

**Digitalizing hazardous areas.
Enabling connectivity.
Enhancing mobility.**

Mobile Computing and Communication

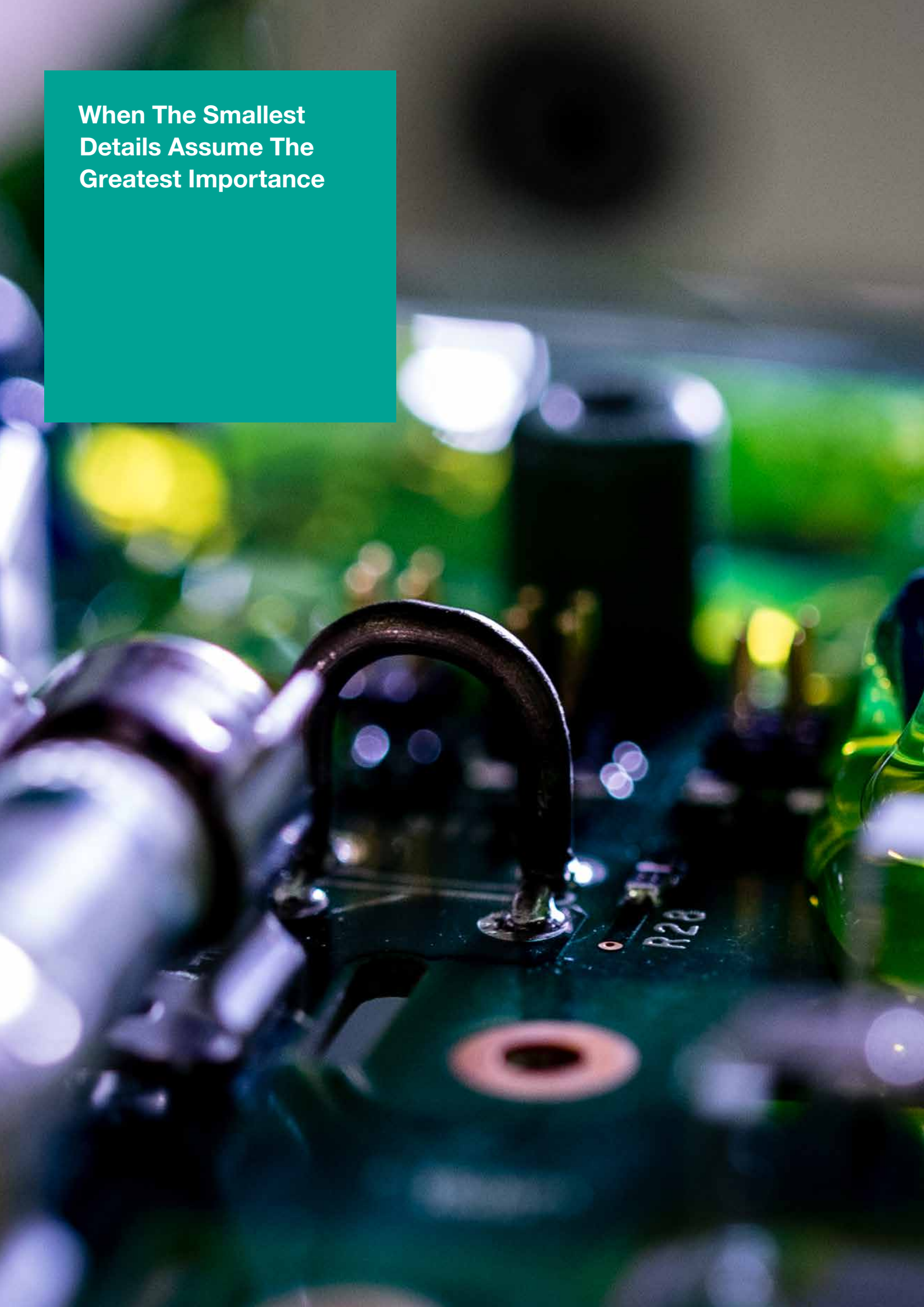
ecom
A PEPPERL+FUCHS BRAND



Your automation, our passion.

p+f PEPPERL+FUCHS

**When The Smallest
Details Assume The
Greatest Importance**





Contents

ecom Portfolio	4
Mobile Worker Concept	7
A New Connected Vision	8
Digital Products and Services	9
Smartphone and Featurephone	12
Smart-Ex® 02	14
Ex-Handy 10	16
Tablets	19
Tab-Ex® 01	20
Pad-Ex® 01 P8	24
Ex-Camera	26
CUBE 800	28
Peripherals & Wearables	30
Smart-Ex® Watch 01	32
Ident-Ex® 01	34
Loc-Ex® 01	38

Worldwide Safety

Explosion protection is all a matter of trust. That is why ecom sets the highest standards by carrying out direct and fast exchanges with our customers. Only by working together as partners is it possible for us to develop our proposals that meet our customers' requirements precisely, a concept that we integrate into the life cycle of our products thanks to our network of worldwide service. Your personal contact is never more than a phone call away.



“ecom equipment is purpose built for use in hazardous areas and ranges from mobile computing and communication, to measurement and portable lighting.”

ecom



Efficiency and Connectivity to go

Industries are facing mobile workforce challenges including:

- Maximizing workforce productivity
- Providing the right information, when where needed
- Accurate data capture for real-time informed
- Minimizing cost and time
- Improving knowledge retention



**“With our knowledge,
experience, and
innovative thinking,
we can increase
productivity and reduce
labor costs for our
customers.”**

ecom

Prominence through Originality

ecom offers enterprise mobility for workforces in the oil & gas, chemical, petrochemical, pharmaceutical, energy, environmental, and mining industries. Recognizing that industrial mobile devices alone are not enough for today's workforce, ecom delivers proven add-ons to meet your needs, including wireless headsets, barcode/RFID scanners, measuring instruments, foundation software, and worldwide support and service.

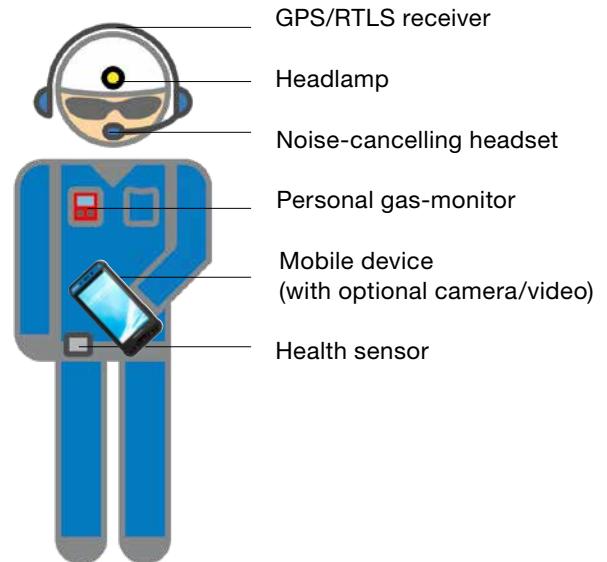


Exploring Mobility

Organizations are realizing the scope of what mobility solutions can really do for their business. Today, the focus is on technologies that reduce cost and improve efficiencies.

