 Locking부에서 "딸깍" 소리가 날 때까지 삽입한다. 이때 TPA가 삽입되지 않는 경우 단자의 정 위치를 확인 한 후 TPA를 다시 체결한다. (단자 중도 삽입 검지 기능)

As you can see below, Insert TPA from the bottom side of locking area until you hear 'clack' after checking TPA insertion direction on Female connector. If TPA has not been inserted, check out the position of terminal and re-insert TPA (Detector function for terminal insertion)





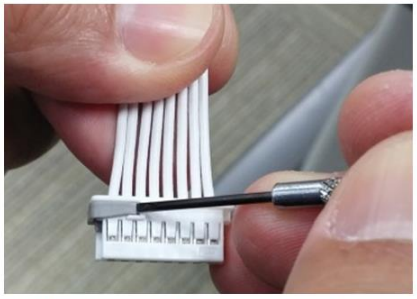
Push TPA until "Click" Locking Sound



Terminal double-locking structure of TPA

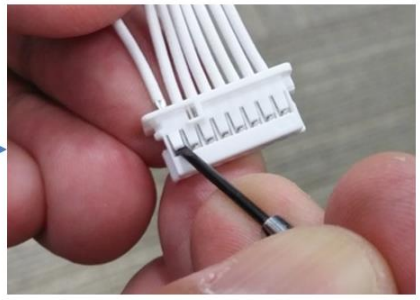
Terminal Rework Method

범용 툴 ('-'형 드라이버)을 이용하여 완전 체결된 TPA의 Lock (커넥터의 하단에 위치)을 들어 올려 해제한 후 슬라이드 방향으로 당겨 하우징으로 부터 완전히 탈거한다. 단자 또한 범용 툴을 이용하여 Housing의 Lance를 들어 올린 후 Wire를 당겨 단자를 탈거 한다.
(Rework한 Housing 과 ISL은 폐기 하고 새로운 Housing과 ISL을 사용한다)
First of all, lift and remove the lock (located on bottom side of connector) of TPA through common tool such as '-'shape driver. Need to remove it from housing through pulling out to slide direction. After lifting up lance of housing through terminal and common tool, remove terminal through pulling out wire. However, mold lance is transformed by being raised. As strength of the transformed lance decreases extremely, the terminal might come off easily from housing even if you insert it again.
Therefore, please be sure to change the receptacle housing to a new one when you repair crimp terminal.
(Do not reuse the Housing and ISL that reworked.)



TPA is lifted up to Locking by using Tool

Remove TPA



Lance is lifted up to Locking by using Tool

Remove Terminal

<Instruction>

※Please get the state of being able to gripping wire before starting repair.
※Please avoid pulling off terminal by force.
※When repairing, please be careful not to deform or scratch terminal lance.
※DO NOT REUSE the housing that withdrew terminals.

4.0 PRECAUTION DURING CONTINUITY INSPECTION

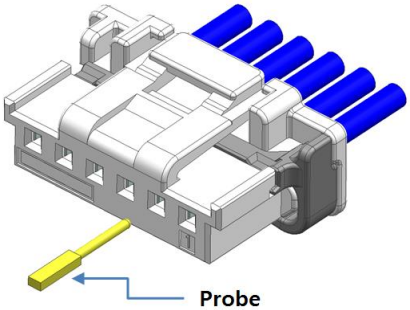
1) 통전 테스트 및 와이어링 하네스에서 사용하는 어떤 툴이라도 커넥터에 체결 시 하우징 및 단자의 변형을 주어서는 안되기 때문에 매우 정확하게 테스트를 수행해야 한다.
1) Test should be correct because any tool using for current test and wiring harness shouldn't give deformation on housing and terminal while mating connector

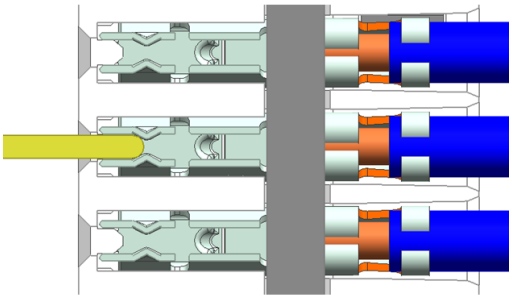
2) 아래의 그림에서 보여준 것과 같이 테스트 Probe 가 체결되는 단자의 Hole로 단자의 변형 없이 접촉 되어야 한다.
2) As below picture, Test probe should be contacted with terminal hole without deformation.

