



PRE-RELEASE INFORMATION

VHF AND UHF IDAS™ DIGITAL TRANSCEIVERS

IC-F3201DEX

(IDAS digital VHF transceiver)

Approval pending

IC-F4201DEX

(IDAS digital UHF transceiver)

Approval pending

IECEEx/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 IP6x T110°C Db
-20°C ≤ Ta ≤ +55°C

ATEX Certifications

Mining : I M2 Ex ib I Mb
Gas : II 2G Ex ib IIC T4 Gb
Dust : II 2D Ex ib IIIC IP6x T110°C Db
-20°C ≤ Ta ≤ +55°C

Certification pending at time of printing. Subject to change.

IP67 Dust-tight & Waterproof Protection

The IC-F3201DEX series provides rugged protection against dust and water that is equivalent to IP67. The IC-F3201DEX 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-F3201DEX series provides basic operation in NXDN™ CAI-based digital mode. It is also compatible with IDAS multi-site conventional and IDAS Type-D single-site trunking. The following IDAS features are programmable.

- | | | |
|---------------------------------|-------------------------|-----------------------------|
| • PTT ID (TX) | • Individual/Group call | • Block decode |
| • Radio check (RX) | • Stun/kill/revive (RX) | • Call alert (RX) |
| • Remote monitor (RX) | • Emergency (TX) | • Digital scrambler |
| • Power ON/OFF status call (TX) | | • RAN (Radio Access Number) |

TX: Transmit, RX: Receive

Man Down and Lone Worker Functions for Emergency Call

The man down function automatically sends an emergency signal when the transceiver is left in a horizontal position for a preset period. The lone worker function also can transmit an emergency signal when the radio is not operated for a preset period. These emergency functions can be used to alert your co-workers or dispatcher to any potential trouble.

Other Features

- 16 memory channels with channel announcement function
- Built-in 2-Tone, 5-Tone, CTCSS and DTCS
- MDC PTT ID and emergency
- Voting scan • 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

* Tx: Rx: Standby=5:5:90. Power save on.

- Optional waterproof speaker-microphone, HM-203EX



SPECIFICATIONS

	IC-F3201DEX	IC-F4201DEX
GENERAL		
Frequency coverage	136–174MHz	400–470MHz
Number of channels	16 channels	
Type of emission	11K0F3E, 8K50F3E, 4K00F1E/F1D	
Channel spacing	12.5/6.25kHz	
Power supply requirement	7.4V DC nominal	
Current drain (approx.)		
Tx High	550mA	550mA
Rx Max. audio/Standby	300mA (Internal SP)/110mA	300mA (Internal SP)/110mA
Antenna impedance	50Ω	
Operating temperature range	–30°C to +60°C; –22°F to +140°F (Radio only)	
When used in explosive atmospheres	–20°C to +55°C; –4°F to +131°F	
Dimensions (W×H×D)	63×144×50mm (With BP-277EX)	
(Projections not included)		
Weight (approx.)	258g (Radio only), 466g (With MB-94EX, BP-277EX & FA-SC55V)	
TRANSMITTER		
Output power (at 7.4V DC)	1W, 0.8W, 0.6W (Hi, L2, L1)	
Max. frequency deviation	±2.5kHz/±6.25kHz (Narrow/Digital)	
Frequency stability	±1.0ppm	
Spurious emissions	70dB min.	
FM harmonic distortion	46dB typ. (Narrow)	40dB typ. (Narrow)
Audio harmonic distortion	1.5% typ. (AF 1kHz 40% deviation, Narrow)	
FSK error	5.0% max.	
Ext. microphone connector	14-pin multi-connector/2.2kΩ	
RECEIVER		
Sensitivity Analog (12dB SINAD)	0.23μV typ.	0.24μV typ.
Digital (5% BER)	0.18μV typ.	0.18μV typ.
Adjacent channel selectivity	71/62dB typ. (Narrow/Digital)	67/57dB typ. (Narrow/Digital)
Spurious response rejection	85dB typ.	75dB typ.
Intermodulation rejection	75dB typ. (Narrow)	
Hum and noise	43dB typ. (Narrow)	40dB typ. (Narrow)
Audio output power		
Internal SP (With 32Ω load)	400mW typ. (at 5% distortion)	
External SP (With 32Ω load)	400mW typ. (at 5% distortion)	
Ext. speaker connector	14-pin multi-connector/32Ω	

Measurements made in accordance with TIA-603.

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

Ingress Protection Standard

Dust & Water IP67 (Dust-tight and waterproof)

MIL Specifications and IP rating test are under evaluation as of February 2014.

Supplied accessories: (May differ according to version)

- Battery pack, BP-277EX
- Belt clip, MB-94EX
- Antenna
- Battery charger, BC-121EX
- AC adapter, BC-123S

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Count on us!

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 120V AC.
SE for 230V AC. SV for 240V AC.

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	I = Protection in mining group: Methane
					ib	ib = Intrinsic safety
					Ex	Ex = Explosion proof equipment
					M2	M2 = Must be switched OFF in case of firedamp
					I	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	IP6x	T110°C	Db	Db = Dust equipment protection level: High protection
									T110°C = Maximum temperature of device surface
									IP6x = dust penetration protection
									IIC = Dust group: Conductive dust (R≤10 ⁴ 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

Certification pending at time of printing. Subject to change. The International Electrotechnical Commission's safety standard certification is also pending.

* Please ensure the IC-F3201DEX/F4201DEX rating is acceptable for the intended place of use.

Les spécifications et informations données dans ce document peuvent être modifiées sans préavis.

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