

HONDA TSUSHIN KOGYO CO.,LTD. TOKYO JAPAN		Sheet		1 of 4		
		Date issued		Mar 09,2006		
Product Specification MR Series Connectors		Approved by	Checked by	Checked by	Prepared by	
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1. Part Number 1-1. Connector						
		1	Feb 25,2009	M.Miyazaki	Revise	H.Ebihara
		LTR.	DATE	BY	REV.DESCRIP	APP.
Type	With LB(※)	With BR(※)	Connector Part Number			
			Male connector	Female connector		
Soldering type			MR-(8~60)M(G)	MR-(8~60)F(G)		
	○		MR-(8~50)RM(G)(+) MR-60R2M(G)(+)	MR-(8~50)RF(G)(+) MR-60R2F(G)(+)		
		○	MR-(16~50)SRM(G)(+)	MR-(16~50)SRF(G)(+)		
Wrapping type			MR-(8~60)MW(G)	MR-(8~60)FW(G)		
	○		MR-(8~50)RMW(G)(+) MR-60R2MW(G)(+)	MR-(8~50)RFW(G)(+) MR-60R2FW(G)(+)		
		○	MR-(16~50)SRMW(G)(+)	MR-(16~50)SRFW(G)(+)		
Straight dip type			MR-(8~50)MD2(G)	MR-(8~50)FD2(G)		
	○		MR-(8~50)RMD2(G)(+)	MR-(8~50)RFD2(G)(+)		
		○	MR-(16~25, 50)SRMD2(G)(+) MR-34SRMD2N(G)(+)	MR-(16~25, 50)SRFD2(G)(+) MR-34SRFD2N(G)(+)		
Right angle dip type			MR-(8~50)MA(G)	MR-(8~50)FA(G)		
	○		MR-(8~50)RMA(4)(G)(+)	MR-(8~50)RFA(4)(G)(+)		
		○	MR-(16~25, 50)SRMA(G)(+) MR-34SRMAN(G)(+)	MR-(16~25, 50)SRFA(G)(+) MR-34SRFAN(G)(+)		
※LB : Locking block、 BR : Brace						
1-2. Case						
Type	Case Part Number					
Vertical case	MR-(8~50)L(+)					
Vertical-Horizontal Combined Case	MR-(8~60)LW(+)					
Case for Junction	MR-(16~50)LK2(+)					
Skew Case	MR-(16~50)NS(+)					
	MR-(16~50)NSA(+)					
	MR-(20, 50)NSB(+)					

2.Connector configuration

Connector dimensions, material and plating shall be in accordance with the referenced drawings.

