



## Removable Contacts for Series MRAC Connectors

### General Description

Pye connector removable contacts allow quick, easy removal and replacement of any contact without disturbing another—and without discarding the connector. They offer exceptional flexibility in both the choice and revision of circuitry for rack and panel equipment . . . at substantial savings in replacement and installation time. In addition, wiring costs are significantly lowered, as wires may be assembled away from the connector itself. Assembly of contacts to wires is further simplified by crimp type contacts. Compact, and self-aligning, these

removable contacts provide high retention force and exceptional mechanical and electrical reliability.

### Ordering information

To order Series MRAC contacts, specify the type number shown against the relevant illustration below. If heavy gold plating (0.0002 in) is required, please add /-02' to the type number, e.g. MRAC 62-27P/02. To order removable shielded contacts for Series MRAC connectors, specify the relevant type number from the table.

| Type Number    | in    | A    | mm | in    | B    | mm |
|----------------|-------|------|----|-------|------|----|
| MRAC 62-27 P/S | 0.027 | 0.70 |    | 0.055 | 1.40 |    |
| MRAC 62-45 P/S | 0.045 | 1.15 |    | 0.065 | 1.65 |    |
| MRAC 62-67 P/S | 0.067 | 1.70 |    | 0.097 | 2.50 |    |
| MREC 40-43 P/S | 0.043 | 1.10 |    |       |      |    |
| MRAC 62 P/S    | 0.067 | 1.70 |    |       |      |    |

### STYLE OF CONTACT

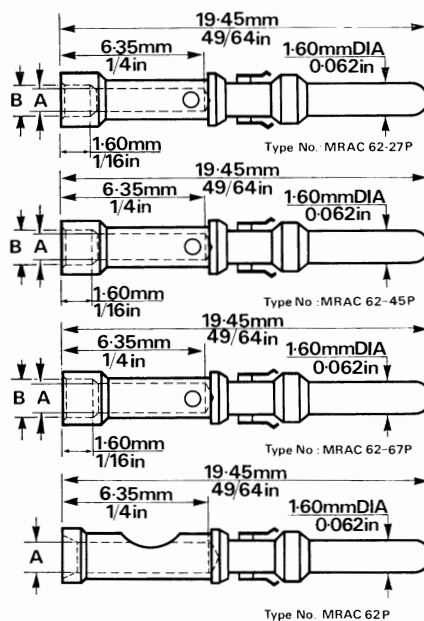
**CRIMP BARREL**  
for wire sizes  
7/004 to 19/0048

**CRIMP BARREL**  
for wire sizes  
19/006 to 19/0076

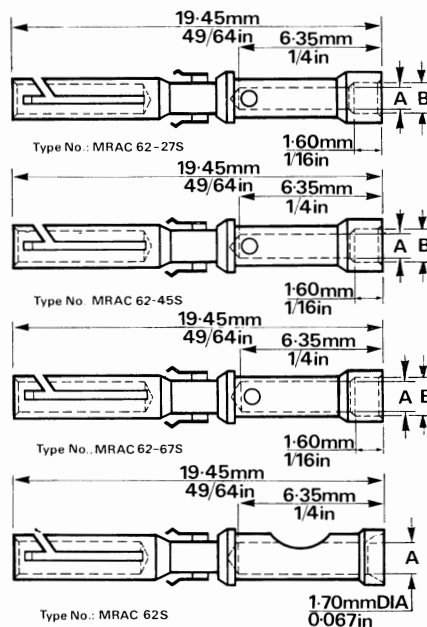
**CRIMP BARREL**  
for wire sizes  
19/0076 to 40/0076

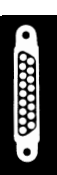
**SOLDER BARREL**

### PIN



### SOCKET





## Wire-wrapping contacts for series MRAC connectors

## Specification

**Contact diameter:** 0.062in**Post sizes:** 0.025in square × 0.530in long  
0.045in square × 0.530in long**Wire sizes:** 24-30 AWG, 25-33 SWG**Current rating:** 13A maximum per contact**Material:** Phosphor bronze**Plating:** Gold over nickel or 0.0002in gold.

Pull-off force and contact resistance:  
0.045in spills wrapped with 25SWG wire exhibit average pull-off forces of 15 lbf (Defence Guide 5029 requires 7 lbf minimum); average contact resistance of 1mΩ; and negligible contact resistance variation.

