



MAXIMUM SAFETY, POWERFUL PERFORMANCE

KEY FEATURES

User safety ensured with globally recognized Intrinsically Safe rating

Manages migration risks with analog, P25 Phase 1 conventional/trunked and P25 Phase 2 interoperability

P25 standards compliance for greater choice and interoperability

AES encryption, voice and data, pre-set status messages and internal GPS for safe and efficient operations

Engineered for demanding environments with IP67 rating and water-shedding grille

TP9400 IS PORTABLE

INTRINSICALLY SAFE (IS) P25 PHASE 2 CAPABLE RADIO

Harris TP9400 IS P25 Phase 2 portables are engineered for operation in hazardous environments, keeping first responders safe while they get the job done.

The TP9400 IS P25 portable radios' IP67 rating protects up to one meter immersion for up to 30 minutes and a water-shedding grille supports voice clarity and volume in wet environments.

Instantly recognized in-field by the IS trademark blue color, TP9400 IS easily manages migration challenges

with analog, P25 conventional and trunked and P25 Phase 2 interoperable capabilities. End-to-end encryption secures all communications and worker effectiveness is enhanced with voice and data capabilities, pre-set status message options and an internal GPS.

FEATURES AND BENEFITS

Delivers on P25 standards

Benefit from the spectral efficiency, multi-vendor interoperability, security, migration and data capability demanded by the P25 standards.

The TP9400 IS provides:

- TIA-102 P25 CAP tested for multi-vendor interoperability
- 12.5 kHz P25 Phase 1 FDMA and 6.25 kHz equivalent P25 Phase 2 TDMA capable
- P25 Phase 2 product compliances satisfy FCC 2015 and 2017 ultra narrowbanding mandates

Designed for demanding environments

- Exceeds relevant MIL-STD-810G standards
- IP67 sealing protects to one meter of water for 30 minutes
- Water-shedding grille assists voice clarity and volume in wet environments
- Shock absorbing impact-protected corners
- Large four-line LCD with icons to display key parameters
- Four programmable function keys and three-way selector

End user safety is ensured with globally recognized Intrinsically Safe ratings systems

The TP9400 IS portable is designed and tested to meet global IS standards, ensuring safe operation in hazardous environments

- The battery circuitry is fully encapsulated
- The radio circuit has a stored energy limitation, which prevents internal sparking or overheating in the unlikely event of a circuit failure

- Component and conductor spacing and protective coatings prevent short circuits caused by dust or atmospheric contamination

Internationally recognized IS color

The TP9400 IS model is made in the internationally recognized blue color for Intrinsically Safe portables, ensuring instant recognition in the field.

High-performing voice communications

Robust design delivers clear, mission-critical voice communications.

- Analog, P25 Phase 1 conventional/trunked and P25 Phase 2
- Automatic dual mode between analog and P25 Phase 1 conventional
- Unique microphone design coupled with AMBE +2™ enhanced vocoder reduces background noise in demanding environments
- Voting ensures priority selection of the channel with optimum receive quality
- Dynamic regrouping and super-group operation for mission critical workforce management
- Increased channel capacity with up to 2,000 channels
- Scanning modes include: priority, dual priority, editable, zone and background scan
- Range of analog signaling functionality, i.e., MDC1200 encode and decode, 2-tone decode, PL (CTCSS), DPL (DCS) and 5-tone Selcall

Improved workforce safety

- Programmable emergency key is easily accessible and highly visible on the radio
- Man Down and Lone Worker as standard
- Built-in GPS transmits location over your conventional voice network

- Radio inhibit and uninhibited management of misplaced or stolen radios
- Supports end-to-end encryption, including AES
- Trunked failsoft reverts to conventional operation during trunked network failure

Effective operation with voice and data

- Support for a variety of simulcast modes such as LSM and C4FM
- Pre-set status messaging
- P25 data such as emergency GPS location
- Conventional and trunked IP data
- Location services over a conventional and trunked network

Efficient, security-focused management

The TP9400 IS management facilities and applications help you efficiently manage your radio fleet.

