



## Product News



A ROCKWELL AUTOMATION COMPANY



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# BM1xx



## Ultra compact IPC. Suitable for Edge Computing & IIoT applications

- Fanless Book Mounting IPC
- 0° ÷ 50° C operating temperature
- Intel Apollo Lake platform
  - Intel® Atom x7-E3950 1,6GHz (Burst 2,0GHz)  
4 cores - 4 threads
  - Intel® Atom x5-E3930 1,3GHz (Burst 1,8 GHz)  
2 cores - 2 threads
- LPDDR4 RAM up to 8 GB
- SSD SATA III M.2
- DisplayPort Dual-Mode Video output
- Up to 4 USB 3.0 interfaces Multistandard serial port
- 2.4 and 5 GHz Wi-Fi module
- 4G Global integrated modem
- Integrated UPS with external battery pack
- Windows 10 IoT Enterprise or Linux O.S.



# BOOK MOUNTING IPC

## BM1xx family



### BM100

- 100x100x39 mm
- 2 Gigabit Ethernet and 2 USB 3.0

### BM110

- 100x100x58 mm
- 2 Gigabit Ethernet and 2 USB 3.0
- 2 Digital Input + 2 Digital Output
- New integrated UPS with external battery pack (optional)\*

### BM12x

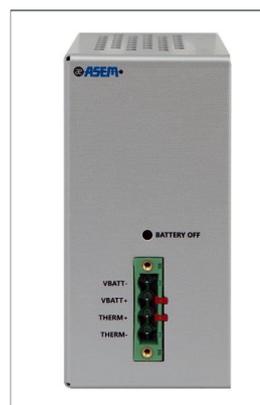
- 100x100x78 mm
- 2 Digital Input + 2 Digital Output
- New integrated UPS with external battery pack (optional)\*
- **BM120:** 4 Gigabit Ethernet, 4 USB 3.0 and 1 multistandard serial port (DB9M)
- **BM121:** 2 Gigabit Ethernet, 1 x 4 ports Gigabit Ethernet switch and 4 USB 3.0
- **BM122:** 2 Gigabit Ethernet, 2 USB 3.0, 2.4 and 5 GHz Wi-Fi module and 4G Global modem

### BM13x

- 100x100x100 mm
- 2 USB 3.0, 2.4 and 5 GHz Wi-Fi module and 4G Global modem
- 2 Digital Input + 2 Digital Output
- New integrated UPS with external battery pack (optional)\*
- **BM130:** 4 Gigabit Ethernet, 4 USB 3.0 and 1 multistandard serial port (DB9M)
- **BM131:** 2 Gigabit Ethernet, 1 x 4 ports Gigabit Ethernet switch and 4 USB 3.0

#### \* New UPS (optional)

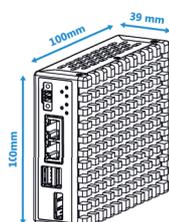
- New NiMH (nickel-metal hydride) battery pack
- Automatic calibration during runtime
- Improved logging functionalities for a precise diagnostic