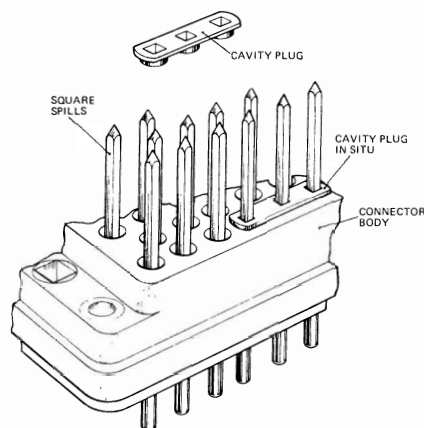
0.025in spills wrapped with 33SWG wire exhibit average pull-off forces of 6 lbf; contact resistance of 2.8mΩ; and no resistance variation. These results conform to Ministry of Aviation Specification RRE 33185.

## Assembly

Pye wire-wrapping contacts snap-in simply and positively to any MRAC Series moulding to form a reliable and permanent connector assembly.

Cavity plugs are available if required for fitting over the contact spills to prevent them turning during wrapping, but they should not be necessary if a good quality wrapping tool is used.

For satisfactory results, Pye Connectors recommend the use of the following Gardner Denver tools:



## 0.025in square spill

| WIRE GAUGE | BIT    | SLEEVE | WRAP     | No. OF TURNS OF BARE WIRE |
|------------|--------|--------|----------|---------------------------|
| 24 AWG     | 505415 | 502129 | Modified | 5                         |
| 25 SWG     | 502134 | 502135 | Standard | 5                         |
| 26 AWG     | 506445 | 500350 | Modified | 6                         |
| 27 SWG     | 505279 | 500350 | Standard | 6                         |
| 28 AWG     | 501389 | 502129 | Modified | 7                         |
| 30 SWG     | 506633 | 500350 | Standard | 7                         |
| 30 AWG     | 507063 | 500350 | Modified | 8                         |
| 33 SWG     | 500353 | 500350 | Standard | 8                         |

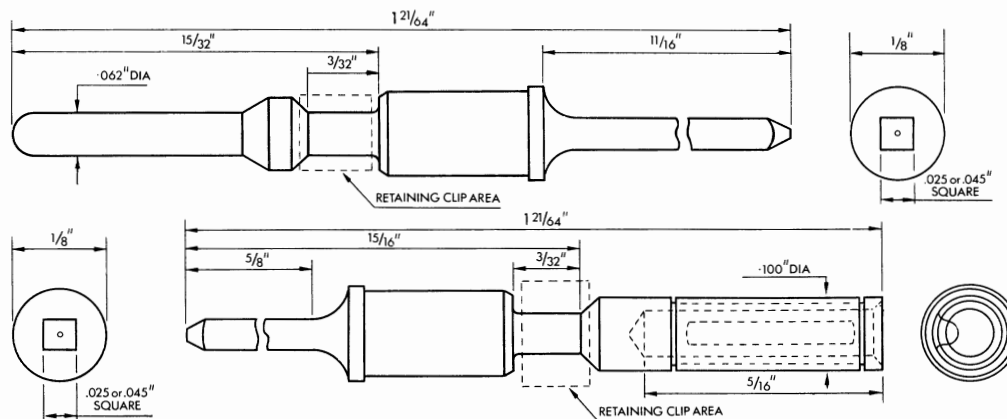
## 0.045in square spill

|        |        |        |          |   |
|--------|--------|--------|----------|---|
| 24 AWG | 26263  | 18840  | Modified | 5 |
| 25 SWG | 501696 | 18840  | Standard | 5 |
| 26 AWG | 502118 | 512056 | Modified | 6 |
| 27 SWG | 504910 | 512056 | Standard | 6 |
| 28 AWG | 505412 | 512056 | Modified | 7 |
| 30 SWG | 505373 | 512056 | Standard | 7 |
| 30 AWG | 501194 | 502129 | Modified | 8 |
| 33 SWG |        |        |          |   |



## Wire-wrapping contacts for series MRAC connectors (cont.)

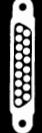
## Contact dimensions



## Ordering information

|                                                                       |               |            |                                |
|-----------------------------------------------------------------------|---------------|------------|--------------------------------|
| Contacts :                                                            | 0.025in spill | socket pin | MRAC 8113-25S<br>MRAC 8114-25P |
|                                                                       | 0.045in spill | socket pin | MRAC 8105-45S<br>MRAC 8106-45P |
| If 0.0002in gold plating is required add /02 after the ordering code. |               |            |                                |

