



## VHF AND UHF DIGITAL TRANSCEIVERS (dPMR™)

### 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)

IC-F4202DEX/F4203DEX Approval Pending

# IECEX/ATEX INTRINSICALLY SAFE RADIO



**iDAS™**  
COM DIGITAL ADVANCED SYSTEM



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)

The IC-F4202DEX/F4203DEX IEC/ATEX certifications pending at time of printing. Subject to change.

### 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.

### dPMR™ Mode 1/2 Operation

The IC-F3202DEX/F3203DEX series provides basic operation in dPMR Mode 1, 2 conventional mode. It is compatible with Mode 2 multi-site system. The following dPMR features are programmable.

- PTT ID (TX)
- Power ON/OFF status call (TX)
- Ambience listening (RX)
- Lone worker/Man down function
- Voting scan for Mode 2 multi-site system
- Individual/Group call
- Stun/kill/revive (RX)
- Emergency (TX)
- Digital voice scrambler

TX: Transmit, RX: Receive

### Analogue Mode Compatible

The IC-F3202DEX/F4202DEX 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
- BIIS 1200 PTT ID 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
<b>GENERAL</b>		
Frequency coverage	136–174MHz	400–470, 450–520, 350–400MHz
Number of channels	16 channels	
Type of emission	16K0F3E, 14K0F3E, 8K50F3E, 4K00F1E/F1D	
Emission	16K0F3E, 11K0F3E, 8K50F3E, 4K00F1E/F1D	
Power supply requirement	7.4V DC nominal	
Current drain (approx.)	550mA	
Tx High	300mA (Internal SP)/110mA (Digital mode)	
Rx Max. audio/Standby	300mA (Internal SP)/110mA (Digital mode)	
Antenna impedance	50Ω	
Operating temperature range	–25°C to +55°C (Radio only)	
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)
<b>TRANSMITTER</b>		
Output power (at 7.4V DC)	1W, 0.8W, 0.6W (Hi, L2, L1)	
Max. frequency deviation	±5.0kHz/±4.0kHz/±2.5kHz/±6.25kHz (W/M/N/D)	
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	5.0% max.	
Ext. microphone connector	14-pin multi-connector/2.2kΩ	
<b>RECEIVER</b>		
Sensitivity	EUR: (at 5% BER) (at 20dB SINAD) EXP: (at 12dB SINAD)	–8dBμV typ. emf –4dBμV typ. emf 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., 87dBμV emf (D)	75dB typ., 79dBμV emf (D)
Intermodulation	EUR EXP	67dB typ., 73dBμV typ. emf (D) 75dB typ., 67dBμV typ. (D)
Hum and noise	EUR (With CCITT filter) EXP (Without CCITT filter)	53/51/48dB typ. (W/M/N) 48/43dB typ. (W/N)
Audio output power	400mW typ. (at 5% distortion with 32Ω load)	
Ext. 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
• Battery charger, BC-212EX	• AC adapter, BC-123S
	• Antenna

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**Icom Inc.** 1-1-32, Kami-minami, Hirano-Ku, Osaka 547-0003, Japan Phone: +81 (06) 6793 5302 Fax: +81 (06) 6793 0013 [www.icom.co.jp/world](http://www.icom.co.jp/world) **Count on us!**

**Icom America Inc.**  
12421 Willows Road NE,  
Kirkland, WA 98034, U.S.A.  
Phone: +1 (425) 454-8155  
Fax: +1 (425) 454-1509  
E-mail: sales@icomamerica.com  
URL: <http://www.icomamerica.com>

**Icom Canada**  
Glenwood Centre #150-6165  
Highway 17A, Delta, B.C.,  
V4K 5B8, Canada  
Phone: +1 (604) 952-4266  
Fax: +1 (604) 952-0090  
E-mail: info@icomcanada.com  
URL: <http://www.icomcanada.com>

**Icom Brazil**  
Rua Itororó, 444 Padre Eustáquio  
Belo Horizonte MG,  
CEP: 30720-450, Brazil  
Phone: +55 (31) 3582 8847  
Fax: +55 (31) 3582 8987  
E-mail: sales@icombrasil.com

**Icom (Europe) GmbH**  
Communication Equipment  
Auf der Krautweide 24  
65812 Bad Soden am Taunus, Germany  
Phone: +49 (6196) 76885-0  
Fax: +49 (6196) 76885-50  
E-mail: info@icom-europe.com  
URL: <http://www.icomeurope.com>

**Icom Spain S.L.**  
Ctra. Rubi, No. 88 "Edificio Can Castanyer"  
Bajos A 08174, Sant Cugat del Valles,  
Barcelona, Spain  
Phone: +34 (93) 590 26 70  
Fax: +34 (93) 589 04 46  
E-mail: icom@icomspain.com  
URL: <http://www.icomspain.com>

**Icom (UK) Ltd.**  
Blacksole House, Altira Park,  
Herne Bay, Kent, CT6 6GZ, U.K.  
Phone: +44 (0) 1227 741741  
Fax: +44 (0) 1227 741742  
E-mail: info@icomuk.co.uk  
URL: <http://www.icomuk.co.uk>

**Icom France s.a.s.**  
Zac de la Plaine,  
1 Rue Brindejone des Moulinais, BP 45804,  
31505 Toulouse Cedex 5, France  
Phone: +33 (5) 61 36 03 03  
Fax: +33 (5) 61 36 03 00  
E-mail: icom@icom-france.com  
URL: <http://www.icom-france.com>

**Icom (Australia) Pty. Ltd.**  
Unit 1 / 103 Garden Road,  
Clayton, VIC 3168 Australia  
Phone: +61 (03) 9549 7500  
Fax: +61 (03) 9549 7505  
E-mail: sales@icom.net.au  
URL: <http://www.icom.net.au>

**Icom New Zealand**  
39C Rennie Drive, Airport Oaks,  
Auckland, New Zealand  
Phone: +64 (09) 274 4062  
Fax: +64 (09) 274 4708  
E-mail: inquiries@icom.co.nz  
URL: <http://www.icom.co.nz>

**Asia Icom Inc.**  
6F No. 68, Sec. 1 Cheng-Teh Road,  
Taipei, Taiwan, R.O.C.  
Phone: +886 (02) 2559 1899  
Fax: +886 (02) 2559 1874  
E-mail: sales@asia-icom.com  
URL: <http://www.asia-icom.com>

**Shanghai Icom Ltd.**  
No.101, Building 9, Caifuxingyuan Park,  
No.188 Maoting Road, Chedun Town,  
Songjiang District, Shanghai, 201611, China  
Phone: +86 (021) 6153 2768  
Fax: +86 (021) 5765 9987  
E-mail: bjicom@bjicom.com  
URL: <http://www.bjicom.com>

**OPTIONS**

**BATTERY PACK**  
IP67



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

**RAPID CHARGER**



**BC-123S<sup>1</sup>** **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-SC01U : 350–400MHz
- FA-SC25U : 400–430MHz
- FA-SC57U : 430–470MHz
- FA-SC72U : 470–520MHz

<sup>1</sup> BC-123SA for USA.  
SE for Europe. SV for Australia.

DO NOT use the transceiver with any other equipment other than the above options.

**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 <sup>3</sup> 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							

The IC-F4202DEX/F4203DEX certification pending at time of printing. Subject to change.  
\* Please ensure the IC-F3202DEX/F4202DEX rating is acceptable for the intended place of use.

Your local distributor/dealer: