

PRODUCT DATA SHEET
MOTOTRBO™ DP4000e SERIES
DIGITAL TWO-WAY RADIOS



	Full Keypad (FKP) Model			Limited Keypad (LKP) Model			No Keypad (NKP) Model		
Model Number	DP4801e, DP4800e ¹			DP4601e, DP4600e ¹			DP4401e, DP4400e ¹		
Band	VHF	300MHz	UHF	VHF	300MHz	UHF	VHF	300MHz	UHF
GENERAL SPECIFICATIONS									
Frequency	136-174 MHz	300-360 MHz 350-400 MHz	403-527 MHz	136-174 MHz	300-360 MHz 350-400 MHz	403-527 MHz	136-174 MHz	300-360 MHz 350-400 MHz	403-527 MHz
High Power Output	5 W	4 W	4 W	5 W	4 W	4 W	5 W	4 W	4 W
Low Power Output	1 W	1 W	1 W	1 W	1 W	1 W	1 W	1 W	1 W
Channel Spacing	12.5, 20 ² , 25 kHz								
Channel Capacity	1000			1000			32		
NiMH 1400mAh IP67 Battery									
Dimensions with Radio (H x W x D)	130 x 55 x 39 mm			130 x 55 x 39 mm			130 x 55 x 37 mm		
Weight with Radio	405 g			405 g			380 g		
Digital / Analogue Battery Life ³	13.0 / 10.0 hrs	12.0 / 9.5 hrs		13.0 / 10.0 hrs	12.0 / 9.5 hrs		13.0 / 10.0 hrs	12.0 / 9.5 hrs	
Li-ion 1400mAh Low Temp IP57 Battery									
Dimensions with Radio (H x W x D)	130 x 55 x 41 mm			130 x 55 x 41 mm			130 x 55 x 40 mm		
Weight with Radio	345 g			345 g			320 g		
Digital / Analogue Battery Life ³	13.0 / 10.0 hrs	12.0 / 9.5 hrs		13.0 / 10.0 hrs	12.0 / 9.5 hrs		13.0 / 10.0 hrs	12.0 / 9.5 hrs	
Slim IMPRES Li-ion 1650mAh IP67 Battery									
Dimensions with Radio (H x W x D)	130 x 55 x 36 mm			130 x 55 x 36 mm			130 x 55 x 34 mm		
Weight with Radio	330 g			330 g			295 g		
Digital / Analogue Battery Life ³	16.0 / 12.0 hrs	15.5 / 11.5 hrs		16.0 / 12.0 hrs	15.5 / 11.5 hrs		16.0 / 12.0 hrs	15.5 / 11.5 hrs	
IMPRES Li-ion 2100mAh IP68 Battery									
Dimensions with Radio (H x W x D)	130 x 55 x 36 mm			130 x 55 x 36 mm			130 x 55 x 34 mm		
Weight with Radio	330 g			330 g			295 g		
Digital / Analogue Battery Life ³	20.0 / 15.0 hrs	19.0 / 14.5 hrs		20.0 / 15.0 hrs	19.0 / 14.5 hrs		20.0 / 15.0 hrs	19.0 / 14.5 hrs	
IMPRES Li-ion 2250mAh IP67 Battery									
Dimensions with Radio (H x W x D)	130 x 55 x 41 mm			130 x 55 x 41 mm			130 x 55 x 40 mm		
Weight with Radio	345 g			345 g			320 g		
Digital / Analogue Battery Life ³	21.5 / 16.5 hrs	21.0 / 16.0 hrs		21.5 / 16.5 hrs	21.0 / 16.0 hrs		21.5 / 16.5 hrs	21.0 / 16.0 hrs	
IMPRES TIA4950 Li-ion 2900mAh IP68 Battery									
Dimensions with Radio (H x W x D)	130 x 55 x 41 mm			130 x 55 x 41 mm			130 x 55 x 40 mm		
Weight with Radio	405 g			405 g			380 g		
Digital / Analogue Battery Life ³	28.0 / 21.0 hrs	27.0 / 20.5 hrs		28.0 / 21.0 hrs	27.0 / 20.5 hrs		28.0 / 21.0 hrs	27.0 / 20.5 hrs	
IMPRES Li-ion 3000mAh LV IP68 Battery									
Dimensions with Radio (H x W x D)	130 x 55 x 41 mm			130 x 55 x 41 mm			130 x 55 x 40 mm		
Weight with Radio	350 g			350 g			325 g		
Digital / Analogue Battery Life ³	29.0 / 21.5 hrs	28.0 / 21.5 hrs		29.0 / 21.5 hrs	28.0 / 21.5 hrs		29.0 / 21.5 hrs	28.0 / 21.5 hrs	
IMPRES Li-ion 3000mAh LV IP68 Battery w/Vibrator									
Dimensions with Radio (H x W x D)	130 x 55 x 41 mm			130 x 55 x 41 mm			130 x 55 x 40 mm		
Weight with Radio	350 g			350 g			325 g		
Digital / Analogue Battery Life ³	29.0 / 21.5 hrs	28.0 / 21.5 hrs		29.0 / 21.5 hrs	28.0 / 21.5 hrs		29.0 / 21.5 hrs	28.0 / 21.5 hrs	

