iX

Management
access Level
4.3

Production tracking

Machine executive system
29%

Data Analysis
Inspection sys
23%
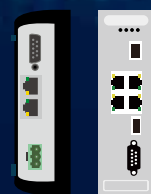
36%

76%

Digital Enterprise Board Room · Edge Server · IIoT Gateway

GROSS AUTOMATION

BeiJer
ELECTRONICS
People & Technology. Connected.

Beijer Electronics IIoT Solutions

IT

acirro+
THE CLOUD-BASED BOT PLATFORM
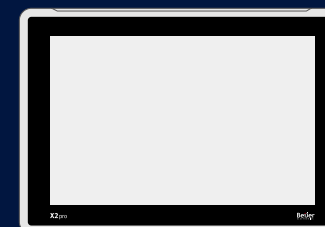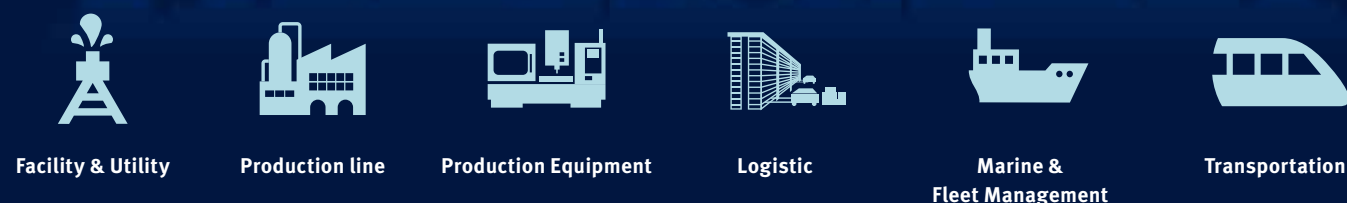Secure, User-friendly, Flexible.

AWS

SAP

Google Cloud

Edge intelligence server
Open edge platform and edge Digital Enterprise Board Room station for the OT/IT bridge

Edge

Smart IIoT gateway
One device can collect those meaningful real-time production information from any brand PLC on one production equipment into the on premise server or specific cloud.

OT

OT Digitalization

Facility & Utility   Production line   Production Equipment   Logistic   Marine & Fleet Management   Transportation

Smart machine interface

Visualization

Intelligent business operation
- ERP data integration
- PLM/SCM data integration
- Finance data integration
- Construction of enterprise operation intelligent analysis system

Enhance production efficiency
- MES data integration
- Work order data integration
- Inventory and material information integration
- Construction of production intelligent analysis system

Digitalization

Asset and performance management
- Digitize integration of machine information
- Production information integration
- Machine Health Information Integration

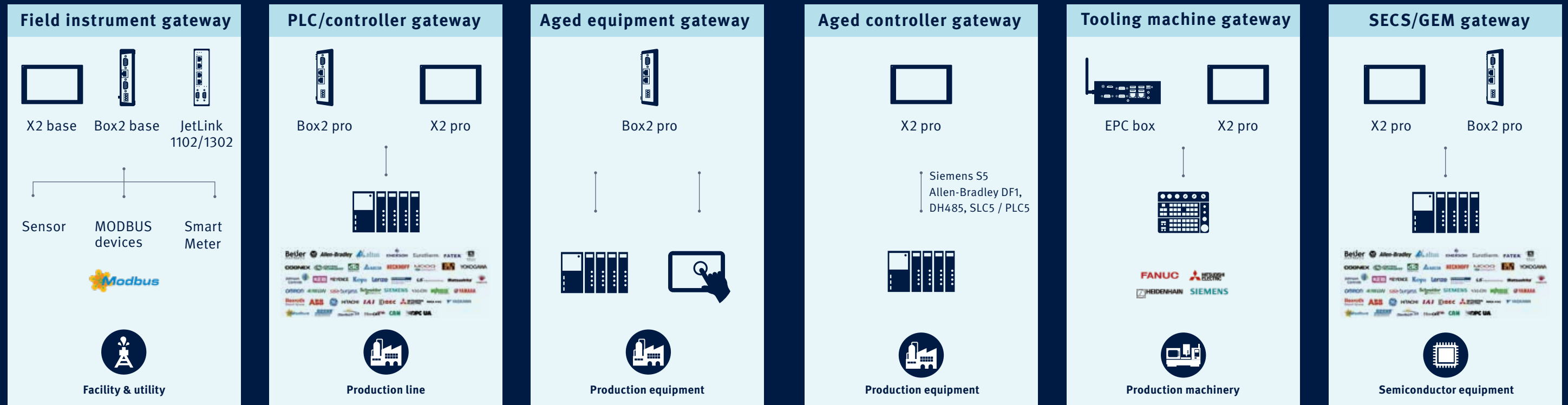### Enhance Production Management
- Digitize production information
- Digitize production efficiency
- Digitize quality information

Facility & environment management
- Digitize environmental safety and health
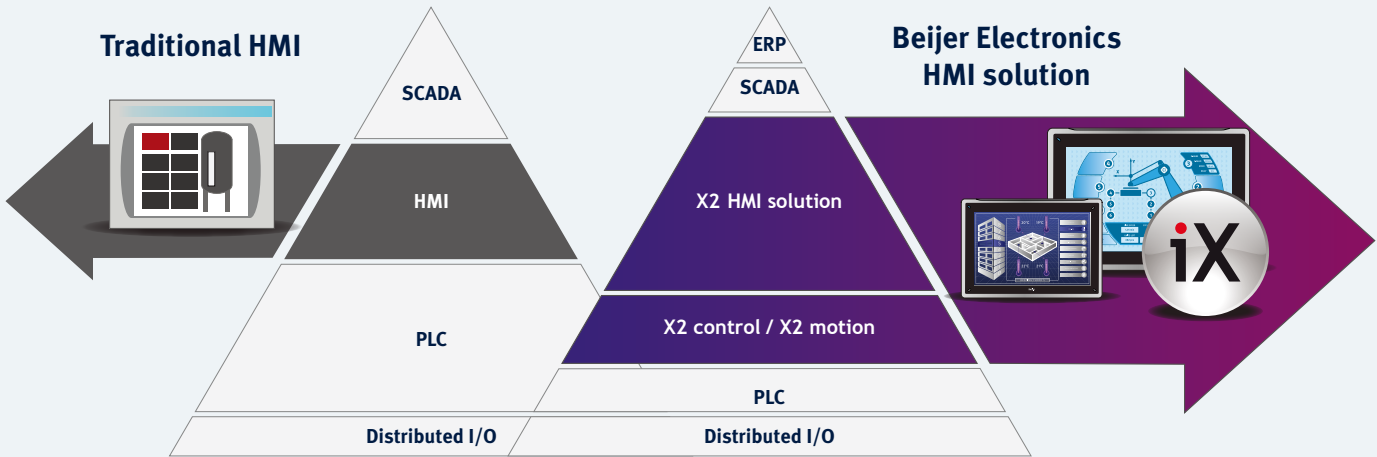- Facility & utility rationalize operations

Beijer Electronics IIoT Gateway Solution for smart manufacturing

Field instrument gateway

X2 base · Box2 base · JetLink 1102/1302

Sensor · MODBUS devices · Smart Meter

Modbus

Facility & utility

PLC/controller gateway

Box2 pro · X2 pro

Production line

Aged equipment gateway

Box2 pro

Production equipment

Aged controller gateway

X2 pro

Siemens S5
Allen-Bradley DF1,
DH485, SLC5 / PLC5

Production equipment

Tooling machine gateway

EPC box · X2 pro

FANUC · MITSUBISHI ELECTRIC
HEIDENHAIN · SIEMENS

Production machinery

SECS/GEM gateway

X2 pro · Box2 pro

Semiconductor equipment

PLC driver support list

- **ABB**
  COMLI Master
  COMLI Slave
  TotalFlow
  Freelance
- **Allen-Bradely**
  ControlLogix Ethernet IP
  DF1
  DH485
  MicroLogix Ethernet
  SLC5/PLC5 Ethernet
- **Altus**
  Alnet I
- **Animatics**
  SmartMotor
- **BACnet**
  BACnet/IP Client
- **Beckhoff**
  ADS
  ADS Symbolic

- **Beijer Electronics**
  iX DEMO
  CiX-IO module
- **Bernecker + Rainer**
  Mininet
- **Bosch Rexroth**
  IndraDrive C
- **CACTUS**
  CACTUS ASCII
- **CAN**
  CANopen (Expansion Module)
  CANopen (built-in)
  FreeCAN (Expansion Module)
  FreeCAN (built-in)
- **CoDeSys**
  ARTI v2.x, v3.x
  SoftControl Direct Access

- **Cognex**
  InSight
- **Control Techniques**
  Unidrive
- **CTC**
  Serial Binary
- **Delta**
  PLC Modbus ASCII
- **DeltaTau**
  PMAC/UMAC
- **Emerson**
  Modbus Master RTU/ASCII
  ROC
- **Eurotherm**
  Easy Serial 631
- **Fatek**
  Facon

- **Galil**
  DMC
- **GE**
  GE TCP/IP via SRTP
  GE Fanuc SNPX
- **Giddings & Lewis**
  Motion Control
- **Hitachi**
  H-COMM
- **IAI**
  XSel
- **IDEC**
  Computer Link
- **Johnson Controls**
  JCONTROL
- **KEB**
  COMBIVERT

- **Keyence**
  KV-Series
- **KOYO**
  DirectNET
  K-Sequence
  ECOM
- **Lenze**
  LECOM A/B
- **LS Industrial System**
  Glofa
  Master-K
- **Matushita**
  MEWTOCOL-COM
- **Modicon**
  Modbus Master
  Modbus Slave RTU/TCP
- **NEMA 0183**
  NEMA 0183

- **Mitsubishi**
  Alpha2
  A-Series (C24)
  A-Series (CPU)
  A-Series (E71)
  Freqrol FR-A PLC
  FX Series ADP/BD
  FX Series ENET
  FX Series Serial
  FX3U/GE-ENET
  MC Protocol
  MR-J2/MR-J3-T (Melservo)
  QnA/Qnn Serial
  QnA/Qnn (C24)
- **OMRON**
  Ethernet IP
  FINS
  Host Link

- **Profibus**
  Profibus DP
- **Opto 22**
  PAC
- **SAIA**
  S-BUS Serial/Ethernet
- **Schneider Electric**
  Modbus
- **Siemens**
  S5 PG/AS511
  S7 200 PPI
  ISO TCP
  MPI (Expansion Module)
  MPI (HMI Module)
  MPI Direct
  TI500
- **OPC UA**
  OPC UA Server
  OPC UA Client
- **Regin**
  EXOline

- **Toshiba**
  PROSEC Computer Link
- **Vigor**
  M/VB Series
  VS Series
- **Wago**
  Modbus TCP
- **Yamaha**
  VIP
- **YASKAWA**
  Memobus Master
- **Yokogawa**
  FA-M3
  FA-M3 Serial/Ethernet

A World of Software Choices

Traditional HMI

- SCADA
- HMI
- PLC
- Distributed I/O

Beijer Electronics HMI solution

- ERP
- SCADA
- X2 HMI solution
- X2 control / X2 motion
- PLC
- Distributed I/O

Given today's powerful hardware and the more reliable and stable software, it´s easy to understand the clear trend of more and more applications being increasingly software based.

Complete HMI functionality
You'll find all essential functionality you need included in the software, such as data logging, recipes, alarms, trends and audit trail. Take advantage of ready-made objects with built-in functionality, vector-based symbols and graphics that can be easily inserted into the screen. A low entry level makes it easy for new users to get an application up and running.

Functionality for advanced users
Beijer Electronics HMI has support for .NET technology, providing options for advanced developers to design specialized functionality. Use C# scripting or .NET components. Extend the application with CODESYS SoftControl and SoftMotion, boosted by EtherCAT communication.

.NET   SQL Server   Visual C#   CODESYS   EtherCAT   OPC

Connect to all automation brands
An extensive driver list enables communication with your PLC and other equipment from all major brands. Share data and have safe control of complex systems, even over long distances. Transfer files and control panels remotely with FTP and VNC.

Efficient workflow
The intuitive development environment speeds up engineering. Pre-styled objects, a customizable workspace, a component library with vector graphics, and a smart property grid are features that'll boost your efficiency and workflow. Share your customized objects and advanced script modules with colleagues. They don't have to be advanced users to import and use them.

iX runtime – stackable runtime software
Using iX runtime, you have the opportunity to create an intuitive and graphical user interface also on PC platforms. Moreover, you can also customize your own licenses by combining 2 or more licenses. For example, by combining 2000+1000+500 tags licenses, you now have a 3500 tags license.

iX runtime softkey		iX runtime hardkey	
Part number	Description	Part number	Description
100-0960	100 Tag. softkey	100-0949	100 Tag. USB dongle
100-0961	250 Tag. softkey	100-0950	250 Tag. USB dongle
100-0962	500 Tag. softkey	100-0951	500 Tag. USB dongle
100-0963	1000 Tag. softkey	100-0952	1000 Tag. USB dongle
100-0964	2000 Tag. softkey	100-0953	2000 Tag. USB dongle
100-0965	3000 Tag. softkey	100-0954	3000 Tag. USB dongle
100-0966	4000 Tag. softkey	100-0955	4000 Tag. USB dongle

# Digital Enterprise Board Room Software (P/N:300-59902)

Improved Decision Making Quality with Real-Time Data. Digital Enterprise Board Room is a facility to identify the critical path of operation and monitor it in a visualized way, data and signals will be tracked and analyzed among the layers between the production site and enterprise IT systems. It will help managers taking control of the work process they are able to ensure their policies are executed.

Software for Enterprise Board Room development
The iX Developer is the professional visualization software developed by Beijer Electronics. The performance and stability were proven over the years by millions of sets industrial control units sold along with this state-of-the-art software.

The iX Developer has more than 200 built-in PLC protocols, which covers the connectivity to all major brands of PLC all over the world. In addition, iX Developer also has all the mainstream open standards which IT engineers are familiar with, including MQTT, Restful API, Web Service, FTP Server, OPC UA Server and Client, SQLite and Java script. With the protocols and standards equipped with iX Developer, we are able to connect the data in the machines, whether old or new, to the Digital Enterprise Board Room. IT engineers then can use the built-in C# runtime engine to make programs to send data into ERP, MES or PLM system, thus completing the integration work which is often considered the most difficult part of building a smart manufacturing plant.

# iX Software Suite for IIoT Integration Kit
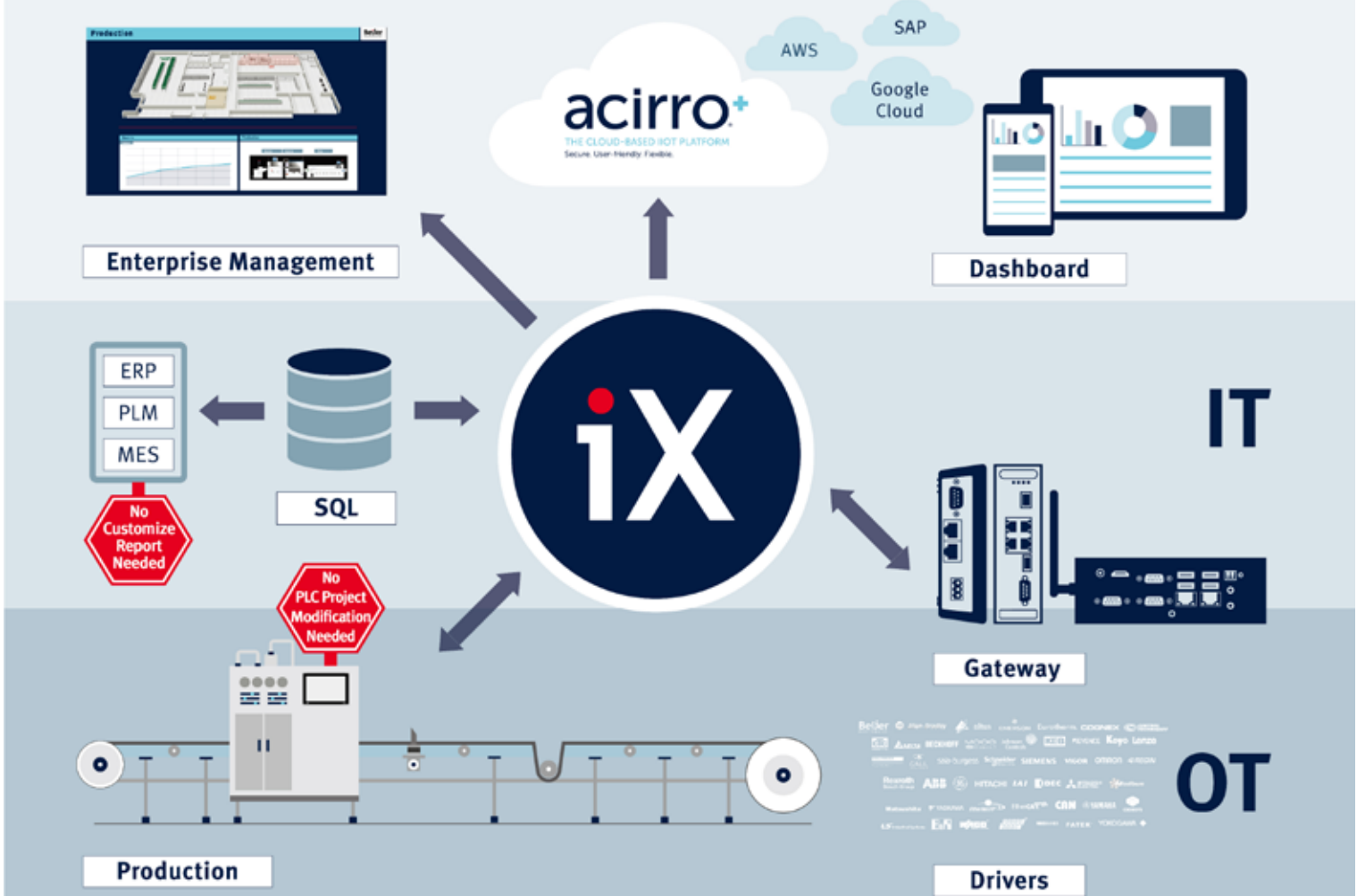
Success Story — Beijer Electronics Factory

- Use the barcode scanner to read the work order number, and then execute the SQL syntax to extracts needs data from ERP database to get rid of manual input error.
- All the execution status of the orders is displayed on the digital board room, allowing the decision makers to get insights at a glance with the visualized information.
- Install the additional power meters to record and compare the contracted power consumption of the burning room.
- Visualize the order information from ERP of burning room to save the communication time between sales and production engineer.
- Use Box2 to monitoring the tower light status on SMT equipment and calculate the downtime by C# script to provide predictive maintenance information.

Power meter in burning room | **Tower Light on SMT equip.** | **Temp. / Humidity / CO₂ sensors in each room** | **Barcode Scanner**

# Success Story — Electric Component Production Factory

- Use Box2 to integrate different brand PLCs in all production line equipment in the factory to real-time monitoring operating information.
- All the execution status of the orders is displayed on the digital board room, allowing the decision makers to get insights at a glance with the visualized information.
- Use Box2 to monitoring the tower light status on production equipment and calculate the downtime by C# script to provide predictive maintenance information.
- Execute iX runtime on the Edge Server of each partition to analyze the big data of equipment operation, and execute the third-party AI module to optimize equipment production parameters in real time.
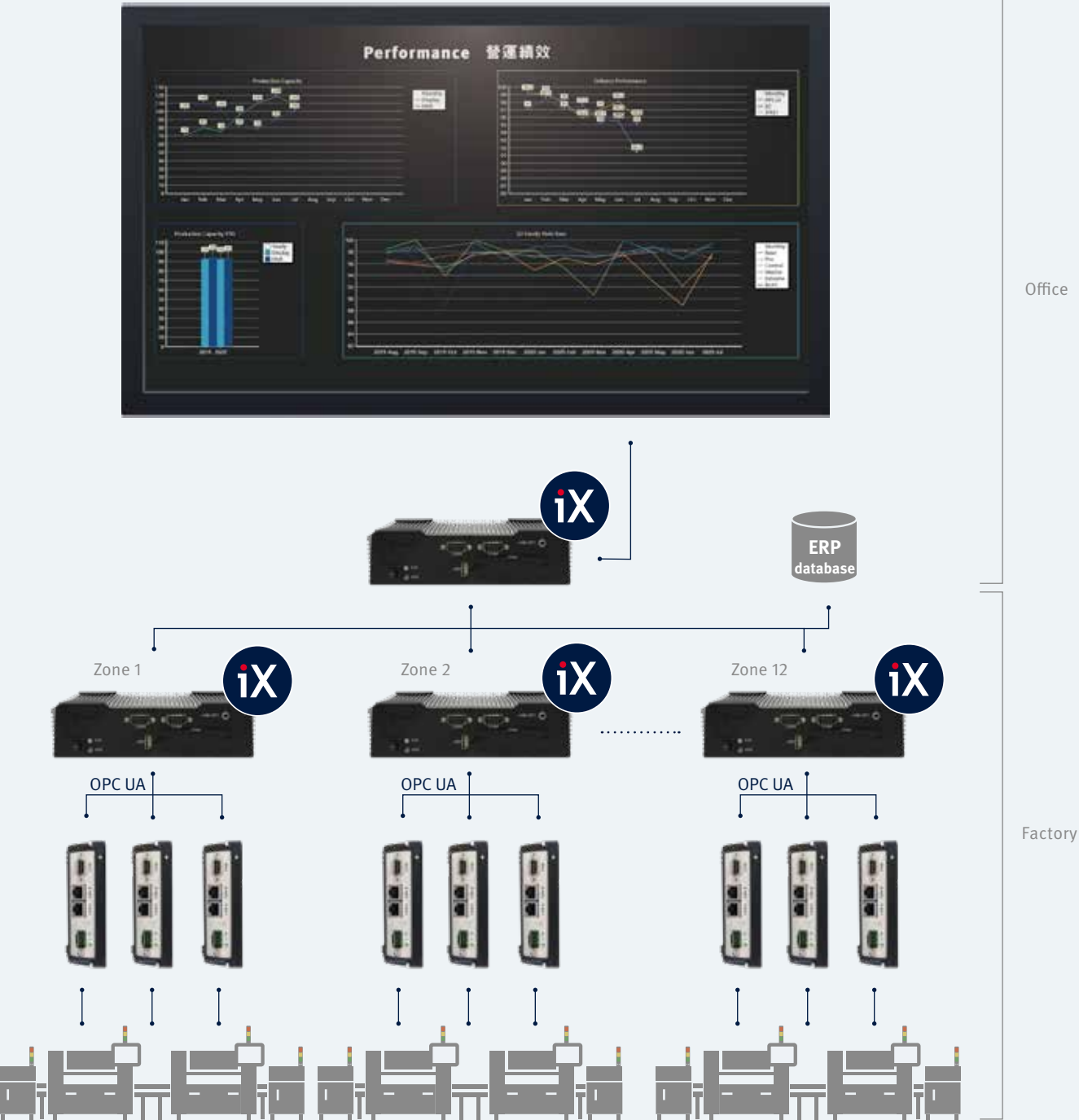
iX EPC Technical data

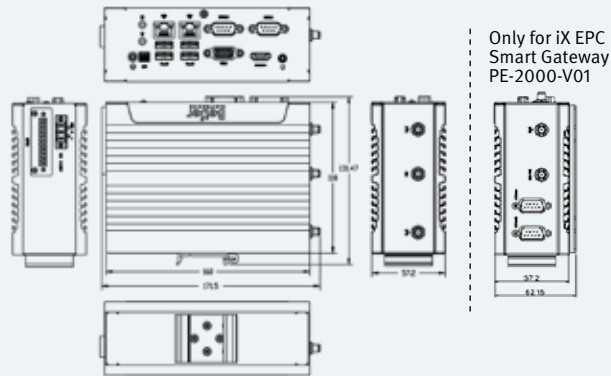| Model Name	iX EPC Smart Edge i5-2000-V01	iX EPC Smart Edge i5-4000-V01	iX EPC Smart Edge i7-4000-V01	iX EPC Smart Gateway PE-1000-V01	iX EPC Smart Gateway PE-2000-V01
Hardware Specification					
Part Number	300-58021	300-58022	300-58023	300-58019	300-58020
Construction	Aluminum extrusion heavy-duty cold-rolled steel		Aluminum extrusion heavy-duty cold-rolled steel	Aluminum extrusion and heavy-duty steel	
Processor	Intel® 8th Gen Core™ i5 8500T, 6 Core, 2.10GHz (Coffee Lake)		Intel® 8th Gen Core™ i7 8700T, 6 Core, 2.40GHz (Coffee Lake)	Intel® Pentium® Silver J5005, Quad core, 1.5 GHz, up to 2.8GHz	
Chipset	Intel®Q370 Chipset		Intel®Q370 Chipset	SoC	
Main Memory	1x 8GB DDR4 2666/2400MHz SO-DIMM Dual-channel DDR4-2666/2400 MT/s un-buffered SO-DIMM, up to 64GB	1x 16GB DDR4 2666/2400MHz SO-DIMM Dual-channel DDR4-2666/2400 MT/s un-buffered SO-DIMM, up to 64GB	1x 16GB DDR4 2666/2400MHz SO-DIMM Dual-channel DDR4-2666/2400 MT/s un-buffered SO-DIMM, up to 64GB	1x 8GB DDR4 2400MHz SO-DIMM	
BIOS	AMI 256Mb SPI Flash		AMI 256Mb SPI Flash	AMI	
Storage	1x 128GB M.2 Key M2280 for NVMe SSD	1x 256G M.2 Key M2280 for NVMe SSD	1x 256G M.2 Key M2280 for NVMe SSD	1x 128G M.2 2280	
External Storage Media	2x 2.5" swappable HDD/SSD (7/9.5 mm height), support RAID 0,1		2x 2.5" swappable HDD/SSD (7/9.5mm height), support RAID 0,1	1x SATA 6 Gb/s port (Support 2.5" Hard drive/SSD)	
Realtime Clock	Yes		Yes	Yes	
Watchdog Timer	Programmable 1-255 sec.		Programmable 1-255 sec.	256 levels, 0-255 sec.	
Ethernet	2x 10/100/1000 Mbps Ethernet (Intel® i211-AT & i219-LM)		2x 10/100/1000 Mbps Ethernet (Intel® i211-AT & i219-LM)	2x Intel GbE LAN ports (Intel® i211AT)	
USB	4x USB 3.1 Gen2 2x USB 2.0 1x USB 2.0 (internal, 180D type A for license key)		4x USB 3.1 Gen2 2x USB 2.0 1x USB 2.0 (internal, 180D type A for license key)	4x USB 3.0	
Serial Port	1x RS-232/422/485 (Default RS-232) 2x RS-232/422/485 with isolated 1.5kVDC		1x RS-232/422/485 (Default RS-232) 2x RS-232/422/485 with isolated 1.5kVDC	2x RS-232/422/485 (+5V/+12V supported by Jump)	2x RS-232/422/485 COM1&COM2 (+5V/+12V supported by Jump) 2x RS-232/422/485 COM3&COM4
Display Interface and Resolutions	1x HDMI (4096 x 2304 @ 30Hz) 1x VGA (1920 x 1200 @ 60Hz)		1x HDMI (4096 x 2304 @ 30Hz) 1x VGA (1920 x 1200 @ 60Hz)	1x HDMI (4096 x 2160 @ 60Hz) 1x VGA (2560 x 1600 @ 60Hz)	
Audio	1x Line-out		1x Line-out	1x Line-out	
Input Device	N/A		N/A	N/A	
Digital I/O	8-in/8-out with isolated 1.5kVDC		8-in/8-out with isolated 1.5kVDC	8 bits programmable digital I/O	
Power Button/Switch	1x Switch for power on/off w/ LED (ATX) 1x 2-pin remote switch		1x Switch for power on/off w/ LED (ATX) 1x 2-pin remote switch	1x Power Button 1x 2-pin terminal block for remote power switch	
System Indicator	1x Green LED for HDD active 3x Green programmable LED		1x Green LED for HDD active 3x Green programmable LED	1x White LED for system power-on 1x Green LED for HDD active 1x Green LED for WiFi/LTE active	
WiFi/LTE Extension(Optional)	N/A		N/A	1x M.2 slot (Support NGFF-2230 WiFi & BT combo module) (P/N: 310-58007) 1x Mini-PCIe slot slot for 3G/4G LTE module w SIM slot (P/N: 310-58008 Asia &EU, 310-58009 China, 310-58010 USA)	
Expansion Interface	1x Full-size miniPCIe slot (USB & PCIe interface)		1x Full-size miniPCIe slot (USB & PCIe interface) 4x PCIe slot (1x PCIex16, 3x PCIex4)	N/A	
Power Supply	24 VDC, 4-pin terminal block		24 VDC, 4-pin terminal block	+9 - 36 VDC	
Power Consumption	94Watt, 24V @ 5.45A		94Watt, 24V @ 17.95A (with 4-slot expansion)	90Watt, 9V @10A, 36V @2.44A	
Mounting (Default)	N/A		N/A	Din Rail	
Mounting (Optional)	Wall mount kit (P/N: 310-59711)		Wall mount kit (P/N: 310-59711)	N/A	
Dimension	83.5 mm (3.28") x 192 mm (7.54") x 230 mm (9.04")		188.1 mm (7.39") x 192 mm (7.54") x 230 mm (9.04")	160 mm (6.3") x 118 mm (4.65") x 57.2 mm (2.25") without monuting	
Weight (net)	3.82kg (8.43lb)		4.8kg (10.56lb)	1.202Kg (2.65 lb)	
Operating Temperature	-10°C to +60°C (+14°F to 140°F) with Intel® 9th/8th gen Intel® CoreTM and W.T. HDD/SSD		-10°C to +60°C (+14°F to 140°F) with Intel® 9th/8th gen Intel® CoreTM and W.T. HDD/SSD	-20°C to + 55 °C	
Storage Teimperature	-20°C to 80°C (-4°F to 176°F)		-20°C to 80°C (-4°F to 176°F)	-20°C to + 70 °C	-40°C to + 80 °C
Humidity	10% to 90% (non-condensing)		10% to 90% (non-condensing)	5% to 95% @ 40°C (non-condensing)	
Certification	CE/FCC		CE/FCC	CE/FCC	
Protection	IP20		IP20	IP40	
Vibration Endurance	1.0G, 5~500Hz, 2.5" w/SSD(operation)		1.0G, 5~500Hz, 2.5" w/SSD(operation)	5 Grms with SSD & M.2 (5-500 Hz radom)	
Software Specification					
Operating System	Win10 IoT Ent LTSC 2019 Multi OEI Value		Win10 IoT Ent LTSC 2019 Multi OEI High	Windows 10 IoT Ent SAC Multi Language Entry	
iX runtime no. of tags	2000	4000	4000	1000	2000
Configuration Software	iX Developer 2.40 or later version		iX Developer 2.40 or later version	iX Developer 2.40 or later version	

