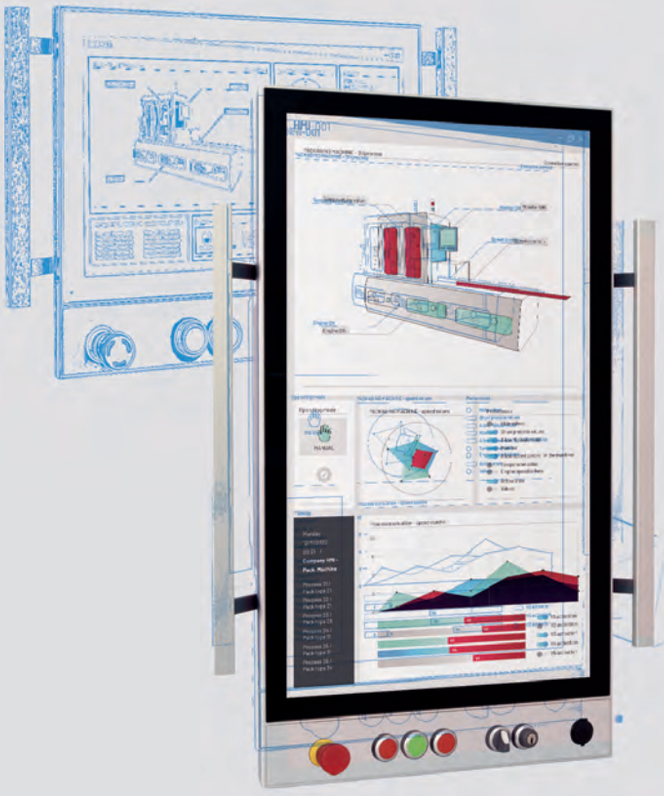
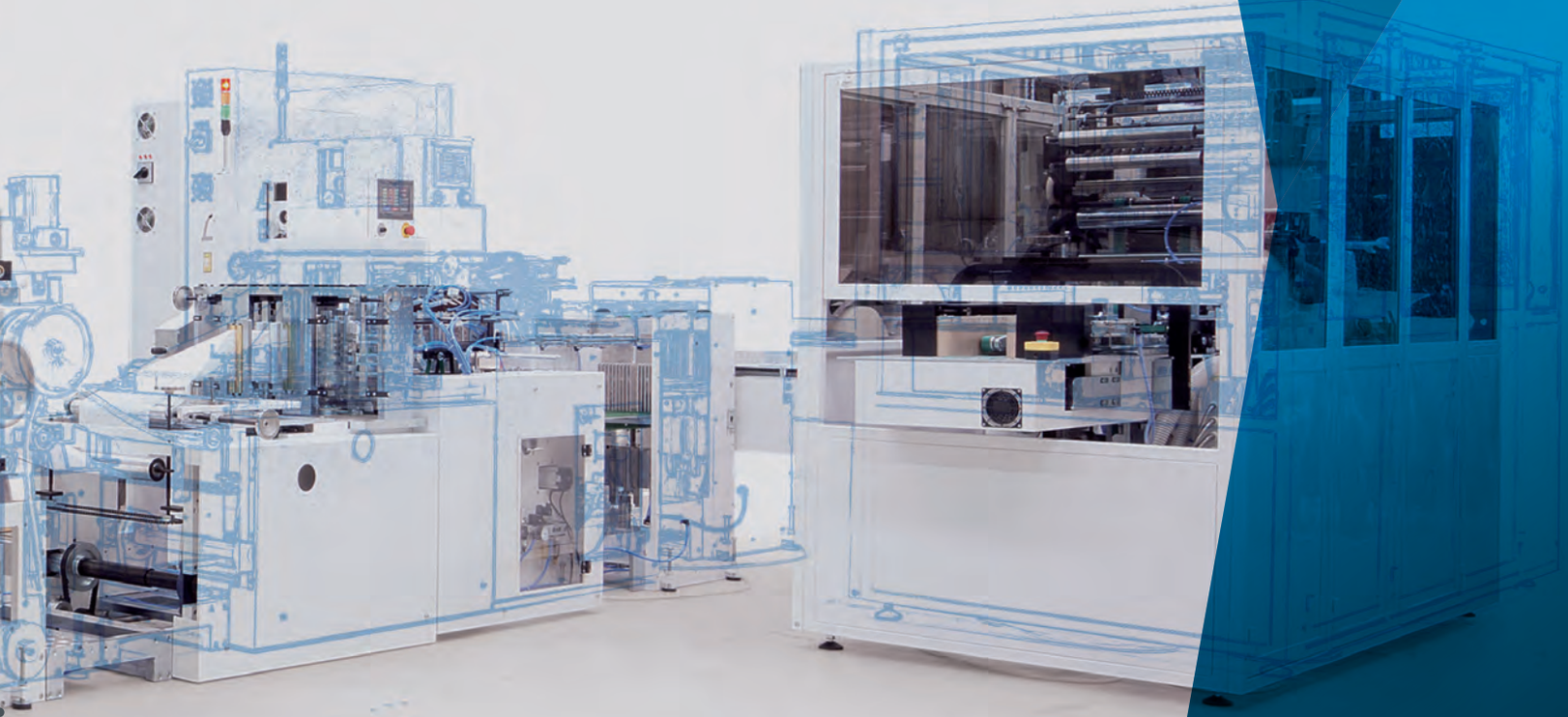


PC & MONITOR
FOR INDUSTRIAL APPLICATIONS



ASEM
A ROCKWELL AUTOMATION COMPANY

INDEX

MORE THAN 40 YEARS

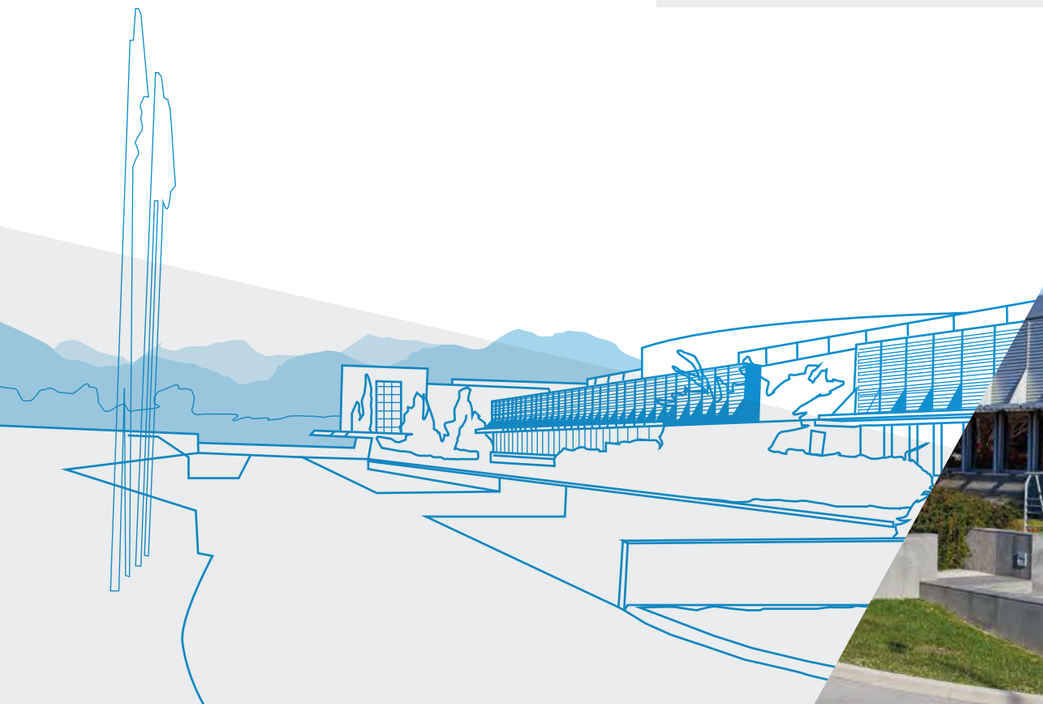
OF MADE-IN-ITALY INNOVATION

Founded in 1979, ASEM has actively operated through the entire information and digital technology evolution, continuously anticipating market changes and maturing an important wealth of expertise.

ASEM is an IPC market leader in Italy and has been a key player in the Industry 4.0 evolution for some time, with the integration of the UBIQUITY remote assistance software platform on all systems and then with the definition of the new HMI paradigm.

240 +
employees

30%
dedicated to R&D



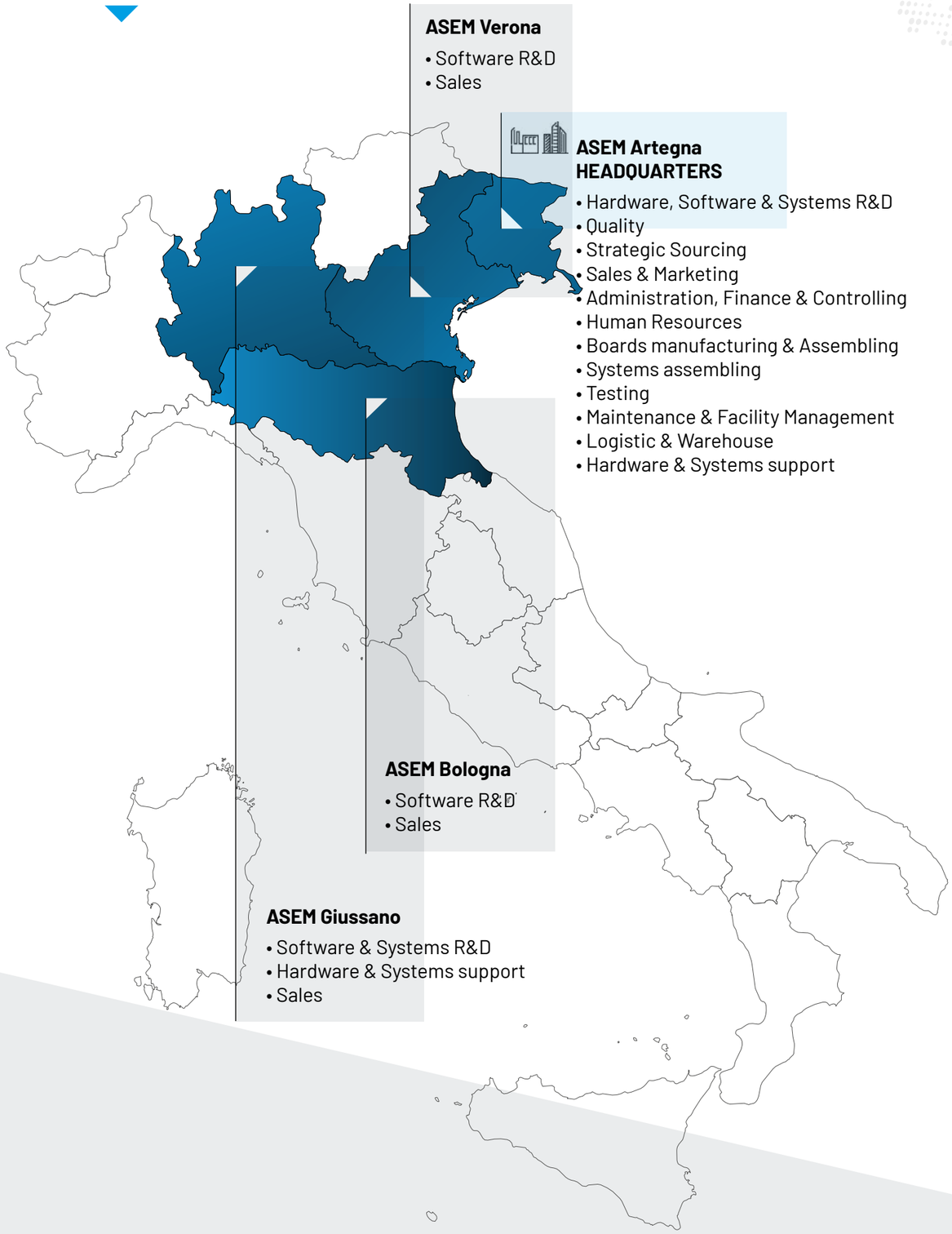
MILESTONES

1979 / 1982	Specialisation in Electronic Engineering	
1983 / 1992	Protagonist in the IT sector	
1993 / 2005	**LEADERSHIP IN THE INDUSTRIAL PC MARKET**	In the mid-'90s, ASEM is the first company in Italy that designs and produces Industrial PCs specifically addressed to the Industrial Automation market.
2006 / 2008	**MANUFACTURER OF AUTOMATION SYSTEMS**	Thanks to agreements with leading companies, ASEM offers the market the Premium HMI and CODESYS (softPLC) software platforms.
2010	Expansion in Europe	
2011 / 2012	**SOFTWARE AND REMOTE ASSISTANCE ERA**	The innovative UBIQUITY remote assistance software platform for remote access to supervision systems and automation devices is released.
2016	OPC UA in the PremiumHMI5 platform	
2019	**THE 4.0 REVOLUTION OF HMI IS REALITY**	The innovative UNIQO software platform, based on a "Full OPC UA" multi-platform framework, was released.
2020	**ASEM**	**A ROCKWELL AUTOMATION COMPANY**
2023	**CONVERGED ROADMAP**	FactoryTalk® Optix™: the new collaborative, cloud-based platform for HMI and Edge Computing applications is released

In 2020, ASEM joined the Rockwell Automation Group, the world's largest company dedicated to industrial automation and manufacturing information management, headquartered in Milwaukee (USA) and with a major presence in the EMEA, Asia Pacific and Latin America regions.

This allowed ASEM to grow in a global context and become the centre of excellence of the group for hardware, visualisation and integrated systems with application software.

LOCATIONS



ASEM Verona
- Software R&D
- Sales

ASEM Artegna
HEADQUARTERS
- Hardware, Software & Systems R&D
- Quality
- Strategic Sourcing
- Sales & Marketing
- Administration, Finance & Controlling
- Human Resources
- Boards manufacturing & Assembling
- Systems assembling
- Testing
- Maintenance & Facility Management
- Logistic & Warehouse
- Hardware & Systems support

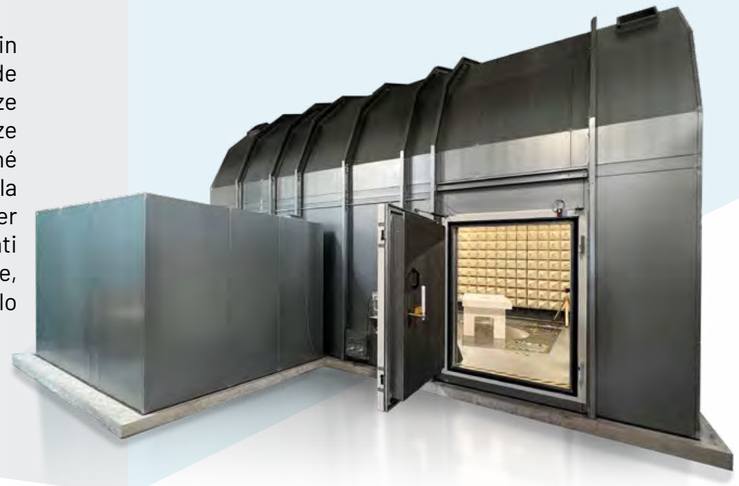
ASEM Bologna
- Software R&D
- Sales

ASEM Giussano
- Software & Systems R&D
- Hardware & Systems support
- Sales

ASEM | Rockwell Automation
- Sales
- Technical support

THE SEAMLESS INTEGRATION OF HARDWARE AND SOFTWARE TECHNOLOGIES IS KEY TO SUCCESS

Il 30% delle risorse umane di ASEM è impegnato in attività di Ricerca e Sviluppo. Il team comprende ingegneri altamente specializzati con competenze complementari che comprendono tutte le esigenze di progettazione elettronica e meccanica nonché quelle di sviluppo firmware e software. Dalla stretta collaborazione con i principali trendsetter tecnologici e dal confronto continuo con i clienti nascono le specifiche dell'architettura hardware, firmware, sistemistica e software di ogni singolo prodotto.



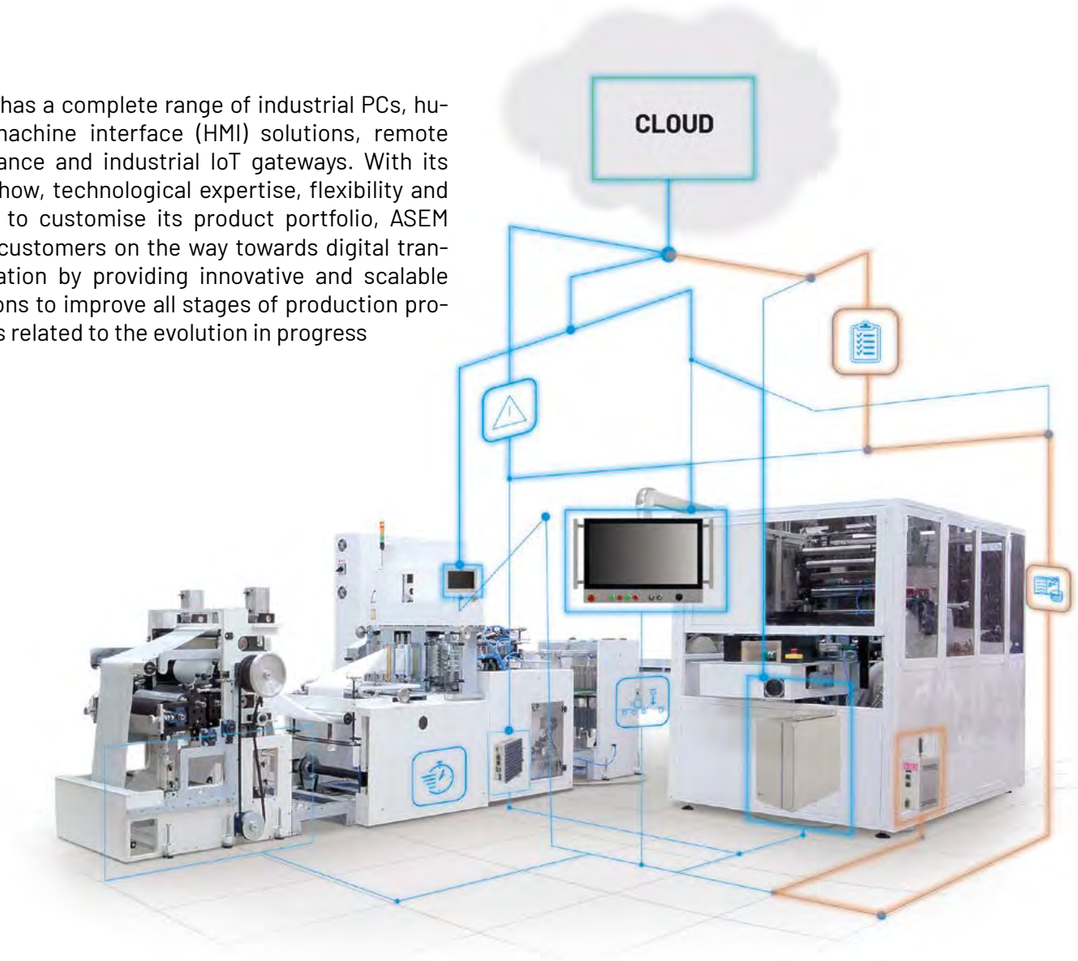
ANECHOIC CHAMBER

ASEM has made a major investment in product certification: the installation of a **full compliant anechoic chamber**.

The anechoic chamber allows for increased control throughout the design phase: any corrections and adjustments on prototypes can be carried out in extremely reduced time, eliminating shipping and logistics time with external entities.

MAXIMUM SYSTEM CONFIGURABILITY AND FLEXIBILITY

ASEM has a complete range of industrial PCs, human-machine interface (HMI) solutions, remote assistance and industrial IoT gateways. With its know-how, technological expertise, flexibility and ability to customise its product portfolio, ASEM leads customers on the way towards digital transformation by providing innovative and scalable solutions to improve all stages of production processes related to the evolution in progress

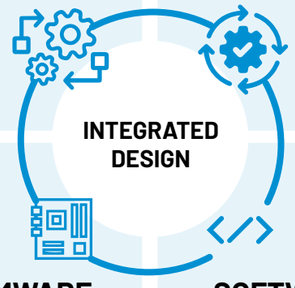


MECHANICAL DESIGN

- 3D modelling and simulation of mechanical assembly and coupling
- Analysis and thermal simulations for dissipation dimensioning
- Integration of mechanical and electronic CAD for more efficient and precise design

ELECTRONIC DESIGN

- Designing motherboards based on Intel® x86 and ARM NXP platforms
- Creation of PCB masters
- Verification of signal integrity through CAD simulation
- In-house laboratory for EMC compatibility testing



OPERATING SYSTEMS & FIRMWARE DEVELOPMENT

- Development, testing and customisation of operating systems for IPCs
- Development, testing and customisation of operating systems for ARM platforms
- Development and testing of drivers for x86 platforms
- Development and testing of BIOS for x86 platforms
- Configuration and testing of systems for real-time applications

SOFTWARE DEVELOPMENT WITH AGILE METHODOLOGY

- DevOps
- Extreme Programming (XP)
- Lean Software Development

HIGH-QUALITY PRODUCTION

ASEM manufactures and assembles its electronic boards, products and systems in its own industrial facilities in Artegna, covering a total area of over 8,500 square metres.

BOARD ASSEMBLY

- Acceptance and stock control (Kardex)
- Laser marking on PCB with board inverter
- B.O.M. (Component Selection & Management)
- Pick & Place machine programming
- 3 complete SMT lines
- Remelting furnaces (Ersa)
- Screen printers with integrated Post Print AOI (Ersa)
- Automatic assembly of PTH components
- Selective soldering machine for Through Hole technology
- Automatic PCB scoring machine using cutter on Cartesian spindle
- Visual board inspection
- X-ray inspection
- Functional Testing
- Power supply voltage test of boards with bed of nails
- Functional test of boards for eight hours (3 cycles)
- Active burn-in test (0°- 50° / 24H cycles)

SYSTEM ASSEMBLY

- B.O.M.
- System assembly (mechanical and electronic)
- Imaging of the operating system on mass memories
- Complete functional test of final system
- Run-in test (8H)
- Final Check & Packaging

PCS & MONITORS FOR INDUSTRIAL APPLICATIONS

FLEXIBILITY AND INNOVATION

ASEM offers a complete range of reliable, robust, highly configurable and expandable industrial PCs and monitors, with a panel, arm, wall or DIN-rail mounting arrangement to meet diverse market requirements.

All IPCs integrate UBIQUITY software for remote assistance and can optionally integrate UNIQO software to set up modern HMIs, IIoT gateways and Industry 4.0 applications or CODESYS software that transforms ASEM systems into powerful controllers.

SCALABLE PERFORMANCE, EXPANDABILITY AND CONFIGURATION

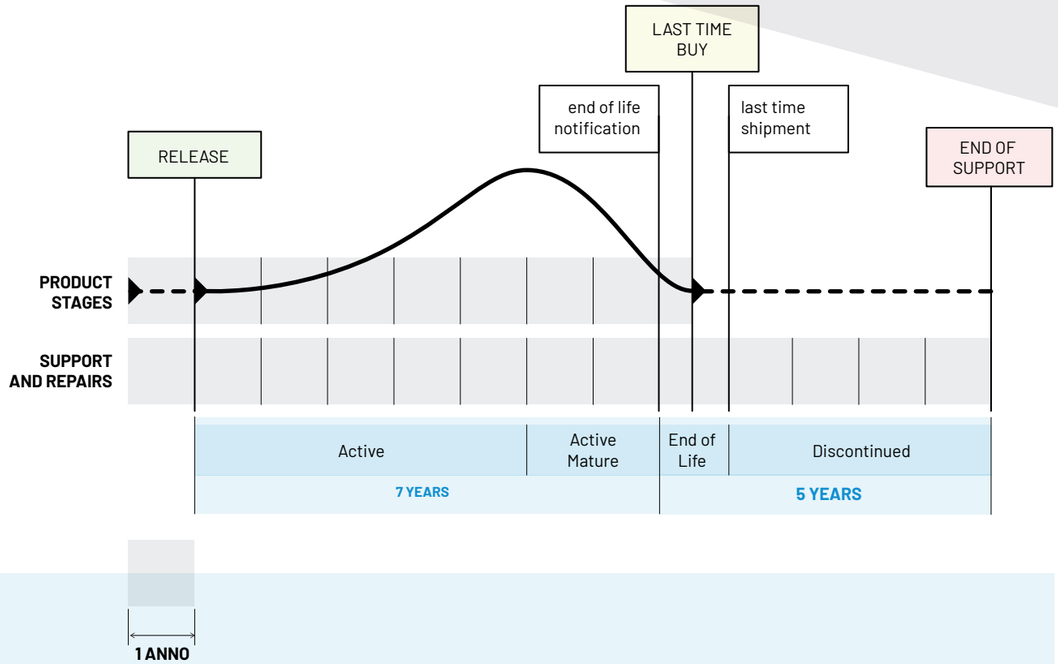
The market demands high-performance systems, more computational power, better graphics, integrated IIoT functionality and reduced power consumption. The ASEM IPCs use Intel® processors, ranging from low-power Atoms for entry-level applications, up to the highest performance eleventh-generation Intel® CoreTM processors for higher performance, next-generation graphics and integrated connectivity. The motherboards of the systems allow various levels of expandability in terms of communication interfaces and expansion slots and minimise internal wiring and connections to make the systems more reliable and resistant even to the potential vibrations typical of industrial environments.

CONNECTIVITY AND COMMUNICATION

To respond to multiple industrial applications, the need for communication between industrial networks and computer networks, and the most recent needs arising from the Industry 4.0 revolution, with increasingly connected and automated smart factories requiring advanced connections between MES systems, ERPs and production machines, ASEM offers systems equipped with wireless connectivity using combined Wi-Fi 5 and Bluetooth modules and 4G Global modems in addition to traditional connectivity through wired networks. Furthermore, TSN technology is integrated into the systems to ensure ultra-reliable low-latency machine-to-machine communications at Gigabit speeds, significantly contributing to improving the performance and efficiency of real-time processes. Optionally, UNIQO, the Full OPC UA cross-platform software platform, can be integrated into the systems for the developing HMI applications, IIoT and Industry 4.0 solutions capable of communicating with any automation device.

PRODUCT LIFE CYCLE

The superior design and production processes combined with close collaboration with technological trendsetters allow ASEM to guarantee a life cycle of at least 7 years for systems and repairability, with the availability of spare parts, for at least a further 5 years. End of Life, Last Time Buy and Last Time Shipment procedures are in place 6 months before the end of each product's life cycle.



Active Most current offering within a product category.

Active Mature Product is fully supported, but a newer product or family exists. Gain value by migrating.

End of Life Discontinued date announced - actively execute migrations and last time buys. Product generally orderable until the discontinued date.

Discontinued New product no longer manufactured or procured. Repair/exchange services will be available for a limited period of time.

DESIGN, ERGONOMICS AND RELIABILITY

The complete control of all stages of the production process, and over 40 years of experience in mechanical design and industrialisation allow ASEM to produce IPCs and industrial monitors with Italian-style design, with attention to every detail, and high reliability and durability. Chassis are generally made of galvanised steel, aluminium or stainless steel and are the result of industrialisation based on perfect integration between electronic boards and mechanical components and accurate thermodynamic and fluid-dynamic analyses.

