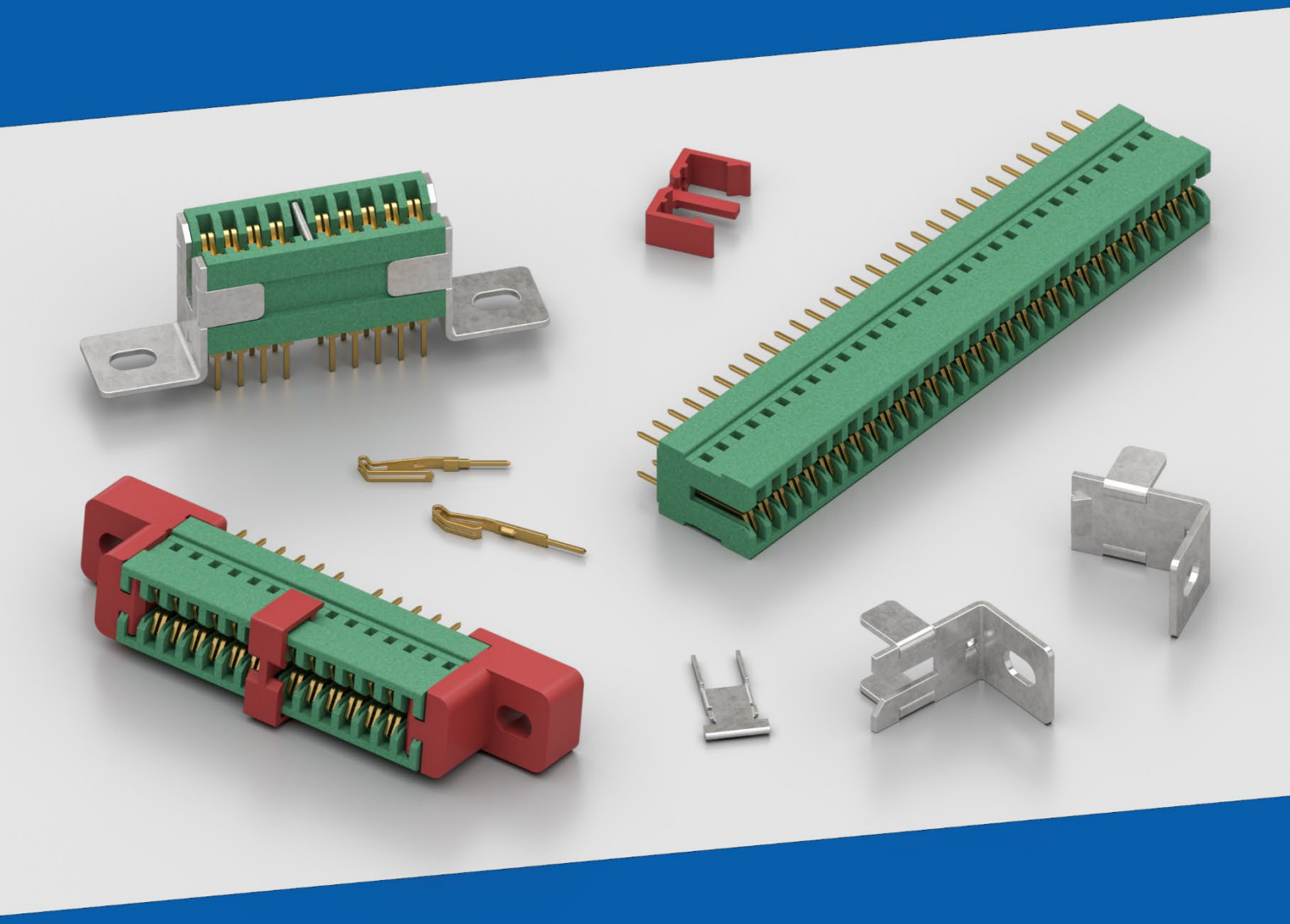
EDGECARD Connectors

PCB board to board connectors with 0,1" / 2.54mm pitch



Weald ELECTRONICS

MANUFACTURERS OF HIGH QUALITY CONNECTORS AND CONNECTOR ACCESSORIES

www.wealdelectronics.com

Issue 9 Date: 20.06.2023

EDGECARD CONNECTORS
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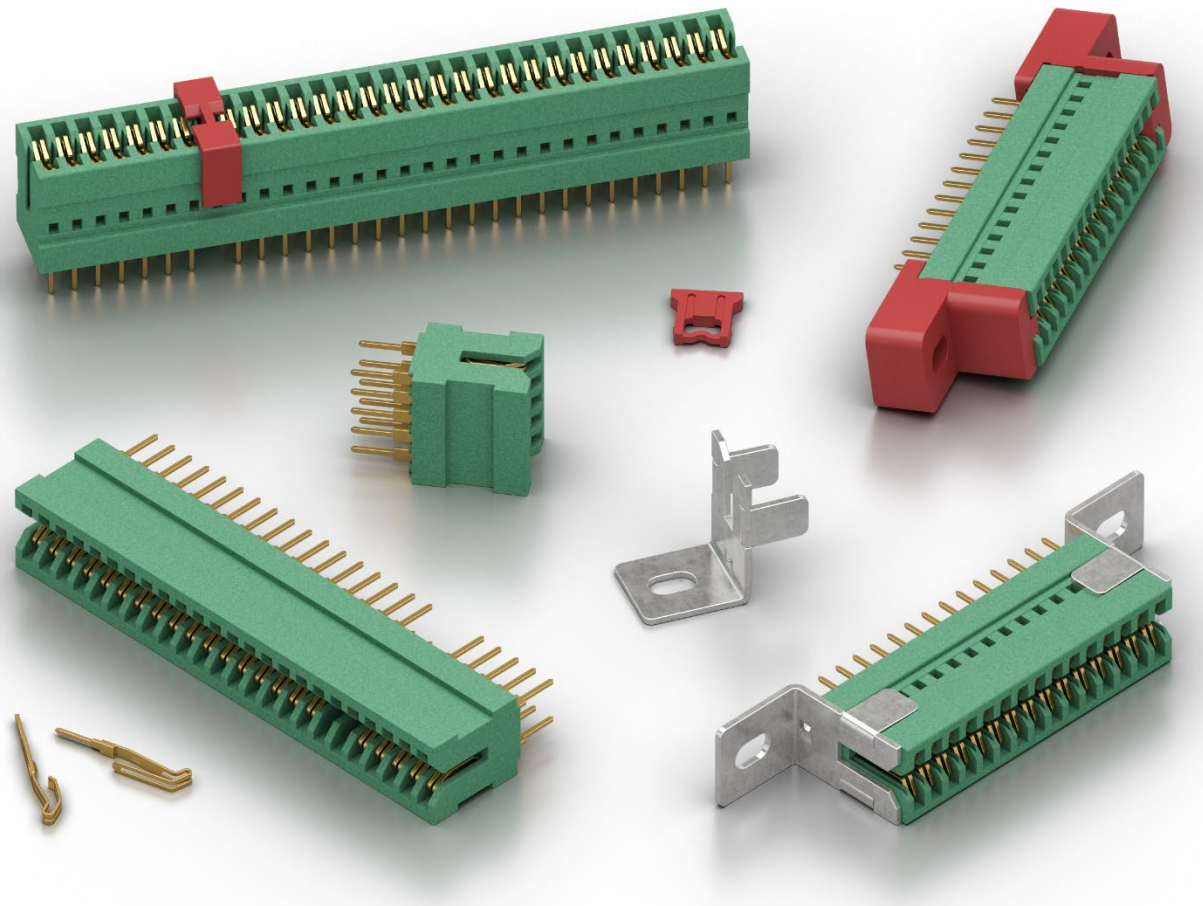


EDGECARD CONNECTORS

GENERAL INFORMATION

MAIN FEATURES

- 2,54mm (0,1") pitch
- Suitable for 1,4mm to 1,7mm thick printed circuit boards
- Fixed or replaceable contacts
- Cantilever or bifurcated contacts
- Cut to any size from 4 to 170 contacts double sided
- Suitable for vapour phase soldering
- Solder for discrete wire, straight p.c. and wire wrapping terminations
- Plastic and metal end feet
- Plastic and metal polarising keys

TECHNICAL DATA

MATERIALS	
Insulator	Glass filled polyester rated UL94 V-O
Contact	Copper alloy plated hard acid gold
Termination	Solder

MECHANICAL	
Mechanical operations	100 ('Q' finish) 250 ('N' finish)
