# **USER`S MANUAL**

### **CLIK-Mate 1.5 Dual Series**

**Application Product** 

		Product Name		Part Number
		PLUG HOUSING		503149 series
	DULIC	TERMINAL	Tin Plating	502579 0*00 503429 0000
Harness side	FLOG	TERIVIINAL	Gold plating	502579 1*00 503429 1*00
		LE WIRE(※)	502579 series	AWG#24~28
	APPLICAD		503429 series	AWG#26~30
	APPL	ICABLE CRIMP TOO	L ( <b>※</b> )	578047-3000
		Tip plating	R/A TYPE	503148 series
PCB side	RECEPTACLE HOUSING ASS'Y	Tin plating	S/T TYPE	503154 series
		Gold plating	S/T TYPE	505406 series

\* For details, please refer to the crimp specification, CS-502579-001, CS-503429-001.

• Please confirm this specification before using the connector.

• The illustrations used in the spec may have a slight difference since they are printed.

· The contents in this spec may change without notice.

· In case there are any questions or comments regarding this spec, please feel free to contact us.

							DET	-0	1An								
	REV.	А	В	С			, U.	55		/							
	SHEET	1~23	1~23	1~23						)							
		REVISE O	N PC ON	LY	TIT	LE:											
	С	'16/	REVISE 111413 12/22 K.S					-	LR	ЭW	Mate CON SPI	INE	сто	RS TION	N		
	REV.	D	ESCRIPT	ION	-	DOCUMEN											C
	DESIC	GN CONT	ROL	STATUS		ITTEN BY: KAMURA		CKED SAKAV			ROVED				DATE: 6/01/	15	
DOC	UMENT N	NUMBER 503149	0000			с. түре <b>PS</b>		с. ра 000				CUST	-			SHE 1 OF	
														E	EN-12	7(2015	-12)

LANGUAGE

ENGLISH

#### **INTRODUCTION**

<u>1. Stora</u>	ge before usage			•••••P-3	
<u>2. Instru</u>	uctions during harnessing			••••• Р-3	
<u>3. The r</u>	name pf each part & explanat	<u>ion</u>			
3-1. P	lug terminal definitions: 50257	9, 503429 sei	ries	•••••P-4	
3-2. F	Plug housing definitions: 50314	49 series		·····P-6	
<u>4. Crim</u>	ping				
4-1. A	ppearance after crimping			••••• Р-7	
4-2. T	he non-conformity item			•••••• P-7	
<u>5. Harne</u>	ess processing (crimping wir	re insertion r	nethod in Plu	<u>ig housing)</u>	
5-1. Ir	nsertion crimping wire			•••••• P-12	
5-2. R	Repair of crimp terminal			•••••• P-15	
<u>6. Band</u>	ing of harness ·····			•••••P-16	
<u>7. Reco</u>	mmended packing of cable h	arness and	assemblies	•••••P-17	
<u>8. Instru</u>	uction when mating with HDR	<u>connector</u>			
8-1. N	ating process method		•••••	•••••• P-19	
8-2. U	In-mating process method ••••			P-20	
8-3. C	Consideration after mating			•••••• P-21	
<u>9. Othe</u>	<u>r</u>	•••••	•••••	•••••P-22	
9-1. T	ools and wire to use		•••••	P-22	
9-2. A	bout rating / a performance sta	andard ·····		•••••• P-22	
9-3. A	bout to use			Р-22	
			DELEASE		
		PF	REFERENCE REFERENCE USE ONLY	$\rangle$	
			USE		
			$\checkmark$		
	REVISE ON PC ONLY		~		
			С	LIK-Mate 1.5	
C	SEE SHEET 1 OF 23		-	OW CONNECTORS	
		THIS DOCUMENT		ITON SILCI ICATION	ECTRONIC
REV.	DESCRIPTION			ILD NOT BE USED WITHOUT WRITTEN PERM	
OCUMENT	NUMBER 5031490000	DOC. TYPE	DOC. PART <b>000</b>	CUSTOMER GENERAL	SHEE
	JJJJ I <del>H</del> JJJJJJJ	10		GLNLKAL	2 OF 2

SHEET

2 OF 23

- [1. Storage before usage]
  - ① Please keep product with the delivery being in a state. And please safekeeping it under normal temperature and humidity where avoid direct sunlight.
  - ② Please do not allow external force to be applied during product storage.
  - ③ During handling avoid shocking or dropping products as it may result in product damaging.

