SIEMENS

# Installation Instructions

## Model NET-7
## Communication Interface

## INTRODUCTION

The Model NET-7 from Siemens Industry, Inc., provides a Style 7 communication interface between the main MXL and multiple remote panels in an MXL system using two separately supervised RS-485 pairs. Each NET-7, except the NET-7 connected to the MMB, electrically isolates the pairs from the local power supply and isolates ground faults to a single remote panel. The MMB provides ground fault detection for the two pairs.

Each NET-7 connected represents one network drop on the MXL System. There can be a maximum of 32 drops. The NET-7 has a network address which must be set on the module and installed into the CSG-M network map.

The NET-7 has **two yellow LEDs**:

1. XMIT ENABLE lights whenever the NET-7 transmits a message.

2. ANY TROUBLE lights when the NET-7 is unable to communicate to the MMB on either pair.

**Three green LEDs** on the NET-7 indicate the state of two communication pairs. **The first two LEDs,** PRIMARY and SECONDARY, light whenever the NET-7 receives a message on that pair. Use these two LEDs when troubleshooting to determine if a pair is active. **The third green LED,** SELECT, indicates the communication pair currently connected to the modules in the enclosure. In normal operation, the SELECT LED turns on and off every time there is network activity. If this LED remains in one state (either on or off), it indicates that one or both of the pairs is not functional. The SELECT LED lights when the PRIMARY pair is selected.

The NET-7 can also provide a Style 4 communication mode. In that configuration all NET-7s must be set to Style 4. Use P3 on the NET-7 to make this selection.

**CAUTION: NET-7s and NET-4s cannot be combined in the same system.**

The NET-7 offers advanced performance over the NET-4. Each NET-7 determines which modules are installed in its enclosure and reports this information to the MMB where it is compared to the CSG-M data base. That information verifies that the system is properly installed. The default setting in the MXL has this feature deactivated. The user can change the default setting in CSG-M or temporarily change the setting by selecting the OVERRIDE submenu of the TEST menu in the MXL. When using the MXL menu, the change remains in effect until power is removed. Error checking is available in either Style 4 or Style 7. All terminals are power limited.

For additional information on the MXL/MXLV System, refer to the *MXL/MXLV Manual, P/N 315-092036.*

Siemens Industry, Inc.
Building Technologies Division
Florham Park, NJ

P/N 315-091914-13

Siemens Building Technologies, Ltd.
Fire Safety & Security Products
2 Kenview Boulevard
Brampton, Ontario
L6T 5E4 Canada

## INSTALLATION

***Remove all system power before installation, first battery and then AC.*** (To power up, first connect the AC and then the battery.)

***All wiring must comply with national and local codes.***

1. Remove the NET-7 from the antistatic bag.

   **CAUTION: Do not touch the gold plated card edge on the NET-7.**

2. Set the address for the NET-7 using switch S1. Refer to Table 1 for the switch settings. Be sure that the address agrees with the CSG-M network map.

3. Determine whether the communication mode is Style 4 or Style 7. Place the shorting jumper on P3 to agree with the style selected. (See Figure 1 for the location of P3.)

   **NOTE:** On the MMB set jumper P15 to the S7 position regardless of the communication mode (Style 4 or Style 7) selected on the NET-7.

4. Decide whether to install the NET-7 into a PSR-1 or into the enclosure with the MMB. If the installation is in a PSR-1, skip to step 8.

5. Install the NET-7 that is in the enclosure with the MMB in a MOM-4 slot. Any available MOM-4 slot can be used. Mount one of the two card guides provided in the MOM-4. Slip the guide under the mounting screw in the center of the MOM-4 and tighten.

6. Refer to Figure 2 for the wiring diagram. Check all wiring prior to installing the NET-7 into the MOM-4. Failure to properly wire the NET-7 can cause damage to the board.

7. Install the NET-7 into the MOM-4 slot. Be sure that the board is firmly seated in the card edge connector. This completes the installation of the NET-7 with the MMB.

8. When used with a PSR-1, install the NET-7 into connector P7.

   - If screws are in the location where the card guide is to be installed, remove the screws and mount the card guide with the hardware supplied.