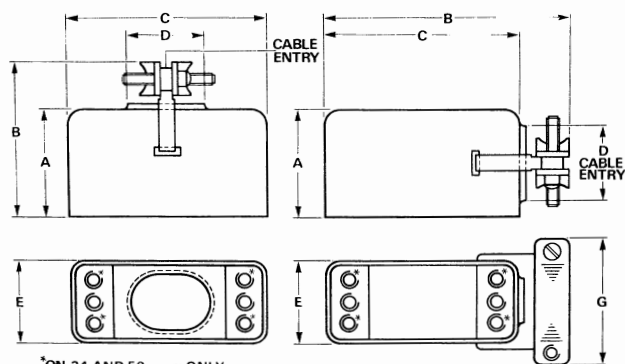
|                |                   |                                                              |
|----------------|-------------------|--------------------------------------------------------------|
| Cavity plugs : | for 0.025in spill | 2 contact type MRAC NRK 25/2<br>3 contact type MRAC NRK 25/3 |
|                | for 0.045in spill | 2 contact type MRAC NRK 45/2<br>3 contact type MRAC NRK 45/3 |



## Accessories for Series MRA Mk 2 and MRE Mk 2 and MRAC Connectors

### Hoods (anodised aluminium)

Hoods give protection to the wire connections, provide support and strain relief for the cable, and facilitate the disengagement of mated connectors.



\*ON 34 AND 50-way ONLY

### Top Entry Hood: Type HD

| Fits Connector   | A                       | B                         | C                         | D                                                     | E                        | G                         |
|------------------|-------------------------|---------------------------|---------------------------|-------------------------------------------------------|--------------------------|---------------------------|
| 7 in<br>way mm   | 1<br>25.4               | $1\frac{7}{16}$<br>36.51  | $1\frac{5}{16}$<br>33.34  | $1\frac{7}{16} \times \frac{5}{16}$<br>11.11 x 7.94   | $\frac{15}{32}$<br>11.91 | $\frac{57}{64}$<br>22.62  |
| 14 in<br>way mm  | 1<br>25.4               | $1\frac{7}{16}$<br>36.51  | $1\frac{11}{32}$<br>34.13 | $1\frac{7}{16} \times \frac{5}{16}$<br>11.11 x 7.94   | $\frac{17}{32}$<br>13.49 | $\frac{61}{64}$<br>24.21  |
| 18 in<br>way mm  | 1<br>25.4               | $1\frac{7}{16}$<br>36.51  | $1\frac{13}{32}$<br>35.72 | $\frac{31}{32} \times \frac{15}{32}$<br>16.67 x 11.91 | $\frac{31}{32}$<br>16.67 | $1\frac{5}{64}$<br>27.38  |
| 26 in<br>way mm  | 1<br>25.4               | $1\frac{7}{16}$<br>36.51  | $1\frac{13}{32}$<br>45.24 | $\frac{31}{32} \times \frac{15}{32}$<br>16.67 x 11.91 | $\frac{31}{32}$<br>16.67 | $1\frac{5}{64}$<br>27.38  |
| 34 in<br>way mm  | $1\frac{1}{2}$<br>31.75 | $1\frac{11}{16}$<br>42.86 | $2\frac{3}{32}$<br>53.18  | $1\frac{3}{8} \times \frac{9}{16}$<br>19.05 x 14.29   | $\frac{37}{32}$<br>21.43 | $\frac{61}{64}$<br>24.21  |
| 50* in<br>way mm | $1\frac{1}{2}$<br>31.75 | $1\frac{11}{16}$<br>42.86 | $2\frac{11}{32}$<br>68.25 | $1\frac{3}{8} \times \frac{9}{16}$<br>19.05 x 14.29   | $\frac{37}{32}$<br>21.43 | $\frac{61}{64}$<br>24.21  |
| 104 in<br>way mm | $2\frac{1}{4}$<br>57.15 | $2\frac{11}{16}$<br>61.12 | $2\frac{27}{32}$<br>72.23 | $1\frac{3}{8}$ diameter<br>34.93                      | $1\frac{1}{8}$<br>41.28  | $1\frac{13}{16}$<br>46.04 |

\* Also available is type 50HD LE with extra-large cable entry of  $\frac{9}{16} \times 1\frac{1}{4}$  in (14.29 x 31.75 mm).

