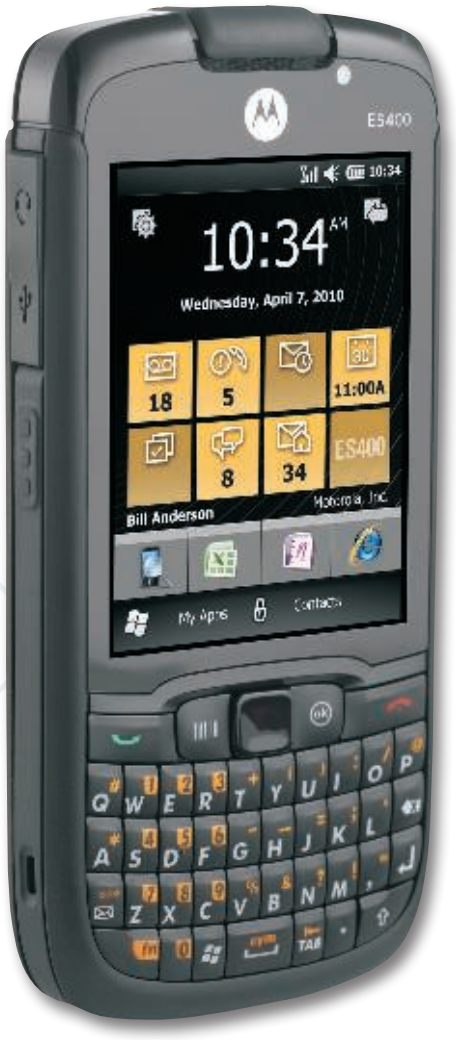
The Motorola Global ES400 EDA

The small pocketable EDA built for big business

Transform your mobile workers from simply informed to truly empowered…with the ES400

Motorola's smallest and pocketable EDA offers the comprehensive voice and data capabilities required to enable your workers to not only receive information, but to take action — immediately. No more paperwork to process at the end of the day. No more delay in receipt of information from the field. No more gathering information before heading out on the road. Now, the tools required to collect and access data, make the best decisions and complete tasks on-the-spot are always in hand. The result? Action items become actions taken, delivering the maximum efficiency and rapid response times required to provide extraordinary customer care and service — and increase enterprise profitability, strength and brand value.



Actual size

FEATURES

The power to run the most demanding enterprise applications: 600 MHz powerful ARM 11 processor, an extra large memory footprint (256MB RAM/1GB Flash) and a user accessible microSD card slot supporting up to 32GB of additional storage

Enterprise class durability: Multiple MIL-STD and IEC specifications provide day-in and day-out reliable operation — the ES400 withstands single impacts of 4 ft./1.22 m drops; 300 consecutive 1.6 ft./0.5 m hits and exposure to dust, moisture and rain

Advanced ergonomic design: Motorola's award-winning Industrial Design team utilized human factor studies to bring a new level of ease of use to this size device — data entry is easy regardless of hand size, motions are minimized and overall device interaction is highly intuitive

Motorola Enterprise User Interface (MEUI): An industry first in this device category, this custom and customizable business-class interface provides faster and easier access to features and applications and allows users to tailor the interface to improve their unique workflow and maximize on-the-job efficiency

Motorola MAX *FlexWAN*: Industry first dual user-selectable 3.5G broadband WAN (GSM HSPA and CDMA-EVDO Rev A); deploy and re-deploy a single pool of devices anywhere in the world on virtually any network; activate on either or both networks at any time with 'one tap toggle' between networks

Best-in-class 3 inch color touchscreen display: PenTile® technology delivers twice the brightness at half the power of typical displays, conserving battery power while providing excellent readability — even outdoors; special algorithms sharpen edges for crisper and easier to read text

Built-in biometric fingerprint reader: Ensures only authorized workers gain device and network access

Three-year availability: Eliminates issues associated with short product consumer-class device lifecycles — a single model can be deployed for years instead of months

High resolution 3.2 MP autofocus digital camera: Enables the easy capture of 1D and 2D bar codes, signatures, photos and high quality videos; user controllable light source for optimal bar code capture

Compatibility with Motorola's Mobile Security Suite: Provides device-level protection — a firewall, intrusion prevention, enforced authentication, data encryption and integrity monitoring protect the data that is resident on and in transit to and from your ES400 devices; Mobile Virtual Private Networks (MVPNs) bring wired-line security to wireless communications without the typical performance degradation

Easy global remote management: Compatibility with Motorola's Mobility Services Platform (MSP) enables comprehensive and flexible centralized management of all devices, anywhere in the world, all from a single console

Motorola MAX *Sensor*: Interactive Sensor Technology (IST) offers automatic screen rotation, power management features that preserve battery power for full shift use and the ability to utilize sensor data in custom applications