■ iX EPC Smart Edge i5-2000-V01
  iX EPC Smart Edge i5-4000-V01

■ iX EPC Smart Edge i7-4000-V01
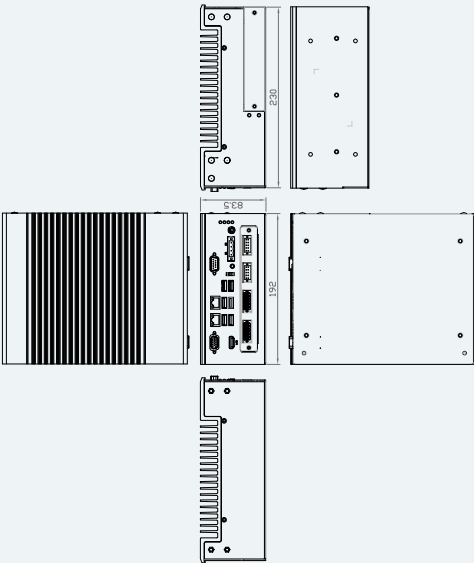
■ iX EPC Smart Gateway PE-1000-V01
  iX EPC Smart Gateway PE-2000-V01
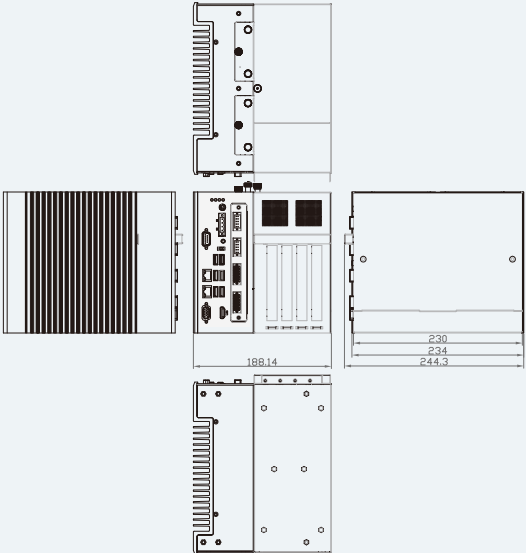
Only for iX EPC Smart Gateway PE-2000-V01

BoX2 series

Clever connectivity. Smarter functions.

Your data is the key to preventing down-time, mal-operation, excessive power consumption and other issues that may occur. Use this crucial information and turn it into insights, optimize operations and plan for maintenance.

BoX2 solves the challenge of finding smart ways to access data and bridges the gap between the worlds of industrial automation and IT. It makes information from a deep industrial level easily accessible in a structured cloud-based data environment.

BoX2 offers true industrial strength. It can operate in tough environments including electrical noise, large temperature spans and vibration. It communicates with all the different types of controllers holding the data you need.

BoX2 facilitates data exchange, and transfers data securely to the cloud for remote access and analysis.

BoX2 allows you to create mobile solutions and add local control on the edge of the cloud to perform corrective measures on a machine. It's programmed with smart ready-made functions to manage whatever scenario you opt for.

This is Box2

BoX2 is a series of protocol converters, IoT gateways and edge controllers that combine clever connectivity in different ways:

- Share data between PLCs of different makes.
- Create IoT solutions to store and access data in the cloud.
- Present data on mobile devices via HTML5 screens and dashboards.

It also offers smart functions such as local data base storage, alarm servers, data exchange, reporting, C# scripting, and more.

BoX2 is easily configured with just a few clicks in WARP Engineering Studio. Configure smart functions via iX software.

BoX2 Technical data

Model Name	BoX2 pro High-performance protocol converter/ IoT gateway/edge controller	BoX2 extreme Rugged protocol converter/ IoT gateway/edge controller	BoX2 base Cost-effective protocol converter
General description			
Part number	100-0974	100-0975	100-0973
Warranty		2 year	
Certifications			
General		CE, FCC, KCC	
Hazardous	NA	ULC1D2, ATEX (Zone2), ATEX (Zone22), IEXEx (Zone2), IEXEx (Zone22)	NA
Marine	DNVGL, BV, LR, ABS	DNVGL, BV, LR, ABS	NA
Safety		UL 61010-2-201	
Mechanical			
Mounting option	DIN rail/mounting plate	DIN rail/mounting plate/Vesa mount	DIN rail
System			
CPU	i.MX6DualLite Dual Cortex-A9 1.0GHz 512kBL2cache	i.MX6Quad, Quad ARMCortex-A9 1.0GHz 1MBL2cache	ARM9 400 MHz
RAM	1 GB	2 GB	128 MB
FLASH	2GB SSD (eMMC), 1.5GB free for application	2GB SSD (eMMC), 1.5GB free for application	256 MB, 200 MB free
Supported functionality			
Protocol conversion		Yes	
Cloud connectivity[*1]	Yes	Yes	NA
HMI and web server		Yes	
Smart functions via iX		Yes	
Communication serial			
Number of serial ports	1 Port 9pin DSUB	2 Port 8pin M12	2 Port 9pin DSUB
Serial port 1	RS 232 (RTS/CTS)	RS 232 (RTS)	RS 232 (RTS/CTS)
Serial port 2	RS422/485	RS422 or RS485 or CAN	RS422/485
Serial port 3	RS485 (only if COM 2 is RS485)	RS 485 or CAN galv. isolated on 2. M12 serial (if no RS422 on 1. M12 is selected)	RS 232
Serial port 4	NA	NA	RS 485
Ethernet communication			
Number of ethernet ports	2	2	1
Ethernet port 1	1×10/100 Base-T (shielded RJ45)	1×10/100 Base-T (4 pin M12)	1×10/100 Base-T (shielded RJ45)
Ethernet port 2	1×10/100 Base-T (shielded RJ45)	1×10/100 Base-T (4 pin M12)	NA
Expansion interface			
SD card		SD and SDHC	NA
USB	1×USB 2.0 500mA	2×USB 2.0 500mA (8pin M12)	1×USB 2.0 500mA
Environmental			
Operating temperature	-10°C to +60°C	-30°C to +70°C	-10°C to +50°C
Storage temperature	-20°C to +70°C	-40°C to +80°C	-20°C to +60°C
Shock	15g, half-sine, 11ms according to IEC60068-2-27	40g, half-sine, 11ms according to IEC60068-2-27	15g, half-sine, 11ms according to IEC60068-2-27
Vibration	1g, according to IEC 60068-2-6, Test Fc	4g, according to IEC 60068-2-6, Test Fc	1g, according to IEC 60068-2-6, Test Fc
Sealing	IP20	IP66, NEMA 4X/ 12 and UL Type 4X/ 12	IP20
Humidity	5% – 85% non-condensed	5% – 95% non-condensed	5% – 85% non-condensed

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X2 pro

High performance HMIs for all automation needs

X2 pro includes a range of high performance industrial panels designed for demanding applications. All with the high performance of powerful ARM Cortex-A9 processors, the latest screen technology and a wide range of connectivity options to cover all your automation needs.

X2 pro panels are available in 4, 7, 10, 12, 15 and 21 inches.

UL, CE, FCC and KCC certificates*
The entire X2 range offers a strong standard certification with UL, CE, FCC and KCC certificates.
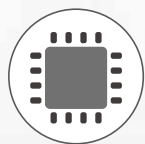
Powerful ARM Cortex-A9 processor
Powerful single or dual core ARM Cortex-A9 processor delivers fast screen changes and program execution in demanding applications.

SD memory card
Card holder and USB connection are located behind the lid on the back of the panel for smart memory expansion, project backup and application loading.

iX software – why you'll love our hardware
The iX software gives you smart communication tools. iX combines top-class vector graphics and easy-to-use functions that provide reliable operation, and almost limitless connectivity to your other equipment.

Robust aluminum housing
Robust aluminum housing with IP65, NEMA 4X/12 and UL Type 4X/12 front. Resistant to direct rain, snow or wash-downs, dirt, grime and dust.

Wide operating temperature -10°C to +60°C*
The wide -10°C to +60°C operating temperature range satisfies the demands of most industries.

X2 pro Technical data

Model Name	X2 pro 7	X2 pro 12
General description		
Part number	630000205	640000205
Certifications		
General	CE, FCC, KCC	CE, FCC, KCC
Marine	BV, DNV, KR, GL, LR, ABS, CCS	BV, DNV, KR, GL, LR, ABS, CCS
UL	UL 61010-2-201	UL 61010-2-201
Mechanical		
Mechanical size	204 × 143 × 50 mm	340 × 242 × 57 mm
Touch type	Resistive	Resistive
Cut-out size	189 × 128mm	324 × 226mm
Weight	0.8 kg	2.6 kg
Housing material	Powder-coated aluminum, Gray	Powder-coated aluminum, Gray
Power		
Input voltage	24 V DC (18 to 32 VDC)	24 V DC (18 to 32 VDC)
Power consumption, max	14.4W	28.8W
Input fuse	Internal DC fuse	Internal DC fuse
System		
CPU	i.MX6Solo Single Cortex-A9 1.0GHz 512kBL2cache	i.MX6DualLite, Dual Cortex-A9 1.0GHz 512kBL2cache
RAM	512 MB	
FLASH	2GB SSD(eMMC), 1.5GB free for application storage	2GB SSD(eMMC), 1.5GB free for application storage
Display		
Size diagonal	7" diagonal	12.1" diagonal
Resolution	800 × 480 pixels	1280 × 800 pixels
Backlight	LED Backlight	LED Backlight
Backlight life time	20,000 hours	50 000 hours
Backlight brightness	350 cd/m²	400 cd/m²
Backlight dimming	Industrial Dimming	Industrial Dimming
Display type	TFT-LCD with LED backlight	TFT-LCD with LED backlight
Communication serial		
Number of serial ports	1 Port 9pin DSUB	1 Port 9pin DSUB
Serial port 1	RS 232 (RTS/CTS)	RS 232 (RTS/CTS)
Serial port 2	RS422/485	RS422/485
Serial port 3	RS485 (only if COM 2 is RS485)	RS485 (only if COM 2 is RS485)
Ethernet communication		
Number of ethernet ports	1	2
Ethernet port 1	1 × 10/100 Base-T (shielded RJ45)	1 × 10/100 Base-T (shielded RJ45)
Ethernet port 2	NA	1 × 10/100 Base-T (shielded RJ45)
Expansion interface		
Expansion port	Yes, ciX expansion module	Yes, ciX expansion module
SD card	SD and SDHC	SD and SDHC
USB	1 × USB 2.0 500mA	2 × USB 2.0 500mA
Environmental		
Operating temperature	-10°C to +60°C	-10°C to +60°C
Storage temperature	-20°C to +70°C	-20°C to +70°C
Shock	15g, half-sine, 11ms according to IEC60068-2-27	15g, half-sine, 11ms according to IEC60068-2-27
Vibration	1g, according to IEC 60068-2-6, Test Fc	1g, according to IEC 60068-2-6, Test Fc
Sealing front	IP65, NEMA 4X/12 and UL Type 4X/12	IP65, NEMA 4X/12 and UL Type 4X/12
Sealing back	IP20	IP20
Humidity	5% – 85% non-condensed	5% – 85% non-condensed

acirro+

Get insights from the

cloud with acirro+

BeiJer
ELECTRONICS

People & Technology. Connected.

Get insights from the cloud with acirro⁺

Move your machine data to the cloud with our fully IIoT ready X2 HMIs and BoX2 devices, and gain insights to streamline operations.

If you are a Maker of Things, a machine builder or a provider of other technical equipment, your business runs on data. Data that can tell when your machines are running efficiently and indicate when you need to introduce maintenance or other measures.

The threshold to accelerating into digital has never been lower than now, closing the gap between OT and IT.

Our X2* HMIs and BoX2* devices are now IIoT ready by standard and fully prepared to enable you to move your machine data to the cloud.

*IIoT connectivity are introduced successively. Please check actual status on our web site.

Easily set up a secure cloud connection and begin moving machine data to the cloud using our acirro+ IIoT platform. The solution is easy to implement without needing to rewire your existing installation or re-program an existing application.

Viewing machine data in visual dashboards gives you a great overview and provides insights to streamline your machine's operation, creating new business opportunities.

ACCELERATE TO DIGITAL NOW!

Simple installation and full connectivity

No re-wiring or re-programming required

Getting your data to the cloud has never been simpler and more secure. Without any need to re-wire your existing application or re-programming the controller in your application. Simply use one of the new X2 panels or BoX2 gateways. Go to SmartStore, buy a subscription and activate the device. Make sure to have the latest software versions of iX and WARP. Define the data you want to upload to cloud, set transfer intervals and resolution. And your data will start streaming.

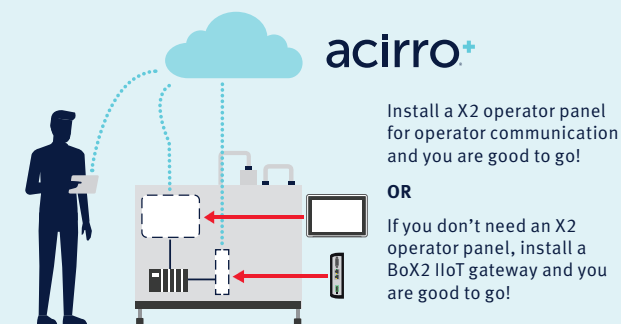### Connects to all automation brands

Communicate with hundreds of different unique PLCs and automation equipment from all major manufacturers through an extensive driver list. This enables X2 HMIs and BoX2 gateways to access all the vital data hidden in your machines or facility and send it to the cloud.
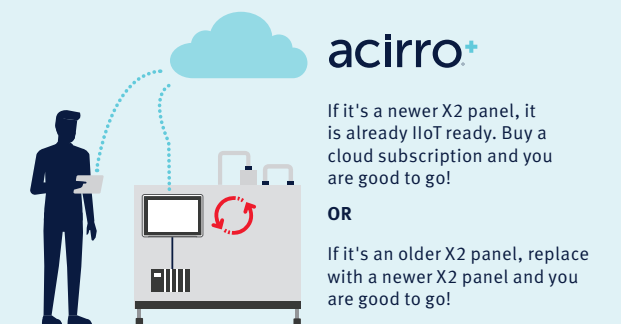
WHAT IS YOUR CASE?

No matter what, you can find a smart solution to start digitalization!

New machine
Introduce X2 operator communication

Install a X2 operator panel for operator communication and you are good to go!

OR

If you don't need an X2 operator panel, install a BoX2 IIoT gateway and you are good to go!

Retrofit
Machine with existing X2 operator panel

If it's a newer X2 panel, it is already IIoT ready. Buy a cloud subscription and you are good to go!

OR

If it's an older X2 panel, replace with a newer X2 panel and you are good to go!

Solutions designed for tough industrial, marine and hazardous environments

Retrofit
Machine with existing 3rd party panel

Install a BoX2 IIoT gateway and you are good to go!

Retrofit
Machine without operator panel

Install a X2 operator panel to introduce operator communication and you are good to go!

OR

Install a BoX2 IIoT gateway and you are good to go!

The safe and secure IIoT solution

Securely transmitted data

Your machine data is securely transmitted to the Beijer Electronics cloud using bank-level security SSL/TLS encryption.

No unauthorized access

All communication from devices to the cloud is out-bound. Devices are never visible on the public internet, minimizing the risk of unauthorized access.

Identified devices only

All X2 HMIs and BoX2 gateways have an X.509 standard certificate tied to their serial number. Each device has a traceable, unique identity to identify just your devices in the cloud.

Safe hosting

All data is hosted on Microsoft Azure with highly secure administration of organization, users devices, device groups, cloud tags, etc. via acirro+.

## Check machine performance anytime. Anywhere.

With your data securely stored in the cloud you can create visual dashboards that combine different data sources, no matter how simple or complex, into a single view including bar graphs, pie charts, etc. You and your customers can view key performance indicators from your machines in real or near-real time using the runtime dashboard.

Dashboards are ready to run as mobile and tablet applications.
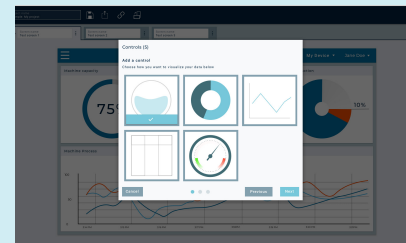
Use simple widgets and templates to build dashboards including bar graphs, pie charts, etc.
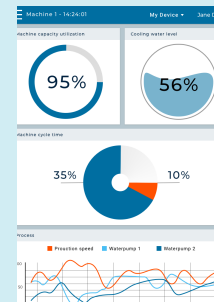
View key performance indicators from your machine in real or near-real time using runtime dashboards.

Dashboards for a great overview

Easy visualization
Use widgets and templates to easily build dashboards including bar graphs, pie charts and more.

Cloud-based and mobile ready
Dashboards draw data from the cloud and present them on mobile, pc or tablet platforms.

Complex data visualized
Consolidate complex data across similar machines and visualize them in acirro+ dashboards for great overview.

Real-time data feeds
View key performance indicators from your machine in real or near-real time using runtime dashboards.

New insights and business opportunities

Analyze and understand past events using large amounts of historical data. Diagnose outages quicker and shorten time to resolution. Understanding evolution patterns, average variations and peak data changes are essential. Historical data helps you and your customers forecast future events and act upon them. A new opportunity to improve operations.
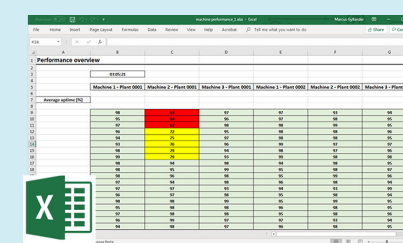
Data transfer to Excel for simple analysis.
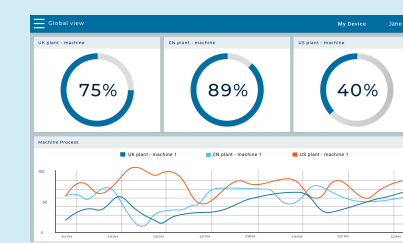
Data consolidated in acirro+ dashboards for simple comparison of key performance across similar machines.

Mobile dashboards configured and customized to reflect key data from a customer machine.

New insights from your machine data

All data accessible at one place
Collect data from machines, wherever located, and consolidate data it in one secure, cloud-based location.

Safe storage of data
Our cloud solution is based on Microsoft Azure where all data benefit from an enhanced level of security.

Historical data helps predict the future
Store large amounts of historical data to analyze and understand the past. And to help you to forecast future events and act upon it.

acirro+

The cloud-based IIoT platform

acirro+ is our cloud-based IIoT platform and the umbrella for all our cloud related services. From acirro+ you are able to manage the setup of devices, cloud tags, users, etc. fully tailored to your needs and requirements.

With just a few clicks you are able to create visual dashboards that combine different data sources, no matter how simple or complex, into a single view including bar graphs, pie charts, etc. reflecting your data. And by using the runtime dashboard you, or your customers, are able to view key performance indicators from your machine in real or near-real time.
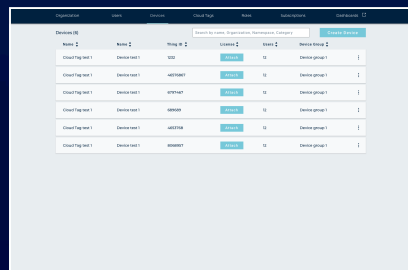
The setup of devices, cloud tags, users, etc. are easily managed from acirro+.
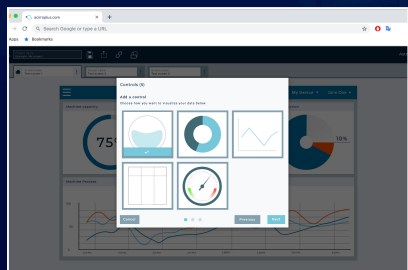
Use simple widgets and templates to build dashboards including bar graphs, pie charts, etc.
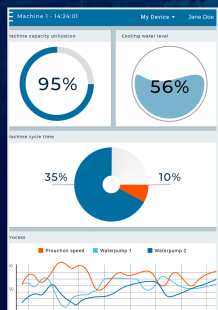
With runtime dashboards, you and your customers, are able to view key performance indicators from your machine in real or near-real time.

Dashboards are fully ready to run as mobile and tablet applications.

Subscription for X2 HMIs or BoX2 devices are easily purchased in our Smartstore.

acirro+
THE CLOUD-BASED IIOT PLATFORM
Secure. User-friendly. Flexible.

Secure
acirro+ uses safe outbound-only device handling and Microsoft Azure's built-in security standards to keep your data safe and maintain the system integrity of your machine.

User-friendly
It's easy set up and administer tags, transfer intervals, etc. Buying certificates via our Smartstore is simple, and you can quickly create dashboards using the acirro+ dashboard designer.

Flexible
acirro+ has an intuitive, open user interface, making it easy to implement, modify and scale the solution to your requirements.

BoX2 series

BoX2 series

Clever connectivity. Smarter functions.

Beijer ELECTRONICS

People & Technology. Connected.

BoX2 series

Clever connectivity. Smarter functions.

Your data is the key to preventing down-time, mal-operation, excessive power consumption and other issues that may occur. Use this crucial information and turn it into insights, optimize operations and plan for maintenance.

BoX2 solves the challenge of finding smart ways to access data and bridges the gap between the worlds of industrial automation and IT. It makes information from a deep industrial level easily accessible in a structured cloud-based data environment.

BoX2 offers true industrial strength. It can operate in tough environments including electrical noise, large temperature spans and vibration. It communicates with all the different types of controllers holding the data you need.

BoX2 facilitates data exchange, and transfers data securely to the cloud for remote access and analysis.

BoX2 allows you to create mobile solutions and add local control on the edge of the cloud to perform corrective measures on a machine. It's programmed with smart ready-made functions to manage whatever scenario you opt for.

This is Box2

BoX2 is a series of protocol converters, IoT gateways and edge controllers that combine clever connectivity in different ways:

- Share data between PLCs of different makes.
- Create IoT solutions to store and access data in the cloud.
- Present data on mobile devices via HTML5 screens and dashboards.
- Integrate local CODESYS control.

It also offers smart functions such as local data base storage, alarm servers, data exchange, reporting, C# scripting, and more.

BoX2 is easily configured with just a few clicks in WARP Engineering Studio. Configure smart functions via iX software.

Smarter functions

Add smarter functions such as local data base storage, alarm servers, data exchange, reporting, C# scripting, etc. via the iX software.

Drivers for all major brands

BoX2 can access all data hidden in your machines or facility through more than 75 PLC driver families from all leading controller brands.

Safe storage, access and administration

Beijer cloud is hosted on Microsoft Azure with administration of organization, user, devices, device groups, cloud tags and roles via WARP.

Secure all the way

BoX2 has a traceable unique identity used to identify the device in the cloud. BoX2 devices are never visible on the public internet.

Connect to ERP systems, analytic tools, etc.

BoX2 supports OPC UA, a communication protocol designed to connect ERP systems, analytic tools, etc. with real-world data.

Easy configuration with WARP

Create integrated solutions with WARP Engineering Studio and configure all hardware, software and communication in a few minutes.

Powerful local logic control

Fully integrated IEC 61131-3 development tool with integrated compilers, object-oriented programming, alarm management, add-ons, etc.

Cross-platform mobile applications

HTML5 appears the same across all platforms and browsers, simplifying coding and is faster and more adaptive.

Mobility for peace of mind

Think. What if you could keep up with the status of your plant without being tied to a work station or a production line?

BoX2 is the perfect platform for HMI and dashboard applications on the go. It keeps you updated with status information and vital data from your machines presented in clear, interactive graphics. Mobile and agile, it gives you vital data on production trends, alarms and upcoming maintenance so you can take decisions and corrective measures from anywhere within your facility.
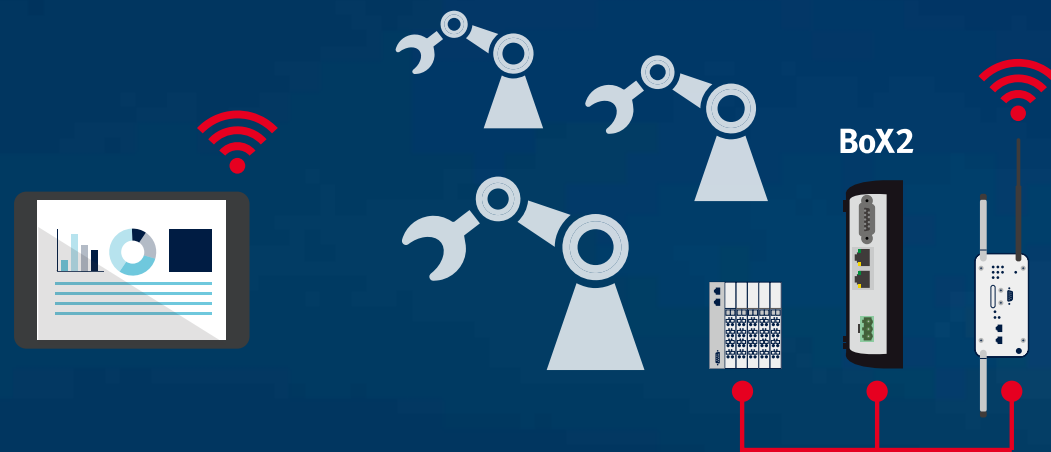
BoX2

Mobile HMI is supported by BoX2 base, BoX2 pro, BoX2 pro SC, BoX2 extreme, BoX2 extreme SC.

