

# Military Cross Reference Chart

-- Continued from previous page



## M83513 / 28 (continued)

|                   |                         |                   |                         |                   |                         |
|-------------------|-------------------------|-------------------|-------------------------|-------------------|-------------------------|
| M83513 / 28-D03NT | MK-232-025-145-0000-0B7 | M83513 / 28-E02PN | MK-235-031-135-0000     | M83513 / 28-F01PT | MK-235-037-125-0000-0B7 |
| M83513 / 28-D03NW | MK-232-025-145-2200-0B7 | M83513 / 28-E02PP | MK-235-031-135-2200     | M83513 / 28-F01PW | MK-235-037-125-2200-0B7 |
| M83513 / 28-D03PN | MK-235-025-145-0000     | M83513 / 28-E02PT | MK-235-031-135-0000-0B7 | M83513 / 28-F02CN | MK-233-037-135-0000     |
| M83513 / 28-D03PP | MK-235-025-145-2200     | M83513 / 28-E02PW | MK-235-031-135-2200-0B7 | M83513 / 28-F02CP | MK-233-037-135-2200     |
| M83513 / 28-D03PT | MK-235-025-145-0000-0B7 | M83513 / 28-E03CN | MK-233-031-145-0000     | M83513 / 28-F02CT | MK-233-037-135-0000-0B7 |
| M83513 / 28-D03PW | MK-235-025-145-2200-0B7 | M83513 / 28-E03CP | MK-233-031-145-2200     | M83513 / 28-F02CW | MK-233-037-135-2200-0B7 |
| <hr/>             |                         |                   |                         |                   |                         |
| M83513 / 28-E01CN | MK-233-031-125-0000     | M83513 / 28-E03CT | MK-233-031-145-0000-0B7 | M83513 / 28-F02NN | MK-232-037-135-0000     |
| M83513 / 28-E01CP | MK-233-031-125-2200     | M83513 / 28-E03CW | MK-233-031-145-2200-0B7 | M83513 / 28-F02NP | MK-232-037-135-2200     |
| M83513 / 28-E01CT | MK-233-031-125-0000-0B7 | M83513 / 28-E03NN | MK-232-031-145-0000     | M83513 / 28-F02NT | MK-232-037-135-0000-0B7 |
| M83513 / 28-E01CW | MK-233-031-125-2200-0B7 | M83513 / 28-E03NP | MK-232-031-145-2200     | M83513 / 28-F02NW | MK-232-037-135-2200-0B7 |
| M83513 / 28-E01NN | MK-232-031-125-0000     | M83513 / 28-E03NT | MK-232-031-145-0000-0B7 | M83513 / 28-F02PW | MK-235-037-135-0000     |
| M83513 / 28-E01NP | MK-232-031-125-2200     | M83513 / 28-E03PN | MK-232-031-145-2200-0B7 | M83513 / 28-F02PP | MK-235-037-135-2200     |
| M83513 / 28-E01NT | MK-232-031-125-0000-0B7 | M83513 / 28-E03PP | MK-235-031-145-0000     | M83513 / 28-F02PT | MK-235-037-135-0000-0B7 |
| M83513 / 28-E01NW | MK-232-031-125-2200-0B7 | M83513 / 28-E03PT | MK-235-031-145-2200     | M83513 / 28-F02PW | MK-235-037-135-2200-0B7 |
| M83513 / 28-E01PN | MK-235-031-125-0000     | M83513 / 28-E03PW | MK-235-031-145-0000-0B7 | M83513 / 28-F03CN | MK-233-037-145-0000     |
| M83513 / 28-E01PP | MK-235-031-125-2200     |                   |                         | M83513 / 28-F03CP | MK-233-037-145-2200     |
| M83513 / 28-E01PT | MK-235-031-125-0000-0B7 | M83513 / 28-F01CN | MK-233-037-125-0000     | M83513 / 28-F03CT | MK-233-037-145-0000-0B7 |
| M83513 / 28-E01PW | MK-235-031-125-2200-0B7 | M83513 / 28-F01CP | MK-233-037-125-2200     | M83513 / 28-F03CW | MK-233-037-145-2200-0B7 |
| M83513 / 28-E02CN | MK-233-031-135-0000     | M83513 / 28-F01CT | MK-233-037-125-0000-0B7 | M83513 / 28-F03NN | MK-232-037-145-0000     |
| M83513 / 28-E02CP | MK-233-031-135-2200     | M83513 / 28-F01CW | MK-233-037-125-2200-0B7 | M83513 / 28-F03NP | MK-232-037-145-2200     |
| M83513 / 28-E02CT | MK-233-031-135-0000-0B7 | M83513 / 28-F01NN | MK-232-037-125-0000     | M83513 / 28-F03NT | MK-232-037-145-0000-0B7 |
| M83513 / 28-E02CW | MK-233-031-135-2200-0B7 | M83513 / 28-F01NP | MK-232-037-125-2200     | M83513 / 28-F03NW | MK-232-037-145-2200-0B7 |
| M83513 / 28-E02NN | MK-232-031-135-0000     | M83513 / 28-F01NT | MK-232-037-125-0000-0B7 | M83513 / 28-F03PN | MK-235-037-145-0000     |
| M83513 / 28-E02NP | MK-232-031-135-2200     | M83513 / 28-F01NW | MK-232-037-125-2200-0B7 | M83513 / 28-F03PP | MK-235-037-145-2200     |
| M83513 / 28-E02NT | MK-232-031-135-0000-0B7 | M83513 / 28-F01PN | MK-235-037-125-0000     | M83513 / 28-F03PT | MK-235-037-145-0000-0B7 |
| M83513 / 28-E02NW | MK-232-031-135-2200-0B7 | M83513 / 28-F01PP | MK-235-037-125-2200     | M83513 / 28-F03PW | MK-235-037-145-2200-0B7 |

## M83513 / 29

|                   |                         |                   |                         |                   |                         |
|-------------------|-------------------------|-------------------|-------------------------|-------------------|-------------------------|
| M83513 / 29-G01CN | MK-333-051-125-0000     | M83513 / 29-G02CN | MK-333-051-135-0000     | M83513 / 29-G03CN | MK-333-051-145-0000     |
| M83513 / 29-G01CP | MK-333-051-125-2200     | M83513 / 29-G02CP | MK-333-051-135-2200     | M83513 / 29-G03CP | MK-333-051-145-2200     |
| M83513 / 29-G01CT | MK-333-051-125-0000-0B7 | M83513 / 29-G02CT | MK-333-051-135-0000-0B7 | M83513 / 29-G03CT | MK-333-051-145-0000-0B7 |
| M83513 / 29-G01CW | MK-333-051-125-2200-0B7 | M83513 / 29-G02CW | MK-333-051-135-2200-0B7 | M83513 / 29-G03CW | MK-333-051-145-2200-0B7 |
| M83513 / 29-G01NN | MK-332-051-125-0000     | M83513 / 29-G02NN | MK-332-051-135-0000     | M83513 / 29-G03NN | MK-332-051-145-0000     |
| M83513 / 29-G01NP | MK-332-051-125-2200     | M83513 / 29-G02NP | MK-332-051-135-2200     | M83513 / 29-G03NP | MK-332-051-145-2200     |
| M83513 / 29-G01NT | MK-332-051-125-0000-0B7 | M83513 / 29-G02NT | MK-332-051-135-0000-0B7 | M83513 / 29-G03NT | MK-332-051-145-0000-0B7 |
| M83513 / 29-G01NW | MK-332-051-125-2200-0B7 | M83513 / 29-G02NW | MK-332-051-135-2200-0B7 | M83513 / 29-G03NW | MK-332-051-145-2200-0B7 |
| M83513 / 29-G01PN | MK-335-051-125-0000     | M83513 / 29-G02PN | MK-335-051-135-0000     | M83513 / 29-G03PN | MK-335-051-145-0000     |
| M83513 / 29-G01PP | MK-335-051-125-2200     | M83513 / 29-G02PP | MK-335-051-135-2200     | M83513 / 29-G03PP | MK-335-051-145-2200     |
| M83513 / 29-G01PT | MK-335-051-125-0000-0B7 | M83513 / 29-G02PT | MK-335-051-135-0000-0B7 | M83513 / 29-G03PT | MK-335-051-145-0000-0B7 |
| M83513 / 29-G01PW | MK-335-051-125-2200-0B7 | M83513 / 29-G02PW | MK-335-051-135-2200-0B7 | M83513 / 29-G03PW | MK-335-051-145-2200-0B7 |

