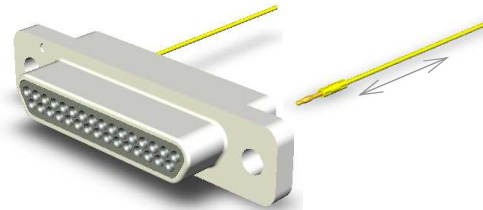


Features/Benefits

- **High performance Micropin™ contact system**
- **(“twist pin” spring male contact and tubular socket contact)**
- **Removable crimp type contacts**
- **Harnesses length flexibility**
- **Non-Outgassing**
- **Low Size Connectors**
- **Low Weight**



Typical Applications

- **Space equipment (engineering model)**
- **Satellites harnesses and payloads**
- **Avionics / Military**
- **Automotive / Medical / Industrial applications**

Specification

High performance Micro-miniature connectors meet stringent tests for outgassing and residual magnetism and are suitable for use in Space Engineering Model, Avionics, Military, Medical and Industrial applications.

Suitable for Board to Board, Board to Cable or Cable to Cable applications.

Removable contacts (Twist Pin technology).

Sizes available:

9, 15, 21, 25, 31, 37 and 51 ways

Connector 9, 15, 21, 25, 31 and 37 ways, accepted wires size:

1 insulated wire AWG24, AWG26 and AWG28 (external diameter at 0.97mm max).

1 uninsulated solid wire AWG25

2 insulated wires AWG28 (external diameter at 0.82mm max)

Connector 51 ways, accepted wires size:

1 insulated wire AWG24, AWG26 and AWG28 (external diameter at 0.97mm max).

1 uninsulated solid wire AWG25

Distance between 2 adjacent contacts: 1.27mm (.050 inch)

Distance between 2 contacts rows: 1.09mm (.043 inch)

Electrical & Mechanical Characteristics

CHARACTERISTIC	SPECIFICATION
Working Voltage (sea level)	150 Vrms
Rated Current AWG 24	3.5 A
Rated Current AWG 25	2.5 A
Rated Current AWG 26	2.5 A
Rated Current AWG 28	1.5 A
Contact Resistance	5 mΩ (rated current)
Insulation Resistance	5000 MΩ min
Voltage Proof	600 Vrms /2.0mA (leakage current)
Temperature range	-55/+125 °C
Contact Retention Force	22.25 N max

Type	Mating / Unmating force (N max)	Unmating Force (N min)	Weight (g)
Size 9	20	1.3	2.3
Size 15	33	2.0	3.1
Size 21	47	2.9	3.9
Size 25	55	3.5	4.4
Size 31	69	4.3	5.2
Size 37	82	5.1	6.0
Size 51	147	7.1	7.3

Quality Level

“Commercial Space Grade”:

C&K Connector Specification CS FR048, for low cost products manufactured:

- In the same ESA qualified site
- Through the same piece parts
- With lighter controls, documentation and traceability

The connectors are totally compatible, interchangeable and intermateable with ESA quality level connectors ESCC 3401/029 (MDM connectors), 3401/41 (connector Savers), 3401/032 (accessories), 3401/077 (MDMA connectors), 3401/078 (contacts) and 3401/087 (backshells).

Process contact and cable insertion

Wire stripping.

Cables crimping onto contacts with standard MDMA Crimping tool M22520/2-01 and dedicated locators (to be ordered separately).

Wires cable installed by the end user.

Test retention

A dedicated tool is available to make the retention test of each contacts in the connectors.

Process contact and cable extraction

A dedicated tool is available to remove the contacts from the connectors.

Options

Optional interfacial seal can be applied for female connectors (to be ordered separately).

Optional captive nuts or float mounting.

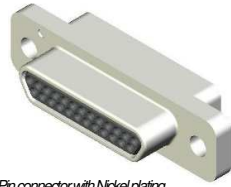
Packaging

Individual packaging.

Contact extraction tool has to be ordered separately.

How to Order Connector

Our easy build-a-connector concept allows you to mix and match options to create the MDMA you need. To order, select desired option from each category and place it in the appropriate box.