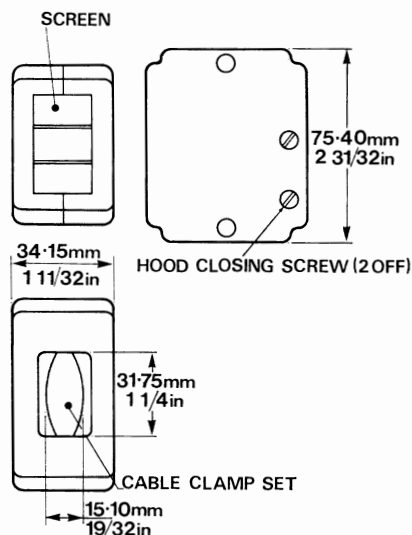
### Side Entry Hood: Type HI-D

| Fits Connector   | A                       | B                         | C                         | D                                                     | E                        | G                         |
|------------------|-------------------------|---------------------------|---------------------------|-------------------------------------------------------|--------------------------|---------------------------|
| 7 in<br>way mm   | 1<br>25.4               | $1\frac{3}{4}$<br>44.45   | $1\frac{5}{16}$<br>33.14  | $1\frac{7}{16} \times \frac{5}{16}$<br>11.11 x 7.94   | $\frac{15}{32}$<br>11.91 | $\frac{57}{64}$<br>22.62  |
| 14 in<br>way mm  | 1<br>25.4               | $1\frac{13}{16}$<br>45.24 | $1\frac{11}{32}$<br>34.13 | $1\frac{7}{16} \times \frac{5}{16}$<br>11.11 x 7.94   | $\frac{17}{32}$<br>13.49 | $\frac{61}{64}$<br>24.21  |
| 18 in<br>way mm  | 1<br>25.4               | $1\frac{13}{16}$<br>46.83 | $1\frac{13}{32}$<br>35.72 | $\frac{31}{32} \times \frac{15}{32}$<br>16.67 x 11.91 | $\frac{31}{32}$<br>16.62 | $1\frac{5}{64}$<br>27.38  |
| 26 in<br>way mm  | 1<br>25.4               | $2\frac{5}{16}$<br>54.77  | $1\frac{13}{32}$<br>43.66 | $\frac{31}{32} \times \frac{15}{32}$<br>16.67 x 11.91 | $\frac{31}{32}$<br>16.62 | $1\frac{5}{64}$<br>27.38  |
| 34 in<br>way mm  | $1\frac{1}{2}$<br>31.75 | $2\frac{17}{32}$<br>64.29 | $2\frac{3}{32}$<br>53.18  | $1\frac{3}{8} \times \frac{9}{16}$<br>19.05 x 14.29   | $\frac{37}{32}$<br>21.43 | $\frac{61}{64}$<br>24.21  |
| 50 in<br>way mm  | $1\frac{1}{2}$<br>31.75 | $3\frac{1}{8}$<br>79.38   | $2\frac{11}{16}$<br>68.25 | $1\frac{3}{8} \times \frac{9}{16}$<br>19.05 x 14.29   | $\frac{37}{32}$<br>21.43 | $\frac{61}{64}$<br>24.21  |
| 104 in<br>way mm | $2\frac{1}{4}$<br>57.15 | $3\frac{11}{16}$<br>86.52 | $2\frac{27}{32}$<br>72.23 | $1\frac{3}{8}$ diameter<br>34.93                      | $1\frac{1}{8}$<br>41.28  | $1\frac{13}{16}$<br>46.04 |

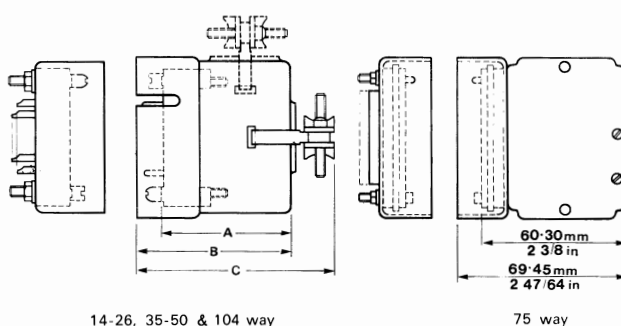
### Hood (plastic), Type MH 75-way only

This hood has three cable entries: top and two side.

Entries not required are blanked with dust-proof, moisture-proof screens. It is supplied with two sets of cable clamps and two blanking plates.