#### [2. Instructions during harnessing]

- ① Please confirm products and crimp machine, crimp condition, an applicable wire are equal to product drawing, crimp specifications before work.
- ② Beware of unintended damage caused by dust, debris, or foreign objects before using this product. It cause that cannot satisfy the insertion performance to the housing and electric performance.
- ③ Please do not touch the terminal by a direct hand.
- (4) When a terminal gets twisted or tangled before or after crimping, please do not pull it forcibly. The terminal may become damaged.
- (5) Avoid damaging product during work in process or in finishing goods. Product can get damaged and cannot function properly as a connector.
- 6 Please do not put a product and an harness half-finished goods in the following condition.
  - Garbage
  - Corrosive material
  - Corrosive gas
  - ·High temperature and high humidity
  - Direct sunlight
  - The above-mentioned condition causes poor contact and the corrosion of the terminal and the insulation performance deterioration of the housing.

Please keep for kind attention of the safekeeping to boxes.

- ⑦ Do not damage receptacle crimp housing and a crimp terminal intentionally. Product performance can be affected by this condition.
- (8) When opened packing, please use it up on the day. Moisture absorption or drying cause the deterioration of materials by neighboring atmospheres. When cannot use it up, please do sealing of a bag again, and keep it in a box.
  REFERENCE

-		REVISE ON PC ONLY	TITLE:			
	С	SEE SHEET 1 OF 23		DUAL R	LIK-Mate 1.5 OW CONNECTORS FION SPECIFICATION	
	REV.	DESCRIPTION			IATION THAT IS PROPRIETARY TO MOLEX E ILD NOT BE USED WITHOUT WRITTEN PERM	
DOC		NUMBER	DOC. TYPE	DOC. PART	CUSTOMER	SHEET
	ļ	5031490000	PS	000	GENERAL	3 OF 23
					EN-1	27(2015-12







#### [4.Crimping]

The following define the correct appearance and crimping rejects after crimping. \*Please refer to crimping specification (CS-502579-001,CS-503429-001) for detailed crimp height and applicable wire etc.





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

#### <u>4-2. The non-conformity item (The product shape is examples)</u>

Please warn the arrival crimping delinguent to show as follows in particular. It affect the insertion work and affect a product function.

#### (1) Bend up

This makes difficult to insert the terminal into the housing and may cause terminal butting, decrease of terminal retention force or contact failure.



No Good





		REVISE ON PC ONLY	TITLE:			
	С	SEE SHEET 1 OF 23		DUAL R	LIK-Mate 1.5 OW CONNECTORS	
	REV.	DESCRIPTION			IATION THAT IS PROPRIETARY TO MOLEX E ILD NOT BE USED WITHOUT WRITTEN PERM	
DOC		IUMBER	DOC. TYPE	DOC. PART	CUSTOMER	SHEET
5031490000			PS	000	GENERAL	7 OF 23
					EN-1	27(2015-12)

#### 2 Bend down

This makes difficult to insert the terminal into the housing and may cause terminal butting, decrease of terminal retention force or contact failure.



No Good

#### 3 Twist

This makes difficult to insert the terminal into the housing and may cause terminal butting, decrease of terminal retention force or contact failure.









mo	lex	<b>APPLICATION SPECIFICATION</b>
----	-----	----------------------------------

[5. Harness processing (crimping wire insertion method in plug housing)]

Show insertion procedure and instructions (%) of the crimping wire as follows. These figures include single type.

- 5-1. Insertion crimping wire
  - ① Hold plug housing by pinching right and left side.
  - 2 Please pick up the cable at about 10mm position from the crimp-end with a finger lightly.