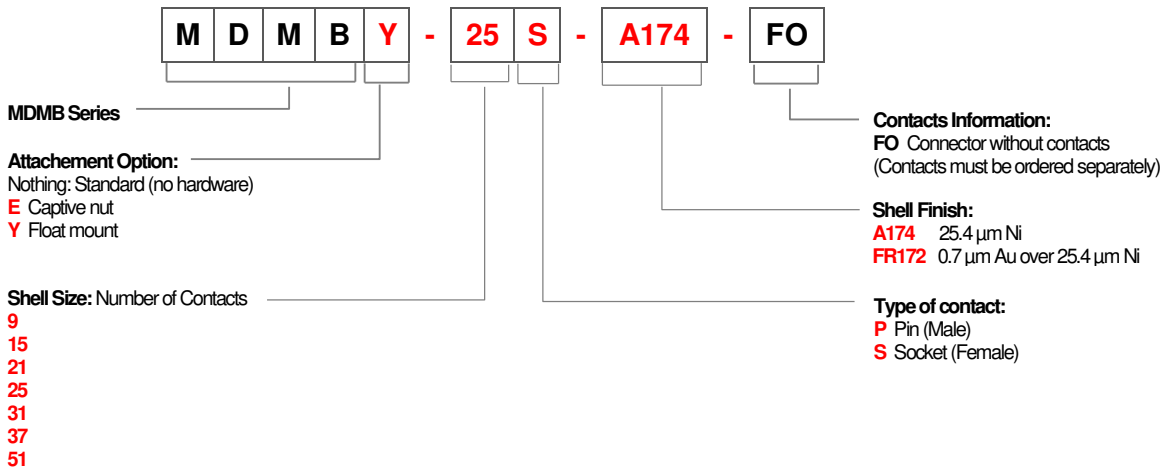


Pin connector with Nickel plating



Pin connector with Gold plating

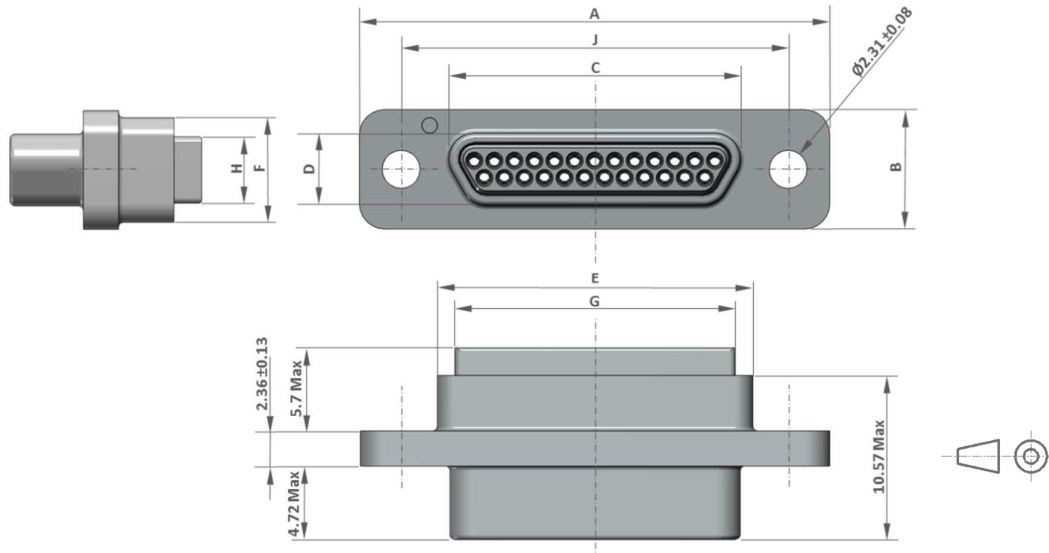
C&K Specification:



Materials & Finishes

COMPONENT	MATERIAL	FINISH
Shell	Aluminium alloy	A174 : 25.4 µm electroless Nickel over Copper underlay FR172 : 0.7 µm Gold over 25.4 µm electroless Nickel
Insulator	Liquid Crystal Polymer	UL 94-V0, Glass-filled, Black Color
Female Contacts	Copper Alloy	1.27 µm Gold over Copper underlay
Male Contacts	Copper Alloy	1.27 µm Gold over Copper underlay
Accessories (E & Y)	Stainless Steel	303 type, passivated
Interfacial Seals	Fluorosilicone elastomer	Pink color
Dust Cap	Polyethylene	Black color, antistatic.