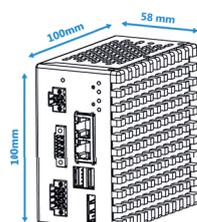
# Technical Data

		BM100	BM110	BM120	BM121	BM122	BM130	BM131
<b>PROCESSOR (soldered)</b>		Intel® Atom™ x5-E3930 1.3GHz (1.8GHz Burst), 2 cores / 2 threads, 2MB L2 cache, 14nm						
		Intel® Atom™ x7-E3950 1.6GHz (2.0GHz Burst), 4 cores / 4 threads, 2MB L2 cache, 14nm						
<b>VIDEO CONTROLLER</b>		Intel® HD Graphics 500 integrated in x5-E3930, 400/550MHz						
		Intel® HD Graphics 505 integrated in x7-E3950, 500/650MHz						
<b>SYSTEM MEMORY - RAM (soldered)</b>		2GB or 4GB with x5-E3930 (LPDDR4)						
		4GB or 8GB with x7-E3950 (LPDDR4)						
<b>MASS STORAGE</b>		1 x onboard connector of M.2 size 2242 key B SSD SATA III						
<b>LAN</b>	10/100/1000 Mbps LAN port	2 x RJ45 ports (2 x Intel® I210)	4 x RJ45 ports (4 x Intel® I210)	2 x RJ45 ports (2 x Intel® I210)	4 x RJ45 ports (4 x Intel® I210)	2 x RJ45 ports (2 x Intel® I210)	2 x RJ45 ports (2 x Intel® I210)	
	10/100/1000 Mbps Ethernet switch	-	-	1 x unmanaged (Intel® I210) 4 x RJ45 ports	-	-	1 x unmanaged (Intel® I210) 4 x RJ45 ports	
<b>USB</b>		2 x USB 3.0 (Type-A)	4 x USB 3.0 (Type-A)	2 x USB 3.0 (Type-A)	4 x USB 3.0 (Type-A)	2 x USB 3.0 (Type-A)	4 x USB 3.0 (Type-A)	
<b>SERIAL</b>		-	1 x RS232/422/485 (DB9M)	-	-	1 x RS232/422/485 (DB9M)	-	
<b>WI-FI</b>	Standard	-		IEEE 802.11 a/b/g/n + Bluetooth V4.0 LE/ V3.0+HS/ V2.1+EDR				
	Features	-		Client / Access Point mode (Wi-Fi)				
	Security	-		64/128-Abits WEP, WPA, WPA2				
	Rx Sensitivity	-		802.11a: -73dBm / 802.11g: -74dBm / 802.11n(2,4GHz): -72dBm@HT20, -69dBm@HT40 / 802.11n(5GHz): -69dBm@HT20 -68dBm@HT40 (Wi-Fi) <0.1% BER at -70dBm (Bluetooth)				
	Antenna	-		2 x RP-SMA-F				
<b>CELLULAR NETWORK</b>	Standard	-		2G/3G/4G LTE Cat4 Multiband (All continents) up to 50Mbps upload / 150Mbps download				
	Antenna	-		1 x SMA-F connector				
	SIM	-		1x SIM card socket push-push type				
<b>DIGITAL INPUT</b>		-	2 x Digital input					
<b>DIGITAL OUTPUT</b>		-	2 x Digital output					
<b>VIDEO OUTPUT</b>		1 x Display Port V1.2 (no audio)						
<b>POWER SUPPLY INPUT</b>		24VDC (18÷32VDC) isolated						
		-	Remote power on input Power status output					
<b>POWER SUPPLY OPTIONS</b>		-	Integrated UPS with external battery pack					
<b>CASE</b>	Installation	Book, wall or DIN rail mounting	Book or DIN rail mounting					
	Material	Aluminium Alloy						
	Dimensions	100x100x39mm	100x100x58mm	100x100x78mm			100x100x100mm	
<b>O.S. CERTIFIED</b>		Microsoft Windows 10 IoT Enterprise 2019 64 bit Linux						
<b>OPERATING TEMPERATURE</b>		0° ± 50°C						
<b>APPROVALS</b>		CE, cULus LISTED (61010) pending						

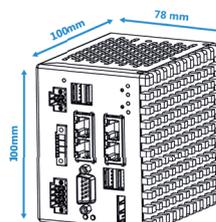
BM100



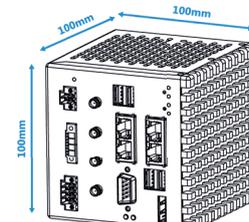
BM110



BM12x



BM13x



# BOOK MOUNTING IPC

## BM2250

The evolution of entry level Book Mounting IPC



 Windows 10 IoT Enterprise

- Book Mounting fanless IPC with operating temperature 0°C+50°C
- Intel® Apollo Lake Platform
  - Intel® Atom x7-E3950 1,6GHz (Burst 2,0GHz) 4 cores – 4 threads
  - Intel® Atom x5-E3930 1,3GHz (Burst 1,8 GHz) 2 cores – 2 threads
- LPDDR4 RAM up to 8 GB
- SSD M.2 2242 SATA III
- Slot for CFast SATA III
- 2 Gigabit Ethernet
- 3 USB 3.0
- DisplayPort Dual-Mode Video Output
- Serial, USB, Ethernet and Fieldbus additional interfaces
- 2.4 and 5 GHz Wi-Fi module and 4G Global modem
- New integrated UPS with external battery pack (optional)\*

### \* New UPS (optional)

- New NiMH (nickel-metal hydride) battery pack
- Automatic calibration during runtime
- Improved logging functionalities for a precise diagnostic



