

# FMC-03

## FM PANEL ANTENNA

### FEATURES

- circular polarization
- broadband 87.5 ÷ 108 MHz
- 4.5 dB gain
- directional pattern
- suitable as a component in various arrays on square towers
- stainless steel dipoles



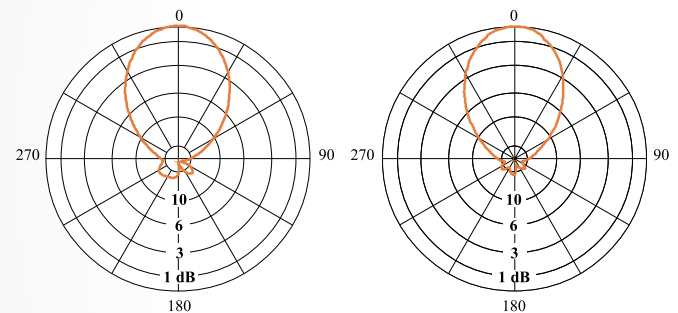
### ELECTRICAL DATA

|                                     |  |
|-------------------------------------|--|
| ANTENNA TYPE                        | FMC-03   |
| FREQUENCY RANGE                     | 87.5 ÷ 108 MHz   |
| IMPEDANCE                           | 50 ohm   |
| CONNECTOR                           | 4 x 7/8" EIA or 4 x 7/16 F   |
| MAX POWER                           | 20 kW (5 kW per dipole in 7/8")<br>12 kW (3 kW per dipole in 7/16) |
| VSWR                                | ≤ 1.1 (in circular polarization)                                   |
| POLARIZATION                        | Circular   |
| GAIN (referred to half wave dipole) | 4.5 dB (Circular polarization)<br>7.5 dB (Linear polarization)     |
| HALF POWER BEAMWIDTH                | Horizontal Component: ± 32°<br>Vertical component: ± 32°           |
| LIGHTNING PROTECTION                | All Metal Parts DC Grounded  |

### MECHANICAL DATA

|  |   |
|--|---|
| DIMENSIONS mm (in)                             | 2200 x 2200 x 1018<br>(86.61 x 86.61 x 40.08)   |
| WEIGHT kg (lb)                                 | 99 (218)  |
| WIND SURFACE m <sup>2</sup> (ft <sup>2</sup> ) | 1.60 (17.2) front<br>1.48 (15.9) side   |
| WIND LOAD kN (lbf)<br>at 160 km/h (100 mph)    | 1.93 (434) front<br>1.82 (409) side   |
| MAX WIND VELOCITY km/h (mph)                   | 270 (167.8)   |
| MATERIALS                                      | Reflector (hot dip galvanized steel)<br>Dipoles (stainless steel)<br>Internal parts (silver plated brass,<br>polished brass, deoxidized aluminium)<br>Radome (fiberglass) |
| ICING PROTECTION                               | Feed point radome   |
| RADOME COLOUR                                  | Grey (standard)   |
| MOUNTING                                       | Directly on supporting mast   |

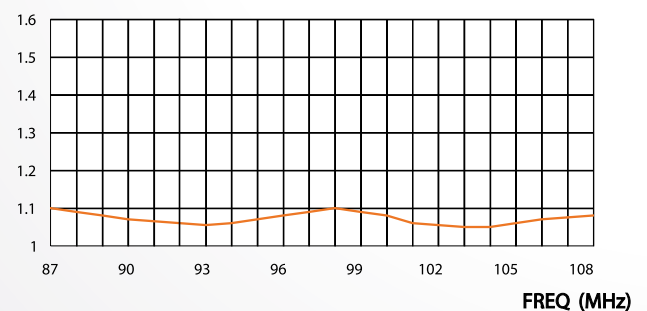
### RADIATION PATTERNS (Mid Band)