   - Mount the two card guides supplied onto the PSR-1 by loosening the screws above and below P7. Then slide the guides under the screws and tighten them.

9. Refer to Figure 2 for the wiring diagram. Connect the network wires to TB4 on the PSR-1 as shown.

10. Install the NET-7 into P7. Be sure that the board is firmly seated.

11. If an MKB-2 is installed, the NET-7 must be located in a MOM slot. In this configuration, the setting in the CSG-M for the PSR-1 style type should be *none* and a NET-7 should be installed in the network map.

### Note on End of Line Resistors

End of line resistors are provided with each NET-7. **DO NOT PLACE AN END OF LINE RESISTOR AT EACH NET-7.** These devices are required at the two extreme ends of each network pair as shown in Figure 2. It is not required that the MMB be at one of the ends. It may be at any location along the network. T-Tapping is not allowed on the network.

## ELECTRICAL RATINGS

| | |
|---|---|
| Active 5VDC Module Current | 120mA |
| Active 24VDC Module Current | 0mA |
| Standby 24VDC Module Current | 30mA |

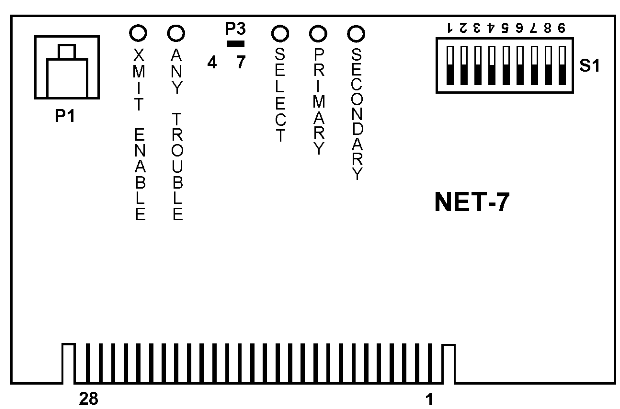
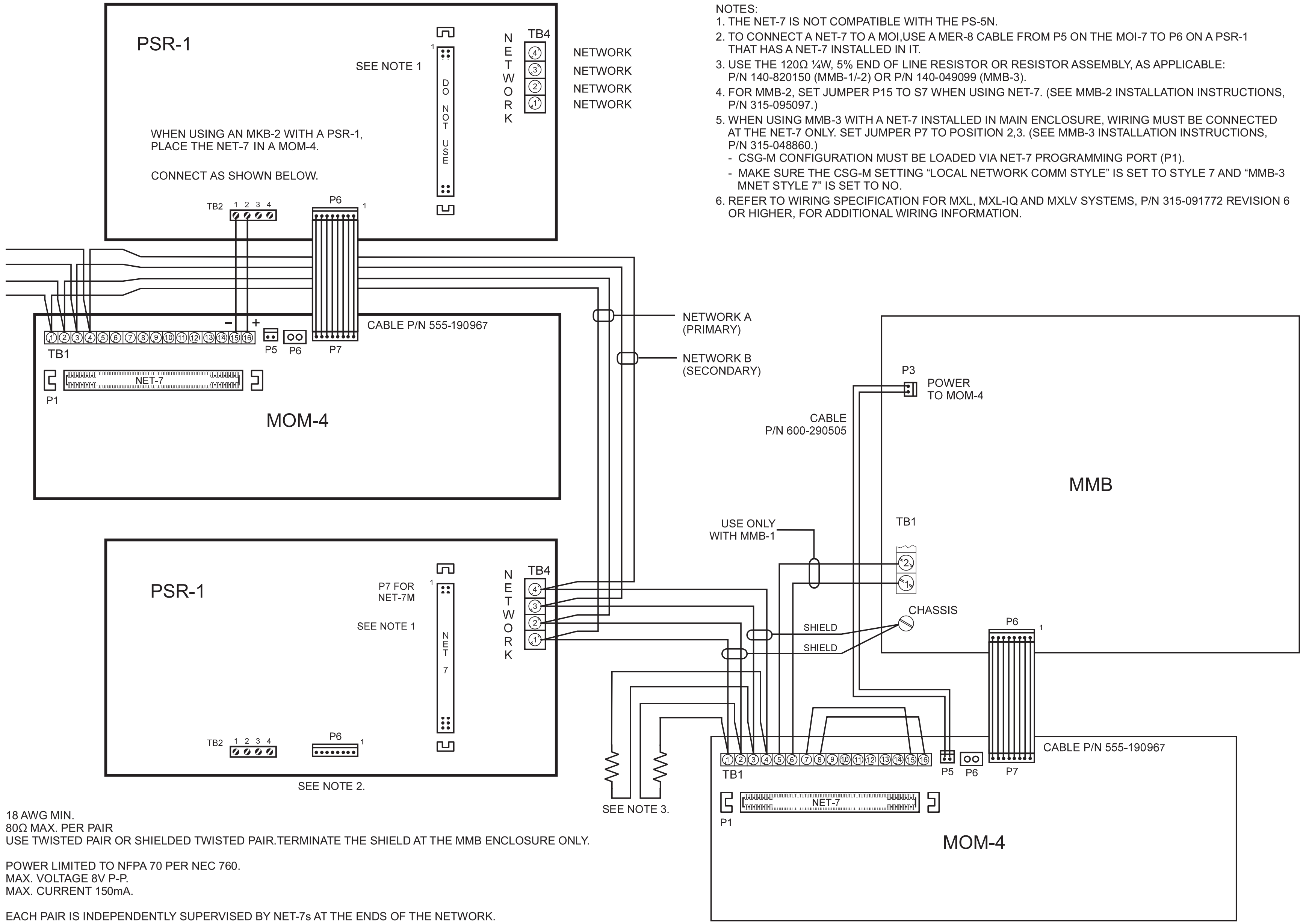