Available also as BOX IPC PB2250

# PANEL IPC

## QT/HT2250

The evolution of entry level Panel IPC



- Panel fanless IPC with operating temperature 0°C÷50°C
- Intel® Apollo Lake Platform
  - Intel® Atom x7- E3950 1,6GHz (Burst 2,0GHz) 4 cores – 4 threads
  - Intel® Atom x5- E3930 1,3GHz (Burst 1,8GHz) 2 cores – 2 threads
- LPDDR4 RAM up to 8 GB
- Aluminium front panel with resistive or multitouch capacitive touchscreen, also with minimized frame (QT systems)
- Wide range of LCD from 7" to 24" in classic and wide aspect ratio
- SSD M.2 2242 SATA III
- Slot for CFast SATA III
- 2 Gigabit Ethernet
- 3 USB 3.0
- 2.4 and 5 GHz Wi-Fi module and 4G Global modem
- SL version with a reduced depth
- New integrated UPS with external battery pack (optional)\*

Windows 10 IoT Enterprise



## QT/HT3500

The right compromise between performance, consumption and price



- Panel fanless IPC with operating temperature 0°C÷50°C
- Intel® Kaby Lake U (15W) Platform
  - Intel® Celeron® 3965U 2,2GHz 2 cores - 2 threads
  - Intel® Core™ i3-7100U 2,4GHz, 2 cores – 4 threads
  - Intel® Core™ i5-7300U 2,6GHz (3,5GHz Turbo), 2 cores – 4 threads
  - Intel® Core™ i7-7600U 2,8GHz (3,9GHz Turbo), 2 cores – 4 threads
- DDR4 RAM up to 16 GB
- Front Panel in aluminium, also with minimized frame, and stainless steel
- Resistive or capacitive touchscreen
- Wide range of LCD from 12.1" to 24" classic and wide aspect ratio
- M.2 2242/2280 SSD with NVMe PCIe x2 or SATA III interface
- Slot for CFast SATA III
- 2,5 SSD/HDD SATA III
- 3 Gigabit Ethernet
- 4 USB 3.0
- DisplayPort Dual-Mode Video Output
- DVI-D or RVL additional video output
- SL version with a reduced depth
- S1 version with PCIe x4 or PCI expansion slots

Windows 10 IoT Enterprise



# INDUSTRIAL MONITOR FOR FOOD & BEVERAGE AND PHARMA

## MX100/200 - MXR100/200

New stainless steel Arm Mounting monitor full IP66

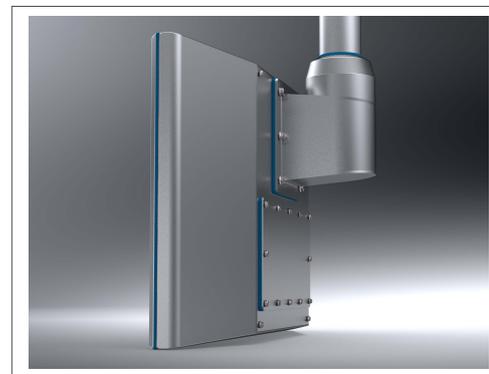
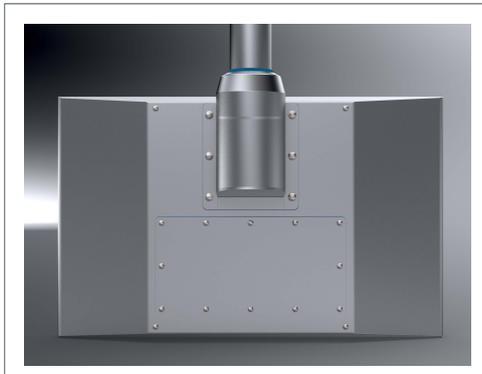


- Arm Mounting Industrial Monitor
- IP66 all-round
- AISI 304L stainless steel chassis
- True flat front panel with resistive or multitouch capacitive touchscreen
- 18.5" LCD TFT Wide HD e FHD

### Customer configurable button area

Optional module for the installation of **sanitizable elements**:

- LED indicator
- Push button
- Switch
- System interface
- Emergency stop button



**Built-in RVL interface in MXR200 (remotation of DVI and USB 2.0 signals up to 100m)**

# INDUSTRIAL MONITOR

## MH/MQ200 - MHR/MQR200

The new families of Panel Mounting monitor



- Panel Mounting industrial monitor
- Front protection grade IP66
- Aluminium front panel, also with minimized frame
- Resistive or capacitive touchscreen
- LCD from 8.4" to 24" in 4:3, 5:4 and wide aspect ratio
- DisplayPort and DVI-D Video Input
- Built-in USB HUB