Use case example

Communication server for mobile HMI

BoX2 acts as a next-generation HMI server combining server functionality via the built-in web server, serving HTML5 based visualization to any compatible device.

HTML5 appears the same across all platforms and browsers, simplifying coding and is faster and more adaptive to users. BoX2 enables powerful, modern

web HMI functionality in situations where an operator or plant manager needs to be mobile instead of being tied up at a fixed work station or production line.

Bring your production up to speed

Think. What if machines in your facility could communicate effectively together in smart ways to maximize efficiency and optimize operations?

BoX2 makes your machines – old and new – communicate efficiently, however complex the setup. BoX2 has communication drivers to all major brands of controllers on the market. This makes it easy to route key data and exchange it with the overlying systems in your facility. Optimizing operations and production speed.

ERP   BoX2
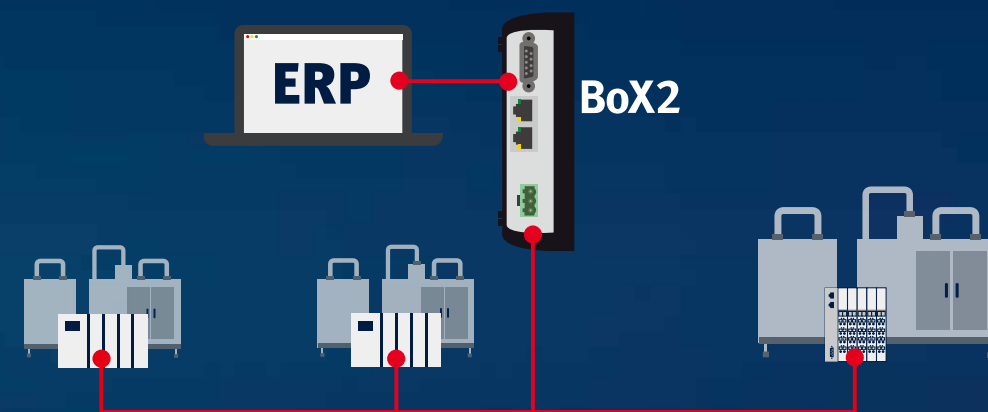
Protocol connectivity is supported by BoX2 base, BoX2 pro, BoX2 pro SC, BoX2 extreme, BoX2 extreme SC.
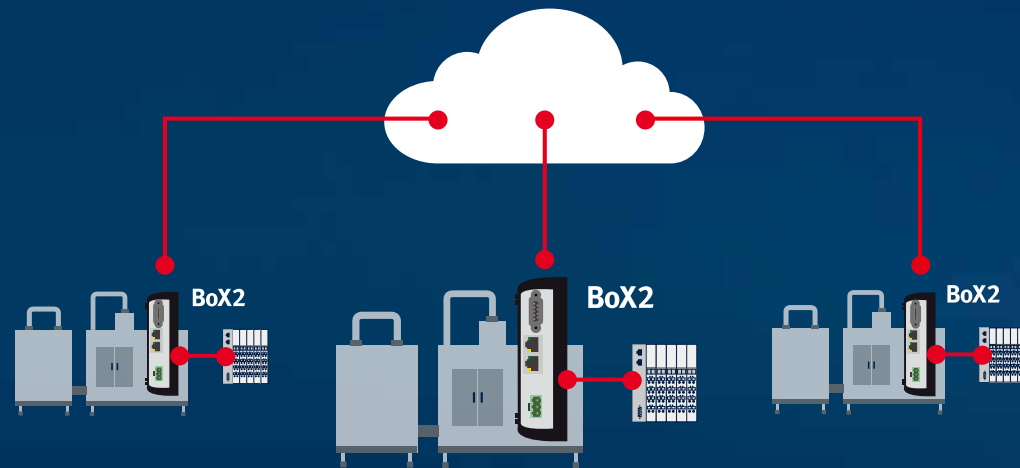
Use case example

Protocol conversion

BoX2 can operate as a protocol converter enabling two or more different controller devices to exchange data and achieve interoperability. Drivers for the different controllers are installed on BoX2, which converts data from one network into protocols of the network in which data is navigating.

BoX2 supports OPC UA, a secure communication protocol designed to connect ERP systems, analytic tools, databases and other enterprise systems with real-world data from controllers and other devices. Add additional smart functions such as local data base storage to optimize overall operational performance.

When your data is playing hide and seek

Think. What if you could access crucial data hidden deep in your facility from the cloud and turn it into insights?

BoX2 provides the data you need for analysis from your installed base of machines to optimize uptime and overall efficiency. BoX2 accesses data hidden in your machines via communication drivers to all major brands of controllers and transfers it through secure IoT connections to the cloud. It's then ready to be turned into insights. We supply other smart software functions to further refine and structure data.

Cloud connectivity is supported by BoX2 pro, BoX2 pro SC, BoX2 extreme, BoX2 extreme SC.

Cloud connectivity

BoX2 acts as a cloud gateway transforming local machine data to being accessible in the cloud. Data is securely transmitted to the Beijer cloud using secure, bank-level encryption.

Each BoX2 has a traceable unique identity to identify the device in the cloud. All communication from devices to the cloud is outbound. Devices are never visible on the public internet. The Beijer cloud is hosted on Microsoft Azure with administration of organization, user, devices, device groups, cloud tags and roles via WARP Engineering Studio.

Control everything from one device

Think. What if you could control every aspect of your machine operation from a single device?

BoX2 enables you to perform powerful local logic control. It integrates IEC 61131-3 CODESYS applications with HMI server functions, IIoT and cloud connectivity, as well as offering smart functions. So you can make killer applications including all aspects of control from one single device.
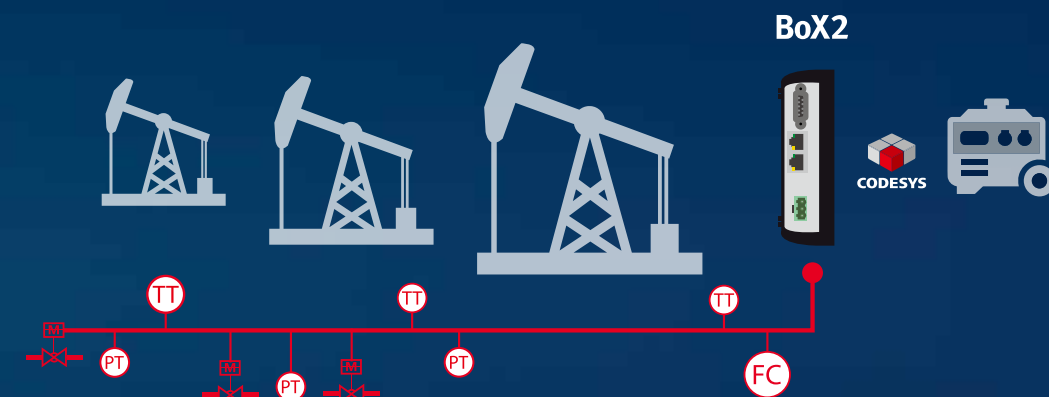
Integrated CODESYS control is supported by BoX2 pro SC, BoX2 extreme SC.

Integrated CODESYS control

CODESYS is the leading hardware-independent IEC 61131-3 development tool on the market – the industry standard in PLC and controller programming. CODESYS fits perfectly with BoX2 and our software in terms of openness, communication and ability to exchange data.

With BoX2 you can perform powerful local logic control. CODESYS is a fully integrated development system complete with integrated compilers, object-oriented programming, alarm management and add-ons such as UML/SYN integration. CODESYS can be embedded in virtually any system offering code transparency between systems.

	BoX2 base Cost-effective protocol converter	BoX2 pro High-performance protocol converter/ IoT gateway/edge controller
General description		
Part number	100-0973	100-0974
Warranty	2 year	
Certifications		
General	CE, FCC, KCC	
Hazardous	NA	
Marine	NA	DNVGL, BV, LR, ABS
Safety	UL 61010-2-201	
Mechanical		
Mounting option	DIN rail	DIN rail/mounting plate
System		
CPU	ARM9 400 MHz	i.MX6DualLite Dual Cortex-A9 1.0GHz 512kBL2cache
RAM	128 MB	1 GB
FLASH	256 MB, 200 MB free	2GB SSD (eMMC), 1.5GB free for application
Supported functionality		
Protocol conversion	Yes	
Cloud connectivity[1]	NA	Yes
HMI and web server	Yes	
Integrated CODESYS control[1]	NA	
Smart functions via iX	Yes	
Softcontrol		
CODESYS runtime version	NA	
CODESYS EtherCAT	NA	
CODESYS Modbus Ethernet	NA	
CODESYS Modbus RTU	NA	
Non volatile variables	NA	
Communication serial		
Number of serial ports	2 Port 9pin DSUB	1 Port 9pin DSUB
Serial port 1	RS 232 (RTS/CTS)	
Serial port 2	RS422/485	
Serial port 3	RS 232	RS485 (only if COM 2 is RS485)
Serial port 4	RS 485	NA
Ethernet communication		
Number of ethernet ports	1	2
Ethernet port 1	1×10/100 Base-T (shielded RJ45)	
Ethernet port 2	NA	1×10/100 Base-T (shielded RJ45)
Expansion interface		
SD card	NA	SD and SDHC
USB	1×USB 2.0 500mA	
Environmental		
Operating temperature	-10 ℃ to +50 ℃	-10℃ to +60℃
Storage temperature	-20℃ to +60℃	-20℃ to +70℃
Shock	15g, half-sine, 11ms according to IEC60068-2-27	
Vibration	1g, according to IEC 60068-2-6, Test Fc	
Sealing	IP20	
Humidity	5% – 85% non-condensed	

	BoX2 pro SC[1] High-performance protocol converter/ IoT gateway/edge controller	BoX2 extreme Rugged protocol converter/ IoT gateway/edge controller	BoX2 extreme SC[1] Rugged protocol converter/ IoT gateway/edge controller
Part number	100-0980	100-0975	100-0981
Warranty		2 year	
General		CE, FCC, KCC	
Hazardous	NA	ULC1D2, ATEX (Zone2), ATEX (Zone22), IEXEx (Zone2), IEXEx (Zone22)	
Marine		DNVGL, BV, LR, ABS	
Safety		UL 61010-2-201	
Mounting option	DIN rail/mounting plate	DIN rail/mounting plate/Vesa mount	
CPU	i.MX6DualLite Dual Cortex-A9 1.0GHz 12kBL2cache	i.MX6Quad, Quad ARMCortex-A9 1.0GHz 1MBL2cache	
RAM	1 GB	2 GB	
FLASH		2GB SSD (eMMC), 1.5GB free for application	
Protocol conversion		Yes	
Cloud connectivity[1]		Yes	
HMI and web server		Yes	
Integrated CODESYS control[1]	Yes[1]	NA	Yes[1]
Smart functions via iX		Yes	
CODESYS runtime version	3.5	NA	3.5
CODESYS EtherCAT	Yes	NA	Yes
CODESYS Modbus Ethernet	Yes	NA	Yes
CODESYS Modbus RTU	Yes	NA	Yes
Non volatile variables	Yes	NA	Yes
Number of serial ports	1 Port 9pin DSUB	2 Port 8pin M12	
Serial port 1	RS 232 (RTS/CTS)	RS 232 (RTS)	
Serial port 2	RS422/485	RS422 or RS485 or CAN	
Serial port 3	RS485 (only if COM 2 is RS485)	RS 485 or CAN galv. isolated on 2. M12 serial (if no RS422 on 1. M12 is selected)	
Serial port 4		NA	
Number of ethernet ports		2	
Ethernet port 1	1×10/100 Base-T (shielded RJ45)	1×10/100 Base-T (4 pin M12)	
Ethernet port 2	1×10/100 Base-T (shielded RJ45)	1×10/100 Base-T (4 pin M12)	
SD card		SD and SDHC	
USB	1×USB 2.0 500mA	2×USB 2.0 500mA (8pin M12)	
Operating temperature	-10 ℃ to +60 ℃	-30℃ to +70℃	
Storage temperature	-20 ℃ to +70 ℃	-40℃ to +80℃	
Shock	15g, half-sine, 11ms according to IEC60068-2-27	40g, half-sine, 11ms according to IEC60068-2-27	
Vibration	1g, according to IEC 60068-2-6, Test Fc	4g, according to IEC 60068-2-6, Test Fc	
Sealing	IP20	IP66, NEMA 4X/ 12 and UL Type 4X/ 12	
Humidity	5% – 85% non-condensed	5% – 95% non-condensed	

*1 Visit www.beijerelectronics.com/box2 for an overview of functions/timeline of the different BoX2 models.

Smarter functions

BoX2 connectivity can be added smart functions such as local data base storage, alarm servers, data exchange, reporting, C# scripting, etc. Smarter functions are executed locally in the BoX2 device and configured in the iX software.

Efficient workflow

Speed up engineering in an intuitive development environment filled with shortcuts. A customizable workspace, a component library and a smart property grid are some of the features that'll boost your workflow. Share your customized objects and advanced script modules with colleagues.

Smarter functions

It's easy to get your application up and running. All essential functions you need are included, such as data logging, reports, data exchange, alarms, trends, etc. iX has support for .NET technology, providing options to design specialized functionality. Use C# scripting or .NET components. Take advantage of third party objects and import .NET assemblies to extend the functionality further. Control and exchange data with multiple controllers and enjoy connectivity via SQL, FTP, OPC and web.

Connect to all automation brands

An extensive driver list enables communication with hundreds of unique PLCs and automation equipment from all major manufacturers. Share information easily between users and have safe control of complex systems, even over long distances. Transfer files and control panels remotely with FTP and VNC servers.

Beijer ELECTRONICS · CAN · AB Allen-Bradley · Schneider Electric · BECKHOFF · MITSUBISHI ELECTRIC · ABB · SIEMENS · GE · IDEC · OMRON · EMERSON · Eurotherm · Modbus · EtherNet/IP · EtherCAT

Add smarter functions such as local data base storage, alarm servers, data exchange, reporting, C# scripting, etc. to your application via the iX software.

Fast forward engineering

Create integrated HMI, control, drives and data communication solutions with WARP Engineering Studio. WARP automatically configures all hardware, software and communication in your application. What used to take days to set up, can be up and running in a few minutes.

Features

- Seamless integration of Beijer Electronics products.
- Structured and integrated workflow with drag & drop.
- Auto-configuration of all hardware, software and communication settings.
- Simply draw lines to interconnect devices.
- Avoid mistakes and work failsafe with auto-resolve.
- Access all individual application program editors automatically.
- Smart objects with embedded functionality such as PLC code.
- Easy distribution, backup and recovery of projects.
- Shortcuts to important documentation.
- Generate bill of material for simplified purchase.

Save time with smart objects

A great feature of WARP Engineering Studio is the introduction of smart objects. A smart object includes ready-made, embedded functionality such as PLC code, etc. Drag a smart object into your workspace and just drop it on a device. All embedded code is then injected into the targeted devices. Smart and time-saving.

Industrial apps in Smart Store

The future of automation engineering is object-oriented, visual and user-community based. With the introduction of our Smart Store, you will find a growing multitude of industrial apps – smart objects, software and software updates that you can download and use immediately.

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X2 pro

X2 series

Strong. Stylish. Smart.

Beijer

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ELECTRONICS

*People & Technology. Connected.*

X2 series

Strong. Stylish. Smart.

The X2 series is the powerful range of HMI panels from Beijer Electronics. The X2 product families combine great design with strong performance to power your HMI solutions. Create smart integrated solutions boosted by iX HMI software.


Our X2 HMI panels are now IIoT ready by standard and fully prepared to enable you to move your machine data to the cloud.

One family, one great design

X2 panels offer a slim, modern design. Consistent across the entire range, adding visual quality to your solution.
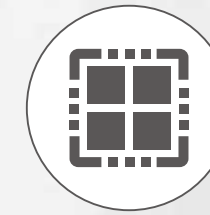
All the performance you need

Power-efficient ARM9 processors all the way up to the latest quad core ARM Cortex-A9 processors deliver fast program execution and screen change. It gives you all the performance you need.
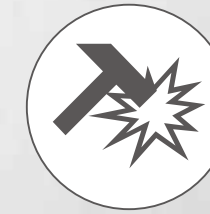
Robust reliability

The robust die cast aluminum body offers great resistance to mechanical stress. We've redesigned the electronics and made other improvements to further enhance solid operation.

Prepared for any environment

X2 panels operate in wide temperature ranges. They offer strong ingress protection and in addition, they hold all the certificates you need to perform in the field.

Control by BCS Tools

BCS Tools is the CODESYS-based software platform enabling X2 to perform additional integrated IEC 61131-3 PLC functionality with safe and fast program execution.
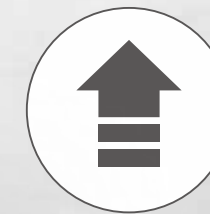
A simple path forward

It's easy to upgrade your existing iX HMI solution to the X2 series.

2 year warranty

We offer a two-year standard warranty for all operator panels in the X2 series.

A match for every requirement

The X2 series matches almost every requirement and lets you choose from a powerful range of more than 50 models and additional options.

X2 extreme
Rugged HMI panels for tough environments

Available in 7, 12 and 15 inches, all in 3 versions: Panel mount standard and high-performance versions, and fully sealed high-performance versions. All high-performance versions offer high brightness display and optional integrated CODESYS-based PLC functionality.

X2 pro
High performance HMI panels for all automation needs

Available in 4, 7, 10, 12, 15 and 21 inches.

X2 control
Integrated CODESYS-based control

Available in 4, 7, 10, 12 and 15 inches.

X2 web
with built-in HTML5 web client

X2 pro web is available in 7, 10 and 15 inches and X2 extreme web is available in 7, 12 and 15 inches.

X2 base
Cost-effective, full functionality HMI panels

Available in 5, 7 and 10 inches and in 7, 10, 15 inches high-performance versions.

X2 marine
Built for life at sea

Available in 7 and 15 inches with optional high brightness display and integrated CODESYS-based PLC functionality.

X2 base

New versions of cost-effective, full functionality HMI panels

The X2 base family is now updated with the new range of X2 base v2 HMIs offering improved performance, more display sizes and an additional range of high-performance HMIs. The X2 base v2 panels are cost-effective industrial HMIs with high-resolution touch-screens and modern design. The HMIs combine IP65 corrosion resistant plastic housing with the full version of the iX software, providing a cost-effective yet advanced HMI solution for small to medium applications.
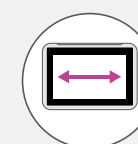
X2 base v2 HMIs are available in 5, 7 and 10 inches and in 7, 10 and 15 inches high-performance versions.

The high-performance versions are scheduled for launch in 2021.

Features X2 base

Wide screen format
X2 panels offer wide screen format, designed to succeed the traditional 4:3 square aspect ratio.
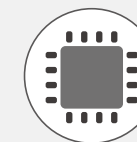
UL, CE, FCC and KCC certificates
The entire X2 range offers a strong standard certification with UL, CE, FCC and KCC certificates.

iX software – why you'll love our hardware
The iX software gives you smart communication tools. iX combines top-class vector graphics and easy-to-use functions that provide reliable operation, and almost limitless connectivity to your other equipment.

Custom design or non-branded
Profile your brand or go for neutral. X2 panels offer custom designed or non-branded front foils, as alternatives to the standard Beijer Electronics branded versions.

Power efficient ARM8 processors
Power efficient ARM8 processor provides strong performance for small and medium sized applications.

Corrosion resistant plastic housing
Corrosion resistant plastic housing with IP65, NEMA 4X/12 and UL Type 4X/12 front.

Operating temperature -10°C to +50°C
The -10°C to +50°C operating temperature range satisfies the demands of most industries.

All the communication ports you need
X2 base offers 1 × Ethernet, 4 × serial, 1 × USB as standard, securing ample communication with other equipment.

X2 pro

High performance HMI panels for all automation needs

X2 pro includes a range of high performance industrial panels designed for demanding applications. All with the high performance of powerful ARM Cortex-A9 processors, the latest screen technology and a wide range of connectivity options to cover all your automation needs.
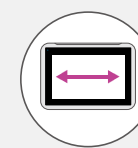
X2 pro panels are available in 4, 7, 10, 12, 15 and 21 inches.

The X2 pro family additionally offers web HMIs perfect for enterprises and users who wants to utilize HTML5 web technologies in industrial environments, see page 16.
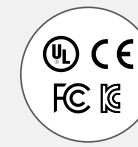
Features X2 pro

Wide screen format
X2 panels offer wide screen format, designed to succeed the traditional 4:3 square aspect ratio.
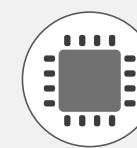
UL, CE, FCC and KCC certificates*
The entire X2 range offers a strong standard certification with UL, CE, FCC and KCC certificates.

iX software – why you'll love our hardware
The iX software gives you smart communication tools. iX combines top-class vector graphics and easy-to-use functions that provide reliable operation, and almost limitless connectivity to your other equipment.

Custom design or non-branded
Profile your brand or go for neutral. X2 panels offer custom designed or non-branded front foils, as alternatives to the standard Beijer Electronics branded versions.

Powerful ARM Cortex-A9 processor
Powerful single or dual core ARM Cortex-A9 processor delivers fast screen changes and program execution in demanding applications.

Robust aluminum housing
Robust aluminum housing with IP65, NEMA 4X/12 and UL Type 4X/12 front. Resistant to direct rain, snow or wash-downs, dirt, grime and dust.
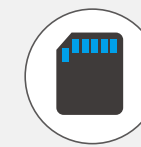
Wide operating temperature -10°C to +60°C*
The wide -10°C to +60°C operating temperature range satisfies the demands of most industries.

Marine certifications*
The X2 panels meet extended classes of marine certifications not normally carried by HMIs, making them suitable for all onboard locations.

Internal CANopen and optional bus modules
It's easy to interface with controllers using the internal CANopen bus or optional CiX CAN, Profibus or MPI modules.

SD memory card
Card holder and USB connection are located behind the lid on the back of the panel for smart memory expansion, project backup and application loading.

* X2 pro 21 offers UL, CE and FCC and certificates, no marine certifications and a temperature range of 0°C to +50°C.
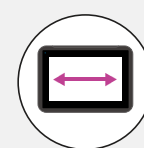
X2 marine
Built for life at sea

X2 marine offers user-friendly, reliable operation offshore, on ships and in other maritime applications. With black frame and nautical society certifications, X2 marine panels are suitable for mounting on the bridge, in the engine room and inside cabins. X2 marine panels are available with optional high brightness display and integrated CODESYS PLC functionality.

X2 marine panels are available in 7 and 15 inches with optional high brightness display and integrated CODESYS-based PLC functionality.

ClassNK EN60945 BUREAU VERITAS DNV·GL LR ABS KR CCS UL CE FCC

See page 21 for technical data.

Features X2 marine

Wide screen format
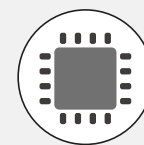X2 panels offer wide screen format, designed to succeed the traditional 4:3 square aspect ratio.

UL, CE, FCC and KCC certificates
The entire X2 range offers a strong standard certification with UL, CE, FCC and KCC certificates.

iX software – why you'll love our hardware
The iX software gives you smart communication tools. iX combines top-class vector graphics and easy-to-use functions that provide reliable operation, and almost limitless connectivity to your other equipment.

Custom design or non-branded
Profile your brand or go for neutral. X2 panels offer custom designed or non-branded front foils, as alternatives to the standard Beijer Electronics branded versions.

Powerful ARM Cortex-A9 processor
Powerful single, dual or quad core ARM Cortex-A9 processor delivers fast screen changes and program execution in demanding applications.

Robust aluminum housing
Robust aluminum housing with IP65, NEMA 4X/12 and UL Type 4X/12 front. Resistant to direct rain, snow or wash-downs, dirt, grime and dust.
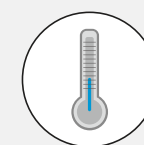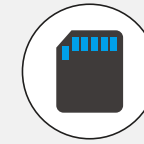
Wide operating temperature -10°C to +60°C
The wide -10° to +60°C operating temperature range satisfies the demands of most industries.

Marine certifications
The X2 panels meet extended classes of marine certifications not normally carried by HMIs, making them suitable for all onboard locations.

Internal CANopen and optional bus modules
It's easy to interface with controllers using the internal CANopen bus or optional CiX CAN, Profibus or MPI modules.

SD memory card
Card holder and USB connection are located behind the lid on the back of the panel for smart memory expansion, project backup and application loading.

Dimmable backlight
Comfortable and safe operation in high and low ambient light. Backlight is continuously dimmable to very low brightness.
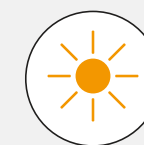
High brightness display
Optional 1,000 cd/m² backlight provides excellent readability in high ambient light levels such as sunlight.

Add control by BCS Tools
BCS Tools is the CODESYS-based software platform enabling SC versions to perform powerful integrated IEC 61131-3 PLC functionality. Just add remote I/Os for a scalable, cost-effective solution.
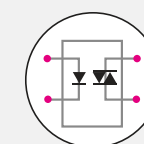
Built-in digital outputs
X2 marine panels with high brightness option have built-in digital outputs for direct connection of alarms, signal lights, etc.

Internal isolation
Internal isolation conforms to marine standards for both burst and surge immunity.

X2 control
Integrated CODESYS control

X2 control panels combine industrial HMI and CODESYS-based PLC functionality in the same compact hardware. Panels range from ultra-compact 4-inch to 15-inch panels designed for demanding applications. Add standard distributed I/Os and you'll get an elegant, scalable and cost-effective solution that's cutting-edge.

X2 control panels are available in 4, 7, 10, 12 and 15 inches.

Features X2 control

Wide screen format
X2 panels offer wide screen format, designed to succeed the traditional 4:3 square aspect ratio.

UL, CE, FCC and KCC certificates
The entire X2 range offers a strong standard certification with UL, CE, FCC and KCC certificates.

iX software – why you'll love our hardware
The iX software gives you smart communication tools. iX combines top-class vector graphics and easy-to-use functions that provide reliable operation, and almost limitless connectivity to your other equipment.

Custom design or non-branded
Profile your brand or go for neutral. X2 panels offer custom designed or non-branded front foils, as alternatives to the standard Beijer Electronics branded versions.

Powerful ARM Cortex-A9 processor
Powerful dual or quad core ARM Cortex-A9 processor delivers fast screen changes and program execution in demanding applications.

Robust aluminum housing
Robust aluminum housing with IP65, NEMA 4X/12 and UL Type 4X/12 front. Resistant to direct rain, snow or wash-downs, dirt, grime and dust.

Wide operating temperature -10ºC to +60º C
The wide -10ºC to +60ºC operating temperature range satisfies the demands of most industries.

Marine certifications
The X2 panels meet extended classes of marine certifications not normally carried by HMIs, making them suitable for all onboard locations.

Internal CANopen and optional bus modules
It's easy to interface with controllers using the internal CANopen bus or optional CiX CAN, Profibus or MPI modules.

SD memory card
Card holder and USB connection are located behind the lid on the back of the panel for smart memory expansion, project backup and application loading.
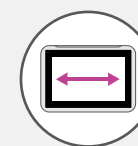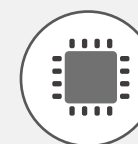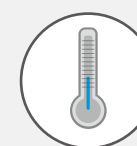
2 Ethernet ports as standard
Panels have two built-in Ethernet ports as standard for communication with other equipment.

EtherCAT as standard
X2 panels support communication with super-fast EtherCAT as standard.

Control by BCS Tools
BCS Tools is the CODESYS-based software platform enabling X2 control to perform powerful integrated IEC 61131-3 PLC functionality. Just add remote I/Os for a scalable, cost-effective solution.
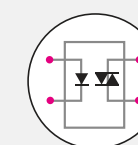
Built-in digital outputs
10, 12 and 15 inch panels have built-in digital outputs for direct connection of alarms, signal lights, etc.

Configuration freedom
Applications remain elegantly slim with integrated control in the panel. Add remote I/Os to fit your needs, and select between three major fieldbuses – EtherCAT, Modbus RTU and Modbus TCP.

Less risk of error with one system
Two separate PLC and HMI systems mean twice the risk of error. X2 control changes all that. Simply configure your system with WARP and you're done. It's never been easier to create applications.