Game changing breakthroughs in mobile computing and communication technologies are enabling industries to improve workforce productivity, data quality, and the speed and accuracy of decision-making.

The Internet of Things (IoT) will gain a strong foothold across the industry, changing how companies utilize labor and allowing for more effective utilization of resources.



Service
Level Agreement

Consultation

Emergency
Replacements

Training



Hazardous Area
Expertise

Custom
Software Load

Rental/
HaaS

Development
Assistance

A New Connected Vision

Enabling new levels of integrated visibility & automation

Collaborative Working



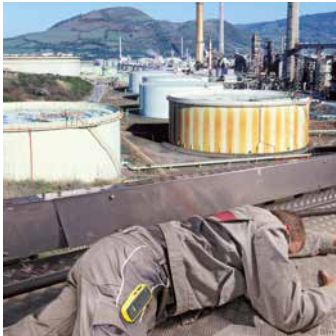
Push to talk (PTT)

Work Orders

Smart Loggers & Analyzers

Drawings & Documents

Operator Rounds



Lone Worker / Man Down

Staging / MDM



Predictive Maintenance



Photo / Video

Asset Management / Localization

Data Capturing



Inspection & Repairs

Augmented Reality (AR)

Notifications



Customization

Digital Software and Services

„Digital Products and Services“ is a solution that combines automated staging, mobile device management, and device analytics. It can also be used as a full-fledged enterprise mobility management system if desired.

At the customer's request, ecom's mobile devices can ship from the factory with predefined custom configurations such as security settings, applications, and wireless setup. This allows devices to be used anywhere in the world immediately upon delivery—**manual configuration is not necessary.**

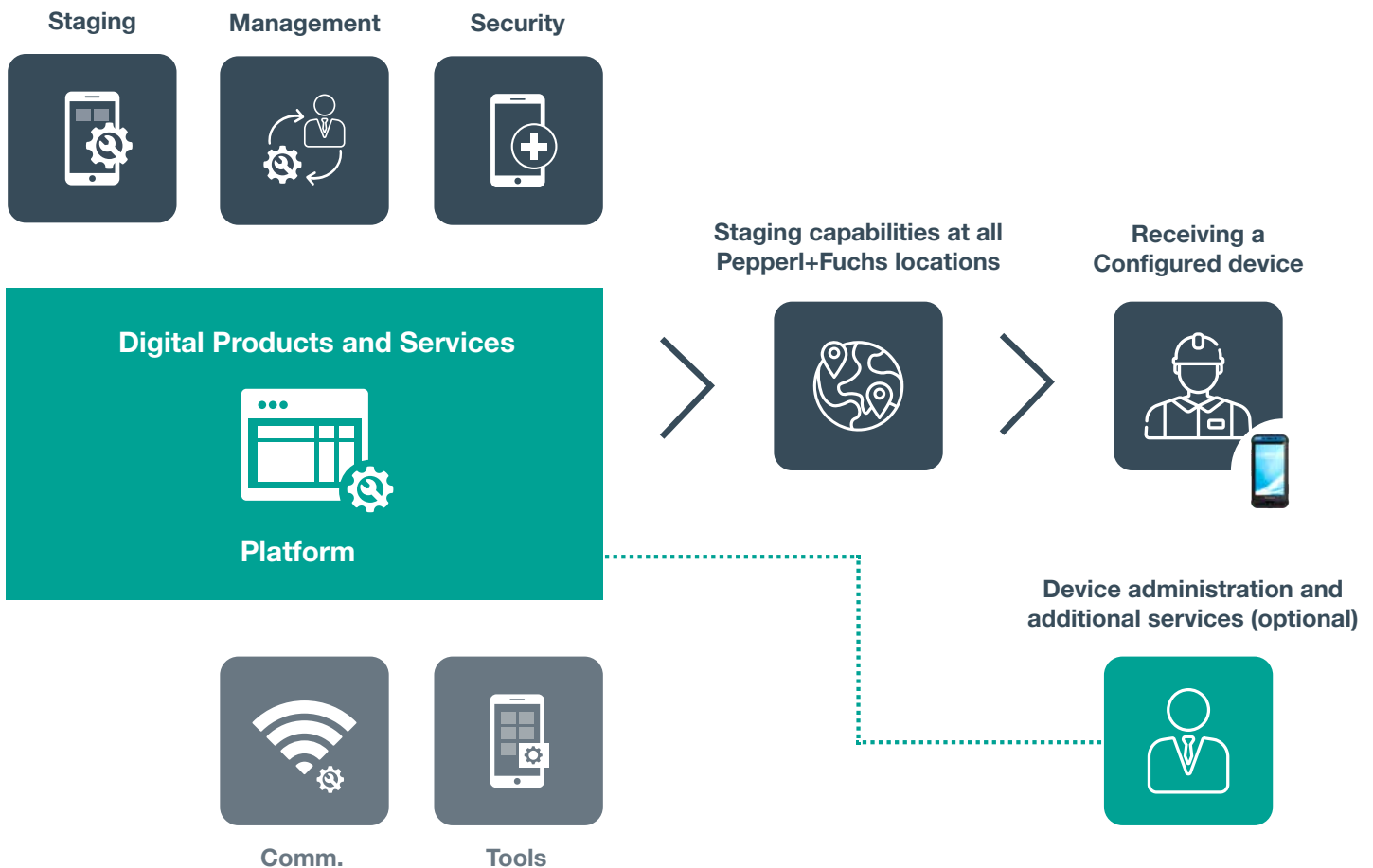
The devices can be managed via the **ecom online platform and updated remotely at any time during operation** without having to be sent to local IT staff or the head office.

Cloud servers hosted in Germany meet the highest data protection standards and guarantee high data availability and security.

One-time staging or enrolling can **also be done internally via ecom's production servers.** If desired, device diagnostics and analytics can collect real-time operational data and fault analyses of the mobile devices to continuously monitor their condition and fix malfunctions preventatively or immediately.

Additionally, the platform analyzes historical data to detect **critical software events, installations, and other security-critical processes.** Statistical accumulations of events can be used to establish correlations and causalities between software errors, geographical data, and Wi-Fi coverage, for example.