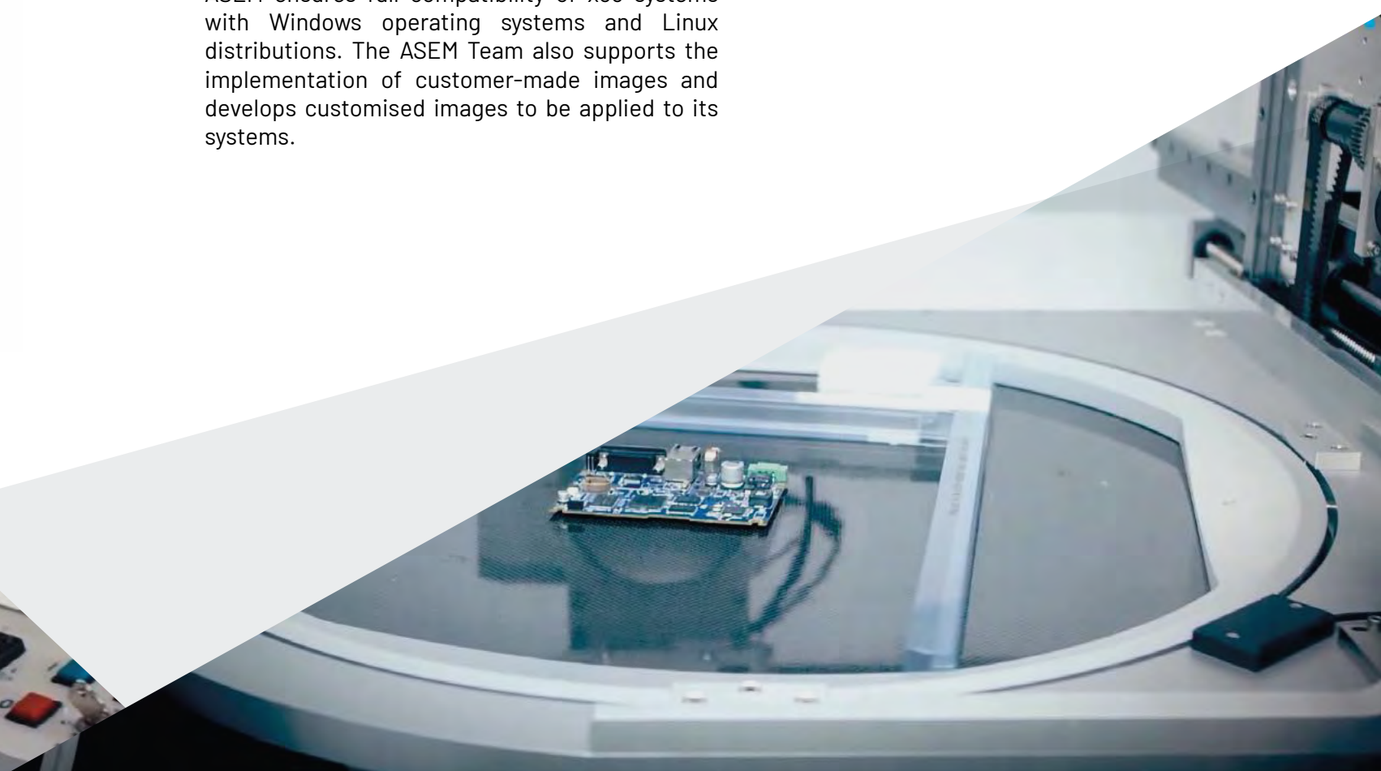
The complete control of all stages of the production process, and over 40 years of experience in mechanical design and industrialisation allow ASEM to produce IPCs and industrial monitors with Italian-style design, with attention to every detail, and high reliability and durability. Chassis are generally made of galvanised steel, aluminium or stainless steel and are the result of industrialisation based on perfect integration between electronic boards and mechanical components and accurate thermodynamic and fluid-dynamic analyses.

SYSTEM TRACEABILITY

The ASEM systems integrate “ASEM System Identity”, a non-volatile memory that contains system identification data in addition to customer data useful for system traceability.

OPERATING SYSTEMS

Operating systems are continuously updated and ASEM ensures full compatibility of x86 systems with Windows operating systems and Linux distributions. The ASEM Team also supports the implementation of customer-made images and develops customised images to be applied to its systems.



FRONT PANELS and TOUCHSCREENS

All ASEM panel-mounted systems are designed to meet any requirements aesthetic, ergonomic and robustness requirements and guarantee a degree of protection up to IP69K, making them the ideal solution for any application industrial.

LCDs are available with backlighted displays LED in 4:3, 5:4 and Wide aspect ratios, from 4.3" to 24", with resolutions up to Full HD.

The single CUT-OUT allows perfect interchange-ability between IPC panel families, monitors and operator panels. Front panels with QT CUT-OUT differ from front panels with HT and A/B CUTOUT because of the minimized frame, which has more modern design and sophisticated design.

ALUMINUM FRONT PANEL (ALU) AND RESISTIVE TOUCHSCREEN

Front panels made of anodized aluminum with protection rating IP65, against dust and water jets. These panels integrate a resistive 5-wire touchscreen, which provides high shock resistance and the ability to make pressure on the screen not only with the fingers, also with other objects such as a stylus, achieving a very high degree of precision. Panels having HT CUT-OUT provide a front-accessible USB interface.

TRUE FLAT ALUMINIUM FRONT PANELS (TF) AND RESISTIVE TOUCHSCREEN

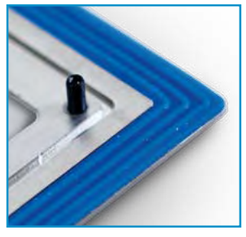
True Flat technology ensures a totally flat surface, without recesses, completely insulated from external agents and allows a greater ease of panel cleaning. This technology allows the seamless integration between touchscreen and bezel, making the front panel more pleasing to the touch and to the eye. These panels are made with a special manufacturing process within a clean room to avoid environmental contamination such as dust present in the air. The panels are completely sealed against the dust itself and protected against water jets thanks to the IP65 degree of protection and integrate a 5-wire resistive touchscreen. Just as the ALU panels, the TF panels having HT CUT-OUT provide a USB interface accessible frontally.

TRUE FLAT ALUMINIUM FRONT PANELS (TFM) WITH GLASS PROJECTED CAPACITIVE MULTITOUCH SCREEN

Wide format front panels with solid aluminum frame, surface of tempered glass with True Flat technology that gives maximum resistance to environmental conditions and facilitates cleaning. These panels integrate a multitouch projected capacitive touchscreen. The layer glass surface gives the screen greater brilliance and sharpness of images, greater scratch resistance and less of wear and tear. The user experience is more pleasant than with the touchscreen resistive due to the high touch sensitivity. The capacitive touchscreen allows you to interact with various elements on the screen through gestures typical of the mobile world, such as zoom, swipe, and rotate with high touch sensitivity and high level of precision. The touchscreen capacitive supports up to 10 simultaneous touches.

STAINLESS STEEL FRONT PANELS (TFK)AND RESISTIVE TOUCHSCREEN

Stainless steel front panels with an IP66K (TFX) and IP69K (TFK and TFMK), particularly suitable for the pharmaceutical and Food&Beverage market, where maximum protection is required against high pressure washing and against dust penetration. They are equipped with hygienic silicone seals, and the durable front film is specially designed to support numerous washing cycles.



The panels TFK and TFMK front panels are available in Wide aspect ratio while TFX front panels are available in 4:3 and 5:4 aspect ratios.

The TFX and TFK front panels include a resistive touchscreen while the TFMK panels integrate a multitouch projected capacitive touchscreen.

APPLICATION SOFTWARE

FOR REMOTE ASSISTANCE,
VISUALISATION, IIOT,
INDUSTRY 4.0 AND CONTROL

UBIQUITY

FT Optix™

PREMIUM HMI

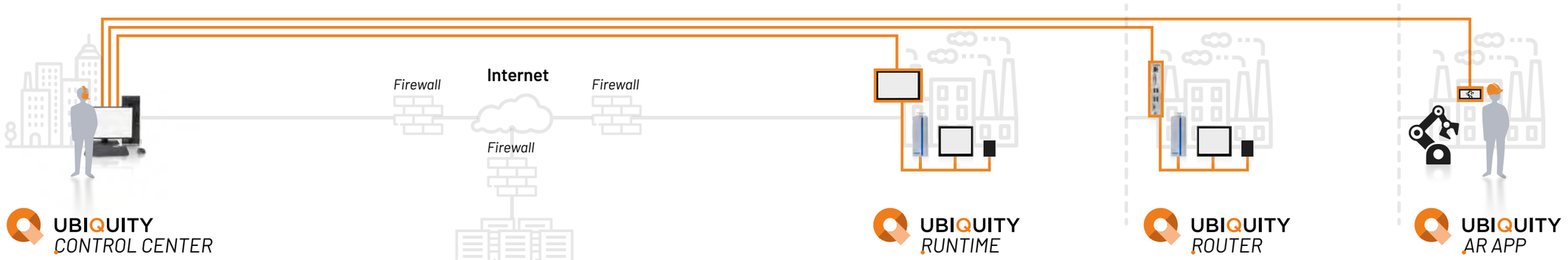
CODESYS

UBIQUITY

INTEGRATED REMOTE ASSISTANCE IN ALL IPCS

Comprehensive, secure and certified technology for remote assistance using interactive services and optimised VPN connection for access to the automation subnetwork.

DISCOVER UBIQUITY SOFTWARE SOLUTIONS AND FEATURES



UBIQUITY Server Infrastructure

Available both as a software solution for WinCE, Win32/64 and Linux systems and as an all-in-one router solution, also with a 4G Global Wi-Fi Modem and 4-port Ethernet switch. Installation does not require IT skills to configure the networks and various firewalls, the use of which is facilitated by a user-friendly interface that allows access to remote systems (PLCs, inverters, drives, etc.) with a simple click using a VPN optimised for industrial communications.

The solution allows the transparent management of remote systems as if they were connected to the customer's corporate network, bypassing the network administrator's intervention on any NATs, proxies, firewalls, public IPs or reserved ports, with the advantage of having all the company's expertise available to solve any arising problems, eliminating distances and the need for on-site travel and drastically slashing after-sales assistance costs. UBIQUITY is also particularly useful in the installation and commissioning phases of machinery to make changes and updates to application software and for the remote debugging of PLCs or other automation devices.

In recent years, ASEM has expanded the offerings of the UBIQUITY remote service platform by offering a set of closely related innovative services, called UBIQUITY X. Cloud-based and seamlessly integrated into the infrastructure, they help automated machine builders and industrial system integrators meet the emerging demands of manufacturing companies committed to transforming traditional factories into digital Smart Factories. The main service of UBIQUITY X is the possibility of assisting with the aid of augmented reality through the new "UBIQUITY AR" (Augmented Reality) application, available for iOS and Android devices, which amplifies the experience of both the operators of the automatic machines and the service technicians during remote assistance.

UBIQUITY has long since been certified as compliant with IEC 62443, which covers the IT security of industrial communications using the Internet as a transport medium, and also includes a two-factor authentication mode using standard apps for iOS and Android

FT Optix™

VISUALIZATION FOR VISIONARIES

The new collaborative, cloud-based platform for HMI and Edge Computing applications, changing the world of visualization in the era of digital transformation

DISCOVER SOLUTIONS AND FEATURES OF FactoryTalk® Optix™ SOFTWARE

It is the innovative software platform perfect to design modern, responsive HMIs with a high-level user experience, IIoT Gateways, Edge Computing applications and in general solutions related to Industry 4.0 needs.

Thanks to the fully modular and extremely flexible architecture developed with cross-platform technologies, FT Optix™ enables the creation of applications compatible with ARM and x86 platforms with Windows and Linux operating systems, providing maximum flexibility to designers, who can choose the platform that best suits the application.

FT Optix™ is part of the cloud-based **FactoryTalk® Design Hub™** suite, which allows the design team to collaborate on HMI application development through a distributed version control system, simplifying software management, increasing productivity and accelerating time to market.

CLOUD-BASED EDITOR AND COLLABORATIVE DEVELOPMENT

The new SaaS (Software-as-a-Service) model, which parallels the classic on-premise model, allows the development environment to be used directly from a browser at any time and from anywhere, lowering management costs and ensuring that the most up-to-date version available and even all previous versions are always used without the need for multiple local installations. Not only that, by leveraging a distributed version control system such as GitHub, developers can collaborate individually and in parallel, saving their own changes in the cloud and later sharing and merging them with others. The system automatically keeps track of who, what, and when the changes were made, allowing easy management of any conflict, all without the need for centralized private server support.

THE LICENSE AS A CONTAINER OF TOKENS

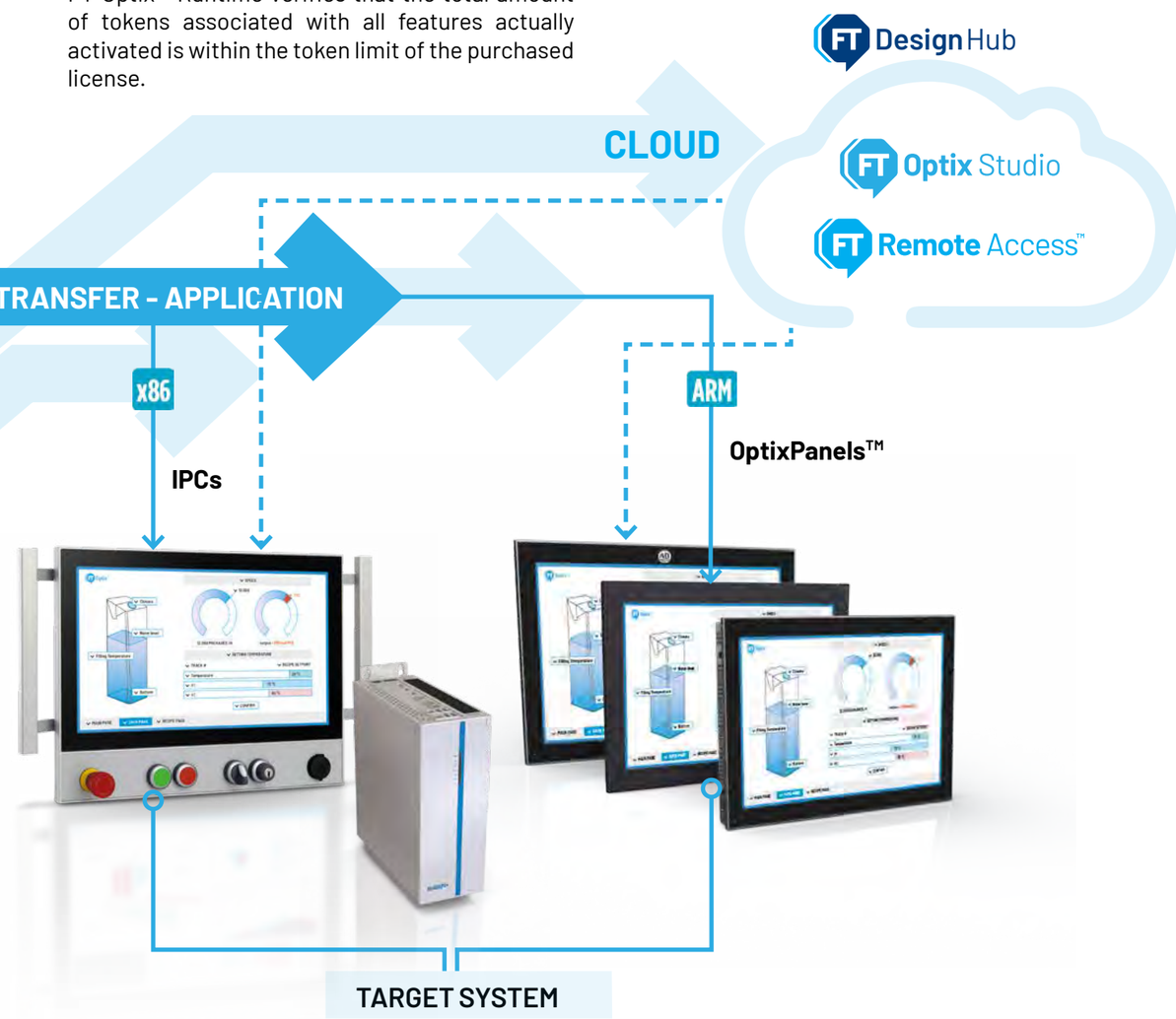
Each FT Optix™ Runtime license corresponds to a "token container" within which the designer can select and activate the functions necessary for application development. Each function has a token value associated with it, and some functions can be used for free without having a token cost. The selection of components and functions to be activated and used in the project is done at the time of programming with FT Optix™ Studio.

FT Optix™ Runtime verifies that the total amount of tokens associated with all features actually activated is within the token limit of the purchased license.

CROSS-PLATFORM SUPPORT

FT Optix™ Runtime licenses are available:

- for both Windows and Linux operating systems
- for x86 ASEM VK/ HT/QT/BM/PB platforms, ASEM 6300 and third-party systems
- for ARM platforms on OptixPanel™ embedded systems



PREMIUM HMI

SCALABLE, OPEN AND FLEXIBLE OPERATOR INTERFACES

With the Premium HMI software platform, ASEM has been marketing visualisation systems for some time now. The solutions are highly appreciated for the quantity and quality of the functions available and for the transversal nature of the platform allowing any one project to be used indifferently on HMI solutions based on ARM or x86 hardware platforms and with Runtime for WinCE or Win 32/64 operating systems without any need to modify or change settings in the "Premium HMI Studio" development tool. Several releases of this tried and tested platform have been released over the years. Since the 5.1 Premium version, HMI supports OPC UA Server functions for both Windows 32/64 and Windows CE systems. Premium HMI 5.1 is the optimal solution for the realisation of interoperable applications compatible with Industry 4.0 standards. A Premium HMI project can be conveniently configured to acquire field data through PLC communication protocols and the OPC UA client and then share it, through the OPC UA Server, with other systems or machines, to achieve optimal integration in the most heterogeneous scenarios. Premium HMI 5.1 supports the use of Active Directory services to authenticate HMI project users through direct interfacing with Domain Controllers, by simplifying the implementation of CFR 21 Part 11 compliant applications.

With the user-friendly object-oriented design, project debugging tools and the possibility of using a single development environment for any type of application (from the simplest on operator panels to the most complex on IPC panels or the most innovative on intelligent mobile devices), the Premium HMI it is easy to achieve significant time savings in learning, personnel training, maintenance, support and end-user service.

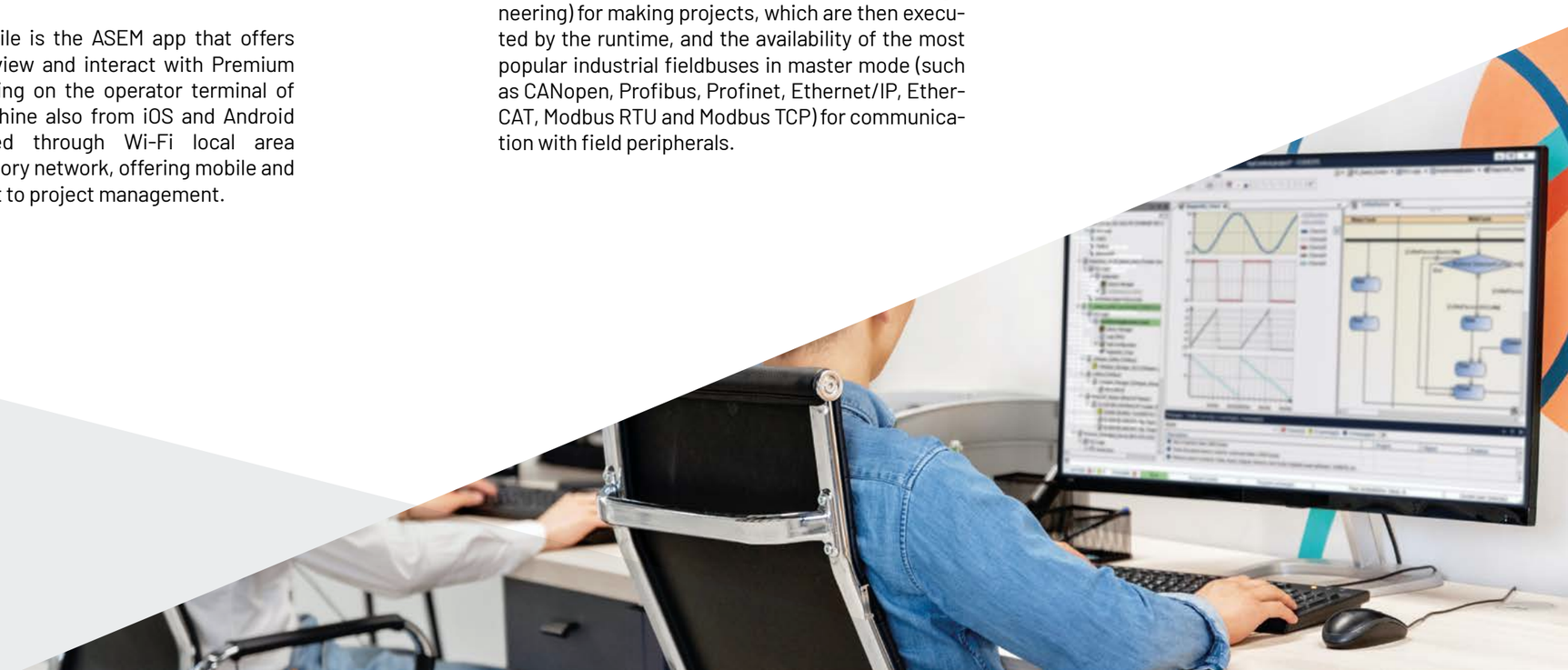
Premium HMI Mobile is the ASEM app that offers the possibility to view and interact with Premium HMI projects running on the operator terminal of the industrial machine also from iOS and Android devices connected through Wi-Fi local area network to the factory network, offering mobile and multitouch support to project management.

CODESYS

FLEXIBLE CONTROL OF PLC AND MOTION LOGIC IN A SINGLE DEVELOPMENT TOOL

CODESYS is a global standard in industrial automation and the world's number one SoftPLC platform, independent of multinational PLC manufacturers. Integrated into ASEM IPCs, it transforms systems into powerful IEC 61131-3 controllers with a highly efficient implementation of the 3.5 version that guarantees deterministic execution of PLC control logic with Win 32/64 and Linux operating systems and full portability of projects between different operating systems and hardware platforms with no need for intervening on the project code. The CODESYS platform, like all traditional PLCs, provides a development environment (CODESYS Engineering) for making projects, which are then executed by the runtime, and the availability of the most popular industrial fieldbuses in master mode (such as CANopen, Profibus, Profinet, Ethernet/IP, EtherCAT, Modbus RTU and Modbus TCP) for communication with field peripherals.

To ensure data flow traceability and information historisation, the ASEM IPCs optionally include a UPS power supply with integrated electronics and an external battery and 512Kb of MRAM (Magnetoresistive RAM) for storing retentive variables.



PORTFOLIO OVERVIEW

PRODUCT RATINGS

All products were evaluated according to three parameters:

PERFORMANCE | EXPANDABILITY | CONFIGURABILITY

PANEL IPCS

P. 34-54

IPC Panels are low-power, high-performance systems, available with a wide choice of TFT LCDs from 7" to 24" and various types of front panels. The wide range of IPCs can meet all performance, configurability and expandability requirements in the industrial environment.

QT2150 & HT2150 **p.34** | QT2200 & HT2200 **p.36** | QT2250 & HT2250 **p.40**

QT3400/3600 & HT3400/3600 **p.42** | QT3500 & HT3500 **p.46** | QT5400/5600 & HT5400/5600 **p.50**

BOX IPCS

P. 58-78

IPC boxes are systems for wall-mounted and book-mounted installations, which meet all performance and installation space requirements. They offer extensive expandability with a large number of accessories and interface expansion cards.

PB2150 & BM2150 **p.58** | PB2200 & BM2200 **p.60** | PB2250 & BM2250 **p.62**

BM3300 **p.64** | PB3400/3600 & BM3400/3600 **p.66** | PB3500 & BM3500 **p.70**

BM3800 **p.74** | PB5400/5600 **p.78**

ULTRA-COMPACT IPCS

P. 86-90

Ultra-compact IPCs are extremely ergonomic, robust systems that are ideal for applications in small spaces where high processing capacity is required.
The product range provides a wide configurability to meet the needs required in many IIoT scenarios.

BM1XY FAMILY **p.86**

ARM/VESA MOUNTING IPCS

P. 94

The arm mounting IPCs are fanless, compact, elegant systems that offer excellent performance and can be used in various industrial applications due to their high configurability. They are available with a customisable control area and various accessories that improve ergonomics, providing a wide range of customisation possibilities.

SERIE VK3500 **p.94**

RACK MOUNTING IPCS

P. 98

The rack mounting IPC 19" 4U devices offer high computing capacity and high reliability using heavy-duty motherboards for 24/7 industrial applications. They are available in long and short versions.

PR4XXX **p.98**

INDUSTRIAL MONITORS

P. 104-110

Industrial monitors have the same robust, reliable and aesthetic characteristics as IPC panels. They are available with different installation modes, with the possibility for some systems to integrate a configurable control area and various accessories. All monitors integrate RVL technology for remote DVI-D and USB 2.0 signals up to 100m.