3. Connector Specification

No.	Item	Specification																																																				
1	Voltage Rating	300 V A.C. (r.m.s.)																																																				
2	Current Rating	3A																																																				
3	Operating Temperature	-40°C to +85°C (With case : -40°C to +55°C)																																																				
4	Humidity	90 %RH max.																																																				
5	Insulation Resistance	The insulation resistance between adjacent contacts shall not be less than 1000MΩ at 500 V D.C.																																																				
6	Dielectric withstanding Voltage	There shall not be breakdown of insulation or flashover between adjacent contacts at 1000 V A.C. (r.m.s) for a minute.																																																				
7	Contact Resistance	Straight type: 7 mΩ max. Right angle type: 30 mΩ max.																																																				
8	Insertion and withdrawal force	<p>○Individual (Female contact insertion and withdrawal force) Insertion force : 2.94N max. Withdrawal: 0.294N min.</p> <p>Gauge Material : tool steel, hardened Gauge thickness : 0.6mm</p> <p>○Overall (Connector insertion and withdrawal force) Connector insertion and withdrawal force shall satisfy following values.</p> <p style="text-align: right;">(N)</p> <table border="1"> <thead> <tr> <th>No. of contact</th> <th>8</th> <th>16</th> <th>20</th> <th>25</th> <th>34</th> <th>50</th> <th>60</th> </tr> </thead> <tbody> <tr> <td rowspan="3">Insertion force</td> <td>2.94</td> <td>5.88</td> <td>7.45</td> <td>9.31</td> <td>12.74</td> <td>18.26</td> <td>23.52</td> </tr> <tr> <td>~</td> <td>~</td> <td>~</td> <td>~</td> <td>~</td> <td>~</td> <td>~</td> </tr> <tr> <td>24.5</td> <td>49.0</td> <td>63.7</td> <td>78.4</td> <td>107.8</td> <td>156.8</td> <td>196</td> </tr> <tr> <td rowspan="3">Withdrawal force</td> <td>1.96</td> <td>3.92</td> <td>4.90</td> <td>5.88</td> <td>7.84</td> <td>11.76</td> <td>14.7</td> </tr> <tr> <td>~</td> <td>~</td> <td>~</td> <td>~</td> <td>~</td> <td>~</td> <td>~</td> </tr> <tr> <td>16.66</td> <td>34.3</td> <td>44.1</td> <td>56.84</td> <td>73.5</td> <td>112.7</td> <td>137.2</td> </tr> </tbody> </table>	No. of contact	8	16	20	25	34	50	60	Insertion force	2.94	5.88	7.45	9.31	12.74	18.26	23.52	~	~	~	~	~	~	~	24.5	49.0	63.7	78.4	107.8	156.8	196	Withdrawal force	1.96	3.92	4.90	5.88	7.84	11.76	14.7	~	~	~	~	~	~	~	16.66	34.3	44.1	56.84	73.5	112.7	137.2
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No.	Item	Specification	
9	Humidity	Temperature : 40°C Humidity:90%~95% Rh Time : 96hours	After test Appearance :No damage Insulation resistance: Refer to item of insulation resistance. Dielectric strength : Refer to item of dielectric strength. Contact resistance : Straight type: 10 mΩ max. Right angle type: 30 mΩ max.
10	Thermal shock	Temperature : -55°C~+85°C Operation : 5 cycle	After test Appearance :No damage Contact resistance : Straight type: 10 mΩ max. Right angle type: 30 mΩ max.
11	Vibration	Frequency range: 10 Hz to 55 Hz Electrical load : 100mA D.C. Amplitude : 1.52mm Duration: 2 hours /axis Axis : Both directions of the three major axis.	During the test, there shall not be discontinuity of the test circuit greater than 10 μ sec. After test Appearance :No damage Contact resistance : Straight type: 10 mΩ max. Right angle type: 30 mΩ max.
12	Shock	Shock acceleration: 490m/s ² Electrical load: 100mA D.C. Operation: 3 times/axis Axes: Both directions of the three major axes.	

No.	Item	Specification	
13	Durability	Test cycles: 500 cycles Speed:600 cycles per hour	After test Appearance :No damage Contact resistance : Straight type: 10 mΩ max. Right angle type: 30 mΩ max.
14	Corrosion (Salt spray)	Concentration: 5% Test time: 48 hours	After test Appearance : There shall be no any excessive corrosion on the connector. Contact resistance : Straight type: 10 mΩ max. Right angle type: 30 mΩ max.
15	Solderability	Solder bath method : Solder flux: Dipped 5~10sec. Solder bath: Dipped $260 \pm 5^{\circ}\text{C}$, $10 \pm 1\text{sec}$. Soldering iron method : 380°C max. , 5sec max.	After test Appearance : There shall cover with new solder that more than 95% of the terminal.
16	Resistance to soldering heat	Solder bath method : $260 \pm 5^{\circ}\text{C}$, $10 \pm 1\text{sec}$ Soldering iron method : 380°C max., 5sec max. Without much pressure to the terminal pin.	After test Appearance : There shall be no thermal damage to the connector.
17	Solvent Resistance	The connector shall be capable of being cleaned by Isopropyl alcohol.	After test Appearance : There shall be no evidence of swelling, cracking or dissolving.