Insertion and withdrawal force (per contact pair)	2.2 N max 0.2 N min
Contact holding force	0.15 N min
Operating temperature	-55°C to +125°C

ELECTRICAL	
Current – Individual contacts (in isolation)	At 25°C Tamb. 4.5A max. At 85°C Tamb. 3A max.
Current – All contacts (simultaneously)	At 25°C Tamb. 4A max. At 85°C Tamb. 2.5A max.
Working Voltage	350V dc or ac peak
Proof Voltage	1050V dc or ac peak
Contact Resistance (initially)	10mΩ max
Contact Resistance (after conditioning)	15mΩ max
Insulation Resistance (initially)	1000MΩ min
Insulation Resistance (after conditioning)	100MΩ min

EDGECARD CONNECTORS

ORDERING INFORMATION

EXAMPLE C 54712 Q Q 15 D LA 6

Contact type
C – Cantilever
B – Bifurcated

Assembly style
See pages 6 and 7

Side A contact finish
Q – Gold (100 operations)
H – Tin lead (backing springs)
Z – Single sided no backing springs

Side B contact finish
Q – Gold (100 operations)
H – Tin lead (backing springs)
Z – Single sided no backing springs

Polarising key position
In place of contact position 1 to 85
Intercontact position 1-2 to 84-85