MQ200 & MH200 **p.104** | SERIE MK200 **p.106** | MX200 **p.108**

PANEL IPCS

HIGH PERFORMANCES
LOW CONSUMPTION
EXTENSIVE CONFIGURABILITY
AND EXPANDABILITY

QT2150 & HT2150

7”-15.6”

DOWNLOAD THE PRODUCT SHEET

UBIQUITY INSIDE

Optix™ OPTIONAL

FANLESS

- TFT LCDs in 8.4”, 10.4”, 12.1”, 15” in 4:3 aspect ratio and 7”, 10.1”, 12.1”, 15.6” in Wide aspect ratio
- Aluminum (ALU) and aluminum True Flat (TF) front panels with resistive touchscreen
- Aluminum and glass True Flat panels with multitouch projected capacitive touchscreen (TFM)
- Intel® Celeron® processors of Bay Trail SoC generation
- RAM up to 8GB
- Built-in UPS with external battery pack (optional)
- Available in SL version with reduced depth and S0 version with the possibility to install additional interfaces

TECHNICAL DATA

		QT2150-ALU	QT2150-TFM	HT2150-ALU	HT2150-TF
LED BACKLIGHT TFT LCD		7” W - 800x480 10.1” W - 1280x800 12.1” W - 1280x800 15.6” W - 1366x768		7” W - 800x480 8.4” - 800x600 10.1” W - 1280x800 10.4” - 800x600 12.1” - 800x600 12.1” - 1024x768 12.1” W - 1280x800 15” - 1024x768 15.6” W - 1366x768	
CUT-OUT		QT		HT	
FRONT USB		-		1x USB 2.0 (Type-A), protected	
TOUCHSCREEN		Resistive 5 wires	P-CAP Multitouch	Resistive 5 wires	
FRONT PANEL	Material	Aluminum	True Flat Aluminum	Aluminum	True Flat Aluminum
	ASEM Logo	-		Adhesive label	Silk screen printed
PROTECTION GRADE	IP rating	IP65 - frontal			
	NEMA rating	UL Type 1, 4x (indoor only)		UL Type 1, 4x (indoor only) and 12	
CASE	Installation	Panel mounting			
	Material	Zinc-coated skin pass steel			
PROCESSOR (soldered on-board)		Intel® Celeron® J1900 2.00Ghz (2.30GHz Burst) • 4 cores / 4 threads • 2MB L2 cache • 22nm			
CHIPSET		Intel® Bay Trail • Included into processor chip (SoC)			
VIDEO CONTROLLER		Intel® HD Graphics for Intel Atom® processor Z3700 series • 688MHz/854MHZ			
SYSTEM MEMORY RAM		1GB or 2GB or 4GB or 8GB SODIMM DDR3L module			
MASS STORAGE	CFast	1x bootable CFast SATA II slot onboard with external access (up to 240GB)			
	SSD mSATA	1x onboard connector for direct insertion of mSATA SSD SATA II (up to 960GB)			
INTERFACES	LAN	2x Gigabit Ethernet (RJ45)			
	USB	1x USB 3.0 (Type-A) • 1x USB 2.0 (Type-A)			
	VIDEO	-			
ADD-ON INTERFACES (optional)	Position A (max 1) only S0 version and BM	1x RS232/422/485 (DB15M) + 1x USB 2.0 (Type-A) 1x RS232/422/485 (DB15M) isolated + 1x USB 2.0 (Type-A) 2x RS232/422/485 (DB9M) 2x RS232/422/485 optoisolated (DB9M) 1x USB 2.0 (Type-A) 2x USB 2.0 (Type-A) 1x Gigabit Ethernet (RJ45) + 1x USB 2.0 (Type-A) 1x Wi-Fi module (IEEE 802.11 a/b/g/n/ac, 2.4GHz/5GHz • Bluetooth 4.2) and/or 1x Cellular module (worldwide LTE Cat 4, GSM/GPRS, UMTS/HSPA coverage)			
POWER SUPPLY INPUT		24VDC (18÷32VDC) isolated			
POWER SUPPLY (optional)	UPS	UPS with external battery pack (Pb • 12V/2,5Ah) (separate mounting)			
	ATX only S0 version and BM w/o UPS	Kit for ATX mode power supply (push button, internal cable and connector for remote control)			
	ATX only BM w/ UPS	-			
BATTERY		1x CR2032 Internal access			
O.S. CERTIFIED		Microsoft Windows 7 Pro/Ultimate 32/64bit Microsoft Windows Embedded Standard 7E/7P 32/64 bit Microsoft Windows 10 IoT Enterprise 2016/2019 64 bit			
OPERATING TEMPERATURE		0°C ÷ 50°C			
STORAGE TEMPERATURE		-5°C ÷ 60°C			
OPERATING/STORAGE RELATIVE HUMIDITY		20% ÷ 90% RH (non-condensing)			
APPROVALS		CE RoHS UKCA cULus Listed			

QT2200 & HT2200

10.1”-24”

DOWNLOAD THE PRODUCT SHEET

UBIQUITY INSIDE

Optix OPTIONAL

CODESYS OPTIONAL

FANLESS

IP66K

(only TFX frontal)

*only TFM frontal

- TFT LCDs in 10.4”, 12.1” and 15” in 4:3 aspect ratio, 17” and 19” in 5:4 aspect ratio and 10.1”, 12.1”, 15.6”, 18.5”, 21.5”, 24” in Wide aspect ratio
- Aluminum (ALU), aluminum True Flat (TF) and stainless steel True Flat (TFX) front panels with resistive touchscreen
- Aluminum and glass True Flat panels with multitouch projected capacitive touchscreen (TFM)
- Intel® Celeron® processors of Bay Trail SoC generation
- RAM up to 8GB
- Built-in UPS with external battery pack (optional)
- Built-in supercapacitors µUPS, with 512kB MRAM for retentive data management (optional)
- Available in SL version with reduced depth, S0 version with the possibility to install additional interfaces and S1 version with PCI or PCIe expansion slot

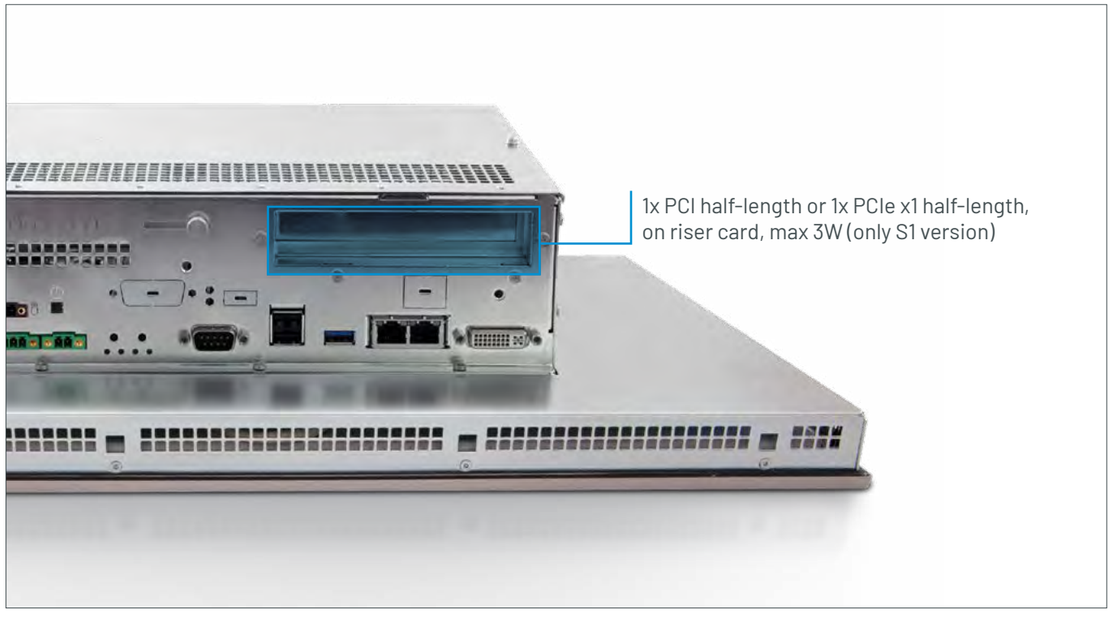
GALLERY

QT2200 & HT2200 - (SL Version)

QT2200 & HT2200 - (SO Version)

QT2200 & HT2200 - (S1 Version)

DETAIL - EXPANSION SLOTS



QT2200 & HT2200

TECHNICAL DATA

		QT2200 -ALU	QT2200 -TFM	HT2200 -ALU	HT2200 -TF	HT2200 -TFX
LED BACKLIGHT TFT LCD		12.1" W - 1280x800 15.6" W - 1366x768 15.6" W - 1920x1080 18.5" W - 1366x768 18.5" W - 1920x1080 21.5" W - 1920x1080 24"W - 1920x1080		10.1" W - 1280x800 (only SL) 10.4" - 800x600 12.1" - 800x600 12.1" - 1024x768 12.1" W - 1280x800 15.0" - 1024x768 15.6" W - 1366x768 15.6" W - 1920x1080 17" - 1280x1024 18.5" W - 1366x768 18.5" W - 1920x1080 19" - 1280x1024 21.5" W - 1920x1080 24"W - 1920x1080		12.1" - 800x600 12.1" - 1024x768 15.0" - 1024x768 17" - 1280x1024 19" - 1280x1024
CUT-OUT		QT		HT		
FRONT USB		-		1x USB 2.0 (Type-A), protected		-
TOUCHSCREEN		Resistive 5 wires	P-CAP Multitouch	Resistive 5 wires		
FRONT PANEL	**Material**	Aluminum	True Flat Aluminum	Aluminum	True Flat Aluminum	True Flat Stailness Steel
	ASEM Logo	-		Adhesive label	Silk-screen printed	
PROTECTION GRADE	**IP rating**	IP65 - frontal				IP66K - frontal
	NEMA rating	UL Type 1, 4x (indoor only)		UL Type 1, 4x (indoor only) and 12		
CASE	**Installation**	Panel mounting				
	Material	Zinc-coated skin pass steel				
PROCESSOR (soldered on-board)		Intel® Celeron® J1900 2.00GHz (2.42GHz Burst) • 64bit • 4 cores / 4 threads • 2MB L2 cache • 22nm				
CHIPSET		Intel® Bay Trail • Included into processor chip (SoC)				
VIDEO CONTROLLER		Intel® HD Graphics for Intel Atom® processor Z3700 series • 688MHz/854MHz				
WATCHDOG		Programmable time period				
TPM		Discrete TPM 2.0 module (optional)				
SYSTEM MEMORY RAM		1GB or 2GB or 4GB or 8GB (1x SODIMM DDR3L module)				
MASS STORAGE (SSD mSATA and SSD/HDD are alternative to each other)	**Cfast**	1x bootable CFast SATA II slot onboard with external access (up to 240GB)				
	SSD mSATA	1x onboard connector for direct insertion of SSD mSATA SATA II (up to 960GB)				
	SSD/HDD only S0/S1 versions	1x onboard connectors for SSDs/HDDs 2.5" SATA II with internal installation kit				
INTERFACES	**LAN**	2x Gigabit Ethernet (RJ45)				
	USB	2x USB 2.0 (Type-A) • 1x USB 3.0 (Type-A)				
	SERIAL	1x RS232 (DB9M)				
	VIDEO	1x DVI-I (Resolution up to 1920x1080 • VGA adapter included)				
ADD-ON INTERFACES (optional) not available for SL version	**Position A (max 1)**	1x RS232/422/485 (DB15M) + 1x USB 2.0 (Type-A) 1x RS232/422/485 (DB15M) isolated + 1x USB 2.0 (Type-A) 2x RS232 (DB9M) 2x USB 2.0 (Type-A)				
	Position B (max 1)	1x Gigabit Ethernet (RJ45) 1x Wi-Fi module (IEEE 802.11 a/b/g/n/ac, 2.4GHz/5GHz • Bluetooth 4.2)[1] and/or 1x Cellular module (worldwide LTE Cat 4, GSM/GPRS, UMTS/HSPA coverage)[1]				
EXPANSION SLOTS	**only S1 version**	1x PCI half-length or 1x PCIe x1 half-length, on riser card, max 3W				
POWER SUPPLY INPUT		24VDC (18÷32VDC) isolated				
POWER SUPPLY (optional)	**UPS Backside mounting not available for SL version**	UPS with external battery pack (Pb • 12V/2,5Ah) (backside or separate mounting)				
	UPS + 512kB MRAM Backside mounting not available for SL version	UPS with external battery pack (Pb • 12V/2,5Ah) + 512kB MRAM (backside or separate mounting)				
	µUPS + 512kB MRAM	Supercapacitors µUPS + 512kB MRAM				
	ATX only S0/S1 versions	Kit for ATX mode power supply (push button, internal cable and connector for remote control)				

TECHNICAL DATA

	QT2200 -ALU	QT2200 -TFM	HT2200 -ALU	HT2200 -TF	HT2200 -TFX
BATTERY	1x CR2032 Internal access				
O.S. CERTIFIED	Microsoft Windows 7 Pro/Ultimate 32/64bit Microsoft Windows Embedded Standard 7E/7P 32/64 bit Microsoft Windows 10 IoT Enterprise 2016/2019 64bit (2019 version not compatible with CODESYS)				
OPERATING TEMPERATURE	0°C ÷ 50°C 0°C ÷ 45°C (24x7 HDD or Intel® Core™ i7 processor) 5°C ÷ 45°C (Standard HDD)				
STORAGE TEMPERATURE	-10°C ÷ 60°C				
OPERATING/STORAGE RELATIVE HUMIDITY	20% ÷ 90% RH (non-condensing)				
APPROVALS	CE RoHS UKCA UL 508	CE RoHS UKCA UL 508 ATEX zone 2/22 [2]	CE RoHS UKCA UL 508		

1. Wi-Fi and Cellular modules cannot be used if CODESYS SoftPLC control software is installed on the system.
2. ATEX certification is ensured only without UPS, microUPS, power supply variants, UPS battery kit options and wireless modules

QT2250 & HT2250

7”-24”

DOWNLOAD THE PRODUCT SHEET

UBIQUITY INSIDE

Optix™ OPTIONAL

FANLESS

IP69K

(only TFK frontal)

- TFT LCDs in 10.4”, 12.1”, 15” in 4:3 aspect ratio, 17” and 19” in 5:4 aspect ratio and 7”, 10.1”, 12.1”, 15.6”, 18.5”, 21.5”, 24” in Wide aspect ratio
- Aluminum (ALU) and aluminum True Flat (TF) front panels with resistive touchscreen
- Aluminum and glass True Flat panels with multitouch projected capacitive touchscreen (TFM)
- Stainless steel (AISI 304L) True Flat (TFK) front panel with resistive touchscreen
- Intel Atom® x5 and x7 processors of Apollo Lake SoC generation
- RAM up to 8GB
- Available in SL version with reduced depth and S0 version with the possibility to install additional interfaces

TECHNICAL DATA

		QT2250-ALU	QT2250-TFM	QT2250-TFK	HT2250-ALU	HT2250-TF
LED BACKLIGHT TFT LCD		7” W - 800x480 10.1” W - 1280x800 12.1” W - 1280x800 15.6” W - 1366x768 15.6” W - 1920x1080 18,5” W - 1366x768 18.5” W - 1920x1080 21.5” W - 1920x1080 24” W - 1920x1080			10.4” - 800x600 12.1” - 800x600 12.1” - 1024x768 15” - 1024x768 17” - 1280x1024 19” - 1280x1024	
CUT-OUT		QT			HT	
FRONT USB		-			1x USB 2.0 (Type-A), protected	
TOUCHSCREEN		Resistive 5 wires	P-CAP Multitouch	Resistive 5 wires		
FRONT PANEL	**Material**	Aluminum	True Flat Aluminum	True Flat Stainless Steel	Aluminum	True Flat Aluminum
	ASEM Logo	-			Adhesive label	Silk screen printed
PROTECTION GRADE	**IP rating**	IP65 - frontal		IP69K - frontal	IP65 - frontal	
	NEMA rating	UL Type 1, 4x (indoor only)			UL Type 1, 4x (indoor only) and 12	
CASE	**Installation**	Panel mounting				
	Material	Zinc-coated skin pass steel				
PROCESSOR (soldered on-board)		Intel Atom® x5-E3930 1.30Ghz (1.80Ghz Burst) • 64bit • 2 cores / 2 threads • 2MB L2 cache • 14nm Intel Atom® x7-E3950 1.60Ghz (2.00Ghz Burst) • 64bit • 4 cores / 4 threads • 2MB L2 cache • 14nm				
CHIPSET		Intel® Apollo Lake • Included into processor chip (SoC)				
VIDEO CONTROLLER		Intel® HD Graphics 500 integrated in x5-E3930 processor • 400MHz/550MHZ Intel® HD Graphics 505 integrated in x7-E3950 processor • 500MHz/650MHZ				
TPM		Intel® PTT (TPM integrated) • Discrete TPM 2.0 module (optional)				
SYSTEM MEMORY RAM	**with x5-E3930**	4GB LP-DDR4 module				
	with x7-E3950	4GB or 8GB LP-DDR4 module				
MASS STORAGE	**CFast**	1x bootable CFast SATA III slot onboard with external access (up to 240GB)				
	M.2 SSD	1x onboard connector for direct insertion of M.2 2242 SATA III SSD (up to 480GB)				
INTERFACES	**LAN**	2x Gigabit Ethernet (RJ45)				
	USB	3x USB 3.0 (Type-A)				
	VIDEO	1x DisplayPort++ V1.2				
ADD-ON INTERFACES (optional)	**Position A (max 1) only S0 version and BM**	2x RS232/422/485 (DB9M) 2x RS232/422/485 optoisolated (DB9M) 1x RS232/422/485 (DB15M) + 1x USB 2.0 (Type-A) 1x RS232/422/485 (DB15M) isolated + 1x USB 2.0 (Type-A) 2x USB 2.0 (Type-A) 1x Gigabit Ethernet (RJ45) + 1x USB 2.0 (Type-A)				
POWER SUPPLY INPUT		24VDC (18÷32VDC) isolated				
POWER SUPPLY (optional)	**UPS**	UPS with external battery pack (NiMH • 12V/2,5Ah) (backside or separate mounting)				
	ATX only S0 version and BM	Kit for ATX mode power supply (push button, internal cable and connector for remote control)				
BATTERY		1x CR2032 Internal access				
O.S. CERTIFIED		Microsoft Windows 10 IoT Enterprise 2019 64 bit				
OPERATING TEMPERATURE		0°C ÷ 50°C				
STORAGE TEMPERATURE		-5°C ÷ 60°C				
OPERATING/STORAGE RELATIVE HUMIDITY		20% ÷ 90% RH (non-condensing)				
APPROVALS		CE RoHS UKCA cULus Listed				

QT3400/3600 & HT3400/3600

12.1"-24"

DOWNLOAD THE PRODUCT SHEET

UBIQUITY INSIDE

Optix OPTIONAL

CODESYS OPTIONAL

FANLESS

RVL OPTIONAL

IP66K

(only TFX frontal)

*only TFM frontal

- TFT LCDs in 12.1" and 15" in 4:3 aspect ratio, 17" and 19" in 5:4 aspect ratio and 12.1", 15.6", 18.5", 21.5", 24" in Wide aspect ratio
- Aluminum (ALU) and aluminum True Flat (TF) front panels with resistive touchscreen
- Aluminum and glass True Flat panels with multitouch projected capacitive touchscreen (TFM)
- Stainless steel True Flat (TFX) front panels with resistive touchscreen
- Intel® Celeron®, Core™ i3, i5, i7 processors of Skylake and Kaby Lake generation
- RAM up to 32GB
- Built-in UPS with external battery pack (optional)
- Built-in supercapacitors µUPS, with 512kB MRAM for retentive data management (optional)
- Available in S0, S1 and S2 version, with possibility to install additional interfaces, PCI/PCIe expansion slots and extractable drives slots for 2,5" SSDs/HDDs
- Available with additional RVL (Remote Video Link) interface for remotation of the DVI-D and USB 2.0 signals up to 100m (optional)

GALLERY

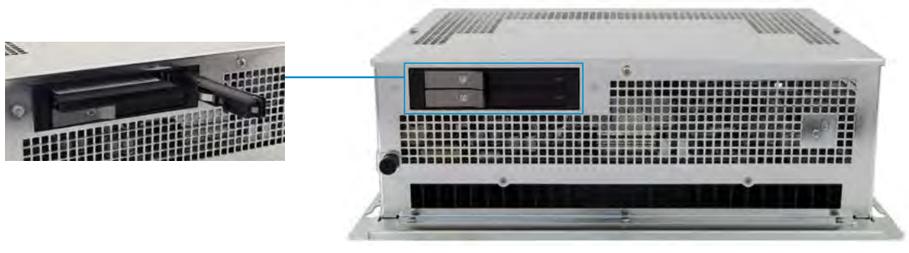
QT3400/3600 & HT3400/3600 - (S0 Version)

QT3400/3600 & HT3400/3600 - (S1 Version)

QT3400/3600 & HT3400/3600 - (D2 Version)

DETAIL - EXTRACTABLE DRIVES SLOT

Extractable drives slot available only for D2 Version



COMPARISON TABLE

	QT3400/3600 & HT3400/3600		
	S0	**S1**	**D2**
ADD-ON INTERFACES (optional)	✓	✓	✓
EXPANSION SLOTS PCI/PCIe	✗	1	✗
INTERNAL INSTALLATION KIT for SSDs/HDDs 2,5" SATA III	1	1	✗
EXTRACTABLE DRIVES SLOT for SSDs/HDDs 2.5" SATA III	✗	✗	2

TECHNICAL DATA

		QT3400/3600 -ALU	QT3400/3600 -TFM	HT3400/3600 -ALU	HT3400/3600 -TF	HT3400/3600 -TFX
LED BACKLIGHT TFT LCD		15.6" W - 1366x768 15.6" W - 1920x1080 18.5" W - 1366x768 18.5" W - 1920x1080 21.5" W - 1920x1080 24"W - 1920x1080		12.1" - 800x600 12.1" - 1024x768 12.1" W - 1280x800 (not for D2 version) 15" - 1024x768 15.6" W - 1366x768 15.6" W - 1920x1080 17" - 1280x1024 18.5" W - 1366x768 18.5" W - 1920x1080 19" - 1280x1024 21.5" W - 1920x1080 24"W - 1920x1080		12.1" - 800x600 12.1" - 1024x768 15.0" - 1024x768 17" - 1280x1024 19" - 1280x1024
CUT-OUT		QT		HT		
FRONT USB		-		1 x USB 2.0 (Type-A), protected		-
TOUCHSCREEN		Resistive 5 wires	P-CAP Multitouch	Resistive 5 wires		
FRONT PANEL	**Material**	Aluminum	True Flat Aluminum	Aluminum	True Flat Aluminum	True Flat Stainless Steel
	ASEM Logo	-		Adhesive label	Silk-screen printed	
PROTECTION GRADE	**IP rating**	IP65 - frontal				IP66K - frontal
	NEMA rating	UL Type 1, 4x (indoor only)		UL Type 1, 4x (indoor only) and 12		
CASE	**Installation**	Panel mounting				
	Material	Zinc-coated skin pass steel				
PROCESSOR (soldered on-board)	**xx3400**	Intel® Celeron® G3900E 2.40GHz 64bit • 2 cores / 2 threads • 2MB Smart cache • 14nm Intel® Core™ i3-6100E 2.70GHz 64bit • 2 cores / 4 threads • 3MB Smart cache • 14nm Intel® Core™ i5-6440EQ 2.70GHz (3.40GHz Turbo) 64bit • 4 cores / 4 threads • 6MB Smart cache • 14nm Intel® Core™ i7-6820EQ 2.80GHz (3.50GHz Turbo) 64bit • 4 cores / 8 threads • 8MB Smart cache • 14nm				
	xx3600	Intel® Core™ i3-7100E 2.90GHz 64bit • 2 cores / 4 threads • 3MB Smart cache • 14nm Intel® Core™ i5-7440EQ 2.90GHz (3.60GHz Turbo) 64bit • 4 cores / 4 threads • 6MB Smart cache • 14nm Intel® Core™ i7-7820EQ 3.00GHz (3.70GHz Turbo) 64bit • 4 cores / 8 threads • 8MB Smart cache • 14nm				
CHIPSET	**xx3400**	Intel® HM170 PCH (Platform Controller Hub) with integrated RAID controller				
	xx3600	Intel® HM175 PCH (Platform Controller Hub) with integrated RAID controller				
	S2 version with 2x PCIe x4	-				
VIDEO CONTROLLER	**xx3400**	Intel® HD Graphics 510 integrated in Intel® Celeron® processor • 350MHz/950MHz Intel® HD Graphics 530 integrated in Intel® Core™ i3 processor • 350MHz/950MHz Intel® HD Graphics 530 integrated in Intel® Core™ i5 and i7 processors • 350MHz/1GHz				
	xx3600	Intel® HD Graphics 630 integrated in Intel® Core™ i3 processor • 350MHz/950MHz Intel® HD Graphics 630 integrated in Intel® Core™ i5 and i7 processors • 350MHz/1GHz				
WATCHDOG		Programmable time period				
TPM		Intel® PTT (TPM integrated) • Discrete TPM 2.0 module (optional)				
SYSTEM MEMORY RAM		4GB (1x 4GB SODIMM DDR4 module) 8GB (2x 4GB SODIMM DDR4 module) 16GB (2x 8GB SODIMM DDR4 module) 32GB (2x 16GB SODIMM DDR4 module)				
MASS STORAGE	**Cfast**	1x bootable CFast SATA III slot onboard with external access (up to 240GB)				
	SSD mSATA	1x onboard connector for direct insertion of SSD mSATA SATA III (up to 960 GB)				
	SSD/HDD	1x onboard connector for SSD/HDD 2,5" SATA III with internal installation kit				
EXTRACTABLE MASS STORAGE	**only D1 version**	-				
	only D2 version	2x extractable SSDs/HDDs 2.5" SATA III units				
RAID	**only D2 version and BM S2 D0 version**	Raid 0, 1				

TECHNICAL DATA

		QT3400/3600 -ALU	QT3400/3600 -TFM	HT3400/3600 -ALU	HT3400/3600 -TF	HT3400/3600 -TFX
INTERFACES	**LAN**	4x Gigabit Ethernet (RJ45)				
	USB	3x USB 3.0 (Type-A) • 2x USB 2.0 (Type-A)				
	SERIAL	1x RS232 (DB9M)				
	VIDEO	1x DVI-D (Resolution up to 1920x1080)				
ADD-ON INTERFACES (optional)	**Position A (max 1)**	1x RS232/422/485 (DB15M) + 1x USB 2.0 (Type-A) 1x RS232/422/485 (DB15M) isolated + 1x USB 2.0 (Type-A) 2x RS232/422/485 (DB9M) 2x RS232/422/485 optoisolated (DB9M) 2x USB 2.0 (Type-A)				
	Position B (max 1)	1x or 2x RJ45 connectors for RVL 2x DisplayPort++ V1.2 1x Gigabit Ethernet (RJ45) 1x Wi-Fi module (IEEE 802.11 a/b/g/n/ac, 2.4GHz/5GHz • Bluetooth 4.2)[1] and/or 1x Cellular module (worldwide LTE Cat 4, GSM/GPRS, UMTS/HSPA coverage)[1]				
EXPANSION SLOTS	**only S1 version**	1x PCI half-length or 1x PCIe x4 half-length, on riser card, max 5W				
	only S2 version	-				
POWER SUPPLY INPUT		24VDC (18÷32VDC) isolated				
POWER SUPPLY (optional)	**UPS**	UPS with external battery pack (Pb • 12V/2.5Ah) (backside or separate mounting)				
	UPS + 512kB MRAM	-				
	µUPS + 512kB MRAM	Supercapacitors µUPS + 512kB MRAM				
	ATX	Kit for ATX mode power supply (push button, internal cable and connector for remote control)				
BATTERY		1x CR2032 Internal access				
O.S. CERTIFIED	**xx3400**	Microsoft Windows 10 IoT Enterprise 2019/2016 64 bit Microsoft Windows 7 Pro/Ultimate 32/64 bit Microsoft Windows Embedded Standard 7E/7P 32/64 bit				
	xx3600	Microsoft Windows 10 IoT Enterprise 2019/2016 64 bit				
OPERATING TEMPERATURE	**without forced ventilation**	0°C ÷ 50°C 0°C ÷ 45°C (24x7 HDD or Intel® Core™ i7 processor) 5°C ÷ 45°C (Standard HDD)				
	with forced ventilation (only S2 version)	-				
STORAGE TEMPERATURE		-10°C ÷ 60°C				
OPERATING/STORAGE RELATIVE HUMIDITY		20% ÷ 90% RH (non-condensing)				
FORCED VENTILATION (optional)		-				
APPROVALS		CE RoHS UKCA cULus Listed	CE RoHS UKCA cULus Listed ATEX zone 2/22 [2]	CE RoHS UKCA cULus Listed		

1. Wi-Fi and Cellular modules cannot be used if CODESYS SoftPLC control software is installed on the system.
2. ATEX certification is ensured only without UPS, microUPS, power supply variants, UPS battery kit options and wireless modules.
3. MicroUPS+512kB MRAM is not compatible with 2x HDD/SSD option for BM3400/3600 S0 D2

QT3500 & HT3500

12.1”-24”

DOWNLOAD THE PRODUCT SHEET

UBIQUITY INSIDE

Optix™ OPTIONAL

FANLESS

RVL 100m OPTIONAL

- TFT LCDs in 12.1” and 15” in 4:3 aspect ratio, 17” and 19” in 5:4 aspect ratio and 12.1”, 15.6”, 18.5”, 21.5”, 24” in Wide aspect ratio
- Aluminum (ALU) and aluminum True Flat (TF) front panels with resistive touchscreen
- Aluminum and glass True Flat panels with multitouch projected capacitive touchscreen (TFM)
- Stainless steel True Flat (TFX) front panels with resistive touchscreen
- Intel® Celeron®, Core™ i3, i5, i7 processors of Kaby Lake generation
- RAM up to 16GB
- Built-in UPS with external battery pack (optional)
- Available in SL version with reduced depth, S0 version with the possibility to install additional interfaces and S1 version with one PCI or PCIe expansion slot
- Available with additional RVL (Remote Video Link) interface for remotation of the DVI-D and USB 2.0 signals up to 100m (optional)