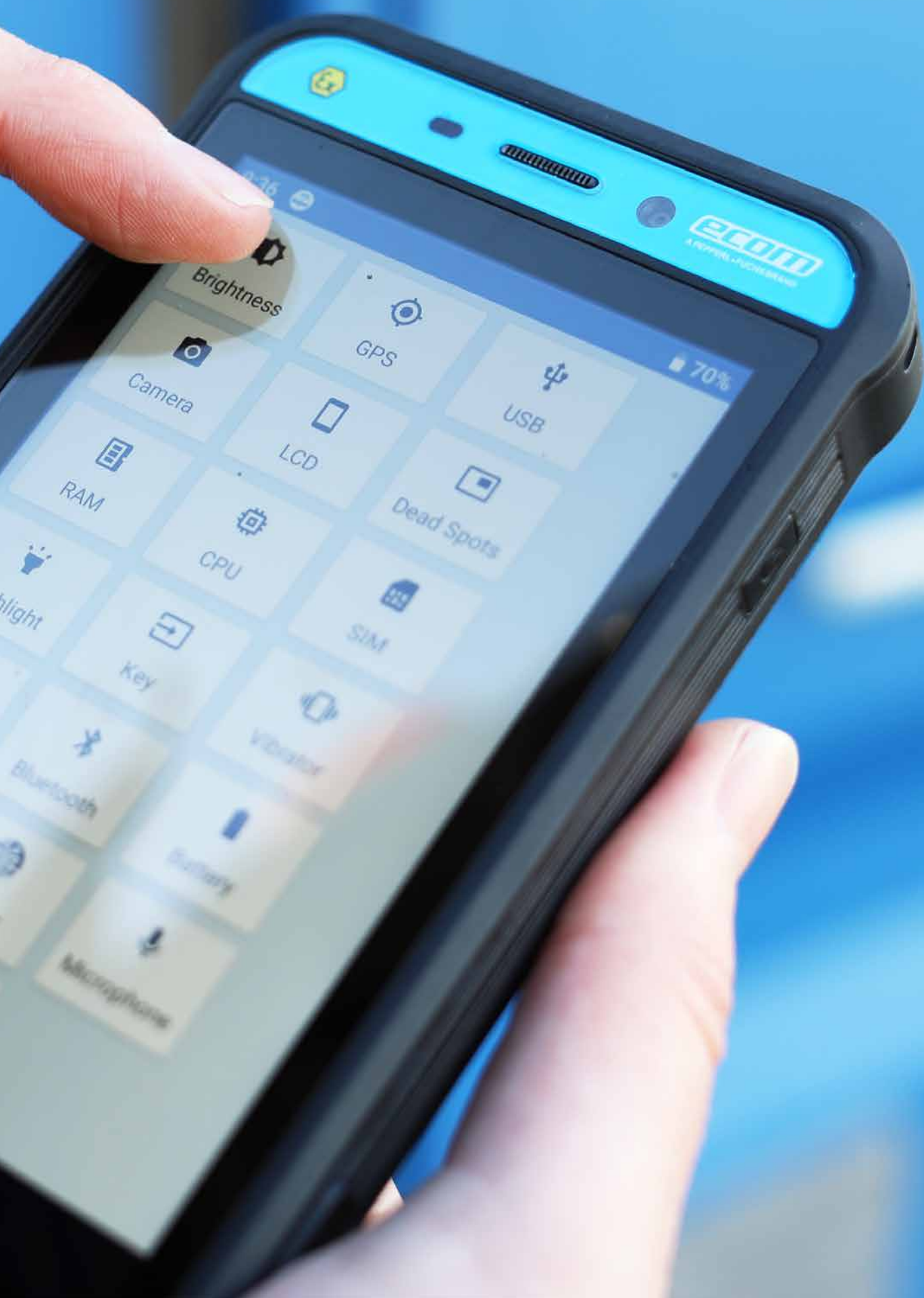
„Digital Products and Services“ is a ready-to-use-service that ensures quality and security for all devices. This saves time and valuable resources.



Delivering Mobility in Hazardous Areas

Smart-Ex® 02 and Ex-Handy 10





Smart-Ex® 02 & Ex-Handy 10: The next Generation of rugged and intrinsically Smart- & Featurephones

Smart-Ex® 02—The Intrinsically Safe Smartphone for Hazardous Areas

The Smart-Ex® 02 is the world's first intrinsically safe smartphone for Zone 1/21 and Div. 1 areas that will meet **Google's sophisticated Android Enterprise Recommended (AER)** validation. In addition, it meets all important global hazardous location and regulatory certifications.

The rugged smartphone has a large, high-resolution display, powerful features, and optimized accessories. Its extended temperature range makes it suitable for even the harshest environments.

Designed to support **21 LTE frequency bands**, the **Smart-Ex® 02** has no SIM lock and can be connected to different networks worldwide. An **Android™ 9** operating system enables the intrinsically safe device to work safely, quickly, and efficiently.

The ergonomic design and intuitive user interface enhance the user experience, and optimized accessories and peripherals ensure total compatibility with current and future ecom products. With the most powerful replaceable battery on market (**4400 mAh**), longer shifts and 24-hour work coverage are possible.

The Smart-Ex® 02 also sets new standards when it comes to security. The **Android Enterprise Recommended** certification and regular security updates prevent unauthorized access to confidential personal and company data.

To ensure unlimited, long-term use of the smartphone, ecom offers a three-year service level agreement. Pepperl+Fuchs' global sales and service network provides excellent customer service around the globe. Support from ecom's system engineers and development teams is also available when software requirements change.



Ex-Handy 10—Flexible Communication in Hazardous Areas

Simple, rugged, and practical: The **Zone 1 and Div. 1 certified 4G / LTE feature phone** is ideal for a wide range of applications—from pure communication and **Push-to-Talk (PTT)** to lone worker protection and innovative Industry 4.0 applications.

The Ex-Handy 10 is suitable for global 4G communication, supports **21 LTE bands**, and offers both keypad and touch screen operation. The high-resolution display is made of extremely durable, scratch-resistant Gorilla® Glass (IP68-rated) and can even be operated with gloves. The Ex-Handy 10 is designed for the harshest environments—it is operable in temperatures from **-20 °C to +60 °C** and has good readability in direct sunlight. The feature phone has an optional **8 MP camera**, which includes autofocus, LED flash, and flashlight. An advanced rechargeable battery and energy management enable outstanding operating times.

The **Android™ 8.1** operating system ensures regular patches and security updates. To ensure unlimited, long-term use of the smartphone, **ecom offers a three-year service level agreement**. Pepperl+Fuchs' global sales and service network provides excellent customer service around the globe. Support from ecom's system engineers and development teams is also available when software requirements change.