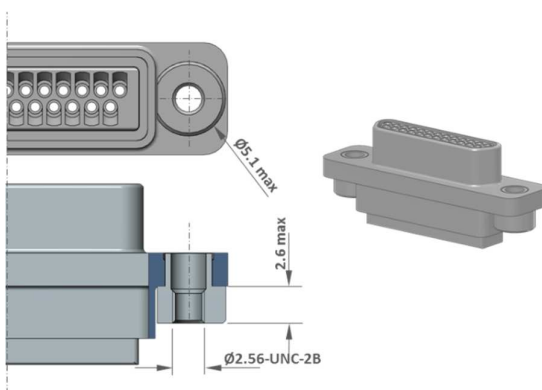
Connector Dimensions



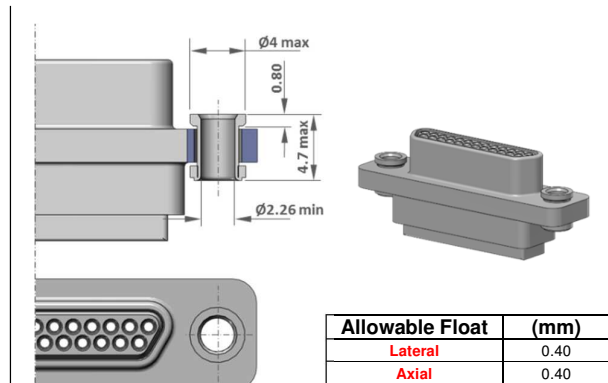
Shell Size	A ±0.25	B ±0.22	C ±0.14	D max	E ±0.25	F ±0.13	G ±0.13	J ±0.13
9P	19.68	7.60	8.31	4.69	9.91	6.63	7.63	14.35
9S	19.68	7.60	9.89	6.38	9.91	6.63	7.63	14.35
15P	23.50	7.60	12.12	4.69	13.72	6.63	11.44	18.16
15S	23.50	7.60	13.70	6.38	13.72	6.63	11.44	18.16
21P	27.30	7.60	15.93	4.69	17.53	6.63	15.25	21.97
21S	27.30	7.60	17.51	6.38	17.53	6.63	15.25	21.97
25P	29.84	7.60	18.47	4.69	20.07	6.63	17.79	24.51
25S	29.84	7.60	20.05	6.38	20.07	6.63	17.79	24.51
31P	33.65	7.60	22.28	4.69	23.88	6.63	21.60	28.32
31S	33.65	7.60	23.86	6.38	23.88	6.63	21.60	28.32
37P	37.46	7.60	26.09	4.69	27.69	6.63	25.41	32.13
37S	37.46	7.60	27.67	6.38	27.69	6.63	25.41	32.13
51P	36.20	8.70	24.83	5.78	26.42	7.65	24.14	30.86
51S	36.20	8.70	26.41	7.47	26.42	7.65	24.14	30.86

Attachment Option

Captive Nut (Option E)

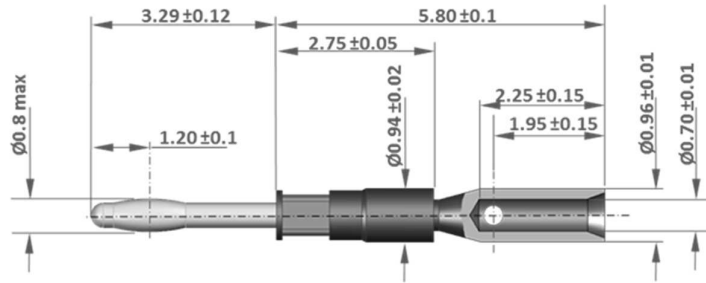


Floating Mount (Option Y)



Allowable Float	(mm)
Lateral	0.40
Axial	0.40

Contact Pin – MDMB-CTPIN02 (wire size AWG 24, 25, 26, 28 or 2x28)