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ALL MODELS

TRANSMITTER SPECIFICATIONS	
Channel Spacing	12.5, 20 ¹ , 25 kHz
4FSK Digital Modulation	12.5 kHz Data: 7K60F1D and 7K60FXD, 12.5 kHz Voice: 7K60F1E and 7K60FXE, Combination of 12.5 kHz Voice and Data: 7K60F1W
Digital Protocol	ETSI TS 102 361-1, -2, -3
Conducted/Radiated Emissions (TIA603D)	-36 dBm < 1GHz, -30 dBm > 1GHz
Adjacent Channel Power	60dB (12.5 kHz) 70dB (20 ² / 25 kHz)
Frequency Stability	± 0.5 ppm
RECEIVER SPECIFICATIONS	
Analogue Sensitivity (12dB SINAD)	0.16 uV
Digital Sensitivity (5% BER)	0.14 uV
Intermodulation (TIA603D)	70 dB
Adjacent Channel Selectivity, (TIA603A)-1T	60 dB (12.5 kHz) 70 dB (20 ² / 25 kHz channel)
Adjacent Channel Selectivity, (TIA603D)-2T & (TIA603C)-2T	45 dB (12.5 kHz) 70 dB (20 ² / 25 kHz)
Spurious Rejection (TIA603D)	70 dB
AUDIO SPECIFICATIONS	
Digital Vocoder Type	AMBE+2™
Audio Response	TIA603D
Rated Audio	0.5 W
Audio Distortion at Rated Audio	3%
Hum and Noise	-40 dB (12.5 kHz) -45 dB (20 ² / 25 kHz)
Conducted Spurious Emissions (TIA603D)	-57 dBm

NOTES
1: Bluetooth, GNSS and Wi-Fi only included on DP4401e, DP4601e and DP4801e.
2: 20 kHz channel not available for 300MHz models.
3: Typical battery life, 5/5/90 profile at maximum transmitter power with GNSS, Bluetooth, Wi-Fi and Option Board applications disabled. Actual observed runtimes may vary.
4: Radio only. Specialised low-temperature battery required for operation below -10 °C.

	MIL-STD 810C		MIL-STD 810D		MIL-STD 810E		MIL-STD 810F		MIL-STD 810G	
	METHOD	PROCEDURE	METHOD	PROCEDURE	METHOD	PROCEDURE	METHOD	PROCEDURE	METHOD	PROCEDURE
Low Pressure	500.1	I	500.2	II	500.3	II	500.4	II	500.5	II
High Temp	501.1	I, II	501.2	I/A1, II/A1	501.3	I/A1, II/A1	501.4	I/Hot, II/Hot	501.5	I/A1, II/A1
Low Temp	502.1	I	502.2	I/C3, II/C1	502.3	I/C3, II/C1	502.4	I/C3, II/C1	502.5	I/C3, II/C1
Temp Shock	503.1	I	503.2	A1/C3	503.3	A1/C3	503.4	I	503.5	I-C
Solar Radiation	505.1	II	505.2	I/Hot-Dry	505.3	I/Hot-Dry	505.4	I/Hot-Dry	505.5	I/A1
Rain	506.1	I, II	506.2	I, II	506.3	I, II	506.4	I, III	506.5	I, III
Humidity	507.1	II	507.2	II/Hot-Humid	507.3	II/Hot-Humid	507.4	-	507.5	II/Hot-Humid
Salt Fog	509.1	I	509.2	I	509.3	I	509.4	-	509.5	-
Dust	510.1	I, II	510.2	I, II	510.3	I, II	510.4	I, II	510.5	I, II
Vibration	514.2	VIII/F, W, XI	514.3	I/10, II/3	514.4	I/10, II/3	514.5	I/24, II/5	514.6	I/24, II/5
Shock	516.2	II	516.3	I, IV	516.4	I, IV	516.5	I, IV	516.6	I, IV

BLUETOOTH SPECIFICATIONS	
Version	4.0
Range	Class 2, 10 m
Supported Profiles	Bluetooth Headset Profile (HSP), Serial Port Profile (SPP), Motorola fast push-to-talk.
Simultaneous Connections	1 x audio accessory and 1 x data device
Permanent Discoverable Mode	Optional
GNSS SPECIFICATIONS	
Constellation Support	GPS, GLONASS
Time To First Fix, Cold Start	< 60 s
Time To First Fix, Hot Start	< 10 s
Horizontal Accuracy	< 5 m
Wi-Fi SPECIFICATIONS	
Standards Supported	IEEE 802.11b, 802.11g, 802.11n
Security Protocol Supported	WPA, WPA-2, WEP
Maximum Number of SSIDs	128 (64 for LKP and NKP models)
ENVIRONMENTAL SPECIFICATIONS	
Operating Temperature ⁴	-30 °C to +60 °C
Storage Temperature	-40 °C to +85 °C
Electrostatic Discharge	IEC 61000-4-2 Level 4
Dust and Water Intrusion	IEC 60529 - IP68, 2 m for 2 hrs
Packaging Test	MIL-STD 810D and E
HAZLOC CERTIFICATION	
When properly equipped with Motorola UL-Approved battery, UL-Approved to TIA-4950 for use in Hazardous Locations, Division 1, Class I, II, III, Groups C, D, E, F, G; Division 2, Class 1, Groups A, B, C, D, T3C. Tamb = -25°C to +60°C .	

- CONNECTION**
- VHF Band, 5 W
 - UHF Band, 4 W
 - 300 MHz Band, 4 W
 - FKP Models: Colour screen, full keypad, 1000 channels
 - LKP Models: Colour screen, limited keypad, 1000 channels
 - NKP models: No screen or keypad, 32 channels
 - Analogue and Digital
 - Voice and Data
 - Integrated Wi-Fi
 - Canned Text Messaging
 - Freeform Text Messaging (FKP models)
 - Work Order Ticketing
 - Multi-constellation GNSS
 - High Efficiency GNSS
 - Event-Driven Location Update
 - Bluetooth Audio
 - Bluetooth Data
 - Bluetooth Permanent Discoverable Mode
 - Bluetooth Indoor Location Tracking
 - Voice Announcement
 - Text to Speech
 - Option Board
 - Vibrate Alert
 - Home Channel Reminder

- AUDIO**
- Intelligent Audio
 - IMPRES Audio
 - SINC+ Noise Cancellation
 - Acoustic Feedback Suppressor
 - Microphone Distortion Control
 - User-Selectable Audio Profiles
 - Switch Speaker
 - Trill Enhancement

- PERSONALISATION**
- Wide Range of Accessories
 - Multi-Button PTT
 - 5 Programmable Buttons (3 for DP4400e/DP4401e)
 - Emergency Button

- MANAGEMENT**
- Radio Management
 - Over-the-Air Programming
 - Over-the-Air Software Update
 - IMPRES Energy
 - IMPRES Battery Management
 - Over-the-Air Battery Management

- SAFETY**
- Integrated Accelerometer
 - Man Down
 - Lone Worker
 - Basic Privacy
 - Enhanced Privacy
 - AES256 Encryption
 - Transmit Interrupt (decode)
 - Transmit Interrupt (encode)
 - Emergency
 - Emergency Search Tone
 - Remote Monitor
 - Radio Disable / Enable
 - TIA4950 HazLoc Certification
 - Waterproof to IP68
 - Rugged to MIL-STD 810

- SYSTEMS**
- Direct Mode (including Dual Capacity Direct Mode)
 - IP Site Connect (Single and Multi-Site)
 - Capacity Plus (Single and Multi-Site)
 - Capacity Max
 - Connect Plus
 - Standard feature
 - Optional feature