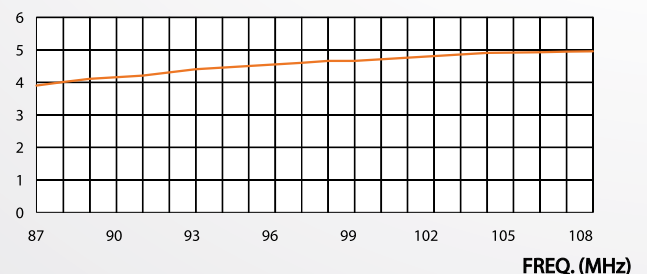
Horizontal Component

Vertical Component

### VSWR



### GAIN (dB)



# FMC-03

## FM PANEL ANTENNA

### FEATURES

- radiating systems with FMC-03 panel on square towers
- high power systems
- omnidirectional or directional patterns
- equal or unequal split ratio power distribution network
- broadband 87.5÷108 MHz



FMC-03/12 (4x3)  
IMPERIA, ITALY

### ELECTRICAL DATA

|                    |  |
|--------------------|--|
| FREQUENCY RANGE    | 87.5 ÷ 108 MHz   |
| IMPEDANCE          | 50 ohm   |
| CONNECTOR          | EIA flange according to system power rating  |
| POWER RATING       | The antenna system can accept any power according to requirements  |
| VSWR               | ≤ 1.1 Throughout the frequency range<br>(Lower figures for individual frequencies on request)                        |
| POLARIZATION       | Circular / Elliptical on request   |
| GAIN               | Refer to table   |
| HORIZONTAL PATTERN | Any type according to requirement  |
| VERTICAL PATTERN   | Null fill, beam tilt and special requirements to order   |
| OTHER FEATURES     | The antenna system can be supplied in split feed configuration (two equal halves)<br>Each half can accept full power |