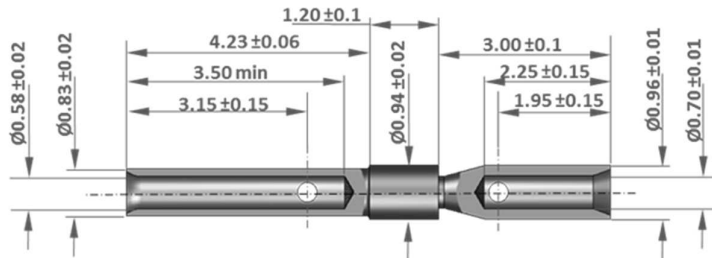
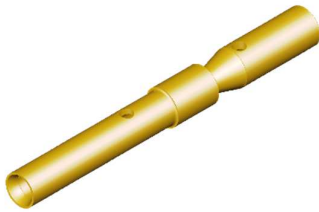


C&K Part Number: **C331-8754-000D**

C&K Description: **MDMB-CTPIN02**

COMPONENT	MATERIAL	FINISH
Sleeve	Copper alloyed	1.27 µm min. Gold over Copper underlay
Bundle	Cupro-Beryllium	1.27 µm min. Gold over Copper underlay

Contact Socket – MDMB-CTSKT02 (wire size AWG 24, 25, 26, 28 or 2x28)



C&K Part Number: **C252-8844-000D**

C&K Description: **MDMB-CTSKT02**

COMPONENT	MATERIAL	FINISH
Sleeve	Copper alloyed	1.27 µm min. Gold over Copper underlay

Nota:

Other products available:

Male Contact MDMB-CTPIN01, compatible with wire size AWG 25, 26 or 28.

Female Contact MDMB-CTSKT01, compatible with wire size AWG 25, 26, 28.

Process – Contact and Cable Insertion

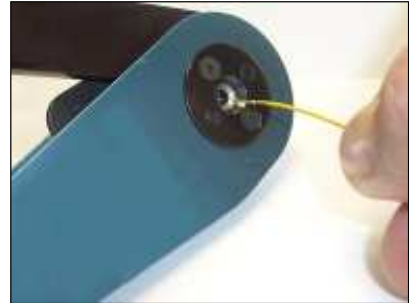
Cable crimping:

1 – Insert wire into contact body.



2 – Insert the unit into the crimping tool (selector position 2) with dedicated locator.

Crimping tool – Position #2:
M22520/2-01 (P/N: C995-0001-584)



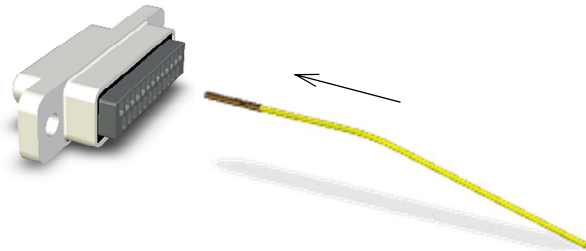
Locator for Male Contact:
MDMA-Locator-P-01 (P/N: C115373-0001)
Locator for Female Contact:
MDMA-Locator-S-01 (P/N: C115373-0002)

Contact insertion:

1 – Insert contact with wire into rear insulator cavity until positive stop.

To avoid stress onto retention clip, insert contact in the axis (no insertion angle).

To be sure contact is locked securely, pull back lightly on wire or use calibrated test retention tool.
MDMA-Retention tool (P/N: C115373-0003).

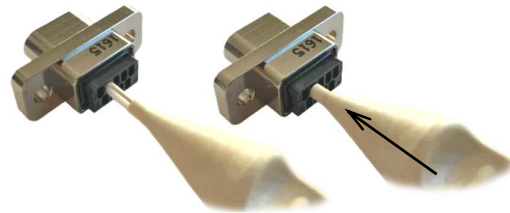


Process – Contact and Cable Extraction

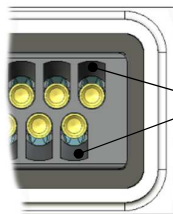
1 – Select contact extraction tool:
Connector size 9 to 37 → MDMA-Extract tool-01 (P/N: C115373-0006)
Connector size 51 → MDMA-Extract tool-02 (P/N: C115373-0007)



2 – Insert tool tip into contact cavity until tip bottoms against contact shoulder, releasing time.
Hold wire against tool with finger and remove tool and contact.