Features Smart-Ex® 02

- 4G / LTE standard (SIM unlocked)
- Supports 21 LTE bands
- Android™ 9 operating system
- 3 GB RAM, 32 GB ROM
Up to 128 GB additional memory with microSD
- WiFi Standard 802.11 a/b/g/n/ac/e/k/r/h
WiFi 2.4 Ghz und 5 Ghz support
- Bluetooth® 4.2 incl. BLE
- GPS / A-GPS / Glonass / Beidou / Galileo / NFC
- 2 cameras: 12 MP camera with autofocus and LED flash + 5 MP camera
- Waterproof magnetic USB 2.0 connection
- Replaceable 4400 mAh battery

Features Ex-Handy 10

- 4G / LTE standard (SIM unlocked)
- Supports 21 LTE bands
- Android™ 8.1 operating system
- 2 GB RAM, 16 GB ROM
Up to 128 GB additional memory with microSD
- WiFi Standard 802.11 a/b/g/n/ac/e/k/r/h
WiFi 2.4 Ghz und 5 Ghz support
- Bluetooth® 4.2 incl. BLE
- GPS / A-GPS / Glonass / Beidou / NFC
- 8 MP camera with autofocus, LED flash, and flashlight function
- Water-resistant magnetic USB 2.0 connection

Smartphone

Smart-Ex® 02



Scope of delivery Smart-Ex® 02

- Smart-Ex® 02
- Li-Ion battery 4400 mAh
- Charger
- USB cable with magnetic connection
- Screwdriver
- Documentation

ATEX



(pending)

⊕ II 2G Ex ia op is IIC T4 Ga IP64

⊕ II 2D Ex ia op is IIIC T135°C Da

Ambient temperature: $-20\text{ °C} \leq T_a \leq +60\text{ °C}$

IECEX



(pending)

Ex ia op is IIC T4 Ga IP64

Ex ia op is IIIC T135°C Da

Ambient temperature: $-20\text{ °C} \leq T_a \leq +60\text{ °C}$

NEC & CEC



(pending)

Class I, II, III Div. 1 Groups A-G T4

Ambient temperature: $-20\text{ °C} \leq T_a \leq +60\text{ °C}$

Data Sheet	
Operating System	Android™ 9.0
Chipset	Qualcomm Snapdragon 450 platform
Band	Cellular frequency bands EU variant: 4G LTE FDD: B1, B2, B3, B4, B5, B7, B8, B11, B20, B21, B25, B28 4G LTE TDD: B38, B39, B40, B41 3G UMTS: 850 / 900 / 1900 / 2100 MHz 2G GSM: 850 / 900 / 1800 / 1900 MHz Cellular frequency bands US variant: 4G LTE FDD: B1, B2, B3, B4, B5, B7, B8, B12, B13, B20, B25, B26, B66, B71 4G LTE TDD: B41 3G UMTS: 850 / 1700 / 1900 / 2100 MHz 2G GSM: 850 / 900 / 1800 / 1900 MHz
WiFi	- WiFi 2.4 Ghz and 5 Ghz support - WiFi standards 802.11 a/b/g/n/ac/e/k/r/h
Memory	3 GB RAM, 32 GB ROM
User memory	SD card up to 128 GB
Applications	Google Play Store certified
Bluetooth SMS, MMS (text, image, audio, video)	- Bluetooth® 4.2 incl. BLE (Bluetooth Low Energy) - Support SMS and MMS
GPS, NFC	GPS / A-GPS / Glonass / Beidou / Galileo / NFC
Email Client	EAS, Gmail, POP3, IMAP
Power	Li-Ion 3.7 V / 4400 mAh / 16.28 Wh
Battery Life	Up to 1000 hours Stand by
Ambient temperature	-20 °C.....+60 °C (certification pending)
Protection class	IP68
Size	163 x 82 x 22 mm
Weight	approx. 380 g
Dedicated Keys	PTT / Alarm / Power / Multifunction / Volume / Control / Hardware buttons for Android features
Ports	3.5 mm jack connection with special ecom mounting solution - Waterproof magnetic USB 2.0 connection
Display Size	12.7 cm (5.0 inch)
Display Type	Extreme shock and scratch resistant Gorilla® glass support of glove and wet mode
Microphone	Dual mic solution with three selectable background noise suppression options
Speaker	Loud Speaker with Gore® Protective Vents
Camera	12 MP rear with auto focus and LED flash with torchlight function / 5 MP front (optional)
Video streaming	Support MP4, M4V, 3GP, 3G2, TS, WMV, ASF, AVI, FLV, MKV, WEBM
LED torch light	Yes

Featurephone

Ex-Handy 10



Scope of delivery Ex-Handy 10

- Ex-Handy 10
- Li-Ion battery 3920 mAh
- Charger
- USB cable with magnetic connection
- Screwdriver
- Documentation

ATEX



⊕ II 2G Ex ib op is IIC T4 Gb IP64

⊕ II 2D Ex ib op is IIIC T120°C Db

Ambient temperature: $-20\text{ °C} \leq T_a \leq +60\text{ °C}$

IECEX



Ex ib op is IIC T4 Gb IP64

Ex ib op is IIIC T120°C Db

Ambient temperature: $-20\text{ °C} \leq T_a \leq +60\text{ °C}$

**NEC &
CEC**



(pending)

Class I, II, III, DIV 1, Groups A-G, T4

Ambient temperature: $-20\text{ °C} \leq T_a \leq +60\text{ °C}$

Data Sheet	
Operating System	Android™ 8.1
Chipset	Qualcomm Snapdragon MSM8909 platform
Band	Cellular frequency bands EU variant: 4G LTE FDD: B1, B2, B3, B4, B5, B7, B8, B11, B20, B21, B25, B28 4G LTE TDD: B38, B39, B40, B41 3G UMTS: 850 / 900 / 1900 / 2100 MHz 2G GSM: 850 / 900 / 1800 / 1900 MHz Cellular frequency bands US variant: 4G LTE FDD: B1, B2, B3, B4, B5, B7, B8, B12, B13, B20, B25, B26, B66, B71 4G LTE TDD: B41 3G UMTS: 850 / 1700 / 1900 / 2100 MHz 2G GSM: 850 / 900 / 1800 / 1900 MHz
WiFi	- WiFi 2.4 Ghz and 5 Ghz support - WiFi standards 802.11 a/b/g/n/e/k/r/h
Memory	2 GB RAM + 16 GB ROM
User memory	SD card up to 128 GB
Applications	Google Play Store certified
Bluetooth SMS, MMS (text, image, audio, video)	- Bluetooth® 4.2 incl. BLE (Bluetooth Low Energy) - Support SMS and MMS
GPS, NFC	GPS / A-GPS / Glonass / Beidou / NFC
Email Client	EAS, Gmail, POP3, IMAP
Power	Li-Ion battery 3.7 V / 3920 mAh / 14.5 Wh
Battery Life	Up to 1000 hours Stand by
Ambient temperature	-20 °C.....+60 °C
Protection class	IP68
Size	148 x 67 x 24 mm
Weight	approx. 330 g
Dedicated Keys	PTT / Alarm / Power / Multifunction / Volume / Control / Hardware buttons for Android features
Ports	3.5 mm jack connection with special ecom mounting solution - Waterproof magnetic USB 2.0 connection
Display Size	6.6 cm (2.6 inch)
Display Type	Extreme shock and scratch resistant Gorilla® glass with Glove Touch and wet mode
Microphone	Dual mic solution with three selectable background noise suppression options
Speaker	Loud Speaker with Gore® Protective Vents
Camera	8 MP rear camera with auto focus and LED flash (optional)
Video streaming	Support MP4, M4V, 3GP, 3G2, TS, WMV, ASF, AVI, FLV, MKV, WEBM
LED torch light	Yes