**Available in RVL MHR and MQR200 versions with remotation of DVI and USB 2.0 signals up to 100m**

## MV100/MV200 - MVR100/MVR200

The new families of VESA industrial monitor



- Industrial monitor VESA 100 mounting
- Front protection grade IP66
- Rear protection grade IP54
- Aluminium QT front panel with resistive or multitouch capacitive touchscreen
- LCD from 15.6" to 24" in wide aspect ratio with HD or FullHD resolution
- MV100 video inputs: VGA and DVI-D
- MV200 video inputs: DisplayPort and DVI-D
- Built-in USB HUB
- 2 USB 2.0 port with external access

**Available in RVL MVR100 and MVR200 versions with remotation of DVI and USB 2.0 signals up to 100m RVL**

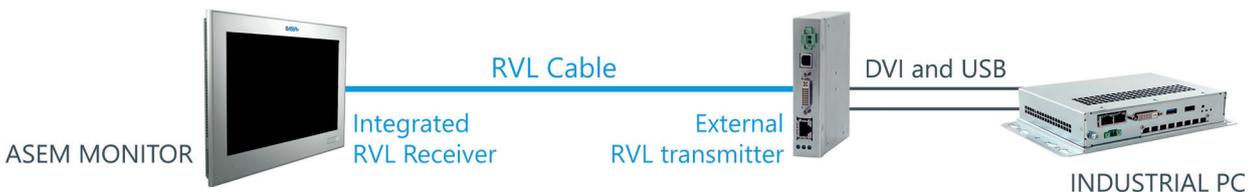
# VIDEO REMOTATION

**MXR100/MXR200**  
**MVR100/MVR200**  
**MHR200/MQR200**

## Integrated Receiver and Transmitter



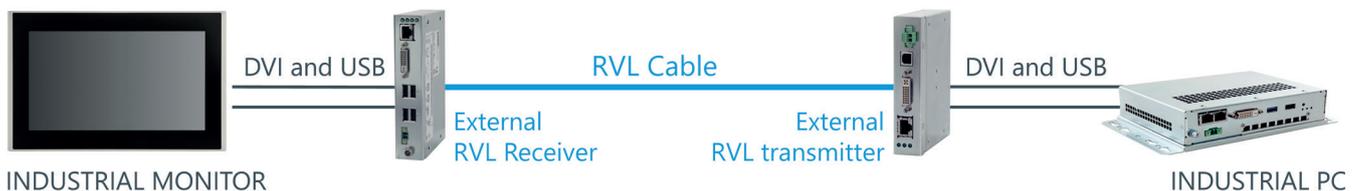
## Integrated Receiver and external Transmitter



## External Receiver and integrated Transmitter



## External Receiver and Transmitter



Remote Video Link (RVL) is the ASEM solution for the remotation of DVI-D and USB signals. The solution is composed by the RVL Receiver, the RVL transmitter and a simple Cat. 6A S/FTP or Cat. 5e SF/UTP Ethernet cable and allows to connect a monitor up to 100 meters far from the IPC. The RVL

Receivers and Transmitters are integrated in several ASEM Industrial PCs and monitors or can be supplied as external modules to create long distance connections between PCs and monitors manufactured by ASEM or by other suppliers.

# INDUSTRIAL IOT GATEWAY & EDGE COMPUTING

Innovative solutions based on the revolutionary UNIQO HMI software for:

- Collection and monitoring of production data
- Data sharing within the factory (M2M, MES)
- Data processing and optimization of production processes on the edge of the network (edge computing)
- Cloud connection through IIoT Gateway for the storage and transmission of the collected and processed data

## RM2x/DM2x IIoT Gateways families

- IIoT Gateways with extended temperature range
- UNIQO HMI software
- UBIQUITY remote assistance software providing remote access to the system (only RM2x)
- NXP ARM i.MX7 Dual Cortex A7 1,00 GHz dual core processor
- USB port for configuration and update
- 2 Gigabit Ethernet
- Build-in Switch (optional)
- Digital I/O for key input and connection status signaling (RM) or freely configurable (DB9M)
- 1 x RS232/422/485 (DB9M)
- 1 x Wi-Fi IEEE 802.11 a/b/g/n (optional)
- 4 GLOBAL Modem (optional)

**Perfect for:**

- Acquiring data from the field to analyze machinery and production processes
- Archiving on local database or in the cloud
- Implementing Industry 4.0 solutions also on brownfields



## UNIQO HMI

**FULL OPC UA**

Completely modular architecture for the development of M2M and IIoT applications compliant with the Industry 4.0 standards, easy integration of companion specifications