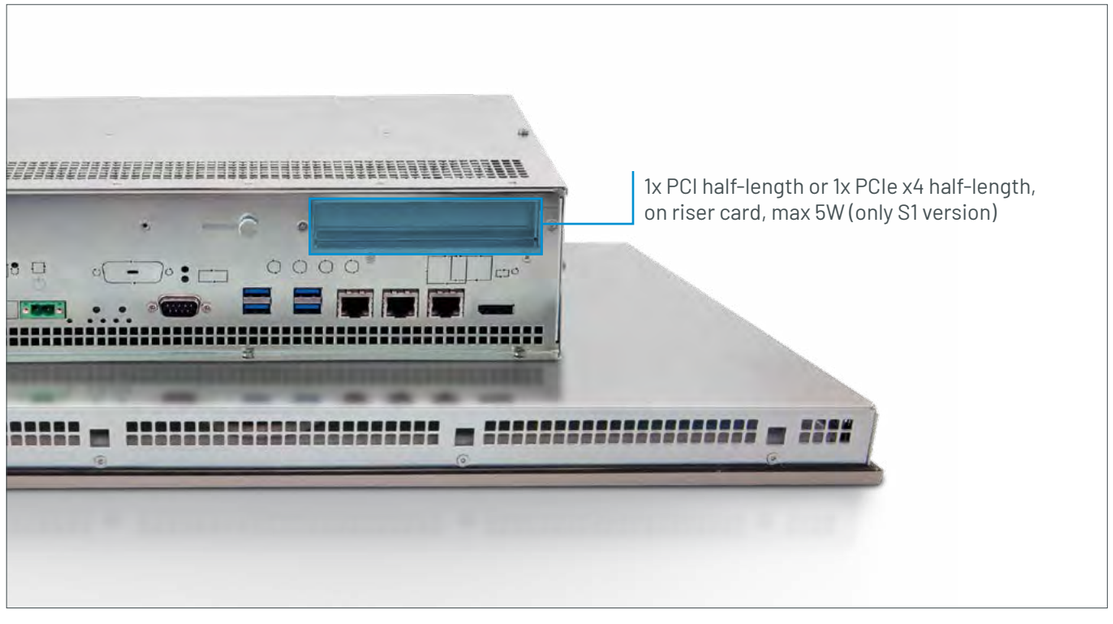
GALLERY

QT3500 & HT3500 - (SL Version)

QT3500 & HT3500 - (S0 Version)

QT3500 & HT3500 - (S1 Version)

DETAIL - EXPANSION SLOTS



TECHNICAL DATA

		QT3500 -ALU	QT3500 -TFM	HT3500 -ALU	HT3500 -TF	HT3500 -TFX
LED BACKLIGHT TFT LCD		15.6" W - 1366x768 15.6" W - 1920x1080 18.5" W - 1366x768 18.5" W - 1920x1080 21.5" W - 1920x1080 24"W - 1920x1080		12.1" - 800x600 12.1" - 1024x768 12.1" W - 1280x800 15" - 1024x768 15.6" W - 1366x768 15.6" W - 1920x1080 17" - 1280x1024 18.5" W - 1366x768 18.5" W - 1920x1080 19" - 1280x1024 21.5" W - 1920x1080 24"W - 1920x1080		12.1" - 800x600 12.1" - 1024x768 15" - 1024x768 17" - 1280x1024 19" - 1280x1024
CUT-OUT		QT		HT		
FRONT USB		-		1 x USB 2.0 (Type-A), protected		-
TOUCHSCREEN		Resistive 5 wires	P-CAP Multitouch	Resistive 5 wires		Resistive 5 wires
FRONT PANEL	**Material**	Aluminum	True Flat Aluminum	Aluminum	True Flat Aluminum	True Flat Stainless Steel
	ASEM Logo	-		Adhesive label	Silk-screen printed	Silk-screen printed
PROTECTION GRADE	**IP rating**	IP65 - frontal				IP66K - frontal
	NEMA rating	UL Type 1, 4x (indoor only)		UL Type 1, 4x (indoor only) and 12		
CASE	**Installation**	Panel mounting				
	Material	Zinc coated stainless steel				
PROCESSOR (soldered on-board)		Intel® Celeron® 3965U 2.20GHz 64bit • 2 cores / 2 threads • 2MB Smart cache • 14nm Intel® Core™ i3-7100U 2.40GHz 64bit • 2 cores / 4 threads • 3MB Smart cache • 14nm Intel® Core™ i5-7300U 2.60GHz (3.50GHz Turbo) 64bit • 2 cores / 4 threads • 3MB Smart cache • 14nm Intel® Core™ i7-7600U 2.80GHz (3.90GHz Turbo) 64bit • 2 cores / 4 threads • 4MB Smart cache • 14nm				
CHIPSET		Intel® Kaby Lake U PCH (Platform Controller Hub) • Included into processor chip (SoC)				
VIDEO CONTROLLER		Intel® HD Graphics 610 integrated in Intel® Celeron® processor • 300MHz/900MHz Intel® HD Graphics 620 integrated in Intel® Core™ i3 processor • 300MHz/1GHz Intel® HD Graphics 620 integrated in Intel® Core™ i5 processor • 300MHz/1.10GHz Intel® HD Graphics 620 integrated in Intel® Core™ i7 processor • 300MHz/1.15GHz				
WATCHDOG		Programmable time period				
TPM	**Discrete version only for S0/S1 versions and BM**	Intel® PTT (TPM integrated) • Discrete TPM 2.0 module (optional)				
SYSTEM MEMORY RAM		4GB or 8GB or 16GB (1x SODIMM DDR4 module)				
MASS STORAGE	**Cfast**	1x bootable CFast SATA III slot onboard with external access (up to 240GB)				
	SSD mSATA	-				
	SSD M.2	1x onboard connector for direct insertion of M.2 2280 NVMe PCIe x2 SSD (up to 512GB) or M.2 2280 NVMe PCIe x4 SSD (up to 1TB)[1] or M.2 2242 SATA III SSD (up to 480GB)				
	SSD/HDD only S0/S1 versions and BM	1x onboard connector for SSD/HDD 2.5" SATA III with internal installation kit				
INTERFACES	**LAN**	3x Gigabit Ethernet (RJ45)				
	USB	4x USB 3.0 (Type-A)				
	SERIAL	1x RS232 (DB9M)				
	VIDEO	1x DisplayPort++ V1.2				
ADD-ON INTERFACES (optional) not available for SL version	**Position A (max 1)**	1x RS232/422/485 (DB15M) + 1x USB 2.0 (Type-A) 1x RS232/422/485 (DB15M) isolated + 1x USB 2.0 (Type-A) 2x RS232/422/485 (DB9M) 2x RS232/422/485 optoisolated (DB9M) 2x USB 2.0 (Type-A)				
	Position B (max 1)	1x Gigabit Ethernet (RJ45) 1x DVI-D (Resolution up to 1900x1200) 1x RJ45 connector for RVL 1x Wi-Fi module (IEEE 802.11 a/b/g/n/ac, 2.4GHz/5GHz • Bluetooth 4.2) and/or 1x Cellular module (worldwide LTE Cat 4, GSM/GPRS, UMTS/HSPA coverage)				

TECHNICAL DATA

		QT3500 -ALU	QT3500 -TFM	HT3500 -ALU	HT3500 -TF	HT3500 -TFX
EXPANSION SLOTS	**only S1 version**	1x PCI half-length or 1x PCIe x4 half-length, on riser card, max 5W				
POWER SUPPLY INPUT		24VDC (18÷32VDC) isolated				
POWER SUPPLY (optional)	**UPS**	UPS with external battery pack (Pb • 12V/2.5A) (backside or separate mounting)				
	ATX only S0/S1 versions	Kit for ATX mode power supply (push button, internal cable and connector for remote control)				
BATTERY		1x CR2032 internal access				
O.S. CERTIFIED		Microsoft Windows 10 IoT Enterprise 2019/2016 64 bit				
OPERATING TEMPERATURE		0°C ÷ 50°C 0°C ÷ 45°C (24x7 HDD or Intel® Core™ i7 processor) 5°C ÷ 45°C (Standard HDD)				
STORAGE TEMPERATURE		-10°C ÷ 60°C				
OPERATING/STORAGE RELATIVE HUMIDITY		20% ÷ 90% RH (non-condensing)				
APPROVALS		CE RoHS UKCA cULus Listed				

1. The M.2 NVMe PCIe x4 SSDs show actual performance that differs from the manufacturer's claims, as they are driven via 2 lanes (socket M.2 PCIe x2). Data transfer rates are about half of the declared value (comparable to M.2 NVMe PCIe x2 SSDs).

QT5400/5600 & HT5400/5600

15”-24”

★★★★★ ★★★★★ ★★★★★

DOWNLOAD THE PRODUCT SHEET

UBIQUITY INSIDE

Optix™ OPTIONAL

RVL 100m OPTIONAL

- TFT LCDs in 15” in 4:3 aspect ratio, 17” and 19” in 5:4 aspect ratio and 15.6”, 18.5”, 21.5”, 24” in Wide aspect ratio
- Aluminum (ALU) and aluminum True Flat (TF) front panels with resistive touchscreen
- Aluminum and glass True Flat panels with multitouch projected capacitive touchscreen (TFM)
- Stainless steel True Flat (TFX) front panels with resistive touchscreen
- Intel® Celeron®, Core™ i3, i5, i7 processors of Skylake and Kaby Lake generation
- RAM up to 32GB
- Available in S0 version with the possibility to install additional interfaces, S1 version with one PCIe expansion slot and S3 version with three PCIe expansion slots
- Available with additional RVL interface for remotation of the DVI-D and USB 2.0 signals up to 100m (optional)
- Available with 115/230VAC power supply (optional)

GALLERY

QT5400/5600 e HT5400/5600 - (S0 Version) - 24VDC

QT5400/5600 e HT5400/5600 - (S0 Version) - 230VAC

QT5400/5600 e HT5400/5600 - (S1 Version) - 24VDC

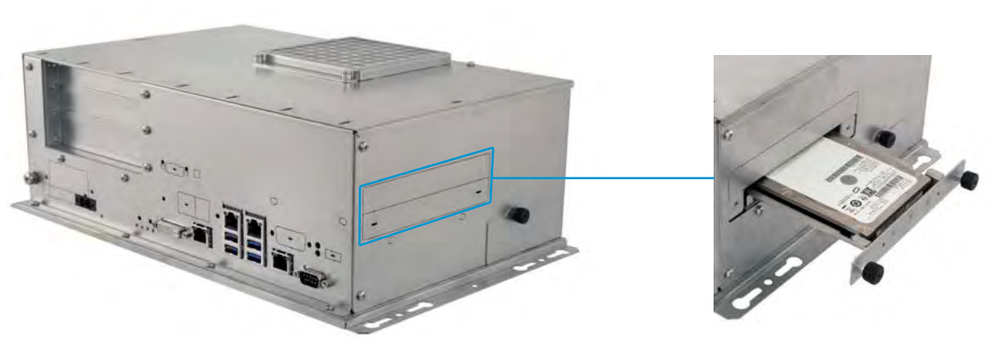
QT5400/5600 e HT5400/5600 - (S1 Version) - 230VAC

QT5400-5600, HT5400-5600 - (S3 Version) - 24VDC

QT5400-5600, HT5400-5600 - (S3 Version) - 230VAC

DETAIL - EXTRACTABLE DRIVES SLOT

Extractable drives slot available only for S1 and S3 versions



TECHNICAL DATA

		QT5400/5600 -ALU	QT5400/5600 -TFM	HT5400/5600 -ALU	HT5400/5600 -TF	HT5400/5600 -TFX
LED BACKLIGHT TFT LCD		15.6" W - 1366x768 15.6" W - 1920x1080 18.5" W - 1366x768 18.5" W - 1920x1080 21.5" W - 1920x1080 24"W - 1920x1080		15" - 1024x768 15.6" W - 1366x768 15.6" W - 1920x1080 17" - 1280x1024 18.5" W - 1366x768 18.5" W - 1920x1080 19" - 1280x1024 21.5" W - 1920x1080 24"W - 1920x1080		15" - 1024x768 17" - 1280x1024 19" - 1280x1024
CUT-OUT		QT		HT		
FRONT USB		-		1x USB 2.0 (Type-A), protected		-
TOUCHSCREEN		Resistive 5 wires	P-CAP Multitouch	Resistive 5 wires		
FRONT PANEL	**Material**	Aluminum	True Flat Aluminum	Aluminum	True Flat Aluminum	True Flat Stainless Steel
	ASEM Logo	-		Adhesive label	Silk screen printed	
PROTECTION GRADE	**IP rating**	IP65 - frontal				IP66K - frontal
	NEMA rating	UL Type 1, 4x (indoor only)		UL Type 1, 4x (indoor only) and 12		
CASE	**Installation**	Panel mounting				
	Material	Zinc-coated skin pass steel				
PROCESSOR (soldered on-board)	**xx5400**	Intel® Core™ i3-6100 3.70GHz 64bit • 2 cores / 4 threads • 3MB Smart cache • 14nm Intel® Core™ i5-6500 3.20GHz (3.60GHz Turbo) 64bit • 4 cores / 4 threads • 6MB Smart cache • 14nm Intel® Core™ i7-6700 3.40GHz (4.00GHz Turbo) 64bit • 4 cores / 8 threads • 8MB Smart cache • 14nm				
	xx5600	Intel® Celeron® G3930E 2.90Ghz 64bit • 2 cores / 2 threads • 2MB Smart cache • 14nm Intel® Core™ i3-7101E 3.90Ghz 64bit • 2 cores / 4 threads • 3MB Smart cache • 14nm Intel® Core™ i5-7500 3.40Ghz (3.80GHz Turbo) 64bit • 4 cores / 4 threads • 6MB Smart cache • 14nm Intel® Core™ i7-7700 3.60Ghz (4.20GHz Turbo) 64bit • 4 cores / 8 threads • 8MB Smart cache • 14nm				
CHIPSET		Intel® C236 PCH (Platform Controller Hub) with integrated RAID controller				
VIDEO CONTROLLER	**xx5400**	Intel® HD Graphics 530 integrated in Intel® Core® i3 and i5 processors • 350MHz/1.05GHz Intel® HD Graphics 530 integrated in Intel® Core® i7 processor • 350MHz/1.15GHz				
	xx5600	Intel® HD Graphics 610 integrated in Intel® Celeron® processor • 350MHz/1GHz Intel® HD Graphics 630 integrated in Intel® Core® i3 and i5 processors • 350MHz/1.10GHz Intel® HD Graphics 630 integrated in Intel® Core® i7 processor • 350MHz/1.15GHz				
TPM		Intel® PTT (TPM integrated) • Discrete TPM 2.0 module (optional)				
SYSTEM MEMORY RAM		4GB (1x 4GB SODIMM DDR4 module) 8GB (2x 4GB SODIMM DDR4 module) 16GB (2x 8GB SODIMM DDR4 module) 32GB (2x 16GB SODIMM DDR4 module)				
MASS STORAGE	**CFast**	1x bootable CFast SATA III slot onboard with external access (up to 240GB)				
	SSD M.2	1x onboard connector for direct insertion of M.2 2280 NVMe PCIe x4 SSD (up to 512GB) or M.2 2242 SATA III SSD (up to 480GB)				
	SSD/HDD	2x onboard connectors for SSDs/HDDs 2.5" SATA III with internal installation kit				
EXTRACTABLE MASS STORAGE	**S0/S1/S3 versions**	1x extractable SSD/HDD 2.5" SATA III unit				
	only S1/S3 versions	2x extractable SSDs/HDDs 2.5" SATA III units				
RAID		Raid 0, 1				
INTERFACES	**LAN**	4x Gigabit Ethernet (RJ45)				
	USB	4x USB 3.0 (Type-A)				
	SERIAL	1x RS232 (DB9M)				
	VIDEO	1x DVI-D (Resolution up to 1920x1080)				

TECHNICAL DATA

		QT5400/5600 -ALU	QT5400/5600 -TFM	HT5400/5600 -ALU	HT5400/5600 -TF	HT5400/5600 -TFX
ADD-ON INTERFACES (optional)	**Position A (max 1)**	1x RS232/422/485 (DB15M) + 1x USB 2.0 (Type-A) 1x RS232/422/485 (DB15M) isolated + 1x USB 2.0 (Type-A) 2x RS232/422/485 (DB9M) 2x RS232/422/485 optoisolated (DB9M) 2x USB 2.0 (Type-A)				
	Position B (max 1)	1x Gigabit Ethernet (RJ45) 1x or 2x RJ45 connectors for RVL 2x DisplayPort++ V1.2 1x Wi-Fi module (IEEE 802.11 a/b/g/n/ac, 2.4GHz/5GHz • Bluetooth 4.2) and/or 1x Cellular module (worldwide LTE Cat 4, GSM/GPRS, UMTS/HSPA coverage)				
EXPANSION SLOTS	**only S1 version**	1x PCIe x16 half-length, on riser card, max 75W				
	only S3 version	1x PCIe x16 half-length + 1xPCIe x4 half-length, on riser card, max 75W 1x PCIe x16 half-length + 1xPCIe x4 half-length + 1xPCIe x1 half-length, on riser card, max 80W 2x PCIe x8 half-length + 1x PCIe x4 half-length, on riser card, max 85W 3x PCI half-lenght, on riser card, max 30W 2x PCI half-lenght + 1x PCIe x4 half-lenght, on riser card, max 35W				
POWER SUPPLY INPUT		24VDC (18÷32VDC) isolated				
	optional	115V/230VAC (85÷264VAC) isolated, autoranging				
POWER SUPPLY (optional)	**ATX**	Kit for ATX mode power supply (push button, internal cable and connector for remote control)				
BATTERY		1x CR2032 Internal access				
O.S. CERTIFIED	**xx5400**	Microsoft Windows 10 IoT Enterprise 2019 64 bit Microsoft Windows 7 Pro/Ultimate 64 bit Microsoft Windows Embedded Standard 7E/7P 64 bit Microsoft Windows Server Embedded Standard 2019 R2 64 bit				
	xx5600	Microsoft Windows 10 IoT Enterprise 2019 64 bit Microsoft Windows Server Embedded Standard 2019 R2 64 bit				
OPERATING TEMPERATURE		0°C ÷ 50°C 0°C ÷ 45°C (24x7 HDD or Intel® Core™ i7 processor) 5°C ÷ 45°C (Standard HDD)				
STORAGE TEMPERATURE		-10°C ÷ 60°C				
OPERATING/STORAGE RELATIVE HUMIDITY		20% ÷ 90% RH (non-condensing)				
APPROVALS		CE RoHS UKCA cULus Listed				

COMPARISON TABLE

		QT2150 & HT2150	QT2200 & HT2200	QT2250 & HT2250	QT3400 & HT3400	QT3500 & HT3500	QT3600 & HT3600	QT5400 & HT5400	QT5600 & HT5600
FANLESS		✓	✓	✓	✓	✓	✓	✗	✗
FRONT PANELS	**Wide sizes**	7", 10,1", 12,1", 15,6"	10,1", 12,1", 15,6", 18,5", 21,5", 24"	7", 10,1", 12,1", 15,6", 18,5", 21,5", 24"	12,1", 15,6", 18,5", 21,5", 24"	12,1", 15,6", 18,5", 21,5", 24"	12,1", 15,6", 18,5", 21,5", 24"	15,6", 18,5", 21,5", 24"	15,6", 18,5", 21,5", 24"
	Narrow sizes	8,4", 10,4", 12,1", 15"	10,4", 12,1", 15", 17", 19"	10,4", 12,1", 15", 17", 19"	10,4", 12,1", 15", 17", 19"	10,4", 12,1", 15", 17", 19"	10,4", 12,1", 15", 17", 19"	10,4", 12,1", 15", 17", 19"	10,4", 12,1", 15", 17", 19"
	Types	ALU, TF, TFM	ALU, TF, TFM, TFX	ALU, TF, TFM, TFK	ALU, TF, TFM, TFX	ALU, TF, TFM, TFX	ALU, TF, TFM, TFX	ALU, TF, TFM, TFX	ALU, TF, TFM, TFX
	Touchscreen technology	Resistive Multitouch	Resistive Multitouch	Resistive Multitouch	Resistive Multitouch	Resistive Multitouch	Resistive Multitouch	Resistive Multitouch	Resistive Multitouch
PROCESSORS	**Model**	Intel® Celeron® J1900	Intel® Celeron® J1900	Intel Atom® x5-E3930 Intel Atom® x7-E3950	Intel® Celeron® G3900E Intel® Core™ i3-6100E Intel® Core™ i5-6440EQ Intel® Core™ i7-6820EQ	Intel® Celeron® 3965U Intel® Core™ i3-7100U Intel® Core™ i5-7300U Intel® Core™ i7-7600U	Intel® Core™ i3-7100E Intel® Core™ i5-7440EQ Intel® Core™ i7-7820EQ	Intel® Core™ i3-6100 Intel® Core™ i5-6500 Intel® Core™ i7-6700	Intel® Celeron® G3930E Intel® Core™ i3-7101E Intel® Core™ i3-7101E Intel® Core™ i7-7700
	Generation	Intel® Bay Trail	Intel® Bay Trail	Intel® Apollo Lake	Intel® Skylake	Intel® Kaby Lake U	Intel® Kaby Lake	Intel® Skylake	Intel® Kaby Lake
SYSTEM MEMORY		Up to 8GB	Up to 8GB	Up to 8GB	Up to 32GB	Up to 16GB	Up to 32GB	Up to 32GB	Up to 32GB
INTERFACES	**LAN**	2x RJ45	2x RJ45	2x RJ45	4x RJ45	3x RJ45	4x RJ45	4x RJ45	4x RJ45
	USB	1x USB 3.0 • 1x USB 2.0	2x USB 2.0 • 1x USB 3.0	3x USB 3.0	3x USB 3.0 • 2x USB 2.0	4x USB 3.0	3x USB 3.0 • 2x USB 2.0	4x USB 3.0	4x USB 3.0
	Serial	-	1x RS232 (DB9M)	-	1x RS232 (DB9M)	1x RS232 (DB9M)	1x RS232 (DB9M)	1x RS232 (DB9M)	1x RS232 (DB9M)
	Video	-	1x DVI-D	1x DisplayPort++ V1.2	1x DVI-D	1x DisplayPort++ V1.2	1x DVI-D	1x DVI-D	1x DVI-D
EXPANSION SLOTS PCI/PCIe		-	Up to 1	-	Up to 1	Up to 1	Up to 1	Up to 3	Up to 3
INTERNAL SSD/HDD		-	Up to 1	-	Up to 1	Up to 1	Up to 1	Up to 3	Up to 3
EXTRACTABLE SSD/HDD		-	-	-	Up to 2	-	Up to 2	Up to 2	Up to 2
POWER SUPPLY INPUT		24VDC	24VDC	24VDC	24VDC	24VDC	24VDC	24VDC 115V/230VAC	24VDC 115V/230VAC
OPERATING SYSTEMS		Microsoft Windows 7 Microsoft Windows Embedded Standard 7 Microsoft Windows 10 IoT Enterprise LTSC	Microsoft Windows 7 Microsoft Windows Embedded Standard 7 Microsoft Windows 10 IoT Enterprise LTSC	Microsoft Windows 10 IoT Enterprise LTSC	Microsoft Windows 7 Microsoft Windows Embedded Standard 7 Microsoft Windows 10 IoT Enterprise LTSC	Microsoft Windows 10 IoT Enterprise LTSC	Microsoft Windows 10 IoT Enterprise LTSC	Microsoft Windows 7 Microsoft Windows Embedded Standard 7 Microsoft Windows 10 IoT Enterprise LTSC Microsoft Windows Server Embedded Standard	Microsoft Windows 10 IoT Enterprise LTSC Microsoft Windows Server Embedded Standard
PAC VERSION *		✗	✓	✗	✓	✗	✓	✗	✗
CERTIFICATIONS		CE RoHS UKCA cULus LISTED	CE RoHS UKCA UL LISTED Ex **	CE RoHS UKCA cULus LISTED	CE RoHS UKCA cULus LISTED Ex **	CE RoHS UKCA cULus LISTED	CE RoHS UKCA cULus LISTED Ex **	CE RoHS UKCA cULus LISTED	CE RoHS UKCA cULus LISTED

** with UPS + 512kB MRAM for retentive data management and Codesys software*
*** only for QT-TFM*

BOX IPCS

HIGH PERFORMANCE
WIDE CONFIGURABILITY
ERGONOMIC DESIGN
ROBUST DESIGN

PB2150 & BM2150

DOWNLOAD THE PRODUCT SHEET

UBIQUITY INSIDE

Optix™ OPTIONAL

FANLESS

- Intel® Celeron® processor of SoC Bay Trail generation
- RAM up to 8GB
- DIN rail mounting available (only BM2150)
- Built-in UPS with external battery pack (optional)
- Available in SL version with reduced depth and S0 version with the possibility to install additional interfaces (only PB2150)

TECHNICAL DATA

		PB2150	BM2150
PROTECTION GRADE	**IP rating**	IP20	
	NEMA rating	-	
CASE	**Installation**	Wall mounting	Book/DIN mounting
	Material	Zinc-coated skin pass steel	Aluminum alloy
PROCESSOR (soldered on-board)		Intel® Celeron® J1900 2.00Ghz (2.30GHz Burst) • 4 cores / 4 threads • 2MB L2 cache • 22nm	
CHIPSET		Intel® Bay Trail • Included into processor chip (SoC)	
VIDEO CONTROLLER		Intel® HD Graphics for Intel Atom® processor Z3700 series • 688MHz/854MHZ	
SYSTEM MEMORY RAM		1GB or 2GB or 4GB or 8GB SODIMM DDR3L module	
MASS STORAGE	**CFast**	1x bootable CFast SATA II slot onboard with external access (up to 240GB)	
	SSD mSATA	1x onboard connector for direct insertion of mSATA SSD SATA II (up to 960GB)	
INTERFACES	**LAN**	2x Gigabit Ethernet (RJ45)	
	USB	1x USB 3.0 (Type-A) • 1x USB 2.0 (Type-A)	
	VIDEO	1x DVI-D (Resolution up to 1920x1080)	
ADD-ON INTERFACES (optional)	**Position A (max 1) only S0 version and BM**	1x RS232/422/485 (DB15M) + 1x USB 2.0 (Type-A) 1x RS232/422/485 (DB15M) isolated + 1x USB 2.0 (Type-A) 2x RS232/422/485 (DB9M) 2x RS232/422/485 optoisolated (DB9M) 1x USB 2.0 (Type-A) 2x USB 2.0 (Type-A) 1x Gigabit Ethernet (RJ45) + 1x USB 2.0 (Type-A) 1x Wi-Fi module (IEEE 802.11 a/b/g/n/ac, 2.4GHz/5GHz • Bluetooth 4.2) and/or 1x Cellular module (worldwide LTE Cat 4, GSM/GPRS, UMTS/HSPA coverage)	
POWER SUPPLY INPUT		24VDC (18÷32VDC) isolated	
POWER SUPPLY (optional)	**UPS**	UPS with external battery pack (Pb • 12V/2,5Ah) (separate mounting)	
	ATX only S0 version and BM w/o UPS	Kit for ATX mode power supply (push button, internal cable and connector for remote control)	
	ATX only BM w/ UPS	-	Kit for ATX mode power supply (connector for remote control)
BATTERY		1x CR2032 Internal access	
O.S. CERTIFIED		Microsoft Windows 7 Pro/Ultimate 32/64bit Microsoft Windows Embedded Standard 7E/7P 32/64 bit Microsoft Windows 10 IoT Enterprise 2016/2019 64 bit	
OPERATING TEMPERATURE		0°C ÷ 50°C	
STORAGE TEMPERATURE		-5°C ÷ 60°C	
OPERATING/STORAGE RELATIVE HUMIDITY		20% ÷ 90% RH (non-condensing)	
APPROVALS		CE RoHS UKCA cULus Listed	

PB2200 & BM2200

DOWNLOAD THE PRODUCT SHEET

- Intel® Celeron® processors of SoC Bay Trail generation
- RAM up to 8GB
- Built-in UPS with external battery pack (optional)
- Available in SL version with reduced depth, S0 version with the possibility to install additional interfaces and S1 version with PCI or PCIe expansion slot (only PB2200)
- Available in RVL version (BM2200 RVL) for the remotation of the DVI-D and USB 2.0 signals up to 100m