## M83513 / 30

|                   |                         |                   |                         |                   |                         |
|-------------------|-------------------------|-------------------|-------------------------|-------------------|-------------------------|
| M83513 / 30-H01CN | MK-433-100-125-0000     | M83513 / 30-H02CN | MK-433-100-135-0000     | M83513 / 30-H03CN | MK-433-100-145-0000     |
| M83513 / 30-H01CP | MK-433-100-125-6200     | M83513 / 30-H02CP | MK-433-100-135-6200     | M83513 / 30-H03CP | MK-433-100-145-6200     |
| M83513 / 30-H01CT | MK-433-100-125-0000-0B7 | M83513 / 30-H02CT | MK-433-100-135-0000-0B7 | M83513 / 30-H03CT | MK-433-100-145-0000-0B7 |
| M83513 / 30-H01CW | MK-433-100-125-6200-0B7 | M83513 / 30-H02CW | MK-433-100-135-6200-0B7 | M83513 / 30-H03CW | MK-433-100-145-6200-0B7 |
| M83513 / 30-H01NN | MK-432-100-125-0000     | M83513 / 30-H02NN | MK-432-100-135-0000     | M83513 / 30-H03NN | MK-432-100-145-0000     |
| M83513 / 30-H01NP | MK-432-100-125-6200     | M83513 / 30-H02NP | MK-432-100-135-6200     | M83513 / 30-H03NP | MK-432-100-145-6200     |
| M83513 / 30-H01NT | MK-432-100-125-0000-0B7 | M83513 / 30-H02NT | MK-432-100-135-0000-0B7 | M83513 / 30-H03NT | MK-432-100-145-0000-0B7 |
| M83513 / 30-H01NW | MK-432-100-125-6200-0B7 | M83513 / 30-H02NW | MK-432-100-135-6200-0B7 | M83513 / 30-H03NW | MK-432-100-145-6200-0B7 |
| M83513 / 30-H01PN | MK-435-100-125-0000     | M83513 / 30-H02PN | MK-435-100-135-0000     | M83513 / 30-H03PN | MK-435-100-145-0000     |
| M83513 / 30-H01PP | MK-435-100-125-6200     | M83513 / 30-H02PP | MK-435-100-135-6200     | M83513 / 30-H03PP | MK-435-100-145-6200     |
| M83513 / 30-H01PT | MK-435-100-125-0000-0B7 | M83513 / 30-H02PT | MK-435-100-135-0000-0B7 | M83513 / 30-H03PT | MK-435-100-145-0000-0B7 |
| M83513 / 30-H01PW | MK-435-100-125-6200-0B7 | M83513 / 30-H02PW | MK-435-100-135-6200-0B7 | M83513 / 30-H03PW | MK-435-100-145-6200-0B7 |



# Military Cross Reference Chart

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## M83513 / 31 (continued)

|                   |                         |                   |                         |                   |                         |
|-------------------|-------------------------|-------------------|-------------------------|-------------------|-------------------------|
| M83513 / 31-E02NT | MK-242-031-235-0000-0B7 | M83513 / 31-F01CN | MK-243-037-225-0000-900 | M83513 / 31-F02NT | MK-242-037-235-0000-0B7 |
| M83513 / 31-E02NW | MK-242-031-235-2200-0B7 | M83513 / 31-F01CP | MK-243-037-225-2200-900 | M83513 / 31-F02NW | MK-242-037-235-2200-0B7 |
| M83513 / 31-E02PN | MK-245-031-235-0000-900 | M83513 / 31-F01CT | MK-243-037-225-0000-0B7 | M83513 / 31-F02PN | MK-245-037-235-0000-900 |
| M83513 / 31-E02PP | MK-245-031-235-2200-900 | M83513 / 31-F01CW | MK-243-037-225-2200-0B7 | M83513 / 31-F02PP | MK-245-037-235-2200-900 |
| M83513 / 31-E02PT | MK-245-031-235-0000-0B7 | M83513 / 31-F01NN | MK-242-037-225-0000-900 | M83513 / 31-F02PT | MK-245-037-235-0000-0B7 |
| M83513 / 31-E02PW | MK-245-031-235-2200-0B7 | M83513 / 31-F01NP | MK-242-037-225-2200-900 | M83513 / 31-F02PW | MK-245-037-235-2200-0B7 |
| M83513 / 31-E03CN | MK-243-031-245-0000-900 | M83513 / 31-F01NT | MK-242-037-225-0000-0B7 | M83513 / 31-F03CN | MK-243-037-245-0000-900 |
| M83513 / 31-E03CP | MK-243-031-245-2200-900 | M83513 / 31-F01NW | MK-242-037-225-2200-0B7 | M83513 / 31-F03CP | MK-243-037-245-2200-900 |
| M83513 / 31-E03CT | MK-243-031-245-0000-0B7 | M83513 / 31-F01PN | MK-245-037-225-0000-900 | M83513 / 31-F03CT | MK-243-037-245-0000-0B7 |
| M83513 / 31-E03CW | MK-243-031-245-2200-0B7 | M83513 / 31-F01PP | MK-245-037-225-2200-900 | M83513 / 31-F03CW | MK-243-037-245-2200-0B7 |
| M83513 / 31-E03NN | MK-242-031-245-0000-900 | M83513 / 31-F01PT | MK-245-037-225-0000-0B7 | M83513 / 31-F03NN | MK-242-037-245-0000-900 |
| M83513 / 31-E03NP | MK-242-031-245-2200-900 | M83513 / 31-F01PW | MK-245-037-225-2200-0B7 | M83513 / 31-F03NP | MK-242-037-245-2200-900 |
| M83513 / 31-E03NT | MK-242-031-245-0000-0B7 | M83513 / 31-F02CN | MK-243-037-235-0000-900 | M83513 / 31-F03NT | MK-242-037-245-0000-0B7 |
| M83513 / 31-E03NW | MK-242-031-245-2200-0B7 | M83513 / 31-F02CP | MK-243-037-235-2200-900 | M83513 / 31-F03NW | MK-242-037-245-2200-0B7 |
| M83513 / 31-E03PN | MK-245-031-245-0000-900 | M83513 / 31-F02CT | MK-243-037-235-0000-0B7 | M83513 / 31-F03PN | MK-245-037-245-0000-900 |
| M83513 / 31-E03PP | MK-245-031-245-2200-900 | M83513 / 31-F02CW | MK-243-037-235-2200-0B7 | M83513 / 31-F03PP | MK-245-037-245-2200-900 |
| M83513 / 31-E03PT | MK-245-031-245-0000-0B7 | M83513 / 31-F02NN | MK-242-037-235-0000-900 | M83513 / 31-F03PT | MK-245-037-245-0000-0B7 |
| M83513 / 31-E03PW | MK-245-031-245-2200-0B7 | M83513 / 31-F02NP | MK-242-037-235-2200-900 | M83513 / 31-F03PW | MK-245-037-245-2200-0B7 |