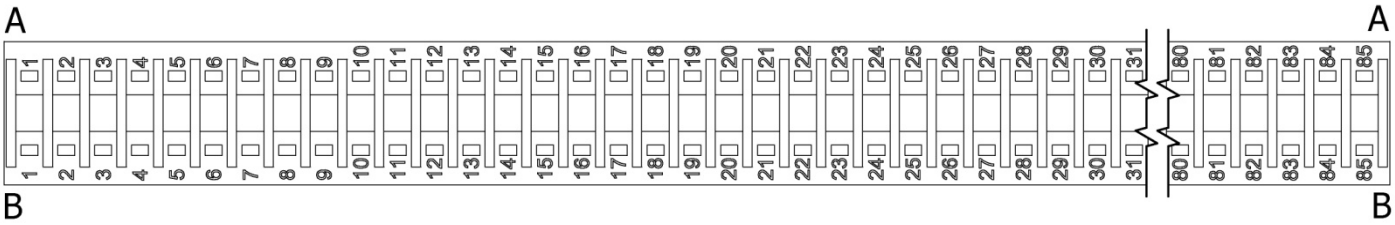
Polarising key type
LA, CA, KE etc (see page 9)

Row of contacts
D – Double
Omit for single

Number of contacts
5 to 85

NOTE: Limited quantities of some contact styles available. Please contact Sales Office for availability before designing in or specifying.