UBIQUITY INSIDE

Optix™ OPTIONAL

CODESYS OPTIONAL

FANLESS

REMOTE VIDEO LINK

TECHNICAL DATA

		PB2200	BM2200
PROTECTION GRADE	**IP rating**	IP20	
	NEMA rating	-	
CASE	**Installation**	Wall mounting	Book mounting
	Material	Zinc-coated skin pass steel	Aluminum alloy
PROCESSOR (soldered on-board)		Intel® Celeron® J1900 2.00GHz (2.42GHz Burst) • 64bit • 4 cores / 4 threads • 2MB L2 cache • 22nm	
CHIPSET		Intel® Bay Trail • Included into processor chip (SoC)	
VIDEO CONTROLLER		Intel® HD Graphics for Intel Atom® processor Z3700 series • 688MHz/854MHz	
WATCHDOG		Programmable time period	
TPM		Discrete TPM 2.0 module (optional)	
SYSTEM MEMORY RAM		1GB or 2GB or 4GB or 8GB (1x SODIMM DDR3L module)	2GB or 4GB or 8GB (1x SODIMM DDR3L module)
MASS STORAGE (SSD mSATA and SSD/HDD are alternative to each other)	**Cfast**	1x bootable CFast SATA II slot onboard with external access (up to 240GB)	
	SSD mSATA	1x onboard connector for direct insertion of SSD mSATA SATA II (up to 960GB)	
	SSD/HDD only S0/S1 versions	1x onboard connectors for SSDs/HDDs 2.5" SATA II with internal installation kit	
INTERFACES	**LAN**	2x Gigabit Ethernet (RJ45)	
	USB	2x USB 2.0 (Type-A) • 1x USB 3.0 (Type-A)	2x USB 2.0 (Type-A) • 1x USB 3.0 (Type-A) front
	SERIAL	1x RS232 (DB9M)	-
	VIDEO	1x DVI-I (Resolution up to 1920x1080 • VGA adapter included)	1x DVI-I (Resolution up to 1920x1080 • VGA adapter included) or 1x RJ45 connector for RVL
ADD-ON INTERFACES (optional) not available for SL version	**Position A (max 1)**	1x RS232/422/485 (DB15M) + 1x USB 2.0 (Type-A) 1x RS232/422/485 (DB15M) isolated + 1x USB 2.0 (Type-A) 2x RS232 (DB9M) 2x USB 2.0 (Type-A)	1x RS232/422/485 (DB15M) isolated + 2x RS232(DB9M) 1x RS232/422/485 (DB15M) isolated + 1x Gigabit Ethernet (RJ45)
	Position B (max 1)	1x Gigabit Ethernet (RJ45) 1x Wi-Fi module (IEEE 802.11 a/b/g/n/ac, 2.4GHz/5GHz • Bluetooth 4.2)1 and/or 1x Cellular module (worldwide LTE Cat 4, GSM/GPRS, UMTS/HSPA coverage)1	-
EXPANSION SLOTS	**only S1 version**	1x PCI half-length or 1x PCIe x1 half-length, on riser card, max 3W	-
POWER SUPPLY INPUT		24VDC (18÷32VDC) isolated	
POWER SUPPLY (optional)	**UPS Backside mounting not available for SL version**	UPS with external battery pack (Pb • 12V/2,5Ah) (backside or separate mounting)	UPS with external battery pack (Pb • 12V/2,5Ah) (separate mounting)
	UPS + 512kB MRAM Backside mounting not available for SL version	UPS with external battery pack (Pb • 12V/2,5Ah) + 512kB MRAM (backside or separate mounting)	UPS with external battery pack (Pb • 12V/2,5Ah) + 512kB MRAM (separate mounting)
	µUPS + 512kB MRAM	Supercapacitors µUPS + 512kB MRAM	
	ATX only S0/S1 versions	Kit for ATX mode power supply (push button, internal cable and connector for remote control)	-
BATTERY		1x CR2032 Internal access	1x CR2032 Removable front access
O.S. CERTIFIED		Microsoft Windows 7 Pro/Ultimate 32/64bit Microsoft Windows Embedded Standard 7E/7P 32/64 bit Microsoft Windows 10 IoT Enterprise 2016/2019 64bit (2019 version not compatible with CODESYS)	
OPERATING TEMPERATURE		0°C ÷ 50°C 0°C ÷ 45°C (24x7 HDD or Intel® Core™ i7 processor) 5°C ÷ 45°C (Standard HDD)	
STORAGE TEMPERATURE		-10°C ÷ 60°C	
OPERATING/STORAGE RELATIVE HUMIDITY		20% ÷ 90% RH (non-condensing)	
APPROVALS		CE RoHS UKCA UL 508	CE RoHS UKCA cULus Listed

1. Wi-Fi and Cellular modules cannot be used if CODESYS SoftPLC control software is installed on the system.

PB2250 & BM2250

DOWNLOAD THE PRODUCT SHEET

UBIQUITY INSIDE

Optix™ OPTIONAL

FANLESS

- Intel Atom® x5 e x7 processor of SoC Apollo Lake generation
- RAM up to 8GB
- DIN rail mounting available (only BM2250)
- Available in SL version with reduced depth and S0 version with the possibility to install additional interfaces (only PB2250)

TECHNICAL DATA

		PB2250	BM2250
PROTECTION GRADE	**IP rating**	IP20	
	NEMA rating	-	
CASE	**Installation**	Wall mounting	Book/DIN mounting
	Material	Zinc-coated skin pass steel	Aluminum alloy
PROCESSOR (soldered on-board)		Intel Atom® x5-E3930 1.30Ghz (1.80Ghz Burst) • 64bit • 2 cores / 2 threads • 2MB L2 cache • 14nm Intel Atom® x7-E3950 1.60Ghz (2.00Ghz Burst) • 64bit • 4 cores / 4 threads • 2MB L2 cache • 14nm	
CHIPSET		Intel® Apollo Lake • Included into processor chip (SoC)	
VIDEO CONTROLLER		Intel® HD Graphics 500 integrated in x5-E3930 processor • 400MHz/550MHZ Intel® HD Graphics 505 integrated in x7-E3950 processor • 500MHz/650MHZ	
TPM		Intel® PTT (TPM integrated) • Discrete TPM 2.0 module (optional)	
SYSTEM MEMORY RAM	**with x5-E3930**	4GB LP-DDR4 module	
	with x7-E3950	4GB or 8GB LP-DDR4 module	
MASS STORAGE	**CFast**	1x bootable CFast SATA III slot onboard with external access (up to 240GB)	
	M.2 SSD	1x onboard connector for direct insertion of M.2 2242 SATA III SSD (up to 480GB)	
INTERFACES	**LAN**	2x Gigabit Ethernet (RJ45)	
	USB	3x USB 3.0 (Type-A)	
	VIDEO	1x DisplayPort++ V1.2	
ADD-ON INTERFACES (optional)	**Position A (max 1) only S0 version and BM**	2x RS232/422/485 (DB9M) 2x RS232/422/485 optoisolated (DB9M) 1x RS232/422/485 (DB15M) + 1x USB 2.0 (Type-A) 1x RS232/422/485 (DB15M) isolated + 1x USB 2.0 (Type-A) 2x USB 2.0 (Type-A) 1x Gigabit Ethernet (RJ45) + 1x USB 2.0 (Type-A)	
POWER SUPPLY INPUT		24VDC (18÷32VDC) isolated	
POWER SUPPLY (optional)	**UPS**	UPS with external battery pack (NiMH • 12V/2,5Ah) (backside or separate mounting)	UPS with external battery pack (NiMH • 12V/2,5Ah) (separate mounting)
	ATX only S0 version and BM	Kit for ATX mode power supply (push button, internal cable and connector for remote control)	Kit for ATX mode power supply (connector for remote control)
BATTERY		1x CR2032 Internal access	
O.S. CERTIFIED		Microsoft Windows 10 IoT Enterprise 2019 64 bit	
OPERATING TEMPERATURE		0°C ÷ 50°C	
STORAGE TEMPERATURE		-5°C ÷ 60°C	
OPERATING/STORAGE RELATIVE HUMIDITY		20% ÷ 90% RH (non-condensing)	
APPROVALS		CE RoHS UKCA cULus Listed	

BM3300

- Intel® Celeron®, Core™ i3, i5, i7 processors of Skylake generation
- RAM up to 16GB
- Built-in UPS with external battery pack (optional)
- Available in RVL version (BM3300 RVL) for the remotation of the DVI-D and USB 2.0 signals up to 100m

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UBIQUITY INSIDE

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FANLESS

REMOTE VIDEO LINK

CE RoHS UKCA cULus LISTED

TECHNICAL DATA

		BM3300
PROTECTION GRADE		IP20
CASE	**Installation**	Book mounting
	Material	Aluminum alloy
PROCESSOR (soldered on-board)		Intel® Celeron® 3955U 2.00GHz 64bit • 2 cores / 2 threads • 2MB Smart cache • 14nm Intel® Core™ i3-6100U 2.30GHz 64bit • 2 cores / 4 threads • 3MB Smart cache • 14nm Intel® Core™ i5-6300U 2.40GHz (3.00GHz Turbo) 64bit • 2 cores / 4 threads • 3MB Smart cache • 14nm Intel® Core™ i7-6600U 2.60GHz (3.40GHz Turbo) 64bit • 2 cores / 4 threads • 4MB Smart cache • 14nm
CHIPSET		Intel® Skylake U PCH (Platform Controller Hub) • Included into processor chip (Soc)
VIDEO CONTROLLER		Intel® HD Graphics 510 integrated in Intel® Celeron® processor • 300MHz/900MHz Intel® HD Graphics 520 integrated in Intel® Core™ i3 and i5 processors • 300MHz/1GHz Intel® HD Graphics 520 integrated in Intel® Core™ i7 processor • 300MHz/1,05GHz
WATCHDOG		Programmable time period
TPM		Intel® PTT (TPM integrated) • Discrete TPM 2.0 module (optional)
SYSTEM MEMORY RAM		4GB or 8GB or 16GB (1x SODIMM DDR4 module)
MASS STORAGE	**CFast**	1x bootable CFast SATA III slot onboard with external access (up to 240GB)
	SSD mSATA	1x onboard connector for direct insertion of SSD mSATA SATA III
	SSD/HDD	1x onboard connector for SSD/HDD 2.5" SATA III with internal installation kit
INTERFACES	**LAN**	3x Gigabit Ethernet (RJ45)
	USB	1x USB 3.0 (Type-A) front • 2x USB 3.0 (Type-A)
	VIDEO	1x DVI-D (Resolution up to 1920x1200) or 1x RJ45 connector for RVL
ADD-ON INTERFACES (optional)	**Position A (max 1)**	1x RS232/422/485 (DB15M) + 1x USB 2.0 (Type-A) 1x RS232/422/485 (DB15M) isolated + 1x USB 2.0 (Type-A) 2x RS232/422/485 (DB9M) 2x RS232/422/485 optoisolated (DB9M) 2x USB 2.0 (Type-A)
POWER SUPPLY INPUT		24VDC (18÷32VDC) isolated
POWER SUPPLY (optional)	**UPS**	UPS with external battery pack (Pb • 12V/2,5Ah) (separate mounting)
BATTERY		1x CR2032 Removable front access
O.S. CERTIFIED		Microsoft Windows 10 IoT Enterprise 2019/2016 64 bit Microsoft Windows 7 Pro/Ultimate 32/64 bit Microsoft Windows Embedded Standard 7E/7P 32/64 bit
OPERATING TEMPERATURE		0°C ÷ 50°C 0°C ÷ 45°C (24x7 HDD or Intel® Core™ i7 processor) 5°C ÷ 45°C (Standard HDD)
STORAGE TEMPERATURE		-10°C ÷ 60°C
OPERATING/STORAGE RELATIVE HUMIDITY		20% ÷ 90% RH (non-condensing)
APPROVALS		CE RoHS UKCA cULus Listed

PB3400/3600 & BM3400/3600

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UBIQUITY INSIDE

Optix™ OPTIONAL

CODESYS OPTIONAL

FANLESS

RVL 100m OPTIONAL

- Intel® Celeron®, Core™ i3, i5, i7 processors of Skylake and Kaby Lake generation
- RAM up to 32GB
- Built-in UPS with external battery pack (optional)
- Built-in supersapacitors µUPS, with 512kB MRAM for retentive data management (optional)
- PB3400/3600 available in S0, S1 and D2 version, with possibility to install additional interfaces, PCI/PCIe expansion slots and extractable drives slots for 2,5" SSDs/HDDs
- BM3400/3600 available in S0 and S2 versions, with the possibility to install additional interfaces and PCI/PCIe expansion slots, both with predisposition for extractable drawer kit for SSD/HDD: D0 (no kit), D1 (one kit) and D2 (two kits)
- Available with additional RVL (Remote Video Link) interface for remotation of the DVI-D and USB 2.0 signals up to 100m (optional)

GALLERY

PB3400/3600 - (S0 Version)

PB3400/3600 - (S1 Version)

PB3400/3600 - (D2 Version)

BM3400/3600 - (S0 Version)

BM3400/3600 - (S2 Version)

COMPARISON TABLE

	BM 3400/3600					
	S0			S2		
	D0	D1	D2	D0	D1	D2
ADD-ON INTERFACES (optional)	✓	✓	✓	✓	✓	✓
EXPANSION SLOTS PCI/PCIe	✗	✗	✗	2	2	2
INTERNAL INSTALLATION KIT for SSDs/HDDs 2,5" SATA III	1	1	1	1, 2	1, 2	1, 2
EXTRACTABLE DRAWER KIT for SSDs/HDDs 2.5" SATA III	✗	1	2	✗	1	2

PB3400/3600 & BM3400/3600

TECHNICAL DATA

		PB3400/3600	BM3400/3600
PROTECTION GRADE	**IP rating**	IP20	
	NEMA rating	-	
CASE	**Installation**	Wall mounting	Book mounting
	Material	Zinc-coated skin pass steel	Aluminum alloy
PROCESSOR (soldered on-board)	**xx3400**	Intel® Celeron® G3900E 2.40GHz 64bit • 2 cores / 2 threads • 2MB Smart cache • 14nm Intel® Core™ i3-6100E 2.70GHz 64bit • 2 cores / 4 threads • 3MB Smart cache • 14nm Intel® Core™ i5-6440EQ 2.70GHz (3.40GHz Turbo) 64bit • 4 cores / 4 threads • 6MB Smart cache • 14nm Intel® Core™ i7-6820EQ 2.80GHz (3.50GHz Turbo) 64bit • 4 cores / 8 threads • 8MB Smart cache • 14nm	
	xx3600	Intel® Core™ i3-7100E 2.90GHz 64bit • 2 cores / 4 threads • 3MB Smart cache • 14nm Intel® Core™ i5-7440EQ 2.90GHz (3.60GHz Turbo) 64bit • 4 cores / 4 threads • 6MB Smart cache • 14nm Intel® Core™ i7-7820EQ 3.00GHz (3.70GHz Turbo) 64bit • 4 cores / 8 threads • 8MB Smart cache • 14nm	
CHIPSET	**xx3400**	Intel® HM170 PCH (Platform Controller Hub) with integrated RAID controller	
	xx3600	Intel® HM175 PCH (Platform Controller Hub) with integrated RAID controller	
	S2 version with 2x PCIe x4	-	Intel® CM236 PCH (Platform Controller Hub) with integrated RAID controller
VIDEO CONTROLLER	**xx3400**	Intel® HD Graphics 510 integrated in Intel® Celeron® processor • 350MHz/950MHz Intel® HD Graphics 530 integrated in Intel® Core™ i3 processor • 350MHz/950MHz Intel® HD Graphics 530 integrated in Intel® Core™ i5 and i7 processors • 350MHz/1GHz	
	xx3600	Intel® HD Graphics 630 integrated in Intel® Core™ i3 processor • 350MHz/950MHz Intel® HD Graphics 630 integrated in Intel® Core™ i5 and i7 processors • 350MHz/1GHz	
WATCHDOG		Programmable time period	
TPM		Intel® PTT (TPM integrated) • Discrete TPM 2.0 module (optional)	
SYSTEM MEMORY RAM		4GB (1x 4GB SODIMM DDR4 module) 8GB (2x 4GB SODIMM DDR4 module) 16GB (2x 8GB SODIMM DDR4 module) 32GB (2x 16GB SODIMM DDR4 module)	
MASS STORAGE	**Cfast**	1x bootable CFast SATA III slot onboard with external access (up to 240GB)	
	SSD mSATA	1x onboard connector for direct insertion of SSD mSATA SATA III (up to 960 GB)	
	SSD/HDD	1x onboard connector for SSD/HDD 2,5" SATA III with internal installation kit	1x or 2x onboard connectors for SSDs/HDDs 2,5" SATA III with internal installation kit (2x not available for S0 version)
EXTRACTABLE MASS STORAGE	**only D1 version**	-	1x extractable SSD/HDD 2,5" SATA III unit
	only D2 version	2x extractable SSDs/HDDs 2.5" SATA III units	
RAID	**only D2 version and BM S2 D0 version**	Raid 0, 1	
INTERFACES	**LAN**	4x Gigabit Ethernet (RJ45)	
	USB	3x USB 3.0 (Type-A) • 2x USB 2.0 (Type-A)	2x USB 3.0 (Type-A) • 2x USB 2.0 (Type-A) • 1x USB 3.0 (Type-A) front
	SERIAL	1x RS232 (DB9M)	
	VIDEO	1x DVI-D (Resolution up to 1920x1080)	
ADD-ON INTERFACES (optional)	**Position A (max 1)**	1x RS232/422/485 (DB15M) + 1x USB 2.0 (Type-A) 1x RS232/422/485 (DB15M) isolated + 1x USB 2.0 (Type-A) 2x RS232/422/485 (DB9M) 2x RS232/422/485 optoisolated (DB9M) 2x USB 2.0 (Type-A)	
	Position B (max 1)	1x or 2x RJ45 connectors for RVL 2x DisplayPort++ V1.2 1x Gigabit Ethernet (RJ45) 1x Wi-Fi module (IEEE 802.11 a/b/g/n/ac, 2.4GHz/5GHz • Bluetooth 4.2)[1] and/or 1x Cellular module (worldwide LTE Cat 4, GSM/GPRS, UMTS/HSPA coverage)[1]	1x or 2x RJ45 connectors for RVL (2x not available for S0 D2 version) 2x DisplayPort++ V1.2

TECHNICAL DATA

		PB3400/3600	BM3400/3600
EXPANSION SLOTS	**only S1 version**	1x PCI half-length or 1x PCIe x4 half-length, on riser card, max 5W	-
	only S2 version	-	1x PCIe x4 half-length + 1 x PCI half-length or 2x PCIe x4 half-length, on riser card, max 10W total
POWER SUPPLY INPUT		24VDC (18÷32VDC) isolated	
POWER SUPPLY (optional)	**UPS**	UPS with external battery pack (Pb • 12V/2.5Ah) (backside or separate mounting)	UPS with external battery pack (Pb • 12V/2.5Ah) (separate mounting)
	UPS + 512kB MRAM	-	UPS with external battery pack (Pb • 12V/2,5Ah) + 512kB MRAM (separate mounting)
	µUPS + 512kB MRAM	Supercapacitors µUPS + 512kB MRAM	
	ATX	Kit for ATX mode power supply (push button, internal cable and connector for remote control)	-
BATTERY		1x CR2032 Internal access	1x CR2032 Removable front access
O.S. CERTIFIED	**xx3400**	Microsoft Windows 10 IoT Enterprise 2019/2016 64 bit Microsoft Windows 7 Pro/Ultimate 32/64 bit Microsoft Windows Embedded Standard 7E/7P 32/64 bit	
	xx3600	Microsoft Windows 10 IoT Enterprise 2019/2016 64 bit	
OPERATING TEMPERATURE	**without forced ventilation**	0°C ÷ 50°C 0°C ÷ 45°C (24x7 HDD or Intel® Core™ i7 processor) 5°C ÷ 45°C (Standard HDD)	
	with forced ventilation (only S2 version)	-	0°C ÷ 50°C 0°C ÷ 50°C (24x7 HDD or Core i7 processor) 5°C ÷ 45°C (Standard HDD)
STORAGE TEMPERATURE		-10°C ÷ 60°C	
OPERATING/STORAGE RELATIVE HUMIDITY		20% ÷ 90% RH (non-condensing)	
FORCED VENTILATION (optional)		-	Forced ventilation (2x tachometric fans 40x40x20 mm), required to ensure: - operating temperature 0°C ÷ 50°C (24x7 HDD or Core i7 processor) - use of expansion cards up to a maximum of 20W total
APPROVALS		CE RoHS UKCA cULus Listed	

1. Wi-Fi and Cellular modules cannot be used if CODESYS SoftPLC control software is installed on the system.
2. ATEX certification is ensured only without UPS, microUPS, power supply variants, UPS battery kit options and wireless modules
3. MicroUPS+512kB MRAM is not compatible with 2x HDD/SSD option for BM3400/3600 S0 D2

PB3500 & BM3500

SCARICA LA SCHEDA PRODOTTO

- Intel® Celeron®, Core™ i3, i5, i7 processor of Kaby Lake generation
- RAM up to 16GB
- Built-in UPS with external battery pack (optional)
- Built-in supercapacitors µUPS, with 512kB MRAM for retentive data management (optional)
- Available in SL version with reduced depth, S0 version with the possibility to install additional interfaces and S1 version with one PCI or PCIe expansion slot
- Available in RVL version (BM3500 RVL) or with additional RVL (Remote Video Link) interface (PB3500) for the remotation of the DVI-D and USB 2.0 signals up to 100m

UBIQUITY INSIDE

Optix™ OPTIONAL

CODESYS OPTIONAL

FANLESS

RVL 100m OPTIONAL

GALLERY

PB3500 - (SL Version)

PB3500 - (S0 Version)

PB3500 - (S1 Version)

BM3500

VERSIONS

RVL version

DVI-D version

TECHNICAL DATA

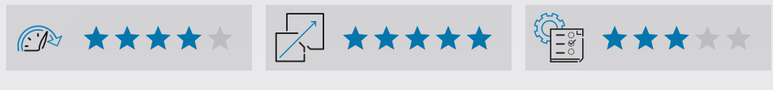
		PB3500	BM3500
PROTECTION GRADE	**IP rating**	IP20	
	NEMA rating	-	
CASE	**Installation**	Wall mounting	Book mounting
	Material	Zinc coated stainless steel	Aluminum alloy
PROCESSOR (soldered on-board)		Intel® Celeron® 3965U 2.20GHz 64bit • 2 cores / 2 threads • 2MB Smart cache • 14nm Intel® Core™ i3-7100U 2.40GHz 64bit • 2 cores / 4 threads • 3MB Smart cache • 14nm Intel® Core™ i5-7300U 2.60GHz (3.50GHz Turbo) 64bit • 2 cores / 4 threads • 3MB Smart cache • 14nm Intel® Core™ i7-7600U 2.80GHz (3.90GHz Turbo) 64bit • 2 cores / 4 threads • 4MB Smart cache • 14nm	
CHIPSET		Intel® Kaby Lake U PCH (Platform Controller Hub) • Included into processor chip (SoC)	
VIDEO CONTROLLER		Intel® HD Graphics 610 integrated in Intel® Celeron® processor • 300MHz/900MHz Intel® HD Graphics 620 integrated in Intel® Core™ i3 processor • 300MHz/1GHz Intel® HD Graphics 620 integrated in Intel® Core™ i5 processor • 300MHz/1.10GHz Intel® HD Graphics 620 integrated in Intel® Core™ i7 processor • 300MHz/1.15GHz	
WATCHDOG		Programmable time period	
TPM	**Discrete version only for S0/S1 versions and BM**	Intel® PTT (TPM integrated) • Discrete TPM 2.0 module (optional)	
SYSTEM MEMORY RAM		4GB or 8GB or 16GB (1x SODIMM DDR4 module)	
MASS STORAGE	**Cfast**	1x bootable CFast SATA III slot onboard with external access (up to 240GB)	
	SSD mSATA	-	1x onboard connector for direct insertion of SSD mSATA SATA III
	SSD M.2	1x onboard connector for direct insertion of M.2 2280 NVMe PCIe x2 SSD (up to 512GB) or M.2 2280 NVMe PCIe x4 SSD (up to 1TB)[1] or M.2 2242 SATA III SSD (up to 480GB)	-
	SSD/HDD only S0/S1 versions and BM	1x onboard connector for SSD/HDD 2.5" SATA III with internal installation kit	
INTERFACES	**LAN**	3x Gigabit Ethernet (RJ45)	
	USB	4x USB 3.0 (Type-A)	1x USB 3.0 (Type-A) front • 2x USB 3.0 (Type-A) top
	SERIAL	1x RS232 (DB9M)	-
	VIDEO	1x DisplayPort++ V1.2	1x DVI-D (Resolution up to 1920x1200) or 1x RJ45 connector for RVL
ADD-ON INTERFACES (optional) not available for SL version	**Position A (max 1)**	1x RS232/422/485 (DB15M) + 1x USB 2.0 (Type-A) 1x RS232/422/485 (DB15M) isolated + 1x USB 2.0 (Type-A) 2x RS232/422/485 (DB9M) 2x RS232/422/485 optoisolated (DB9M) 2x USB 2.0 (Type-A)	
	Position B (max 1)	1x Gigabit Ethernet (RJ45) 1x DVI-D (Resolution up to 1900x1200) 1x RJ45 connector for RVL 1x Wi-Fi module (IEEE 802.11 a/b/g/n/ac, 2.4GHz/5GHz • Bluetooth 4.2) and/or 1x Cellular module (worldwide LTE Cat 4, GSM/GPRS, UMTS/HSPA coverage)	-
EXPANSION SLOTS	**only S1 version**	1x PCI half-length or 1x PCIe x4 half-length, on riser card, max 5W	-
POWER SUPPLY INPUT		24VDC (18÷32VDC) isolated	
POWER SUPPLY (optional)	**UPS**	UPS with external battery pack (Pb • 12V/2.5A) (backside or separate mounting)	UPS with external battery pack (Pb • 12V/2,5Ah) (separate mounting)
	UPS + 512kB MRAM	-	UPS with external battery pack (Pb • 12V/2,5Ah) + 512kB MRAM (separate mounting)
	µUPS + 512kB MRAM	-	Supercapacitors µUPS + 512kB MRAM
	ATX only S0/S1 versions	Kit for ATX mode power supply (push button, internal cable and connector for remote control)	-

TECHNICAL DATA

	PB3500	BM3500
BATTERY	1x CR2032 internal access	1x CR2032 removable front access
O.S. CERTIFIED	Microsoft Windows 10 IoT Enterprise 2019/2016 64 bit	
OPERATING TEMPERATURE	0°C ÷ 50°C 0°C ÷ 45°C (24x7 HDD or Intel® Core™ i7 processor) 5°C ÷ 45°C (Standard HDD)	
STORAGE TEMPERATURE	-10°C ÷ 60°C	
OPERATING/STORAGE RELATIVE HUMIDITY	20% ÷ 90% RH (non-condensing)	
APPROVALS	CE RoHS UKCA cULus Listed	

1. The M.2 NVMe PCIe x4 SSDs show actual performance that differs from the manufacturer's claims, as they are driven via 2 lanes (socket M.2 PCIe x2). Data transfer rates are about half of the declared value (comparable to M.2 NVMe PCIe x2 SSDs).