#### Instruction

XIt might be hard to insert terminal so that wire is easy to bend if wire is picked at distance from terminal.

- \*Distance value depends on wire gauge, UL, etc. Please confirm it with the wire that you chosen before you use it.
- ③ Picking with terminal lance part toward center of plug housing, please insert terminal slowly and straightly till the tip of terminal touch housing (with force of around 300~500g).(**Fig.5-1**)

#### Instruction

XIf crimping height and width are too large, there is a problem for the terminal insertion. Please work by prescribed crimping height.

(Please refer to crimping specifications CS-502579-001, CS-503429-001)



		REVISE ON PC ONLY	TITLE:			
	С	SEE SHEET 1 OF 23		DUAL R	LIK-Mate 1.5 OW CONNECTORS	
	REV.	DESCRIPTION			IATION THAT IS PROPRIETARY TO MOLEX EI ILD NOT BE USED WITHOUT WRITTEN PERM	
	NEV.	DESCRIPTION		·	[	
DOC	UMENT N	NUMBER	DOC. TYPE	DOC. PART	CUSTOMER	SHEET
	Ļ	5031490000	PS 000 GENERAL 12 OF			12 OF 23
					EN-1	27(2015-12)





#### Instruction

%If terminal is inserted incompletely, terminal lance doesn't fasten with mold lance and terminal is not retained.

XIn the state of incomplete insertion(see **Fig.5-5**), terminal lance is transforming utmost. Therefore the retention of harness neglected in this situation might decline although you re-insert the terminal because terminal lance has transformed and not returned to correct position. In this case, please be sure to change new terminal.

- (1) When checking harness after processing, please avoid bending wire excessively or using under tension. That might be reason for contact failure because force was added to terminal crimping part or plug housing lance part.
- (2) After conductivity testing, do not attach anything besides applicable mating connector. That might be reason for contact failure because of transformation of terminal etc.

#### 5-2. Repair of crimp terminal

When you withdraw the crimp terminal inserted once, please withdraw it raising mold lance with a sharp something like needle.

However, mold lance transforms by being raised. As strength of the transformed lance decreases extremely, the terminal might come out easily from housing if you insert it again. Therefore please be sure to change the plug housing to new one when you repair crimp terminal. And use an appropriate magnifying glass, please repair with caution.

\*Please be sure to avoid with drawing terminal by force.

When repairing, please be careful not to transform or scratch terminal lance.







# molex (1) Put banded harness into exterior carton. Below figure (Fig 7-2) is one of examples recommended reference. Please take measure not to add force to connector for long time by stacking if you pack with another packing method for long harness. Instruction When packing bundle of harness after processing in package box, please follow suggested packaging order and avoid applying excessive weight or force to harnesses. (cross shape) (Fig.7-2 ①) %Please lay air packing etc. on package box underside. In order that force by piling package boxes etc. is not added to connector for long time, please lay air packing etc. (Fig.7-2 (2)) Package Box Package Box One bond Air stuffing air packing Packing situation upside] (1)(2) Packing situation side ] SE Fig.7-2 Packaging situation **REVISE ON PC ONLY** TITLE:

**APPLICATION SPECIFICATION** 

	С	SEE SHEET 1 OF 23		DUAL R APPLICAT	LIK-Mate 1.5 OW CONNECTORS FION SPECIFICATION			
	REV.	DESCRIPTION			TAINS INFORMATION THAT IS PROPRIETARY TO MOLEX ELECTRONIC LLC AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION			
DOC	UMENT N		DOC. TYPE	DOC. PART	CUSTOMER	SHEET		
	Į	5031490000	PS	000	GENERAL	18 OF 23		
					EN-12	27(2015-12)		

#### ENGLISH

Instruction when mating with HDR connector!     Inser igures include single type.     Inser igures include igure type.     Inser igures include igure type.     Inser igure type.     Insertion type igur	0	oolov					LANGUAGE
These figures include single, and push pug housing bit sides of pluch direction (part shown with arrows) and both connectors strikes each other (complete mating position). And after mating, please continue that 2 friction locks are fastened complete).           Image: transmitted in the 2 friction locks are fastened complete)         Please push both sides of pluch direction (part shown with arrows) and pluch using the connectors strikes each other (complete).           Image: transmitted in the 2 friction locks are fastened complete)         Please push both sides of plug housing and insert.           Image: transmitted in the 2 friction locks are fastened complete)         Image: transmitted in the 2 friction locks are fastened complete)           Image: transmitted in the 2 friction locks are fastened complete)         Image: transmitted in the 2 friction locks are fastened complete)           Image: transmitted in the 2 friction locks are fastened complete)         Image: transmitted in the 2 friction locks are fastened complete)           Image: transmitted in the 2 friction locks are fastened complete)         Image: transmitted in the 2 friction locks are fastened complete)           Image: transmitted in the 2 friction locks are fastened complete)         Image: transmitted in the 2 friction locks are fastened complete)           Image: transmitted in the 1 cok part get over catching part of mating is avoided.         Image: transmitted in the 1 cok part get over catching part of mating is inserted conformed (top)           Image: transmitted in the 1 cok part get over catching part of mating is inserted conformed (top)         Image: transmitted in the 1 cok part get over catching part of the situa		IOIEX	APPLICATION	SPECIFI	CATION		ENGLISH
81. Maing process method         Please meet both mating direction of receptacle housing (harness side) and plug housing both sides of pitch direction (part shown with arrows) until both connectors strikes each other (complete mating position). And after mating, please confirm that 2 friction locks are fastened completely.         Image: the strike s	【8】	. Instruction	when mating with HDR co	nnector			
Please meet both mating direction of receptacle housing (harness side) and plug housing both acceptacle housing (harness side) and plug housing both acceptacle housing (harness side) and plug housing both sides of plug housing both sides of plug housing and insert. Please push both sides of plug housing and insert. Please do not push positive lock of plug housing. It might cause damage by excessive load as correct movement that lock part get over catching part of mating is avoided. *Please push plug housing and insert it straightly until they strike each other. This product is designed as follows. Connectors mating should end up in straight direction even if started insertion with an angle the case that only one side lock is fastened because plastic plug housing is inserted conformed (Especially in multiple circuits) *It you can not insert smoothly, please insert again after continuing transformation of terminal and plug housing etc. Tothe Description TITLE: C SEE SHEET 1 OF 23 REV. DESCRIPTION TITLE: DECUMENT NUMBER DOCUMENT NUMB	Т	hese figures	include single type.				
Plug housing and insert.     Plug housing and insert is straight until they strike each other. This product is designed as correct movement that lock part get over catching part of mating is avoided.     Please push plug housing and insert it straight direction even if started insertion with an angle However if you insert it gradually with angle and maintaining the situation artificially, this situation migh make the case that only one side lock is fastened because elastic plug housing is inserted conformed (Especially in multiple circuits)     Wife you can not insert smoothly, please insert again after confirming transformation of terminal and plug housing etc.     THEE DOLUMENT NUMBER     DESCRIPTION     THEE DOCUMENT NUMBER     DOC. TYPE DOC. PART CUSTOMET	<u>8</u>	Please (header s both cor	meet both mating direct side), and push plug hous nectors strikes each o	sing both side other (comp	es of pitch dire	ection (part shown with a	arrows) <u>until</u>