X2 extreme

Rugged HMI panels for tough environments

X2 extreme panels are certified by all major classification societies. Designed to perform in rugged outdoor environments and in hazardous areas where gases, vapors and dust are present. Extended environmental capabilities include operating temperatures from -30ºC to +70ºC, high vibrations and high-pressure wash-downs.

X2 extreme panels are available in 7, 12 and 15 inches, all in 3 versions: Panel mount standard and high-performance versions, and fully sealed high-performance versions. All high-performance versions offer high brightness display and optional integrated CODESYS-based PLC functionality.

The X2 extreme family additionally offers web HMIs perfect for enterprises and users who wants to utilize HTML5 web technologies in industrial environments, see page 16.

Features X2 extreme

Wide screen format
X2 panels offer wide screen format, designed to succeed the traditional 4:3 square aspect ratio.

UL, CE, FCC and KCC certificates
The entire X2 range offers a strong standard certification with UL, CE, FCC and KCC certificates.

iX software – why you'll love our hardware
The iX software gives you smart communication tools. iX combines top-class vector graphics and easy-to-use functions that provide reliable operation, and almost limitless connectivity to your other equipment.

Custom design or non-branded
Profile your brand or go for neutral. X2 panels offer custom designed or non-branded front foils, as alternatives to the standard Beijer Electronics branded versions.

Powerful ARM Cortex-A9 processor
Powerful dual or quad core ARM Cortex-A9 processor delivers fast screen changes and program execution in demanding applications.

Robust aluminum housing
Robust aluminum housing with IP66 front. Resistant to direct rain, snow or high-pressure washdowns, dirt, grime and dust.

Extreme operating temperature -30ºC to +70ºC
Extreme -30ºC to +70º C operating temperature range guarantees trouble-free use in the harshest environments.

Marine certifications
The X2 panels meet extended classes of marine certifications not normally carried by HMIs, making them suitable for all onboard locations.

Internal CANopen bus
It's easy to interface with controllers using the internal CANopen bus.
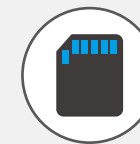
SD memory card
Card holder and USB connection are located behind the lid on the back of the panel for smart memory expansion, project backup and application loading.
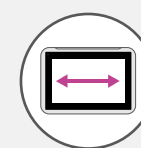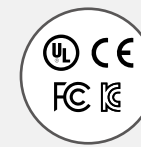
Dimmable backlight
Comfortable and safe operation in high and low ambient light conditions. Backlight is continuously dimmable to very low brightness.
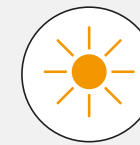
High brightness display
All high-performance versions feature 1,000 cd/m² backlight providing excellent readability in high ambient light levels such as sunlight.

Add control by BCS Tools
BCS Tools is the CODESYS-based software platform enabling SC versions to perform powerful integrated IEC 61131-3 PLC functionality. Just add remote I/Os for a scalable, cost-effective solution.

Certified for hazardous environments
Certified for use in hazardous areas where gases, vapors and dust are present.

Internal isolation
Internal isolation conforms to marine standards for both burst and surge immunity.

High vibration
Panels are tested to 4 g RMS sweep sine for vibration and 40 g 11 ms half sine for shock.

Panel mount
Panel mount versions hold IP66, NEMA 4X/12 and UL Type 4X/12 ingress protection rating for the front and conform to ATEX Zone 2 and ATEX Zone 22 certification.
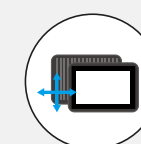
Fully sealed
Fully sealed versions with M12 connectors with IP66 ingress protection rating and ATEX/IECEx Zone 2 and Zone 22 (IP65) certification.

X2 web

HMI panels with built-in HTML5 web client

The X2 web HMI panels within the X2 pro and X2 extreme families are perfect HMIs for enterprises and users who wants to utilize HTML5 web technologies in industrial environments. The X2 web HMIs offer visualization with Chromium Kiosk mode operation of single browser window web pages from SCADA systems, PLCs or other devices with built-in web servers.

The X2 web HMIs enable enterprises and users to visualize the same web content across different target platforms such as HMI, mobile, tablet, pc, etc. without any conversion or re-engineering. The X2 web HMIs have the same industrial grade quality hardware as the iX based X2 pro and X2 extreme HMIs offering extensive certification and environmental durability.

See page 30-31 for technical data.
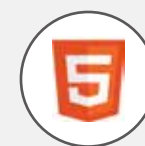
HTML5 visualization
Perfect HMIs for enterprises and users who wants to utilize HTML5 web technologies in industrial environments.

Wide screen format
X2 panels offer wide screen format, designed to succeed the traditional 4:3 square aspect ratio.

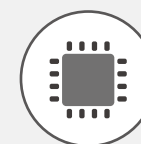**UL, CE, FCC and KCC certificates**
The entire X2 range offers a strong standard certification with UL, CE, FCC and KCC certificates.

Custom design or non-branded
Profile your brand or go for neutral. X2 panels offer custom designed or non-branded front foils, as alternatives to the standard Beijer Electronics branded versions.

Powerful ARM Cortex-A9 processor
Powerful dual or quad core ARM Cortex-A9 processor delivers fast screen changes and program execution in demanding applications.
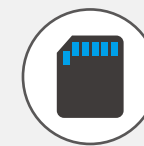
Robust aluminum housing
Robust aluminum housing with IP65, NEMA 4X/12 and UL Type 4X/12 front (X2 pro web). IP66 front (x2 extreme web).

Wide operating temperature
Operating temperature of -10°C to +60°C (X2 pro web) and -30°C to +70°C (X2 extreme web) satisfies the demands of most industries.
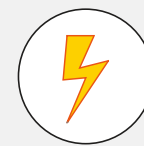
Marine certifications
The X2 panels meet extended classes of marine certifications not normally carried by HMIs, making them suitable for all onboard locations.

SD memory card
Card holder and USB connection are located behind the lid on the back of the panel for smart memory expansion, project backup and application loading.

Certified for hazardous environments
Certified for use in hazardous areas where gases, vapors and dust are present (X2 extreme web).

Internal isolation
Internal isolation conforms to marine standards for both burst and surge immunity.

High vibration
Panels are tested to 4 g RMS sweep sine for vibration and 40 g 11 ms half sine for shock.

iX software – why you'll love our hardware

The iX software gives you smart communication tools. It combines top-class vector graphics and easy-to-use functions that provide reliable operation, and almost limitless connectivity to your other equipment.

Efficient workflow
Speed up engineering in an intuitive development environment filled with shortcuts. Pre-styled objects, a customizable workspace, a component library and a smart property grid are some of the features that'll boost your workflow. Share your customized objects and advanced script modules with colleagues.

Complete HMI functionality
It's easy to get your application up and running. All essential functions you need are included such as data logging, recipes, alarms, trends and audit trail. Take advantage of ready-made objects with built-in functionality, vector-based symbols and graphics that can be easily inserted into the screen.

Functionality for advanced users
iX has support for .NET technology, providing options to design specialized functionality. Use C# scripting or .NET components. Take advantage of third party objects and import .NET assemblies to extend the functionality

further. Control and exchange data with multiple controllers and enjoy connectivity via FTP, OPC and web.

Connect to all automation brands
An extensive driver list enables communication with hundreds of unique PLCs and automation equipment from all major manufacturers. Share information easily between users and have safe control of complex systems, even over long distances. Transfer files and control panels remotely with FTP and VNC servers.

Download iX HMI software
Go to smartstore.beijerelectronics.com and try out the free demo version of iX.

Get insights from the cloud with acirro+

Move your machine data to the cloud with our fully IIoT ready X2 HMIs and BoX2 devices, and gain insights to streamline operations.

If you are a Maker of Things, a machine builder or a provider of other technical equipment, your business runs on data. Data that can tell when your machines are running efficiently and indicate when you need to introduce maintenance or other measures.

The threshold to accelerating into digital has never been lower than now, closing the gap between OT and IT.

Our X2 HMIs and BoX2 devices are now IIoT ready by standard and fully prepared to enable you to move your machine data to the cloud.

Easily set up a secure cloud connection and begin moving machine data to the cloud using our acirro+ IIoT platform. The solution is easy to implement without needing to rewire your existing installation or re-program an existing application.

Viewing machine data in visual dashboards gives you a great overview and provides insights to streamline your machine's operation, creating new business opportunities.

ACCELERATE TO DIGITAL NOW!

The safe and secure IIoT solution

Securely transmitted data
Your machine data is securely transmitted to the Beijer Electronics cloud using bank-level security SSL/TLS encryption.

No unauthorized access
All communication from devices to the cloud is outbound. Devices are never visible on the public internet, minimizing the risk of unauthorized access.

Identified devices only
All X2 HMIs and BoX2 gateways have an X.509 standard certificate tied to their serial number. Each device has a traceable, unique identity to identify just your devices in the cloud.

Safe hosting
All data is hosted on Microsoft Azure with highly secure administration of organization, users devices, device groups, cloud tags, etc. via acirro+.

Learn more
Go to www.beijerelectronics.com/acirroplus and learn more about our cloud-based IIoT platform.

	X2 base 5 v2*	X2 base 7 v2 (HP)*	X2 base 10 v2 (HP)*	X2 base 15 v2 (HP)*
General description				
Part number	630005110	630005210 (630009510)	630005310 (630009610)	630009810
Warranty	2 year			
Certifications				
General	CE, FCC, KCC, UL 61010-2-201			
Mechanical				
Mechanical size	173 x 109 x 37mm	202 x 152 x 37mm	290 x 193 x 40mm	409 x 270 x 43mm
Mounting option	Panel Mount			
Number of touches	1million finger touch operations			
Touch type	Resistive			
Cut-out size	161 x 93mm	186 x 136mm	275 x 177mm	393 x 254mm
Weight	0.32 kg	0.58 kg	0.86 kg	2.46 kg
Housing material	Plastic (PC+ABS), Gray			
Power				
Input voltage	24 V DC (18 to 32 VDC)			
Power consumption, max	4.8 W	5.7 W (6.6 W)	6.8 W (7.7 W)	17.3 W
Input fuse	Internal DC fuse			
System				
CPU	ARM Cortex A8 600MHz	ARM Cortex A8 600MHz (ARM Cortex A8 1000MHz)		ARM Cortex A8 1000MHz
RAM	512 MB			
FLASH	2 GB, 1.5 GB free	2 GB, 1.5 GB free		2 GB, 1.5 GB free
Software				
Operating system	Windows Embedded CE 8.0			
Display				
Size diagonal	5.0" diagonal	7.0" diagonal	10.1" diagonal	15.6" diagonal
Resolution	800 × 480 pixel (5:3)		1024 × 600 pixel (17:10)	1366 × 768 pixel (16:19)
Backlight	LED Backlight			
Backlight life time	20 000 hours		30000 hours	50000 hours
Backlight brightness	250 cd/m²	400 cd/m²	350 cd/m²	300 cd/m²
Backlight dimming	Industrial Dimming			
Display type	TFT-LCD with LED backlight			
IOs				
Digital output	No			
Communication serial				
Number of serial ports	1port9pinDsub, 1port3pinScrew (HP: 2port9pinDsub, 1port3pinScrew)			
Serial port 1	RS 232 (RTS/CTS)			
Serial port 2	RS422/485			
Serial port 3	RS 485			
Serial port 4	HP only: RS 232 (RTS/CTS)			
Serial port 5	HP only: RS422/485			
Serial port 6	RS485			
Ethernet communication				
Number of ethernet ports	1	1 (HP:2)		2
Ethernet port 1	1x10/100 Base-T (shielded RJ45)			
Ethernet port 2	NA	NA (1x10/100 Base-T (shielded RJ45))		
Expansion interface				
Expansion port	No			
SD card	No	No (Yes)		Yes
USB	1 (HP: 2)			
Environmental				
Operating temperature	-10°C to +50°C			
Storage temperature	-20°C to +60°C			
Shock	15g, half-sine, 11ms according to IEC60068-2-27			
Vibration	1g, according to IEC 60068-2-6, Test Fc			
Sealing front	IP65			
Sealing back	IP20			
Humidity	5% – 85% non-condensed			

Preliminary data. The high-performance versions are scheduled for launch in 2021.

	X2 marine 7 (HB, SC, HB SC)	X2 marine 15 (HB, SC, HB SC)
General description		
Part number	630002505 (HB: 630008705, SC: 630008605, HB SC: 630008805)	640003305 (HB: 640003505, SC: 640009005, HB SC: 640009405)
Warranty	2 year	
Certifications		
General	CE, FCC, KCC	
Marine	BV, DNV GL, KR, LR, ABS, CCS, EN60945, NK	
UL	UL 61010-2-201	
Mechanical		
Mechanical size	204 × 143 × 50mm	410 × 286 × 61mm
Touch type	Resistive	
Cut-out size	189 × 128mm	394 × 270mm
Weight	0.8 kg	3.85 kg
Housing material	Powder-coated aluminum, Black	
Power		
Input voltage	24 V DC (18 to 32 VDC	
Power consumption, max	14.4W (HB: 21.6W, SC: 14.4W, HB, SC: 21.6W)	31.2W (HB: 33.6W, SC: 31.2W, HB SC: 33.6W)
Input fuse	Internal DC fuse	
System		
CPU	i.MX6Solo Single Cortex-A9 1.0GHz 512kBL2cache (HB, HB SC: Quad ARMCortex-A9, SC: Dual Cortex-A9)	i.MX6DualLite, Dual Cortex-A9 1.0GHz 512kBL2cache (i.MX6Quad, Quad ARMCortex-A9 1.0GHz 1MBL2cache)
RAM	512 MB (HB, HB SC: 2 GB, SC: 1 GB)	1 GB (2 GB)
FLASH	2GB SSD(eMMC), 1.5GB free for application storage	
Display		
Size diagonal	7" diagonal	15.4" diagonal
Resolution	800 × 480 pixels	1280 × 800 pixels
Backlight	LED Backlight	
Backlight life time	50 000 hours	50 000 hours (HB, HB SC: 30 000 hours)
Backlight brightness	500 cd/m² (HB, HB SC: 1 000 cd/m²)	450 cd/m² (HB, HB SC: 1 000 cd/m²)
Backlight dimming	Marine optimized dimming	Marine optimized dimming
Display type	TFT-LCD with LED backlight	
Softcontrol		
CODESYS runtime version	NA (HB: NA, SC: 3.5, HB SC: 3.5)	NA (HB: NA, SC: 3.5, HB SC: 3.5)
CODESYS EtherCAT	NA (HB: NA, SC: Yes, HB SC: Yes)	NA (HB: NA, SC: Yes, HB SC: Yes)
CODESYS Modbus Ethernet	NA (HB: NA, SC: Yes, HB SC: Yes)	NA (HB: NA, SC: Yes, HB SC: Yes)
CODESYS Modbus RTU	NA (HB: NA, SC: Yes, HB SC: Yes)	NA (HB: NA, SC: Yes, HB SC: Yes)
CANopen	NA (HB: NA, SC: Yes, HB SC: Yes)	NA (HB: NA, SC: Yes, HB SC: Yes)
Non volatile variables	NA (HB: NA, SC: 32KB, HB SC: 64KB)	NA (HB: NA, SC: 64KB, HB SC: 64KB)
Digital IO		
Digital output	NA (HB, HB SC: 2×DO Solid state relay, 0.5A@24VDC)	
Communication serial		
Number of serial ports	1 Port 9pin DSUB	
Serial port 1	RS 232 (RTS/CTS)	
Serial port 2	RS422/485	
Serial port 3	RS485 (only if COM 2 is RS485)	
Ethernet communication		
Number of ethernet ports	1 (HB, SC, HB SC: 2)	2
Ethernet port 1	1× 10/100 Base-T (shielded RJ45)	
Ethernet port 2	NA (HB/SC/HB SC: 1×10/100 Base-T - shielded RJ45)	1× 10/100 Base-T (shielded RJ45)
Expansion interface		
Expansion port	Yes, ciX expansion module	
SD card	SD and SDHC	
USB	1×USB 2.0 500mA (HB/HB SC: 2×USB 2.0 500mA)	2 × USB 2.0 500mA
Environmental		
Operating temperature	-10°C to +60°C	
Storage temperature	-20°C to +70°C	
Shock	15g, half-sine, 11ms according to IEC60068-2-27	
Vibration	1g, according to IEC 60068-2-6, Test Fc	
Sealing front	IP65, NEMA 4X/12 and UL Type 4X/12	
Sealing back	IP20	
Humidity	5% – 85% non-condensed	

Technical data – X2 pro

	X2 pro 4	X2 pro 7 (2eth)
General description		
Part number	630000105	630000205 (630009405)
Warranty	2 year	
Certifications		
General	CE, FCC, KCC	
Marine	BV, DNV GL, KR, LR, ABS, CCS, NK	BV, DNV GL, KR, LR, ABS, CCS, NK (NA)
UL	UL 61010-2-201	
Mechanical		
Mechanical size	145 × 104 × 50 mm	204 × 143 × 50 mm
Touch type	Resistive	
Cut-out size	130 × 89 mm	189 × 128 mm
Weight	0.5 kg	0.8 kg
Housing material	Powder-coated aluminum, Gray	
Power		
Input voltage	24 V DC (18 to 32 VDC)	
Power consumption, max	12W	14.4W
Input fuse	Internal DC fuse	
System		
CPU	i.MX6Solo Single Cortex-A9 1.0GHz 512kBL2cache	i.MX6Solo Single Cortex-A9 1.0GHz 512kBL2cache (i.MX6DualLite, Dual Cortex-A9 1.0GHz 512kBL2cache)
RAM	512 MB	512 MB (1 GB)
FLASH	2GB SSD(eMMC), 1.5GB free for application storage	
Display		
Size diagonal	4.3" diagonal	7" diagonal
Resolution	480 × 272 pixels	800 × 480 pixels
Backlight	LED Backlight	
Backlight life time	50 000 hours	20 000 hours
Backlight brightness	300 cd/m²	350 cd/m²
Backlight dimming	Industrial Dimming	
Display type	TFT-LCD with LED backlight	
IOs		
Digital output		
Communication serial		
Number of serial ports	1 Port 9pin DSUB	
Serial port 1	RS 232 (RTS/CTS)	
Serial port 2	RS422/485	
Serial port 3	RS485 (only if COM 2 is RS485)	
Ethernet communication		
Number of ethernet ports	1	1 (2)
Ethernet port 1	1 × 10/100 Base-T (shielded RJ45)	
Ethernet port 2	NA	
Expansion interface		
Expansion port	Yes	
SD card	SD and SDHC	
USB	1 × USB 2.0 500mA	
Environmental		
Operating temperature	-10°C to +60°C	
Storage temperature	-20°C to +70°C	
Shock	15g, half-sine, 11ms according to IEC60068-2-27	
Vibration	1g, according to IEC 60068-2-6, Test Fc	
Sealing front	IP66, NEMA 4X/12 and UL Type 4X/12	IP65, NEMA 4X/12 and UL Type 4X/12
Sealing back	IP20	
Humidity	5% – 85% non-condensed	

	X2 pro 10	X2 pro 12	X2 pro 15	X2 pro 21
Part number	630000305	640000205	640000305	640009505
Warranty	2 year			2 year
General	CE, FCC, KCC			CE, FCC, KCC
Marine	BV, DNV GL, KR, LR, ABS, CCS, NK			NA
UL	UL 61010-2-201			
Mechanical size	292 × 194 × 52mm	340 × 242 × 57mm	410 × 286 × 61mm	556 × 347 × 65mm
Touch type	Resistive			
Cut-out size	275 × 177mm	324 × 226mm	394 × 270mm	539 × 331mm
Weight	1.65 kg	2.6 kg	3.85 kg	7,38 kg
Housing material	Powder-coated aluminum, Gray			
Input voltage	24 V DC (18 to 32 VDC)			
Power consumption, max	21.6W	28.8W	31.2W	45,6W
Input fuse	Internal DC fuse			
CPU	i.MX6DualLite, Dual Cortex-A9 1.0GHz 512kBL2cache			i.MX6Quad, Quad ARMCortex-A9 1.0GHz 1MBL2cache
RAM	1 GB			2 GB
FLASH	2GB SSD(eMMC), 1.5GB free for application storage			
Size diagonal	10.1" diagonal	12.1" diagonal	15.4" diagonal	21,5" diagonal
Resolution	1024 × 600 pixels	1280 × 800 pixels	1280 × 800 pixels	1920 × 1080 pixels
Backlight	LED Backlight			
Backlight life time	50 000 hours			
Backlight brightness	500 cd/m²	400 cd/m²	450 cd/m²	250 cd/m²
Backlight dimming	Industrial Dimming			
Display type	TFT-LCD with LED backlight			
Digital output	2xDO Solid state relay, 0.5A@24VDC			
Number of serial ports	1 Port 9pin DSUB			
Serial port 1	RS 232 (RTS/CTS)			
Serial port 2	RS422/485			
Serial port 3	RS485 (only if COM 2 is RS485)			
Number of ethernet ports	2			
Ethernet port 1	1 × 10/100 Base-T (shielded RJ45)			
Ethernet port 2	1 × 10/100 Base-T (shielded RJ45)			
Expansion port	Yes			
SD card	SD and SDHC			
USB	2 × USB 2.0 500mA			
Operating temperature	-10°C to +60°C			0°C to +50°C
Storage temperature	-20°C to +70°C			-20°C to +60°C
Shock	15g, half-sine, 11ms according to IEC60068-2-27			
Vibration	1g, according to IEC 60068-2-6, Test Fc			
Sealing front	IP65, NEMA 4X/12 and UL Type 4X/12			
Sealing back	IP20			
Humidity	5% – 85% non-condensed			

Technical data – X2 control

	X2 control 4	X2 control 7
General description		
Part number	630001705	630001805
Warranty	2 year	
Certifications		
General	CE, FCC, KCC	
Marine	BV, DNV GL, KR, LR, ABS, CCS, NK	
UL	UL 61010-2-201	
Mechanical		
Mechanical size	145 × 104 × 50mm	204 × 143 × 50mm
Touch type	Resistive	
Cut-out size	130 × 89mm	189 × 128mm
Weight	0.5 kg	0.8 kg
Housing material	Powder-coated aluminum, Gray	
Power		
Input voltage	24 V DC (18 to 32 VDC)	
Power consumption, max	12W	14.4W
Input fuse	Internal DC fuse	
System		
CPU	i.MX6DualLite, Dual Cortex-A9 1.0GHz 512kBL2cache	
RAM	1 GB	
FLASH	2GB SSD(eMMC), 1.5GB free for application storage	
Display		
Size diagonal	4.3" diagonal	7" diagonal
Resolution	480 × 272 pixels	800 × 480 pixels
Backlight	LED Backlight	
Backlight life time	50 000 hours	20 000 hours
Backlight brightness	300 cd/m²	350 cd/m²
Backlight dimming	Industrial Dimming	
Display type	TFT-LCD with LED backlight	
IOs		
Digital output		
Softcontrol		
CODESYS runtime version	3.5	
CODESYS EtherCAT	Yes	
CODESYS Modbus Ethernet	Yes	
CODESYS Modbus RTU	Yes	
CANopen	Yes	
Non volatile variables	32KB	
Communication serial		
Number of serial ports	1 Port 9pin DSUB	
Serial port 1	RS 232 (RTS/CTS)	
Serial port 2	RS422/485	
Serial port 3	RS485 (only if COM 2 is RS485)	
Ethernet communication		
Number of ethernet ports	2	
Ethernet port 1	1 × 10/100 Base-T (shielded RJ45)	
Ethernet port 2	1 × 10/100 Base-T (shielded RJ45)	
Expansion interface		
Expansion port	Yes	
SD card	SD and SDHC	
USB	1 × USB 2.0 500mA	
Environmental		
Operating temperature	-10°C to +60°C	
Storage temperature	-20°C to +70°C	
Shock	15g, half-sine, 11ms according to IEC60068-2-27	
Vibration	1g, according to IEC 60068-2-6, Test Fc	
Sealing front	IP66, NEMA 4X/12 and UL Type 4X/12	IP65, NEMA 4X/12 and UL Type 4X/12
Sealing back	IP20	
Humidity	5% – 85% non-condensed	

	X2 control 10	X2 control 12	X2 control 15
General description			
Part number	630001905	640002205	640002405
Warranty	2 year		
Certifications			
General	CE, FCC, KCC		
Marine	BV, DNV GL, KR, LR, ABS, CCS, NK		
UL	UL 61010-2-201		
Mechanical			
Mechanical size	292 × 194 × 52 mm	340 × 242 × 57 mm	410 × 286 × 61 mm
Touch type	Resistive		
Cut-out size	275 × 177 mm	324 × 226 mm	394 × 270mm
Weight	1.65 kg	2.6 kg	3.85 kg
Housing material	Powder-coated aluminum, Gray		
Power			
Input voltage	24 V DC (18 to 32 VDC)		
Power consumption, max	21.6W	28.8W	31.2W
Input fuse	Internal DC fuse		
System			
CPU	i.MX6Quad, Quad ARMCortex-A9 1.0GHz 1MBL2cache		
RAM	2 GB		
FLASH	2GB SSD(eMMC), 1.5GB free for application storage		
Display			
Size diagonal	10.1" diagonal	12.1" diagonal	15.4" diagonal
Resolution	1024 × 600 pixels	1280 × 800 pixels	1280 × 800 pixels
Backlight	LED Backlight		
Backlight life time	50 000 hours		
Backlight brightness	500 cd/m²	400 cd/m²	450 cd/m²
Backlight dimming	Industrial Dimming		
Display type	TFT-LCD with LED backlight		
IOs			
Digital output	2xDO Solid state relay, 0.5A@24VDC		2xDO Solid state relay, 0.5A@24VDC
Softcontrol			
CODESYS runtime version	3.5		
CODESYS EtherCAT	Yes		
CODESYS Modbus Ethernet	Yes		
CODESYS Modbus RTU	Yes		
CANopen	Yes		
Non volatile variables	64KB		
Communication serial			
Number of serial ports	1 Port 9pin DSUB		
Serial port 1	RS232 (RTS/CTS)		
Serial port 2	RS422/485		
Serial port 3	RS485 (only if COM 2 is RS485)		
Ethernet communication			
Number of ethernet ports	2		
Ethernet port 1	1 × 10/100 Base-T (shielded RJ45)		
Ethernet port 2	1 × 10/100 Base-T (shielded RJ45)		
Expansion interface			
Expansion port	Yes		
SD card	SD and SDHC		
USB	2×USB 2.0 500mA		
Environmental			
Operating temperature	-10°C to +60°C		
Storage temperature	-20°C to +70°C		
Shock	15g, half-sine, 11ms according to IEC60068-2-27		
Vibration	1g, according to IEC 60068-2-6, Test Fc		
Sealing front	IP65, NEMA 4X/12 and UL Type 4X/12		
Sealing back	IP20		
Humidity	5% – 85% non-condensed		

Technical data – X2 extreme, panel mount versions

Standard versions, high performance versions (HP) and high-performance versions with integrated CODESYS PLC functionality (HP SC)