3) Probe는 ICT 검사 (통전 및 내 전압 검사)가 수행될 동안 접촉되어 있어야 한다.
(테스트 기기와 연결된 모니터에 합격 판정이 나오기 까지 접촉되어 있어야 한다)
3) Probe should be contacted during ICT test.
(It should be contacted until monitor linked with test equipment says OK)

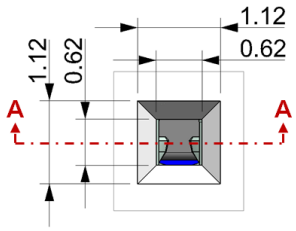
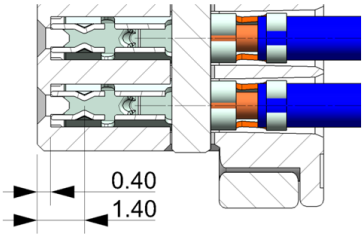
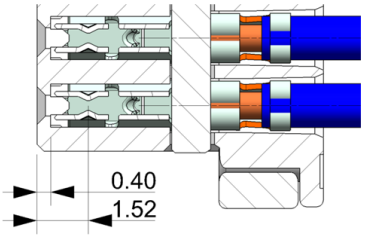
4) If a sharp ended probe is used it may damage contact area of terminal and increase contact resistance and mate force.

5) Probe pin details (reference)
Pin diameter : 0.48 -0.03 mm
Pin force : 2.0N Maximum.





Section View

Terminal Hole Dim's	the maximum pushing the terminal	the maximum pulling the terminal
		

<Reference : 025 terminal pin location and measurement>

5.0 RECOMMENEDED PACKAGING OF CABLE HARNESS AND ASSEMBLIES

Wire bundling after crimping and package

Please check for damaged terminal and wire insulation, when bundling wires. (We recommend to tie at about 30mm from crimp-end when these wires are bundled up by rubber band. (Fig.5-1))
Please check for the quantity per packing-box.
Do not over pack crimped wires in a box as there is risk of damaging terminals.

<Instruction>

※When bundling wires, please be careful not to apply excessive force to terminals. Do not fling to workbench to in order to be line up the wire end.

※When packing bundled harnesses after processing in package box, in order for force not to be applied to connector for a long period of time by piling up, please put product alternately (cross shape) in a fitting box. (Fig.5-2)

※Please lay buffer material on the bottom and top of the package box. In order to avoid applying force to connector for a long period of time by stacking the wires, please lay buffer material.

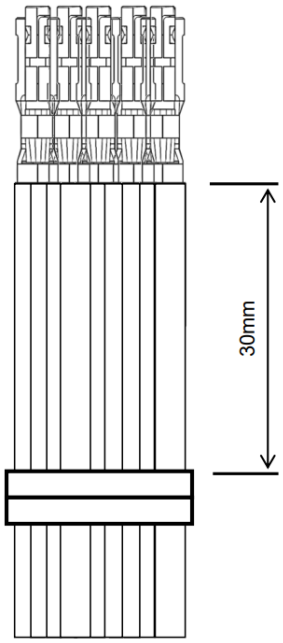


Fig. 5-1

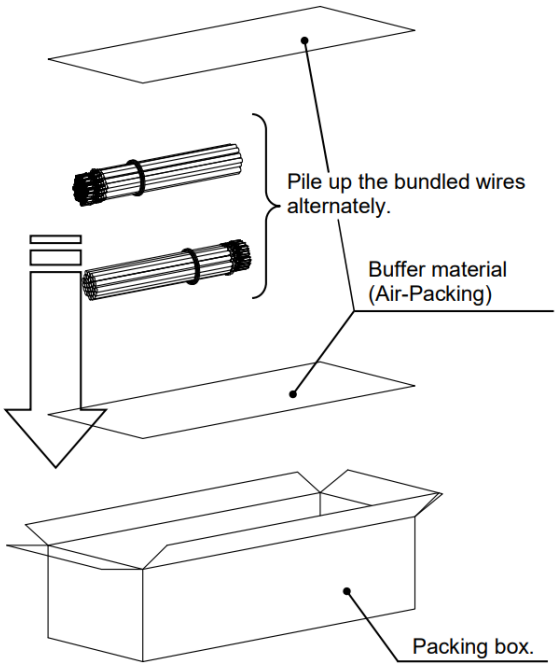


Fig. 5-2

Banding of harness

When banding harness after processing, please be careful with the following point.