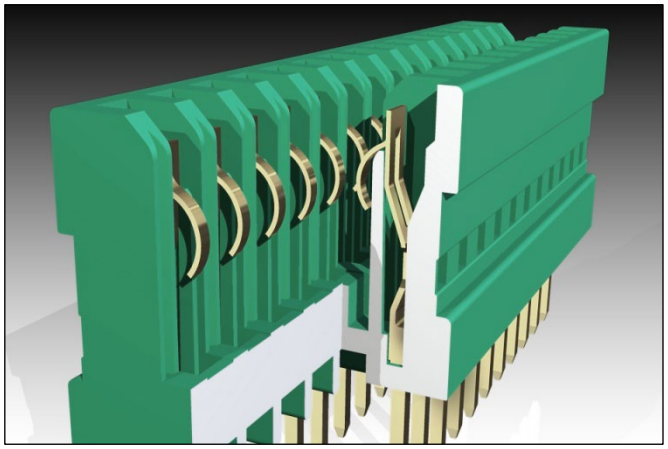
CONTACT IDENTIFICATION



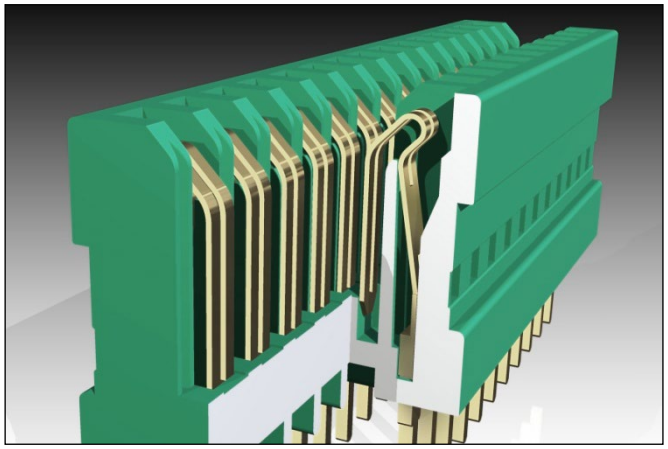
VIEW FROM REAR OF MOULD

CONTACT TYPES

CANTILEVER CONTACTS

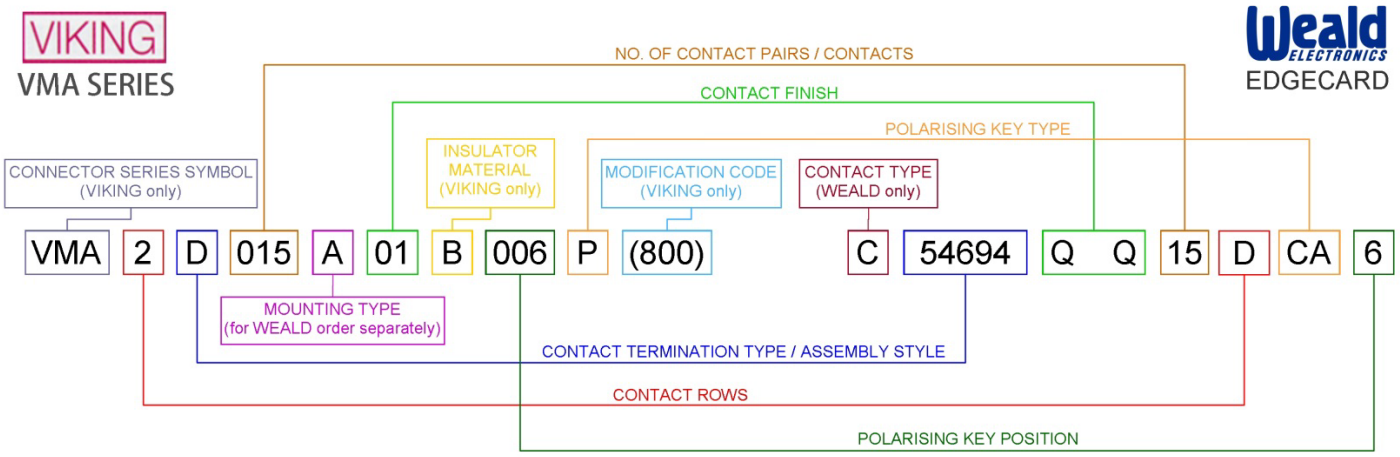


BIFURCATED CONTACTS



EDGECARD CONNECTORS

ORDERING CODES – VIKING / WEALD COMPARISON



CONTACT TYPE

VIKING: Fixed bifurcated contacts only

WEALD: C - Cantilever
B - Bifurcated

CONTACT TERMINATION TYPE / ASSEMBLY STYLE

VIKING	WEALD
D	54694 - Metal Fixing, Double Sided
	54696 - Plastic Fixing, Double Sided
T	54688 - Metal Fixing, Double Sided
	54690 - Plastic Fixing, Double Sided
W	54684 - Metal Fixing, Single Sided
	54686 - Plastic Fixing, Single Sided

CONTACT ROWS

VIKING: 2 - Double Sided
3 - Single Sided

WEALD: Omitted - Single Sided
D - Double Sided

NO. OF CONTACT PAIRS / CONTACTS

VIKING: 005 - 100

WEALD: 5 to 85

MOUNTING TYPE

VIKING	WEALD*
A	31152-507-0
B	31152-508-0
C	31152-104-0
N (No Bracket)	-

* - WEALD End Fixings are available separately

POLARISING KEY POSITION

VIKING: 001 - 100

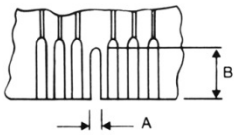
WEALD: In place of contact position 1 to 85
Intercontact position 1-2 to 84-85

POLARISING KEY TYPE

VIKING: P - In-contact 1.55 Nylon key (Black)
T - In-contact 0.737 Nylon key (White)
B - Between contact Nylon key (Red)
N - No polarising key

WEALD:

KEY TYPE	A min	B
EA	0.89	7.9
DA/KA	1.65	7.9
MA	0.89	9.4
LA	0.92	7.9
CA	1.6	7.9



CONTACT FINISH

VIKING: 01 - Gold 0.25 microns thick
05 - Gold 0.75 microns thick on engagement area, 0.25 microns thick on remainder
07 - Tin 6.35 microns thick
09 - Gold 0.25 microns thick on engagement area, Tin 5 microns thick on remainder
23 - Gold 0.75 microns thick on engagement area, Tin 5 microns thick on remainder
All plating over Nickel

WEALD L - 0.8 microns Gold over 3.8 microns Nickel
N - 5 microns Gold over Copper
Q - 0.5 microns Gold over 3.8 microns Nickel
Y - 0.5 microns Gold with 5 microns Gold local (engagement area)

MODIFICATION CODE (VIKING only)

VIKING: 800 - Identification Label Fitted

INSULATOR MATERIAL (VIKING only)

VIKING: B - Glass filled polyester. Colour - black

EDGECARD CONNECTORS
ASSEMBLY STYLES

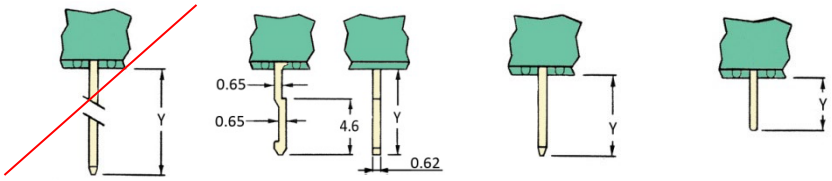
Table 1 — REPLACEABLE CONTACTS, PLAIN CANTILEVER "C"

TERMINATION STYLE	WIRE WRAPPING		SOLDER LUG		STRAIGHT P.C.			
ASSEMBLY STYLE	Double Sided	Single Sided	Double Sided	Single Sided	Double Sided	Single Sided	Double Sided	Single Sided
METAL FIXINGS ***	54708	54709	54700** (table 2)	54701** (table 2)	54712 54688 (table 4)	54713 54688 (table 4)	54724	54725
PLASTIC FIXINGS ***	54710	54711	54702** (table 2)	54703** (table 2)	54714 54690 (table 4)	54715 54690 (table 4)	54726	54727
Y	14.6				6.0		3.9	
W MAX.	0.95				0.95		0.71	
SECTION XX	0.63 x 0.63				0.63 x 0.63		0.41 x 0.53	