Tablets for Industrial and Hazardous Areas

Tab-Ex® 02 Series



More Possibilities

The Tab-Ex® 02 is suitable for multiple mobile worker roles performing a range of tasks, such as asset surveys, material tracking, operator rounds, inspection, data collection, and plant maintenance. The 8-inch screen enables the wide range of applications to become mobile in hazardous areas, allowing workers to view and interact with SCADA/DCS systems, enterprise systems, project management systems and computer aided design systems.

Successor of the World's First Intrinsically Safe

ecom's hazardous area tablet, the **Tab-Ex® 02**, leverages Samsung's know-how and brings a new level of customer focused solutions and increased ease of use to mobile workers in oil & gas, refining, chemical, pharmaceuticals, and other hazardous industries.

Recognizing that many work tasks are performed in both non-hazardous and hazardous areas, ecom offers an entire family of compatible tablets, peripherals and accessories suitable for worldwide use in Zone 1/21 and Div. 1, Zone 2 / Div. 2, and rugged environments.

Professional

Meet the new Tab-Ex® 02

Designed to deliver powerfully versatile performance and secure operations, the Tab-Ex® 02 is a stylish, portable tablet device that is ready to go anywhere to get the job done. Using a custom MDM system, ecom offers customized configurations.

Zone 1/Div. 1 Testing Excerpt

- **Thermal endurance testing** - samples placed within an environmental tests chamber and subjected to 4 weeks endurance to extreme heat and humidity then 1 day extreme cold.
- **Impact tests** - the samples were then subjected to impact test mass from various heights.
- **Drop tests** - the samples were then subjected to drop testing on to a concrete floor numerous times from heights of 1 meter.
- **Overpressure and Flame propagation test** - the samples were then subjected to hydrostatic overpressure testing to ensure the enclosure strength and integrity followed by an internal explosion of test gases to ensure non-transmission of the internal flames to the exterior.
- **Ingress protection** - Several other samples with subject to the first three tests listed above were then subjected to water and dust protection tests to level IP64.

Features

- Changeable SIM
- Global certifications - one common platform
- Android™ 8.1 operating system
- Wireless capability as WWAN, 4G LTE*, WLAN, etc.
- Front and rear camera (optional)
8 MP with rear camera flash with barcode scanner capability, 5 MP front camera
- Reinforced security with Samsung KNOX™
- Accessories and peripherals to enable wide range of uses
- Suitable for use with gloves
- NFC technology for wireless applications
- GPS

* depending on carrier & regional availability

Android Tablet

Tab-Ex® 02*



Scope of delivery Tab-Ex® 02

- Tab-Ex® 02 incl. battery 4450 mAh
- Charger (EU, UK, US or AU)
- MicroSD-Card (up to 256 GB)
- S Pen + Holder
- Safety Box
- USB Cable
- Documentation

*More information about the product and the Ex-Certificates for Zone 2 and Div. 2 on www.ecom-ex.com and www.pepperl-fuchs.com

ATEX  (pending)	Ⓔ II 2G Ex db ia op is IIC T5 Gb Ⓔ II 2D Ex tb ia op is IIIC T100°C Db Ⓔ I M2 Ex db ia op is I MB Ta= -20°C to +50°C
IECEX  (pending)	Ex db ia op is IIC T5 Gb Ex tb ia op is IIIC T100°C Db Ex I M2 Ex db ia op is I MB Ta= -20°C to +50°C
CSA  (pending)	US: Class I, II, III, Division 1, Groups A-G T5 Class I, Zone 1 AEx db ia op is IIC T5 Gb Zone 21 AEx tb IIIC T100°C Db Ta = -20°C to +50°C

Data Sheet	
Operating System	Android™ Oreo 8.1
Chipset	Exynos 7 Octa, 1.6 GHz Octa-Core (Cortex®-A53)
Memory	RAM: 3 GB, Memory: 16 GB, with external MicroSD (Up to 256 GB)
Display	1280x800 pixels (WXGA), 20.32 cm (8.0 inch), TFT, 480 nit Brightness, Operation: also with gloves / in wet conditions and snow
Sensors	Face Recognition, NFC, Accelerometer, Proximity, Light, Gyroscope, Geomagnetic, Hall, GPS
Dimensions	Rugged: 127.6 x 214.7 x 9.9 mm, 415 g (Wi-Fi) / 419 g (LTE) DZ2: 127.6 x 214.7 x 9.9 mm, 575 g (Wi-Fi) / 579 g (LTE) DZ1: 162.1 x 256.0 x 33.3 mm, ca. 1250 g
Operating temperature	-20 °C...+50 °C
Wireless capability with	■ LTE Cat. 6 (300 Mbps) – in LTE model ■ Wi-Fi 802.11 a/b/g/n/ac (2.4 GHz + 5 GHz) ■ Wi-Fi Direct ■ Bluetooth® 4.2
Safety	KNOX 2.8, Face Recognition
Front and rear camera	8 MP AF + 5 MP
Power	Li-Ion battery 3.8 V / 4450 mAh / 16.91 Wh / 4450 mAh, up to 11 hours battery life

**Windows Tablet
Rugged Mobility at Its
Finest For Zone 2 & Div. 2**

Pad-Ex® 01 P8

Enabling Mobile Windows Desktop PC

Pad-Ex® 01 P8 redefines what a mobile Full Win tablet PC shall be: While being given its level of ruggedness, Pad-Ex® 01 P8 meets all the environmental requirements and supports the 8th generation Intel® Core™ i5 processor. It also provides battery life up to 7 / 14 hours and Windows® 10 support. Combining robust features and a large screen size, superior performance is ideal for field operatives of all sectors to complement or even substitute Desktop PC, laptop or wall mounted display.