## M83513 / 32

|                   |                         |                   |                         |                   |                         |
|-------------------|-------------------------|-------------------|-------------------------|-------------------|-------------------------|
| M83513 / 32-G01CN | MK-343-051-225-0000-900 | M83513 / 32-G02CN | MK-343-051-235-0000-900 | M83513 / 32-G03CN | MK-343-051-245-0000-900 |
| M83513 / 32-G01CP | MK-343-051-225-2200-900 | M83513 / 32-G02CP | MK-343-051-235-2200-900 | M83513 / 32-G03CP | MK-343-051-245-2200-900 |
| M83513 / 32-G01CT | MK-343-051-225-0000-0B7 | M83513 / 32-G02CT | MK-343-051-235-0000-0B7 | M83513 / 32-G03CT | MK-343-051-245-0000-0B7 |
| M83513 / 32-G01CW | MK-343-051-225-2200-0B7 | M83513 / 32-G02CW | MK-343-051-235-2200-0B7 | M83513 / 32-G03CW | MK-343-051-245-2200-0B7 |
| M83513 / 32-G01NN | MK-342-051-225-0000-900 | M83513 / 32-G02NN | MK-342-051-235-0000-900 | M83513 / 32-G03NN | MK-342-051-245-0000-900 |
| M83513 / 32-G01NP | MK-342-051-225-2200-900 | M83513 / 32-G02NP | MK-342-051-235-2200-900 | M83513 / 32-G03NP | MK-342-051-245-2200-900 |
| M83513 / 32-G01NT | MK-342-051-225-0000-0B7 | M83513 / 32-G02NT | MK-342-051-235-0000-0B7 | M83513 / 32-G03NT | MK-342-051-245-0000-0B7 |
| M83513 / 32-G01NW | MK-342-051-225-2200-0B7 | M83513 / 32-G02NW | MK-342-051-235-2200-0B7 | M83513 / 32-G03NW | MK-342-051-245-2200-0B7 |
| M83513 / 32-G01PN | MK-345-051-225-0000-900 | M83513 / 32-G02PN | MK-345-051-235-0000-900 | M83513 / 32-G03PN | MK-345-051-245-0000-900 |
| M83513 / 32-G01PP | MK-345-051-225-2200-900 | M83513 / 32-G02PP | MK-345-051-235-2200-900 | M83513 / 32-G03PP | MK-345-051-245-2200-900 |
| M83513 / 32-G01PT | MK-345-051-225-0000-0B7 | M83513 / 32-G02PT | MK-345-051-235-0000-0B7 | M83513 / 32-G03PT | MK-345-051-245-0000-0B7 |
| M83513 / 32-G01PW | MK-345-051-225-2200-0B7 | M83513 / 32-G02PW | MK-345-051-235-2200-0B7 | M83513 / 32-G03PW | MK-345-051-245-2200-0B7 |

## M83513 / 33

|                   |                         |                   |                         |                   |                         |
|-------------------|-------------------------|-------------------|-------------------------|-------------------|-------------------------|
| M83513 / 33-H01CN | MK-443-100-225-0000-900 | M83513 / 33-H02CN | MK-443-100-235-0000-900 | M83513 / 33-H03CN | MK-443-100-245-0000-900 |
| M83513 / 33-H01CP | MK-443-100-225-6200-900 | M83513 / 33-H02CP | MK-443-100-235-6200-900 | M83513 / 33-H03CP | MK-443-100-245-6200-900 |
| M83513 / 33-H01CT | MK-443-100-225-0000-0B7 | M83513 / 33-H02CT | MK-443-100-235-0000-0B7 | M83513 / 33-H03CT | MK-443-100-245-0000-0B7 |
| M83513 / 33-H01CW | MK-443-100-225-6200-0B7 | M83513 / 33-H02CW | MK-443-100-235-6200-0B7 | M83513 / 33-H03CW | MK-443-100-245-6200-0B7 |
| M83513 / 33-H01NN | MK-442-100-225-0000-900 | M83513 / 33-H02NN | MK-442-100-235-0000-900 | M83513 / 33-H03NN | MK-442-100-245-0000-900 |
| M83513 / 33-H01NP | MK-442-100-225-6200-900 | M83513 / 33-H02NP | MK-442-100-235-6200-900 | M83513 / 33-H03NP | MK-442-100-245-6200-900 |
| M83513 / 33-H01NT | MK-442-100-225-0000-0B7 | M83513 / 33-H02NT | MK-442-100-235-0000-0B7 | M83513 / 33-H03NT | MK-442-100-245-0000-0B7 |
| M83513 / 33-H01NW | MK-442-100-225-6200-0B7 | M83513 / 33-H02NW | MK-442-100-235-6200-0B7 | M83513 / 33-H03NW | MK-442-100-245-6200-0B7 |
| M83513 / 33-H01PN | MK-445-100-225-0000-900 | M83513 / 33-H02PN | MK-445-100-235-0000-900 | M83513 / 33-H03PN | MK-445-100-245-0000-900 |
| M83513 / 33-H01PP | MK-445-100-225-6200-900 | M83513 / 33-H02PP | MK-445-100-235-6200-900 | M83513 / 33-H03PP | MK-445-100-245-6200-900 |
| M83513 / 33-H01PT | MK-445-100-225-0000-0B7 | M83513 / 33-H02PT | MK-445-100-235-0000-0B7 | M83513 / 33-H03PT | MK-445-100-245-0000-0B7 |
| M83513 / 33-H01PW | MK-445-100-225-6200-0B7 | M83513 / 33-H02PW | MK-445-100-235-6200-0B7 | M83513 / 33-H03PW | MK-445-100-245-6200-0B7 |

## M83513 / 27 (continued)

|                   |                         |                   |                         |                   |                         |
|-------------------|-------------------------|-------------------|-------------------------|-------------------|-------------------------|
| M83513 / 27-H02NT | MK-422-100-235-0000-0B7 | M83513 / 27-H03CN | MK-423-100-245-0000-900 | M83513 / 27-H03NT | MK-422-100-245-0000-0B7 |
| M83513 / 27-H02NW | MK-422-100-235-6200-0B7 | M83513 / 27-H03CP | MK-423-100-245-6200-900 | M83513 / 27-H03NW | MK-422-100-245-6200-0B7 |
| M83513 / 27-H02PN | MK-425-100-235-0000-900 | M83513 / 27-H03CT | MK-423-100-245-0000-0B7 | M83513 / 27-H03PN | MK-425-100-245-0000-900 |
| M83513 / 27-H02PP | MK-425-100-235-6200-900 | M83513 / 27-H03CW | MK-423-100-245-6200-0B7 | M83513 / 27-H03PP | MK-425-100-245-6200-900 |
| M83513 / 27-H02PT | MK-425-100-235-0000-0B7 | M83513 / 27-H03NN | MK-422-100-245-0000-900 | M83513 / 27-H03PT | MK-425-100-245-0000-0B7 |
| M83513 / 27-H02PW | MK-425-100-235-6200-0B7 | M83513 / 27-H03NP | MK-422-100-245-6200-900 | M83513 / 27-H03PW | MK-425-100-245-6200-0B7 |