*Figure 1 NET-7 Board*




NOTES:
1. THE NET-7 IS NOT COMPATIBLE WITH THE PS-5N.
2. TO CONNECT A NET-7 TO A MOI,USE A MER-8 CABLE FROM P5 ON THE MOI-7 TO P6 ON A PSR-1 THAT HAS A NET-7 INSTALLED IN IT.
3. USE THE 120Ω ¼W, 5% END OF LINE RESISTOR OR RESISTOR ASSEMBLY, AS APPLICABLE: P/N 140-820150 (MMB-1/-2) OR P/N 140-049099 (MMB-3).
4. FOR MMB-2, SET JUMPER P15 TO S7 WHEN USING NET-7. (SEE MMB-2 INSTALLATION INSTRUCTIONS, P/N 315-095097.)
5. WHEN USING MMB-3 WITH A NET-7 INSTALLED IN MAIN ENCLOSURE, WIRING MUST BE CONNECTED AT THE NET-7 ONLY. SET JUMPER P7 TO POSITION 2,3. (SEE MMB-3 INSTALLATION INSTRUCTIONS, P/N 315-048860.)
   - CSG-M CONFIGURATION MUST BE LOADED VIA NET-7 PROGRAMMING PORT (P1).
   - MAKE SURE THE CSG-M SETTING “LOCAL NETWORK COMM STYLE” IS SET TO STYLE 7 AND “MMB-3 MNET STYLE 7” IS SET TO NO.
6. REFER TO WIRING SPECIFICATION FOR MXL, MXL-IQ AND MXLV SYSTEMS, P/N 315-091772 REVISION 6 OR HIGHER, FOR ADDITIONAL WIRING INFORMATION.