1) Please bundle the wires at more than 50mm away from connector and uniformize the force applied to each wire. (Fig.5-3)
2) As for the harness, please do not apply force to only one wire (or a few particular wires) (Fig.5-4)

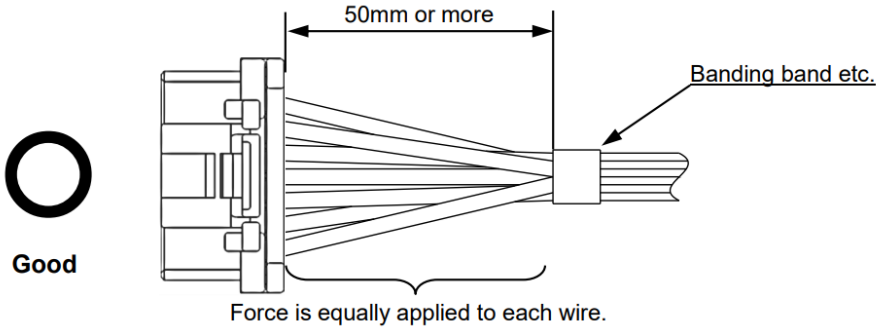


Fig. 5-3 Harness is bundled properly

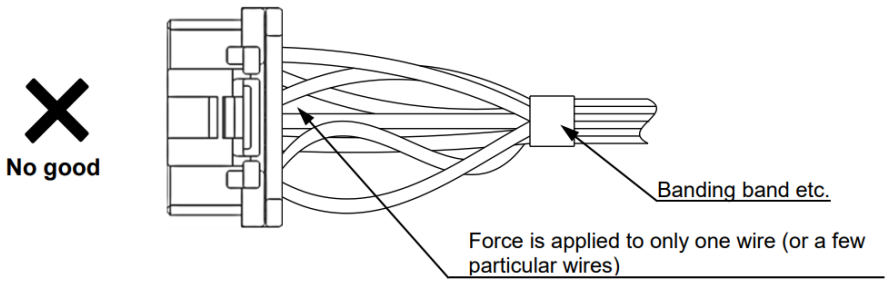


Fig. 5-4 Harness is bundled improperly

<Instruction>

※When harnesses have tangled with each other, please do not pull them by force. That might damage to connector because the extreme force is applied to terminal and it might come off from connector.

※Please do not drop the product or hit it against other objects.

Recommended packaging of cable harness and assemblies

When packing harness after processing, procedure and instruction (※) are shown below.

1) Bundle the harness after processing. Please band 20 harness at most in one bunch.

<Instruction>

※When bundle the harness, in order to avoid applying excessive force constantly please do not use anything that fastens tightly such as rubber band. Please band at the center (at one point) with vinyl string. Please take a measure to protect connector from shock or load by wrapping each bunch of connector with air packing. (Fig. 5-5)

When some harnesses are banded, each connector contact and part of lock might be loaded. In that case, deformation of lock part etc. might cause defective performance because the lock being down all the time. (Fig.5-6)

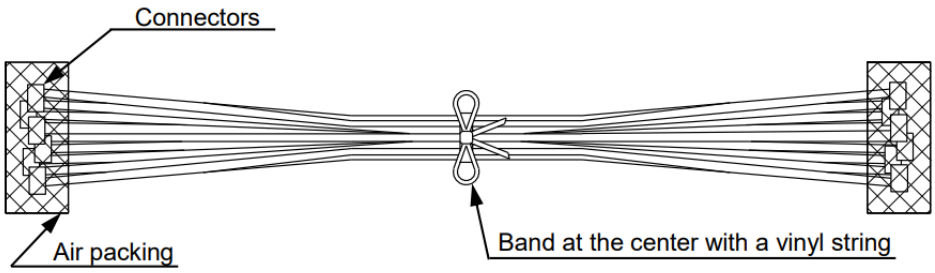


Fig. 5-5 A bunch of harness

Do not apply load to the lock part.
(Include root part)

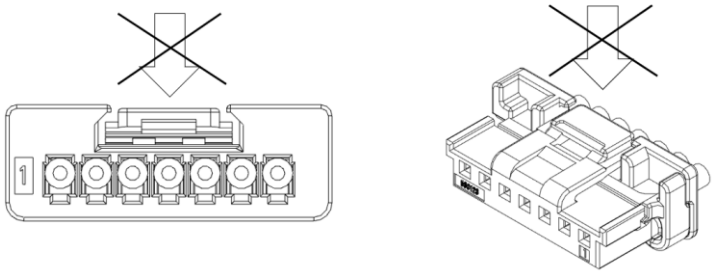


Fig. 5-6 Precautions for connectors when packing

2) Put banded harness into carton box.
Figure below (Fig. 5-7) Please take a measure not to add force to connector for a long period of time by stacking if you pack by different packing method for long harness.