- OTAR (Over-the-Air Rekeying)
- Tait EnableProtect Key Fill Device (KFD) for quick, reliable encryption key programming
- Tait Advanced System Key (TASK) allows administrators to authorize and restrict subscriber units on their network

Complete package with accessories portfolio

- Intrinsically Safe audio accessories including speaker-microphones, headsets and earpieces
- Intrinsically Safe Li-Ion battery
- Intrinsically Safe compatible charger

SPECIFICATIONS FOR: TP9400 PORTABLE - INTRINSICALLY SAFE (IS) P25 PHASE 2 RADIO

GENERAL	
Frequency Stability	±0.5 ppm (-22°F to 140°F / -30°C to 60°C)
Channel/Zones	1,000 channels/50 zones (2,000 channels/100 zones optional enhancement with software license)
Talkgroups	50 talkgroups, up to 1,000 members total (2,000 members optional enhancement with software license)
Scan Groups	300 with up to 50 members each, maximum of 2,000 members total
Dimensions (W X H X D): with Li-Ion 2300 mAh Battery	2.56 x 5.35 x 1.77 in (65 x 136 x 45 mm) excluding knobs
Weight: with Li-Ion 2300 mAh Battery	15.16 oz (430 g) – no antenna (395)
Radio Operating Temperature Range	-20°C to 60°C (-4°F to 140°F) [†]
Water and Dust Protection	IP67, IP65
ESD Rating	+/- 4 kV contact discharge and +/-8 kV air discharge
Frequency Increment (kHz)	2.5, 3.125, 5, 6.25
Channel Spacing (kHz)	12.5, 15, 20, 25, 30
Rated Audio - Internal (W)	0.5
Signaling Options (Analog)	MDC1200 encode and decode, 2-tone decode, PL (CTCSS), DPL (DCS), 5-tone Selcall
Vocoder Type	AMBE +2™
Packet Data	Rate, ¾ rate, full rate, single slot

TRANSMITTER			
Frequency Bands:	VHF	UHF	700/800 MHz
Transmit Frequency Ranges (MHz)	136-174	380-470	762-870
Output Power IIA (W)	5, 3, 2, 1	4, 2.5, 2, 1	2.5, 2, 1
Output Power IIC (W)	1	1	1
Modulation Limiting (kHz):			
12.5/15 kHz channel	±2.5	2.5	±2.5
25/30 kHz channel	±5	±5	±5
FM Hum and Noise (Analog):			
12.5 kHz Channel (dB)	-45	-40	-40
25 kHz Channel (dB)	-48	-45	-45
Radiated and Conducted Emissions (dBc)	-75	-72	-70
Audio Response - Analog (dB)	+1/-3	+1/-3	+1/-3
Audio Distortion (Analog)	1.5% @ 1kHz, 60% deviation		

RECEIVER			
Frequency Bands:	VHF	UHF	700/800 MHz
Receive Frequency Ranges (MHz)	136-174	380-470	762-776 851-870
Sensitivity (Analog):			
12 dB SINAD (uV/dBm)	0.22/-120	0.22/-120	0.22/-120
Sensitivity (P25):			
5% BER (uV/dBm)	0.22/-120	0.22/-120	0.22/-120
Intermodulation Rejection (P25):			
TIA-102 (dB)	75	75	75
Adjacent Channel Rejection (dB):			
12.5 kHz (P25) TIA-102	60	60	60
25 kHz TIA-603 (2-Tone)	73	70	70
Spurious Response Rejection (P25) dB	75	80	70
Residual Audio Noise Ratio (P25):			
TIA-102 (dB)	45	45	45
Audio Distortion (Rated Audio)	1.5%	1.5%	1.5%
FM Hum and Noise (dB):			
12.5 kHz channel	-45	-40	-40
25 kHz channel	-48	-45	-45

MILITARY STANDARDS 810C, D, E, F AND G		
Applicable MIL-STD Method:	Method	Procedure
Low Pressure	500.5	2
High Temperature	501.5	1, 2
Low Temperature	502.5	1, 2
Temperature Shock	503.5	1

[†] Subject to Compliance, Ambient Temperature: T4 -20°C < Ta < +50°C, T3 -20°C < Ta < +60°C

MILITARY STANDARDS 810C, D, E, F AND G (CONTINUED)

Applicable MIL-STD Method:	Method	Procedure
Solar Radiation	505.5	1
Rain	506.5	1, 3
Humidity	507.5	2
Salt Fog	509.5	1
Dust	510.5	1
Immersion	512.5	1
Vibration	514.6	1
Shock	516.6	1, 4, 5, 6