	X2 extreme 7	X2 extreme 7 12V	X2 extreme 7 HP (HP SC)
General description			
Part number	640013905	640014005	640014105 (HP SC: 640016005)
Warranty	2 year		
Certifications			
General	CE, FCC, KCC, UL 61010-2-201, UL 746C (UV protection)		
Hazardous	UL Class I Div 2, ATEX/IECEx Zone 2,22		
Marine	DNV GL, KR, LR, ABS, CCS, BV, NK		
Mechanical			
Mechanical size	204 x 143 x 62mm		
Touch type	Resistive		
Touch surface	Polyester on glass, ITO film		
Touch operations	1million finger touch operations		
Cut-out size	189 x 128mm		
Weight	0.8 kg		
Housing material	Powder-coated aluminum, Black		
Power			
Input voltage	24 V DC (18 to 32 VDC)	12 V DC (9 to 16 VDC)	24 V DC (18 to 32 VDC)
Power consumption	10W	11W	17W (HP SC: 17W)
Input fuse	Internal DC fuse		
System			
CPU	i.MX6DualLite, Dual Cortex-A9 800MHz 512kBL2cache		i.MX6Quad, Quad ARMCortex-A9 1.0GHz 1MBL2cache
RAM	1 GB		2 GB
FLASH	2GB SSD(eMMC), 1.5GB free for application		4GB SSD(eMMC), 3.5GB free for application
Display			
Size diagonal	7" diagonal		
Resolution	800x480 pixels		
Backlight	LED Backlight		
Backlight life time	50 000 hours		100 000 hours
Backlight brightness	500 cd/m²		1 000 cd/m²
Backlight dimming	Marine optimized dimming		
Display type	TFT-LCD with LED backlight		
Softcontrol			
CODESYS runtime version	NA		NA (HP SC: 3.5)
CODESYS EtherCAT	NA		NA (HP SC: Yes)
CODESYS Modbus Ethernet	NA		NA (HP SC: Yes)
CODESYS Modbus RTU	NA		NA (HP SC: Yes)
CANopen	NA		NA (HP SC: Yes)
Non volatile variables	NA		NA (HP SC: Yes)
Communication serial			
Number of serial ports	1 Port 9pin DSUB		2 Port 9pin DSUB
Serial port 1	RS232 (RTS/CTS)		
Serial port 2	RS422/RS485/CAN		
Serial port 3	NA		RS485/CAN
Ethernet communication			
Number of Ethernet ports	1		2
Ethernet port 1	1x10/100 Base-T (shielded RJ45)		
Ethernet port 2	NA		1x10/100 Base-T (shielded RJ45)
Expansion interface			
Expansion port	NA		
SD card	SD and SDHC		
USB	2xUSB 2.0 500mA		
Environmental			
Operating temperature	-30°C to +70°C		
Storage temperature	-40°C to +80°C		
Shock	40g, half-sine, 11ms according to IEC60068-2-27		
Vibration	4g, according to IEC 60068-2-6, Test Fc		
Sealing front	IP66, NEMA 4X/12 and UL Type 4X/12		
Sealing back	IP20		
Humidity	5% – 95% non-condensed		

	X2 extreme 12	X2 extreme 12 HP (HP SC)	X2 extreme 15	X2 extreme 15 HP (HP SC)
General description				
Part number	640014305	640014405 (HP SC: 640016405)	640014605	640014705 (HP SC: 640016805)
Warranty	2 year		2 year	
Certifications				
General	CE, FCC, KCC, UL 61010-2-201, UL 746C (UV protection)		CE, FCC, KCC, UL 61010-2-201, UL 746C (UV protection)	
Hazardous	UL Class I Div 2, ATEX/IECEx Zone 2,22		UL Class I Div 2, ATEX/IECEx Zone 2,22	
Marine	DNV GL, KR, LR, ABS, CCS, BV, NK		DNV GL, KR, LR, ABS, CCS, BV, NK	
Mechanical				
Mechanical size	340 × 242 × 69mm		410 × 286 × 73mm	
Touch type	Resistive		Resistive	
Touch surface	Polyester on glass, ITO film		Polyester on glass, ITO film	
Touch operations	1million finger touch operations		1million finger touch operations	
Cut-out size	324 × 226mm		394 × 270mm	
Weight	2.8 kg		4.1 kg	
Housing material	Powder-coated aluminum, Black		Powder-coated aluminum, Black	
Power				
Input voltage	24 V DC (18 to 32 VDC)		24 V DC (18 to 32 VDC)	
Power consumption	16W	23W (HP SC: 23W)	18W	28W (HP SC: 28W)
Input fuse	Internal DC fuse		Internal DC fuse	
System				
CPU	i.MX6DualLite, Dual Cortex-A9 800MHz 512kBL2cache	i.MX6Quad, Quad ARMCortex-A9 1.0GHz 1MBL2cache	i.MX6DualLite, Dual Cortex-A9 800MHz 512kBL2cache	i.MX6Quad, Quad ARMCortex-A9 1.0GHz 1MBL2cache
RAM	1 GB	2 GB	1 GB	2 GB (HP SC: 2 GB)
FLASH	2GB SSD(eMMC), 1.5GB free for application	4GB SSD(eMMC), 3.5GB free for application	2GB SSD(eMMC), 1.5GB free for application	4GB SSD(eMMC), 3.5GB free for application
Display				
Size diagonal	12.1" diagonal		15.4" diagonal	
Resolution	1280×800 pixels		1280×800 pixels	
Backlight	LED Backlight		LED Backlight	
Backlight life time	100 000 hours		50 000 hours	100 000 hours
Backlight brightness	500 cd/m²	1 000 cd/m²	450 cd/m²	1 000 cd/m²
Backlight dimming	Marine optimized dimming		Marine optimized dimming	
Display type	TFT-LCD with LED backlight		TFT-LCD with LED backlight	
Softcontrol				
CODESYS runtime version	NA	NA (HP SC: 3.5)	NA	NA (HP SC: 3.5)
CODESYS EtherCAT	NA	NA (HP SC: Yes)	NA	NA (HP SC: Yes)
CODESYS Modbus Ethernet	NA	NA (HP SC: Yes)	NA	NA (HP SC: Yes)
CODESYS Modbus RTU	NA	NA (HP SC: Yes)	NA	NA (HP SC: Yes)
CANopen	NA	NA (HP SC: Yes)	NA	NA (HP SC: Yes)
Non volatile variables	NA	NA (HP SC: Yes)	NA	NA (HP SC: Yes)
Communication serial				
Number of serial ports	1 Port 9pin DSUB	2 Port 9pin DSUB	1 Port 9pin DSUB	2 Port 9pin DSUB
Serial port 1	RS232 (RTS/CTS)		RS232 (RTS/CTS)	
Serial port 2	RS422/RS485/CAN		RS422/RS485/CAN	
Serial port 3	NA	RS485/CAN	NA	RS485/CAN
Ethernet communication				
Number of Ethernet ports	1	2	1	2
Ethernet port 1	1×10/100 Base-T (shielded RJ45)		1×10/100 Base-T (shielded RJ45)	
Ethernet port 2	NA	1×10/100 Base-T (shielded RJ45)	NA	1×10/100 Base-T (shielded RJ45)
Expansion interface				
Expansion port	NA			
SD card	SD and SDHC		SD and SDHC	
USB	2×USB 2.0 500mA		2×USB 2.0 500mA	
Environmental				
Operating temperature	-30°C to +70°C		-30°C to +70°C	
Storage temperature	-40°C to +80°C		-40°C to +80°C	
Shock	40g, half-sine, 11ms according to IEC60068-2-27		40g, half-sine, 11ms according to IEC60068-2-27	
Vibration	4g, according to IEC 60068-2-6, Test Fc		4g, according to IEC 60068-2-6, Test Fc	
Sealing front	IP66, NEMA 4X/12 and UL Type 4X/12		IP66, NEMA 4X/12 and UL Type 4X/12	
Sealing back	IP20		IP20	
Humidity	5% – 95% non-condensed		5% – 95% non-condensed	

Technical data – X2 extreme, fully sealed versions

*High-performance versions (SL HP) and high-performance versions
with integrated CODESYS PLC functionality (SL HP SC)*

	X2 extreme 7 SL HP	X2 extreme 7 SL HP SC
General description		
Part number	640014205	640016205
Warranty	2 year	
Certifications		
General	CE, FCC, KCC, UL 61010-2-201, UL 746C (UV protection)	
Hazardous	UL Class I Div 2, ATEX/IECEx Zone 2,22	
Marine	DNV GL, KR, LR, ABS, CCS, BV, NK	
Mechanical		
Mechanical size	205 × 160 × 65mm	
Touch type	Resistive	
Touch surface	Polyester on glass, ITO film	
Touch operations	1million finger touch operations	
Weight	1.6 kg	
Housing material	Powder-coated aluminum, Black	
Power		
Input voltage	24 V DC (18 to 32 VDC)	
Power consumption	17 W	
Input fuse	Internal DC fuse	
System		
CPU	i.MX6Quad, Quad ARMCortex-A9 1.0GHz 1MBL2cache	
RAM	2 GB	
FLASH	4GB SSD(eMMC), 3.5GB free for application	
Display		
Size diagonal	7" diagonal	
Resolution	800×480 pixels	
Backlight	LED Backlight	
Backlight life time	100 000 hours	
Backlight brightness	1 000 cd/m²	
Marine optimized dimming	Marine optimized dimming	
Display type	TFT-LCD with LED backlight	
Softcontrol		
CODESYS runtime version	NA	3.5
CODESYS EtherCAT	NA	Yes
CODESYS Modbus Ethernet	NA	Yes
CODESYS Modbus RTU	NA	Yes
CANopen	NA	Yes
Non volatile variables	NA	Yes
Communication serial		
Number of serial ports	2 Port 8pin M12	
Serial port 1	RS232 (RTS)	
Serial port 2	RS422/RS485/CAN	
Serial port 3	RS485/CAN	
Ethernet communication		
Number of Ethernet ports	2x4pinM12	
Ethernet port 1	1×10/100 Base-T (M12)	
Ethernet port 2	1×10/100 Base-T (M12)	
Expansion interface		
Expansion port	NA	
SD card	SD and SDHC	
USB	2xUSB 2.0 500mA	
Environmental		
Operating temperature	-30°C to +70°C	
Storage temperature	-40°C to +80°C	
Shock	40g, half-sine, 11ms according to IEC60068-2-27	
Vibration	4g, according to IEC 60068-2-6, Test Fc	
Sealing front	IP66 (IP65 for ATEX/IECEx), NEMA 4X/12 and UL Type 4X/12	
Sealing back	IP20	
Humidity	5% – 95% non-condensed	

	X2 extreme 12 SL HP	X2 extreme 12 SL HP SC	X2 extreme 15 SL HP	X2 extreme 15 SL HP SC
Part number	640014505	640016605	640014805	640017005
Warranty	2 year		2 year	
General	CE, FCC, KCC, UL 61010-2-201, UL 746C (UV protection)		CE, FCC, KCC, UL 61010-2-201, UL 746C (UV protection)	
Hazardous	UL Class I Div 2, ATEX/IECEx Zone 2,22		UL Class I Div 2, ATEX/IECEx Zone 2,22	
Marine	DNV GL, KR, LR, ABS, CCS, BV, NK		DNV GL, KR, LR, ABS, CCS, BV, NK	
Mechanical size	341 × 243 × 65mm		410 × 286 × 65mm	
Touch type	Resistive		Resistive	
Touch surface	Polyester on glass, ITO film		Polyester on glass, ITO film	
Touch operations	1million finger touch operations		1million finger touch operations	
Weight	3.4 kg		4.8 kg	
Housing material	Powder-coated aluminum, Black		Powder-coated aluminum, Black	
Input voltage	24 V DC (18 to 32 VDC)		24 V DC (18 to 32 VDC)	
Power consumption	23 W		28 W	
Input fuse	Internal DC fuse		Internal DC fuse	
CPU	i.MX6Quad, Quad ARMCortex-A9 1.0GHz 1MBL2cache		i.MX6Quad, Quad ARMCortex-A9 1.0GHz 1MBL2cache	
RAM	2 GB		2 GB	
FLASH	4GB SSD(eMMC), 3.5GB free for application		4GB SSD(eMMC), 3.5GB free for application	
Size diagonal	12.1" diagonal		15.4" diagonal	
Resolution	1280x800 pixels		1280x800 pixels	
Backlight	LED Backlight		LED Backlight	
Backlight life time	100 000 hours		100 000 hours	
Backlight brightness	1 000 cd/m²		1 000 cd/m²	
Marine optimized dimming	Marine optimized dimming		Marine optimized dimming	
Display type	TFT-LCD with LED backlight		TFT-LCD with LED backlight	
CODESYS runtime version	NA	3.5	NA	3.5
CODESYS EtherCAT	NA	Yes	NA	Yes
CODESYS Modbus Ethernet	NA	Yes	NA	Yes
CODESYS Modbus RTU	NA	Yes	NA	Yes
CANopen	NA	Yes	NA	Yes
Non volatile variables	NA	Yes	NA	Yes
Number of serial ports	2 Port 8pin M12		2 Port 8pin M12	
Serial port 1	RS232 (RTS)		RS232 (RTS)	
Serial port 2	RS422/RS485/CAN		RS422/RS485/CAN	
Serial port 3	RS485/CAN		RS485/CAN	
Number of Ethernet ports	2×4pinM12		2x4pinM12	
Ethernet port 1	1×10/100 Base-T (M12)		1×10/100 Base-T (M12)	
Ethernet port 2	1×10/100 Base-T (M12)		1×10/100 Base-T (M12)	
Expansion port	NA		NA	
SD card	SD and SDHC		SD and SDHC	
USB	2xUSB 2.0 500mA		2xUSB 2.0 500mA	
Operating temperature	-30°C to +70°C		-30°C to +70°C	
Storage temperature	-40°C to +80°C		-40°C to +80°C	
Shock	40g, half-sine, 11ms according to IEC60068-2-27		40g, half-sine, 11ms according to IEC60068-2-27	
Vibration	4g, according to IEC 60068-2-6, Test Fc		4g, according to IEC 60068-2-6, Test Fc	
Sealing front	IP66 (IP65 for ATEX/IECEx), NEMA 4X/12 and UL Type 4X/12		IP66 (IP65 for ATEX/IECEx), NEMA 4X/12 and UL Type 4X/12	
Sealing back	IP20		IP20	
Humidity	5% – 95% non-condensed		5% – 95% non-condensed	

	X2 pro 7 web	X2 pro 10 web	X2 pro 15 web
General description			
Part number	630023505	630023605	640020605
Warranty	2 years		
Certifications			
General	CE, FCC, KCC, UL 61010-2-201		
Hazardous	NA		
Marine	KR, LR, ABS, BV, CCS, NK, DNV GL		
Mechanical			
Mechanical size	204 x 143 x 50mm	292 x 194 x 52mm	410 x 286 x 61mm
Mounting option	Panel mount, VESA 75 x 75		
Number of touches	1million finger touch operations		
Touch type	Resistive		
Cut-out size	189 x 128mm	275 x 177mm	394 x 270mm
Weight	0.8 kg	1.65 kg	3.85 kg
Housing material	Powder-coated aluminum, Gray		
Power			
Input voltage	24 V DC (18 to 32 VDC) CE: The power supply must conform with the requirements according to IEC 60950 and IEC 61558-2-4.UL and cUL: The power supplymust conform with the requirements for class II power supplies.		
Power consumption (max)	14.4W	21.6W	31.2W
Input fuse	Internal DC fuse		
System			
CPU	i.MX6DualLite, Dual Cortex-A9 1.0GHz 512kBL2cache	i.MX6Quad, Quad ARMCortex-A9 1.0GHz 1MBL2cache	i.MX6Quad, Quad ARMCortex-A9 1.0GHz 1MBL2cache
RAM	1GB	2GB	
FLASH	4GB EMMC		
Software			
Operating system	Linux		
Web browser	Chromium in Kiosk mode		
Display			
Size diagonal	7" diagonal	10.1" diagonal	15.4" diagonal
Resolution	800x480 pixels	1024x600 pixels	1280x800 pixels
Backlight	LED Backlight		
Backlight life time	20000 hours	50000 hours	
Backlight brightness	350 cd/m2	500 cd/m2	450 cd/m2
Backlight dimming	Industrial dimming		
Display type	TFT-LCD with LED backlight		
Communication serial			
Number of serial ports	1 Port 9pin DSUB		
Serial port 1	RS 232 (RTS/CTS)		
Serial port 2	Rs422Rs485		
Serial port 3	RS485 (only if COM 2 is RS485)		
Ethernet communication			
Number of Ethernet ports	1	2	
Ethernet port 1	1x10/100 Base-T (shielded RJ45)		
Ethernet port 2	1x10/100 Base-T (shielded RJ45)		
Expansion interface			
SD card	SD and SDHC		
USB	1xUSB 2.0 500mA	2xUSB 2.0 500mA	
Environmental			
Operating temperature	-10°C to +60°		
Storage temperature	-20°C to +70°C		
Shock	15g, half-sine, 11ms according to IEC60068-2-27		
Vibration	1g, according to IEC 60068-2-6, Test Fc		
Sealing front	IP65, NEMA 4X/ 12 and UL Type 4X/ 12		
Sealing back	IP20		
Humidity	5% – 85% non-condensed		

	X2 extreme 7 web	X2 extreme 12 web	X2 extreme 15 web
General description			
Part number	640020705	640020805	640020905
Warranty	2 years		
Certifications			
General	CE, FCC, KCC, UL 61010-2-201, UL 746C		
Hazardous	ULC1D2, ATEX (Zone2), ATEX (Zone22), IEXEx (Zone2), IEXEx (Zone22)		
Marine	KR, LR, ABS, CCS, BV, NK, DNV GL		
Mechanical			
Mechanical size	204 x 143 x 62mm	340 x 242 x 69mm	410 x 286 x 73mm
Mounting option	Panel mount		
Number of touches	1million finger touch operations		
Touch type	Resistive		
Cut-out size	189 x 128mm	324 x 226mm	394 x 270mm
Weight	0.8 kg	2.8 kg	4.1 kg
Housing material	Powder-coated aluminum, Black		
Power			
Input voltage	24 V DC (18 to 32 VDC) CE: The power supply must conform with the requirements according to IEC 60950 and IEC 61558-2-4.UL and cUL: The power supplymust conform with the requirements for class II power supplies.		
Power consumption (max)	17 W	23 W	28 W
Input fuse	Internal DC fuse		
System			
CPU	i.MX6Quad, Quad ARMCortex-A9 1.0GHz 1MBL2cache		
RAM	2 GB		
FLASH	8GB EMMC		
Software			
Operating system	Linux		
Web browser	Chromium in Kiosk mode		
Display			
Size diagonal	7" diagonal	12.1" diagonal	15.4" diagonal
Resolution	800x480 pixels	1280x800 pixels	
Backlight	LED Backlight		
Backlight life time	100000 hours		
Backlight brightness	1000 cd/m2		
Backlight dimming	Marine optimized dimming		
Display type	TFT-LCD with LED backlight		
Communication serial			
Number of serial ports	2 Port 9pin DSUB		
Serial port 1	RS 232 (RTS/CTS)		
Serial port 2	RS422/485		
Serial port 3	RS485/CAN		
Ethernet communication			
Number of Ethernet ports	2		
Ethernet port 1	1x10/100 Base-T (shielded RJ45)		
Ethernet port 2	1x10/100 Base-T (shielded RJ45)		
Expansion interface			
Expansion port			
SD card	SD and SDHC		
USB	2xUSB 2.0 500mA		
Environmental			
Operating temperature	-30°C to +70°C		
Storage temperature	-40°C to +80°C		
Shock	40g, half-sine, 11ms according to IEC60068-2-27		
Vibration	4g, according to IEC 60068-2-6, Test Fc		
Sealing front	IP66, NEMA 4X/ 12 and UL Type 4X/ 12		
Sealing back	IP20		
Humidity	5% – 95% non-condensed		

A simple path forward

It's easy to upgrade your existing iX HMI solution

Hardware upgrade to X2 series

Use the migration tables to find the right panel when you want to upgrade your existing iX HMI solution to the X2 panel series.

From iX HMI Industrial to X2 pro

iX HMI panel	X2 panel	Comment
iX T4A	X2 pro 4	-
iX T7A	X2 pro 7	-
iX T10A	X2 pro 10	Different cut-out size
iX T7B	X2 pro 7	-
iX T12B	X2 pro 12	-
iX T15B	X2 pro 15	-
-	X2 pro 21	-

From iX HMI Marine to X2 marine

iX HMI panel	X2 panel	Comment
iX T7AM	X2 marine 7	-
-	X2 marine 7 HB	-
-	X2 marine 7 SC	New 7-inch panel with integrated control
-	X2 marine 7 HB SC	New 7-inch panel with integrated control and high brightness display
iX T15BM	X2 marine 15	-
iX T15BM-HB	X2 marine 15 HB	-
-	X2 marine 15 SC	New 15-inch panel with integrated control
-	X2 marine 15 HB SC	New 15-inch panel with integrated control and high brightness display

From iX HMI SoftControl to X2 control

iX HMI panel	X2 panel	Comment
iX T4A-SC	X2 control 4	-
iX T7A-SC	X2 control 7	-
iX T10A-SC	X2 control 10	Different cut-out size
iX T7B-SC	X2 control 7	-
iX T12B-SC	X2 control 12	-
iX T15B-SC	X2 control 15	-

From iX HMI TxF-2 series to X2 base

iX HMI panel	X2 panel	Comment
iX T5F-2	X2 base 5	-
iX T7F-2	X2 base 7	-
iX T10F-2	X2 base 10	-

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iX application upgrade

X2 panels are software compatible with iX 2.20 SP2 and forwards. Watch the video on www.beijerelectronics.com/X2 to see how easily you update an existing iX application to an X2 panel.

Serial port layout

TxA

COM 1: RS232 COM 2: RS422 or RS485 COM 3: RS232 COM 4: RS422 or RS485

TxB

COM 1: RS232 COM 2: RS422 or RS485 COM 3: RS232 COM 4: RS422 or RS485

X2 pro 4 and X2 pro 7

COM 1: RS232 COM 2: RS422 or RS485 COM 3*: RS485

X2 pro 10, X2 pro 12 and X2 pro 15

COM 1: RS232 COM 2: RS422 or RS485 COM 3*: RS485
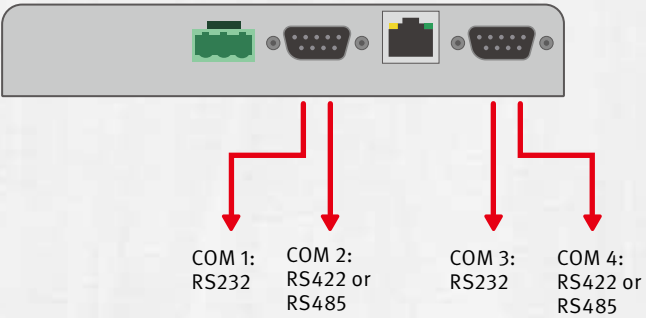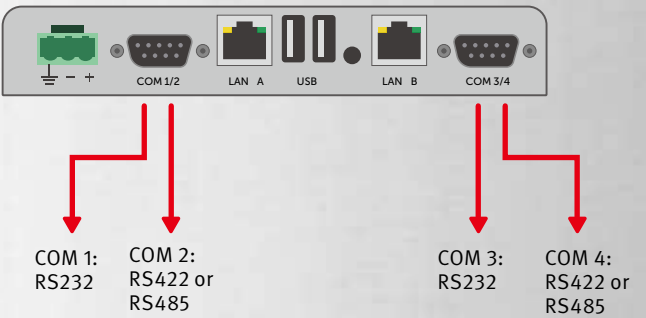
* COM3 can only be used if COM2 is RS485
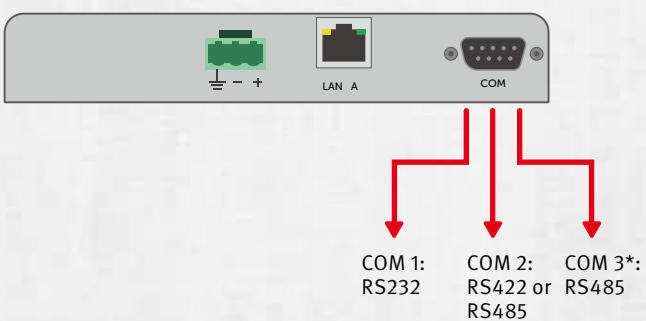
* COM3 can only be used if COM2 is RS485

** CAB150 splitter cable provides the connectivity for the three serial ports.

COM
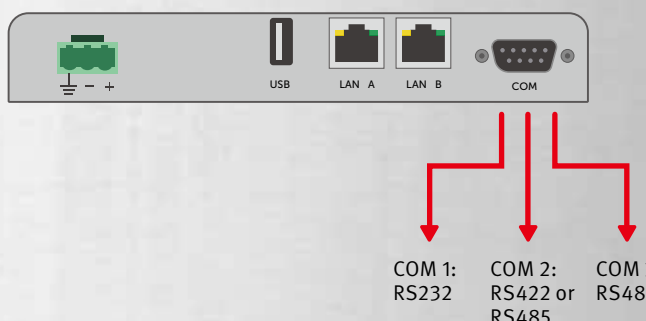
If you use COM3 for RS232 in TxA or TxB:
- Change to COM 1

If you use 2 × RS485:
- Change COM4 to COM3
- COM 2 needs to be RS485

OPC DA communication

- OPC DA communication is not supported in X2 platform
- Change to OPC UA instead

Hardware upgrade to X2 series

Use the migration tables to find the right panel when you want to upgrade your existing iX HMI solution to the X2 panel series.

From QTERM-Ax to X2 extreme

QTERM panel	X2 panel	Comment
QTERM-A7 iX	X2 extreme 7	Different cut-out size
QTERM-A7 Qlarity	X2 extreme 7	Different cut-out size, new HMI software
QTERM-G72	X2 extreme 7	Different cut-out size, new HMI software
QTERM-A12 iX	X2 extreme 12	Different cut-out size, different aspect ratio
QTERM-A12 Qlarity	X2 extreme 12	Different cut-out size, different aspect ratio, new HMI software

From iX TxBR to X2 extreme

iX TxBR panel	X2 panel	Comment
iX T7BR	X2 extreme 7	-
iX T7BR HB HP	X2 extreme 7 HP	-
-	X2 extreme 7 SL HP	New 7-inch rugged fully sealed high-performance panel
-	X2 extreme 7 HP SC	New 7-inch rugged high-performance panel with integrated control
-	X2 extreme 7 SL HP SC	New 7-inch rugged fully sealed high-performance panel with integrated control
iX T15BR	X2 extreme 15	-
iX T15BR HB HP	X2 extreme 15 HP	-
-	X2 extreme 15 SL HP	New 15-inch rugged fully sealed high-performance panel
-	X2 extreme 15 HP SC	New 15-inch rugged high-performance panel with integrated control
-	X2 extreme 15 SL HP SC	New 15-inch rugged fully sealed high-performance panel with integrated control

Serial port layout

QTERM-Ax

COM 1:
RS232 or
RS485 or
RS422

COM 2:
RS232

TxBR

COM 1:
RS232

COM 2:
RS485 or
RS422

X2 extreme x HP, HC
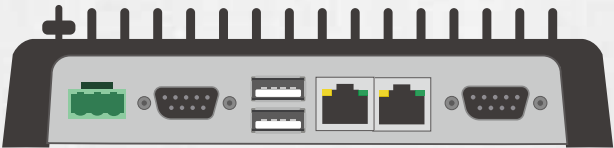
COM 3:
RS485

CAN**:
CAN2
Isolated

Com1:
RS232

Com2:
RS422 or
RS485

CAN*:
CAN1

*CAN1 can only be used if COM2 is not used
**CAN2 can only be used if COM3 is not used*

X2 extreme x
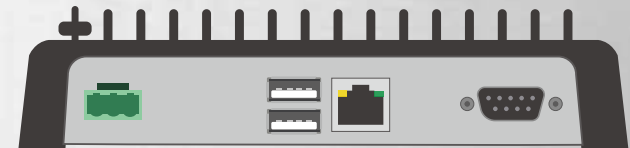
Com1:
RS232

Com2:
RS422
or
RS485

Com3*:
RS485

CAN**:
CAN1
CAN2

*COM3 can only be used if COM2 is RS485
**CAN1 can only be used if COM2 is not used
**CAN2 can only be used if COM3 is not used*

iX application upgrade

X2 panels are software compatible with iX 2.20 SP2 and forwards. Watch the video on www.beijerelectronics.com/X2 to see how easily you update an existing iX application to an X2 panel.

OPC DA communication

- OPC DA communication is not supported in X2 platform
- Change to OPC UA instead

iX HMI software

Brings the wow factor to the factory floor

TANK PARK

WATER CEMENT 1 CEMENT 2 ADD1 ADD2 ADD3

50%

97% 27% 5% 65% 87%

Mixer

iX

iX2 pro

BeiJer
ELECTRONICS

A world of Success

Trusted and relied upon by governments and corporations around the world. iX is tested and proven with a world-wide track record of success.