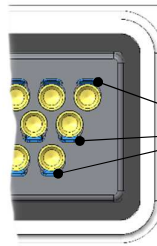


Be careful to put extraction tool in the good position!!
Each contact cavity has flat area to place tool tip.



Connector size 9 to 37

Insertion area for Extraction tool



Connector size 51

Insertion area for Extraction tool

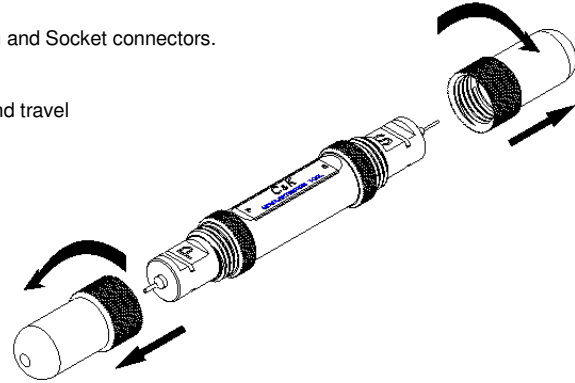
Process – Retention Test

Use Retention Test Tool - P/N C115373-0009

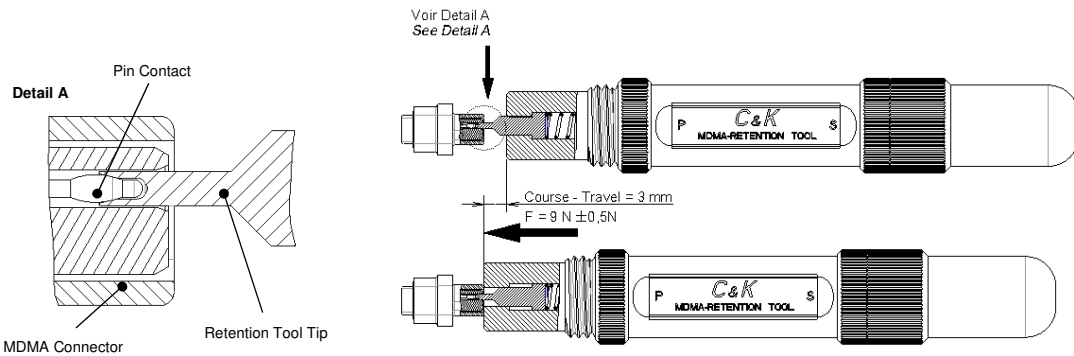
This tool is equipped with 2 test tips at the ends for use with Pin and Socket connectors. It is delivered with:

- 2 protective caps
- 1 calibration certificate referring to applicable force and travel

If necessary, we can perform the calibration of tools already in service. Use P/N C115373-0009 CA for a quote.

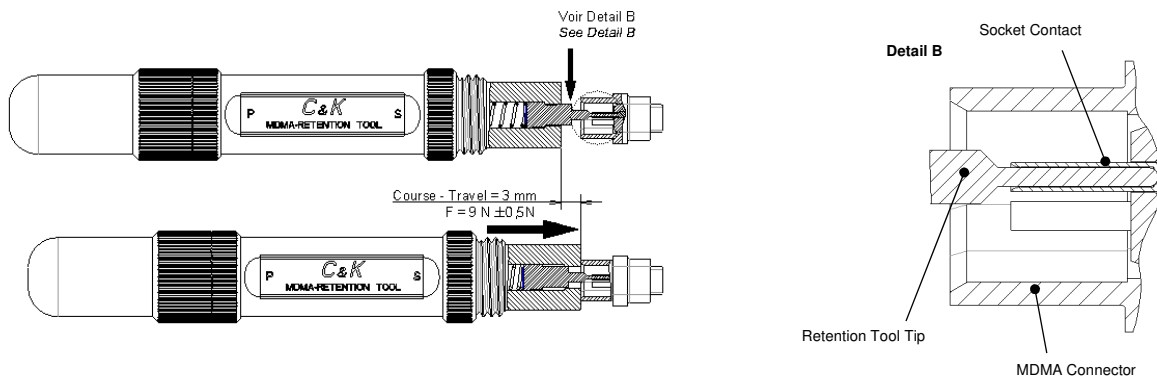


MDMA Connector with Pin Contacts:



Insert the tip of the tool around the Pin contact
Push the tool up to the stop with the front face of the connector
Pull back lightly on wire to be sure contact is locked securely

MDMA Connector with Socket Contacts:



Insert the tip of the tool inside the Socket contact
Push the tool up to the stop with the front face of the connector
Pull back lightly on wire to be sure contact is locked securely

Accessories

Interfacial seal	Size	ESA/ESCC Description	C&K P/N
	9S	340103212B	C115373-0050C
	15S	340103213B	C115373-0051C
	21S	340103214B	C115373-0052C
	25S	340103215B	C115373-0053C
	31S	340103216B	C115373-0054C
	37S	340103217B	C115373-0055C
	51S	340103219B	C115373-0056C
Male Screwlock	C&K Description		C&K P/N
	MDM-115288-6916-FR022		C115288-6916
Crimping tool	CX&K Description		C&K P/N
	M22520/2-01		C995-0001-584
Locator	Type	C&K Description	C&K P/N
	Male contacts	MDMA-Locator-P-01	C115373-0001
	Female contacts	MDMA-Locator-S-01	C115373-0002
Extraction tool	Connector Size	C&K Description	C&K P/N
	9 to 37	MDMA-Extract tool-01	C115373-0006
	51	MDMA-Extract tool-02	C115373-0007
Test retention tool	C&K Description		C&K P/N
	Male and Female Contacts		MDMA-Retention tool C115373-0009
Dust Cap	Size	C&K Description	C&K P/N
	9P	MDM-DUSTCAP-9P-FR022	C115288-6927
	9S	MDM-DUSTCAP-9S-FR022	C115288-6928
	15P	MDM-DUSTCAP-15P-FR022	C115288-6929
	15S	MDM-DUSTCAP-15S-FR022	C115288-6930
	21P	MDM-DUSTCAP-21P-FR022	C115288-6931
	21S	MDM-DUSTCAP-21S-FR022	C115288-6932
	25P	MDM-DUSTCAP-25P-FR022	C115288-6933
	25S	MDM-DUSTCAP-25S-FR022	C115288-6934
	31P	MDM-DUSTCAP-31P-FR022	C115288-6935
	31S	MDM-DUSTCAP-31S-FR022	C115288-6936
	37P	MDM-DUSTCAP-37P-FR022	C115288-6937
	37S	MDM-DUSTCAP-37S-FR022	C115288-6938
	51P	MDM-DUSTCAP-51P-FR022	C115288-6939
	51S	MDM-DUSTCAP-51S-FR022	C115288-6940

For the complete range of accessories and details, consult our MDM accessories datasheet.

