

M9620 IS S G2

Smart I-Safe Handheld



Users benefits

Equipment dedicated to hazardous explosive atmospheres.
According to the ATEX European directive and intrinsically safe standards IEC and CENELEC, level ib IIC T4.
Functional for all gaseous environments without exception.

- ü Secure digital communications in Trunked, Repeated and Direct modes.
- ü Same system functionality as for the M9620 S/M G2 handheld.
- ü Compact and rugged range of handheld.
- ü Battery with intelligent recharging process.
- ü Same MMI as for the G2 handheld range.
- ü Compatible to the current G2 handheld range of accessories (charger, carrying system,...).
- ü Universal connector allowing to use a complete range of accessories for operational conditions.



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Functions

The Intrinsically Safe handheld support the following services :

End to end encryption for voice and data.

Trunked mode

Voice services

Group call	yes
Scan	yes
Private call	yes
Phone call	yes
Emergency call	yes
Priority call	yes

Data services

Data port	yes
Status	(1)
Short messages	(1)
Embedded DB query	yes

(1) send / receive

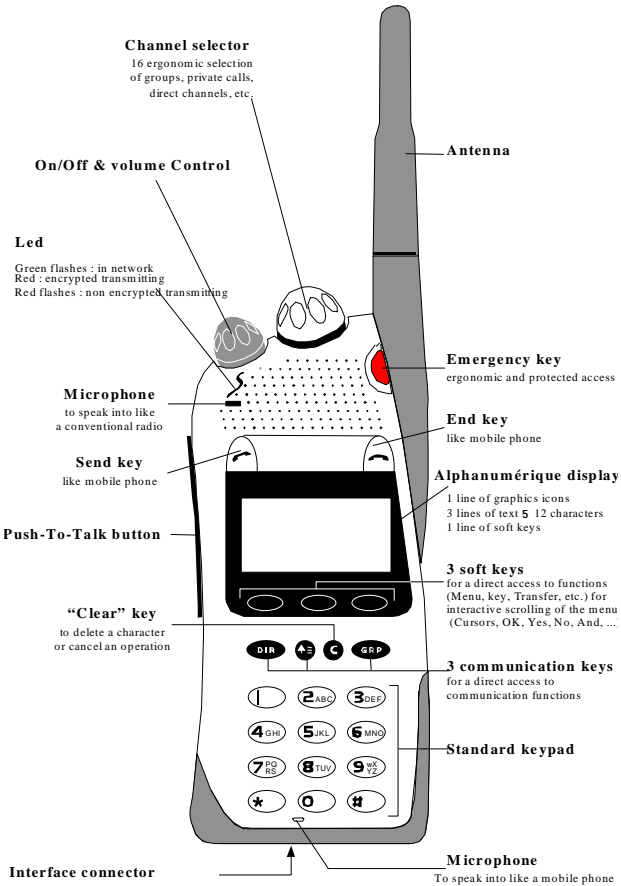
Repeated and Direct mode

Voice services

Direct mode call	yes
Repeated mode call	yes
Emergency call	yes
Dualwatch	yes

Comfort Services

Battery data	yes
Predefined call	99
Memory programming	yes
Silent mode	yes
Loudspeaker listening	yes
Private listening	yes
Received calls	yes
Call forwarding	yes
Caller ID	yes
Speaker ID	yes



Display information :

- û Registration with field level
- û Encryption
- û Active communication
- û Message
- û Listening mode
- û Call forwarding
- û Menu
- û Battery level




Universal Connector :

Rugged, water resistant, easy to plug and unplug without tool.



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Components and interfaces

Rk : for safety reasons, the accessories of the M9620 S G2 range are not usable in place as those below marked with the symbol 

Components :

- ü IS handheld **M9620 IS S G2 UL or UM** 
- ü IS battery (NiMH, 1800 mA.h) **M9620 EN IS B1 G2** 
- ü Antenna **M9620 AN G2 UL or UM**
(respectively for the frequency band 380/430 MHz or 440/490 MHz).

- ü Installation sheet

(the battery and leather bag could also be sold separately)

Interfaces :

- ü Accessory connector :
 - external antenna
 - Data transmission
 - Charger / SMBUS IO / I²C
 - Microphone / loudspeaker

Essential elements to be ordered separately

To download the software in the handheld one of the following configurations is required according to the type of TPS
(**NOT** for use in explosive atmosphere)

Connection for TPS (1 or 8 units)

- ü battery tool
- ü battery tool + cable

M9643 TPS 1 OPT IS FB
M9643 TPS 1 OPT IS CFB

Connection for TPS (8 units)

- ü 8 battery tools
- ü 8 battery tools + 8 cables

M9643 TPS 8 OPT IS FB
M9643 TPS 8 OPT IS CFB

To charge the battery (alone or plugged on the handheld) one of the 3 following chargers is required
(**NOT** for use in explosive atmosphere)