### Hoods and Shells



14-26, 35-50 & 104 way

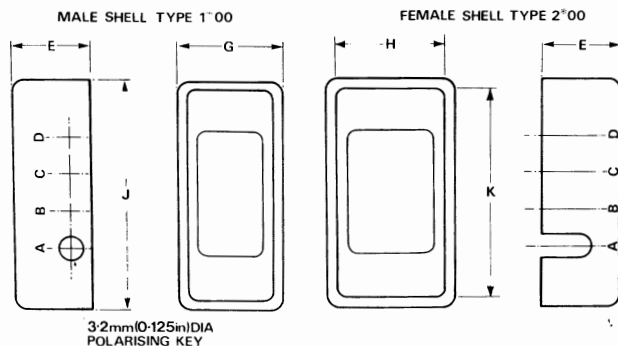
75 way

| Fits Connector     | A                       | B                         | Top entry hoods only C   |
|--------------------|-------------------------|---------------------------|--------------------------|
| 7-26 in<br>way mm  | $1\frac{3}{8}$<br>34.93 | $1\frac{1}{8}$<br>41.28   | $2\frac{1}{8}$<br>52.39  |
| 34-50 in<br>way mm | $1\frac{1}{8}$<br>41.28 | $1\frac{1}{4}$<br>47.63   | $2\frac{5}{8}$<br>58.74  |
| 104 in<br>way mm   | $2\frac{5}{8}$<br>66.68 | $2\frac{31}{32}$<br>75.39 | $3\frac{7}{16}$<br>87.31 |



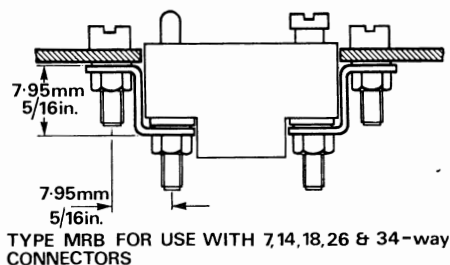
## Shells

Shells give protection against mechanical damage to the plastic moulding, help to exclude dust and other foreign matter from the contact areas, and in most cases provide additional polarizing facilities. Specify polarization reference A, B, C, or D as required.



## Chassis mounting brackets

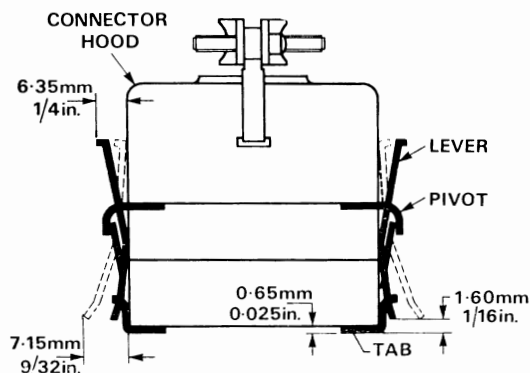
These provide a simple method of mounting any MRE/A plug or socket unit on a chassis so that its mating face is flush with the surface of the chassis.



| Fits Connector | E           | G           | H           | J           | K           |
|----------------|-------------|-------------|-------------|-------------|-------------|
| 7 way in mm    | 0.625 15.88 | 0.500 12.7  | 0.520 13.21 | 1.343 34.13 | 1.363 34.62 |
| 14 way in mm   | 0.625 15.88 | 0.560 14.22 | 0.580 14.73 | 1.370 34.80 | 1.390 35.31 |
| 18 way in mm   | 0.625 15.88 | 0.687 17.45 | 0.707 17.96 | 1.437 36.50 | 1.452 36.88 |
| 26 way in mm   | 0.625 15.88 | 0.687 17.45 | 0.707 17.96 | 1.750 44.45 | 1.770 44.96 |
| 34 way in mm   | 0.625 15.88 | 0.870 22.10 | 0.890 22.60 | 2.120 53.85 | 2.135 54.23 |
| 50 way in mm   | 0.625 15.88 | 1.000 25.4  | 1.020 25.91 | 2.843 72.23 | 2.863 72.72 |
| 75 way in mm   | 0.734 18.64 | 1.359 34.52 | 1.468 37.29 | 2.843 72.21 | 2.953 75.00 |
| 104 way in mm  | 0.727 18.47 | 1.755 44.58 | 1.765 44.83 | 2.974 75.54 | 2.985 75.82 |