BATTERY

	Analog / Phase 1	Phase 2
Li-Ion 2300 mAh Battery Shift Life (5/5/90)	11.5 hours	15 hours

CHARGER

Charger Options (Li-Ion)	IS compatible desktop single charger
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REGULATORY DATA

	USA	Canada	Europe	Australia/NZ
VHF (136-174 MHz)	CFR 47	RSS-119	EN300-086, EN300-113, EN300-219, EN300-489, EN60950	AS/NZ4295
UHF (380-470 MHz)	CFR 47	RSS-119	EN300-086, EN300-113, EN300-219, EN300-489, EN60950	AS/NZ4295
700/800 MHz	CFR 47	RSS-119	NA	NA

IS COMPLIANCE*

	Output Power	USA	Canada	Europe	Australia/NZ
VHF (136-174 MHz)	1-5 W	Class I Zone 1, AEx ib IIA T4... T3 Gb Class I Div 2, Group A, B, C, D Class II, Div 2, Group E, F, G Class III, Div 1	Class I Zone 1, Ex ib IIA T4... T3 Gb Class I Div 2 Group A, B, C, D Class II, Div 2, Group E, F, G Class III, Div 1	II 2 G Ex ib IIA T4... T3 Gb	Ex ib IIA T4... T3 Gb
	1 W	Class I Zone 1, AEx ib IIC T4... T3 Gb Class I Div 2, Group A, B, C, D Class II, Div 2, Group E, F, G Class III, Div 1	Class I Zone 1, Ex ib IIC T4... T3 Gb Class I Div 2 Group A, B, C, D Class II, Div 2, Group E, F, G Class III, Div 1	II 2 G Ex ib IIC T4... T3 Gb	Ex ib IIC T4... T3 Gb
UHF (380-470 MHz)	1-4 W	Class I Zone 1, AEx ib IIA T4... T3 Gb Class I Div 2, Groups A, B, C, D Class II, Div 2, Group E, F, G Class III, Div 1	Class I Zone 1, Ex ib IIA T4... T3 Gb Class I Div 2 Group A, B, C, D Class II, Div 2, Group E, F, G Class III, Div 1	II 2 G Ex ib IIA T4... T3 Gb	Ex ib IIA T4... T3 Gb
	1 W	Class I Zone 1, AEx ib IIC T4... T3 Gb Class I Div 2, Group A, B, C, D Class II, Div 2, Group E, F, G Class III, Div 1	Class I Zone 1, Ex ib IIC T4... T3 Gb Class I Div 2 Group A, B, C, D Class II, Div 2, Group E, F, G Class III, Div 1	II 2 G Ex ib IIC T4... T3 Gb	Ex ib IIC T4... T3 Gb
700/800 MHz	1 - 2.5 W	Class I Zone 1, AEx ib IIA T4... T3 Gb Class I Div 2, Groups A, B, C, D Class II, Div 2, Group E, F, G Class III, Div 1	Class I Zone 1, Ex ib IIA T4... T3 Gb Class I Div 2 Group A, B, C, D Class II, Div 2, Group E, F, G Class III, Div 1	—	Ex ib IIA T4... T3 Gb
	1 W	Class I Zone 1, AEx ib IIC T4... T3 Gb Class I Div 2, Groups A, B, C, D Class II, Div 2, Group E, F, G Class III, Div 1	Class I Zone 1, Ex ib IIC T4... T3 Gb Class I Div 2 Group A, B, C, D Class II, Div 2, Group E, F, G Class III, Div 1	—	Ex ib IIC T4... T3 Gb

* Ambient Temperature: T4 -20°C < Ta < +50°C, T3 -20°C < Ta < +60°C. Level of compliance subject to approval.

About Harris Corporation

Harris Corporation is a leading technology innovator, solving customers' toughest mission-critical challenges by providing solutions that connect, inform and protect. Harris supports government and commercial customers in more than 100 countries and has approximately \$6 billion in annual revenue. The company is organized into three business segments: Communication Systems, Space and Intelligence Systems and Electronic Systems. Learn more at harris.com.

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Tait Limited facilities are certified for ISO9001:2008 (Quality Management System), ISO14001:2004 (Environmental Management System) and ISO18001:2007 (Occupational Health and Safety Management System) for aspects associated with the design, manufacture and distribution of radio communications and control equipment, systems and services. In addition, all our Regional Head Offices are certified to ISO9001:2008.