

MP50 PNG Transceiver



The MP50 is the high-end transceiver of the Polycon Next Generation (PNG) wireless intercom system. MP50 has HEMS, SAR, C-SAR and special mission operations in mind and has unmatched adaptive noise canceling capabilities.

The ruggedized device is certified to IP68 to withstand dust and even makes it submersible. The MP50 is smartly designed in a rugged full metal housing that enables reliable operation in demanding environments.

AXNES PNG utilizes state-of-the-art software-defined radio technology working in the UHF band for intercom functions. The MP50 is a dual band transceiver, incorporating also a Maritime VHF band communication to increase the communication ability of the outside crew to other resources. Using the VHF as a Maritime VHF will add safety for outside crew during marine operations, and when configured as a maritime VHF the MP50 is equipped with a maritime AIS transmitter. A crewmember in an emergency may activate the AIS transmitter and be located and supported by all platforms in his vicinity. Due to its unique noise cancelling technology NIVOX®

the MP50 can be used in extremely loud environments.

To increase operational safety, the MP50 is equipped with a highly sensitive 48 channel GPS receiver. This allows fast and precise location of MP50 equipped crewmembers. The MP50 can provide its position via secure data channel, triggered by the base and report the position data of outside crew to other systems in the platform such as radar or map display.

MP50 is equipped with “Voice Tagging”, meaning all changes on the transceivers such as mode, channel, volume, will be announced via aural messages in the users headset/helmet. Also, status messages will be voice tagged such as “battery low”.

Due to voice tagging the user will recognize unintended changes immediately; fail settings can be avoided. Furthermore, the system can be operated without looking at the transceivers display.

- Qualified according to DO-160G
- Delivered with a Certificate of Conformity (CofC)

Technical spec MP50:

Radio:	UHF Duplex, single frequency/VHF Maritime band
VOX operation:	Axnes AS patented NIVOX® noise cancellation
Number of wireless users/groups:	Unlimited/2
Number of radio configurations:	52 intercom configurations, 50 VHF channels
Encryption:	Inherent secure com based on AES 256, FIPS 140-2, or embedded hardware encryption
Operating temperature:	-20 °C to +55 °C (-40 °C to +55 °C with ext batt)
Water resistance:	EN 60629 IP68
NVG:	Optional NVIS class B friendly
Power supply	
Rechargeable batteries:	Li-Ion 3.6V 4700mA/MP50M: NiMh 3.6V 1600mA
External battery option:	5-15V
Operating time:	Standby 30hr, transmit 7hr, receive 12hr
Protection:	Protection against input voltage polarity swap, over-charge, over-discharge, over-currents, over- and under-temperatures
Note:	Actual performance will be affected by battery temperature.
Headset Interface	
Speaker output level:	Adjustable up to 0.5W in 8-ohm load, 1KHz test signal
Supported Microphones:	Dynamic, electret, amp electret with auto mic detection
PTT control:	Support for two alternative PTT inputs
Configuration:	CAN-Bus interface for configuration
Power out:	Auxiliary 5V current limited power available
Connectors on MP50	
Headset:	Fischer AL1231-DBPLU-1031-A019PB
Antenna:	SMA female
Radio characteristics	
Frequency:	UHF: 397-470 MHz (cust config) VHF: 157-162 MHz, Note 1
Channel separation:	25 KHz
Modulation:	FM, 16QAM, 8PSK
Frequencystability:	<5 ppm
Receiver sensitivity	<-97dBm at BER 10-2 <-107 dBm at 12 dB SINAD FM
Output power:	30-400 mW (nom 400mW)
GPS	
GNSS:	GPS
GPS channels:	48
Time to First Fix:	< 1s hot start, < 35s cold start
Sensitivity:	-155 dBm tracking, -140 dBm cold start
Antenna impedance:	50 Ω Remote activation
Dimensions	
Physical dimensions:	131 x 69 x 33 mm / 445g
Material:	Saltwater resistant aluminium 6082-T6 / 5042 Silicon rubber details
Colour:	Black, yellow or olive

MP50 PNG Transceiver



The MP50 is the high-end transceiver of the Polycon Next Generation (PNG) wireless intercom system. MP50 has HEMS, SAR, C-SAR and special mission operations in mind and has unmatched adaptive noise canceling capabilities.

The ruggedized device is certified to IP68 to withstand dust and even makes it submersible. The MP50 is smartly designed in a rugged full metal housing that enables reliable operation in demanding environments.

AXNES PNG utilizes state-of-the-art software-defined radio technology working in the UHF band for intercom functions. The MP50 is a dual band transceiver, incorporating also a Maritime VHF band communication to increase the communication ability of the outside crew to other resources. Using the VHF as a Maritime VHF will add safety for outside crew during marine operations, and when configured as a maritime VHF the MP50 is equipped with a maritime AIS transmitter. A crewmember in an emergency may activate the AIS transmitter and be located and supported by all platforms in his vicinity. Due to its unique noise cancelling technology NIVOX®

the MP50 can be used in extremely loud environments.

To increase operational safety, the MP50 is equipped with a highly sensitive 48 channel GPS receiver. This allows fast and precise location of MP50 equipped crewmembers. The MP50 can provide its position via secure data channel, triggered by the base and report the position data of outside crew to other systems in the platform such as radar or map display.

MP50 is equipped with “Voice Tagging”, meaning all changes on the transceivers such as mode, channel, volume, will be announced via aural messages in the users headset/helmet. Also, status messages will be voice tagged such as “battery low”.

Due to voice tagging the user will recognize unintended changes immediately; fail settings can be avoided. Furthermore, the system can be operated without looking at the transceivers display.

- Qualified according to DO-160G
- Delivered with a Certificate of Conformity (CofC)

Technical spec MP50:

Radio:	UHF Duplex, single frequency/VHF Maritime band
VOX operation:	Axnes AS patented NIVOX® noise cancellation
Number of wireless users/groups:	Unlimited/2
Number of radio configurations:	52 intercom configurations, 50 VHF channels
Encryption:	Inherent secure com based on AES 256, FIPS 140-2, or embedded hardware encryption
Operating temperature:	-20 °C to +55 °C (-40 °C to +55 °C with ext batt)
Water resistance:	EN 60629 IP68
NVG:	Optional NVIS class B friendly
Power supply	
Rechargeable batteries:	Li-Ion 3.6V 4700mA/MP50M: NiMh 3.6V 1600mA
External battery option:	5-15V
Operating time:	Standby 30hr, transmit 7hr, receive 12hr
Protection:	Protection against input voltage polarity swap, over-charge, over-discharge, over-currents, over- and under-temperatures
Note:	Actual performance will be affected by battery temperature.
Headset Interface	
Speaker output level:	Adjustable up to 0.5W in 8-ohm load, 1KHz test signal
Supported Microphones:	Dynamic, electret, amp electret with auto mic detection
PTT control:	Support for two alternative PTT inputs
Configuration:	CAN-Bus interface for configuration
Power out:	Auxiliary 5V current limited power available
Connectors on MP50	
Headset:	Fischer AL1231-DBPLU-1031-A019PB
Antenna:	SMA female
Radio characteristics	
Frequency:	UHF: 397-470 MHz (cust config) VHF: 157-162 MHz, Note 1
Channel separation:	25 KHz
Modulation:	FM, 16QAM, 8PSK
Frequency stability:	<5 ppm
Receiver sensitivity	<-97dBm at BER 10-2 <-107 dBm at 12 dB SINAD FM
Output power:	30-400 mW (nom 400mW)
GPS	
GNSS:	GPS
GPS channels:	48
Time to First Fix:	< 1s hot start, < 35s cold start
Sensitivity:	-155 dBm tracking, -140 dBm cold start
Antenna impedance:	50 Ω Remote activation
Dimensions	
Physical dimensions:	131 x 69 x 33 mm / 445g
Material:	Saltwater resistant aluminium 6082-T6 / 5042 Silicon rubber details
Colour:	Black, yellow or olive