» Volvo Plant - Sweden

Volvo demanded great operation reliability when their Torslanda factory upgraded to SCADA. The Beijer Electronics HMI solution met Volvo's needs with its unlimited vector creative design options, allowing Volvo to view instantly any potential problems or bottlenecks in production. This greatly reduced downtimes, increasing stable workflow and resulting in greater profits for Volvo.

» MAN Diesel & Turbo - Germamy

MAN Group has been well-known by hundreds year of diesel engine and turbine propulsion technology, to satisfy clients from 120 country over the world, Beijer electronics provide propulsion solutions, where HMI hardware has to operate under unique and extremely challenging conditions. Mounted directly on a diesel engine, the HMI achieve the standard to withstand vibration, heat and even ingress by water.
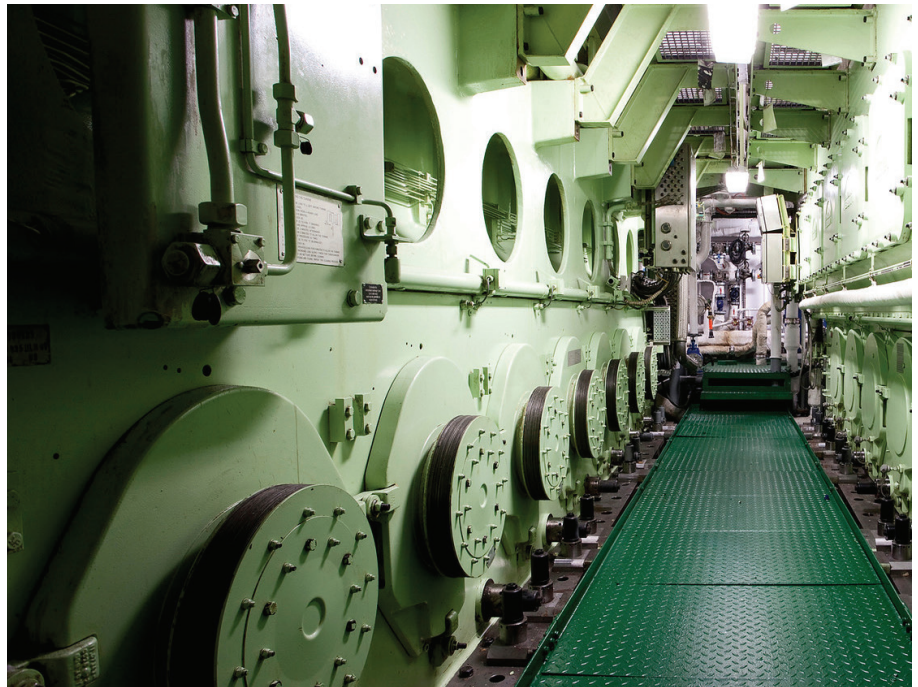
» Stewart & Stevenson -USA

Stewart & Stevenson bases on Texas, USA.Close 100 years providing worldwild miners series of mining eqipments. To overcome environmental challenge, Stewart & Stevenson has choosed Beijer Electronics HMI as one key material for their Industrially hardened mining tools, to perform in extreme environments. The HMI meets NEMA-4x and IP66 specifications, helps miners to control mining schedule in every moment.

Complete HMI functionality

**Find all essential functionality you need included in the iX HMI software.
A low entry level will make it easy to get applications up and running.**

Touch-friendly objects
Save screen space and make your application more efficient to navigate by using objects controlled via scroll and swipe gestures.

Alarms
Manage alarms and notify operators with your selection of colors. Touch scroll function and grid view ensure safe navigation.

Trends
Provide visual representation of historical or real time events, analog or digital, to enhance the understanding of the process and performance.

Multiple language
Translate texts directly in iX, and choose from different keyboard layouts (e.g Cyrillic, Chinese). Language can be changed during runtime.

Scheduler
Control tags in relation to the real-time clock, and events in the process at specific predefined calendar times.

Security
Define authorized users or restrict access to specified groups. Change security users in runtime, and get password-protected runtime applications.

Text library/Text ID
Link texts to tag values and save in a database. Update/translate in one place. Use one common translation database for all your applications.

Recipes
iX recipe management with online editing enables operators to create and manage recipe libraries containing different sets of parameters, improving runtime efficiency.

Data logging
Log data based on time intervals or changed tag values. Collect all samples, or collect only changed values.

Web browser
Let the operator get instant information from Internet or Intranet. The web browser allows your HMI application to access via Internet.

Media player
Ease operator decisions by showing videos how to perform complex tasks such as maintenance.

PDF
Use the PDF viewer available in iX to display PDF files such as manuals or instructions.

Drag and drop
Drag ready-made objects you need from the component library or ribbon menu and just easily drop them to your workspace.

Vector based graphics
Scale objects and still maintain crystal clear graphics without jagged edges or inconsistent color transitions of bitmap images.

Dynamics
Apply dynamics like visibility, position, appearance or fill colors to objects, e.g. buttons.

Component library
Fast access to more than 400 vector based symbols ready to use. Or create your own in third party tools and share them with colleagues.

VNC
Access and control panels remotely by using the VNC client program together with the built-in VNC server.

Drivers and OPC
An extensive driver list enables communication with your PLC and other automation equipment from all major automation manufacturers.

Stay updated with the iX update notification. Use the built-in on-line function to update software and drivers to the latest version.

Functionality for advanced users

iX provides options to design specialized HMI functionality using C# scripting or .NET components. Third party objects and .NET assemblies can be imported to extend functionality further. Not to mention the almost limitless connectivity.

Alarm distributor
The alarm distributor makes it possible to send alarm notifications via printer, SMS or e-mail.

Alarm client
With the alarm client, it's possible to display and acknowledge alarms on other iX panels in a panel network.

Background screens
Any screen can be used as a background screen by other screens in a project.

SD card backup
Reduce down-time with complete project and data backup on the panel's built-in SD card. Transfer data from one panel to another.

Charts
Choose between 14 different trend charts to show statistics and reports in a clear and structured way in 2D and 3D.

Audit trail
Advanced process tracking, user identification linked to time and place of process events, enabling recalls and rationalizing of production processes.

Report generator
Generate reports based on Microsoft Excel-made report templates. Print or save as an Excel file.

Import of script module
Extend the functionality of your iX application by importing script modules with customized functions made by third party developers.

C# script
Customize the functionality of a single action or your whole application using your own scripting in the C# script editor.
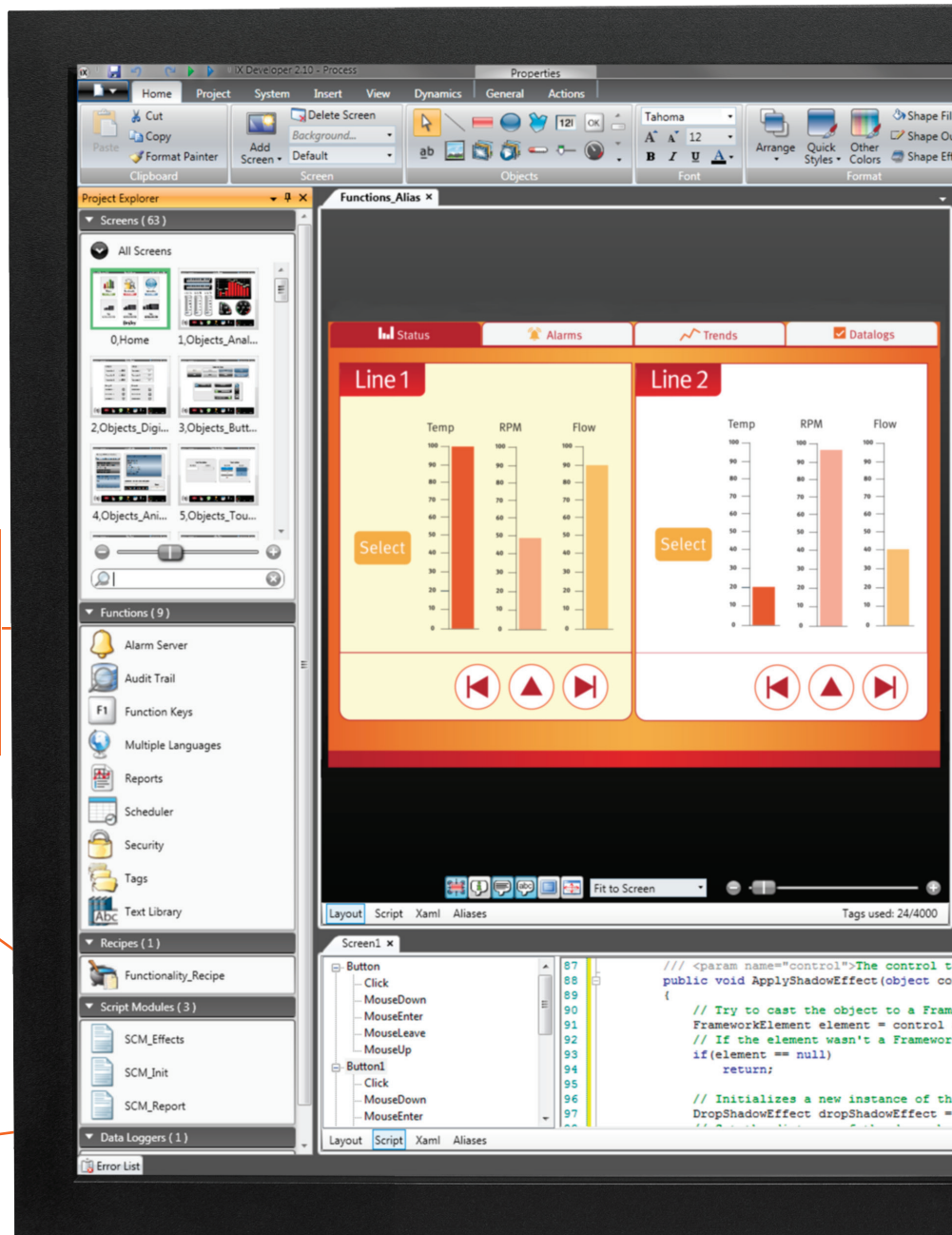
Controller data exchange

iX enables controller data exchange with real-time exchange of data between controllers of major brands. Let the panel act as gateway.

Multi-controller

One tag can be connected to several controllers, which allows the same HMI application to run against different PLC's.

Import/export component library

Secure a consistent design by sharing your component library, or parts of it, with colleagues or sub suppliers.

Import third party components

Benefit from customized predefined components, or order ready-made components from a third party supplier.

Import assemblies

iX allows you to import .NET assemblies, or function blocks, and extend the scope of functionality further.

Web server

Using the panel web server you can design a web page and access the panel information from a remote location.

OPC UA server

Panels can be server or clients, therefore they can communicate via panel networks or between factory floor and business system.

FTP server

It is possible to up and download files to the operator panel from a remote PC.

SQL connectivity

iX supports the SQL standard providing communication, retrieval and management of data in relational database management systems.
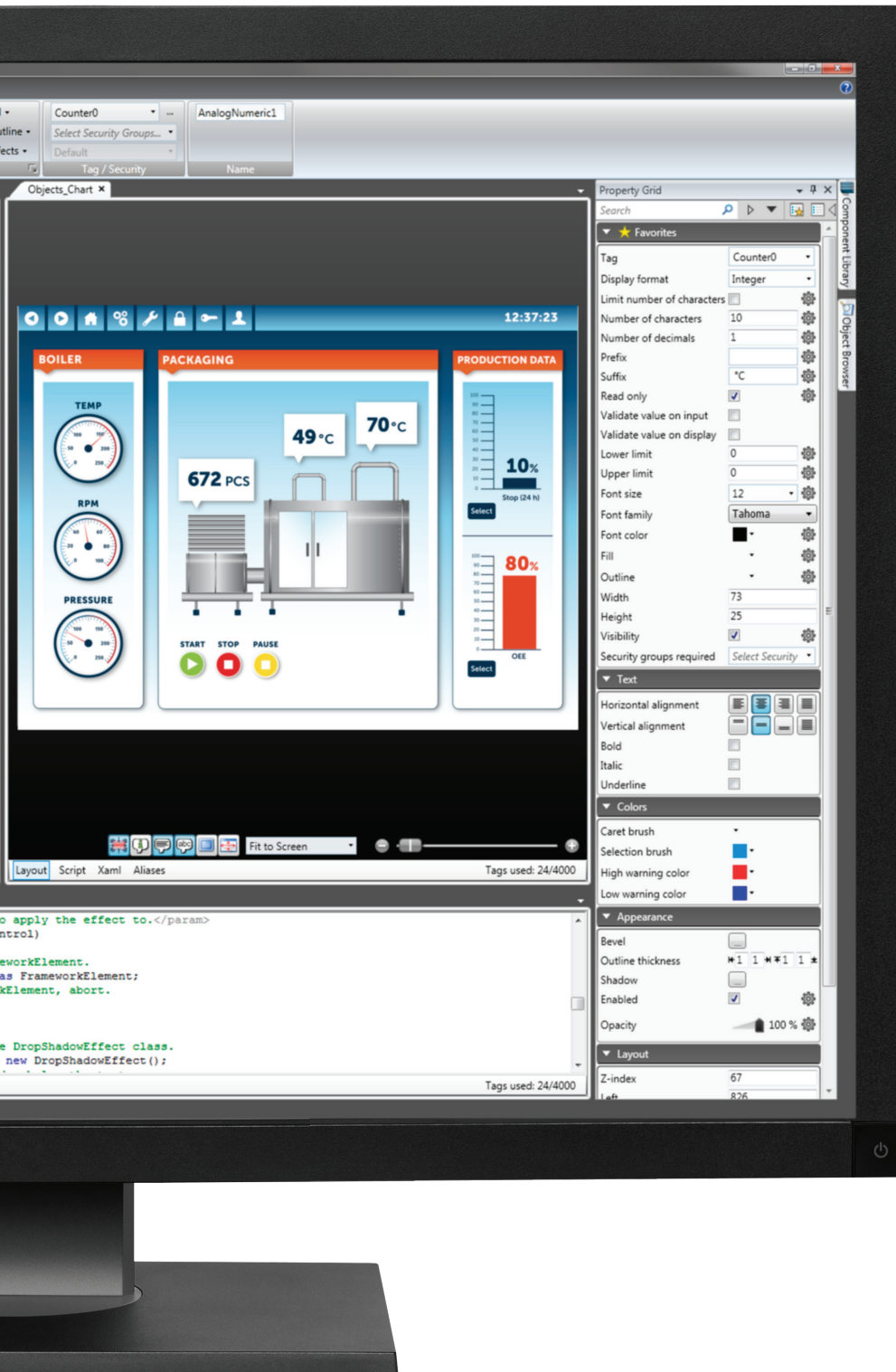
Efficient workflow

The intuitive development environment in iX HMI software speeds up engineering significantly. Many clever features combine to give you brilliant shortcuts and efficient workflow.

» Customizable workspace

Arrange your tool windows. Pin or dock them, or float them over and outside your editing space.

» Cross reference

Edit tag names at one place and it will reflect through the whole project. Get an overview, or trace specific tags.

» Context-sensitive help

Simply press "F1" wherever you are in the developer environment and the manual opens with relevant information of the feature.

» Alias

Reuse screens without having to create a new duplicated screen. Tags are connected at one place only, and one screen can be reused for several machines, faceplates etc.

» Reusables

Use clever features like quick styles, object variations and template screens to reuse work already done and speed up your design.

» Delete unused tags

Clean up your project and improve performance with the unused tag detection function, manually or automatically.

» Template screens

Increase brand consistency with uniform corporate screens and objects. Reuse your templates instead of maintaining individual background screens.

» Smart property grid

View all properties, only changed or your personal favorites. Easily edit, copy or compare the properties or actions of any object.

» Panel wizard

Get a head start. Just select target panel and driver in the panel wizard, and you are ready to start a new project.

» Tag browser

Use the tag browser to connect tags to objects in a screen and to search for specific tags. Or create directly when connecting.

» Project backup

Backup your project and export to USB at any time. Use the Ethernet connection or USB to update your panel on site.

» Import/export

iX supports import/export of e.g. tags, alarms, texts, translations, symbols, etc.

» Multiple objects editing

Make multiple changes by selecting several objects and configuring them simultaneously with just one mouse click. This allows fast and efficient editing.

» Upload project

Projects can be down- and uploaded from the panel including password protected source code. Verify the application on the panel with your version in iX Developer.

» Simulation

Off- and online simulation with or without live data from controllers provides safe and reliable tests of HMI applications.

» Easy to arrange

Use auto alignment with guidelines to position objects on the screen. Arrange, group, resize, align and distribute screen objects with a right click.

A world of hardware choices
And all you need is one software

X2 series HMI gives you all the hardware options you need. Choose from popular industrial panels or specialized panels designed for rugged and marine environments, which perform reliably where other HMIs won't. You can even choose integrated soft control and soft motion functions.

Industrial applications

The slim, modern design of our industrial panels is consistent and user-friendly. Ranging from 15 inch high performance panels for demanding applications to ultra-compact 4 inch panels, all industrial models have high performance CPUs, the latest screen technology and a wide range of connectivity options.

X2 pro and X2 bace HMI, available in 4 to 15 inches.

Extreme environments

The rugged 15 inch panel is certified by all major classification societies, designed to perform in applications exposed to arctic cold or tropical heat, to water splashes, waves or constant vibrations. Extended environmental capabilities include operating temperatures from -30 to +70°C.

X2 extreme HMI, available in 7 inches, 12 inches and 15 inches.

> **"** Industrial design, rock solid components and the latest software architecture deliver bullet-proof operation at low maintenance costs.

Marine applications

The marine panels offer user-friendly, reliable operation off-shore, on ships and in other maritime applications. With black frames and nautical society certifications, they are suitable for mounting on the bridge, in the engine room and inside cabins.

X2 marine HMI, available in 7 and 15 inches.

HMI soft control and soft motion

Integrating CODESYS soft control and soft motion with the X2 HMI solution (X2 HMI and iX HMI software) means you get a complete platform for PLC and motion applications that fit seamlessly together. It doesn´t get more compact. High-speed EtherCAT communication adds the speed and stability that makes it all possible.

X2 control and X2 motion HMI, available from 4 to 15 inches.

Endless possibilities
To build exactly what you need

You've explored all your hardware options. Now take a look at the freedom you have to build your system just the way you want it to fit your needs. With X2 HMI your options cover everything from stand-alone applications to large panel networks, as well as endless functionality and connectivity choices.

Stand-alone

X2 HMI brings full potential even to the smallest stand-alone applications on machine level, with one panel and PLC.

Simple network
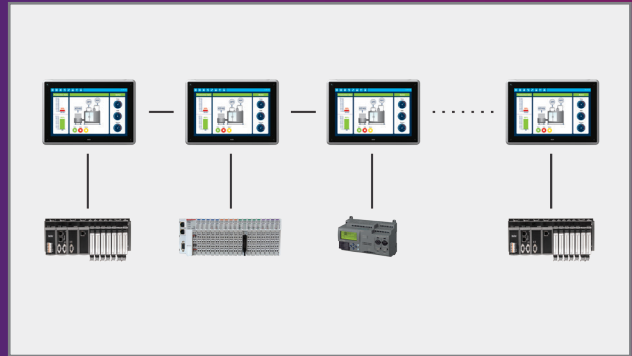
Two or more panels can easily exchange information, and communicate with PLCs of all major automation brands.

Share infomation

Rapport   Web server   SMS

E-mail   SQL   FTP
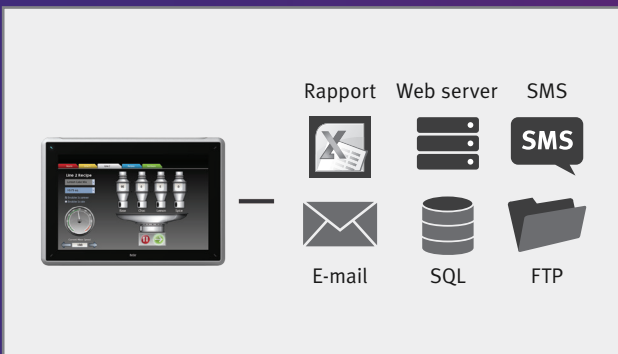
X2 HMI communicates efficiently with business systems and databases. You can use OPC, download/upload files and send SMS or e-mails.

Advanced network
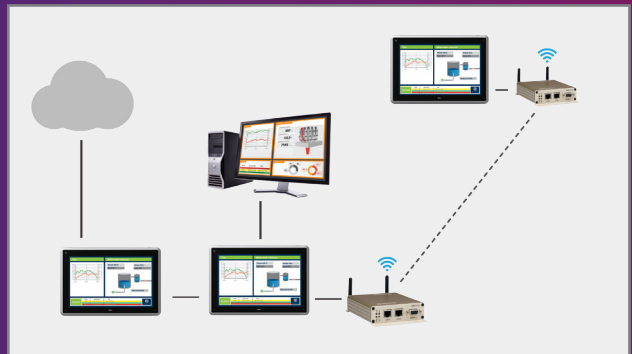
With the openness in X2 HMI and the support for C# and .NET technology, there are very few limits for what you can do with your application.

Traditional HMI

SCADA

HMI

PLC

Distributed I/O

Beijer Electronics HMI solution

ERP

SCADA

X2 HMI solution

X2 control / X2 motion

PLC

Distributed I/O

iX

Given today's powerful hardware and the more reliable and stable software, it´s easy to understand the clear trend of more and more applications being increasingly software based.

Complete HMI functionality

You'll find all essential functionality you need included in the software, such as data logging, recipes, alarms, trends and audit trail. Take advantage of ready-made objects with built-in functionality, vector-based symbols and graphics that can be easily inserted into the screen. A low entry level makes it easy for new users to get an application up and running.

Functionality for advanced users

Beijer Electronics HMI has support for .NET technology, providing options for advanced developers to design specialized functionality. Use C# scripting or .NET components. Extend the application with CODESYS SoftControl and SoftMotion, boosted by EtherCAT communication.

Microsoft .NET   Microsoft SQL Server   Microsoft Visual C#   CODESYS   OPC FOUNDATION   EtherCAT

Connect to all automation brands

An extensive driver list enables communication with your PLC and other equipment from all major brands. Share data and have safe control of complex systems, even over long distances. Transfer files and control panels remotely with FTP and VNC.

Efficient workflow

The intuitive development environment speeds up engineering. Pre-styled objects, a customizable workspace, a component library with vector graphics, and a smart property grid are features that'll boost your efficiency and workflow. Share your customized objects and advanced script modules with colleagues. They don't have to be advanced users to import and use them.

iX runtime – stackable runtime software

Using iX runtime, you have the opportunity to create an intuitive and graphical user interface also on PC platforms. Moreover, you can also customize your own licenses by combining 2 or more licenses. For example, by combining 2000+1000+500 tags licenses, you now have a 3500 tags license.

iX runtime softkey		iX runtime hardkey	
Part number	Description	Part number	Description
100-0960	100 Tag. softkey	100-0949	100 Tag. USB dongle
100-0961	250 Tag. softkey	100-0950	250 Tag. USB dongle
100-0962	500 Tag. softkey	100-0951	500 Tag. USB dongle
100-0963	1000 Tag. softkey	100-0952	1000 Tag. USB dongle
100-0964	2000 Tag. softkey	100-0953	2000 Tag. USB dongle
100-0965	3000 Tag. softkey	100-0954	3000 Tag. USB dongle
100-0966	4000 Tag. softkey	100-0955	4000 Tag. USB dongle

Connect to what you need

An extensive driver list in iX enables communication with your PLC and other automation equipment from all major automation manufacturers.

- **ABB**
  COMLI Master
  COMLI Slave
  TotalFlow

- **Allen-Bradely**
  ControlLogix Ethernet IP
  DF1
  DH485
  MicroLogix Ethernet
  SLC5/PLC5 Ethernet

- **Altus**
  Alnet I

- **Animatics**
  SmartMotor

- **Beckhoff**
  Beckhoff ADS
  Beckhoff ADS Symbolic

- **Beijer Electronics**
  iX DEMO
  Macro driver

- **Bernecker + Rainer**
  Mininet

- **Bosch Rexroth**
  IndraDrive C

- **CAN**
  FreeCan
  J1939

- **CoDeSys**
  ARTI v2.x, v3.x
  SoftControl Direct Access

- **Cognex**
  In-Sight

- **Control Techniques**
  Unidrive

- **CTC**
  CTC Serial Binary

- **Delta**
  PLC Modbus ASCII

- **Emerson**
  Modbus Master RTU/ASCII

- **Eurotherm**
  Easy Serial 631

- **Fatek**
  Facon

- **Galil**
  DMC

- **GE**
  Fanuc Ethernet via SRTP
  Fanuc SNPX

- **Giddings & Lewis**
  Motion Control

- **Hitachi**
  Hitachi H-COMM

- **IAI**
  XSel

- **IDEC**
  Computer Link

- **Johnson Controls**
  JCONTROL

- **KEB**
  COMBIVERT

- **Keyence**
  KV-Series

- **KOYO**
  DirectNET
  K-Sequence

- **Lenze**
  LECOM A/B

- **LS Industrial System**
  Glofa
  Master-K

- **Matushita**
  MEWTOCOL-COM

- **Modicon**
  MODICON Modbus Master
  MODBUS Slave RTU/TCP

- **NEMA 0183**
  NMEA 0183

- **Mitsubishi**
  Alpha2
  A-Series (C24)
  A-Series (CPU)
  A-Series (E71)
  Freqrol FR-A PLC
  FX Series ADP/BD
  FX Series ENET
  FX Series Serial
  FX3U-ENET
  MC Protocol
  MR-J2/MR-J3-T (Melservo)
  QnA/Qnn Profibus DP
  QnA/Qnn Serial
  QnA/Qnn-Series (C24)
  Q-Series (E71) Ethernet

- **OMRON**
  Ethernet IP
  FINS
  Host Link

- **Regin**
  EXOline

- **SAIA**
  S-BUS Serial/Ethernet

- **Schneider Electric**
  TSX Uni-Telway
  Modbus

- **Siemens**
  S5 PG/AS511
  S7 200 PPI
  S7 ISO over TCP/IP
  (S7-200/300/400/1200/1500)
  S7 MPI (HMI Adapter)
  S7 MPI Direct
  TI500

- **WAGO**
  Modbus TCP

- **Vigor**
  M/VB-Series

- **Yamaha**
  VIP

- **YASKAWA**
  Memobus Master

- **Yokogawa**
  Yokogawa FA-M3

It's all about you

After more than 30 years of developing HMI technologies, our 6th generation industrial HMIs will exceed your expectations. Robust, reliable and so much more intuitive, they're designed to give your business a real boost.

Creative technology

With an eye for spotting market and technology trends, we develop and combine standard technologies to create innovative, industrial-grade products. Beijer Electronics' HMI gives you the tools to be creative in developing your projects, delivering higher efficiency in a broad range of applications.

Global presence

You can rely on our presence, everywhere at any time. Our technicians are out on sites, supporting customers, from project planning to implementation and maintenance. We combine global product knowledge with local support in all our markets, staying close to your reality.

Global Company, Local Presence

Headquartered in Malmo, Sweden, Beijer Electronics has offices around the world. At Beijer Electronics, we believe deeply that only when we meet our local customers on the ground can we truly become a great multinational company.

Touching for the future

Operator terminals matching your specific needs

The PWS-series offers valuable HMI functionality at an affordable level. The series include keypad and touch screen interfaces and is available in seven different sizes from 3 to 10.4 inches. Offering three levels of functionality – Standard, Plus and Network — the PWS-series enables you to select and pay for what level of HMI technology you need.

Beijer
E L E C T R O N I C S

About Beijer Electronics Corp. (Taiwan)

Beijer Electronics Corporation, is the Beijer Group's branch company in Taiwan. In 2005, Hitech Electronics was acquired by the Beijer Electronics Group, and in 2010, was officially renamed Beijer Electronics. This company was established in Taiwan in 1981 and in its early stage was a manufacturer of electronic pens (including LCD display panels). In 1984 the company began developing and manufacturing LCD modules, the first manufacturing company in Taiwan to successfully do so. In 1990, based on mature integrated embedded system technology with LCD modules, we became Taiwan's pioneering leader in the development and manufacture of HMI products. Fast expended by own brand, Hitech-PWS Series, is sold all over the world, including Asia, north and middle& south America, and Europe. After the acquisition, Beijer Corp has been contributed by the Beijer Group's sales network, integration of resources, and technology support, has successfully surged from being the HMI market leader in Asia to being a global HMI product leader. For more information on Beijer Electronics Corporation (Taiwan), please visit http://www.beijerelectronics.com.tw.

