ATEX Intrinsically Safe Radio for Hazardous Locations
Superior Waterproof Protection Supports Demanding Communication

Firefighters, Police, Security and Public utilities. Each profession has its own unique challenges, but all have one thing in common: the need for reliable communications. Icom’s IC-F51/F61 offers a compact waterproof, MIL STD package, that’s easy to use. Rain or shine, this radio keeps you in contact in nearly any environment.

Dust and Waterproof Protection Equivalent to IP67
The gasket sealed waterproof housing provides superior dust and waterproof protection, equivalent to IP67. Reliable and dependable use in harsh conditions underwater or dust, make the IC-F51 / IC-F61 the radio for all situations.

Alphanumeric Display
The 8-character alphanumeric display shows channel, bank, tone code and scanning channel names on the display. 7 operational icons on the sub-line show various status at a glance.

Built-in Voice Scrambler
The IC-F51/F61 has a built-in rolling type voice scrambler equivalent to the UT-110.

Built-in Tone Signaling
Use the built-in CTCSS, DTCS, 2-Tone and 5-Tone capability to set up your own talk groups and quiet stand-by when other groups are talking. You can also set up selective calls to individuals or control a repeater.

Up to 5 Programmable Buttons
The [P0]–[P3], [Red] and [Up], [Down] buttons are programmable to meet specific needs. The [Red] button on the top panel can be assigned as an emergency trigger.

Multiple 5-Tone
Up to 8 5-Tone codes can be decoded on a single memory channel. This is perfect for professionals who require multiple district paging on one channel. When a matched tone is received, the following items are programmable for each code.

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The IC-F51/F61 has a built-in rolling type voice scrambler equivalent to the UT-110.

Li-ion Battery Pack
The large capacity 1950 mAh (typ.) rechargeable Lithium-ion (Li-ion) battery pack, BP-227AXD provides a practical 10 hours* of operating time. Li-ion batteries allow flexible charging and have almost no memory effect.

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

ATEX Intrinsically Safe
The IC-F51/F61 ATEX version and designated options are certified to the ATEX Protection Class II 2G Ex ia IIA T3 Gb, II 2D Ex ib IIIC T160˚C Db IP67 (Tamb= –20˚C to +55˚C) as interpreted in the following table. It is suitable for use in hazardous areas where flammable gases, liquids or conductive dusts are used.

ATEX Gas Protection

<table>
<thead>
<tr>
<th>Category</th>
<th>Flammable Gases</th>
<th>Flammable Liquids</th>
<th>Conductive Dust</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class A</td>
<td>Methane</td>
<td>Acetone</td>
<td>Benzene</td>
</tr>
<tr>
<td>Class B</td>
<td>Ethyl alcohol</td>
<td>Ethane</td>
<td>Aircraft fuel</td>
</tr>
<tr>
<td>Class C</td>
<td>Ethyl acetate</td>
<td>n-propane (pure)</td>
<td>n-hexane</td>
</tr>
</tbody>
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ATEX Dust Protection

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Other Features
• Built-in audio compander • 8 DTMF autodial memories • Normal and priority scans • 2 step power saver • Busy, repeater lockout functions • Power ON password, and more...

ATEX Gas Group Classification

<table>
<thead>
<tr>
<th>Methane</th>
<th>Acetone</th>
<th>Ethyl alcohol</th>
<th>Benzene</th>
</tr>
</thead>
<tbody>
<tr>
<td>T1: 450˚C</td>
<td>T2: 300˚C</td>
<td>T3: 200˚C</td>
<td></td>
</tr>
</tbody>
</table>

Compact Body
56 (W) × 97 (H) × 36.4 (D) mm compact body with durable, dependable construction, has been tested to MIL standard specifications. The compact design fits comfortably in your palm, and is easy to carry around.

BIIS 1200 Compatible
The following selective calling and data features are available with the BIIS system.