**HTML5**

Visualization of graphic interfaces or local dashboards from smartphones, tablets, PCs through HTML5 browser

**C# programs integration**

Integration of existing applications, edge computing algorithms and creation at design time of complete projects or part of them

**PLC Interchangeability**

Automatically adapted to the PLC data structure



AMQP  
OPC UA  
Pub/Sub



Fieldbus  
OPC UA  
PLC Drivers



OPC UA  
Server  
Client



OPC UA  
Server  
Client



x86



ARM

## BM1xx family: Ultra compact and powerful IPCs

- Book Mounting fanless IPCs with anodized aluminium and operating temperature 0°C ÷ 50°C
- Intel Apollo Lake Platform with Intel® Atom x7-E3950 and Intel® Atom x5-E3930 processors
- Compact design
- High computing power

**Perfect for:**

- Edge Computing Applications
- Thin Client applications
- IIoT Gateway functions
- Any automation solutions



## UNIQO HMI IIoT Cloud Connector

- Functional component of UNIQO HMI platform
- Usable for data collection, processing and sharing applications
- Allows interfacing with both public and private cloud systems through the standard MQTT protocol
- "Store and forward" functionality, for managing the lack of internet connectivity even for very long periods
- Optimized algorithms for data aggregation to limit bandwidth usage

## UBIQUITY

- IEC 62443-3 cyber security certification
- Interactive remote access to the systems (remote desktop, file transfer, built-in chat, connection activity log)
- Optimized VPN for automation subnet access
- Augmented reality mobile App for remote collaboration

Augmented reality is changing the way remote support is provided. The new UBIQUITY software component, UBIQUITY AR, is a mobile app which allows the machine builder to provide remote support to operators in the field, taking best advantage of augmented reality potentiality. Regardless of the distance, at a glance you can observe any kind of adjustment, machinery, infrastructure problem and more.

The field operator can quickly interface with remote support technicians and show them the problem through the camera of the smartphone. Thanks to 3D annotations and freehand drawings, that remain connected to the scene, the problem can be easily solved, improving cooperation between field operators and support technicians.

### HIGHLIGHTS

- Easy and intuitive
- Framed scene is visible on Control Center through smart device camera
- Complete integration with UBIQUITY ecosystem
  - Authorisation management
  - IEC 62443-3 security
  - Connection logging
  - "Support requests" transmission
  - Built-in Chat
- 3D annotations and freehand drawings
- Free download for iOS and Android smart devices



# OPERATOR PANEL

## HMI100/HMI100Q



UNIQO HMI



UBIQUITY



Linux

### x86 performance at the price of an operator panel

- Operator Panel with operating temperature 0°C÷50°C
- UNIQO HMI visualization software
- UBIQUITY remote assistance software providing remote access to the system, even in PRO ROUTER version
- Linux operating system with ASEM Smart Update mechanism
- Intel® Apollo Lake Platform
  - Intel® Atom x7-E3950 1,6GHz (Burst 2,0GHz)  
4 cores – 4 threads
  - Intel® Atom x5-E3930 1,3GHz (Burst 1,8 GHz)  
2 cores – 2 threads
- LPDDR4 RAM up to 8 GB
- 16 GB eMMC pseudo-SLC
- Aluminium front panel with resistive or multitouch capacitive touchscreen, also with minimized frame (Q systems)
- Wide range of LCD from 7" to 24" in classic and wide aspect ratio
- 2 Gigabit Ethernet
- 2 USB 3.0
- 1 multistandard serial port (DB9M)
- 2.4 and 5 GHz Wi-Fi module and 4G Global modem

# OPERATOR PANEL

## HMI55/HMI55Q

The small HMI for developing ergonomic and intuitive applications, with an unprecedented user experience



- Operator Panel with operating temperature 0°C÷50°C
- UNIQUO HMI visualization software
- UBIQUITY remote assistance software providing remote access to the system
- Linux operating system with ASEM Smart Update mechanism
- NXP ARM Cortex A53 i.MX8M mini up to 4 core processor
- LPDDR4 RAM up to 4 GB
- 8 GB eMMC pseudo-SLC
- Aluminium front panel with resistive or multitouch capacitive touchscreen, also with minimized frame (Q systems)
- 4.3" or 7" LCD
- 1 Gigabit Ethernet
- 1 USB 3.0
- multistandard serial port (DB9M)