BM3800



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- Intel® Core™ generation Comet Lake S 35W processors
- Upgradable with RAM up to 32GB
- Expandable with additional interfaces as early as S0 version and integrable with PCIe cards in S2 and S5 versions
- Optimized SSD/HDD management with single or dual removable drawers in D1 and D2 versions
- Guaranteed display up to 100m thanks to RVL interface for remote DVI-D and USB 2.0 signals

UBIQUITY INSIDE

Optix OPTIONAL

CODESYS OPTIONAL

FANLESS

RVL 100m OPTIONAL

CE RoHS UK CA

GALLERY

BM3800 - (S0 Version)

BM3800 - (S2 Version)

BM3800 - (S5 Version)

TECHNICAL DATA

		BM 3800 (35W)		
		S0	S2	S5
PROTECTION GRADE		IP20		
CASE	**Installation**	Book mounting		
	Material	Aluminum alloy		
PROCESSOR (soldered on-board)		Intel® Core™ i3-10100TE 2.30GHz (3.60GHz Turbo) 64bit • 4 cores / 8 threads • 6MB Smart cache • 14nm Intel® Core™ i5-10500TE 2.30GHz (3.70GHz Turbo) 64bit • 6 cores / 12 threads • 12MB Smart cache • 14nm Intel® Core™ i7-10700TE 2.00GHz (4.40GHz Turbo) 64bit • 8 cores / 16 threads • 16MB Smart cache • 14nm Intel® Core™ i9-10900TE 1.80GHz (4.50GHz Turbo) 64bit • 10 cores / 20 threads • 20MB Smart cache • 14nm		
CHIPSET		Intel® W480E PCH (Platform Controller Hub) with integrated RAID controller		
VIDEO CONTROLLER		Intel® UHD Graphics 630 integrated in Intel® Core™ i3 processor • 350MHz/1.1GHz Intel® UHD Graphics 630 integrated in Intel® Core™ i5 and i7 processors • 350MHz/1.15GHz Intel® UHD Graphics 630 integrated in Intel® Core™ i9 processor • 350MHz/1.20GHz		
TPM		Intel® PTT (integrated TPM)		
SYSTEM MEMORY RAM (soldered)		4GB (1x 4GB SODIMM DDR4 module) 8GB (2x 4GB SODIMM DDR4 module) 16GB (2x 8GB SODIMM DDR4 module) 32GB (2x 16GB SODIMM DDR4 module)		
MASS STORAGE	**Cfast**	1x bootable CFast SATA III slot onboard with external access (up to 240GB)		
	M.2 SSD	1x onboard connector for direct insertion of M.2 2280 NVMe PCIe x4 SSD (up to 512GB) or M.2 2242 SATA III SSD (up to 480GB)		
	SSD/HDD	1x onboard connectors for SSDs/HDDs 2,5" SATA III with internal installation kit	1x or 2x onboard connectors for SSDs/HDDs 2,5" SATA III with internal installation kit	
EXTRACTABLE MASS STORAGE (optional)		1x or 2x extractable SSDs/HDDs 2.5" SATA III units		
RAID		Raid 0, 1		
INTERFACES	**LAN**	2x Multi-Gig 2.5G Ethernet (RJ45) • 3x Gigabit Ethernet (RJ45)		
	USB	2x USB 3.1 Gen2 (Type-A) • 4x USB 3.1 Gen1 (Type-A) • 1x USB 3.1 Gen1 (Type-A) front		
	VIDEO	1x DisplayPort++ V1.2		
ADD-ON INTERFACES (optional)	**Position A (max 1)**	1x RS232/422/485 (DB15M) + 1x USB 2.0 (Type-A) 1x RS232/422/485 (DB15M) isolated + 1x USB 2.0 (Type-A) 2x RS232/422/485 (DB9M) 2x RS232/422/485 optoisolated (DB9M) 2x USB 2.0 (Type-A) 1x Gigabit Ethernet (RJ45) + 1x USB 2.0 (Type-A)		
	Position B (max 1)	1x or 2x RJ45 connectors for RVL (2x not available for S0 D2 version) 2x DisplayPort++ V1.2		
EXPANSION SLOTS		-	1x PCIe x16 half-length + 1x PCIe x4 half-length or 1xPCIe x4 half-length + 1x PCIe x1 half-length, on riser card, max 10W total	2x PCIe x8 half-length + 2x PCIe x4 half-length + 1x PCIe x1 half-length, on riser card, max 10W total
POWER SUPPLY INPUT		24VDC (18÷32VDC) isolated		
POWER SUPPLY	**ATX**	Kit for ATX mode power supply (connector for remote control)		
BATTERY		1x CR2032 Removable front access		
O.S. CERTIFIED		Microsoft Windows 10 IoT Enterprise 2021 64 bit		
OPERATING TEMPERATURE	**without forced ventilation**	0°C ÷ 50°C 0°C ÷ 45°C (24x7 HDD) 5°C ÷ 45°C (Standard HDD)		
	with forced ventilation	0°C ÷ 50°C 0°C ÷ 50°C (24x7 HDD) 5°C ÷ 45°C (Standard HDD)		
STORAGE TEMPERATURE		-20°C ÷ 70°C		
OPERATING/STORAGE RELATIVE HUMIDITY		20% ÷ 90% RH (non-condensing)		

TECHNICAL DATA

	BM 3800 (35W)		
	S0	S2	S5
FORCED VENTILATION (optional)	-	Forced ventilation (2x tachometric fans 40x40x20 mm), required to ensure: - operating temperature 0°C ÷ 50°C (24x7 HDD) - use of expansion cards up to a maximum of 20W total	Forced ventilation (1x tachometric fan 92x92x20 mm), required to ensure: - operating temperature 0°C ÷ 50°C (24x7 HDD) - use of expansion cards up to a maximum of 20W total
APPROVALS	CE RoHS UKCA		

1. The M.2 NVMe PCIe x4 SSDs show actual performance that differs from the manufacturer's claims, as they are driven via 2 lanes (socket M.2 PCIe x2). Data transfer rates are about half of the declared value (comparable to M.2 NVMe PCIe x2 SSDs).

PB5400/5600

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UBIQUITY INSIDE

Optix™ OPTIONAL

RVL 100m OPTIONAL

- Intel® Celeron®, Core™ i3, i5, i7 processors of Skylake and Kaby Lake generation
- RAM up to 32GB
- Available in S0 version with the possibility to install additional interfaces, S1 version with one PCIe expansion slot and S3 version with three PCIe expansion slots
- Available with additional RVL interface for remotation of the DVI-D and USB 2.0 signals up to 100m (optional)
- Available with 115/230VAC power supply (optional)

GALLERY

PB5400/5600 - (S0 Version) - 24VDC

PB5400/5600 - (S0 Version) - 230VAC

PB5400/5600 - (S1 Version) - 24VDC

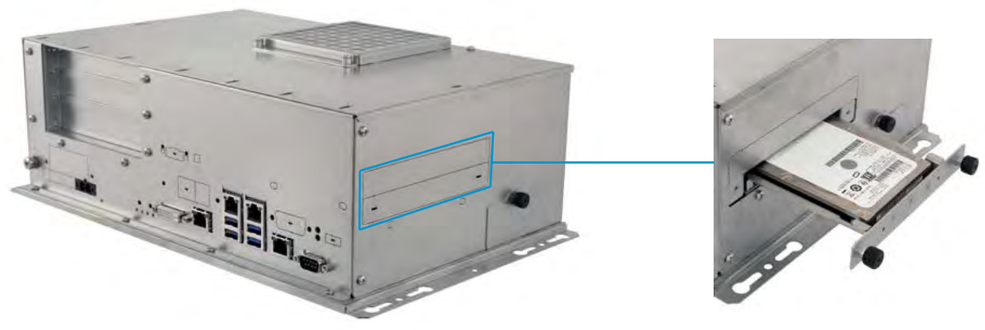
PB5400/5600 - (S1 Version) - 230VAC

PB5400-5600 - (S3 Version) - 24VDC

PB5400-5600 - (S3 Version) - 230VAC

DETAIL - EXTRACTABLE DRIVES SLOT

Extractable drives slot available only for S1 and S3 versions



PB5400/5600

TECHNICAL DATA

		PB5400/5600
PROTECTION GRADE	**IP rating**	IP20
	NEMA rating	-
CASE	**Installation**	Wall mounting
	Material	Zinc-coated skin pass steel
PROCESSOR (soldered on-board)	**xx5400**	Intel® Core™ i3-6100 3.70GHz 64bit • 2 cores / 4 threads • 3MB Smart cache • 14nm Intel® Core™ i5-6500 3.20GHz (3.60GHz Turbo) 64bit • 4 cores / 4 threads • 6MB Smart cache • 14nm Intel® Core™ i7-6700 3.40GHz (4.00GHz Turbo) 64bit • 4 cores / 8 threads • 8MB Smart cache • 14nm
	xx5600	Intel® Celeron® G3930E 2.90Ghz 64bit • 2 cores / 2 threads • 2MB Smart cache • 14nm Intel® Core™ i3-7101E 3.90Ghz 64bit • 2 cores / 4 threads • 3MB Smart cache • 14nm Intel® Core™ i5-7500 3.40Ghz (3.80GHz Turbo) 64bit • 4 cores / 4 threads • 6MB Smart cache • 14nm Intel® Core™ i7-7700 3.60Ghz (4.20GHz Turbo) 64bit • 4 cores / 8 threads • 8MB Smart cache • 14nm
CHIPSET		Intel® C236 PCH (Platform Controller Hub) with integrated RAID controller
VIDEO CONTROLLER	**xx5400**	Intel® HD Graphics 530 integrated in Intel® Core® i3 and i5 processors • 350MHz/1.05GHz Intel® HD Graphics 530 integrated in Intel® Core® i7 processor • 350MHz/1.15GHz
	xx5600	Intel® HD Graphics 610 integrated in Intel® Celeron® processor • 350MHz/1GHz Intel® HD Graphics 630 integrated in Intel® Core® i3 and i5 processors • 350MHz/1.10GHz Intel® HD Graphics 630 integrated in Intel® Core® i7 processor • 350MHz/1.15GHz
TPM		Intel® PTT (TPM integrated) • Discrete TPM 2.0 module (optional)
SYSTEM MEMORY RAM		4GB (1x 4GB SODIMM DDR4 module) 8GB (2x 4GB SODIMM DDR4 module) 16GB (2x 8GB SODIMM DDR4 module) 32GB (2x 16GB SODIMM DDR4 module)
MASS STORAGE	**CFast**	1x bootable CFast SATA III slot onboard with external access (up to 240GB)
	SSD M.2	1x onboard connector for direct insertion of M.2 2280 NVMe PCIe x4 SSD (up to 512GB) or M.2 2242 SATA III SSD (up to 480GB)
	SSD/HDD	2x onboard connectors for SSDs/HDDs 2.5" SATA III with internal installation kit
EXTRACTABLE MASS STORAGE	**S0/S1/S3 versions**	1x extractable SSD/HDD 2.5" SATA III unit
	only S1/S3 versions	2x extractable SSDs/HDDs 2.5" SATA III units
RAID		Raid 0, 1
INTERFACES	**LAN**	4x Gigabit Ethernet (RJ45)
	USB	4x USB 3.0 (Type-A)
	SERIAL	1x RS232 (DB9M)
	VIDEO	1x DVI-D (Resolution up to 1920x1080)
ADD-ON INTERFACES (optional)	**Position A (max 1)**	1x RS232/422/485 (DB15M) + 1x USB 2.0 (Type-A) 1x RS232/422/485 (DB15M) isolated + 1x USB 2.0 (Type-A) 2x RS232/422/485 (DB9M) 2x RS232/422/485 optoisolated (DB9M) 2x USB 2.0 (Type-A)
	Position B (max 1)	1x Gigabit Ethernet (RJ45) 1x or 2x RJ45 connectors for RVL 2x DisplayPort++ V1.2 1x Wi-Fi module (IEEE 802.11 a/b/g/n/ac, 2.4GHz/5GHz • Bluetooth 4.2) and/or 1x Cellular module (worldwide LTE Cat 4, GSM/GPRS, UMTS/HSPA coverage)
EXPANSION SLOTS	**only S1 version**	1x PCIe x16 half-length, on riser card, max 75W
	only S3 version	1x PCIe x16 half-length + 1xPCIe x4 half-length, on riser card, max 75W 1x PCIe x16 half-length + 1xPCIe x4 half-length + 1xPCIe x1 half-length, on riser card, max 80W 2x PCIe x8 half-length + 1x PCIe x4 half-length, on riser card, max 85W 3x PCI half-lenght, on riser card, max 30W 2x PCI half-lenght + 1x PCIe x4 half-lenght, on riser card, max 35W
POWER SUPPLY INPUT		24VDC (18÷32VDC) isolated
	optional	115V/230VAC (85÷264VAC) isolated, autoranging
POWER SUPPLY (optional)	**ATX**	Kit for ATX mode power supply (push button, internal cable and connector for remote control)

TECHNICAL DATA

		PB5400/5600
BATTERY		1x CR2032 Internal access
O.S. CERTIFIED	**xx5400**	Microsoft Windows 10 IoT Enterprise 2019 64 bit Microsoft Windows 7 Pro/Ultimate 64 bit Microsoft Windows Embedded Standard 7E/7P 64 bit Microsoft Windows Server Embedded Standard 2019 R2 64 bit
	xx5600	Microsoft Windows 10 IoT Enterprise 2019 64 bit Microsoft Windows Server Embedded Standard 2019 R2 64 bit
OPERATING TEMPERATURE		0°C ÷ 50°C 0°C ÷ 45°C (24x7 HDD or Intel® Core™ i7 processor) 5°C ÷ 45°C (Standard HDD)
STORAGE TEMPERATURE		-10°C ÷ 60°C
OPERATING/STORAGE RELATIVE HUMIDITY		20% ÷ 90% RH (non-condensing)
APPROVALS		CE RoHS UKCA cULus Listed

COMPARISON TABLE

		 PB2150 & BM2150	 PB2200 & BM2200	 PB2250 & BM2250	 BM3300	 PB3400 & BM3400	 PB3500 & BM3500	 PB3600 & BM3600	 BM3800	 PB5400	 PB5600
FANLESS		✓	✓	✓	✓	✓	✓	✓	✓	✗	✗
INSTALLATION		PB - Wall mounting BM - Book/DIN mounting	PB - Wall mounting BM - Book mounting	PB - Wall mounting BM - Book/DIN mounting	Book mounting	PB - Wall mounting BM - Book mounting	PB - Wall mounting BM - Book mounting	PB - Wall mounting BM - Book mounting	Book mounting	Wall mounting	Wall mounting
PROCESSORS	**Model**	Intel® Celeron® J1900	Intel® Celeron® J1900	Intel Atom® x5-E3930 Intel Atom® x7-E3950	Intel® Celeron® 3955U Intel® Core™ i3-6100U Intel® Core™ i5-6300U Intel® Core™ i7-6600U	Intel® Celeron® G3900E Intel® Core™ i3-6100E Intel® Core™ i5-6440EQ Intel® Core™ i7-6820EQ	Intel® Celeron® 3965U Intel® Core™ i3-7100U Intel® Core™ i5-7300U Intel® Core™ i7-7600U	Intel® Core™ i3-7100E Intel® Core™ i5-7440EQ Intel® Core™ i7-7820EQ	Intel® Core™ i3-10100TE Intel® Core™ i5-10500TE Intel® Core™ i7-10700TE Intel® Core™ i9-10900TE	Intel® Core™ i3-6100 Intel® Core™ i5-6500 Intel® Core™ i7-6700	Intel® Celeron® G3930E Intel® Core™ i3-7101E Intel® Core™ i3-7101E Intel® Core™ i7-7700
	Generation	Intel® Bay Trail	Intel® Bay Trail	Intel® Apollo Lake	Intel® Skylake	Intel® Skylake	Intel® Kaby Lake U	Intel® Kaby Lake	Intel® Comet Lake S	Intel® Skylake	Intel® Kaby Lake
SYSTEM MEMORY		Up to 8GB	Up to 8GB	Up to 8GB	Up to 16GB	Up to 32GB	Up to 16GB	Up to 32GB	Up to 32GB	Up to 32GB	Up to 32GB
INTERFACES	**LAN**	2x RJ45	2x RJ45	2x RJ45	3x RJ45	4x RJ45	3x RJ45	4x RJ45	2x RJ45 (2,5G Ethernet)•3xRJ45	4x RJ45	4x RJ45
	USB	1x USB 3.0 • 1x USB 2.0	2x USB 2.0 • 1x USB 3.0	3x USB 3.0	1x USB 3.0 • 2x USB 3.0	3x USB 3.0 • 2x USB 2.0	4x USB 3.0	3x USB 3.0 • 2x USB 2.0	2x USB 3.1Gen2 • 4x USB 3.1Gen1 •1x USB 3.1Gen1	4x USB 3.0	4x USB 3.0
	Serial	-	1x RS232 (DB9M) (PB only)	-	-	1x RS232 (DB9M)	1x RS232 (DB9M) (PB only)	1x RS232 (DB9M)	-	1x RS232 (DB9M)	1x RS232 (DB9M)
	Video	1x DVI-D	1x DVI-I	1x DisplayPort++ V1.2	1x DVI-D	1x DVI-D	1x DisplayPort++ V1.2	1x DVI-D	1x DisplayPort++ V1.2	1x DVI-D	1x DVI-D
EXPANSION SLOTS PCI/PCIe		-	Up to 1 (PB only)	-	-	PB - Up to 1 BM - Up to 2	Up to 1 (PB only)	PB - Up to 1 BM - Up to 2	Up to 5	Up to 3	Up to 3
INTERNAL SSD/HDD		-	Up to 1	-	Up to 1	PB - Up to 1 BM - Up to 2	Up to 1	PB - Up to 1 BM - Up to 2	Up to 2	Up to 2	Up to 2
EXTRACTABLE SSD/HDD		-	-	-	-	Up to 2	-	Up to 2	Up to 2	Up to 3	Up to 3
POWER SUPPLY INPUT		24VDC	24VDC	24VDC	24VDC	24VDC	24VDC	24VDC	24VDC	24VDC 115V/230VAC	24VDC 115V/230VAC
OPERATING SYSTEMS		Microsoft Windows 7 Microsoft Windows Embedded Standard 7 Microsoft Windows 10 IoT Enterprise LTSC	Microsoft Windows 7 Microsoft Windows Embedded Standard 7 Microsoft Windows 10 IoT Enterprise LTSC	Microsoft Windows 10 IoT Enterprise LTSC	Microsoft Windows 7 Microsoft Windows Embedded Standard 7 Microsoft Windows 10 IoT Enterprise LTSC	Microsoft Windows 7 Microsoft Windows Embedded Standard 7 Microsoft Windows 10 IoT Enterprise LTSC	Microsoft Windows 10 IoT Enterprise LTSC	Microsoft Windows 10 IoT Enterprise LTSC	Microsoft Windows 10 IoT Enterprise LTSC	Microsoft Windows 7 Microsoft Windows Embedded Standard 7 Microsoft Windows Server Embedded Standard Microsoft Windows 10 IoT Enterprise LTSC	Microsoft Windows 10 IoT Enterprise LTSC Microsoft Windows Server Embedded Standard
PAC VERSION *		✗	✓	✗	✗	✓	✗	✓	✗	✗	✗
CERTIFICATIONS		CE RoHS UKCA cULus LISTED	CE RoHS UKCA cULus LISTED	CE RoHS cULus LISTED	CE RoHS UKCA cULus LISTED	CE RoHS UKCA cULus LISTED	CE RoHS UKCA cULus LISTED	CE RoHS UKCA cULus LISTED	CE RoHS UKCA	CE RoHS UKCA cULus LISTED	CE RoHS UKCA cULus LISTED

** with UPS + 512kB MRAM for retentive data management and Codesys software*

ULTRA-COMPACT IPCS

HIGH CAPACITIES OF PROCESSING
COMPACTNESS
ERGONOMIC DESIGN

BM1XY FAMILY

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- Ultra-compact design and anodized aluminum chassis
- Intel® Atom™ x5, x7 processors of SoC Apollo Lake generation
- RAM up to 8GB
- Available with 4 ports Gigabit Ethernet switch (only BM121 and BM131)
- Available with Wi-Fi/Bluetooth interfaces and 4G Global modem (only BM122, BM130 and BM131)
- DIN rail mounting available
- Wall mounting available (only BM100)
- Built-in UPS with external battery pack (optional)

UBIQUITY INSIDE

Optix OPTIONAL

FANLESS

VERSIONS

BM100

BM110

BM120

BM121

BM122

BM130

BM131

BM1XY FAMILY

TECHNICAL DATA

		BM100	BM110	BM120	BM121	BM122	BM130	BM131
PROTECTION GRADE	**IP rating**	IP20						
CASE	**Installation**	Book / DIN rail / Wall Mounting	Book / DIN rail Mounting					
	Material	Anodized aluminum alloy						
	Dimensions (w/o mounting)	100x100x-39,4mm	100x100x-58,4mm	100x100x79mm			100x100x100mm	
PROCESSOR (soldered on-board)		Intel Atom® x5-E3930 1.3GHz (1.8 GHz Burst) • 2 cores / 2 threads • 2MB L2 cache • 14nm Intel Atom® x7-E3950 1.6GHz (2.0 GHz Burst) • 4 cores / 4 threads • 2MB L2 cache • 14nm						
CHIPSET		Intel® Apollo Lake • Included into processor chip (SoC)						
VIDEO CONTROLLER		Intel® HD Graphics 500 integrated in Intel Atom® x5-E3930 processor • 400MHz/550MHz Intel® HD Graphics 505 integrated in Intel Atom® x7-E3950 processor • 500MHz/650MHz						
TPM		Intel® PTT (TPM integrated)						
SYSTEM MEMORY RAM (soldered)	**with x5-E3930**	4GB SODIMM LP-DDR4 module						
	with x7-E3950	4GB or 8GB SODIMM LP-DDR4 module						
MASS STORAGE	**SSD M.2**	1x onboard connector for direct insertion of M.2 2242 SATA III SSD (up to 480GB)						
INTERFACES	**LAN**	2x Gigabit Ethernet (RJ45)		4x Gigabit Ethernet (RJ45)	2x Gigabit Ethernet (RJ45)		4x Gigabit Ethernet (RJ45)	2x Gigabit Ethernet (RJ45)
	LAN Switch	-			1x Unmanaged Gigabit Switch (4x RJ45)	-		1x Unmanaged Gigabit Switch (4x RJ45)
	USB	2x USB 3.0 (Type-A)		4x USB 3.0 (Type-A)		2x USB 3.0 (Type-A)	4x USB 3.0 (Type-A)	
	SERIAL	-		1x RS232/422/485 (DB9M)	-		1x RS232/422/485 (DB9M)	-
	VIDEO	1x DisplayPort++ V1.2						
	DIGITAL INPUT	-	2x Digital Input (0÷24V isolation 500V)					
	DIGITAL OUTPUT	-	2x Digital Output (N.O. max 200mA 24VDC)					
Wi-Fi Module	**Model**	-				Bointec DPE109A (mPCIe interface)		
	Standard	-				IEEE 802.11 a/b/g/n/ac, 2.4GHz/5GHz • Bluetooth 4.2		
	Security	-				WEP 64/128bit, WPA, WPA2, WPS, 802,1x		
	RF Output Power	-				2.4GHz (802.11b): 18 dBm ± 2dB 2.4GHz (802.11n): 14 dBm ± 2dB 5GHz (802.11a): 13 dBm ± 2dB 5GHz (802.11ac): 10 dBm ± 2dB		
	RF sensitivity	-				11a, 20MHz:- MCS=0 PER @ -90 dBm, typical 11n, 20MHz:- MCS=0 PER @ -90 dBm, typical 11b, 20MHz@8%PER:- 11Mbps PER @ -91 dBm, typical <0,1% BER at -70dBm (Bluetooth)		
	Feature	-				Client mode / Access point mode		
	Antenna	-				2x RP-SMA Female connector		

TECHNICAL DATA

		BM100	BM110	BM120	BM121	BM122	BM130	BM131
Cellulare Module	**Model**	-				SIMCom SIM7600G-H (mPCIe interface)		
	Frequency Bands	-				FDD-LTE: B1/B2/B3/B4/B5/B7/B8/B12/B13/B18/B19/B20/B25/B26/B28/B66 TDD-LTE: B38/B39/B40/B41 UMTS/HSDPA/HSPA+: B1/B2/B4/B5/B6/B8/B19 GSM/GPRS/EDGE: B2/B3/B5/B8		
	Data Transfer	-				up to 150Mbps (Downlaod) / 50Mbps (Upload)		
	SIM	-				1x Micro SIM card socket, push-push type		
	Antenna	-				2x SMA Female connector		
POWER SUPPLY INPUT		24VDC (18÷32VDC) isolated						
POWER SUPPLY (optional)	**UPS**	-	UPS with external battery pack (NiMH • 12V/2,5Ah) (separate mounting)					
BATTERY		1x CR2032 Internal access						
O.S. CERTIFIED		Microsoft Windows 10 IoT Enterprise 2019 64 bit						
OPERATING TEMPERATURE	**with x5-E3930**	0°C ÷ 55°C	0°C ÷ 50°C					
	with x7-E3950	0°C ÷ 50°C						
STORAGE TEMPERATURE		-10°C ÷ 60°C						
OPERATING/STORAGE RELATIVE HUMIDITY		20% ÷ 90% RH (non-condensing)						
APPROVALS		CE RoHS UKCA cULus Listed						

COMPARISON TABLE

		BM100	BM110	BM120	BM121	BM122	BM130	BM131
INSTALLATION		Book/ DIN rail/ Wall mounting	Book/ DIN rail mounting	Book/ DIN rail mounting	Book/ DIN rail mounting	Book/ DIN rail mounting	Book/ DIN rail mounting	Book/ DIN rail mounting
PROCESSORS	**Model**	Intel Atom® x5-E3930 Intel Atom® x7-E3950	Intel Atom® x5-E3930 Intel Atom® x7-E3950	Intel Atom® x5-E3930 Intel Atom® x7-E3950	Intel Atom® x5-E3930 Intel Atom® x7-E3950	Intel Atom® x5-E3930 Intel Atom® x7-E3950	Intel Atom® x5-E3930 Intel Atom® x7-E3950	Intel Atom® x5-E3930 Intel Atom® x7-E3950
	Generation	Intel® Apollo Lake	Intel® Apollo Lake	Intel® Apollo Lake	Intel® Apollo Lake	Intel® Apollo Lake	Intel® Apollo Lake	Intel® Apollo Lake
SYSTEM MEMORY		Up to 8GB	Up to 8GB	Up to 8GB	Up to 8GB	Up to 8GB	Up to 8GB	Up to 8GB
INTERFACES	**LAN**	2x RJ45	2x RJ45	4x RJ45	2x RJ45	2x RJ45	4x RJ45	2x RJ45
	LAN switch	-	-	-	1x Unmanaged Gigabit Switch (4x RJ45)	-	-	1x Unmanaged Gigabit Switch (4x RJ45)
	USB	2x USB 3.0	2x USB 3.0	4x USB 3.0	4x USB 3.0	2x USB 3.0	4x USB 3.0	4x USB 3.0
	Serial	-	-	1x RS232/422/485 (DB9M)	-	-	1x RS232/422/485 (DB9M)	-
	Video	1x DisplayPort++ V1.2	1x DisplayPort++ V1.2	1x DisplayPort++ V1.2	1x DisplayPort++ V1.2	1x DisplayPort++ V1.2	1x DisplayPort++ V1.2	1x DisplayPort++ V1.2
	Digital input	-	2	2	2	2	2	2
	Digital output	-	2	2	2	2	2	2
	Wi-Fi module	✗	✗	✗	✗	✓	✓	✓
	Cellular module	✗	✗	✗	✗	✓	✓	✓
POWER SUPPLY INPUT		24VDC	24VDC	24VDC	24VDC	24VDC	24VDC	24VDC
OPERATING SYSTEMS		Microsoft Windows 10 IoT Enterprise LTSC	Microsoft Windows 10 IoT Enterprise LTSC	Microsoft Windows 10 IoT Enterprise LTSC	Microsoft Windows 10 IoT Enterprise LTSC	Microsoft Windows 10 IoT Enterprise LTSC	Microsoft Windows 10 IoT Enterprise LTSC	Microsoft Windows 10 IoT Enterprise LTSC
CERTIFICATIONS		CE RoHS UKCA c UL us LISTED	CE RoHS UKCA c UL us LISTED	CE RoHS UKCA c UL us LISTED	CE RoHS UKCA c UL us LISTED	CE RoHS UKCA c UL us LISTED	CE RoHS UKCA c UL us LISTED	CE RoHS UKCA c UL us LISTED