*Figure 2 NET-7 Wiring Diagram*

**TABLE 1**
**NETWORK ADDRESS PROGRAMMING**

| ADDR | 87654321 | ADDR | 87654321 | ADDR | 87654321 | ADDR | 87654321 |
|---|---|---|---|---|---|---|---|
| 000 | ILLEGAL | 064 | OXOOOOOO | 128 | XOOOOOOO | 192 | XXOOOOOO |
| 001 | ILLEGAL | 065 | OXOOOOOX | 129 | XOOOOOOX | 193 | XXOOOOOX |
| 002 | ILLEGAL | 066 | OXOOOOXO | 130 | XOOOOOXO | 194 | XXOOOOXO |
| 003 | OOOOOOXX | 067 | OXOOOOXX | 131 | XOOOOOXX | 195 | XXOOOOXX |
| 004 | OOOOOXOO | 068 | OXOOOXOO | 132 | XOOOOXOO | 196 | XXOOOXOO |
| 005 | OOOOOXOX | 069 | OXOOOXOX | 133 | XOOOOXOX | 197 | XXOOOXOX |
| 006 | OOOOOXXO | 070 | OXOOOXXO | 134 | XOOOOXXO | 198 | XXOOOXXO |
| 007 | OOOOOXXX | 071 | OXOOOXXX | 135 | XOOOOXXX | 199 | XXOOOXXX |
| 008 | OOOOXOOO | 072 | OXOOXOOO | 136 | XOOOXOOO | 200 | XXOOXOOO |
| 009 | OOOOXOOX | 073 | OXOOXOOX | 137 | XOOOXOOX | 201 | XXOOXOOX |
| 010 | OOOOXOXO | 074 | OXOOXOXO | 138 | XOOOXOXO | 202 | XXOOXOXO |
| 011 | OOOOXOXX | 075 | OXOOXOXX | 139 | XOOOXOXX | 203 | XXOOXOXX |
| 012 | OOOOXXOO | 076 | OXOOXXOO | 140 | XOOOXXOO | 204 | XXOOXXOO |
| 013 | OOOOXXOX | 077 | OXOOXXOX | 141 | XOOOXXOX | 205 | XXOOXXOX |
| 014 | OOOOXXXO | 078 | OXOOXXXO | 142 | XOOOXXXO | 206 | XXOOXXXO |
| 015 | OOOOXXXX | 079 | OXOOXXXX | 143 | XOOOXXXX | 207 | XXOOXXXX |
| 016 | OOOXOOOO | 080 | OXOXOOOO | 144 | XOOXOOOO | 208 | XXOXOOOO |
| 017 | OOOXOOOX | 081 | OXOXOOOX | 145 | XOOXOOOX | 209 | XXOXOOOX |
| 018 | OOOXOOXO | 082 | OXOXOOXO | 146 | XOOXOOXO | 210 | XXOXOOXO |
| 019 | OOOXOOXX | 083 | OXOXOOXX | 147 | XOOXOOXX | 211 | XXOXOOXX |
| 020 | OOOXOXOO | 084 | OXOXOXOO | 148 | XOOXOXOO | 212 | XXOXOXOO |
| 021 | OOOXOXOX | 085 | OXOXOXOX | 149 | XOOXOXOX | 213 | XXOXOXOX |
| 022 | OOOXOXXO | 086 | OXOXOXXO | 150 | XOOXOXXO | 214 | XXOXOXXO |
| 023 | OOOXOXXX | 087 | OXOXOXXX | 151 | XOOXOXXX | 215 | XXOXOXXX |
| 024 | OOOXXOOO | 088 | OXOXXOOO | 152 | XOOXXOOO | 216 | XXOXXOOO |
| 025 | OOOXXOOX | 089 | OXOXXOOX | 153 | XOOXXOOX | 217 | XXOXXOOX |
| 026 | OOOXXOXO | 090 | OXOXXOXO | 154 | XOOXXOXO | 218 | XXOXXOXO |
| 027 | OOOXXOXX | 091 | OXOXXOXX | 155 | XOOXXOXX | 219 | XXOXXOXX |
| 028 | OOOXXXOO | 092 | OXOXXXOO | 156 | XOOXXXOO | 220 | XXOXXXOO |
| 029 | OOOXXXOX | 093 | OXOXXXOX | 157 | XOOXXXOX | 221 | XXOXXXOX |
| 030 | OOOXXXXO | 094 | OXOXXXXO | 158 | XOOXXXXO | 222 | XXOXXXXO |