Connectors Description and C&K Part Numbers

Shell	Contact Type	Contacts #	Attachement Option					
			Standard Connector		Connector with Captive Nut (E)		Connector with Floating Mount (Y)	
			C&K Description	C&K P/N	C&K Description	C&K P/N	C&K Description	C&K P/N
Nickel	Pin	9	MDMB-9P-A174-FO	C115373-1100	MDMBE-9P-A174-FO	C115373-1124	MDMBY-9P-A174-FO	C115373-1112
		15	MDMB-15P-A174-FO	C115373-1102	MDMBE-15P-A174-FO	C115373-1126	MDMBY-15P-A174-FO	C115373-1114
		21	MDMB-21P-A174-FO	C115373-1104	MDMBE-21P-A174-FO	C115373-1128	MDMBY-21P-A174-FO	C115373-1116
		25	MDMB-25P-A174-FO	C115373-1106	MDMBE-25P-A174-FO	C115373-1130	MDMBY-25P-A174-FO	C115373-1118
		31	MDMB-31P-A174-FO	C115373-1108	MDMBE-31P-A174-FO	C115373-1132	MDMBY-31P-A174-FO	C115373-1120
		37	MDMB-37P-A174-FO	C115373-1110	MDMBE-37P-A174-FO	C115373-1134	MDMBY-37P-A174-FO	C115373-1122
	51	MDMB-51P-A174-FO	C115373-1136	MDMBE-51P-A174-FO	C115373-1140	MDMBY-51P-A174-FO	C115373-1138	
	Socket	9	MDMB-9S-A174-FO	C115373-1101	MDMBE-9S-A174-FO	C115373-1125	MDMBY-9S-A174-FO	C115373-1113
		15	MDMB-15S-A174-FO	C115373-1103	MDMBE-15S-A174-FO	C115373-1127	MDMBY-15S-A174-FO	C115373-1115
		21	MDMB-21S-A174-FO	C115373-1105	MDMBE-21S-A174-FO	C115373-1129	MDMBY-21S-A174-FO	C115373-1117
		25	MDMB-25S-A174-FO	C115373-1107	MDMBE-25S-A174-FO	C115373-1131	MDMBY-25S-A174-FO	C115373-1119
		31	MDMB-31S-A174-FO	C115373-1109	MDMBE-31S-A174-FO	C115373-1133	MDMBY-31S-A174-FO	C115373-1121
		37	MDMB-37S-A174-FO	C115373-1111	MDMBE-37S-A174-FO	C115373-1135	MDMBY-37S-A174-FO	C115373-1123
	51	MDMB-51S-A174-FO	C115373-1137	MDMBE-51S-A174-FO	C115373-1141	MDMBY-51S-A174-FO	C115373-1139	
	Gold	Pin	9	MDMB-9P-FR172-FO	C115373-1150	MDMBE-9P-FR172-FO	C115373-1174	MDMBY-9P-FR172-FO
15			MDMB-15P-FR172-FO	C115373-1152	MDMBE-15P-FR172-FO	C115373-1176	MDMBY-15P-FR172-FO	C115373-1164
21			MDMB-21P-FR172-FO	C115373-1154	MDMBE-21P-FR172-FO	C115373-1178	MDMBY-21P-FR172-FO	C115373-1166
25			MDMB-25P-FR172-FO	C115373-1156	MDMBE-25P-FR172-FO	C115373-1180	MDMBY-25P-FR172-FO	C115373-1168
31			MDMB-31P-FR172-FO	C115373-1158	MDMBE-31P-FR172-FO	C115373-1182	MDMBY-31P-FR172-FO	C115373-1170
37			MDMB-37P-FR172-FO	C115373-1160	MDMBE-37P-FR172-FO	C115373-1184	MDMBY-37P-FR172-FO	C115373-1172
51		MDMB-51P-FR172-FO	C115373-1186	MDMBE-51P-FR172-FO	C115373-1190	MDMBY-51P-FR172-FO	C115373-1188	
Socket		9	MDMB-9S-FR172-FO	C115373-1151	MDMBE-9S-FR172-FO	C115373-1175	MDMBY-9S-FR172-FO	C115373-1163
		15	MDMB-15S-FR172-FO	C115373-1153	MDMBE-15S-FR172-FO	C115373-1177	MDMBY-15S-FR172-FO	C115373-1165
		21	MDMB-21S-FR172-FO	C115373-1155	MDMBE-21S-FR172-FO	C115373-1179	MDMBY-21S-FR172-FO	C115373-1167
		25	MDMB-25S-FR172-FO	C115373-1157	MDMBE-25S-FR172-FO	C115373-1181	MDMBY-25S-FR172-FO	C115373-1169
		31	MDMB-31S-FR172-FO	C115373-1159	MDMBE-31S-FR172-FO	C115373-1183	MDMBY-31S-FR172-FO	C115373-1171
		37	MDMB-37S-FR172-FO	C115373-1161	MDMBE-37S-FR172-FO	C115373-1185	MDMBY-37S-FR172-FO	C115373-1173
51		MDMB-51S-FR172-FO	C115373-1187	MDMBE-51S-FR172-FO	C115373-1191	MDMBY-51S-FR172-FO	C115373-1189	

Contacts Description and C&K Part Numbers

Used for Wire Size AWG	Contact Type	C&K Description	C&K Part Number
25 / 26 / 28	Pin	MDMB-CTPIN01	C331-8752-000D
	Socket	MDMB-CTSKT01	C252-8838-000D
24 / 25 / 26 / 28 / 2x28	Pin *	MDMB-CTPIN02	C331-8754-000D
	Socket *	MDMB-CTSKT02	C252-8844-000D

*To be preferred. Designed for all wires combination.

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