ARM/VESA MOUNTING IPCS

HIGH PERFORMANCE
WIDE CONFIGURABILITY AND EXPANDABILITY
ELEGANT DESIGN
EASE OF INSTALLATION

VK3500 SERIES

- VESA 75/100 or top/bottom arm mounting
- Available in landscape and portrait version
- Powder coated die-cast aluminum chassis with anti-scratch treatment
- 15.6", 18.5", 21.5" and 24" TFT LCDs in Wide aspect ratio for landscape version (VK3500 and VK3500-BA)
- 21,5" and 24" TFT LCDs in Wide aspect ratio for portrait version (VK3500P-BA)
- Front panels with minimized aluminum (ALU) and glass True Flat (TFM) frame with multitouch projected capacitive touchscreen (only landscape version)
- Front panels with minimized aluminum and glass True Flat (TFM) frame with multitouch projected capacitive touchscreen
- Full IP65 protection grade
- Available with configurable Button Area for the installation of Ø22 hard-wired elements (VK3500-BA and VK3500P-BA)
- Celeron®, Core™ processors of Kaby Lake generation
- Available with RVL technology for the remotation of the DVI-D and USB 2.0 signals up to 100m (optional)

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UBIQUITY INSIDE

Optix™ OPTIONAL

RVL 100m OPTIONAL

BUTTON AREA
PAG. 122

ACCESSORI
PAG. 126

TECHNICAL DATA

		VK3500-BA-ALU	VK3500-BA-TFM	VK3500-ALU	VK3500-TFM	VK3500P-BA-TFM
LED BACKLIGHT TFT LCD		15.6" W - 1366x768 15.6" W - 1920x1080 18.5" W - 1366x768 18.5" W - 1920x1080 21.5" W - 1920x1080 24"W - 1920x1080				21.5" W - 1920x1080 24"W - 1920x1080
ORIENTATION		Landscape				Portrait
TOUCHSCREEN		Resistive 5 wires	P-CAP Multitouch	Resistive 5 wires	P-CAP Multitouch	P-CAP Multitouch
FRONT PANEL	**Material**	Aluminum	True Flat Aluminum	Aluminum	True Flat Aluminum	True Flat Aluminum
PROTECTION GRADE	**IP rating**	Full IP65				
	NEMA rating	UL Type 1, 4x (indoor only)		UL Type 1, 4x (indoor only) and 12		UL Type 1, 4x (indoor only)
CASE	**Installation**	VESA 75/100 or pole/suspension arm mounting system compatible with RITTAL CP40/ROLEC TARAPLUS/ HASEKE ULT KUPPLUNG 48				
	Material	Aluminum alloy AN AB46400				
	Color	Anti-scratchable painted - RAL 9006				
	Accesories	Side handles, perimetral handle, keyboard holder kit				
BUTTON AREA (optional)		See dedicated section		-		See dedicated section
PROCESSOR (soldered on-board)		Intel® Celeron™ 3965U 2.20GHz • 64bit • 2 cores / 2 threads • 2MB Smart cache • 14nm Intel® Core™ i3-7100U 2.40GHz • 64bit • 2 cores / 4 threads • 3MB Smart cache • 14nm Intel® Core™ i5-7300U 2.60GHz (3.50GHz Turbo) • 64bit • 2 cores / 4 threads • 3MB Smart cache • 14nm Intel® Core™ i7-7600U 2.80GHz (3.90GHz Turbo) • 64bit • 2 cores / 4 threads • 4MB Smart cache • 14nm				
CHIPSET		Intel® Kaby Lake PCH-LP (Platform Controller Hub - Low Power) • Included into processor chip (SoC)				
VIDEO CONTROLLER		Intel® HD Graphics 610 integrated in Celeron™ 3965U • 300MHz/900MHz Intel® HD Graphics 620 integrated in Core™ i3 processors • 300MHz/1.00GHz Intel® HD Graphics 620 integrated in Core™ i5 processors • 300MHz/1.10GHz Intel® HD Graphics 620 integrated in Core™ i7 processor • 300MHz/1.15GHz DirectX 12 and OpenGL 4.5 support				
WATCHDOG		Programmable time period				
TPM		Intel® PTT (TPM integrated)				
SYSTEM MEMORY RAM		4GB or 8GB or 16GB (1 x SODIMM DDR4 module)				
MASS STORAGE	**CFast**	1x bootable CFast SATA III slot onboard with external access (up to 240GB)				
	M.2 SSD	1x onboard connector for direct insertion of M.2 2280 NVMe PCIe x2 SSD or M.2 2280 NVMe PCIe x4 SSD (up to 1TB)[1]				
INTERFACES	**LAN**	3x Gigabit Ethernet (RJ45)				
	USB	3x USB 3.0 (Type-A) • 1x USB 3.0 (Type-A) rear with protection cap				
	VIDEO (optional)	1x DisplayPort++ V1.2 or 1x RJ45 connector for RVL				
ADD-ON INTERFACES (optional)	**Position A (max 1)**	1 x RS232/422/485 (DB15M) 1 x RS232/422/485 (DB15M) isolated 1 x Gigabit Ethernet (RJ45)				
CONNECTIVITY (optional)		1x Wi-Fi module (IEEE 802.11 a/b/g/n/ac, 2.4GHz/5GHz • Bluetooth 5.1)				
POWER SUPPLY INPUT		24VDC (18÷32VDC) isolated				
POWER SUPPLY (optional)	**ATX**	Kit for ATX mode power supply (internal cable and push button on button area)				
BATTERY		1x CR2032 Removable front access				
O.S. CERTIFIED		Microsoft Windows 10 IoT Enterprise 2019 64bit				
OPERATING TEMPERATURE		0°C ÷ 50°C				
STORAGE TEMPERATURE		-10°C ÷ 60°C				
OPERATING/STORAGE RELATIVE HUMIDITY		20% ÷ 90% RH (non-condensing)				
APPROVALS		CE RoHS UKCA cULus Listed				

1. The M.2 NVMe PCIe x4 SSDs show actual performance that differs from the manufacturer's claims, as they are driven via 2 lanes (socket M.2 PCIe x2). Data transfer rates are about half of the declared value (comparable to M.2 NVMe PCIe x2 SSDs).

RACK MOUNTING IPCS

HIGH PERFORMANCE
HIGH CONFIGURABILITY
HIGH RELIABILITY
MULTIPLICITY OF USE

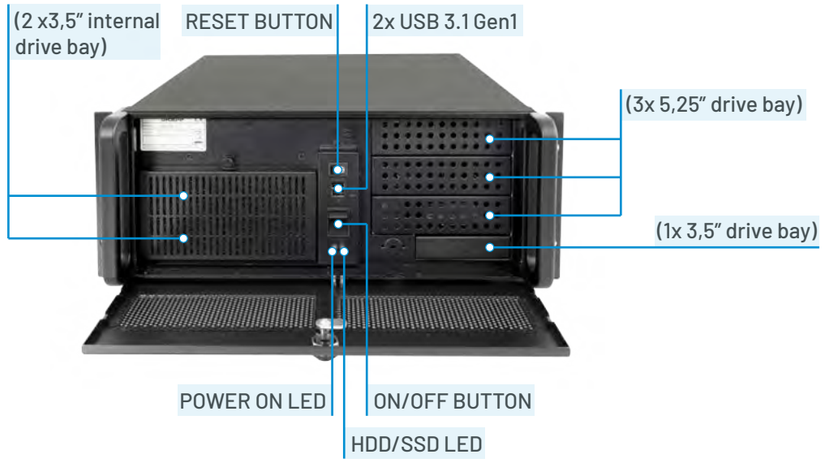
PR4XXX SERIES

DOWNLOAD THE PRODUCT SHEET

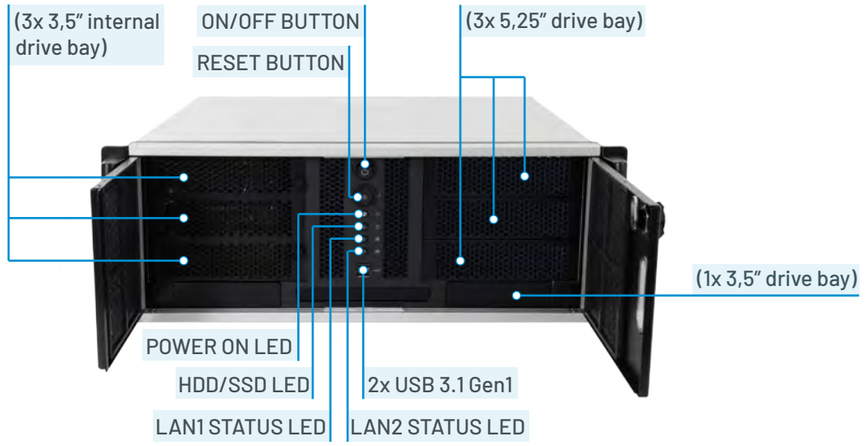
- Available in long (PR40XX) and short versions (PR41XX)
- 24/7 operation
- High processing capacity
- High reliability
- Multiplicity of use
- Intel® Core™ i3, i5, i7 processors of Skylake, Kaby Lake and Coffee Lake generation

DETAIL - FRONT ACCESS

PR40XX - Long version



PR41XX - Short version



Front access

5.25"	• DVD • HDD + KH • HDD + BH
5.25"	• DVD • HDD + KH • HDD + BH
5.25"	• DVD • HDD + KH • HDD + BH
3.5"	• HDD • 2xSSD + KS • 2xSSD + BS

Internal access - PR40XX

3.5"	• HDD
3.5"	• HDD

Internal access - PR41XX

3.5"	• HDD • 2xSSD + KS
3.5"	• HDD • 2xSSD + KS
3.5"	• HDD • 2xSSD + KS

- **DVD**: DVD-RW SATA optical drive
- **HDD**: 3,5" SATA HDD
- **KH**: 1x3,5" HDD on 5,25" drive bay installation kit
- **BH**: Extractable drawer for 1x3,5" HDD on 5,25" drive bay
- **SSD**: 2,5" SATA SSD
- **KS**: 2x2,5" SSD on 3,5" drive bay installation kit
- **BS**: Extractable drawers for 2x2,5" SSD on 3,5" drive bay

TECHNICAL DATA

		PR4048	PR4148	PR4049	PR4149	PR4050	PR4150	PR4051	PR4151
CASE		Cabinet rackmount 19" 4U							
	ASEM Logo	Adhesive label							
	Material	Electro galvanized Steel	Hot dip galvanized Steel	Electro galvanized Steel	Hot dip galvanized Steel	Electro galvanized Steel	Hot dip galvanized Steel	Electro galvanized Steel	Hot dip galvanized Steel
CABINET FORMAT		Long	Short	Long	Short	Long	Short	Long	Short
MOTHERBOARD		ATX format, D3446-S2 (Fujitsu)				ATX format, D3646-S (Fujitsu)			
PROCESSOR (soldered on-board)		Intel® Core™ i3-6100 3.70GHz 64bit • 2 cores / 4 threads • 3MB Smart cache • 14nm • Socket LGA1151 Intel® Core™ i5-6400 2.70GHz (3.30GHz Turbo) 64bit • 4 cores / 4 threads • 3MB Smart cache • 14nm • Socket LGA1151 Intel® Core™ i7-6700 3.40GHz (4.00GHz Turbo) 64bit • 4 cores / 8 threads • 8MB Smart Cache • 14nm • Socket LGA1151		Intel® Core™ i5-7500 3.40GHz (3.80GHz Turbo) 64bit • 4 cores / 4 threads • 6MB Smart cache • 14nm • Socket LGA1151 Intel® Core™ i7-7700 3.60GHz (4.20GHz Turbo) 64bit • 4 cores / 8 threads • 8MB Smart cache • 14nm • Socket LGA1151		Intel® Core™ i3-8100 3.60GHz 64bit • 4 cores / 4 threads • 6MB Smart cache • 14nm • Socket LGA1151 Intel® Core™ i5-8400 2.80GHz (4.00GHz Turbo) 64bit • 6 cores / 6 threads • 9MB Smart cache •14nm • Socket LGA1151 Intel® Core™ i7-8700 3.20GHz (4.60GHz Turbo) 64bit • 6 cores / 12 threads • 12MB Smart cache • 14nm • Socket LGA1151 Intel® Xeon™ E-2176G 3.70GHz (4.70GHz Turbo) 64bit • 6 cores / 12 threads • 12MB Smart cache • 14nm • Socket LGA1151		Intel® Core™ i3-9100E 3.10GHz (3.70GHz Turbo) 64bit • 4 cores / 4 threads • 6MB Smart cache • 14nm • Socket LGA1151 Intel® Core™ i5-9400E 3.00GHz (420GHz Turbo) 64bit • 6 cores / 6 threads • 9MB Smart cache • 14nm • Socket LGA1151 Intel® Core™ i7-9700E 2.60GHz (4.40GHz Turbo) 64bit • 8 cores / 8 threads • 12MB Smart cache • 14nm • Socket LGA1151	
CHIPSET		Intel® C236 Express Chipset with integrated RAID controller				Intel® C246 Express Chipset with integrated RAID controller			
VIDEO CONTROLLER		Intel® HD Graphics 530 integrated Intel® Core™ i3 processor • 350MHz/1.05GHz Intel® HD Graphics 530 integrated Intel® Core™ i5 processor • 350MHz/950MHz Intel® HD Graphics 530 integrated Intel® Core™ i7 processor • 350MHz/1.15GHz Multi Display supported (up to 3)		Intel® HD Graphics 630 integrated Intel® Core™ i5 processor • 350MHz/1.10GHz Intel® HD Graphics 630 integrated Intel® Core™ i7 processor • 350MHz/1.15GHz Multi Display supported (up to 3)		Intel® UHD Graphics 630 integrated Intel® Core™ i3 processor • 350MHz/1.10GHz Intel® UHD Graphics 630 integrated Intel® Core™ i5 processor • 350MHz/1.05GHz Intel® UHD Graphics 630 integrated Intel® Core™ i7 processor • 350MHz/1.20GHz Intel® UHD Graphics P630 integrated Intel® Xeon™ processor • 350MHz/1.20GHz Multi Display supported (up to 3)		Intel® UHD Graphics 630 integrated Intel® Core™ i3 processor • 350MHz/1.10GHz Intel® UHD Graphics 630 integrated Intel® Core™ i5 processor • 350MHz/1.05GHz Intel® UHD Graphics 630 integrated Intel® Core™ i3 processor • 350MHz/1.20GHz Multi Display supported (up to 3)	
GRAPHICS LIBRARY		DirextX 12 • OpenGL 4.4 supported				DirextX 12 • OpenGL 4.5 supported			
AUDIO		Realtek® ALC671 5.1-channel High Definition Audio CODEC				Realtek® ALC671 5.1-channel High Definition Audio CODEC			
ETHERNET CONTROLLER		Intel® I210AT and Intel® I219LM with support of Intel® AMT 11, WoL and Magic Packet™				Intel® I210AT and Intel® I219LM with support of Intel® AMT 11, WoL and Magic Packet™			
TPM		Discrete TPM 2.0 module (optional)							
SYSTEM MEMORY RAM		4GB (1x 4GB SODIMM DDR4 module) 8GB (2x 4GB SODIMM DDR4 module) 16GB (2x 8GB SODIMM DDR4 module) 32GB (2x 16GB SODIMM DDR4 module) 64GB (4x 16GB SODIMM DDR4 module)							
MASS STORAGE	**M.2 SSD**	-				1x onboard connector for direct insertion of M.2 2280 NVMe PCIe SSD (up to 1TB)			
	SSD mSATA	1x onboard connector for direct insertion of SSD mSATA SATA III (up to 960GB)				-			
	SSD/HDD	6x SATA 6Gb/s ports for SSD 2,5"/HDD 3,5" SATA III							

TECHNICAL DATA

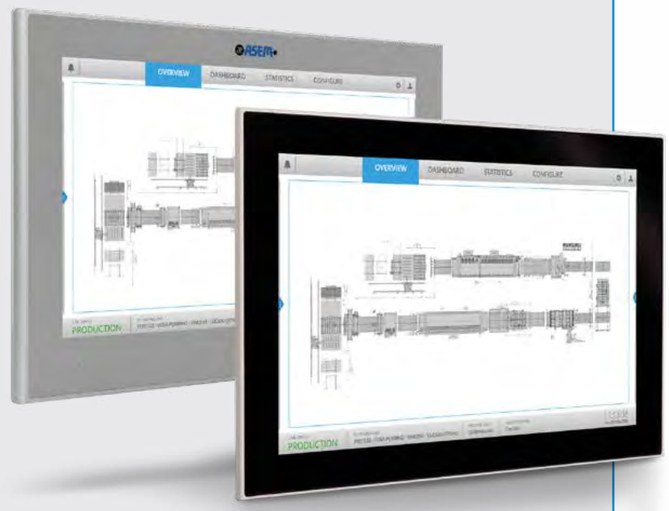
		PR4048	PR4148	PR4049	PR4149	PR4050	PR4150	PR4051	PR4151
RAID		Raid 0, 1, 5, 10 [1]							
DRIVE BAY	**External**	3x 5,25" (h=1,65") 1x 3,5" (H=1,00")							
	Internal	2x 3,5" (H=1,00")	3x 3,5" (H=1,00")	2x 3,5" (H=1,00")	3x 3,5" (H=1,00")	2x 3,5" (H=1,00")	3x 3,5" (H=1,00")	2x 3,5" (H=1,00")	3x 3,5" (H=1,00")
INTERFACES	**LAN**	2x Gigabit Ethernet (RJ45)							
	USB	4x USB 3.1 Gen1 (Type-A) • 4x USB 2.0 (Type-A) 2x USB 3.1 Gen1 (Type-A) front access 2x USB 2.0 internal connector 1x USB 2.0 Stick (Type-A) internal				2x USB 3.1 Gen2 (Type-A) • 2x USB 3.1 Gen1 (Type-A) • 4x USB 2.0 (Type-A) 2x USB 3.1 Gen1 (Type-A) front access 2x USB 2.0 internal connector 1x USB 3.1 Gen2 Stick (Type-A) internal			
	SERIAL	1x RS232 (DB9M)				1x RS232 (DB9M) 3x RS232 internal connector			
	PERIPHERAL DEVICES	1x PS/2 Keyboard port (purple) • 1x PS/2 mouse port (green)							
	VIDEO	1x DVI-D • 2x DisplayPort V1.2							
	AUDIO	1x Line In • 1x Line Out • 1x Microphone							
INTERFACES w/ SLOT BRACKET		1x RS232 (DB9M) rear				-			
EXPANSION SLOTS		2x PCI full size (32 bit, 33MHz, Rev 2.3) 1x PCIe x16 (16 Lanes, Gen3) • 1x PCIe x16 (4 Lanes, Gen3) 1x PCIe x8 (1 Lane, Gen3) 1x PCIe x4 (4 Lanes, Gen3) • 1x PCIe x4 (1 Lane, Gen3)				2x PCI full size (32 bit, 33MHz, Rev 2.3) 1x PCIe x16 (16 Lanes, Gen3) • 1x PCIe x16 (4 Lanes, Gen3) 2x PCIe x8 (1 Lane, Gen3) 1x PCIe x1 (Gen3)			
POWER SUPPLY		Inpute voltage 110/230VAC • 400W or 650W, autoranging Inpute voltage 110/230VAC • 2x 500W, auto-ranging, redundant	Inpute voltage 110/230VAC • 400W or 650W, autoranging	Inpute voltage 110/230VAC • 400W or 650W, autoranging Inpute voltage 110/230VAC • 2x 500W, auto-ranging, redundant	Inpute voltage 110/230VAC • 400W or 650W, autoranging	Inpute voltage 110/230VAC • 400W or 650W, autoranging Inpute voltage 110/230VAC • 2x 500W, auto-ranging, redundant	Inpute voltage 110/230VAC • 400W or 650W, autoranging	Inpute voltage 110/230VAC • 400W or 650W, autoranging Inpute voltage 110/230VAC • 2x 500W, auto-ranging, redundant	Inpute voltage 110/230VAC • 400W or 650W, autoranging
O.S. CERTIFIED		Microsoft Windows 10 IoT Enterprise 2019/2016 64 bit Microsoft Windows 7 Pro/Ultimate 32/64 bit Microsoft Windows Embedded Standard 7E/7P 32/64 bit		Microsoft Windows 10 IoT Enterprise 2019/2016 64 bit Windows Server Embedded Standard 2019 R2 64 bit		Microsoft Windows 10 IoT Enterprise 2019 64 bit Windows Server Embedded Standard 2019 R2 64 bit			
SPECIAL FEATURES		24/7 operation							
OPERATING TEMPERATURE		0°- 40°C with 24x7 HDD 5°- 40°C with standard HDD							
STORAGE TEMPERATURE		-10°C ÷ 60°							
OPERATING/STORAGE RELATIVE HUMIDITY		20 ÷ 90% RH (non-condensing)							
APPROVALS		CE RoHS							

1. For RAID 0, 1 configurations at least 2x HDDs 3,5" or 2x SSDs 2,5" are required
For RAID 5 configuration a minimum of 3x HDDs 3,5" (no SSDs) are required
For RAID 10 configuration, 4x HDDs 3,5" (no SSDs) are required.

INDUSTRIAL MONITORS

ROBUSTNESS
GREAT RELIABILITY
INTEGRATED RVL TECHNOLOGY

MQ200 & MH200



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REMOTE VIDEO LINK 100m

- TFT LCDs in 12.1” and 15” in 4:3 aspect ratio, 17” and 19” in 5:4 aspect ratio, 12.1”, 15.6”, 18.5”, 21.5” and 24” in Wide aspect ratio
- Aluminum (ALU) e aluminum True Flat (TF) front panels with resistive touchscreen
- Aluminum and glass True Flat front panels with multitouch projected capacitive touchscreen (TFM)
- Stainless steel True Flat (TFK) front panels with resistive touchscreen
- Front IP65 protection grade
- Video input: 1x DVI-D and 1x DisplayPort
- ATEX certification for QT-TFM version (optional)
- Available in RVL version (MQR200 & MHR200) for the remotation of the DVI-D and USB 2.0 signals up to 100m
- Available with 110/230VAC power supply

*only TFM frontal

TECHNICAL DATA

		MQ200-ALU	MQ200-TFK	MQ200-TFM	MH200-ALU	MH200-TF
LED backlight TFT LCD		12.1” W - 1280x800 15.6” W - 1366x768 15.6” W - 1920x1080 18.5” W - 1366x768 18.5” W - 1920x1080 21.5” W - 1920x1080 24” W - 1920x1080			12.1” - 800x600 12.1” - 1024x768 15” - 1024x768 17” - 1280x1024 19” - 1280x1024	
CUT-OUT		QT			HT	
TOUCHSCREEN		Resistive 5 wires		P-CAP Multitouch	Resistive 5 wires	
FRONT PANEL		Aluminum	True Flat Stainless Steel	True Flat Aluminum	Aluminum	True Flat Aluminum
FRONT USB		-			1x USB 2.0 (Type-A), protected	
PROTECTION GRADE	**IP rating**	IP65 - frontal	IP69K - frontal	IP65 - frontal		
	NEMA rating	UL Type 1, 4x (indoor only)	UL Type 1, 4x (indoor only) and 12	UL Type 1, 4x (indoor only)	UL Type 1, 4x (indoor only) and 12	
CASE	**Installation**	Panel mounting				
	Material	Zinc-coated skin pass steel				
VIDEO INPUT	**MQ/MH**	1x DisplayPort 1x DVI-D				
	MQR/MHR	1x RJ45 connector for remotation of DVI-D1				
USB INPUT	**MQ/MH**	1x USB 2.0 HUB input (Type-B)				
	MQR/MHR	1x RJ45 connector for remotation of USB 2.01				
USB OUTPUT		3x USB 2.0 (Type-A)				
	Optional	1x USB 2.0 (Type-A)				
POWER SUPPLY INPUT		24VDC (18÷32VDC) isolated				
		110V/230VAC (90÷264VAC) isolated, autoranging				
OPERATING TEMPERATURE		0° ÷ +50°C				
STORAGE TEMPERATURE		-5° ÷ +60°C				
OPERATION/STORAGE RELATIVE HUMIDITY		20% ÷ 90% RH (non-condensing)				
APPROVALS		CE RoHS UKCA cULus Listed		CE RoHS UKCA cULus Listed ATEX zone 2/22	CE RoHS UKCA cULus Listed	

1. The same RJ45 connector is used for remotation of DVI-D and USB 2.0 signals

MK200 SERIES

- VESA 75/100 or top/bottom arm mounting
- Available in landscape and portrait version
- Powder coated die-cast aluminum chassis with anti-scratch treatment
- 15.6”, 18.5”, 21.5” and 24” TFT LCDs in Wide aspect ratio for landscape version (MK200-TFM and MK200-BA-TFM)
- 21,5” and 24” TFT LCDs in Wide aspect ratio for portrait version (MK200P-BA-TFM)
- Resolution up to Full HD
- New front panels with minimized aluminum and glass True Flat frame with multitouch projected capacitive touchscreen
- Full IP65 protection grade
- Video input: 1x DVI-D and 1x DisplayPort
- Available with configurable Button Area for the installation of Ø22 hard-wired elements (MK200-BA-TFM and MK200P-BA-TFM)
- Available in RVL version (MKR version) for the remotation of the DVI-D and USB 2.0 signals up to 100m

DOWNLOAD THE PRODUCT SHEET

RVL 100m **OPTIONAL**

BUTTON AREA *PAG. 122*

ACCESSORI *PAG. 126*

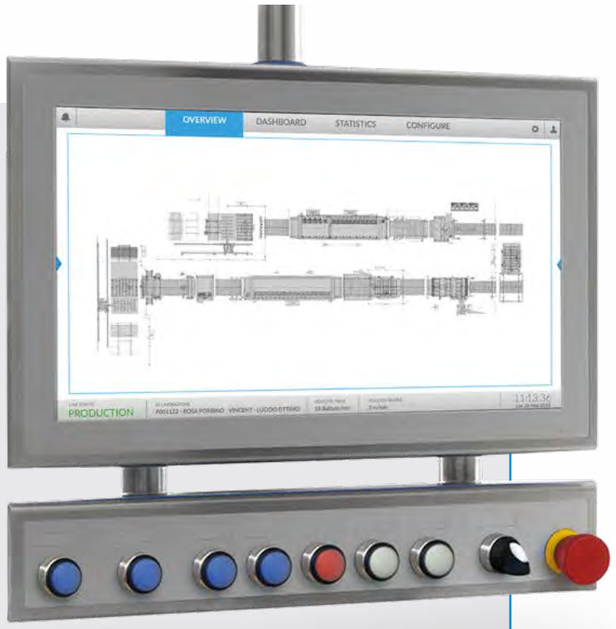
CE RoHS UKCA cULus LISTED

TECHNICAL DATA

		MK200-BA-ALU	MK200-BA-TFM	MK200-ALU	MK200-TFM	MK200P-BA-TFM
LED BACKLIGHT TFT LCD		15.6” W - 1366x768 15.6” W - 1920x1080 18.5” W - 1366x768 18.5” W - 1920x1080 21.5” W - 1920x1080 24” W - 1920x1080				21.5” W - 1920x1080 24” W - 1920x1080
ORIENTATION		Landscape				
TOUCHSCREEN		Resistive 5 wires	P-CAP multitouch	Resistive 5 wires	P-CAP multitouch	P-CAP multitouch
FRONT PANEL		Aluminum	True Flat Aluminum	Aluminum	True Flat Aluminum	True Flat Aluminum
PROTECTION GRADE	**IP rating**	Full IP65				
	NEMA rating	UL Type 1, 4x (indoor only)		UL Type 1, 4x (indoor only) and 12		UL Type 1, 4x (indoor only)
CASE	**Installation**	VESA 75/100 or pole/suspension arm mounting system compatible with RITTAL CP40/ROLEC TARAPLUS/ HASEKE ULT KUPPLUNG 48				
	Material	Aluminum alloy AN AB46400				
	Colour	Anti-scratchable painted - RAL 9006				
	Accessories	Side handles, perimetral handle, keyboard holder kit				
BUTTON AREA (optional)		See dedicated section		-		See dedicated section
VIDEO INPUT		1x DisplayPort 1x DVI-D				
	Remote version MKR	1x RJ45 connector for remotation of DVI-D1				
USB INPUT		1x USB 2.0 HUB input (Type-B)				
	Remote version MKR	1x RJ45 connector for remotation of USB 2.01				
USB OUTPUT		3x USB 2.0 (Type-A)				
	Rear access	1x USB 2.0 (Type-A) with protection cap				
POWER SUPPLY INPUT		24VDC (18÷32VDC) isolated				
OPERATING TEMPERATURE		0° ÷ +50°C				
STORAGE TEMPERATURE		-5° ÷ +60°C				
OPERATION/STORAGE RELATIVE HUMIDITY		20% ÷ 90% RH (non-condensing)				
APPROVALS		CE RoHS UKCA cULus Listed				