Part no. obsolete

Closest replacement

** - Offer bifurcated



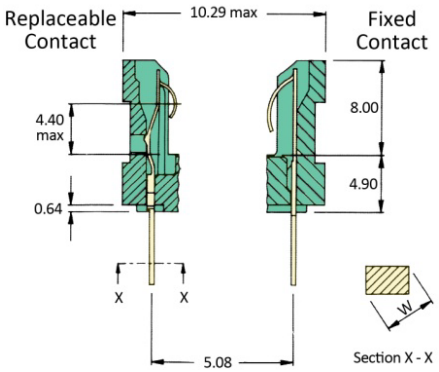


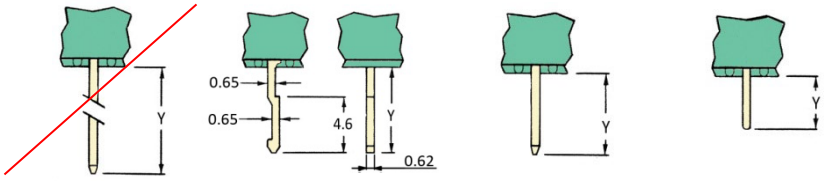
Table 2 — REPLACEABLE CONTACTS, BIFURCATED INVERTED BELLOWS "B"

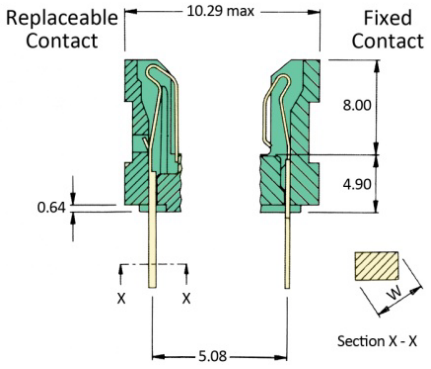
TERMINATION STYLE	WIRE WRAPPING		SOLDER LUG		STRAIGHT P.C.			
ASSEMBLY STYLE	Double Sided	Single Sided	Double Sided	Single Sided	Double Sided	Single Sided	Double Sided	Single Sided
METAL FIXINGS	54708	54709	54700	54701	54716 54688 (table 4)	54717 54688 (table 4)	54740 54694 (table 4) 54724 (table 1)	54741 54725 (table 1)
PLASTIC FIXINGS	54710	54711	54702	54703	54718 54690 (table 4)	54719 54690 (table 4)	54742 54696 (table 4) 54726 (table 1)	54743 54727 (table 1)
Y	14.6		7.2		5.3		3.9	
W MAX.	0.95		-		0.95		0.71	
SECTION XX	0.63 x 0.63		0.62 x 0.65		0.63 x 0.63		0.41 x 0.53	

Part no. obsolete

Closest replacement

* - Offer double sided





NOTE: Wire wrapping contacts and special extender board terminations including 90 deg. versions not available.

EDGECARD CONNECTORS
ASSEMBLY STYLES

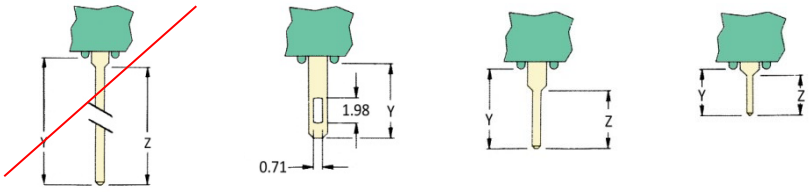
Table 3 — FIXED CONTACTS, PLAIN CANTILEVER "C"

TERMINATION STYLE	WIRE WRAPPING		SOLDER LUG		STRAIGHT P.C.			
ASSEMBLY STYLE	Double Sided	Single Sided	Double Sided	Single Sided	Double Sided	Single Sided	Double Sided	Single Sided
METAL FIXINGS	54640	54641	54630 54680 (table 4)	54631* 54680 (table 4)	54654 54688 (table 4)	54655* 54688 (table 4)	54632 54694 (table 4)	54633* 54694 (table 4)
PLASTIC FIXINGS	54645	54646	54635 54682 (table 4)	54636* 54682 (table 4)	54656 54690 (table 4)	54657* 54690 (table 4)	54637 54696 (table 4)	54638* 54696 (table 4)
Y	14.6		5.9		6.3		3.7	
W MAX.	0.91				0.75		0.65	
SECTION XX	0.38 x 0.76				0.38 x 0.57		0.38 x 0.46	
Z	13.8				4.6		3.1	