Motorola MAX *Locate*: Best-in-class GPS implementation enables a signal lock in challenging areas where signals are typically weak, such as urban canyons and indoors, providing more users with location-based services in more areas; supports Assisted and Autonomous GPS with SUPL compliance

Managed Device Service option: Multilingual help desk identifies and resolves issues with minimal user involvement

All-inclusive support plan option: Service from the Start with Comprehensive Coverage covers normal wear and tear as well as internal and external components damaged through accidental breakage for both device and select accessories

QWERTY, AZERTY and QWERTZ keypads: The only device in this category to offer a choice of three keypads — supports global enterprise deployments by providing easy data entry in different geographies

ES400 Specifications

Physical Characteristics	
Dimensions:	Standard Battery: 5.08 in. L x 2.38 in. W x 0.67 in. D 129 mm L x 60.4 mm W x 16.5 mm D Extended Battery: 5.08 in. L x 2.38 in. W x 0.85 in. D 129 mm L x 60.4 mm W x 21.5 mm D
Weight:	Standard Battery: 5.5 oz./156 g Extended Battery: 6.5 oz./188.5 g (including battery, stylus, keypad and strap)
Display:	PenTile® 3 in. diagonal color display, touch, VGA 640 x 480 portrait, Super Bright 750+ NITS (luminous)
Touch Panel:	Polycarbonate analog resistive touch with haptic 'touch vibration response'
Backlight:	LED Backlight
Keypad Options:	QWERTY; AZERTY; QWERTZ
Expansion Slot:	microSD slot — supports up to 32GB
Audio:	Integrated Speaker; audio stereo connector (2.5 mm barrel jack); high-quality speakerphone; supports Bluetooth and PTT wireless or wired headsets
Notifications:	Programmable LEDs; Audio notifications; Vibrator alerts
Device Security:	Biometric (finger swipe) and PIN code
Performance Characteristics	
CPU:	600 MHz, ARM 11 processor, MSM 7627
Operating System:	Windows Mobile 6.5.3 Professional
Memory:	256MB RAM/1GB Flash
User Environment	
Interfaces:	Motorola Enterprise UI; customizable homescreen, enhanced dialer and enterprise camera solution
Drop Specification:	Military Standard (MIL-STD) 810G 4 ft./1.22 m drop specification; 3 ft./0.91 m drop to vinyl covered concrete across the operating temperature range (36 drops at 32° F/0° C, room temperature and 104° F/40° C)
Tumble Specification:	150 1.65 ft./0.5 m tumbles (equivalent to 300 consecutive drops) at room temperature; meets and exceeds applicable IEC tumble specifications
Operating Temperature:	32° F to 104° F/0° C to 40° C
Storage Temperature:	-40° F to 158° F/-40° C to 70° C
Sealing:	Meets MIL-STD 810G rain standards; meets and exceeds IP42 sealing
Humidity:	5 - 95% non-condensing
Vibration:	MIL-STD 810G Method 514.5, figure 514.5C-1; 1 hour per axis
Thermal Shock:	-20° F to 158° F/-20° C to 70° C rapid transition
ESD:	±15kv Air discharge, ±8kv direct discharge, ±8kv indirect discharge
Altitude:	-1,200 ft. to 15,000 ft. operational 15,000 ft. shipping
Keyboard/Side Buttons:	1 million presses
Battery	
Capacity:	Standard: Rechargeable Lithium Ion 1540mAh battery @ 3.7 V Extended: Rechargeable Lithium Ion 3080mAh battery @ 3.7 V
Standby Time:	250 hours standard battery 500 hours extended battery
Talk Time:	6 hours (WAN) standard battery 12 hours extended battery
User Profiles:	*Outdoor WAN+GPS:* 15 min./hour voice communication, 10KB transmission every 10 min, and GPS on all time, default out-of-box configuration of other parameters, minimum 8 hours of operation *Outdoor Voice:* 15 min./hour voice communication, default out-of-box configuration of other parameters, minimum 16 hours of operation
Data Capture Options	
Data Types:	1D and 2D bar codes; photographs; video; signatures; documents
Color Camera	
Resolution:	3.2 megapixel
Illumination:	User controllable light source for efficient data capture illumination
Lens:	Autofocus
Bar Code Scanning:	Integrated 1D and 2D decoding; user controllable red line LED aimer
Motorola Interactive Sensor Technology	
Motion-sensor:	3-axis accelerometer that enables motion-sensing applications for dynamic screen orientation and power management
Wireless WAN Voice and Data Communications	
Radio:	Dual 3.5G: GSM HSDPA/HSUPA and CDMA-EVDO Rev A broadband for voice and data
Frequency Band:	UMTS/HSDPA and HSUPA: 850, 1900 and 2100 MHz GSM/EDGE: 850, 900, 1800 and 1900 MHz CDMA/EVDO Rev A: 850 and 1900 MHz
Antenna:	Internal antennas: primary and diversity