## M83513 / 28

|                   |                         |                   |                         |                   |                         |
|-------------------|-------------------------|-------------------|-------------------------|-------------------|-------------------------|
| M83513 / 28-A01CN | MK-233-009-125-0000     | M83513 / 28-B01PT | MK-235-015-125-0000-0B7 | M83513 / 28-C02PN | MK-235-021-135-0000     |
| M83513 / 28-A01CP | MK-233-009-125-2200     | M83513 / 28-B01PW | MK-235-015-125-2200-0B7 | M83513 / 28-C02PP | MK-235-021-135-2200     |
| M83513 / 28-A01CT | MK-233-009-125-0000-0B7 | M83513 / 28-B02CN | MK-233-015-135-0000     | M83513 / 28-C02PT | MK-235-021-135-0000-0B7 |
| M83513 / 28-A01CW | MK-233-009-125-2200-0B7 | M83513 / 28-B02CP | MK-233-015-135-2200     | M83513 / 28-C02PW | MK-235-021-135-2200-0B7 |
| M83513 / 28-A01NN | MK-232-009-125-0000     | M83513 / 28-B02CT | MK-233-015-135-0000-0B7 | M83513 / 28-C03CN | MK-233-021-145-0000     |
| M83513 / 28-A01NP | MK-232-009-125-2200     | M83513 / 28-B02CW | MK-233-015-135-2200-0B7 | M83513 / 28-C03CP | MK-233-021-145-2200     |
| M83513 / 28-A01NT | MK-232-009-125-0000-0B7 | M83513 / 28-B02NN | MK-232-015-135-0000     | M83513 / 28-C03CT | MK-233-021-145-0000-0B7 |
| M83513 / 28-A01NW | MK-232-009-125-2200-0B7 | M83513 / 28-B02NP | MK-232-015-135-2200     | M83513 / 28-C03CW | MK-233-021-145-2200-0B7 |
| M83513 / 28-A01PN | MK-235-009-125-0000     | M83513 / 28-B02NT | MK-232-015-135-0000-0B7 | M83513 / 28-C03NN | MK-232-021-145-0000     |
| M83513 / 28-A01PP | MK-235-009-125-2200     | M83513 / 28-B02NW | MK-232-015-135-2200-0B7 | M83513 / 28-C03NP | MK-232-021-145-2200     |
| M83513 / 28-A01PT | MK-235-009-125-0000-0B7 | M83513 / 28-B02PN | MK-235-015-135-0000     | M83513 / 28-C03NT | MK-232-021-145-0000-0B7 |
| M83513 / 28-A01PW | MK-235-009-125-2200-0B7 | M83513 / 28-B02PP | MK-235-015-135-2200     | M83513 / 28-C03NW | MK-232-021-145-2200-0B7 |
| M83513 / 28-A02CN | MK-233-009-135-0000     | M83513 / 28-B02PT | MK-235-015-135-0000-0B7 | M83513 / 28-C03PN | MK-235-021-145-0000     |
| M83513 / 28-A02CP | MK-233-009-135-2200     | M83513 / 28-B02PW | MK-235-015-135-2200-0B7 | M83513 / 28-C03PP | MK-235-021-145-2200     |
| M83513 / 28-A02CT | MK-233-009-135-0000-0B7 | M83513 / 28-B03CN | MK-233-015-145-0000     | M83513 / 28-C03PT | MK-235-021-145-0000-0B7 |
| M83513 / 28-A02CW | MK-233-009-135-2200-0B7 | M83513 / 28-B03CP | MK-233-015-145-2200     | M83513 / 28-C03PW | MK-235-021-145-2200-0B7 |
| M83513 / 28-A02NN | MK-232-009-135-0000     | M83513 / 28-B03CT | MK-233-015-145-0000-0B7 |                   |                         |
| M83513 / 28-A02NP | MK-232-009-135-2200     | M83513 / 28-B03CW | MK-233-015-145-2200-0B7 | M83513 / 28-D01CN | MK-233-025-125-0000     |
| M83513 / 28-A02NT | MK-232-009-135-0000-0B7 | M83513 / 28-B03NN | MK-232-015-145-0000     | M83513 / 28-D01CP | MK-233-025-125-2200     |
| M83513 / 28-A02NW | MK-232-009-135-2200-0B7 | M83513 / 28-B03NP | MK-232-015-145-2200     | M83513 / 28-D01CT | MK-233-025-125-0000-0B7 |
| M83513 / 28-A02PN | MK-235-009-135-0000     | M83513 / 28-B03NT | MK-232-015-145-0000-0B7 | M83513 / 28-D01CW | MK-233-025-125-2200-0B7 |
| M83513 / 28-A02PP | MK-235-009-135-2200     | M83513 / 28-B03NW | MK-232-015-145-2200-0B7 | M83513 / 28-D01NN | MK-232-025-125-0000     |
| M83513 / 28-A02PT | MK-235-009-135-0000-0B7 | M83513 / 28-B03PN | MK-235-015-145-0000     | M83513 / 28-D01NP | MK-232-025-125-2200     |
| M83513 / 28-A02PW | MK-235-009-135-2200-0B7 | M83513 / 28-B03PP | MK-235-015-145-2200     | M83513 / 28-D01NT | MK-232-025-125-0000-0B7 |
| M83513 / 28-A03CN | MK-233-009-145-0000     | M83513 / 28-B03PT | MK-235-015-145-0000-0B7 | M83513 / 28-D01NW | MK-232-025-125-2200-0B7 |
| M83513 / 28-A03CP | MK-233-009-145-2200     | M83513 / 28-B03PW | MK-235-015-145-2200-0B7 | M83513 / 28-D01PN | MK-235-025-125-0000     |
| M83513 / 28-A03CT | MK-233-009-145-0000-0B7 |                   |                         | M83513 / 28-D01PP | MK-235-025-125-2200     |
| M83513 / 28-A03CW | MK-233-009-145-2200-0B7 | M83513 / 28-C01CN | MK-233-021-125-0000     | M83513 / 28-D01PT | MK-235-025-125-0000-0B7 |
| M83513 / 28-A03NN | MK-232-009-145-0000     | M83513 / 28-C01CP | MK-233-021-125-2200     | M83513 / 28-D01PW | MK-235-025-125-2200-0B7 |
| M83513 / 28-A03NP | MK-232-009-145-2200     | M83513 / 28-C01CT | MK-233-021-125-0000-0B7 | M83513 / 28-D02CN | MK-233-025-135-0000     |
| M83513 / 28-A03NT | MK-232-009-145-0000-0B7 | M83513 / 28-C01CW | MK-233-021-125-2200-0B7 | M83513 / 28-D02CP | MK-233-025-135-2200     |
| M83513 / 28-A03NW | MK-232-009-145-2200-0B7 | M83513 / 28-C01NN | MK-232-021-125-0000     | M83513 / 28-D02CT | MK-233-025-135-0000-0B7 |
| M83513 / 28-A03PN | MK-235-009-145-0000     | M83513 / 28-C01NP | MK-232-021-125-2200     | M83513 / 28-D02CW | MK-233-025-135-2200-0B7 |
| M83513 / 28-A03PP | MK-235-009-145-2200     | M83513 / 28-C01NT | MK-232-021-125-0000-0B7 | M83513 / 28-D02NN | MK-232-025-135-0000     |
| M83513 / 28-A03PT | MK-235-009-145-0000-0B7 | M83513 / 28-C01NW | MK-232-021-125-2200-0B7 | M83513 / 28-D02NP | MK-232-025-135-2200     |
| M83513 / 28-A03PW | MK-235-009-145-2200-0B7 | M83513 / 28-C01PN | MK-235-021-125-0000     | M83513 / 28-D02NT | MK-232-025-135-0000-0B7 |
|                   |                         | M83513 / 28-C01PP | MK-235-021-125-2200     | M83513 / 28-D02NW | MK-232-025-135-2200-0B7 |
| M83513 / 28-B01CN | MK-233-015-125-0000     | M83513 / 28-C01PT | MK-235-021-125-0000-0B7 | M83513 / 28-D02PN | MK-235-025-135-0000     |
| M83513 / 28-B01CP | MK-233-015-125-2200     | M83513 / 28-C01PW | MK-235-021-125-2200-0B7 | M83513 / 28-D02PP | MK-235-025-135-2200     |
| M83513 / 28-B01CT | MK-233-015-125-0000-0B7 | M83513 / 28-C02CN | MK-233-021-135-0000     | M83513 / 28-D02PT | MK-235-025-135-0000-0B7 |
| M83513 / 28-B01CW | MK-233-015-125-2200-0B7 | M83513 / 28-C02CP | MK-233-021-135-2200     | M83513 / 28-D02PW | MK-235-025-135-2200-0B7 |
| M83513 / 28-B01NN | MK-232-015-125-0000     | M83513 / 28-C02CT | MK-233-021-135-0000-0B7 | M83513 / 28-D03CN | MK-233-025-145-0000     |
| M83513 / 28-B01NP | MK-232-015-125-2200     | M83513 / 28-C02CW | MK-233-021-135-2200-0B7 | M83513 / 28-D03CP | MK-233-025-145-2200     |
| M83513 / 28-B01NT | MK-232-015-125-0000-0B7 | M83513 / 28-C02NN | MK-232-021-135-0000     | M83513 / 28-D03CT | MK-233-025-145-0000-0B7 |
| M83513 / 28-B01NW | MK-232-015-125-2200-0B7 | M83513 / 28-C02NP | MK-232-021-135-2200     | M83513 / 28-D03CW | MK-233-025-145-2200-0B7 |
| M83513 / 28-B01PN | MK-235-015-125-0000     | M83513 / 28-C02NT | MK-232-021-135-0000-0B7 | M83513 / 28-D03NN | MK-232-025-145-0000     |
| M83513 / 28-B01PP | MK-235-015-125-2200     | M83513 / 28-C02NP | MK-232-021-135-2200-0B7 | M83513 / 28-D03NP | MK-232-025-145-2200     |