Legend:
- Beijer — Global HQ-Sweden
- 🔴 Branch office
- 🔵 Locate nation
- 🔵 Distributor channel
- 🟢 R&D
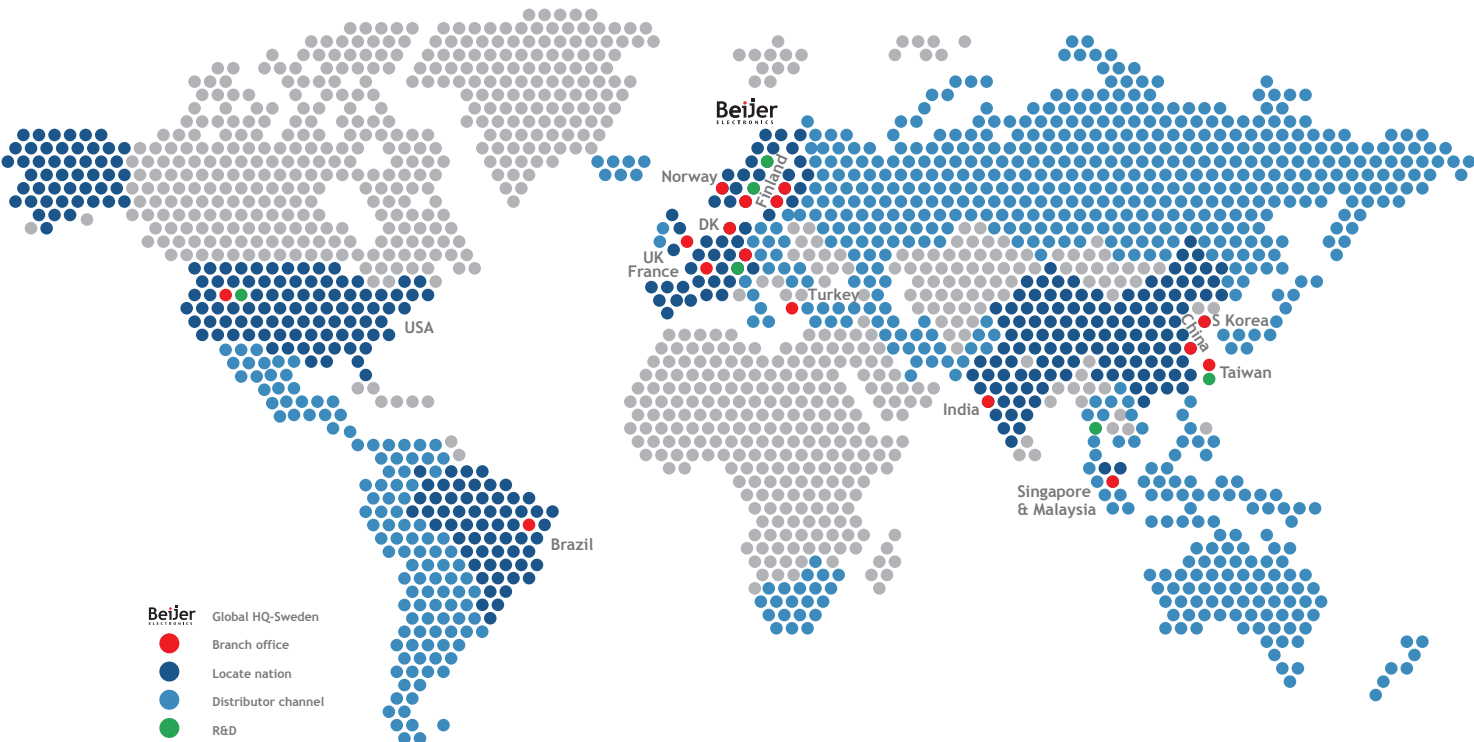
HMI Application Story Overview

Feeder Machine industry:

There are many different types of traditional mechanical equipment. Feeders, as they are commonly referred to, are divided by long rod, short rod, fuel fed and mechanical types. Traditional push button and switch controls are already incapable of meeting machinery control needs of customers. Increasing convenience in control and operation of mechanical equipment has guided the application of HMI products to conveyance equipment.

HMI product operation is convenient and easy to program. HMI products provide multiple language selections and an alarm and reporting function that makes malfunction issues easier to resolve.

Through simple and easy software programs and proficient operation, the added-value of this mechanical equipment can be enhanced. In a future with high efficiency and precision requirements, HMI products are without a doubt the optimum communications tool between humans and machines.

Printing Industry:

Control box areas on printing machines are large and heavy. HMI product applications not only can economize the time it takes to design a control box, but can also reduce costs. For this reason, customers have all offered up outstanding evaluations after using HMI product applications.

Control box header installations, historical trends chart, historical data tables, historical incident tables, historical alarm tables, current alarm tables, alarm frequency tables, alarm indicator lights, directions, curves, and more can all be programmed through HMI product applications. This eliminates the need to spend time designing a control box and saves space.
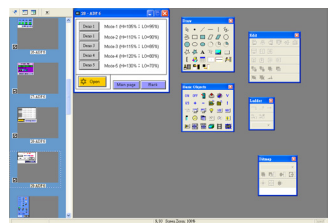
Building Industry:

Standard building climate control equipment uses temperature control buttons, power switches, and LCD displays. Through implementation of HMI product applications in the building automation industry, HMI products not only ensure normal control conditions, but also can be easily programmed to display all necessary information, such as current temperature, humidity, expected start up time, alarm, trend charting, animations, and multi-language selections.

HMI products provide customers with numerous operating conveniences while enhancing the added-value of climate control equipment.

PWS-series HMI

Mono

3" — PWS6300S
- 16 shades of gray
- STN
- COM Port x1
- 160 x 80

3.3" — PWS6400F
- 16 shades of blue
- STN
- COM Port x1
- 240 x 240

4.7" — PWS6500S
- 16 shades of blue
- STN
- COM Port x2
- 240 x 128

5.7"

PWS5610S
- 16 shades of blue
- STN
- COM Port x1
- 320 x 240

PWS6600S
- 16 shades of blue
- STN
- COM Part x2
- 320 x 240

PWS6620S
- 16 shades of blue
- STN
- COM Port x2
- CF Card
- USB Host x1
- USB Device x1
- 320 x 240

Colors

5.7"

PWS5610T
- 256 Colors
- TFT
- COM Port x1
- 320 x 240

PWS6600T
- 256 Colors
- TFT
- COM Port x2
- 320 x 240

PWS6620T
- 64K Colors
- TFT
- COM Port x2
- CF Card
- USB Host x1
- USB Device x1
- 320 x 240

7"

PWS6710T
- 64K Colors
- TFT
- COM Port x3
- CF Card
- USB Host x2
- USB Device x1
- 800 x 480

10.4"

PWS6A00T
- 64K Colors
- TFT
- COM Port x3
- CF Card
- USB Host x2
- USB Device x1
- 640 x 480

PWS5A00T
- 64K Colors
- TFT
- COM Port x3
- CF Card
- USB Host x2
- USB Device x1
- 800 x 480

PWS6300
- Dip Switches
- DC Power Input
- COM2

PWS6400
- I/O Fixture holes
- I/O Expansion I/O port
- DC Power Input
- COM1
- Dip Switches

PWS6500
- COM1
- Dip Switches
- COM2
- DC Power Input

PWS5610
- COM1
- Dip Switches
- DC Power Input

PWS6600 / PWS6620
- CF Card (PWS6620)
- Dip Switches
- Battery cover
- Connects Printer / Keyboard (PWS6600)
- DC Power Input
- DC Power Input
- USB Device (PWS6620)
- USB Host (PWS6620)
- Ethernet
- COM1
- COM2

PWS6710
- Dip Switches
- DC Power Input
- CF Card
- USB Host
- USB Device
- COM1
- COM2
- COM3
- Ethernet

PWS6A00 / PWS5A00
- DC Power Input
- Dip Switches
- CF Card
- USB Host
- USB Device
- COM1
- COM2
- COM3
- Ethernet

Operator terminals matching your specific needs

Print functions:
Supports multiple printers, capable of printing current screens, alarm recording and logging buffer data.

External memory:
Supports CF card and USB memory devices to save HMI files, buffer records, related files and data.

CE & UL Certified:
Passed CE and UL certifications.

Suitable for different kinds of operating environments:
With anti-shock, anti-vibration, and temperature testing, these products are suitable for use in a variety of harsh operating environments.

Multi-port communication:
Capable of simultaneously communicating with up to 3 different control devices.

Touch screen:
Sturdy, durable, and resistive touch screen provides direct control.

IP65 Protection:
The dustproof and waterproof front panel has IP65 protection rating.

USB Transfers:
HMI files can be downloaded and uploaded via USB ports.

Suitable for different kinds of operating environments:

- Ambient temperature: 0 ~ 50°C
- Storage temperature: -10 ~ 60°C
- Ambient humidity: 10 - 90% RH(0~40°C),10 - 60% RH(41~50°C), (non-condensing)
- Vibration endurance: 0.5 mm displacement, 10-55 Hz, 2 hours per X, Y, Z axis directions
- Shock endurance 10 G, 11 ms three times in each direction of X, Y, Z axes

Industry

- Textile machinery
- Marine & offshare
- Pharma
- Food

- Packaging machinery
- OEM
- Oil and gas
- Printing machinery

- Machine tools
- Building Automation
- Warter and irrigation

Configuration software for the PWS-terminal

The ADP software is a versatile and intuitive HMI configuration software. It has been created with users in mind and is ideal for machine builders and system integrators. With flexible tools that allow projects to be created in minutes, ADP is the perfect software to create simple or complex projects. The configuration software is available free of charge on www.beijerelectronics.com.tw.
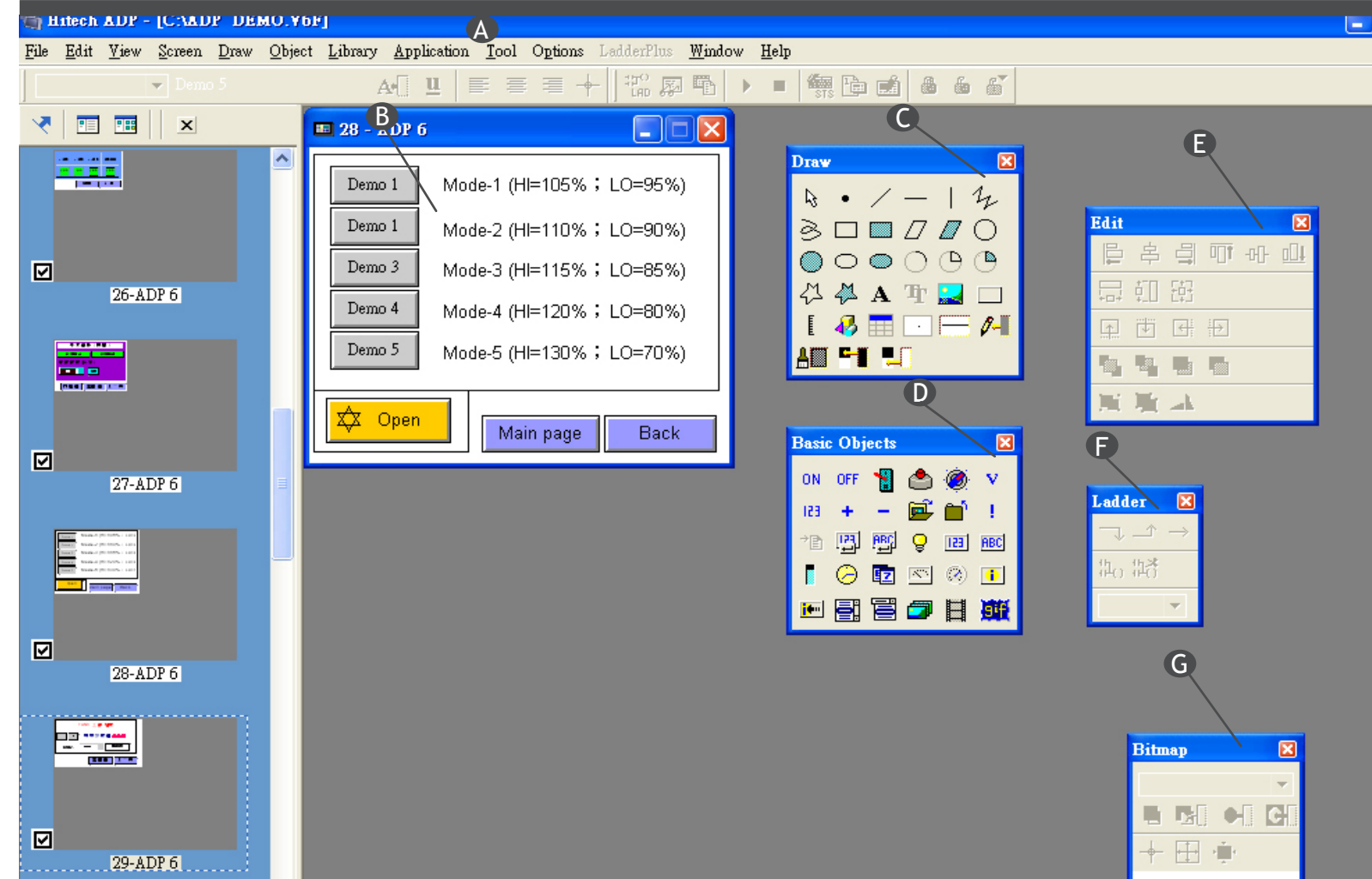
A Toolbar: Users can directly select the necessary functions through simple and easy to understand icons.

B Screens: In the editing screen, users can automatically adjust screen size to conform to equipment dimensions.

C Draw Windows: Users can quickly edit a screen through easy to operate graphic icons.

D Basic Objects Windows: Diversified objects satisfy user application requirements.

E Edit windows: Convenient user layout to adjust object and image size.

F Ladder windows: Users can easily edit ladder programs.

G Bitmap windows: Users can easily adjust dot matrix image color, size, and position.

ADP Software

Screen management

The "Screen Manager" function makes project management easy and enables the configurator to always oversee the entire project. It is possible to select between thumbnail and detailed zoomed views, allowing for dynamic screens to be created and viewed.

- Ideal for project cutting and pasting, browsing, editing and co-ordinating the operator terminal screens
- Ensures fast and easy project creation

● Screen management

Cross references

"Cross Reference" is a feature that enables the configurator to easily handle project tags, objects and signals. These can quickly be located and listed to get an overview of where and how they are used. If data has to be changed, it can be made in the tag list and the data will then automatically be changed everywhere else in the project.

- The list has up to 3 windows, giving a complete project over-view
- Sort the Cross Reference list by screen number, screen name, tag name or controller address
- Locate objects and change parameters directly from the list

● Cross references

All Windows™ fonts supported

Since the ADP software is based around the Windows™ operating system, a font library with up to 16 different fonts can be defined, exported and imported.

● All Windows™ fonts supported
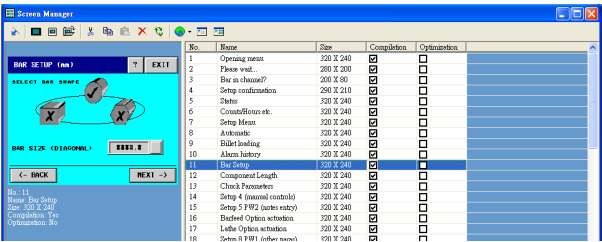
Off-line and On-line simulation

In order to save valuable time and money at on-site commissioning, The ADP software provides powerful "Off-line and On-line Simulation". This allows for the HMI project to be thoroughly tested either just on a PC, or by combining the HMI with a PC to comprehensively test HMI and controller reactions, communications etc.

- Off-line simulation allows the developer to quickly test the entire project and verify the overall functionality of screens and alarms
- On-line simulation proves the communication and the func-tionality of the host controller, such as a PLC or inverter

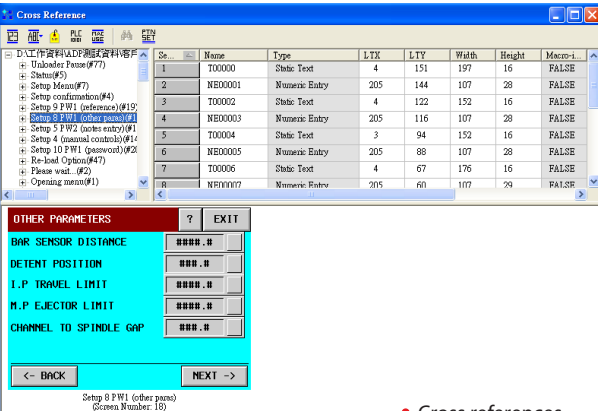● Off-line and On-line simulation

Animated graphics

The graphic handling in the PWS-series is developed with both the configurator and the user in mind. The animated graphics allow a variety of graphic possibilities with only the configurator's imagina-tion being the limit.
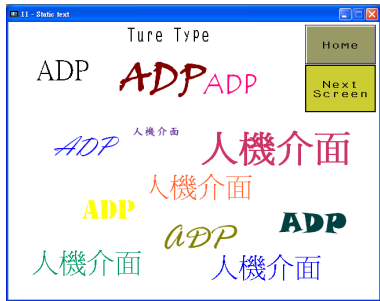
- Import graphic formats such as Bitmaps, JPEG, GIF and Auto-CAD™ files (*.bmp, *.jpg, *.gif, *.dwg, *.dxf)
- Supports animated gif images for complex and flexible screen creations
- Graphics can be moved in predefined paths or freely control-led by the host controller to maximize screen space
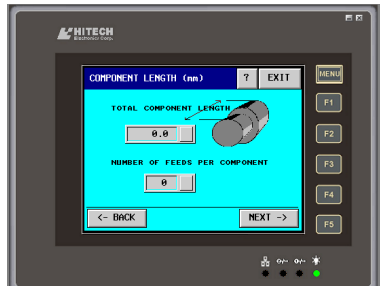- Scrolling text can be used allowing long text strings to be displayed

● Animated graphics
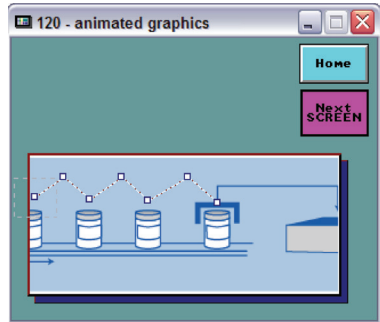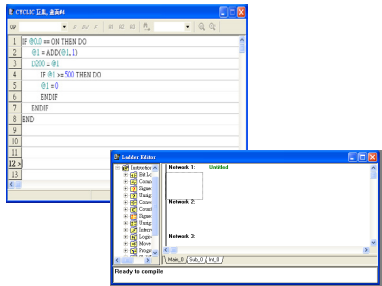
Ladder or Macro functionality

The ADP software saves valuable time by providing ready-made modules for e.g. arithmetic calculations, logical operators and bit settings. These can easily be linked to each other or to other data within the project using ladder or macro functionality.

- Screen open macro
- Screen close macro
- Cyclic macro
- Initial application macro
- Clock macro
- Macros triggered by digital signals
- Sub-macros that can be triggered from other macros

● Ladder or macro functionality

Communication drivers

To accompany this inspiring range of HMIs is a range of free of charge communication drivers. This increasing list of drivers total over 100 and can be used for connecting the HMIs to various automation equipment such as PLCs, inverters, and servo controllers. Main world-wide brands such as Siemens, Omron and Allen Bradley are already included and new drivers are continuously being developed and updated.

Multi-language support

Making it easy for manufacturers who export all over the world, multi-language support allows the configurator to develop pro jects that can be used basically anywhere. With this setup within the HMI, to change languages is just a switch away. The language can also be changed during normal operation so that each operator can decide what language to use.
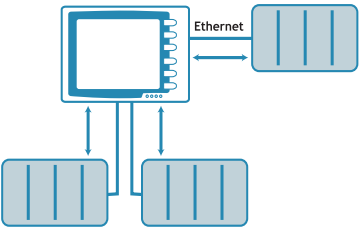
- Develop the application in up to 5 different languages
- Switch languages freely during normal operation

● Multi-language support
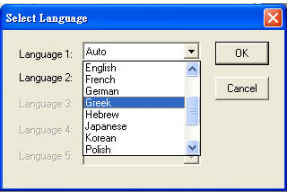
Multi-channel communication

Multi-channel communication is a unique feature that allows a dif-ferent controller to be connected on each serial or Ethernet port. This flexible communication solution not only saves on buying multiple HMIs, but also removes the need for expensive protocol converters.

- Connect a controller to each available port either via serial or Ethernet connection
- Move values between the drivers via macros
- Use values from several controllers in calculations

● Multi-channel communication

File protection

Protecting the application from unauthorized upload and download is essential in today's manufacturing world. The "File Protection" feature ensures that only authorized users can access sensitive information.

- Impossible to upload the protected application from the terminal without the correct password

• File protection

Message Library

The message library assists designers in displaying message information by displaying pre-defined messages based on different circumstances.

- Designers can create 32 message libraries; each libraries can set up to 512 messages
- Each message can be defined by any control machine's signal address and internal memory
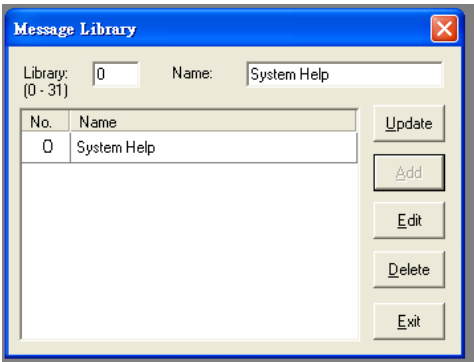
• Message Library

Time Channel

Time channel functions can help designers in pre-setting weekly times when the default BIT address is set to ON, with other times automatically designated as OFF.

- Designers can create up to 32 time channels; each channel is capable of 4 default BIT address ON time periods
- Each default BIT address can be defined by any controller's address and internal memory
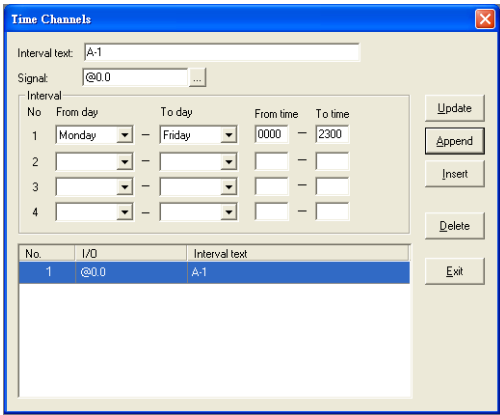
• Time Channel

Alarm Group

Alarm functions can be used by designers to easily manage alarms and direct them toward different controllers to provide different alarm messages. Alarms can also be saved in the internal memory with a USB/CF card and can also be printed out directly on the printer when an incident occurs.

- Designers can create 3 different alarm groups, with each one providing defined alarms for different control machines
- With alarm messages in multiple languages, designers can export/import messages in EXCEL files to define
- Alarm occurrences for printing or storage via USB memory stick or CF cards and provide users with remote viewing from a PC
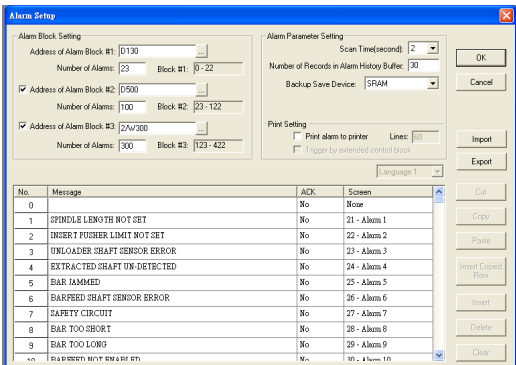
• Alarm Group

HMI I/O Controller for PWS6400F-P

Save the cost of your PLC

The compact new HMI I/O Controller not only enables easy interfacing with Beijer Electronics' HMI but also allows the user to implement simple monitoring and automation tasks without the need of a PLC. Easy to install and cost effective, the HMI I/O Controller was developed for the popular PWS6400F-P facilitating the aim of the PWS-series to offer valuable HMI functionality at the precise level required by the customer.

Built-in processor for optimal speed

Up to 16 modules per PWS6400F-P can be stacked up and the module's built-in processor means that the PWS6400F-P operates at optimal speed with no adverse effects.

Easy configuration with ADP

The utilization of Macro and Ladder commands offers easy configuration of your HMI I/O Controller with ADP. Monitoring and automation tasks can easily be developed with ADP. This intuitive HMI configuration software features flexible tools that allow projects to be created in just a few minutes, offering instant off-line and on-line simulation. ADP saves valuable time, providing ready-made modules that can be utilized for arithmetic calculations, logical operators and bit settings etc.