Part no. obsolete

Closest replacement

* - Offer double sided



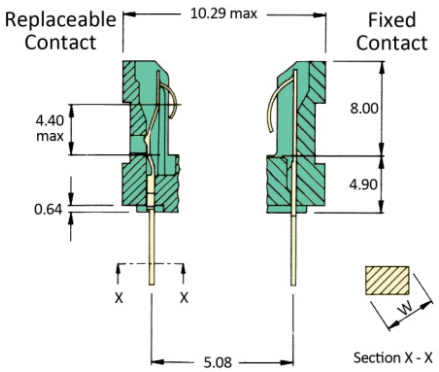
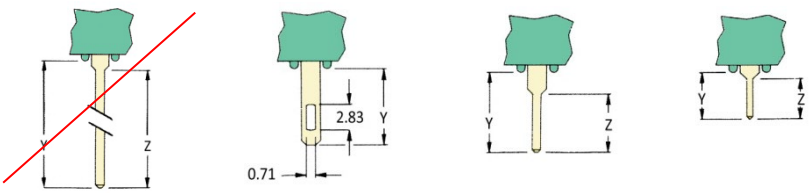


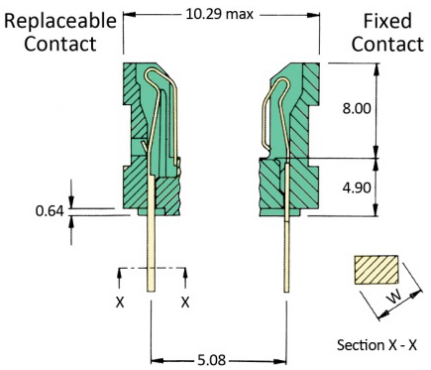
Table 4 — FIXED CONTACTS, BIFURCATED INVERTED BELLOWS "B"

TERMINATION STYLE	WIRE WRAPPING		SOLDER LUG		STRAIGHT P.C.			
ASSEMBLY STYLE	Double Sided	Single Sided	Double Sided	Single Sided	Double Sided	Single Sided	Double Sided	Single Sided
METAL FIXINGS	54684	54685	54680	54681 54680 (table 4)	54688	54689 54688 (table 4)	54694	54695 54694 (table 4)
PLASTIC FIXINGS	54686	54687	54682	54683 54682 (table 4)	54690	54691 54690 (table 4)	54696	54697 54696 (table 4)
Y	14.6		4.4		6.3		3.7	
W MAX.	0.90				0.75		0.65	
SECTION XX	0.38 x 0.76				0.38 x 0.57		0.38 x 0.46	
Z	14.1				4.6		3.1	

Part no. obsolete

Closest replacement





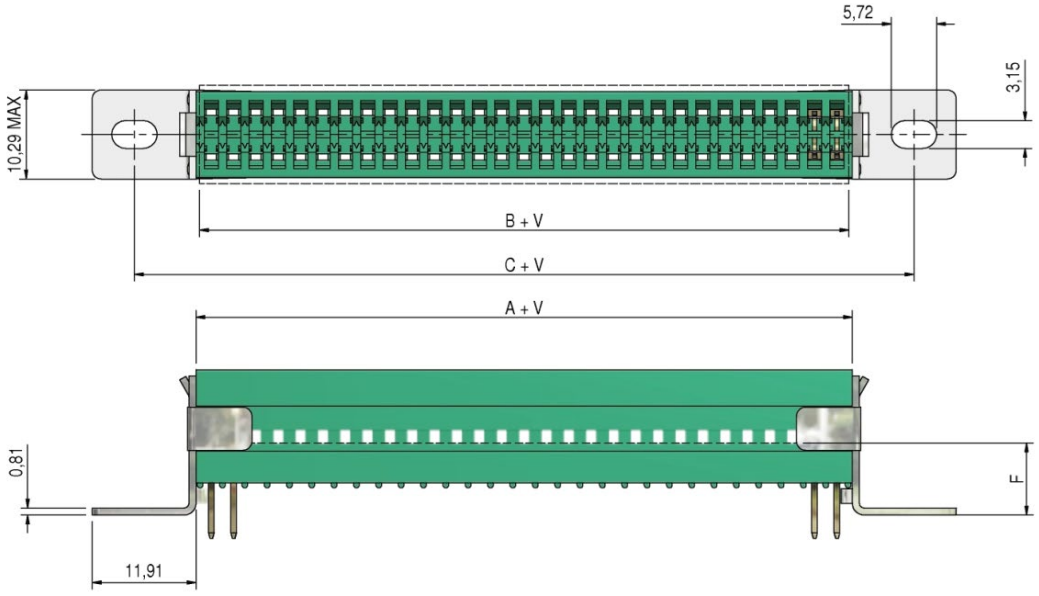
NOTE: Wrapping contacts and special extender board terminations including 90 deg. versions not available.