# Military Cross Reference Chart

-- Continued from previous page



## M83513 / 28 (continued)

|                   |                         |                   |                         |                   |                         |
|-------------------|-------------------------|-------------------|-------------------------|-------------------|-------------------------|
| M83513 / 28-D03NT | MK-232-025-145-0000-0B7 | M83513 / 28-E02PN | MK-235-031-135-0000     | M83513 / 28-F01PT | MK-235-037-125-0000-0B7 |
| M83513 / 28-D03NW | MK-232-025-145-2200-0B7 | M83513 / 28-E02PP | MK-235-031-135-2200     | M83513 / 28-F01PW | MK-235-037-125-2200-0B7 |
| M83513 / 28-D03PN | MK-235-025-145-0000     | M83513 / 28-E02PT | MK-235-031-135-0000-0B7 | M83513 / 28-F02CN | MK-233-037-135-0000     |
| M83513 / 28-D03PP | MK-235-025-145-2200     | M83513 / 28-E02PW | MK-235-031-135-2200-0B7 | M83513 / 28-F02CP | MK-233-037-135-2200     |
| M83513 / 28-D03PT | MK-235-025-145-0000-0B7 | M83513 / 28-E03CN | MK-233-031-145-0000     | M83513 / 28-F02CT | MK-233-037-135-0000-0B7 |
| M83513 / 28-D03PW | MK-235-025-145-2200-0B7 | M83513 / 28-E03CP | MK-233-031-145-2200     | M83513 / 28-F02CW | MK-233-037-135-2200-0B7 |
|                   |                         | M83513 / 28-E03CT | MK-233-031-145-0000-0B7 | M83513 / 28-F02NN | MK-232-037-135-0000     |
| M83513 / 28-E01CN | MK-233-031-125-0000     | M83513 / 28-E03CW | MK-233-031-145-2200-0B7 | M83513 / 28-F02NP | MK-232-037-135-2200     |
| M83513 / 28-E01CP | MK-233-031-125-2200     | M83513 / 28-E03NN | MK-232-031-145-0000     | M83513 / 28-F02NT | MK-232-037-135-0000-0B7 |
| M83513 / 28-E01CT | MK-233-031-125-0000-0B7 | M83513 / 28-E03NP | MK-232-031-145-2200     | M83513 / 28-F02NW | MK-232-037-135-2200-0B7 |
| M83513 / 28-E01CW | MK-233-031-125-2200-0B7 | M83513 / 28-E03NT | MK-232-031-145-0000-0B7 | M83513 / 28-F02NN | MK-235-037-135-0000     |
| M83513 / 28-E01NN | MK-232-031-125-0000     | M83513 / 28-E03NW | MK-232-031-145-2200-0B7 | M83513 / 28-F02PP | MK-235-037-135-2200     |
| M83513 / 28-E01NP | MK-232-031-125-2200     | M83513 / 28-E03PN | MK-235-031-145-0000     | M83513 / 28-F02PT | MK-235-037-135-0000-0B7 |
| M83513 / 28-E01NT | MK-232-031-125-0000-0B7 | M83513 / 28-E03PP | MK-235-031-145-2200     | M83513 / 28-F02PW | MK-235-037-135-2200-0B7 |
| M83513 / 28-E01NW | MK-232-031-125-2200-0B7 | M83513 / 28-E03PT | MK-235-031-145-0000-0B7 | M83513 / 28-F03CN | MK-233-037-145-0000     |
| M83513 / 28-E01PN | MK-235-031-125-0000     | M83513 / 28-E03PW | MK-235-031-145-2200-0B7 | M83513 / 28-F03CP | MK-233-037-145-2200     |
| M83513 / 28-E01PP | MK-235-031-125-2200     |                   |                         | M83513 / 28-F03CT | MK-233-037-145-0000-0B7 |
| M83513 / 28-E01PT | MK-235-031-125-0000-0B7 | M83513 / 28-F01CN | MK-233-037-125-0000     | M83513 / 28-F03CW | MK-233-037-145-2200-0B7 |
| M83513 / 28-E01PW | MK-235-031-125-2200-0B7 | M83513 / 28-F01CP | MK-233-037-125-2200     | M83513 / 28-F03NN | MK-232-037-145-0000     |
| M83513 / 28-E02CN | MK-233-031-135-0000     | M83513 / 28-F01CT | MK-233-037-125-0000-0B7 | M83513 / 28-F03NP | MK-232-037-145-2200     |
| M83513 / 28-E02CP | MK-233-031-135-2200     | M83513 / 28-F01CW | MK-233-037-125-2200-0B7 | M83513 / 28-F03NT | MK-232-037-145-0000-0B7 |
| M83513 / 28-E02CT | MK-233-031-135-0000-0B7 | M83513 / 28-F01NN | MK-232-037-125-0000     | M83513 / 28-F03NW | MK-232-037-145-2200-0B7 |
| M83513 / 28-E02CW | MK-233-031-135-2200-0B7 | M83513 / 28-F01NP | MK-232-037-125-2200     | M83513 / 28-F03NN | MK-235-037-145-0000     |
| M83513 / 28-E02NP | MK-232-031-135-0000     | M83513 / 28-F01NT | MK-232-037-125-0000-0B7 | M83513 / 28-F03PP | MK-235-037-145-2200     |
| M83513 / 28-E02NW | MK-232-031-135-2200     | M83513 / 28-F01NW | MK-232-037-125-2200-0B7 | M83513 / 28-F03PT | MK-235-037-145-0000-0B7 |
| M83513 / 28-E02NT | MK-232-031-135-0000-0B7 | M83513 / 28-F01PN | MK-235-037-125-0000     | M83513 / 28-F03PW | MK-235-037-145-2200-0B7 |
| M83513 / 28-E02NW | MK-232-031-135-2200-0B7 | M83513 / 28-F01PP | MK-235-037-125-2200     |                   |                         |