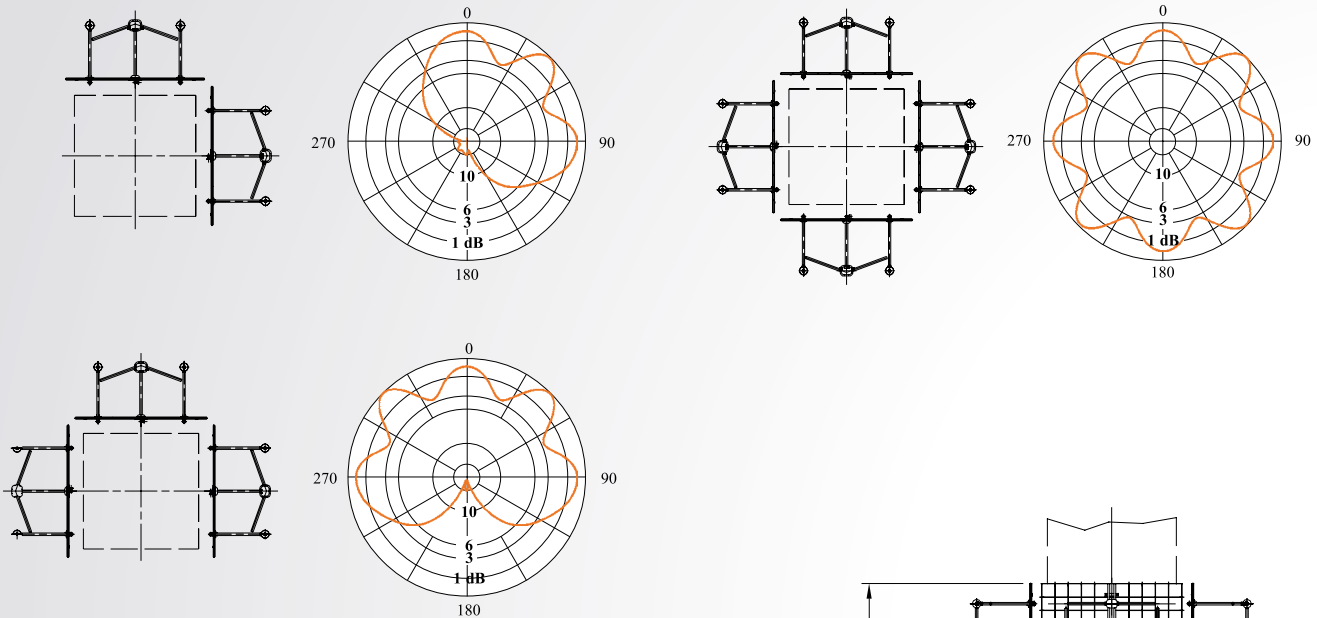
### MECHANICAL DATA

|                   |                           |
|-------------------|---------------------------|
| HEIGHT OF ARRAY   | Subject to number of bays |
| TOTAL NET WEIGHT  | Refer to table            |
| WIND LOAD         | Refer to table            |
| PRESSURIZABLE     | Yes                       |
| RADOME COLOUR     | Grey (standard)           |
| MOUNTING HARDWARE | Available upon request    |

# FMC-03

## FM PANEL ANTENNA

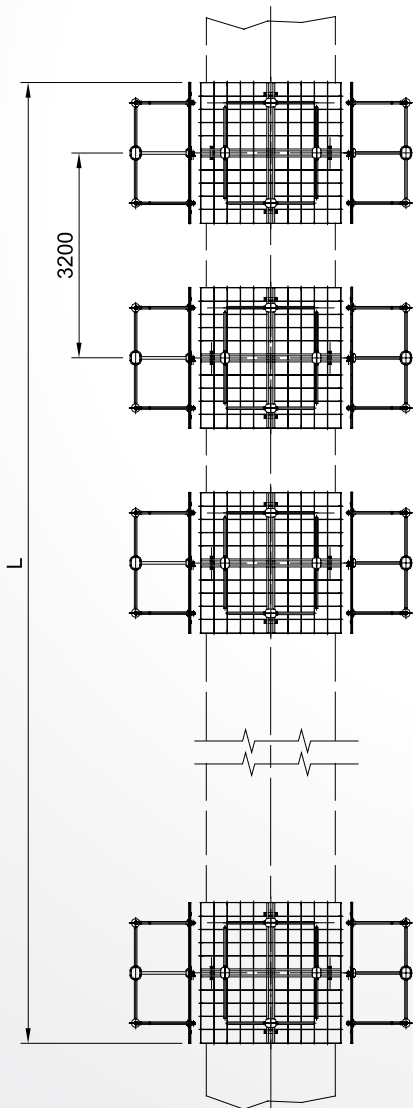
### HORIZONTAL PATTERNS WITH 2, 3 AND 4 FACES AT 98 MHz