Rugged Revolution: Thin, Light and Strong

Pad-Ex® 01 P8 is rugged mobility at its finest. Its ultra-thin and lightweight exterior measures only 20 mm in height and 1.2 kg in weight.

With its ultra compact form factor, Pad-Ex® 01 P8 manages to fully meet IP64 and MIL-STD 81 OG for vibration. With its additional display protection it offers complete protection against harsh environments and lightens the load for workers.

11.6' Widescreen Display

- with sunlight-readable solution
- Sunlight-readable display
- Capacitive multi-touch screen

Integrated Options for Various Applications

- Data collection
- 1D / 2D barcode scanner
- 5MP Auto auto-focus camera with LED flashlight

Features

- IP64
- MIL-STD 810G
- 29.46 cm (11.6" Widescreen Display)
- Sunlight Readable Display
- Capacitive Multi-Touch Screen
- Data Collection
- 1D / 2D Barcode Scanner (optional)
- 5MP Auto Focus Camera with LED Flash Light
- High Speed and Efficiency for the Most Demanding Tasks
- 8th Generation Intel® Core™ Processor
- Windows® 10 Pro
- Superior Wireless Connectivity
- Support 4G LTE
- Support GPS / Augmented Reality
- Intel Wireless AC9260 802.11 a/b/g/n/ac
- Bluetooth® 5.0
- Service Level Agreement
- Custom Software Load

Windows Tablet

Pad-Ex® 01 P8



Scope of delivery Pad-Ex® 01 P8

- Pad-Ex® 01 P8 incl. Battery
- AC adapter
- Power cord
- Hand strap
- Documentation

ATEX



⊕ II 3G Ex ic IIC T4 Gc IP64
⊕ II 3D Ex ic IIIB T135° Dc IP64

IECEX



Ex ic IIC T4 Gc IP64
Ex ic IIIB T135° Dc IP64

CSA



North America:
Class I, Division 2, Groups A-D T4
Class I, Zone 2, Group IIC T4

Data Sheet

Rugged features	IP64 - MIL-STD 810G certified (Drop, Shock, Vibration, Altitude, Freeze/Thaw, High/Low Temperature, Temperature Shock, Humidity) - MIL-STD 461F certified - ANSI/ISA 12.12.10-2000, Class I Division 2
Environment	Temperature Operating: -10°C - +55°C Humidity Operating: 5% - 95% Altitude Operating: 15,000 feet (approx. 4572 m)
Operating System	Windows® 10 Pro (64 Bit)
CPU	Intel® Core™ i5 8th Generation
Memory	One DDR3L socket for 8GB
Storage	M2-SATA SSD 256GB (extended temperature range)
Display	29.46 cm / 11.6" (1920 x 1080) FHD LCD Panel - Capacitive Multi-Touch - Optical Sunlight Readable Display
Audio	- Speaker x1 / 70dB - Microphone x1
Camera	2 MP Front Facing Camera 5 MP Rear Camera with auto focus and 1500 mcd LED flashlight
Communication	WWAN LTE + GPS Combo + Intel Wireless AC9260 802.11 a/b/g/n/ac + Bluetooth® 5.0
Data Collection	Optional 1D / 2D Barcode Scanner
VO Ports	- Two USB 3.0 - One Headphone out / Mic-in jack - One Docking Connector - One Expansion Connector for Expansion Modules - Two RF pass-through connectors for WWAN & GPS
Expansion Slots	- One Micro SD card slot support SDHC & SDXC - One SIM card slot for WWAN data communication
Button	- Power - Volume - Windows Touch button - Barcode / Camera Touch Button - Programmable Touch Button
Battery	- One 3950 mAh Li-Polymer battery pack: 7hrs - Optional (spare part) 7,800 mAh Li-Polymer battery pack: 14hrs
AC Adaptor	19V; 3.42A; 65W
Dimension	298 mm x 192 mm x 20 mm
Weight	1.2 Kg

Intrinsically Safe Wearable Camera

Cube 800



Built for Hands-Free Collaboration in Zone 1/21 und Div. 1

- Efficient cooperation with mobile devices such as the Smart-Ex® 02
- Dual camera system with HD optics and thermal imaging technology
- Remote collaboration with experts via Onsight Connect possible
- Integrated laser pointer and light ring
- Multi Use Design: Mount to a helmet or headband for hands-free, attach a monopod, or use handheld for hard to reach areas.
- Record video and store pictures with continuous capture for instant replay



Multi-purpose design

Designed for safe operation in Ex-certified and rugged environments, the CUBE 800 brings hands-free collaboration to the world's toughest locations.

With dual cameras inside, users can choose between optical and thermal camera modes. The integrated thermal imaging camera provides infrastructure health analysis and trending information while the optical camera provides HD video and images. The integrated light ring and laser aiming pointer ensures high quality visuals.

The magnetic auto-latch mount provides an easy and secure way to attach the CUBE 800 to hardhat and headband accessories. Its multi-purpose design allows for hands-free, handheld, and monopod use to capture visuals in hard to reach places.

Share live video and images

The CUBE 800 can be used to share live video and images during Onsight collaboration sessions or offline to capture and securely store images and recordings onboard. Simply pair the CUBE 800 to an Onsight Connect enabled mobile device such as the Smart-Ex® 02 for remote mentoring.

During a live Onsight session, remote participants can control camera settings including lighting, zoom, and camera modes. Remote control allows for a completely hands-free experience for workers.

The CUBE 800 combines the power of the Onsight collaborative platform with a compact camera for an optimized hands-free remote mentoring experience.

Ex-Camera

Cube 800



Scope of delivery Cube 800

- Cube 800
- Charger
- Portable Protective Case
- Documentation

ATEX



(pending)

⊕ II 2G Ex ib op is IIC T4 Gb IP64
⊕ II 2D Ex ib op is IIIC T135°C Db IP64
Ta = -20°C to +55°C

IECEX



(pending)

