



VHF AND UHF DIGITAL TRANSCEIVERS (NXDN™)

IC-F3202DEX

(VHF transceiver for Europe version)

IC-F4202DEX

(UHF transceiver for Europe version)

IC-F3203DEX

(VHF transceiver for Export versions)

IC-F4203DEX

(UHF transceiver for Export versions)

IECEX/ATEX INTRINSICALLY SAFE RADIO



IDAS™
ICOM DIGITAL ADVANCED SYSTEM

NXDN™

IP67



IEC Certifications

Mining : Ex ib I Mb
Gas : Ex ib IIC T4 Gb
Dust : Ex ib IIIC T110°C Db
-20°C ≤ Ta ≤ +55°C
IEC 60079-0 (2011), IEC 60079-11 (2011)

ATEX Certifications

Mining : I M2 Ex ib I Mb
Gas : II 2G Ex ib IIC T4 Gb
Dust : II 2D Ex ib IIIC T110°C Db
-20°C ≤ Ta ≤ +55°C
EN 60079-0 (2012), EN 60079-11 (2012)

IP67 Dust-tight & Waterproof Protection

The IC-F3202DEX/F3203DEX series provides rugged protection against dust and water that is equivalent to IP67. The IC-F3202DEX/F3203DEX series can withstand 1m depth of water for 30 minutes and its dust-tight construction shuts out powder dust, sand and other objects.

IDAS™ Digital Mode Operation

The IC-F3202DEX/F3203DEX series provides can program NXDN™ Type-D single-site trunking and digital conventional as well as analog mode per channel. The following digital features are programmable.

- PTT ID (TX)
- Individual/Group calls
- Block decode
- Radio check (RX)
- Stun/kill/revive (RX)
- Call alert (RX)
- Remote monitor (RX)
- Emergency (TX)
- Digital voice scrambler (15-bit)
- Power ON/OFF status call (TX)
- RAN (Radio Access Number)
- Voting scan for multi-site conventional operation

TX: Transmit, RX: Receive

Analogue Mode Compatible

The IC-F3202DEX/F3203DEX series has built-in 5-Tone, 2-Tone, CTCSS and DTCS signaling capability for analogue mode group communication and selective calling. The lone worker and man down functions automatically send an emergency signal to assist in worker safety. The radio is perfect for use as an analogue transceiver ready for future digital migration.

Other Features

- 16 memory channels with channel announcement function
- MDC 1200 PTT ID and emergency transmission
- DTMF autodial
- Three programmable buttons (including emergency red button)
- Low electrical resistivity body; Carrying case is not required
- 19.5–21 hours* operating time with BP-277EX (* 5:5:90 duty cycle with Power save.)
- Optional waterproof speaker-microphone, HM-203EX



SPECIFICATIONS

| | IC-F3202DEX IC-F3203DEX | IC-F4202DEX IC-F4203DEX |
|--|---|---|
| GENERAL | | |
| Frequency coverage | 136–174MHz | 400–470MHz |
| Number of channels | 16 channels | |
| Type of emission | 16K0F3E, 14K0F3E, 8K50F3E, 4K00F1E/F1D | |
| Power supply requirement | 7.4V DC nominal | |
| Current drain (approx.) | | |
| Tx High | 550mA | |
| Rx Max. audio/Standby | 300mA (Internal SP)/110mA (Digital mode) | |
| Antenna impedance | 50Ω | |
| Operating temperature range | –20°C to +55°C | |
| Dimensions (W×H×D) (Projections not included) | 63×144×50mm (With BP-277EX) | |
| Weight (approx.) | 258g (Radio only) 466g (With MB-94EX, BP-277EX & FA-SC55V) | 250g (Radio only) 460g (With MB-94EX, BP-277EX & FA-SC57U) |
| TRANSMITTER | | |
| Output power (at 7.4V DC) | 1W, 0.8W, 0.6W (Hi, L2, L1) | |
| Max. permissible deviation | ±5.0kHz/±4.0kHz/±2.5kHz (W/M/N) | |
| Frequency stability | ±1.0ppm | |
| Spurious emissions | 0.25μW (≤ 1GHz), 1.0μW (> 1GHz) 66dB min. | |
| FM Hum and Noise (EXP) | 50/46dB typ. (W/N) | 46/40dB typ. (W/N) |
| Residual modulations (EUR) | 54/53/50dB typ. (W/M/N) | 48/46/42dB typ. (W/M/N) |
| Audio harmonic distortion | 1.0/1.0/1.5% typ. (W/M/N) (@ AF 1kHz 40% deviation) | |
| FSK error | 2.0% typ. (Digital) 1.5% typ. (Digital) | |
| Ext. microphone connector | 14-pin multi-connector/2.2kΩ | |
| RECEIVER | | |
| Sensitivity | Digital (5% BER) | –8dBμV emf typ. |
| | Analog (EUR, 20dB SINAD) | –4dBμV emf typ. |
| | Analog (EXP, 12dB SINAD) | 0.24μV typ. |
| Adjacent channel selectivity | 78/75/70/62dB typ. (W/M/N/D) | 74/72/66/57dB typ. (W/M/N/D) |
| Spurious response | 85dB typ. (W/M/N), | 75dB typ. (W/M/N), |
| | 87dBμV emf typ. (Digital) | 79dBμV emf typ. (Digital) |
| Intermodulation | EUR | 67dB typ. (W/M/N), 73dBμV emf typ. (Digital) |
| | EXP | 75/75/67dB typ. (W/N/D) 74/74/73dB typ. (W/N/D) |
| Hum and noise | EUR (With CCITT filter) | 53/51/48dB typ. (W/M/N) |
| | EXP (Without CCITT filter) | 48/43dB typ. (W/N) 46/44/41dB typ. (W/M/N) |
| Audio output power | 400mW typ. (at 5% distortion with 32Ω load) | |
| External speaker connector | 14-pin multi-connector/32Ω | |