EDGECARD CONNECTORS
DIMENSIONS

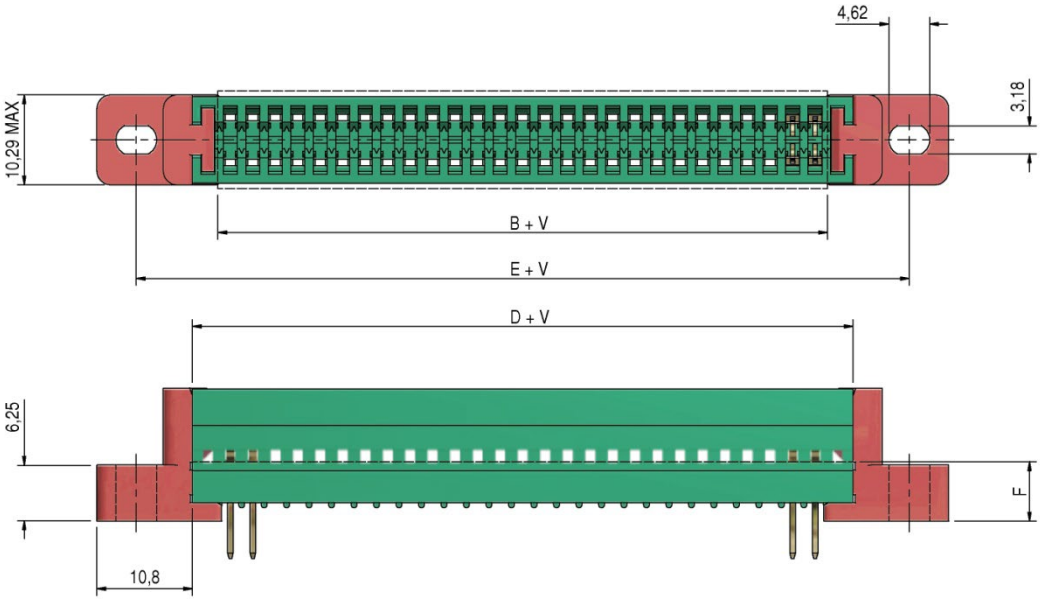
DIMENSION 'V'			
No of ways	mm	No of ways	mm
5	12,70	48	121,92
6	15,24	49	124,46
7	17,78	50	127,00
8	20,32	51	129,54
9	22,86	52	132,08
10	25,40	53	134,62
11	27,94	54	137,16
12	30,48	55	139,70
13	33,02	56	142,24
14	35,56	57	144,78
15	38,10	58	147,32
16	40,64	59	149,86
17	43,18	60	152,40
18	45,72	61	154,94
19	48,26	62	157,48
20	50,80	63	160,02
21	53,34	64	162,56
22	55,88	65	165,10
23	58,42	66	167,64
24	60,96	67	170,18
25	63,50	68	172,72
26	66,04	69	175,26
27	68,58	70	177,80
28	71,12	71	180,34
29	73,66	72	182,88
30	76,20	73	185,42
31	78,74	74	187,96
32	81,28	75	190,50
33	83,82	76	193,04
34	86,36	77	195,58
35	88,90	78	198,12
36	91,44	79	200,66
37	93,98	80	203,20
38	96,52	81	205,74
39	99,06	82	208,28
40	101,60	83	210,82
41	104,14	84*	213,36
42	106,68	85*	215,90
43	109,22		
44	111,76		
45	114,30		
46	116,84		
47	119,38		

* - Not available with plastic end fixings

CONNECTOR WITH METAL FIXINGS



CONNECTOR WITH PLASTIC FIXINGS

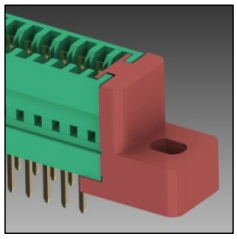


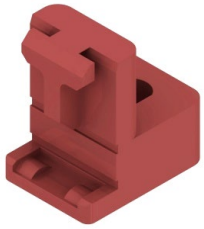
CONSTANT DIMENSIONS	END FIXING PART NO.	DIMENSION 'F'
A = 0,97 Moulding length using metal fixings B = 0,71 Board length (max.) C = 15,19 Fixing centres with metal fixings D = 6,05 Moulding length using plastic fixings E = 18,75 Fixing centres with plastic fixings	31152-104-0	6,35
	31152-507-0	7.98
	31152-508-0	7.98

EDGECARD CONNECTORS

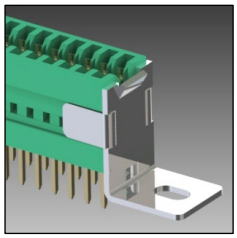
ACCESSORIES

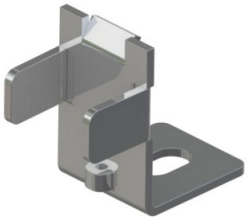
END FIXINGS



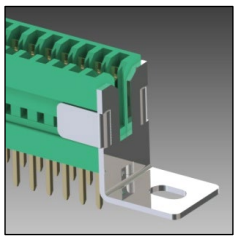


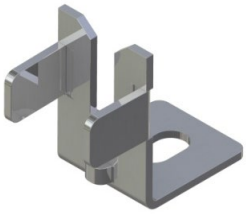
Part No. 31152-104-0
Plastic, self retaining





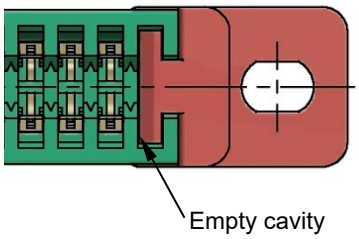
Part No. 31152-507-0
Metal





Part No. 31152-508-0
Metal

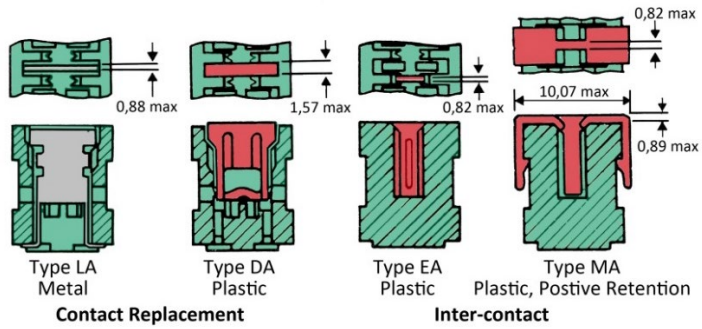
All connectors listed can be mounted with plastic or metal end fixings as detailed opposite. When using plastic fixings a pair of cavities must be left empty at either end, and the appropriate dimensional constants automatically compensate for extra connector length. See more details on page 8.



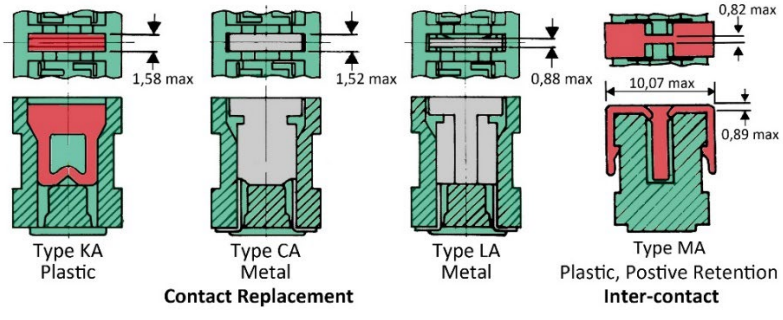
Note: End Fixings are not supplied with connectors and must be ordered separately.

POLARISING / LOCATION KEYS

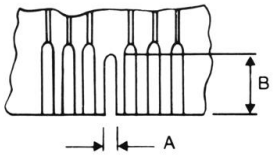
REMOVEABLE CONTACT



FIXED CONTACT



The contact replacement keys are inserted in a pair of opposing cavities ie. to replace a pair of contacts.
They can be ordered separately, or assembled by specifying the type and position required. See ordering information on page 4.
Key types EA and MA are supplied separately to be fitted by the customer.



RECOMMENDED BOARD CUT-OUT

Key Type	A min	B
EA	0,89	7,90
DA/KA	1,65	7,90
MA	0,89	9,40
LA	0,92	7,90
CA	1,60	7,90

EDGECARD CONNECTORS

PRODUCT SAFETY INFORMATION

These notes are intended to be used in conjunction with the Product Catalogue and Product Specification. Products may be safely used in the applications for which they have been designed and within the specified rating and environments. If products are exposed to conditions outside the performance ratings or specified environments they may constitute a hazard. In particular it should be noted that:-

1. Material Content

Edgecard Connectors generally use plastic and metal parts made of glass filled polyester, nylon and copper alloys.

2. Electric Shock, Burns and Fire

Hazard can occur if the product is used outside the specified parameters or if the product is damaged, wrongly wired or poorly assembled, or poorly integrated into larger equipments, or contaminated with conductive fluids. Live circuit terminations must be protected and live circuits never broken by disconnecting products.
Hot spots may be created when resistance is increased due to damage or incorrect integration particularly soldering, or loose terminations. Overheating can cause breakdown of insulation, electric shock, burns or, ultimately, fire. In the event of fire noxious and/or toxic fumes may be released and, in these circumstances, any fire involving the product should be dealt with by personnel properly equipped. Connectors with exposed terminations or contacts should not be used on the current supply side of a circuit with exposed contacts on an unmated product. Before making a circuit live, the product and wiring should be checked to ensure there is no electrically conducting debris present. Circuit resistance checks should also be conducted before making the circuit live. Always ensure that connectors are assembled and wired by properly trained personnel.

3. Use, Transport and Storage of Products

Care must be exercised to avoid damage to any part of the products during transporting, storage or use. Abnormal transit or storage conditions and abuse during installation can give rise to damage. Products should not be used in a damaged condition.
Improper storage (particularly of damaged products) can give rise to additional hazards particularly corrosion.

4. Disposal of Products

Product should not be burnt.

SAFETY RULES

1. FOLLOW THE GUIDELINES GIVEN.
2. ALWAYS PROTECT LIVE CIRCUITS AND NEVER DISCONNECT A LIVE CONNECTOR.
3. NEVER USE A DAMAGED CONNECTOR.
4. NEVER BURN DISCARDED CONNECTORS.