### TECHNICAL DATA

| NUMBER OF BAYS | PANELS PER BAY | GAIN dB (1) | GAIN TIMES (1) | WEIGHT (2) kg (lb) | ANTENNA HEIGHT L m (ft) | WIND LOAD (3) kN (lbf) |
|----------------|----------------|-------------|----------------|--------------------|-------------------------|------------------------|
| 1              | 2              | 1.9         | 1.55           | 249 (549)          | 2.2 (7.2)               | 3.94 (886)             |
|                | 3              | 0.4         | 1.1            | 388 (855)          |                         | 4.91 (1104)            |
|                | 4              | -0.7        | 0.85           | 494 (1089)         |                         | 5.89 (1324)            |
| 2              | 1              | 7.6         | 5.75           | 249 (549)          | 5.4 (17.7)              | 3.22 (724)             |
|                | 2              | 4.9         | 3.09           | 494 (1089)         |                         | 7.89 (1774)            |
|                | 3              | 3.4         | 2.19           | 771 (1700)         |                         | 9.83 (2210)            |
|                | 4              | 2.4         | 1.74           | 1004 (2213)        |                         | 11.78 (2648)           |
| 4              | 1              | 10.6        | 11.5           | 494 (1089)         | 11.8 (38.7)             | 6.44 (1448)            |
|                | 2              | 7.9         | 6.16           | 1004 (2213)        |                         | 15.80 (3552)           |
|                | 3              | 6.4         | 4.36           | 1464 (3228)        |                         | 19.66 (4420)           |
|                | 4              | 5.4         | 3.47           | 1956 (4312)        |                         | 23.55 (5294)           |
| 6              | 1              | 12.4        | 17.38          | 771 (1700)         | 18.2 (59.7)             | 9.67 (2174)            |
|                | 2              | 9.8         | 9.55           | 1464 (3228)        |                         | 23.71 (5330)           |
|                | 3              | 8.3         | 6.76           | 2245 (4949)        |                         | 29.49 (6630)           |
|                | 4              | 7.1         | 5.13           | 2951 (6506)        |                         | 35.34 (7945)           |
| 8              | 1              | 13.8        | 23.98          | 1004 (2213)        | 24.6 (80.7)             | 12.90 (2900)           |
|                | 2              | 11.1        | 12.88          | 1956 (4312)        |                         | 31.61 (7106)           |
|                | 3              | 9.6         | 9.12           | 2951 (6506)        |                         | 39.32 (8839)           |
|                | 4              | 8.6         | 7.24           | 3857 (8503)        |                         | 47.11 (10591)          |

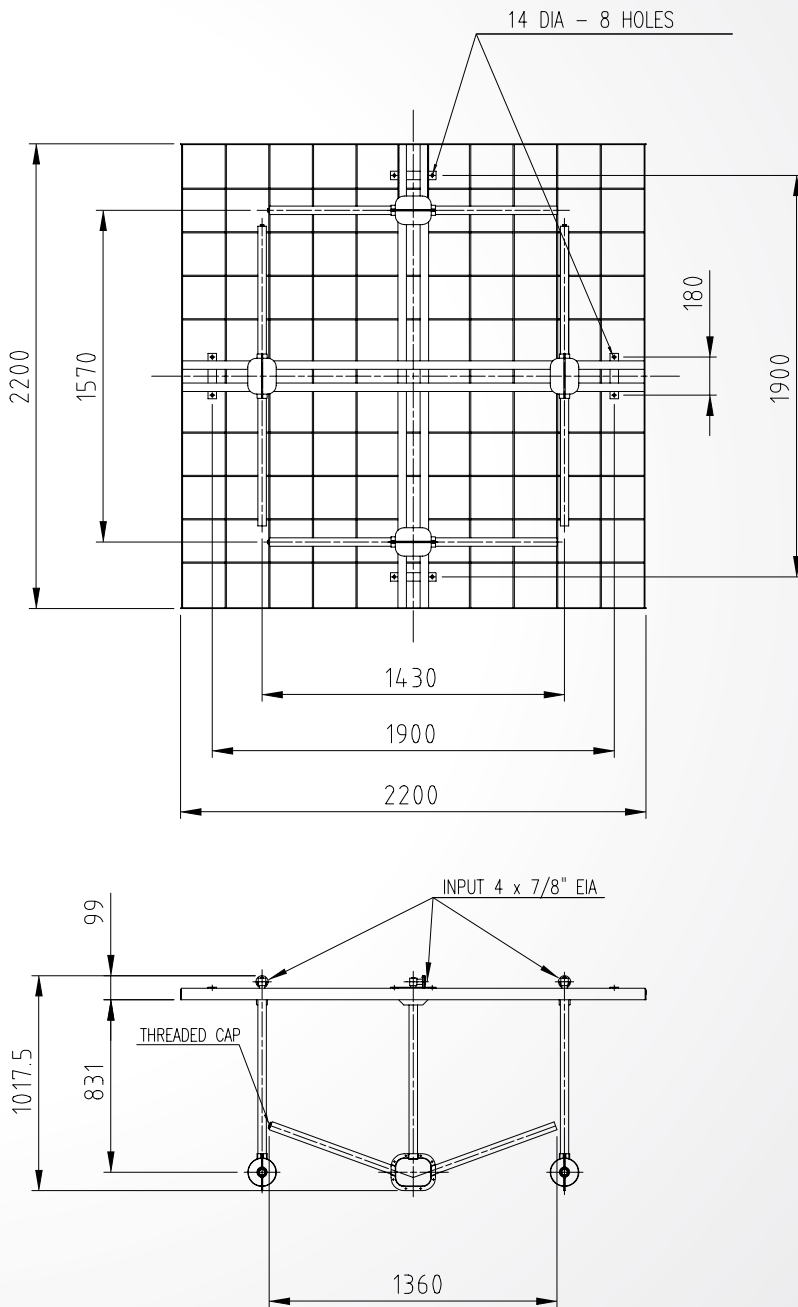
(1) referred to half wave dipole. Losses of power distribution network not included.  
 (2) without mounting hardware  
 (3) v= 160 km/h (100 mph)