## M83513 / 29

|                   |                         |                   |                         |                   |                         |
|-------------------|-------------------------|-------------------|-------------------------|-------------------|-------------------------|
| M83513 / 29-G01CN | MK-333-051-125-0000     | M83513 / 29-G02CN | MK-333-051-135-0000     | M83513 / 29-G03CN | MK-333-051-145-0000     |
| M83513 / 29-G01CP | MK-333-051-125-2200     | M83513 / 29-G02CP | MK-333-051-135-2200     | M83513 / 29-G03CP | MK-333-051-145-2200     |
| M83513 / 29-G01CT | MK-333-051-125-0000-0B7 | M83513 / 29-G02CT | MK-333-051-135-0000-0B7 | M83513 / 29-G03CT | MK-333-051-145-0000-0B7 |
| M83513 / 29-G01CW | MK-333-051-125-2200-0B7 | M83513 / 29-G02CW | MK-333-051-135-2200-0B7 | M83513 / 29-G03CW | MK-333-051-145-2200-0B7 |
| M83513 / 29-G01NN | MK-332-051-125-0000     | M83513 / 29-G02NN | MK-332-051-135-0000     | M83513 / 29-G03NN | MK-332-051-145-0000     |
| M83513 / 29-G01NP | MK-332-051-125-2200     | M83513 / 29-G02NP | MK-332-051-135-2200     | M83513 / 29-G03NP | MK-332-051-145-2200     |
| M83513 / 29-G01NT | MK-332-051-125-0000-0B7 | M83513 / 29-G02NT | MK-332-051-135-0000-0B7 | M83513 / 29-G03NT | MK-332-051-145-0000-0B7 |
| M83513 / 29-G01NW | MK-332-051-125-2200-0B7 | M83513 / 29-G02NW | MK-332-051-135-2200-0B7 | M83513 / 29-G03NW | MK-332-051-145-2200-0B7 |
| M83513 / 29-G01PN | MK-335-051-125-0000     | M83513 / 29-G02PP | MK-335-051-135-0000     | M83513 / 29-G03PP | MK-335-051-145-0000     |
| M83513 / 29-G01PP | MK-335-051-125-2200     | M83513 / 29-G02PT | MK-335-051-135-2200     | M83513 / 29-G03PT | MK-335-051-145-2200     |
| M83513 / 29-G01PT | MK-335-051-125-0000-0B7 | M83513 / 29-G02PW | MK-335-051-135-0000-0B7 | M83513 / 29-G03PW | MK-335-051-145-0000-0B7 |
| M83513 / 29-G01PW | MK-335-051-125-2200-0B7 |                   |                         |                   |                         |

## M83513 / 30

|                   |                         |                   |                         |                   |                         |
|-------------------|-------------------------|-------------------|-------------------------|-------------------|-------------------------|
| M83513 / 30-H01CN | MK-433-100-125-0000     | M83513 / 30-H02CN | MK-433-100-135-0000     | M83513 / 30-H03CN | MK-433-100-145-0000     |
| M83513 / 30-H01CP | MK-433-100-125-6200     | M83513 / 30-H02CP | MK-433-100-135-6200     | M83513 / 30-H03CP | MK-433-100-145-6200     |
| M83513 / 30-H01CT | MK-433-100-125-0000-0B7 | M83513 / 30-H02CT | MK-433-100-135-0000-0B7 | M83513 / 30-H03CT | MK-433-100-145-0000-0B7 |
| M83513 / 30-H01CW | MK-433-100-125-6200-0B7 | M83513 / 30-H02CW | MK-433-100-135-6200-0B7 | M83513 / 30-H03CW | MK-433-100-145-6200-0B7 |
| M83513 / 30-H01NN | MK-432-100-125-0000     | M83513 / 30-H02NN | MK-432-100-135-0000     | M83513 / 30-H03NN | MK-432-100-145-0000     |
| M83513 / 30-H01NP | MK-432-100-125-6200     | M83513 / 30-H02NP | MK-432-100-135-6200     | M83513 / 30-H03NP | MK-432-100-145-6200     |
| M83513 / 30-H01NT | MK-432-100-125-0000-0B7 | M83513 / 30-H02NT | MK-432-100-135-0000-0B7 | M83513 / 30-H03NT | MK-432-100-145-0000-0B7 |
| M83513 / 30-H01NW | MK-432-100-125-6200-0B7 | M83513 / 30-H02NW | MK-432-100-135-6200-0B7 | M83513 / 30-H03NW | MK-432-100-145-6200-0B7 |
| M83513 / 30-H01PN | MK-435-100-125-0000     | M83513 / 30-H02PP | MK-435-100-135-0000     | M83513 / 30-H03PP | MK-435-100-145-0000     |
| M83513 / 30-H01PP | MK-435-100-125-6200     | M83513 / 30-H02PT | MK-435-100-135-6200     | M83513 / 30-H03PT | MK-435-100-145-6200     |
| M83513 / 30-H01PT | MK-435-100-125-0000-0B7 | M83513 / 30-H02PW | MK-435-100-135-0000-0B7 | M83513 / 30-H03PW | MK-435-100-145-0000-0B7 |
| M83513 / 30-H01PW | MK-435-100-125-6200-0B7 |                   |                         |                   |                         |

**PLUG:** MK-332-051-125-2200  
**RECEPTACLE:** MM-322-051-261-45WP  
**PLUG:** ML-331-051-125-2200  
**RECEPTACLE:** MN-321-051-261-45WP

| PLUG  |  | RECEPTACLE   |   |
|---|--|--|---|
| <b>SERIES</b>   |  |  |   |
| MK .050" Rugged Metal PC Board Mount Connector  | MM .050" Rugged Metal I/O Connector  | ML .050" Rugged Plastic PC Board Mount Connector                 | MN .050" Rugged Plastic I/O Connector   |
| (MK & ML mate with MK, ML, MM, MN receptacles)  |  | (MM & MN mate with MK, ML, MM, MN plugs)                         |   |
| <b>BODY</b>   |  |  |   |
| 2 2-Row (Sizes 9 thru 37)   | 2 2-Row (Sizes 9 thru 37)  | 3 3-Row (Size 51 & 69***)  | 3 3-Row (Size 51 & 69***)   |
| 4 4-Row (Size 100)  | 4 4-Row (Size 100)   |  |   |
| <b>BODY STYLE:</b>  |  | <b>BODY STYLE:</b>   |   |
| 3 Plug, straight, standard footprint  | 2 Receptacle, straight, with ears  |  |   |
| <b>BODY MATERIAL:</b>   |  | <b>BODY MATERIAL:</b>  |   |
| 1 Polyphenylene Sulfide (ML only)   | 1 Polyphenylene Sulfide (MN only)  | 2 Polyphenylene Sulfide with electroless nickel shell            | 2 Polyphenylene Sulfide with electroless nickel shell                                       |
| 3 Polyphenylene Sulfide with electrodeposited cadmium shell <input checked="" type="checkbox"/> | 3 Polyphenylene Sulfide with electrodeposited cadmium shell <input checked="" type="checkbox"/>    | 4 Polyphenylene Sulfide with hard anodized black shell           | 4 Polyphenylene Sulfide with hard anodized black shell                                      |
| 5 Polyphenylene Sulfide with stainless steel shell  | 5 Polyphenylene Sulfide with stainless steel shell   |  |   |
| <b>SIZE</b>   |  |  |   |
| XXX 009, 015, 021, 025, 031, 037, 051, 069***, 100  |  | XXX 009, 015, 021, 025, 031, 037, 051, 069***, 100               |   |
| <b>CONTACTS</b>   |  |  |   |
| <b>TYPE CONTACTS/TERMINATIONS:</b>  |  | <b>TYPE CONTACTS/TERMINATIONS:</b>                               |   |
| 12 Pin, straight, PCB leads, .109"  | 21 Socket, straight, solder cup  | 24 Socket, straight, .500" pigtails (.018 dia)                   | 25 Socket, straight, 1.000" pigtails (.018 dia)   |
| 13 Pin, straight, PCB leads, .140"  | 26 Socket, straight, crimped wire  |  |   |
| 14 Pin, straight, PCB leads, .172"  |  |  |   |
| <b>PLATING OPTIONS:</b>   |  | <b>PLATING OPTIONS:</b>  |   |
| 3 50 μ" Au contacts; 10 μ" Au terminations  | 1 50 μ" Au contacts (crimp wire)   | 3 50 μ" Au contacts; 10 μ" Au terminations (solder cup, pigtail) | 5 50 μ" Au contacts; Sn/Pb alloy terminations (pigtail) <input checked="" type="checkbox"/> |
| 5 50 μ" Au contacts; Sn/Pb alloy terminations <input checked="" type="checkbox"/>               | 7 50 μ" Au contacts; SAC305 terminations   | 7 50 μ" Au contacts; SAC305 terminations (pigtail)               |   |
| <b>HARDWARE</b>   |  |  |   |
| <b>STYLE OF HARDWARE:</b>   |  | <b>STYLE OF HARDWARE:</b>  |   |
| 00 None   | 00 None  | 22 Two fixed jacknut assemblies (62*)                            | 22 Two fixed jacknut assemblies (62*)   |
| 22 Two fixed jacknut assemblies (62*)   | 41 Two turning jackscrews, allen head, retaining ring**** (81*)                                    | 41 Two turning jackscrews, allen head, retaining ring (81*)      | 42 Two long turning jackscrews, allen head, retaining ring (82*)                            |
| 41 Two turning jackscrews, allen head, retaining ring**** (81*)                                 | 43 Two turning jackscrews, slot head, retaining ring (83*)   | 44 Two long turning jackscrews, slot head, retaining ring (84*)  | 45 Two turning jackscrews, allen head, captivated** (85*)                                   |
| 99 Keying hardware, see options below (Body material 2, 3 and 4 only)                           | 99 Keying hardware, see options below (Body material 2, 3 and 4 only)                              |  |   |
| <b>POLARIZATION / WIRING:</b>   |  | <b>POLARIZATION / WIRING</b>                                     |   |
| 00 None   | 00 None  | XX For wiring codes, see page MA-3 & MA-4                        |   |
| <b>OPTIONS</b>  |  |  |   |
| KPXX Two fixed jacknuts. See page MA-6 for keying options (KN*)                                 | KSXX Two turning jackscrews and interfacial sealing gasket. See page MA-6 for keying options (KJ*) | 0B7 Threaded inserts   | 900 Interfacial sealing gasket  |