Ex ib op is IIC T4 Gb IP64
Ex ib op is IIIC T135°C Db IP64
Ta = -20°C to +55°C

Data Sheet

Optical performance	13 MP camera (3 x digital zoom) 10 cm to infinity focus range - Automatic focus and white balance - Integrated LED illumination - Class 1 Laser aiming pointer
Thermal imaging camera	- Longwave infrared, 8-14 μm < 50 mK thermal sensitivity - Auto Flat Field Correction (FFC) - Typical Measurement Accuracy*: Greater of +/- 5 C or 5% where scene temperature = -10 °C to +120 °C Range Greater of +/- 10 C or 10% where scene temperature = +120 °C to +450 °C Range
Audio	- Built-in omni-directional microphone for ambient sound - Built-in speaker for Cube status alerts
Video standard	- H.264 / AVC - HD capture and stream up to 1080 Pixel resolution
Communication	- Configuration and live collaboration using Onsite Connect software iOS 11 - Android™ 5.0 (Lollipop) or higher - Integrated IEEE 802.11 a/b/g/n - Dual Band WiFi (2.4GHz and 5GHz) - Bluetooth 4.1 (LE) for pairing to host device
Media capture & storage	48 GB onboard storage - USB cable for file transfer
Security	- WLAN network authentication: WPA, WPA2, WPA-PSK, WPA2-PSK, open - WLAN Data Encryption: AES, WEP, TKIP, or Disabled 802.1 x Authentication: PEAP - AES-256 Media Encryption for file storage
Rugged features	6 foot drop to concrete at 20°C 75 mm (W) x 64 mm (H) x 50 mm (D) - IP64
Operating ambient Temperature	- Optical camera: -20 °C to +55 °C - Thermal Imaging: -10 °C to +55 °C
Storage temperature	-30 °C to +60 °C
Humidity (non-condensing)	- Short term storage (up to 3 months) minimum 5 %, maximum 85 % - Operating minimum 5 %, maximum 95 % RH
Altitude	- Storage (12°C) minimum 0 ft, maximum 15,000 ft - Operating (27°C) minimum 0 ft, maximum 10,000 ft
Power	- Rechargeable 2200 mAh Li-Ion battery 5V DC, 1.8 A AC Adapter - Charging from any standard USB port - Magnetic charging connector - Up to over 4 hours of runtime, depending on media and illumination settings

First Intrinsically Safe Smartwatch for use in Hazardous Areas

Smart-Ex® Watch 01



Safe and Fast Communication from Your Wrist

ecom's Smart-Ex® Watch 01, based on the Samsung Galaxy Watch, is the first smart watch for Zone 2 and Division 2. The watch can be synced with ecom devices like the Smart-Ex® 02 smartphone. It offers a new form of hands-free communication and enables greater protection for employees.

Features

- Combination with the new Smartphone Smart-Ex® 02 and Featurephone Ex-Handy 10 possible
- Hands-free navigation via advanced voice control
- Powerful battery for up to 5 days of power
- GPS usage up to 28.5 hours

Connected Everywhere

Hands-free navigation via advanced voice control and wrist gestures simplifies operation. A rotating bezel allows for intuitive, quick, and easy scrolling through apps and instructions, even with gloves. The powerful battery can run for up to five days, and the GPS can be used for up to 28.5 hours.

The rugged Smart-Ex® Watch offers an extended temperature range -15 °C to +55 °C, and its durable design withstands impact and mechanical vibration.



Smart Watch

Smart-Ex® Watch 01



Scope of delivery Smart-Ex® Watch 01

- Smart-Ex® Watch
- Band Strap
- Charging Dock
- Quick Start Guide
- Documentation

ATEX



(pending)

⊕ II 3G Ex ic IIC T5 Gc

⊕ II 3D Ex ic IIIB 135°C Dc

Ambient temperature: $-15\text{ °C} \leq T_a \leq +50\text{ °C}$

Data Sheet	
Operating System	Tizen Based Wearables OS 4.0
Processor	Exynos 9110 1.0 GHz CA53 Dual, T720 GPU, 10nm / 8X9.5 FOPLP
Memory	1.5 GB (LTE) / 768 MB (BT) + 4 GB
Display	■ Gorilla® Glass SR + ■ Display size: 33 mm (1.3") , 360 x 360 Full Color AOD ■ Display resolution: 216 x 432, 310.7 ppi
Sensors	Accelerometer, Gyro Sensor, Barometer, HRM, Ambient Light
GPS, NFC	Yes
Dimension & Weight	■ 46 mm x 49 mm x 13 mm ■ Band Strap: 155 mm / 22 mm ■ 63 g
Ambient temperature	-15 °C ... +50 °C
Connectivity	■ Wi-Fi 802.11 b/g/n 2.4 GHz ■ Bluetooth® A2DP, AVRCP ■ GPS, Glonass
Power	Li-Ion battery 3.85 V / 472 mAh / 1.81 Wh, battery life up to five days

Bluetooth Scanner / Reader

Ident-Ex® 01



Scope of delivery Ident-Ex® 01

- Ident-Ex® 01
- Head module
- Charging cable
- Travel charger
- Documentation

ATEX



Ⓜ II 2G Ex ib IIC T4 Gb IP64
Ⓜ II 2D Ex ib IIIC T135°C Db IP6X

IECEX



Ex ib IIC T4 Gb IP64
Ex ib IIIC T135°C Db IP6X

NEC & CEC



Class I, II, III Div. 1 Groups A-G, T4, T135°C
Cl I Zn 1, AEx ia IIC T4 Gb IP64
Cl II Zn 21, AEx ia IIIC T135°C Db IP64
Ex ia IIC T4 Gb
Ex ia IIIC T135°C Db

Features

- Ultra-rugged
- Outstanding head modules performances
- Easy to use, with one hand
- Pairable with any Bluetooth device
- Flexibility – online / offline scanning & changeable*head modules
- Lower risk interface to ecom products
- Lower cost – prevents legacy tag replacement
- Ideal for intensive scanning and 12 hour shifts
- Lower damage / fouling risk = lower downtime risk
- Improved global safety & lower inventory cost
- Optional Service Level Agreement 3 years (SLA)

Data Sheet	
Dimensions	235 x 84 x 58mm (with Ex-25 head module) 221 x 84 x 58mm (remaining head modules)
Weight	425-560g (depends on head module)
Battery	Li-Ion rechargeable; 12+ hours; 10.000+ scans with one battery charge
Internal Storage	Offline Batchmode 2 MBytes, 2D QR barcodes = 500+, RFID tags (ID only) = 500+
Bluetooth®	Class II, up to approx. 10 meters
Scan Performance	RFID¹ = up to 1.5m Barcode = 15 cm to 15 m

¹ Tag & environment dependent

Intrinsically Safe Bluetooth Beacon

Loc-Ex® 01



Connectivity Without Limits

Description

BLE beacons are small radio beacons that emit a signal at periodic intervals.

The Bluetooth 4.0 standard makes the beacons compatible with most smartphones & tablets and they can be recognized over a distance of up to 200 m (Geolocation). The beacon signals can be evaluated by the mobile device via individual applications and, in this way, interact with the user or other programs.

For Inside And Outside The Ex-Hazardous Area

The beacons are available for ATEX / IECEx Zone 1/21 & Div. 1 (Loc-Ex® 01) **and for Non-Ex areas** (Loc 01 HC & Loc 01 SC). Due to their UV-resistant housing material they can be used both, indoors and outdoors.