# FMC-03

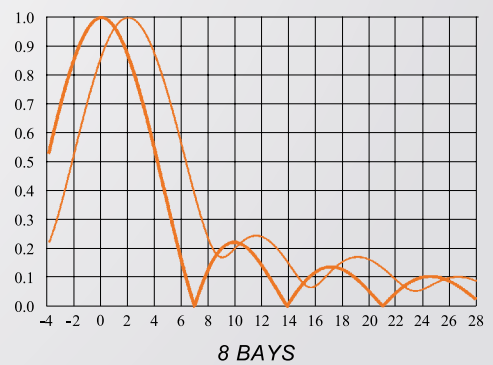
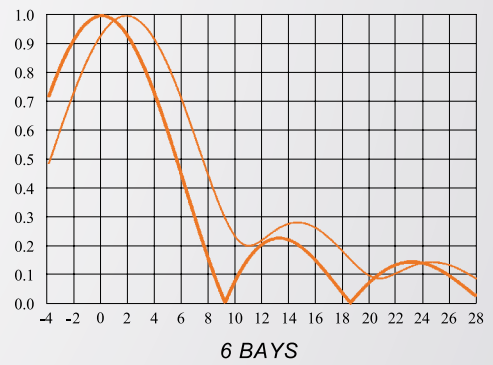
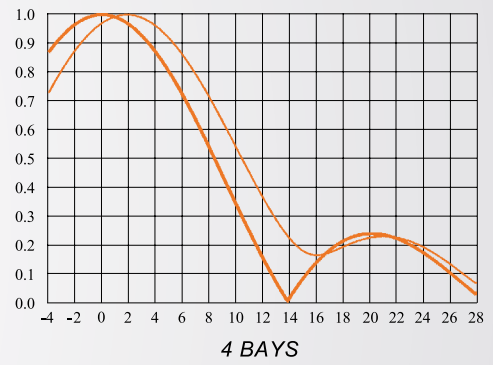
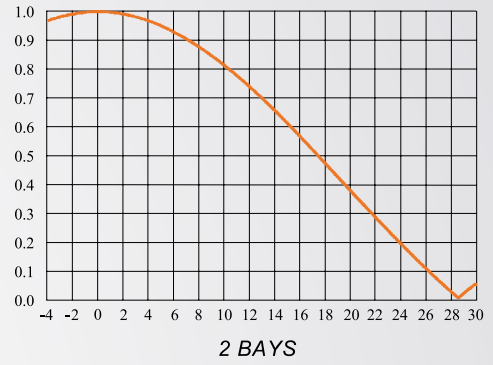
## FM PANEL ANTENNA

### DIMENSIONAL DETAILS



### VERTICAL PATTERN

— Without null fill  
 — With null fill and beam tilt



All dimensions are in millimeters