

# Fleet Management

## Technical Specification for FM2

Pole Star's Fleet Management system is comprised of reliable satellite tracking hardware linked to a powerful web-based service. It provides an effective way of automatically tracking powered and unpowered vessels in real time.

The system enables the operator of any marine asset to monitor the safe passage of their powered vessels and unpowered vessels through adverse weather and sea conditions or through high security risk areas which may be affecting trade routes.

### Hardware Options

There are a number of hardware options which can be configured for unpowered vessels and to suit the user's operational needs:

- FM2 - satellite transceiver with internal batteries for use on assets with no power on board
- FM2 power pack – external battery packs can be linked to FM2 units to increase the working life of the FM2 unit between charges
- FM2 solar panels – use a solar panel and cable to top-up the FM2 batteries on route and reduce the need for recharging
- FM2 charger – for recharging FM2 external power packs and FM2 units
- FM2 solar panel fitting bracket – allows easy installation and removal of FM2 solar panel

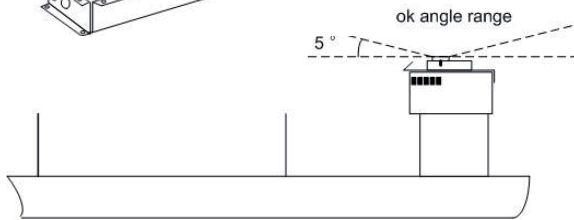
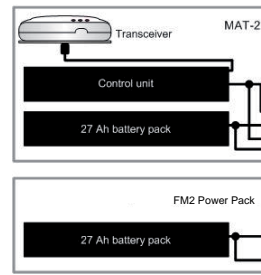
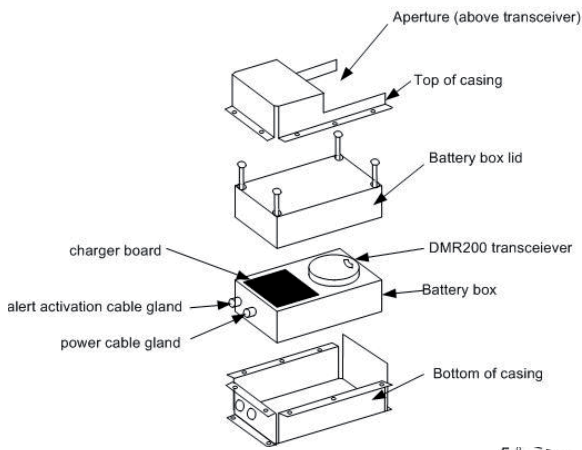


Pole Star FM2

via   
**inmarsat**

Powered by  
**Purplefinder** 

Fleet Management FM2 2007-06-26



### PHYSICAL

Overall Dimensions	Length: 500 mm x Width: 232 mm x Height: 200 mm
Weight	19kg

### ENVIRONMENTAL

Operating Temperature Range	-40° to +70° C
Storage Temperature Range	-40° to +85° C
Humidity	95% Relative Humidity at 30° C
Vibration 5-20 Hz:	1.92 m2/s3 random noise, 20-500Hz: - 3dB octave random noise
Shock (survival)	Half sine 6ms, 300m/s2
Transceiver environmental rating	IP56

### ELECTRICAL

Power Consumption (typ.@12Vdc)	Receive: 0.9W, Idle: 0.25W, GPS Active: +1.0W; Heater Active: +5.0W, Transmit: 10W;
Mating Connector	Conxall Mini-Con-X® 6282-8SG-3DC

### SATELLITE

Coverage:	Global, four overlapping regions & Spot Beams
Frequency Range:	Rx: 1525.0 to 1559.0 MHz, Tx: 1626.5 to 1660.5 MHz
Sensitivity:	> -25dB/K
EIRP:	0 dBW to 9 dBW (0dBW at < 5 degrees)
Elevation Angle Range:	5 to 90 degrees
Modulation:	Forward channel: 32-ary FSK, 20bps,
Reverse Channel:	binary FSK, 4-128bps
Forward Error Correction:	Forward channel: Reed-Solomon (31,15),
Reverse Channel:	Half-rate convolutional (k=7)

### GPS

Frequency:	1575.42 MHz
Channels:	16 parallel

### CERTIFICATIONS

Inmarsat D+ Type Approval , CEMark



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