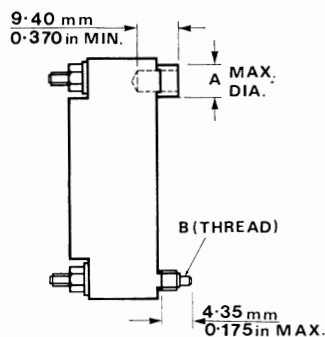
## Vibration locks

Vibration locks prevent accidental disconnection of mated connectors. They lock automatically when the plug and socket are engaged, and can only be unlocked by depression of the lever arms. A complete unit comprises two lever and pivot assemblies (VL) and two lock-tabs (V). The former are installed on the cable-mounted half of the connector (usually with a hood), and the latter on the mating connector. The lever and pivot assemblies, or the lock-tabs, can be fitted to a plug or socket, as required. Outstanding features of vibration locks are: simplicity of design, ease of assembly, complete locking effectiveness. Vibration locks cannot be used with side-entry hoods or shells.

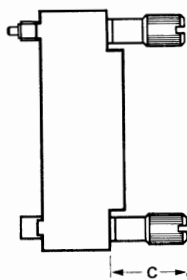


**Jackscrews**

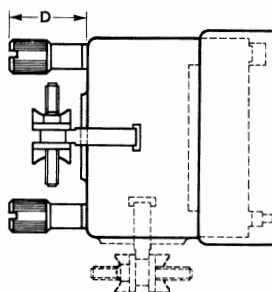
Jackscrew locking devices provide a positive method of mating and locking together two halves of a connector. They prevent accidental disconnection due to vibration or physical shock, and simplify the engagement and disengagement of connectors in confined locations. Jackscrews are manufactured from stainless steel and nickel-plated brass and are available as fixed or turnable types. The turnable types have nickel-plated brass and anodised aluminium knobs.



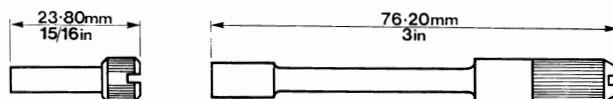
Fixed jackscrews type J2 fitted to socket



Turntable jackscrews type JT2 fitted to plug



Long turntable jackscrews type JTC2 fitted to plug with hood and shell

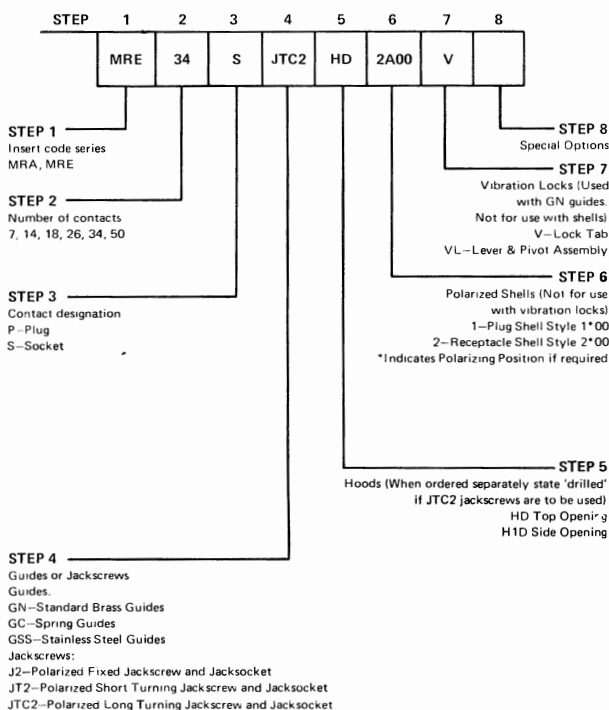


Short and Long turnable jackscrews for MRAC 104 only

| Fits connector | A     | B           | C     | D     |
|----------------|-------|-------------|-------|-------|
| 14 to 75 in    | 0.195 | 6-32 UNC 2A | 1 1/2 | 2 1/2 |
| way mm         | 4.85  |             | 26.19 | 12.7  |
| 104 in         | 0.221 | 8-32 UNC 2A | 3/4   | 1 1/2 |
| way mm         | 5.61  |             | 24.61 | 19.05 |

**Ordering information for MRE Mk 2**

Specify complete plug or receptacle by following Steps 1 through 8. Omit steps not required. If accessories only are required, omit Step 3 but include Steps 1, 2 and those relating to the particular accessories required.

**Ordering information for MRAC**  
**Contacts must be ordered separately**