Instruction         *When mating, please do not push positive lock of plug housing. It might cause damage by excessive load as correct movement that lock part get over catching part of mating is avoided.         *Please push plug housing and insert it straightly until they strike each other. This product is designed as follows. Connectors mating should end up in straight direction even if started insertion with an angle However if you insert it gradually with angle and maintaining the situation artificially, this situation migh make the case that only one side lock is fastened because elastic plug housing is inserted conformed (Especially in multiple circuits)         */If you can not insert smoothly, please insert again after confirming transformation of terminal and plug housing etc.         ITTLE:         CLIK-Mate 1.5         DUAL ROW CONNECTORS APPLICATION SPECIFICATION         THIS DOCUMENT CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX ELECTRONIC TECHNOLOGIES, LIC AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION         DOCUMENT NUMBER         DOCUMENT NUMBER         DOCUMENT NUMBER         DOCUMENT NUMBER         DOCUMENT NUMBER					•		$\int$
**When mating, please do not push positive lock of plug housing. It might cause damage by excessive load as correct movement that lock part get over catching part of mating is avoided.         **Please push plug housing and insert it straightly until they strike each other. This product is designed as follows. Connectors mating should end up in straight direction even if started insertion with an angle However if you insert it gradually with angle and maintaining the situation artificially, this situation migh make the case that only one side lock is fastened because elastic plug housing is inserted conformed (Especially in multiple circuits)         **If you can not insert smoothly, please insert again after confirming transformation of terminal and plug housing etc.         REVISE ON PC ONLY       TITLE:         C       SEE SHEET 1 OF 23         REV.       DESCRIPTION         THIS DOCUMENT NUMBER       DOC. TYPE         DOCUMENT NUMBER       DOC. TYPE         DOCUMENT NUMBER       DOC. TYPE         DOC. PART       CUSTOMER			Insert streaight	$\checkmark$	Σ	Insert with angle	
**When mating, please do not push positive lock of plug housing. It might cause damage by excessive load as correct movement that lock part get over catching part of mating is avoided.         **Please push plug housing and insert it straightly until they strike each other. This product is designed as follows. Connectors mating should end up in straight direction even if started insertion with an angle However if you insert it gradually with angle and maintaining the situation artificially, this situation migh make the case that only one side lock is fastened because elastic plug housing is inserted conformed (Especially in multiple circuits)         **If you can not insert smoothly, please insert again after confirming transformation of terminal and plug housing etc.         REVISE ON PC ONLY       TITLE:         C       SEE SHEET 1 OF 23         REV.       DESCRIPTION         THIS DOCUMENT NUMBER       DOC. TYPE         DOCUMENT NUMBER       DOC. TYPE         DOCUMENT NUMBER       DOC. TYPE         DOC. PART       CUSTOMER							
as follows. Connectors mating should end up in straight direction even if started insertion with an angle However if you insert it gradually with angle and maintaining the situation artificially, this situation migh make the case that only one side lock is fastened because elastic plug housing is inserted conformed (Especially in multiple circuits)         *// Second contraction       *// Second contraction         *// Second contraction       *// Second contrecontraction         *// Secon		When ma	 ating, please do not push	•	• •	• •	age by excessive
C       SEE SHEET 1 OF 23       CLIK-Mate 1.5 DUAL ROW CONNECTORS APPLICATION SPECIFICATION         REV.       DESCRIPTION       THIS DOCUMENT CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX ELECTRONIC TECHNOLOGIES, LLC AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION         DOCUMENT NUMBER       DOC. TYPE       DOC. PART       CUSTOMER       SHEET		as follows However make the (Especial	s. Connectors mating sho if you insert it gradually w case that only one side I ly in multiple circuits)	uld end up in rith angle and ock is fasten	straight direct maintaining t ed because el	ion even if started inserti he situation artificially, th astic plug housing is inse	on with an angle. is situation might erted conformed.
C       SEE SHEET 1 OF 23       CLIK-Mate 1.5 DUAL ROW CONNECTORS APPLICATION SPECIFICATION         REV.       DESCRIPTION       THIS DOCUMENT CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX ELECTRONIC TECHNOLOGIES, LLC AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION         DOCUMENT NUMBER       DOC. TYPE       DOC. PART       CUSTOMER       SHEET	•			1	$\sim$		
REV.     DESCRIPTION     TECHNOLOGIES, LLC AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION       DOCUMENT NUMBER     DOC. TYPE     DOC. PART     CUSTOMER     SHEET       F021 400000     DS     000     CENEDAL					DUAL R	OW CONNECTORS	N
DOCUMENT NUMBER DOC. TYPE DOC. PART CUSTOMER SHEET	-	REV.	DESCRIPTION				
	DOCL		BER				