\* = Use numbers or letters in parenthesis when ordering size 100.

\*\*\* = 69 position connectors are available in metal only.

\*\* = Captive hardware is factory installed and non-removable.

\*\*\*\* = Connector body has no mounting holes.

= Option not RoHS compliant



# Cable to Board (Standard Footprint)

.050"

9 thru 100 Contacts

Rugged Cable

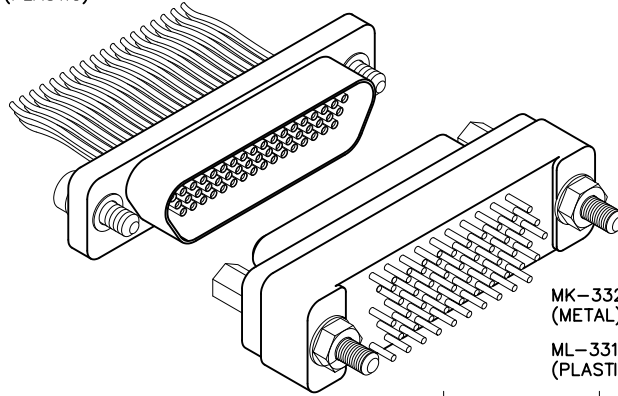
**MM, MN**

Rugged Board Mount

**MK, ML**

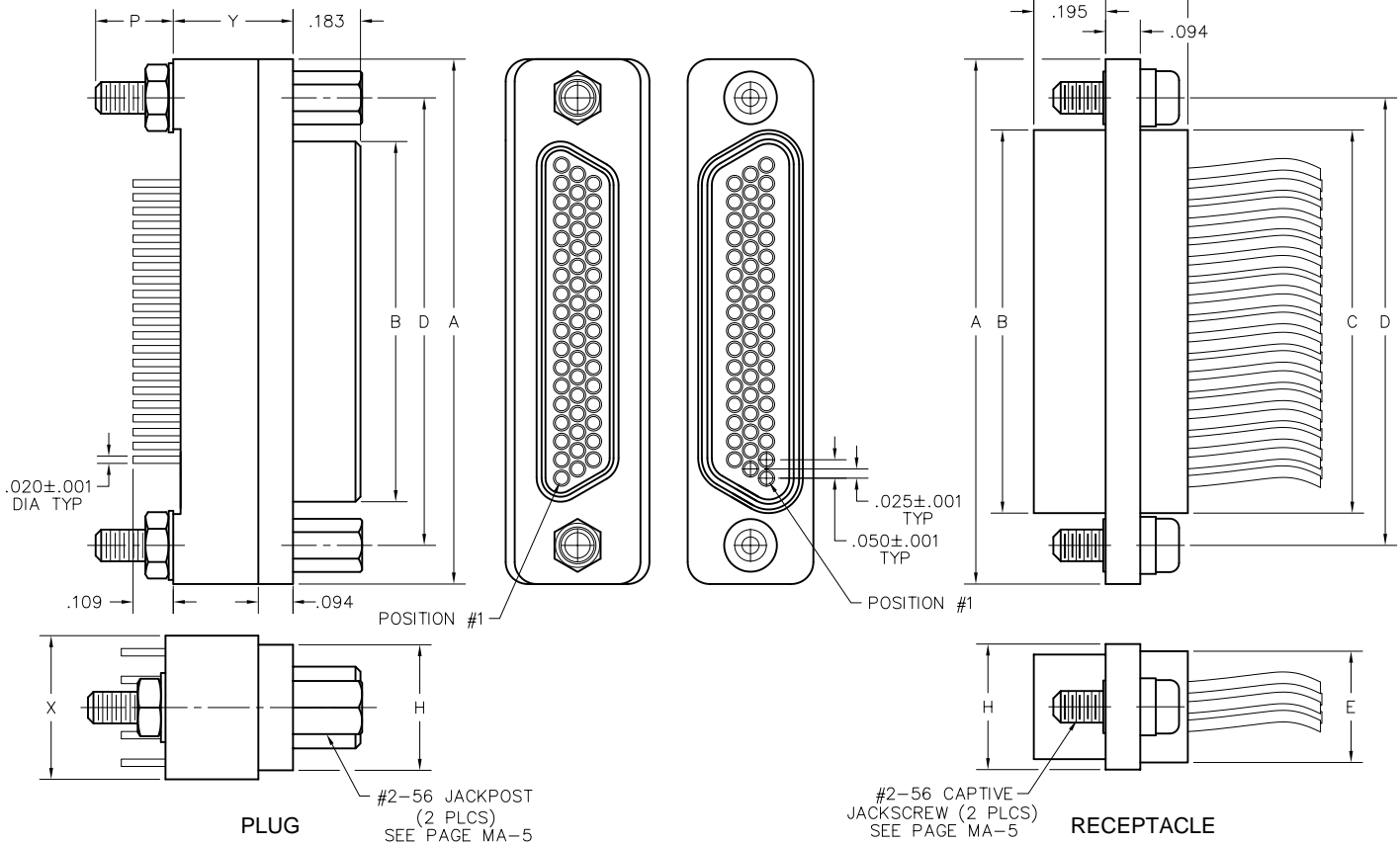
MM-322-051-261-45WP  
(METAL)

MN-321-051-261-45WP  
(PLASTIC)



MK-332-051-125-2200  
(METAL)

ML-331-051-125-2200  
(PLASTIC)



| SIZE | CONTACT ROWS | DIMENSIONS |          |          |       |       |                  |        |       |      |      | HARDWARE |   |      |
|------|--------------|------------|----------|----------|-------|-------|------------------|--------|-------|------|------|----------|---|------|
|      |              | A          | B        |          | C     | D     | E                | H      | P     | X    | Y    |          | Z***  |      |
|      |              |            | PLUG MAX | RCPT MAX |       |       | POTTING WELL MAX |        |       |      |      |          |   |      |
| 9    | 2            | .775       | .334     | .400     | .390  | .565  | .270             | .298   | .210  | .298 | .280 | .390     | #2-56 UNC THD<br>(#2-56 CLEARANCE<br>OR #2-56 UNC<br>THREADED INSERT) |      |
| 15   |              | .925       | .484     | .550     | .540  | .715  |                  |        |       |      |      |          |   | .540 |
| 21   |              | 1.075      | .634     | .700     | .690  | .865  |                  |        |       |      |      |          |   | .690 |
| 25   |              | 1.175      | .734     | .800     | .790  | .965  |                  |        |       |      |      |          |   | .780 |
| 31   |              | 1.325      | .884     | .950     | .940  | 1.115 |                  |        |       |      |      |          |   | .930 |
| 37   |              | 1.475      | 1.034    | 1.100    | 1.090 | 1.265 | .214             | .330** | 1.080 |      |      |          |   |      |
| 51   | 3            | 1.425      | .984     | 1.050    | 1.040 | 1.215 | .310             | .341   | .219  | .390 | .325 | 1.046    | #4-40 UNC THD<br>(#4-40 CLEARANCE<br>OR #4-40 UNC<br>THREADED INSERT) |      |
| 69   |              | 1.725      | 1.284    | 1.350    | 1.340 | 1.515 |                  |        |       |      |      | 1.346    |   |      |
| 100  |              | 4          | 2.160    | 1.384    | 1.508 | 1.432 |                  |        |       |      |      | 1.800    |   | .360 |