Measurements made in accordance with TIA-603, EN 300-086, EN 301-166.
All stated specifications are subject to change without notice or obligation.

Applicable U.S. Military Specifications & IP Rating

| Standard | MIL 810G | |
|-------------------|----------|-----------|
| | Method | Procedure |
| Low Pressure | 500.5 | I, II |
| High Temperature | 501.5 | I, II |
| Low Temperature | 502.5 | I, II |
| Temperature Shock | 503.5 | I-C |
| Solar Radiation | 505.5 | I |
| Rain Blowing/Drip | 506.5 | I, III |
| Humidity | 507.5 | II |
| Salt Fog | 509.5 | – |
| Dust Blowing | 510.5 | I |
| Immersion | 512.5 | I |
| Vibration | 514.6 | I |
| Shock | 516.6 | I, IV |

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

Ingress Protection Standard

| | |
|--------------|----------------------------------|
| Dust & Water | IP67 (Dust-tight and waterproof) |
|--------------|----------------------------------|

Supplied accessories: (May differ according to version)

- Battery pack, BP-277EX
- Belt clip, MB-94EX
- Antenna
- Battery charger, BC-212EX
- AC adapter, BC-123S

Read all instructions enclosed with the transceiver carefully and completely before using the transceiver.

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OPTIONS

BATTERY PACK
IP67



BP-277EX
Li-Ion, 7.4V
1800mAh (min.)
1900mAh (typ.)

RAPID CHARGER



BC-123S^{*1} **BC-212EX**

Charges the BP-277EX in 2 hours (approx.).

SPEAKER-MICROPHONE
IP67



HM-203EX

BELT CLIP



MB-94EX
Alligator type
Same as supplied.

ANTENNAS

- FA-SC25V : 136–150MHz
- FA-SC55V : 150–174MHz
- FA-SC25U : 400–430MHz
- FA-SC57U : 430–470MHz

^{*1} BC-123SA for USA.
SE for Europe. SV for Australia.

DO NOT use the transceiver with any other equipment other than the above options.
The battery charger, BC-212EX must not be used in an explosive atmosphere.

ATEX mining protection and meaning

| | | | | | |
|---|----|----|----|---|----|
| I | M2 | Ex | ib | I | Mb |
| Mb = Mining equipment protection level: High protection | | | | | |
| I = Protection in mining group: Methane | | | | | |
| ib = Intrinsic safety | | | | | |
| Ex = Explosion proof equipment | | | | | |
| M2 = Must be switched OFF in case of firedamp | | | | | |
| I = Group I, Mining | | | | | |

ATEX gas protection and meaning

| | | | | | | | |
|---|---|---|----|----|-----|----|----|
| II | 2 | G | Ex | ib | IIC | T4 | Gb |
| Gb = GAS equipment protection level: High protection | | | | | | | |
| T4 = Device surface temperature will not exceed 135°C | | | | | | | |
| IIC = Protection in GAS group: Acetylene, Hydrogen | | | | | | | |
| ib = Intrinsic safety | | | | | | | |
| Ex = Explosion proof equipment | | | | | | | |
| G = Gas, vapour and mist | | | | | | | |
| 2 = High level protection for use in Zone 1 (gas) | | | | | | | |
| II = Group II, other (non-mining) areas | | | | | | | |

ATEX dust protection and meaning

| | | | | | | | |
|--|---|---|----|----|-----|--------|----|
| II | 2 | D | Ex | ib | IIC | T110°C | Db |
| Db = Dust equipment protection level: High protection | | | | | | | |
| T110°C = Maximum temperature of device surface | | | | | | | |
| IIC = Dust group: Conductive dust (R<10 ³ Ωm) | | | | | | | |
| ib = Intrinsic safety | | | | | | | |
| Ex = Explosion proof equipment | | | | | | | |
| D = Dust | | | | | | | |
| 2 = High level protection for use in Zone 21 (dust) | | | | | | | |
| II = Group II, other (non-mining) areas | | | | | | | |

* Please ask your dealer to ensure the ATEX and IECEx ratings are acceptable for the intended place of use.

Your local distributor/dealer: