

A Rugged Radio for Harsh Environments

Motorola GP628 Plus is IP67-rated* dust-tight and water submersible



Standing up to the challenge

Imagine the scenario – The shrill scream of the fire alarm pierced the night. Within minutes, nine crew assembled outside a fire engine awaiting instructions.

“This is no ordinary fire,” cautioned the fire chief. “We are dealing with a burning manufacturing plant, and its storage area contains tanks which may explode if burned, so please make sure you are carrying the correct communications equipment today.” The firecrew checked their Motorola GP628 Plus radios briefly, noting the prominent green dot on the Li-ion battery pack, which identifies it as an FM-rated battery.

As they arrived at the fire scene, its extent became clear. Burning goods crackled noisily amongst the shouts of frightened plant workers. Hearing one another was going to be difficult.

The fire chief pulled on his helmet, oxygen tank and protective gloves. He was thankful for the radio's light weight – it was important not to burden his crew any more than necessary. Easily finding the sculpted Push-to-Talk (PTT) button even with his gloved hands, he addressed his crew.

“Fan out into 3 teams. Team Alpha, go around the back to make sure the fire does not spread to the chemicals warehouse. Team Beta, control the fire in front and around the sides. Team Charlie, follow me inside for rescue operations. Over and out,” the fire chief spoke calmly into his radio. He knew he did not need to shout to make himself heard given the audio clarity that comes with GP628 Plus.

Visibility rapidly deteriorated once they were inside the burning building. Out of the corner of his eye, the fire chief sensed something looming over him. “Collapse!” he shouted as he and his team dived away just a split second before a 20-foot wall crumbled before them.

Picking up his axe, he searched around for his radio, and found it lying in a pool of muddy water. This did not bother him one bit – he knew the GP628 Plus is IP67-rated water submersible, thanks to its ruggedised casing. Moreover, the IP67-rated dust-tight and water submersible radio is designed and built to globally-recognised FM and MIL standards.



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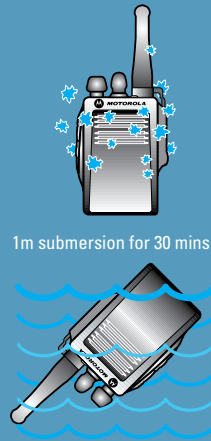
Introducing the Motorola GP628 Plus non-keypad two-way radio, one of the toughest from Motorola to date. Rated IP67 dust-tight and water submersible, the radio is also resistant to knocks and drops, thanks to its ruggedised exterior. The GP628 Plus feels right at home in the dangerous, extreme world of emergency rescue operations. Lightweight and compact, Motorola's smallest professional two-way radio has received Factory Mutual (FM) Approval and meets Military Standard (MIL) 810C, D, E & F.



IP Code

The IP Code is a designation that indicates the level or amount of protection. The IP Code designation consists of the letters IP (International Protection) followed by two numerals –

example:



IP67

INTERNATIONAL ←

PROTECTION ←

Degree of protection against the ingress of solid foreign objects.

6 = Dust-tight

Degree of protection against the ingress of water with harmful effects.

7 = Protection against the effects of temporary immersion in water (1m submersion for 30 minutes)



Users

Fire Rescue Operations

The Motorola GP628 Plus's lightweight and compact size will not hamper you during rescue operations, and durability is ensured with IP67-rated protection against dust and water.

Its simple, programmable buttons enable lightning-fast communications during tense situations. A specially sculpted ergonomic PTT button, similarly IP67-rated, ensures easy operation even with gloved hands.

Manufacturing

The rugged exterior of the GP628 Plus conforms to stringent Factory Mutual (FM) and Military Standards 810C, D, E & F, making it suitable for operation in potentially sensitive environments such as petrochemical and manufacturing plants. Motorola's proprietary Accelerated Life Testing (ALT) is the hallmark of reliability and durability, against drops/shocks, rain, salt fog, electro-static discharge and flammability.

Rescue Operations

The IP67-rated GP628 Plus is suitable for typhoons, earthquakes and other disaster operations. Rescue personnel already burdened with heavy equipment and protective gear will appreciate the compact size, light weight and ergonomic design of the radio.

GP628 Plus Key Features and Benefits

DUST-TIGHT, WATER SUBMERSIBLE, LIGHTWEIGHT AND RUGGED

Advanced Audio Technology

Motorola's voice compression and low level expansion technology enable crisp, clear and loud audio, keeping communications lines clear during critical missions.

Emergency Alarm / Siren

An easily-accessible, one-touch emergency button on the GP628 Plus will emit a piercing alarm when pressed, for urgent communications in critical situations.

Switchable RF Power Levels

Adjusts the radio's transmitting power according to the user environment, and offers a choice between maximum coverage and battery conservation. High RF power increases transmission range, while low power conserves battery life.

Repeater / Talkaround Enable / Disable

Enjoy long-range communications via a repeater, or bypass it to communicate point-to-point. The talkaround feature is useful for maintaining communications lines when a repeater goes out of service.

Tight / Normal Squelch

Enhanced audio clarity by filtering out unwanted interference. A tight squelch gives clearer playback of messages, while a normal squelch increases coverage.

Other Features

- LED Battery Gauge
- Tone Tagging
- Internal VOX
- Priority Scan
- Enhanced Signalling Systems



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GP628 Plus – Compact & Easy to Use

Palm-sized and easy-to-use, any urgent-response team or fleet will be able to familiarise themselves quickly with the GP628 Plus. Its intuitive layout and programmable buttons offer fast responsiveness in emergency situations. Time saved equals lives saved.

Enhance Your Radios' Capabilities

A comprehensive range of accessories is available so that the radio can be customised to suit your needs. Adding the proper headsets, microphones, batteries, chargers or carrying cases can enhance your operational productivity. Motorola's accessories are specially engineered to ensure maximum performance of your radio, no matter what profession you are in.

16 Channels

Assign up to 16 channels for easy organisation of different work groups.

LED Battery Gauge

An easily visible tri-colour battery gauge at the top of the radio provides battery level status at a glance. Green indicates a full battery; amber means half-full and red is a signal to recharge the battery.

Tone Tagging

Allows assignment of 8 different ring tones to 8 specific users or talkgroups, for audio identification of these groups.

Enhanced Signalling Features of GP628 Plus

GP628 Plus supports the following systems:

MDC1200 Signalling

- PTT-ID (encode) – Identifies your outgoing calls during transmission, so verbal identification is not necessary
- Selective Call (decode) – Allows you to receive a specific group or individual call
- Call Alert (decode) – Notifies you of incoming calls
- Radio Check (decode) – Informs other workgroups that your radio is activated or within range
- Selective Radio Inhibit (decode) – If the radio is missing or stolen, the system owner can disable it remotely

Quick Call II Signalling

DTMF Signalling



PMNN4073
1350mAh FM Lilon Battery
IP67-rated



PMNN4074
1400mAh Lilon Battery
IP67-rated



PMMN4023
Remote Speaker Microphone
IP57-Rated (Mic Head only)



Single-Unit Charger



Multi-Unit Charger

(order 6 battery insert PMLN5010 separately, to be used to charge IP67 battery in Multi-unit charger)



Portable Military Standards 810 C, D, & E

Applicable MIL-STD	810 C		810 D		810 E		810 F	
	Methods	Procedures	Methods	Procedures	Methods	Procedures	Methods	Procedures
Low Pressure	500.1	1	500.2	2	500.3	2	500.4	2
High Temp	501.1	1, 2	501.2	1, 2	501.3	1, 2	501.4	1, 2
Low Temp	502.1	1	502.2	1, 2	502.3	1, 2	502.4	1, 2
Temp. Shock	503.1	1	503.2	1	503.3	1	503.4	1
Solar Radiation	505.1	1	505.2	1	505.3	1	505.4	1
Rain	506.1	1, 2	506.2	1, 2	506.3	1, 2	506.4	1, 3
Humidity	507.1	2	507.2	2, 3	507.3	2, 3	507.4	-
Salt Fog	509.1	1	509.2	1	509.3	1	509.4	-
Dust	510.1	1	510.2	1	510.3	1	510.4	1
Vibration	514.2	8, 10	514.3	1	514.4	1	514.4	1
Shock	516.2	1, 2, 5	516.3	1, 4	516.4	1, 4	516.4	1, 4

Factory Mutual Approval

The GP628 Plus radio unit is certified by Factory Mutual Approvals as intrinsically safe for use in Division 1, Class I, II, III, Groups C,D,E,FG and Division 2, Class I, Groups A,B,C,D, when ordered with the Factory Mutual approved battery option.

GP628 Plus Specifications

GENERAL SPECIFICATION	VHF / UHF
**Frequency (MHz)	136-174 / 330-400 / 403-470 / 450-527
Channel Capacity	GP628 Plus is 16 Channels
Power Supply	Provided through rechargeable battery - 7.5V
Dimensions (Radio footprint height excluding knobs)	H x W x D
GP628 Plus:	101.5 mm x 56.5 mm x 37 mm
Weight	GP628 Plus
With Lilon (Hicap) Battery:	305 gm
Average Battery Life @ 5/5/90 Cycle	Low Power High Power
With Lilon (Hicap) Battery:	13 hours 10 hours
*Sealing	Withstands rain testing per MIL-STD 810 C / D / E / F and IP67
Shock and Vibration	Protection provided via impact resistant housing exceeding MIL-STD 810 C / D / E / F and TIA/EIA 603
Dust and Humidity	Protection provided via environment resistant housing exceeding MIL-STD 810 C / D / E / F and TIA/EIA 603
TRANSMITTER SPECIFICATION	VHF / UHF
**Frequency (MHz)	136-174 / 330-400 / 403-470 / 450-527
Frequency Separation	Full bandsplit
Channel Spacing	12.5 / 20 / 25kHz
Freq Stability (-30°C to 60°C, +25°C Ref.)	2.5 ppm
Power Output	5W (VHF) 4W (UHF)
Modulation Limiting	±2.5 @ 12.5kHz, ±4.0 @ 20kHz, ±5.0 @ 25kHz
FM Hum & Noise	-40 dB
Conducted/Radiated Emission	-36 dBm < 1 GHz / -30 dBm > 1 GHz
Modulation FCC Type	12.5 kHz 11K0F3E, 25 kHz 16K0F3E
Audio Response (from 6 dB/octave pre-emphasis 300-3000Hz)	+1 to -3 dB
Audio Distortion	3%
RECEIVER SPECIFICATION	VHF / UHF
**Frequency (MHz)	136-174 / 330-400 / 403-470 / 450-527
Frequency Separation	Full bandsplit
Sensitivity (12dB SINAD) EIA	.35mV
Intermodulation (EIA)	70 dB
Adjacent Channel Selectivity	60 dB @ 12.5kHz, 70 dB @ 25 kHz
Spurious Rejection	70 dB
Rated Audio	500 mW
Audio Distortion	3%
Hum & Noise	-40 dB
Audio Response (300-3000Hz)	+1 to -3 dB
Conducted Spurious Emission	-57 dBm < 1GHz, -47 dBm > 1GHz, FCC Part 15
* Dust-tight and water submersible are tested as per criteria in IEC (International Electrotechnical Commission) 60529 IP67	
** Availability subject to country law and regulations. Radios meet applicable regulatory requirements. All specifications shown are subject to change without notice. Specifications are not representative of all radios and may vary in different radios. All Motorola products are manufactured under ISO 9001 standards and are subjected to Accelerated Life Testing (ALT). A series of stringent tests simulating five years of usage on the field, ALT ensures that the products and survive drops / shocks, dust, rain, harsh chemicals and radiation. Our Intrinsically Safe products meet formal safety agency certifications, such as Factory Mutual Research Corporation (FM) and Military Standard (MIL).	



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BTB MA343



ACCELERATED LIFE TESTING
Stringent Motorola's Accelerated Life Testing simulating five years of hard use in real life, EIA RS-316B in Shock, Vibration, Dust, Humidity, IP54 for Sealing.



ISO 9001 STANDARD
Compliance with ISO 9001 Standard - an international quality system assurance on design, development, production, installation and servicing of a product.



MIL-STD 810C, D AND E
Stamp of approval from the U.S. Military for use in rough environments.