L

EN-127(2015-12)

molex	APPLICATION	SPECIEI	CATION		LANGUAGE
IIIUICA			GATION		ENGLISH
<u>8-2. Un-mating p</u>	process method				
pushing bar fo	or releasing lock using flat	part of finger,	please withdr	ly by attaching fingers to t aw receptacle plug slowly y. That might cause dama	, axially and
X The side without the lock	The lock release bar				
	k bar is pushed only ne tip of a finger.			< release bar is lat of the finger.	
NOTE	$\supset$				
	o not withdraw with holdi terminals, the connector	• •	•	res. As excessive force rminal might come off.	is applied to
, · · · · ·	u press the lock removal damage injury.	bar, use you	ır finger cushi	ion and not the tip of you	ur fingers, to
connector the lock re	coming off prevention t eleases incompletely, the	hat depends connector n	on positive lo	This product has the ock. If you pull off it by fo	
REVIS	E ON PC ONLY	TITLE:	С	LIK-Mate 1.5	
C SE	E SHEET 1 OF 23		-	OW CONNECTORS	N
REV.	DESCRIPTION			IATION THAT IS PROPRIETARY TO M ILD NOT BE USED WITHOUT WRITTE	
DOCUMENT NUMBI 5031	ER 490000	DOC. TYPE	DOC. PART	CUSTOMER GENERAL	SHEET 20 OF 23
					EN-127(2015-12



# **MOLEX** APPLICATION SPECIFICATION

#### [9. Other]

#### 9-1.Tools and wire to use

- ① In case you would like to use different size wire, please let us know in advance since they would not be covered under warranty.
- ② For rejects that occurred by using different tools other than specified in the spec, they would not be covered under warranty.

#### 9-2. About rating / a performance standard.

- ① Please use it within the rating / the standard of product specifications.
- 2 Product is not designed for usage in "hot-plug" applications where power is on.
- ③ When considering use of the connector, please confirm that machinery design standards are satisfied. In order to avoid short circuits, please do not allow connectors to contact metal objects.

#### 9-3.About for use.

- ① This product is not designed and produced for the machine used under the condition concerning life or for using to system. If you use this product for special use for example medicine, aeronautics space and atomic power etc., please confirm us before using.
- 2 Please contact us without fail before using if you plan to using to automobile and ship etc. (We will consider that the product can be applied to specification condition.)
- ③ Please avoid using outside the room or under similar environment.

		REVISE ON PC ONLY	TITLE:			
	С	SEE SHEET 1 OF 23		DUAL R	LIK-Mate 1.5 OW CONNECTORS	
	REV.	DESCRIPTION			IATION THAT IS PROPRIETARY TO MOLEX EI	
DOC		IUMBER	DOC. TYPE	DOC. PART	CUSTOMER	SHEET
	Į	5031490000	PS	000	GENERAL	22 OF 23
			•		EN-12	27(2015-12)

LANGUAGE

ENGLISH

RE	EV.	REV. RECORD		DATE	EC NO.	WRITTEN BY :	CHECKE	D BY :
A	4	RELEASED	'10	6/01/15	102415	S.NAKAMURA	K.ASAk	KAWA
B	3	REVISED	'10	6/01/20	102567	S.NAKAMURA	K.ASAk	KAWA
С	C	REVISED	'10	6/12/22	111413	K.SATO	A.IC	DA
					$\sim$			
					EASE			
				P	RE-RELEASE REFERENCE REFERENCE USE ONLY			
					RE USE U	/		
		REVISE ON PC ONLY		TITLE:		IK-Mate 1.5		
	С	SEE SHEET 1 OF	23		DUAL RC	OW CONNECTO		
	REV.	DESCRIPTION				TION THAT IS PROPRIETAR) NOT BE USED WITHOUT W		
		NUMBER 5031490000		DOC. TYPE	DOC. PART			SHE
	,	00000		10	000	GLINLINA		23 OF 7(2015