# WEB PANEL

## WP45 e WP50

The new Web Panel for thin client applications



- Operator Panel web based with operating temperature 0°C÷50°
- Browser Chromium configured in kiosk-mode with HTML5 support
- UBIQUITY remote assistance software providing remote access to the system, even in PRO ROUTER version
- Linux operating system with ASEM Smart Update mechanism
- NXP® ARM Cortex A9 i.MX6 1,00 GHz Dual Lite and Quad Plus processor
- DDR3L RAM up to 2 GB
- 8 GB eMMC pseudo-SLC
- Aluminium front panel with resistive or multitouch capacitive touchscreen, also with minimized frame (Q system)
- Wide range of LCD from 7" to 18.5" in classic and wide aspect ratio
- 1 Gigabit Ethernet + 1 USB 2.0 ( WP45 system)
- 2 Gigabit Ethernet + 2 USB 2.0 ( WP50 system)
- 2.4 and 5 GHz Wi-Fi module and 4G Global modem (WP50 system)
- 1 Multistandard serial port

# CP50



## The new Panel PAC with modular and built-in I/O

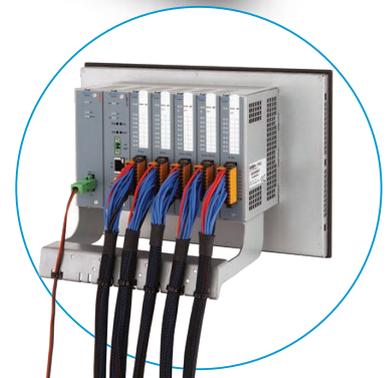
**Control, HMI and remote assistance in an all-in-one solution**

### CP50:

- Operator Panel with operating temperature 0°C ÷ 50°C
- MicroUPS and 512kB MRAM for retentive data management
- SoftPLC with EtherCAT and Modbus TCP functionalities
- UNIQO HMI visualization software
- UBIQUITY remote assistance software providing remote access to the system
- Linux Realtime PREEMT\_RT operating system
- Aluminium front panel with resistive or multitouch capacitive touchscreen, also with minimized frame (Q systems)
- LCD from 7" to 18.5" in classic and wide aspect ratio
- Built-in and modular Remote I/O
- NXP ARM Cortex A9 i.MX6 1,00 GHz Dual Lite and Quad Plus processors
- DDR3L RAM up to 2 GB
- 8 GB MMC pseudo-SLC
- 2 Gigabit Ethernet
- 2 USB 2.0
- 1 Multistandard serial port (DB15M)

### CP50/ARIO50 Modules:

- Slave EtherCAT or MODBUS TCP
- Up to 5 I/O modules
- Up to 16 I/O terminals on each board
- Complete replaceability for every board, PSU included
- Push-in connectors with mechanical lock
- I/O modules with independent reference potential



# PANEL PAC

## CP40



- Panel PAC with operating temperature 0°C ÷ 50°C
- MicroUPS and 512kB MRAM for retentive data management
- SoftPLC with EtherCAT and Modbus TCP functionalities
- Premium HMI visualization software
- UBIQUITY remote assistance software providing remote access to the system
- Windows Embedded Compact 7 operating system
- NXP ARM Cortex A9 i.MX6 1,00 GHz Dual Lite processor
- 1GB DDR3L RAM
- 8 GB eMMC pseudo-SLC
- Aluminium front panel with resistive or multitouch capacitive touchscreen, also with minimized frame (Q systems)
- LCD from 7" to 18.5" in classic and wide aspect ratio
- 2 Gigabit Ethernet
- 2 USB 2.0
- Multistandard serial port (DB15M)

PREMIUM HMI

UBIQUITY

CODESYS

Windows®  
Embedded  
Compact 7

# MODULAR REMOTE I/O SYSTEM

## ARIO50



- Slave EtherCAT or MODBUS TCP
- Up to 5 I/O modules
- Up to 16 I/O terminals on each board
- Complete replaceability for every board, PSU included
- Push-in connectors with mechanical lock
- I/O modules with independent reference potential

### I/O Modules for ARIO 50

- 16 Digital Input
- 16 Digital Output
- 8+8 Digital Input/Output
- 4 Analog Input V/I
- 4 Analog Output V/I
- 4+4 Analog Input/Output
- 2 Incremental Encoder TTL/HTL/RS422 interface
- 4 Digital Output special functions
- 4/8 Thermocouples
- 4 RTDs
- 2 Strain gauge
- 4 Potenziometer

EtherCAT®

Modbus  
TCP/IP



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