Integrated GPS	
GPS:	Integrated standalone or Assisted-GPS (A-GPS)
Wireless LAN Voice and Data Communications	
Radio:	Tri-mode IEEE® 802.11a/b/g
Security:	WPA2 (Personal or Enterprise); 802.1x; EAP-TLS; TTLS (CHAP, MS-CHAP, MS-CHAPv2, PAP or MD5); PEAP (TLS, MSCHAPv2, EAP-GTC); LEAP, EAP-FAST (TLS, MS-CHAPv2, EAP-GTC)
Antenna:	Internal antenna
Data Rates Supported:	1, 2, 5.5, 6, 9, 11, 12, 18, 24, 36, 48 and 54 Mbps
Operating Channels:	Chan 36-165 (5180 – 5825 MHz) Chan 1-13 (2412-2472 MHz) Chan 14 (2484 MHz) Japan only Actual operating channels/frequencies depend on regulatory rules and certification agency
Voice Communications:	Voice-over-IP ready, Wi-Fi™-certified, IEEE 802.11a/b/g direct sequence wireless LAN, Wi-Fi Multimedia™ (WMM and WMM-PS)
Wireless PAN Data and Voice Communications	
Bluetooth®:	Class II, v2.0 with Enhanced Data Rate (EDR); integrated antenna
Voice and Audio	
Audio:	VoWWAN; VoWLAN; PTT and TEAM Express ready; rugged audio connector; high-quality speakerphone; support for wired and wireless (Bluetooth) headsets; support for PTT headsets, handset and speaker phone modes
Network Communications	
I/O:	Micro USB 2.0 High Speed (host and client)
Peripherals and Accessories*	
Charging Cradles and Cables:	Single slot cradle (includes power supply, international plugs and USB charge cable)
Travel Charging Solutions:	Vehicle holder includes mini USB for charge and sync; auto charge cables (cigarette adapter)
Miscellaneous:	Soft case holster with belt clip; spare batteries and spare stylus
Soft Goods:	Rigid and soft case holsters

* For a complete list of ES400 Peripherals and Accessories, please visit www.motorola.com/ES400

Regulatory		
Electrical Safety:	IEC/UL/CSA/EN 60950-1	
Environmental:	RoHS/WEEE compliant	
WLAN and Bluetooth (PAN):	USA: Canada: EU: Japan: Australia:	FCC Part 15.247, 15.407 RSS-210 EN 300 328, EN 301 893 ARIB STD T33, T66, T71 AS/NZS 4268
Wireless Wide Area Network: GSM-HSDPA/ HSUPA	Global:	3GPP TS 51.010, 3GPP TS 34.121, 3GPP TS 34.123
	GCF and PTCRB approved	
	USA: Canada: EU: Japan: Australia:	FCC Part 22, Part 24 RSS-132, RSS-133 EN301 511, EN301 908 ARIB STD T33, T66, T71 AS/ACIF S042.1 & 3
	HAC compliant	
Wireless Wide Area Network: CDMA-EVDO Rev A	USA: Canada:	FCC Part 22, Part 24 RSS-132, RSS-133
	HAC compliant	
RF Exposure:	USA: Canada: EU: Japan: Australia:	FCC Part 2, FCC OET Bulletin 65 Supplement C RSS-102 EN 50360; EN62311 ARIB STD T56 Radiocommunications Standard 2003
EMI/RFI:	USA: Canada: EU: Australia:	FCC Part 15, Class B ICES-003 Class B EN55022 Class B, EN 55024, EN 301 489-1, EN 301 489-3, EN 301 489-7, EN 301 489-17, EN 301 489-24, EN 60601-1-2, EN 50121-3-2, EN 50121-4 AS/NZS CISPR-22

For countries outside USA, Canada, European Economic Area, Japan, or Australia, consult your local Motorola representative

Warranty

The ES400 is warranted against defects in workmanship and materials for a period of 12 months from date of shipment, provided that the product remains unmodified and is operated under normal and proper conditions.

Recommended Services	
Advanced Services:	Managed Device Service
Customer Services:	Service from the Start with Comprehensive Coverage

The ES400 is a true global product that is supported in all industrial countries.

Windows Mobile®

abg WiFi CERTIFIED®

Bluetooth®

WAN

MAX *FlexWAN*

MAX *Locate*

MAX *Sensor*

SPECIFICATION SHEET

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MOTOROLA

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