<Instruction>

※When packing bundle of harness after processing in a package box, please follow instructed packaging and avoid applying excessive load or force to harnesses. (cross shape) (Fig.5-7 ①)
※Please lay air packing etc. on the bottom of package box. In order to prevent force from applying to connectors for a long time by piling up package boxes, please lay air packing etc. (Fig.5-7 ②)

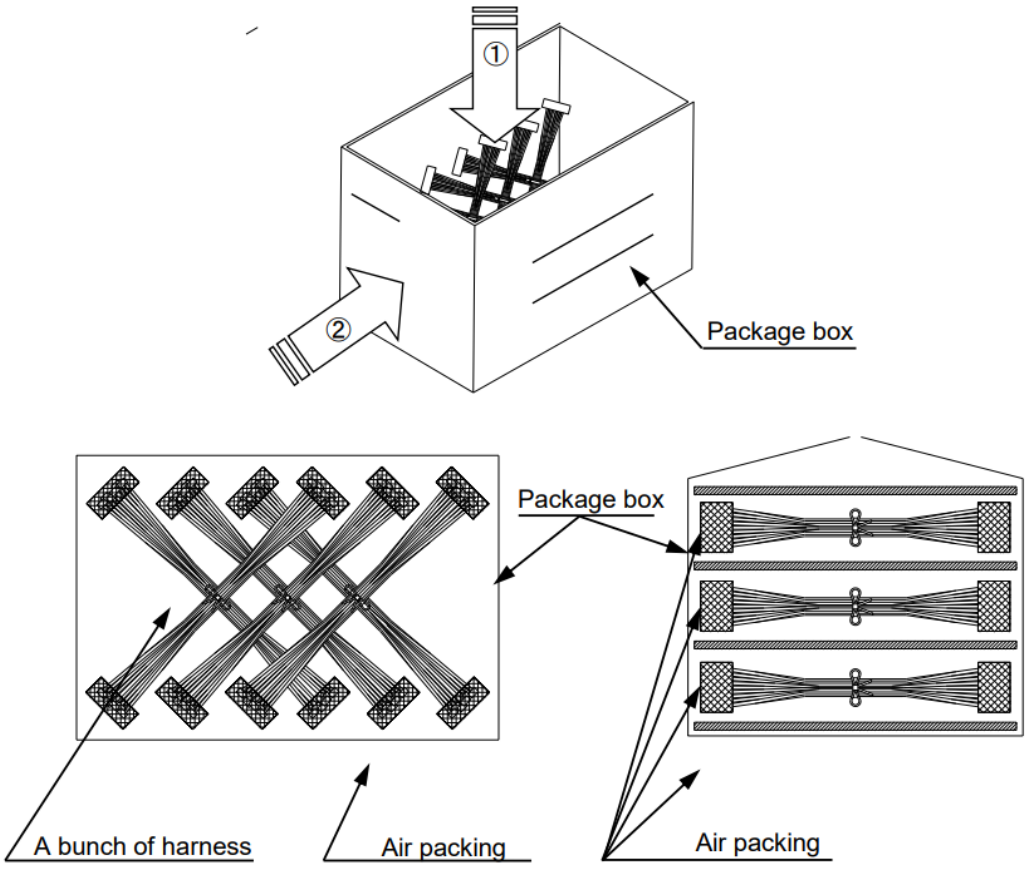


Fig. 5-7 Packing condition

Wiring after mating

<Instruction>

※If you plan on pulling around wires inside machine, please take measures to prevent force from applying to connectors directly, such as allowing wires to have enough flexibility. (Fig.5-8-1)

※When pulling wires around inside actual machine, please do not use under the condition that wires are bent excessively or tension is added. That might be reason for terminal to be pulled out because force is added to terminal crimping zone or terminal insertion portion of receptacle by wire tension. Especially, please prevent force from being applied to only a few particular wires. (Fig.5-8-2)

※If force is added to one particular wire, wire(crimp terminal) might be pulled off.

※Wire routing inside customer's device needs to avoid excessive stress. Please avoid pulling them toward more than two directions. (Fig.5-8-3)

※If you plan on special wiring inside customer's device, please contact us before using. (Fig5-8-2/5-8-3 etc.)

