

# IC-M87 ATEX



## INTRINSICALLY SAFE VERSION

IPX7



### ATEX Intrinsically Safe Marine Radio

#### 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:  $-20^{\circ}\text{C}$  to  $+55^{\circ}\text{C}$

#### 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

#### 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
<b>GENERAL</b>		
Frequency coverage	Tx	156.000–161.450 MHz
	Rx	156.000–163.425 MHz
Usable channel groups, Number of channels		INT, USA* channels
Type of emission		16K0G3E
Channel spacing		25 kHz
Power supply requirement		7.4 V DC nominal
Current drain (approx.)		
	Tx (at 1 W)	0.7 A
	Rx Max. audio	200 mA
Antenna impedance		50 Ω (SMA type)
Operating temperature range		–15°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)
<b>TRANSMITTER</b>		
Output power (at 7.2 V DC)		1/0.5 W
Max. frequency deviation		±5.0 kHz
Frequency stability		±1.5 kHz
Spurious emissions		0.25 μW (≤ 2 GHz), 1.0 μW (> 2 GHz)
Residual modulation		40 dB
Audio harmonic distortion		Less than 10% (at 60% deviation)
Modulation limiting		60–100% of Max. deviation
<b>RECEIVER</b>		
Sensitivity (at 20 dB SINAD)		–2 dBμ (emf)
Adjacent channel selectivity		70 dB
Spurious response		70 dB
Intermodulation		68 dB
Hum and noise		40 dB
Audio output power (at 10% distortion with 8 Ω load)		200 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	• AC adapter, BC-147SE*
• Antenna, FA-S59V	• Hand strap

(\* AC adapter is not supplied depending on version.)

**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 CHARGER\*2**



BC-147S\*1      BC-152N  
Charges the BP-227AX in 9–10 hours. (approx.)

**MULTI-CHARGER\*2**



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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