

IC-M87 ATEX



INTRINSICALLY SAFE VERSION

ATEX Intrinsically Safe Marine Radio

IPX7



ATEX Intrinsically Safe Type Approval

The IC-M87 ATEX and designated options are certified to the ATEX Directive. It is suitable for use in hazardous areas where flammable gases or liquids are used such as petroleum tankers and bulk cargo carrier.

The approved rating is **II 2G Ex ib IIA T3 Gb**.

Special conditions for use: Must be used with **BP-227AX**

When the transceiver is used in hazardous areas, either the jack cover or HM-138 must be attached to the connector. Ambient operating temperature: -20°C to +55°C

IPX7, Waterproof Construction

The IC-M87 ATEX is built tough to withstand hazardous and inhospitable environments at sea and on land. Even if the IC-M87 ATEX is dropped into water, the IPX7 waterproof construction will protect it from harm (1 m depth for 30 minutes). The compact and durable body also has been tested to US military specifications (MIL-STD 810).

Li-ion Battery for Extra Long Battery Life

With the standard 1950 mAh (typ.) rechargeable Li-ion battery pack, BP-227AX, the IC-M87 ATEX allows you up to 19 hours of operating time.*

* Typical operation; Tx: Rx: Stand-by duty ratio = 5: 5: 90

22 Programmable Channels for PMR Use

The IC-M87 ATEX has 22 programmable channels for PMR use (146–174 MHz). Wide/narrow channel spacing is programmable for each channel, and CTCSS and DTCS signaling is built-in.

*Appropriate license will be required.

Built-in Voice Scrambler

The IC-M87 ATEX has a built-in 32 code voice scrambler. The voice scramble is compatible with the UT-112 which is adopted to some Icom marine radios.

Optional Waterproof Speaker-Microphone, HM-138

An optional waterproof speaker-microphone, HM-138, provides reliable operation, allowing you to wear the IC-M87 ATEX on your belt for added portable convenience.



Photo includes optional speaker-microphone, HM-138.

Additional Features

- Simple Up/Down buttons for operating channel selection
- Instant access to Ch. 16 and call channel
- Simple add/delete TAG scanning operation • Automatic scan function

- 4 level battery indicator • Desktop charger, BC-152N supplied
- Key lock and monitor function • Programmable beep sound
- 2 step power saver • The self check functions

SPECIFICATIONS

| IC-M87 ATEX | | |
|---|---|------------------------------------|
| GENERAL | Marine channels | PMR channels |
| Frequency coverage Tx Rx | 156.000–161.450 MHz 156.000–163.425 MHz | 146.000–174.000 MHz |
| Usable channel groups, Number of channels | INT, USA* channels (* Varies according to version) | 22 PMR channels |
| Type of emission | 16K0G3E | 16K0F3E/8K50F3E 14K0F3E/8K50F3E |
| Channel spacing | 25 kHz | 12.5/25 kHz, 20/25 kHz |
| Power supply requirement | 7.4 V DC nominal | |
| Current drain (approx.) Tx (at 1 W) Rx Max. audio | 0.7 A typ. 200 mA typ. | |
| Antenna impedance | 50 Ω (SMA type) | |
| Operating temperature range | -15°C to +55°C | -25°C to +55°C |
| Dimensions (W × H × D) (Projections not included) | 62 × 97 × 39 mm (With BP-227AX) | |
| Weight (approx.) | 280 g (With BP-227AX) | |
| TRANSMITTER | | |
| Output power (at 7.2 V DC) | 1/0.5 W | 1 W |
| Max. frequency deviation | ±5.0 kHz | ±5.0/±4.0/±2.5 kHz (W/M/N) |
| Frequency stability | ±1.5 kHz | |
| Spurious emissions | 0.25 μW (≤ 2 GHz), 1.0 μW (> 2 GHz) | |
| Residual modulation | 40 dB | 40/34 dB (W/N) |
| Audio harmonic distortion | Less than 10% (at 60% deviation) | |
| Modulation limiting | 60–100% of Max. deviation | |
| RECEIVER | | |
| Sensitivity (at 20 dB SINAD) | -2 dBμ typ. (emf) | -4 dBμ typ. (emf) |
| Adjacent channel selectivity | 70 dB | 70/60 dB (W/N) |
| Spurious response | 70 dB | |
| Intermodulation | 68 dB | 65 dB |
| Hum and noise | 40 dB | 40/34 dB (W/N) |
| Audio output power (at 10% distortion with 8 Ω load) | 200 mW | 350 mW |

Measurements made in accordance with EN 301-178 or EN 300 086.
All stated specifications are subject to change without notice or obligation.

Applicable U.S. Military Specifications & IP Rating

| Standard | MIL 810 F | |
|-------------------|-----------|-----------|
| | Method | Procedure |
| Low Pressure | 500.4 | I, II |
| High Temperature | 501.4 | I, II |
| Low Temperature | 502.4 | I, II |
| Temperature Shock | 503.4 | I |
| Solar Radiation | 505.4 | I |
| Rain Blowing/Drip | 506.4 | I, III |
| Humidity | 507.4 | - |
| Salt Fog | 509.4 | - |
| Dust Blowing | 510.4 | I |
| Vibration | 514.5 | I |
| Shock | 516.5 | I, IV |

Also meets equivalent MIL-STD-810-C, -D and -E.


| Ingress Protection Standard | |
|-----------------------------|------------------------------|
| Water | IPX7 (Waterproof protection) |

| Supplied accessories: | |
|--|----------------------------|
| • Battery pack, BP-227AX | • Battery charger, BC-152N |
| • Swivel belt clip, MB-86 | • Antenna, FA-S59V |
| (* AC adapter is not supplied depending on version.) | • AC adapter, BC-147SE* |
| | • Hand strap |

OPTIONS

Some options may not be available in some countries. Please ask your dealer for details.

SPEAKER-MICROPHONE
HM-138



IPX7

BATTERY PACK



BP-227AX
Rechargeable Li-ion
7.4 V 1850 mAh (min.)
1950 mAh (typ.)

DESKTOP CHARGER²




BC-147S¹ BC-152N
Charges the BP-227AX in 9–10 hours. (approx.)

MULTI-CHARGER²



BC-121N+AD-100 (6 pcs.)
Rapid charges up to 6 battery packs in 2–2.5 hours.

BELT CLIPS



MB-98 Alligator type MB-86 Swivel type

LEATHER BELT HANGER



MB-96F

¹ BC-147SA for 120 V AC. SE for 230 V AC. SV for 240 V AC.
² These chargers are not approved as intrinsically safe. Do not charge the BP-227AX in an explosive atmosphere.

Examples of Applicable Gas and Vapor Types*

| | T1: 450°C | T2: 300°C | T3: 200°C |
|-----|-----------------|-----------------|---------------|
| I | Methane | | |
| | Acetone | Ethyl alcohol | Benzene |
| IIA | Ethane | I-amyl acetate | Diesel fuel |
| | Ethyl acetate | n-butane | Aircraft fuel |
| | Ammonia | n-butyl alcohol | Heating oil |
| | Benzene (pure) | | n-hexane |
| | Acetic acid | | |
| | Carbon Monoxide | | |
| | Methanol | | |
| | Propane | | |
| | Toluene | | |

* Please ensure the IC-M87 ATEX rating is acceptable for intended place of use.

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