| 031 | OOOXXXXX | 095 | OXOXXXXX | 159 | XOOXXXXX | 223 | XXOXXXXX |
| 032 | OOXOOOOO | 096 | OXXOOOOO | 160 | XOXOOOOO | 224 | XXXOOOOO |
| 033 | OOXOOOOX | 097 | OXXOOOOX | 161 | XOXOOOOX | 225 | XXXOOOOX |
| 034 | OOXOOOXO | 098 | OXXOOOXO | 162 | XOXOOOXO | 226 | XXXOOOXO |
| 035 | OOXOOOXX | 099 | OXXOOOXX | 163 | XOXOOOXX | 227 | XXXOOOXX |
| 036 | OOXOOXOO | 100 | OXXOOXOO | 164 | XOXOOXOO | 228 | XXXOOXOO |
| 037 | OOXOOXOX | 101 | OXXOOXOX | 165 | XOXOOXOX | 229 | XXXOOXOX |
| 038 | OOXOOXXO | 102 | OXXOOXXO | 166 | XOXOOXXO | 230 | XXXOOXXO |
| 039 | OOXOOXXX | 103 | OXXOOXXX | 167 | XOXOOXXX | 231 | XXXOOXXX |
| 040 | OOXOXOOO | 104 | OXXOXOOO | 168 | XOXOXOOO | 232 | XXXOXOOO |
| 041 | OOXOXOOX | 105 | OXXOXOOX | 169 | XOXOXOOX | 233 | XXXOXOOX |
| 042 | OOXOXOXO | 106 | OXXOXOXO | 170 | XOXOXOXO | 234 | XXXOXOXO |
| 043 | OOXOXOXX | 107 | OXXOXOXX | 171 | XOXOXOXX | 235 | XXXOXOXX |
| 044 | OOXOXXOO | 108 | OXXOXXOO | 172 | XOXOXXOO | 236 | XXXOXXOO |
| 045 | OOXOXXOX | 109 | OXXOXXOX | 173 | XOXOXXOX | 237 | XXXOXXOX |
| 046 | OOXOXXXO | 110 | OXXOXXXO | 174 | XOXOXXXO | 238 | XXXOXXXO |
| 047 | OOXOXXXX | 111 | OXXOXXXX | 175 | XOXOXXXX | 239 | XXXOXXXX |
| 048 | OOXXOOOO | 112 | OXXXOOOO | 176 | XOXXOOOO | 240 | XXXXOOOO |
| 049 | OOXXOOOX | 113 | OXXXOOOX | 177 | XOXXOOOX | 241 | XXXXOOOX |
| 050 | OOXXOOXO | 114 | OXXXOOXO | 178 | XOXXOOXO | 242 | XXXXOOXO |
| 051 | OOXXOOXX | 115 | OXXXOOXX | 179 | XOXXOOXX | 243 | XXXXOOXX |
| 052 | OOXXOXOO | 116 | OXXXOXOO | 180 | XOXXOXOO | 244 | XXXXOXOO |
| 053 | OOXXOXOX | 117 | OXXXOXOX | 181 | XOXXOXOX | 245 | XXXXOXOX |
| 054 | OOXXOXXO | 118 | OXXXOXXO | 182 | XOXXOXXO | 246 | XXXXOXXO |
| 055 | OOXXOXXX | 119 | OXXXOXXX | 183 | XOXXOXXX | 247 | XXXXOXXX |
| 056 | OOXXXOOO | 120 | OXXXXOOO | 184 | XOXXXOOO | 248 | ILLEGAL |
| 057 | OOXXXOOX | 121 | OXXXXOOX | 185 | XOXXXOOX | 249 | ILLEGAL |
| 058 | OOXXXOXO | 122 | OXXXXOXO | 186 | XOXXXOXO | 250 | ILLEGAL |
| 059 | OOXXXOXX | 123 | OXXXXOXX | 187 | XOXXXOXX | 251 | ILLEGAL |
| 060 | OOXXXXOO | 124 | OXXXXXOO | 188 | XOXXXXOO | 252 | ILLEGAL |
| 061 | OOXXXXOX | 125 | OXXXXXOX | 189 | XOXXXXOX | 253 | ILLEGAL |
| 062 | OOXXXXXO | 126 | OXXXXXXO | 190 | XOXXXXXO | 254 | ILLEGAL |
| 063 | OOXXXXXX | 127 | OXXXXXXX | 191 | XOXXXXXX | 255 | ILLEGAL |

O = OPEN (or OFF)   X = CLOSED ( or ON)