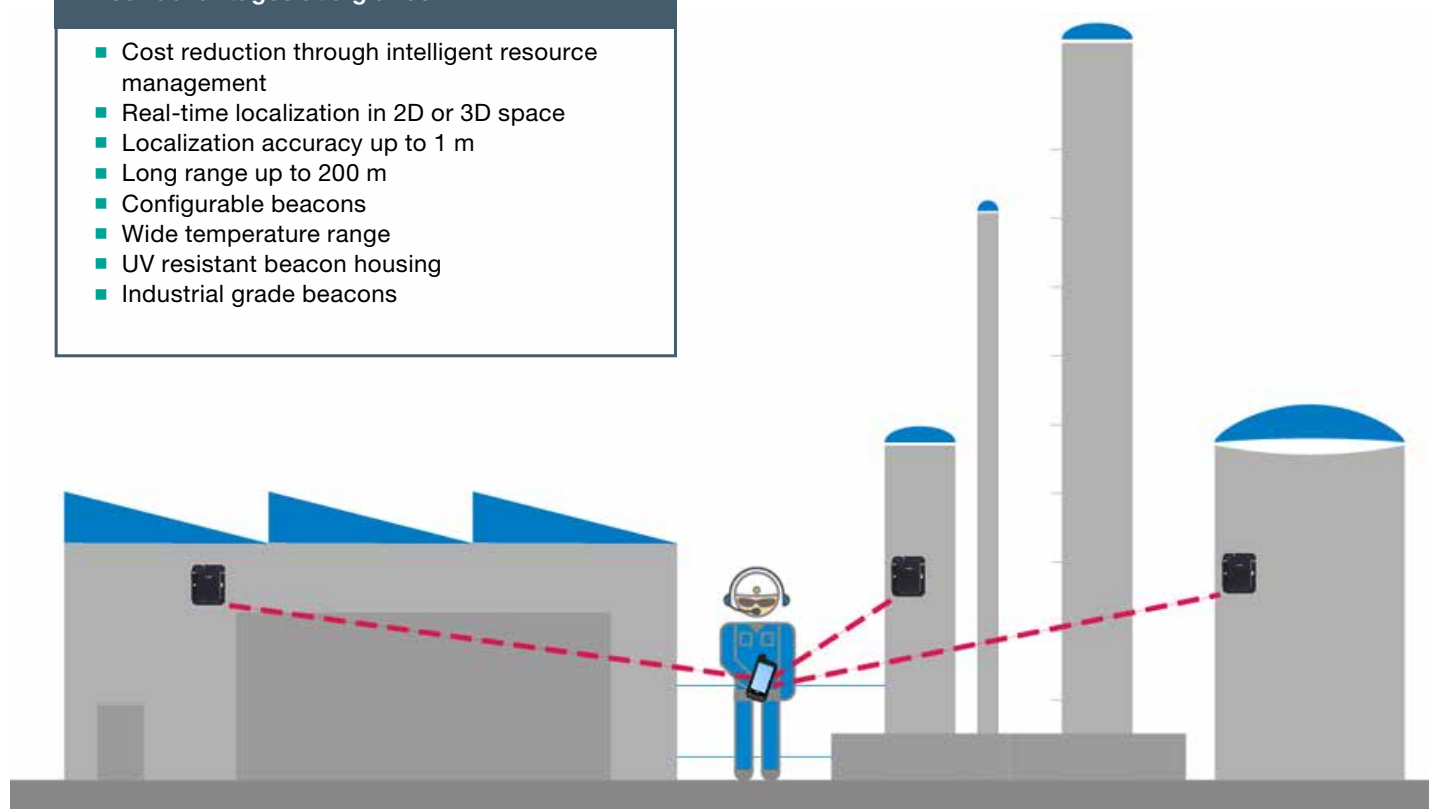
The beacons can be mounted directly on a suitable surface or optional mounting plate (which facilitates battery replacement).

Benefits Of Application

- Indoor localization
- Lone worker protection
- Physical access control
- Guard control system
- Guiding visitors
- BLE Beacon as replacement for NFC beacon

Your advantages at a glance

- Cost reduction through intelligent resource management
- Real-time localization in 2D or 3D space
- Localization accuracy up to 1 m
- Long range up to 200 m
- Configurable beacons
- Wide temperature range
- UV resistant beacon housing
- Industrial grade beacons



Bluetooth Beacon

Loc-Ex® 01



Scope of delivery Loc-Ex® 01

- Loc-Ex® 01
- Batteries
- Documentation

ATEX



⊕ II 2G Ex ia IIC T4 Gb IP64
⊕ II 2D Ex ia IIIC T125°C Db IP64

IECEX



Ex ia IIC T4 Gb IP64
Ex ia IIIC T125°C Db IP64

NEC & CEC



Class I, II, III Div. 1 Groups A-G, T4, T135°C
Cl I Zn 1, AEx ia IIC T4 Gb
Cl II Zn 21, AEx ia IIIC T125°C Db IP64
Ex ia IIC T4 Gb
Ex ia IIIC T125°C Db IP64

Features

- Also available as Non-Ex Versions
- Compatible with Bluetooth Low Energy from version 4.0
- Range inside buildings up to 30 m, outdoors up to 200m
- Possibility to change important operating parameters „over the air“
- Open firmware for individual BLE profile development (TI CC2541)
- IP64 Stable UV-resistant enclosure (can also be used outdoors)

Data Sheet	
Ambient temperature Ta	-20°C ... +55°C
Storage temperature	-30°C ... +30°C
Power supply	2 x LS14500 (Loc-Ex® 01 / Loc 01 HC) 2 x AA / LR6 (Loc 01 SC)
Operating time	approx. 4 years (factory settings) (Loc-Ex® 01 / Loc 01 HC-continuous operation) approx. 2 years (factory settings) (Loc 01 SC-continuous operation)
Transmission power	max. 8 dBm
Dimensions	48 x 111 x 102 mm (H x L x W)
Weight	approx. 180 g (with batteries)
CE-designation	CE0102

Your automation, our passion.

Explosion Protection

- Intrinsic Safety Barriers
- Signal Conditioners
- FieldConnex® Fieldbus
- Remote I/O Systems
- Electrical Ex Equipment
- Purge and Pressurization
- Industrial HMI
- Mobile Computing and Communications
- HART Interface Solutions
- Surge Protection
- Wireless Solutions
- Level Measurement

Industrial Sensors

- Proximity Sensors
- Photoelectric Sensors
- Industrial Vision
- Ultrasonic Sensors
- Rotary Encoders
- Positioning Systems
- Inclination and Acceleration Sensors
- Fieldbus Modules
- AS-Interface
- Identification Systems
- Displays and Signal Processing
- Connectivity

Pepperl+Fuchs Quality

Download our latest policy here:

www.pepperl-fuchs.com/quality