- ü Desktop charger
- ü Multi-unit charger (recharge cycle only with adapter)
- ü Travel charger
- ü Adapter for refresh cycle with multi unit charger (1 or 6 units)

M9620 EN CBU G2
M9620 EN CPA G2
M9620 EN TCK G2
M9620 IS EN RA G2

Options to be ordered separately

For use in explosive atmosphere (IS approved):

- ü Extended antenna (170 mm, +1,7 dBi) for 380-430 MHz band only
- ü Extended antenna (170 mm, +1,7 dBi) for 440 490 MHz band only
- ü IS Micro-loudspeaker
- ü IS Soundproof Headset
- ü IS Earpiece Microphone
- ü IS Man Down function and Guard Tour Security (SAS)
- ü IS Leather bag

M9620 AN E G2 UL
M9620 AN E G2 UM
M9620 IS AA ML G2 
M9620 IS AA SH G2 
M9620 IS AA EM G2 
M9625 IS SAS MLG2 
MC 9620 IS CE LB G2

NOT for use in explosive atmosphere :

- ü Car adapter
- ü Cable for data terminal

M9621 CA G2
M9621 EC1 G2

M9620 IS S G2

Smart I-Safe Handheld

Technical Specifications

Applicable standards

ETSI ETS 300-113

Dimensions : 145x65x54mm
(with battery, without antenna)

Weight : 610g with batt & ant
280g without batt & ant

Display : back light
4 lines, 12 characters
1 line of icons

Antenna :
- standard length 82 mm
- standard gain 0 dBi
- Type flexible rubber

Alphanumeric key pad : back light
lockable

Call selector : 16 positions

Autonomy : >10h (60/35/5)
>14h (90/5/5)

Battery :
- Technology-Capacity NiMH-1800 mAh
- Power management SMBUS protocol
- Life cycle > 80% after 300 cycles
- Capacity > 50% after 500 cycles

Radio specifications

Transmitter :
Power (typically)
[380-430 MHz] => 0,5W (27 dBm)
[440-490 MHz] => 0,4 - 0,5W
(26 - 27 dBm)

Frequency stability < ±2,5ppm
Spurious emission < -36dBm
Adjacent channel power < -60dBc
Wide band noise -87 dBm
ROS VSWR < 5
Operational mode: (access to 99 calls)
« Trunked » mode yes
Repeated mode yes
Direct mode yes

Access mode : FDMA

Transmission type :
Half-duplex (repeated mode)
Simplex (direct mode)

Technology : fully digital

Acoustic :
max speaker level 78 dBspl / 50cm
Vocodeur RP-CELP
Filtering of ambient noise

Encryption : end to end, built in
Data interface : RS232, 9.6 kbps

Receiver :
(Static sensitivity < -117 dBm
(Dynamic sensitivity < -111 dBm
(Adjacent selectivity > 60 dB
(Spurious protection > 70dB
(Spurious emission < -57 dBm

Frequency band (MHz) :
A-Band : 380-430 MHz
(blocked freq.: 390, 403, 416, 429 MHz)
B-Band : 440-490 MHz
(blocked freq.: 442, 455, 468 and 481 MHz)

Duplex separation : 5 or 10 MHz
Channel spacing : 10 or 12.5 kHz
Modulation : 0.25 GMSK
Channel bit rate : 8 Kbit/s

Main other features :
100 number memorised
100 status list

Environmental Specifications

Standard

Functional temperatures IEC 68-2-1 / 2
Operating temperatures (I-Safe) ATEX
Thermal shocks IEC 68-2-30
Storage temperatures IEC 68-2-1 / 2
Damp heat variation IEC 68-2-30
Water and dust protection IEC 529
Salt mist protection IEC 68-2-11
Vibrations (functional) IEC 68-2-6
Shocks (functional) IEC 68-2-29
SAR ENV 50.166-2

Severity

-20°C / +55°C
-20°C / +40°C
0°C/+40°C/93%RH
-40°C / +70°C
cycle +25/55°C/98/90%RH
IP 54
5% Na Cl, +35°C
Random and sinusoidal vibrations
25g/6ms, 1000/axe & direction
"workers" level, mean mass 10g, mean T 6mn, necessary SAR spatial peak 10W/kg

Special conformities

« CE » mark on the equipment
according to the R&TTE European directive 99/5/CE.

- ü ETS 300279 (EMC standard)
- ü EN 60950 (Electric safety)
- ü ETS 300-113 (Radio standard)
- ü Recommendation 1999/519/CE (EMF-SAR, biologic effect)

Conformity to the ATEX European directive 94/9/CE
Explosive atmospheres - Intrinsically Safe protection

- ü CENELEC EN50.014 : 1997
- ü CENELEC EN50.020 : 1994
(corresponding resp. to IEC 60079-0 Ed3 and IEC 60079-11 Ed4)

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