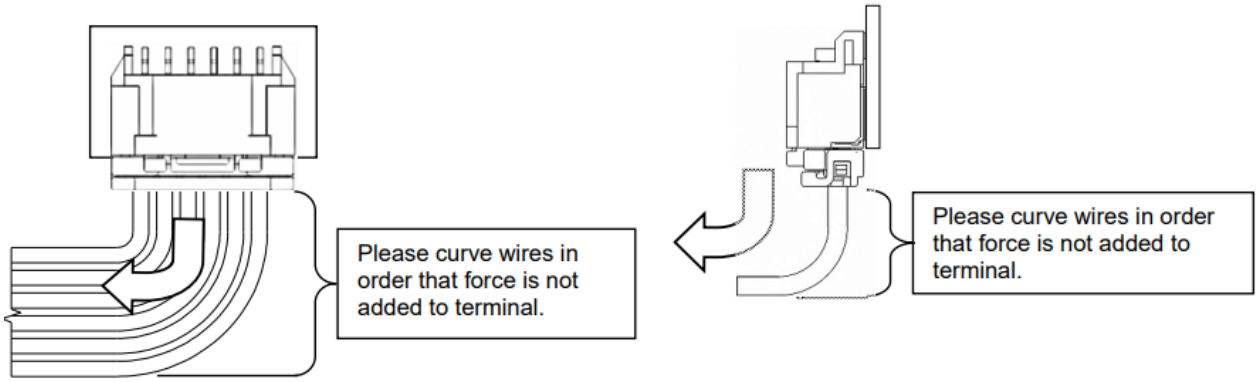


Fig. 5-8-1 Condition wires are curved

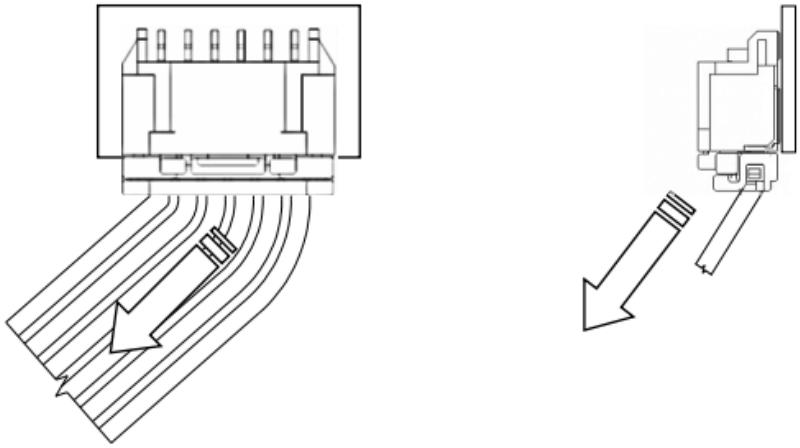


Fig. 5-8-2 Condition wires are bent excessively or tension is added

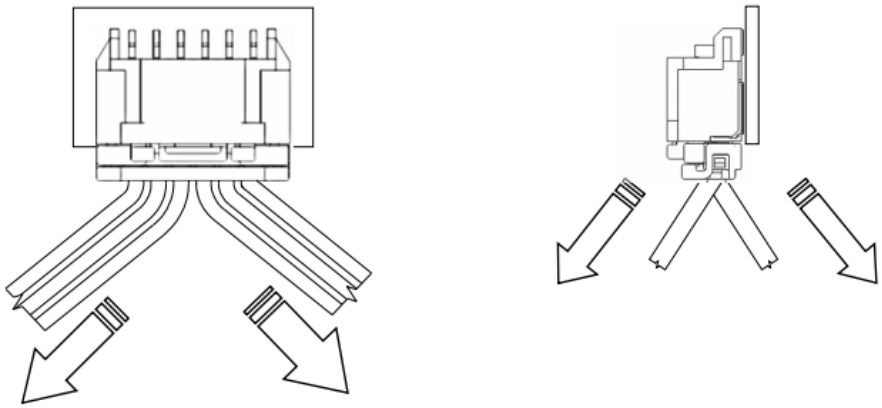
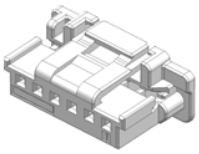
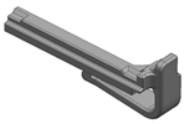
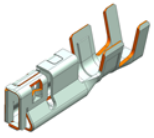
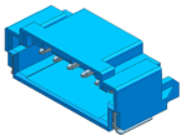
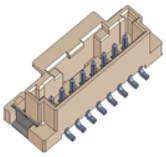


Fig. 5-8-3 Wiring toward more than 2 directions

6.0 PRODUCT NAME AND PART NUMBER

	Product Name		Part Number	Remark
Wire Side	Receptacle Housing		560123 series	
	Retainer		560125 series	
	Receptacle terminal		560124 series	
PCB Side	Wafer Assembly	Right Angle Type	502352 series (EMBOSS package)	
		Vertical Type	560020 series (EMBOSS package)	

- The End -