• 32 abbreviated call memories
• 7 group IDs
• 24-status Messages
• 8-character SDM (Short Data Message)

Other Features
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**SPECIFICATIONS**

<table>
<thead>
<tr>
<th></th>
<th>IC-F51 ATEX</th>
<th>IC-F61 ATEX</th>
<th>IC-F61-L ATEX</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>GENERAL</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frequency coverage</td>
<td>136–174 MHz</td>
<td>400–470 MHz</td>
<td>350–400 MHz (Non-RTTE)</td>
</tr>
<tr>
<td>Number of channels</td>
<td>Max. 128/8 zones</td>
<td>Max. 128 channels/8 zones</td>
<td></td>
</tr>
<tr>
<td>Type of emission</td>
<td>1GOF3E, 1GOF5E, 8KOF3E</td>
<td>1GOF5E, 1GOF7E, 8KOF3E</td>
<td></td>
</tr>
<tr>
<td>Channel spacing</td>
<td>12.5/20/25 kHz</td>
<td>12.5/25 kHz</td>
<td>12.5/25 kHz (IC-F61-L)</td>
</tr>
<tr>
<td>Power supply requirement</td>
<td>7.2 V DC nominal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Current drain (max)</td>
<td>0.7 A</td>
<td>0.8 A</td>
<td></td>
</tr>
<tr>
<td></td>
<td>300 mA</td>
<td>300 mA</td>
<td></td>
</tr>
<tr>
<td></td>
<td>85 mA</td>
<td>85 mA</td>
<td></td>
</tr>
<tr>
<td>Antenna impedance</td>
<td>50 Ω (SMA type)</td>
<td>50 Ω (SMA type)</td>
<td></td>
</tr>
<tr>
<td>Operating temperature range</td>
<td>–20°C to +55°C</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dimensions</td>
<td>56 × 97 × 36.4 mm (With BP-227AXD)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Weight (approx.)</td>
<td>290 g (With BP-227AXD)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**TRANSMITTER**

- Output power (at 7.2 V DC): 1 W
- Max. frequency deviation: ±5.0 kHz/±4.0 kHz/±5 kHz (W/M/N)
- Frequency stability: ±2.5 ppm
- Spurious emissions: 0.25 μW (≤ 1 GHz)
- 1.0 μW (≤ 1 GHz)
- Modulation limiting: 80% (W/M/N)
- Audio harmonic distortion: 3% typ. (AF 1 kHz 40% deviation)
- Ext. microphone connector: 9-pin multi connector/2.2 kHz

**RECEIVER**

- Sensitivity (at 20 dB SINAD): –4 dBμV typ. (cm/s)
- Adjacent channel selectivity: 75/75/65 dB min. (W/M/N)
- Spurious response: 70 dB
- Intermodulation rejection: 67 dB typ.
- Hum and noise: 55/53/50 dB typ. (W/M/N)
- Audio output power: 500 mW typ. (at 5% distortion with 8 Ω load)
- Ext. speaker connector: 9-pin multi connector/8 Ω

**ANTENNAS**

- FA-S24V: 136–150 MHz (Blue)
- FA-S59V: 150–174 MHz (Red)
- FA-S27U: 400–470 MHz (Green)
- FA-S62VS: 150–162 MHz (Red)
- FA-S63VS: 160–174 MHz (Green)
- FA-S57US: 450–490 MHz (Red)

**BATTERY CHARGER**

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

**OPTIONS**

- **BATTERY PACK**
  - BP-227AXD: Rechargeable Li-ion 7.4 V, 1850 mAh (min.), 1950 mAh (typ.)
- **BATTERY CHARGER**
  - BC-147S*: Rapidly charges the BP-227AXD in 2–3 hours. (approx.)
- **RAPID CHARGER**
  - BC-145S**: Rapidly charges the BP-227AXD in 2–3 hours. (approx.)

**SPEAKER-MICROPHONE**

- HM-138

**BELT CLIPS**

- MB-98: Alligator type
- MB-86: Swivel type

**LEATHER BELT**

- HANGER

**STUBBY ANTENNAS**

- FA-562VS: 150–162 MHz (Red)
- FA-562YS: 160–174 MHz (Green)
- FA-557US: 450–490 MHz (Red)

**Ingress Protection Standard**

- Dust & Water: IP67 (Dust-protection and waterproof protection)

**ATEX INTRINSICALLY SAFE TYPE APPROVAL**

The approved rating is

- Gas: II2G Ex ia IIA T3 Gb
- Dust: II2D Ex ib IIC T160°C Db IP67
  - (Tamb – 20°C to +55°C)

Special conditions for use: Must be used with BP-227AXD
When the transceiver is used in hazardous areas, either the jack cover or HM-138 must be attached to the connector.

* Note for IC-F51/F61 ATEX Non-Dust (II2G) version users, please use only the BP-227AX battery pack with the IC-F51/F61 ATEX Non-Dust version.

**Applicable U.S. Military Specifications & IP Rating**

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

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**Count on us!**

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