\* = 69 POSITION CONNECTORS ARE AVAILABLE IN METAL ONLY.  
 \*\* = 37 POSITION WITH TURNING HARDWARE "Y" DIMENSION IS .280.  
 \*\*\* = "Z" DIMENSION FOR TURNING JACKSCREW ONLY

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# Polarized Keying Hardware

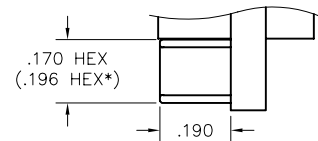
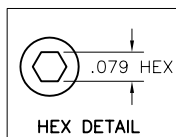
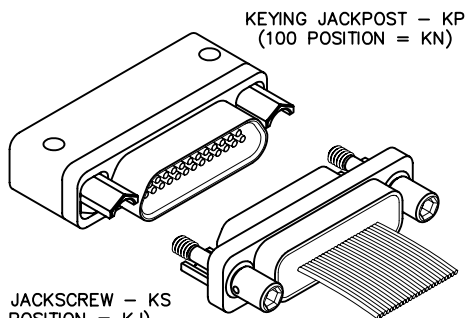


Select the appropriate two digit number above and include as the last two digits of the hardware code in the part number.  
(Keying hardware is factory installed and non-removable).

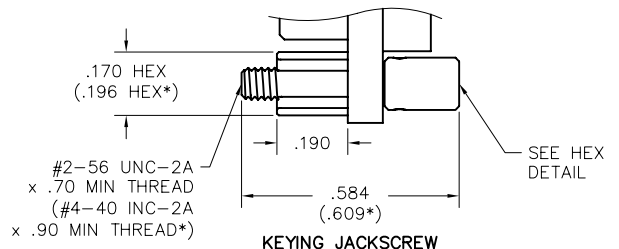
Example:

MM-213-025-161-99WA-KS11

MK-263-025-435-990S-KP11



KEYING JACKPOST



KEYING JACKSCREW

\* = Dimensions for 100 position connectors



**PLUG:** MM-312-051-161-45WP  
**RECEPTACLE:** MK-342-051-225-2200  
**PLUG:** MN-311-051-161-45WP  
**RECEPTACLE:** ML-341-051-225-2200  
 XX-XXX-XXX-XXX-XXXX-XXX

| PLUG  | RECEPTACLE   |
|---|--|
| <b>SERIES</b>   |  |
| MM .050" Rugged Metal I/O Connector<br>MN .050" Rugged Plastic I/O Connector<br>(MM & MN mate with MK, ML, MM, MN receptacles)  | MK .050" Rugged Metal PC Board Mount Connector<br>ML .050" Rugged Plastic PC Board Mount Connector<br>(MK & ML mate with MK, ML, MM, MN plugs)   |
| <b>BODY</b>   |  |
| 2 2-Row (Sizes 9 thru 37)<br>3 3-Row (Size 51 & 69***)<br>4 4-Row (Size 100)  | 2 2-Row (Sizes 9 thru 37)<br>3 3-Row (Size 51 & 69***)<br>4 4-Row (Size 100)   |
| <b>BODY STYLE:</b><br>1 Plug, straight, with ears   | <b>BODY STYLE:</b><br>4 Receptacle, straight, standard footprint   |
| <b>BODY MATERIAL:</b><br>1 Polyphenylene Sulfide (MN only)<br>2 Polyphenylene Sulfide with electroless nickel shell<br>3 Polyphenylene Sulfide with electrodeposited cadmium shell <input checked="" type="checkbox"/><br>4 Polyphenylene Sulfide with hard anodized black shell<br>5 Polyphenylene Sulfide with stainless steel shell  | <b>BODY MATERIAL:</b><br>1 Polyphenylene Sulfide (ML only)<br>2 Polyphenylene Sulfide with electroless nickel shell<br>3 Polyphenylene Sulfide with electrodeposited cadmium shell <input checked="" type="checkbox"/><br>4 Polyphenylene Sulfide with hard anodized black shell<br>5 Polyphenylene Sulfide with stainless steel shell |
| <b>SIZE</b>   |  |
| XXX 009, 015, 021, 025, 031, 037, 051, 069***, 100  | XXX 009, 015, 021, 025, 031, 037, 051, 069***, 100   |
| <b>CONTACTS</b>   |  |
| <b>TYPE CONTACTS/TERMINATIONS:</b><br>11 Pin, straight, solder cup<br>14 Pin, straight, .500" pigtails (.018 dia)<br>15 Pin, straight, 1.000" pigtails (.018 dia)<br>16 Pin, straight, crimped wire   | <b>TYPE CONTACTS/TERMINATIONS:</b><br>22 Socket, straight, PCB leads, .109"<br>23 Socket, straight, PCB leads, .140"<br>24 Socket, straight, PCB leads, .172"  |
| <b>PLATING OPTIONS:</b><br>1 50 μ" Au contacts (crimp wire)<br>3 50 μ" Au contacts; 10 μ" Au terminations (solder cup, pigtail)<br>5 50 μ" Au contacts; Sn/Pb alloy terminations (pigtail) <input checked="" type="checkbox"/><br>7 50 μ" Au contacts; SAC305 terminations (pigtail)  | <b>PLATING OPTIONS:</b><br>3 50 μ" Au contacts; 10 μ" Au terminations<br>5 50 μ" Au contacts; Sn/Pb alloy terminations <input checked="" type="checkbox"/><br>7 50 μ" Au contacts; SAC305 terminations   |
| <b>HARDWARE</b>   |  |
| <b>STYLE OF HARDWARE:</b><br>00 None<br>22 Two fixed jacknut assemblies (62*)<br>41 Two turning jackscrews, allen head, retaining ring (81*)<br>42 Two long turning jackscrews, allen head, retaining ring (82*)<br>43 Two turning jackscrews, slot head, retaining ring (83*)<br>44 Two long turning jackscrews, slot head, retaining ring (84*)<br>45 Two turning jackscrews, allen head, captivated** (85*)<br>99 Keying hardware, see options below (Body material 2, 3 and 4 only) | <b>STYLE OF HARDWARE:</b><br>00 None<br>22 Two fixed jacknut assemblies (62*)<br>41 Two turning jackscrews, allen head, retaining ring**** (81*)<br>99 Keying hardware, see options below (Body material 2, 3 and 4 only)  |
| <b>POLARIZATION / WIRING:</b><br>00 None<br>XX For wiring codes, see page MA-3 & MA-4   | <b>POLARIZATION / WIRING</b><br>00 None  |
| <b>OPTIONS</b>  |  |
| KSXX Two turning jackscrews. See page MA-6 for keying options (KJ*)   | KPXX Two fixed jacknuts and interfacial sealing gasket. See page MA-6 for keying options (KN*)<br>900 Interfacial sealing gasket<br>0B7 Threaded inserts and interfacial sealing gasket  |

\* = Use numbers or letters in parenthesis when ordering size 100.      \*\*\* = 69 position connectors are available in metal only.  
 \*\* = Captive hardware is factory installed and non-removable.      \*\*\*\* = Connector body has no mounting holes.  
 = Option not RoHS compliant

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