1. The same RJ45 connector is used for remotation of DVI-D and USB 2.0 signals

MX200



- Monitors specifically developed for Food&Beverage and chemical/pharma applications
- Stainless steel (AISI 304L) chassis with sloping surfaces to avoid dust accumulation
- Stainless steel (AISI 304L) hygienic screws with under-head gasket
- Fully cleanable blue silicone gaskets
- 18.5" TFT LCDs in Wide aspect ratio
- Resolution up to Full HD
- Stainless steel (AISI 304L) True Flat front panels with resistive touchscreen
- Top/bottom arm mounting
- Up to full IP69K protection grade
- Video input: 1x DVI-D and 1x DisplayPort
- Available with configurable Button Area for the installation of hard-wired elements: Ø22 cleanable silicon elements, or Ø30 low profile stainless steel elements
- Available in RVL version (MXR200) for the remotation of the DVI-D and USB 2.0 signals up to 100m

DOWNLOAD THE PRODUCT SHEET

REMOTE VIDEO LINK 100m

STAINLESS STEEL

IP69K
food and beverage industry compliant

BUTTON AREA
PAG. 124

CE RoHS UKCA cULus LISTED

GALLERY

TECHNICAL DATA

		MX200-TFK	MX200-TFMK	MX200-BA-TFK	MX200-BA-TFMK
LED BACKLIGHT TFT LCD		18.5" W - 1366x768 18.5" W - 1920x1080			
TOUCHSCREEN		Resistive 5 Wires	P-CAP Multitouch	Resistive 5 Wires	P-CAP Multitouch
FRONT PANEL		True Flat Stainless Steel			
PROTECTION GRADE		Full IP69K		Full IP65	
BUTTON AREA		-		See dedicated section	
CASE	**Installation**	6x M5 screws + gasket + technical drawing to build your own fixing flange (included) or Top/bottom arm mounting with customized flange for Ø48mm tubes (optional)			
	Material	Stainless Steel AISI 304L			
VIDEO INPUT		1x DisplayPort 1x DVI-D			
	Remote version MXR	1x RJ45 connector for remotation of DVI-D[1]			
USB INPUT		1x USB 2.0 HUB input (Type-B)			
	Remote version MXR	1x RJ45 connector for remotation of USB 2.0[1]			
USB OUTPUT		3x USB 2.0 (Type-A)			
	Optional	2x USB 2.0 (Type-A) rear access with protection cap			
POWER SUPPLY INPUT		24VDC (18÷32VDC) isolated			
OPERATING TEMPERATURE		0° ÷ +50°C			
STORAGE TEMPERATURE		-5° ÷ +60°C			
OPERATION/STORAGE RELATIVE HUMIDITY		20% ÷ 90% RH (non-condensing)			
APPROVALS		CE RoHS UKCA cULus Listed			

1. The same RJ45 connector is used for remotation of DVI-D and USB 2.0 signals

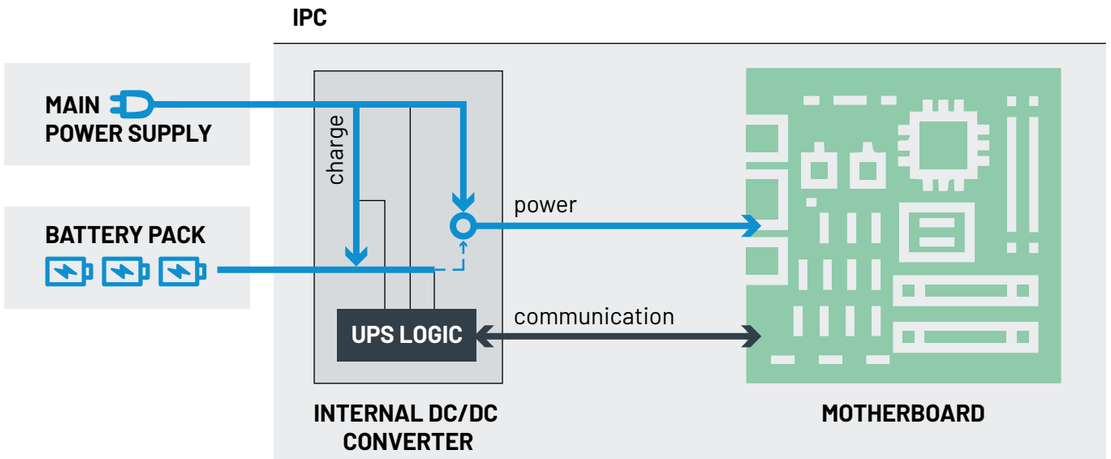
COMPARISON TABLE

		 MK200	 MX200	 MQ200 & MH200
FRONT PANELS	**Wide sizes**	15,6", 18,5", 21,5" and 24"	18,5"	12,1", 15,6", 18,5", 21,5" and 24"
	Narrow sizes	-	-	12,1", 15", 17", 19"
	Types	ALU	TFK	ALU, TF, TFM, TFK
	Touchscreen technology	Multitouch	Resistive	Resistive Multitouch
PROTECTION GRADE		Up to Full IP65	Up to Full IP69K	Up to Full IP69K
CASE MATERIAL		Aluminum alloy AN AB46400	Stainless Steel AISI 304L	Zinc-coated skin pass steel
INSTALLATION		VESA 75/100 or pole/suspension arm mounting	Top/bottom arm mounting with customized flange	Panel mounting
ACCESSORIES (optional)		Side handles Perimetral handle Keyboard holder kit	-	-
BUTTON AREA (optional)		✓	✓	✗
POWER SUPPLY INPUT		24VDC	24VDC	24VDC 110V/230VAC
CERTIFICATIONS		CE RoHS UKCA cULus LISTED	CE RoHS UKCA cULus LISTED	CE RoHS UKCA cULus LISTED Ex**

** only for QT-TFM*

ASEM TECHNOLOGIES

INTEGRATED UPS



ASEM has developed an integrated UPS (Uninterruptable Power Supply) system for its IPCs to prevent sudden shutdowns with consequent data loss or damage due to unexpected primary power supply failures. The control electronics are integrated into the power supply module to ensure maximum reliability and noise immunity to maintain the IPC and UPS communication interfaces within the system.

The control logic, organised on several levels, is entirely designed and developed by the ASEM R&D Team and includes:

- a hardware section capable of switching the power source of the primary voltage to the battery and vice versa in just microseconds
- a configurable hardware section for monitoring battery status and managing the charging and discharging phases
- a microcontroller-based control section for managing system states and interfaces with the IPC
- a high-level, Windows-based, user-configurable software section for diagnosing the system and battery pack status and managing shutdowns

The architecture is common to all systems and is customised by configuring specific parameters according to the type of use and consumption to optimise battery life

SOFTWARE

The UPS system operation is managed by high-level software, developed for Windows, divided into two parts:

- a service for monitoring the supply voltage and battery status and managing potential shutdowns
- a graphic application for configuring the behaviour in the event of a primary power failure and checking diagnostics

Furthermore, a regular system shutdown is commanded irrespective of the set parameters if a voltage below the minimum is measured to protect the battery from abnormal decay and avoid unexpected shutdowns

INTERVALLO DI SPEGNIMENTO CONFIGURABILE DA 10 SECONDI A 10 MINUTI

INDICAZIONE DELL'AUTONOMIA RESIDUA CALCOLATA SUL CONSUMO REALE DEL SISTEMA

DIAGNOSTICA IN TEMPO REALE DELLO STATO DELLA BATTERIA

FUNZIONI DI LOG CON STORICIZZAZIONE DEI DATI

INTEGRAZIONE CON L'APPLICAZIONE DELL'UTENTE

BATTERY PACK TYPES

1) LEAD-ACID BATTERY

Lead-acid cell battery packs, compared to more modern technologies, are larger and bulker but they can supply high peak currents and operate over a wide temperature range (well above the 0-50°C guaranteed for systems). They consist of six elements for a nominal voltage of 12 V and can deliver a maximum of 100 W for approximately 2 minutes. They also integrate a temperature sensor and a protection circuit that cuts off the connection if the current is too high or the voltage is too low.

2) NICKEL-METAL-HYDRIDE (NIMH) BATTERIES

Battery packs with Ni-MH cells are characterised by a smaller size compared to lead-acid batteries and lower self-discharge during storage. They consist of 10 elements for a nominal voltage of 12V and can output a maximum of 60W for about 10 minutes. They also integrate a temperature sensor, a protection circuit that cuts off the connection if the current is too high or the voltage too low, and a switch for disconnecting the battery during transport.

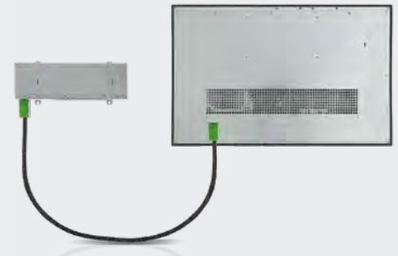
INSTALLATION OF BATTERY PACKS

ASEM offers several installation options to choose the best location, facilitating wiring and/or replacement operations.

SEPARATED FROM THE SYSTEM

DIRECT ON THE SYSTEM

SEPARATED FROM THE SYSTEM, UP TO A DISTANCE OF 3M



MASS STORAGE DEVICES

ASEM provides a wide choice of mass storage devices for expanding the various IPCs according to customer requirements. All mass storage devices are tried and tested to guarantee correct operation in all working environments.

LIST OF MASS STORAGE DEVICES:

- CFAST: available in ET (Extended Temperature) version
- SSDs: available in SATA, NVMe PCIe and ET (Extended Temperature) versions
- HDDs: available in 2.5", 3.5" SATA III and 24x7 versions

CFAST

SSD

HDD

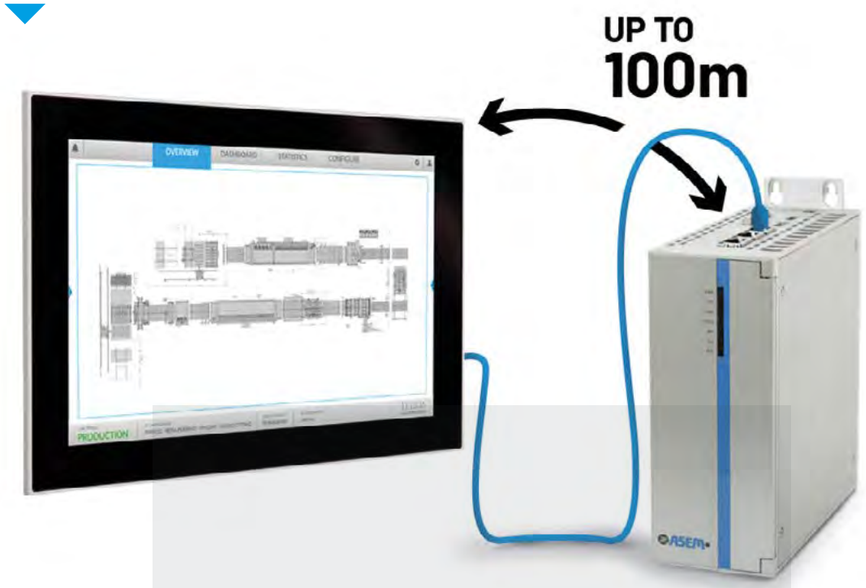
SSD COMPARISON TABLE

	SSD 2,5" SATA III	SSD mSATA SATA III	SSD M.2 2242 SATA III	SSD M.2 2280 NVMe PCIe x4
BM1XY FAMILY	✗	✗	✓	✗
xx2150	✗	✓	✗	✗
xx2200	✓	✓	✗	✗
xx2250	✗	✗	✓	✗
BM3300 & BM3500	✓	✓	✗	✗
xx3400 & xx3600	✓	✓	✗	✗
QT-HT-PB3500	✓	✗	✓	✓
BM3800	✓	✗	✓	✓
xx5400 & xx5600	✓	✗	✓	✓
VK3500 SERIES	✗	✗	✗	✓
PR4x48	✓	✓	✗	✗
PR4x49	✓	✓	✗	✗
PR4x50	✓	✗	✗	✓
PR4x51	✓	✗	✗	✓

HDD COMPARISON TABLE

	HDD 2,5" SATA III	HDD 3,5" SATA III
BM1XY FAMILY	✗	✗
xx2150	✗	✗
xx2200	✓	✗
xx2250	✗	✗
BM3300 & BM3500	✓	✗
xx3400 & xx3600	✓	✗
QT-HT-PB3500	✓	✗
BM3800	✓	✗
xx5400 & xx5600	✓	✗
VK3500 SERIES	✗	✗
PR4x48	✗	✓
PR4x49	✗	✓
PR4x50	✗	✓
PR4x51	✗	✓

RVL (REMOTE VIDEO LINK)



VIDEO REMOTE CONTROL SOLUTIONS

The ASEM Remote Video Link is an innovative technology for connecting industrial monitors up to 100 metres apart from the IPC using a single cable, through which DVI-D and USB 2.0 signals are sent using the HDBaseT standard.

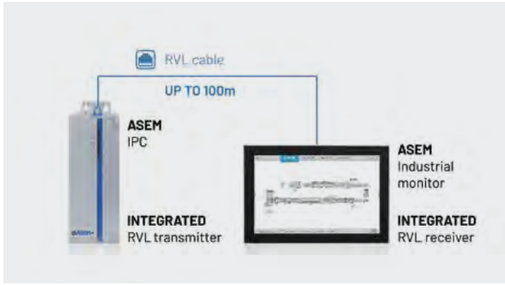
Signals are remoted up to 50 metres away using a Cat 5e SF/FTP cable or up to 100 metres away using a Cat 6A S/FTP cable.

The use of an industrial standard Ethernet cable and the RJ45 connector allows easy cabling in tight spaces and in presence of mobile systems (e.g. Arm Mounting systems).

ASEM can also supply an external RVL transmitter and/or receiver to remote video signals using third-party IPCs or monitors.

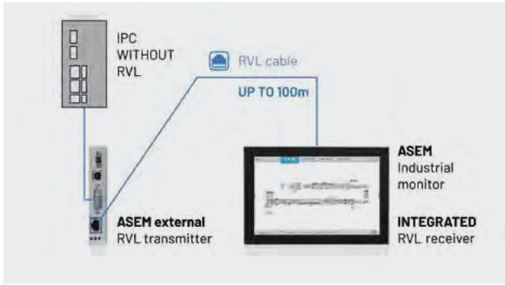
Both are powered at 24VDC. The ASEM RVL technology can create connections at long distances between any industrial device and in any specific application.

Here are the various cases of use:



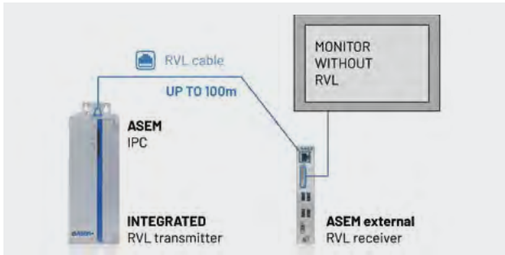
1) IPC AND ASEM INDUSTRIAL MONITORS

ASEM integrates RVL technology in its IPCs and industrial monitors. No additional external systems are required to connect the proprietary systems.



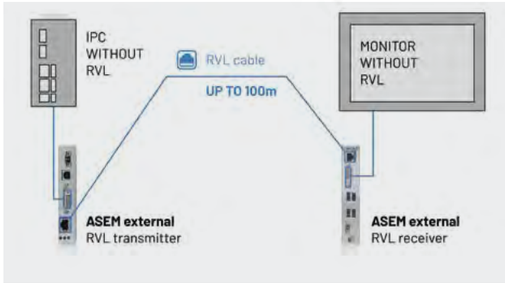
2) ASEM INDUSTRIAL MONITORS

ASEM provides external RVL transmitters for easily connecting a third-party IPC (or ASEM IPC not equipped with an integrated RVL transmitter) to the integrated RVL technology of a proprietary monitor.



3) ASEM IPC

ASEM provides external RVL receivers for easily connecting a third-party industrial monitor to the integrated RVL technology of a proprietary IPC.



4) IPC AND INDUSTRIAL MONITORS NOT EQUIPPED WITH INTEGRATED RVL

ASEM provides external RVL receivers and transmitters for easily connecting an industrial monitor to IPCs not equipped with integrated RVL transmitters.

TPM
TRUSTED PLATFORM MODULE

What is TPM? It is a technology designed to offer hardware and software security features. The Trusted Computing Group (TCG) is the organisation that publishes and maintains the TPM specifications according to the international standard 11889 ISO/ IEC.

The TPM is useful for generating, storing and restricting the use of cryptographic keys, passwords and certificates. The dTPM (Discrete Trusted Platform Module) is a dedicated microcontroller designed to protect the hardware. It integrates cryptographic keys into devices and is used for secure cryptographic processes and secure storage of critical data.

Integrated TPM has been recently introduced on x86-based machines. In this form, the TPM is integrated into a chipset component of the existing platform. For instance, the integrated x86-based TPM function is a security and management engine module and is logically isolated from the other engine modules.

- The TPM is an endpoint security technology (*)
- IEC 62443-4-2 cites TPM as the gold standard for meeting the requirements of SL3 and SL4
- It checks that the operating system and firmware of the device are not tampered with
- It stores digital credentials in a secure hardware-based repository
- It sets passwords and manages keys
- It expands the number of smart cards, fingerprint readers and remote controls for multi-factor authentication
- It encrypts files and folders to control access
- It establishes status information to enable endpoint integrity
- It enables more secure wireless, remote, and VPN access
- For Windows® 11, TPM 2.0 is a requirement (PC must have TPM enabled)

(*) Industrial Internet Security Framework (https://www.iiconsortium.org/IISF.htm)

ASEM PRODUCTS TPM

	iTPM	dTPM
BM1XY FAMILY	✓	✗
xx2150	✗	✗
xx2200	✗	✓
xx2250	✓	✓
BM3300	✓	✓
xx3400	✓	✓
QT-HT-PB3500	✓	✓
xx3600	✓	✗
BM3800	✓	✗
xx5400	✓	✓
xx5600	✓	✓
VK3500 SERIES	✓	✗

CONNECTIVITY

ASEM offers products with technologies that support the latest data communication interfaces and Internet connections.

Wi-Fi and Bluetooth, Cellular modules are available that can also be installed in combination with each other to provide multiple modes of use according to the specific needs of each automation environment, according to the requirements of Industry 4.0.

The technologies adopted offer intrinsic reliability, connection robustness and speed, which, using the recent 5G band present on the latest and future products, is combined with the guarantee of low latency and high capacity for data processing and simultaneous connections.

The MIMO and Diversity functions achieved through the dual antenna mounted directly on the product or remotely can be exploited to optimise connection stability and performance.

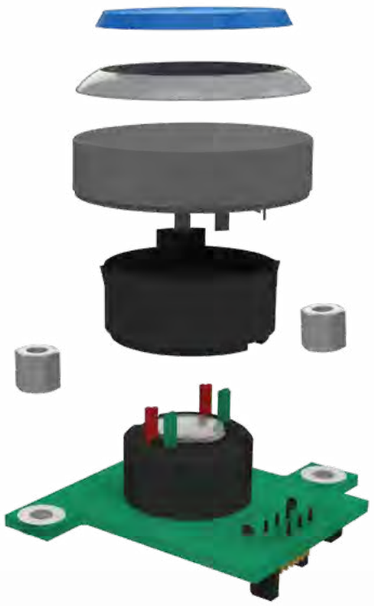
WIRELESS E BLUETOOTH CONNECTION TABLE

	Wi-Fi connection	Cellular connection
BM122	✓	✓
BM130	✓	✓
BM131	✓	✓
xx2150	✓	✓
QT-HT-PB2200	✓	✓
QT-HT-PB3400/3600	✓	✓
QT-HT-PB3500	✓	✓
QT-HT-PB5400/5600	✓	✓
VK3500 SERIES	✓	✗

CONFIGURABLE CONTROL AREA

VK3500/MK200 SERIES

- Maximum configuration flexibility to customer specifications
- Frontally accessible for later configuration changes and/or additions
- Hard-wired connection modes
- The number of elements that can be installed depends on the size of the display: up to 13 elements on the landscape version and up to 8 elements on the portrait version with a 24" LCD (of which a maximum of 8 with hard-wired connection)
- The SIL3 emergency button has a separate hard-wired connection
- The elements are wired to two rear-access terminal blocks



Ø22 IP65 ELEMENTS

INDICATOR LIGHTS

- available in 5 colours (red, yellow, green, blue, white)

BUTTONS

- opaque version in 2 colours (grey and black)
- translucent version in 5 colours (red, yellow, green, blue, white)
- also with a customisable insert

EMERGENCY STOP BUTTON SIL3

- rotary or pull release, with or without LED indicator

SELECTORS

- with key
- light keyless
- 1 (90°) or 2 (±40°, ±60°) positions (toggle or stable actuation)

ADDITIONAL INTERFACES

- Gigabit Ethernet (RJ45)
- Transponder RFID reader/writer LF (125 kHz) and HF (13,56 MHz)
- USB 2.0 (Type-A)
- knob with incremental encoder
- buzzer

ELEMENTS FOR MANAGING ATX MODE

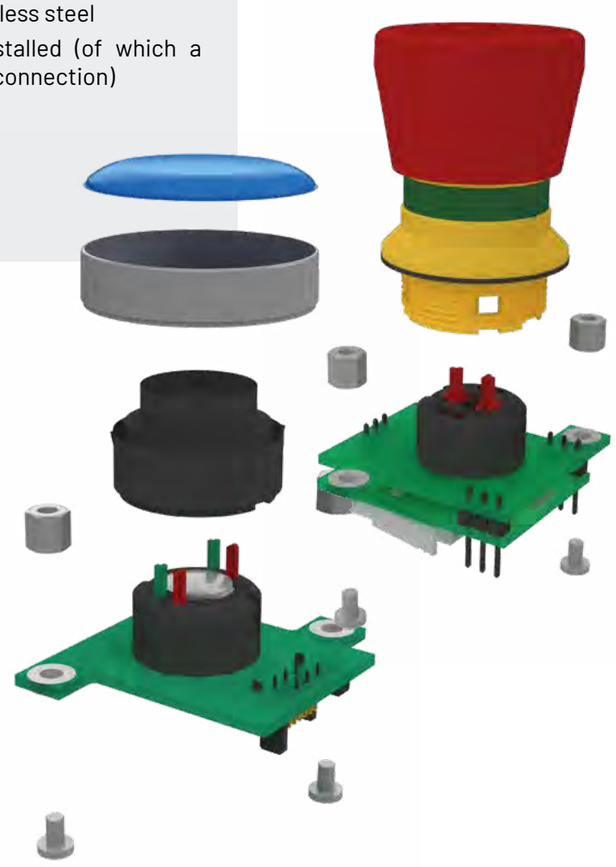
- opaque version
- translucent version
- with key

FRONTALLY ACCESSIBLE FOR LATER CONFIGURATION CHANGES AND/OR ADDITIONS

CONFIGURABLE CONTROL AREA

MX200

- Maximum configuration flexibility to customer specifications
- Frontally accessible for later configuration changes and/or additions
- Hard-wired connection modes
- Customer-selected elements can be Ø22 washable silicone or Ø30 low-profile stainless steel
- Up to 9 elements can be installed (of which a maximum of 8 with hard-wired connection)



Ø22 SILICONE ELEMENTS

INDICATOR LIGHTS

- available in 5 colours (red, yellow, green, blue, white)

BUTTONS

- translucent version in 5 colours (red, yellow, green, blue, white)
- grey opaque version

SELECTORS

- with key
- light keyless
- 1 (90°) or 2 (±40°, ±60°) positions (toggle or stable actuation)

EMERGENCY STOP BUTTON

- rotary or pull release, with or without LED indicator

Ø30 STAINLESS STEEL, LOW-PROFILE ELEMENTS

INDICATOR LIGHTS

- available in 5 colours (red, yellow, green, blue, white)

BUTTONS

- translucent version in 5 colours (red, yellow, green, blue, white)
- grey opaque version
- with ring lighting

SELECTORS

- with key
- light keyless
- 1 (90°) or 2 (±40°, ±60°) positions (toggle or stable actuation)

MECHANICAL ACCESSORIES

VK3500/MK200 SERIES

SIDE HANDLES

A set of two anodised aluminium side handles is available to facilitate system positioning

PERIMETER HANDLE

An anodised aluminium perimeter handle is available for easy positioning of the system and to protect the operator from accidental impacts

KEYBOARD HOLDER KIT

An aluminium keyboard holder kit painted RAL 9006 is available for the permanent installation of a keyboard and/ or mouse of the customer's choice

TYPES OF ASSEMBLY

ARM/VESA Mounting IPC & Monitor

VK3500/MK200 SERIES

VESA MOUNTING

The VK3500 and MK200 systems are available with chassis having an attachment compatible with VESA 75/100 standards

ARM ASSEMBLY

VK3500 and MK200 systems are available with arm-mounted chassis compatible with RITTAL CP40/ROLEC TARAPLUS/ HASEKE ULT KUPPLUNG 48

MX200 SERIES

The MX200 systems have a chassis with a specific attachment with six M5-type screws arranged with a 100mm centre distance. ASEM provides its customers with all the technical specifications for creating their own attachment flange. An arm-mounting flange for Ø48mm tubes is optionally supplied.

SERVICES AND SUPPORT

CUSTOMER-ORIENTED PHILOSOPHY

The ASEM customer-oriented philosophy means constant attention and care for the customer's needs and a comprehensive and qualified pre- and after-sales service. All company processes are designed and organised to ensure maximum customer satisfaction with excellent product quality and operational flexibility to respond promptly to changing market demands. ASEM ensures the quality of products and processes by systematically and rigorously applying its quality system according to UNI EN ISO 9001:2015. The quality system, introduced in 1999, is certified by Intertek and is constantly updated to improve the business operation effectiveness and efficiency.

ASSISTANCE AND REPAIRS

ASEM offers its customers excellent assistance and consulting services for hardware and software, in addition to a timely repair service for products and systems.

ASEM guarantees service through a team of specialised technicians to optimise service activities and minimise response times in the following ways:

PHONE HELP DESK SERVICE

- For hardware and systems, dial +39 0432 967250, from Mondays to Fridays from 9 a.m. to 12:30 noon and from 2 to 5:30 p.m.
- For software, dial +39 0362 859124, from Mondays to Fridays from 9 a.m. to 12:30 noon and from 2 to 5:30 p.m.

ONLINE HELP DESK SERVICE

Available for hardware and software, it allows access to the ASEM customer care directly online on the company website at:

www.asemautomation.com.

With this quick and simple tool you can request service and technical support independently and RMA for any repair service and you can monitor the status of your request in real-time

E-MAIL SERVICE

Please send requests for hardware and software support to the following e-mail addresses:

- For hardware and systems: *suptec@asem.it*;
- For software: *supportsw@asem.it*

For software support, the "Asem Remote Support Tool" is also available at:

http://get.teamviewer.com/asemsup

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