Technical data

I/O Module	EM-IOB-C4-00-RC	EM-IOB-88-00-RC
Digital inputs	12	8
Type	DC	
Input Voltage	5mA@24V	
Maximum Voltage	24V	
Isolation	Photo-couplier	
Input per common	12	8
Digital outputs	4	8
Type	DC	
Maximum Voltage	24V	
Maximum Ampere	0.5A	
Response time	ON: 10 ms, OFF: 5 ms	
Weight	0.1 Kg	
Operating temperature	-10 to +60°C	
Storage temperature	-20 to +70°C	
Relative humidity	5-85% (non-condensed)	
Dimensions (WxHxD)	80.6 x 52.5 x 42.9 mm	
Vibration	10 to 55 Hz (double amplitude of 1.5 mm)	
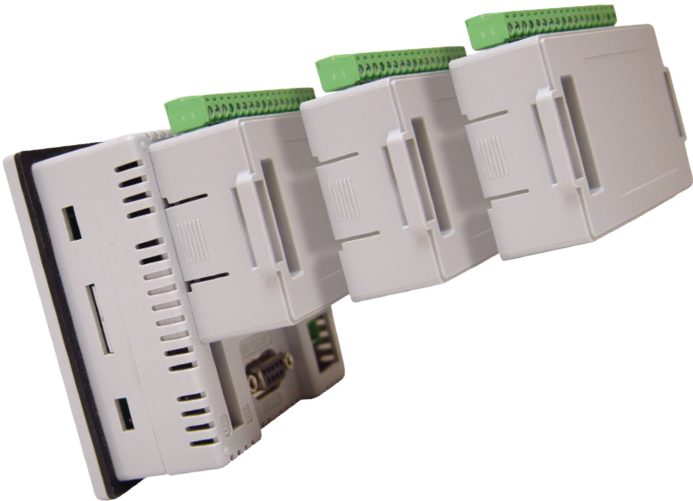
	PWS6300S-S	PWS6400F-S	PWS6400F-P	PWS6500S-S	PWS6560S-S	PWS5610S-S	PWS5610T-S	PWS6600S-S	PWS6600S-P	PWS6600T-S	PWS6600T-P	PWS6620S-P	PWS6620S-N	PWS6620T-P	PWS6620T-N	PWS6710T-P	PWS6710T-N	PWS6A00T-P	PWS6A00T-N	PWS5A00T-P
LCD Type	Mono STN LCD	Mono STN LCD	Mono STN LCD	Mono STN LCD	Mono STN LCD	Mono STN LCD	Color TFT LCD	Mono STN LCD	Mono STN LCD	Color TFT LCD	Color TFT LCD	Mono STN LCD	Mono STN LCD	Color TFT LCD	Color TFT LCD	Color TFT LCD	Color TFT LCD	Color TFT LCD	Color TFT LCD	Color TFT LCD
Screen size	3" (diagonal)	3.3" (diagonal)	3.3" (diagonal)	4.7"(diagonal)	4.7"(diagonal)	5.7"(diagonal)	5.7"(diagonal)	5.7" (diagonal)	5.7" (diagonal)	5.7" (diagonal)	5.7" (diagonal)	5.7" (diagonal)	5.7" (diagonal)	5.7" (diagonal)	5.7" (diagonal)	7" (diagonal)	7" (diagonal)	10.4" (diagonal)	10.4" (diagonal)	10.1" (diagonal)
Display resolution	160 x 80	240 x 240	240 x 240	240 x 128	240 x 128	320 x 240	320 x 240	320 x 240	320 x 240	320 x 240	320 x 240	320x240	320x240	320x240	320x240	800x480	800x480	640 x 480	640 x 480	800 x 480
Brightness (cd/m2)	35	220	220	110	110	110	400	160	160	400	400	160	160	400	400	400	400	450	450	300
Contrast adjustment	Via VR	Via touch panel	Via touch panel	Via touch panel	Via external keyboard (sold sperately)	Via touch panel	—	Via touch panel	Via touch panel	—	—	Via touch panel	Via touch panel	—	—	—	—	—	—	—
Display colors	16 shades of gray	16 shades of blue	16 shades of blue	16 shades of blue	16 shades of blue	16 shades of blue	256 colors	16 shades of blue	16 shades of blue	256 colors	256 colors	16 shades of blue	16 shades of blue	64K colors	64K colors	64K colors	64K colors	64K colors	64K colors	64K colors
Back light type	LED	LED	LED	CCFL	CCFL	LED	LED	LED	LED	LED	LED	CCFL	CCFL	LED	LED	LED	LED	LED	LED	LED
CPU	32-bit RISC	32-bit RISC	32-bit RISC	32-bit RISC	32-bit RISC	32-bit RISC	32-bit RISC	32-bit RISC	32-bit RISC	32-bit RISC	32-bit RISC	32-bit RISC	32-bit RISC	32-bit RISC	32-bit RISC	32-bit RISC	32-bit RISC	32-bit RISC	32-bit RISC	32-bit RISC
Back light life	50,000 hours	30,000 hours	30,000 hours	30,000 hours	30,000 hours	20,000 hours	50,000 hours	30,000 hours	30,000 hours	50,000 hours	50,000 hours	50,000 hours	50,000 hours	50,000 hours	50,000 hours	20,000 hours	20,000 hours	50,000 hours	50,000 hours	20,000 hours
Operation Status LED	PWR & COM2 LEDs	PWR & COM1, LEDs	PWR & COM1, LEDs	PWR & COM1, COM2 LEDs	PWR & COM1, COM2 LEDs	PWR & COM1, COM2 LEDs	PWR & COM1, COM2 LEDs	PWR, COM1, COM2, Ethernet LEDs	PWR, COM1, COM2, Ethernet LEDs	PWR, COM1, COM2, Ethernet LEDs	PWR, COM1, COM2, Ethernet LEDs	PWR, COM1, COM 2, Ethernet LEDs	PWR, COM1, COM 2, Ethernet LEDs	PWR, COM1, COM 2, Ethernet LEDs	PWR, COM1, COM 2, Ethernet LEDs	PWR, COM1—3, Ethernet LEDs	PWR, COM1—3, Ethernet LEDs	PWR, COM1—3, Ethernet LEDs	PWR, COM1—3, Ethernet LEDs	PWR, COM1—3, Ethernet LEDs
Touch screen	—	Analog	Analog	Analog	Via external keyboard (sold sperately)	Analog	Analog	Analog	Analog	Analog	Analog	Analog	Analog	Analog	Analog	Analog	Analog	Analog	Analog	Analog
Touch screen (number of times)	—	> 1,000,000	> 1,000,000	> 1,000,000	—	> 1,000,000	> 1,000,000	> 1,000,000	> 1,000,000	> 1,000,000	> 1,000,000	> 1,000,000	> 1,000,000	> 1,000,000	> 1,000,000	> 1,000,000	> 1,000,000	> 1,000,000	> 1,000,000	> 1,000,000
Keypad	16 mechanical switches	—	—	—	128 mechanical switches	—	—	1 Menu key and 5 user-defined function keys (F1—F5)	1 Menu key and 5 user-defined function keys (F1—F5)	1 Menu key and 5 user-defined function keys (F1—F5)	1 Menu key and 5 user-defined function keys (F1—F5)	1 Menu key and 5 user-defined function keys (F1—F5)	1 Menu key and 5 user-defined function keys (F1—F5)	1 Menu key and 5 user-defined function keys (F1—F5)	1 Menu key and 5 user-defined function keys (F1—F5)	1 Menu key and 6 user-defined function keys (F1—F6)	1 Menu key and 6 user-defined function keys (F1—F6)	1 Menu key and 7 user-defined function keys (F1—F7)	1 Menu key and 7 user-defined function keys (F1—F7)	1 Menu key and 7 user-defined function keys (F1—F7)
Application Flash ROM	4MB	4MB	4MB	4MB	4MB	2MB	2MB	4MB	4MB	4MB	4MB	4MB	4MB	4MB	4MB	8MB	8MB	8MB	8MB	8MB
RAM	128KB	512KB	512KB	512KB	512KB	512KB	512KB	512KB	512KB	512KB	512KB	16MB	16MB	16MB	16MB	16MB	16MB	16MB	16MB	16MB
Data/Recipe	—	—	8KB	—	—	256KB	256KB	—	512KB	—	512KB	512KB	512KB	512KB	512KB	512KB	512KB	512KB	512KB	512KB
RTC (w/rechargeable lithium battery)	changeable lithium battery	Yes	Yes	Yes	Yes	changeable lithium battery	changeable lithium battery	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Data storage (CF card)	—	—	—	—	—	—	—	—	—	—	—	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
COM1	—	9-pin female (RS232/RS485)	9-pin female (RS232/RS485)	9-pin female (RS232/RS485)	9-pin female (RS232/RS485)	9-pin female(RS232/RS485/RS422 without RTS/CTS) or (RS232,COM2 RS422/RS485 without RTS/CTS)	9-pin female(RS232/RS485/RS422 without RTS/CTS) or (RS232,COM2 RS422/RS485 without RTS/CTS)	9-pin female (RS232/RS485)	9-pin female (RS232/RS485)	9-pin female (RS232/RS485)	9-pin female (RS232/RS485)	9-pin female (RS232/RS485)	9-pin female (RS232/RS485)	9-pin female (RS232/RS485)	9-pin female (RS232/RS485)	9-pin female (RS232/RS485)	9-pin female (RS232/RS485)	9-pin female (RS232/RS485)	9-pin female (RS232/RS485)	9-pin female (RS232/RS485)
COM2	9-pin female (RS232/RS422/RS485)	—	—	9-pin female (RS422/RS485)	9-pin female (RS422/RS485)	—	—	25-pin female (RS232/RS422/RS485)	25-pin female (RS232/RS422/RS485)	25-pin female (RS232/RS422/RS485)	25-pin female (RS232/RS422/RS485)	25-pin female (RS232/RS422/RS485)	25-pin female (RS232/RS422/RS485)	25-pin female (RS232/RS422/RS485)	25-pin female (RS232/RS422/RS485)	25-pin female (RS232/RS422/RS485)	25-pin female (RS232/RS422/RS485)	25-pin female (RS232/RS422/RS485)	25-pin female (RS232/RS422/RS485)	25-pin female (RS232/RS422/RS485)
COM3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	9-pin female (RS422/RS485)	9-pin female (RS422/RS485)	9-pin female (RS422/RS485)	9-pin female (RS422/RS485)	9-pin female (RS422/RS485)
USB Host	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1	2	2	2
USB Device	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1	1	1	1
Multi-functional port	—	—	—	—	—	—	—	—	26-pin connector for printer	—	26-pin connector for printer	—	—	—	—	—	—	—	—	—
Ethernet	—	—	—	—	—	—	—	—	—	—	—	—	Yes	—	Yes	—	Yes	—	Yes	—
External dimensions (mm)	173.0 (W) x 105.5 (H) x 51.8 (D)	96 (W) x 96 (H) x 40.6 (D)	96 (W) x 96 (H) x 40.6 (D)	170.3 (W) x 102.6 (H) x 45.3 (D)	170.3 (W) x 102.6 (H) x 45.3 (D)	195.0 (W) x 145.0 (H) x 40.2 (D)	195.0 (W) x 145.0 (H) x 40.2 (D)	195.0 (W) x 145.0 (H) x 59.1 (D)	195.0 (W) x 145.0 (H) x 59.1 (D)	195.0 (W) x 145.0 (H) x 59.1 (D)	195.0 (W) x 145.0 (H) x 59.1 (D)	195.0 (W) x 145.0 (H) x 59.1 (D)	195.0 (W) x 145.0 (H) x 59.1 (D)	195.0 (W) x 145.0 (H) x 59.1 (D)	195.0 (W) x 145.0 (H) x 59.1 (D)	231.0 (W) x 176.0 (H) x 46.8 (D)	231.0 (W) x 176.0 (H) x 46.8 (D)	297.0 (W) x 222.0 (H) x 52.3 (D)	297.0 (W) x 222.0 (H) x 52.3 (D)	297.0 (W) x 222.0 (H) x 52.3 (D)
Cut-out dimensions (mm)	160.8 x 93.3	89.3 x 89.3	89.3 x 89.3	160.7 x 93.0	160.7 x 93.0	185.8 x 135.8	185.8 x 135.8	185.8 x 135.8	185.8 x 135.8	185.8 x 135.8	185.8 x 135.8	185.8 x 135.8	185.8 x 135.8	185.8 x 135.8	185.8 x 135.8	220.8 x 165.8	220.8 x 165.8	286.0 x 211.0	286.0 x 211.0	286.0 x 211.0
Supply voltage	24V DC ±15 %, < 8W	24V DC ±15 %, < 4W	24V DC ±15 %, < 4W	24V DC ±15 %, < 12W	24V DC ±15 %, < 12W	24V DC ±15 %, < 8W	24V DC ±15 %, < 8W	24V DC ±15 %, < 20W	24V DC ±15 %, < 20W	24V DC ±15 %, < 20W	24V DC ±15 %, < 20W	24V DC ±15 %, < 20W	24V DC ±15 %, < 20W	24V DC ±15 %, < 20W	24V DC ±15 %, < 20W	24V DC ±15 %, < 24W	24V DC ±15 %, < 24W	24V DC ±15 %, < 30W	24V DC ±15 %, < 30W	24V DC ±15 %, < 30W
Front protection	IP65	IP65	IP65	IP65	IP65	IP65	IP65	IP65	IP65	IP65	IP65	IP65	IP65	IP65	IP65	IP65	IP65	IP65	IP65	IP65
Certification	CE,UL,FCC	CE,UL,FCC	CE,UL,FCC	CE,UL,FCC	CE,UL,FCC	CE,FCC	CE,FCC	CE,UL,FCC	CE,UL,FCC	CE,UL,FCC	CE,UL,FCC	CE,UL,FCC	CE,UL,FCC	CE,UL,FCC	CE,UL,FCC	CE	CE	CE,UL,FCC	CE,UL,FCC	CE
Weight (kg)	0.37	0.21	0.21	0.47	0.47	0.55	0.5	0.81	0.81	0.75	0.75	0.81	0.81	0.81	0.81	1.05	1.05	1.87	1.87	1.51

The PWS-series consists of various models and versions

PWS-6se0d-v

S: Size(Inch)   e: Enhancement model   d: (C: COLOR, T: TFT, S: STN, F: FSTN)   V: Version (S: standard, P: plus, N: network)

Standard version
Includes most software and hardware requirements for an operator terminal, such as alarm handling, Windows™ fonts, multi-language support, animated graphics and macro/ladder features.
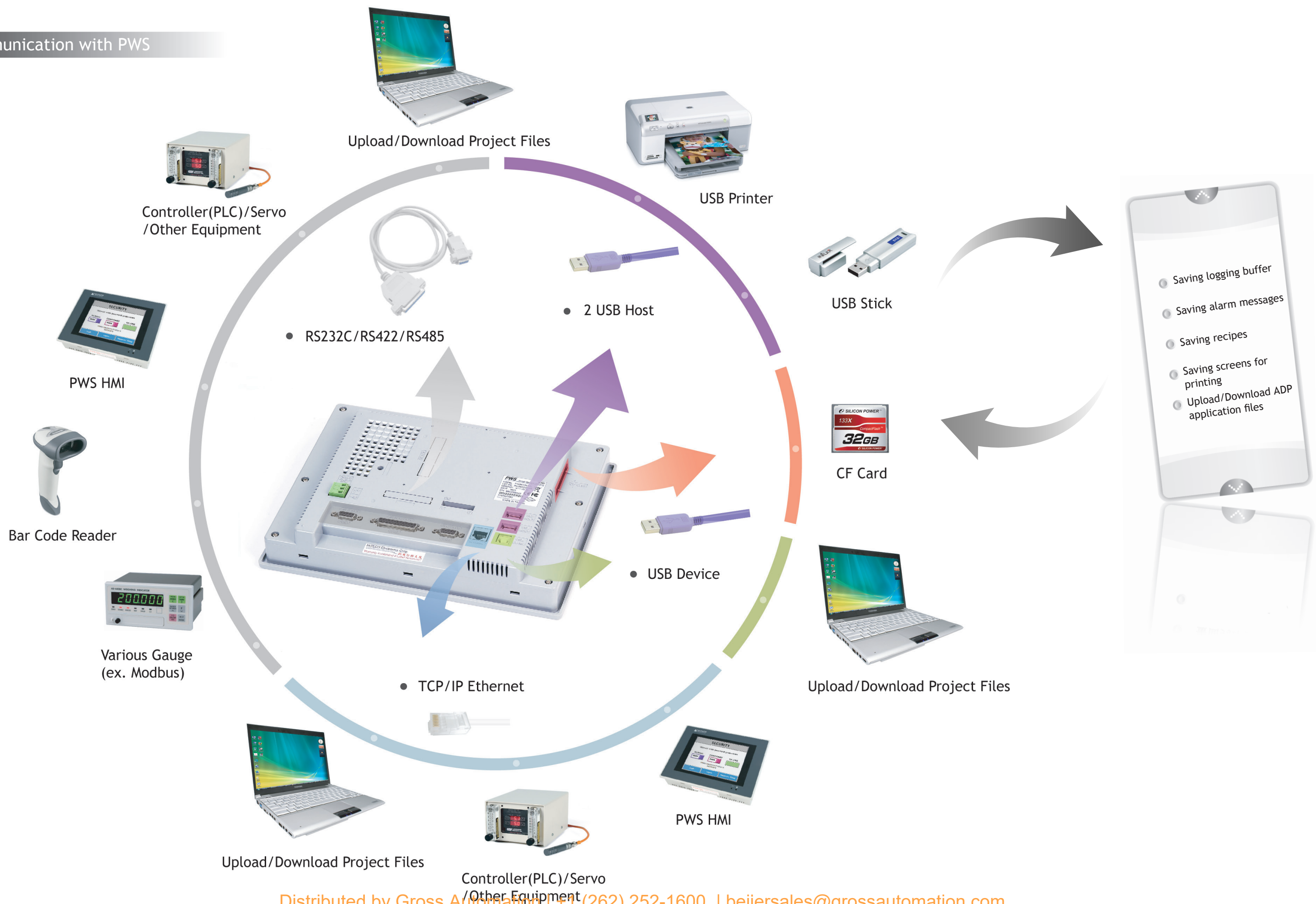
Plus version
Has the same functionality as the Standard version as well as data/recipe handling and a communication port for a printer or external keyboard.

Network version
The network version is a Plus version with an integral Ethernet networking port.

PWS Connection

Upload/Download Project Files

USB Printer

USB Stick

- Saving logging buffer
- Saving alarm messages
- Saving recipes
- Saving screens for printing
- Upload/Download ADP application files

Controller(PLC)/Servo /Other Equipment

- RS232C/RS422/RS485

- 2 USB Host

PWS HMI

CF Card

Bar Code Reader

- USB Device

Various Gauge (ex. Modbus)

Upload/Download Project Files

- TCP/IP Ethernet

Upload/Download Project Files

Controller(PLC)/Servo /Other Equipment

PWS HMI

Empowerful

Scalable, modular and compact Edge Controller empowers you with complete control
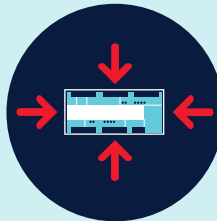
BeiJer
ELECTRONICS

People & Technology. Connected.

Nexto Xpress series

Nexto Xpress compact controllers with embedded IOs are the perfect match for smaller and medium sized control applications. Nexto Xpress is available in four different hardware versions all supported by CODESYS, the leading hardware-independent IEC 61131-3 development tool on the market.

Why choose Nexto Xpress?

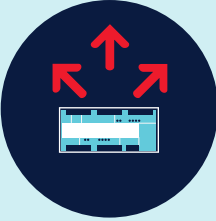**Industry 4.0 ready** by connectivity via OPC UA, MQTT & Microsoft SQL client.

Cost-efficient in a compact format offering the perfect mix of digital and analog I/Os.

Perfect within machinery, building automation, water and waste water, infrastructure, etc.

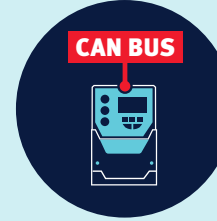Same powerful CODESYS programming environment for all Nexto controllers.

Expandable with additional Xpress units, G series or Nexto Jet series remote I/O.

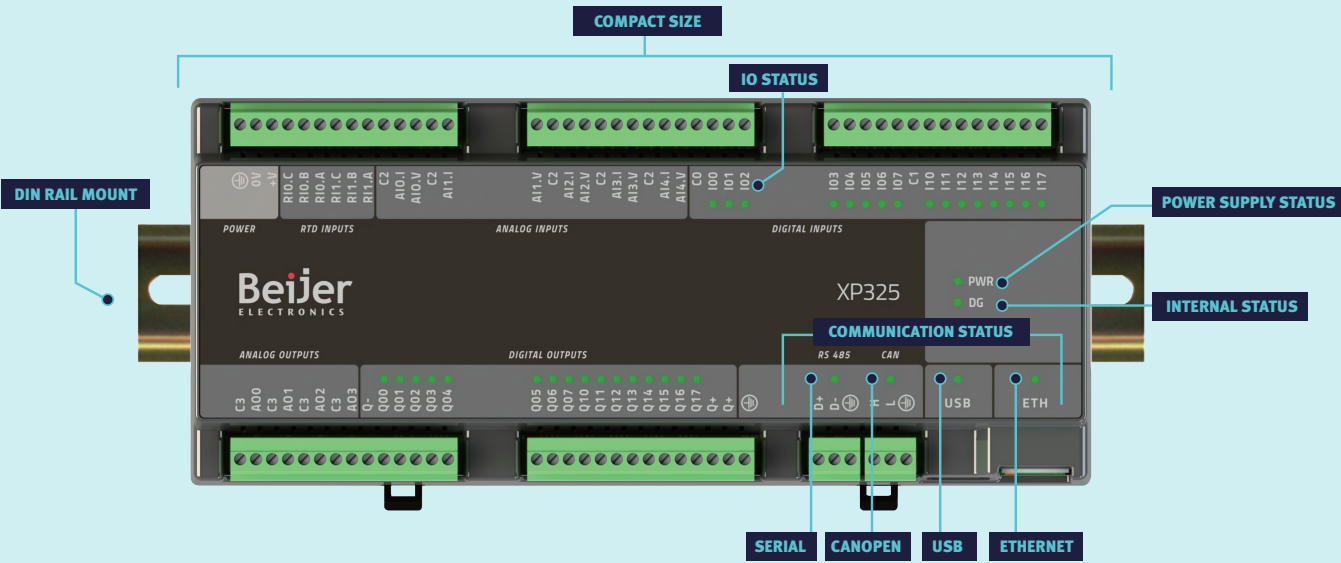Wide range of connectivity options using standard industrial protocols.

Built-in high speed I/O for precise machine control.

Interface with other equipment via integrated CAN bus.

▸ **For detailed technical information, please visit :**
www.beijerelectronics.tw/zh-TW/Products/Control___systems/Compact___controller

Features	XP300	XP315	XP325	XP340
Digital inputs (DI)	16	16	16	16
Digital outputs (DO)	16	16	16	16
Analog inputs (12-bit resolution) ▸ 0 to 10 V ▸ 0 to 20 mA, 4 to 20 mA	-	5	5	5
RTD inputs ▸ Pt100, Pt1000 ▸ Liner: 0 to 400 Ω		2	2	2
Analog outputs (12-bit resolution) ▸ 0 to 10 V ▸ 0 to 20 mA, 4 to 20 mA	-	-	4	4
Ethernet TCP/IP interface ▸ Modbus/TCP ▸ OPC UA ▸ ARTI	1	1	1	1
Serial interface ▸ Modbus RTU	1	1	1	1
CAN interface ▸ CANopen Master/Slave ▸ CAN Low Level	1	1	1	1
Webserver to XP340	-	-	-	1
USB interface	1	1	1	1

Nexto full series

Nexto has a long history in controllers in the high-end medium and large applications. These controllers, known as the Nexto Series, feature:

▸ **Hot-swapping**

▸ **Conformal coating**

▸ **Superior diagnostics**

▸ **Enhanced I/O modules**

▸ **Redundancy of communication, modules and field buses**

Reliable

Industrial strength hardware, intuitive software, all-in-one dependability

- Redundancy at numerous levels
- All modules support hot-swap
- One-touch diagnosis
- Remote access diagnosis
- IP protection and login password

Scalable

Fast, high-performance automation control that's easy to integrate

- High-performance open architecture
- EtherCAT-based backplane
- High connectivity via EtherCAT, Ethernet/IP, PROFIBUS DP, IEC104 and Modbus RTU/TCP
- Optimum automation regardless of system size
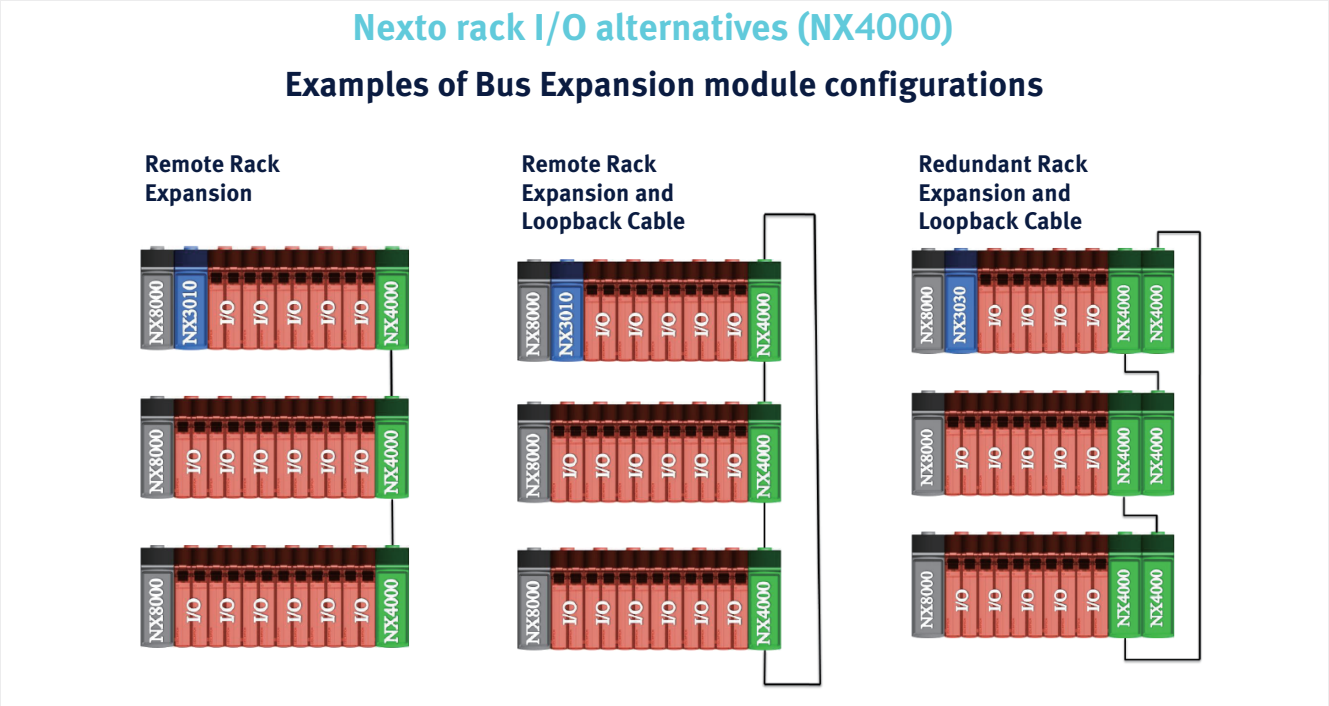- Expandable by up to 24 remote racks without loss of performance
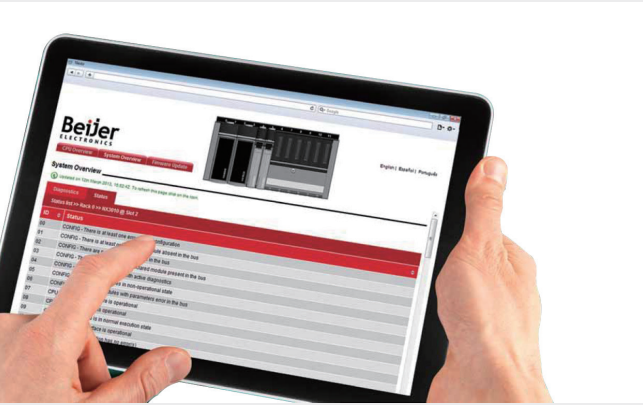
Flexible

CODESYS-based software, innovative functionality, does-it-all efficiency

- CODESYS-based software
- Onboard full-documentation
- Online/offline simulation
- All modules support hot-swap

Nexto series

Nexto rack I/O alternatives (NX4000)

Examples of Bus Expansion module configurations

Remote Rack Expansion

Remote Rack Expansion and Loopback Cable

Redundant Rack Expansion and Loopback Cable

Nexto product overview

Racks

- NX9000 - 8-slot backplane rack
- NX9001 - 12-slot backplane rack
- NX9002 - 16-slot backplane rack
- NX9003 - 24-slot backplane rack
- NX9010 - 8-Slot backplane rack (No Hot Swap)
- NX9020 - 2-Slot base for panel assembly

Power supply modules

- NX8000 - 30 W 24 VDC power supply module

CPUs – central processing units

- NX3003- "slim with built in I/O"
- NX3004 - "Compact"
- NX3005 - "Webserver"
- NX3010 - "Small"
- NX3020 - "Medium"
- NX3030 - "Redundancy"
- NX3810 - Safety CPU SIL3, PROFIsafe

Special modules

- NX4000 - bus expansion module
- NX4010 - redundancy link module

Fieldbus interfaces

- NX5000 - Ethernet Modbus /TCP module
- NX5001 - PROFIBUS-DP Master
- NX5110 - PROFIBUS-DP Slave
- NX5210 - PROFIBUS-DP Redundant Slave
- NX5100 - MODBUS TCP Head
- NX5101 - MODBUS TCP Head without hotswap, with 14 digitial inputs and 10 digital outputs

I/O modules

- NX1001 - 24 Vdc 16 DI module
- NX1005 - 24 Vdc 8 DO transistor / 8 DI
- NX1800 - safety DI
- NX2001 - 24 Vdc 16 DO transistor module
- NX2020 - 16 DO relay module
- NX2800 - safety DO
- NX6000 - 8 AI voltage/current module
- NX6010 - 8 AI Thermocouple module
- NX6020 - 4 AI RTD module

- NX6100 - 4 AO voltage/current module
- NJ1001 - 24 Vdc 16 DI module
- NJ1005 - 24 Vdc 8 DO transistor / 8 DI
- NJ2001 - 24 Vdc 16 DO transistor module
- NJ6000 - 8 AI voltage/current module
- NJ6001 - 6 AI voltage/current module – 12-bit
- NJ6005 - 6 AI / 4 AO V/I module – 12-bit
- NJ6010 - 8 AI Thermocouple module
- NJ6011 - 4 AI Thermocouple module
- NJ6020 - 4 AI RTD module
- NJ6100 - 4 AO voltage/current module
- NJ6101 - 4 AO voltage/current module – 12-bit

Accessories

- NX9100 - left/right side rack ends
- NX9102 - rack connector cover

Software

- BCS Tools LITE
- BCS Tools BASIC
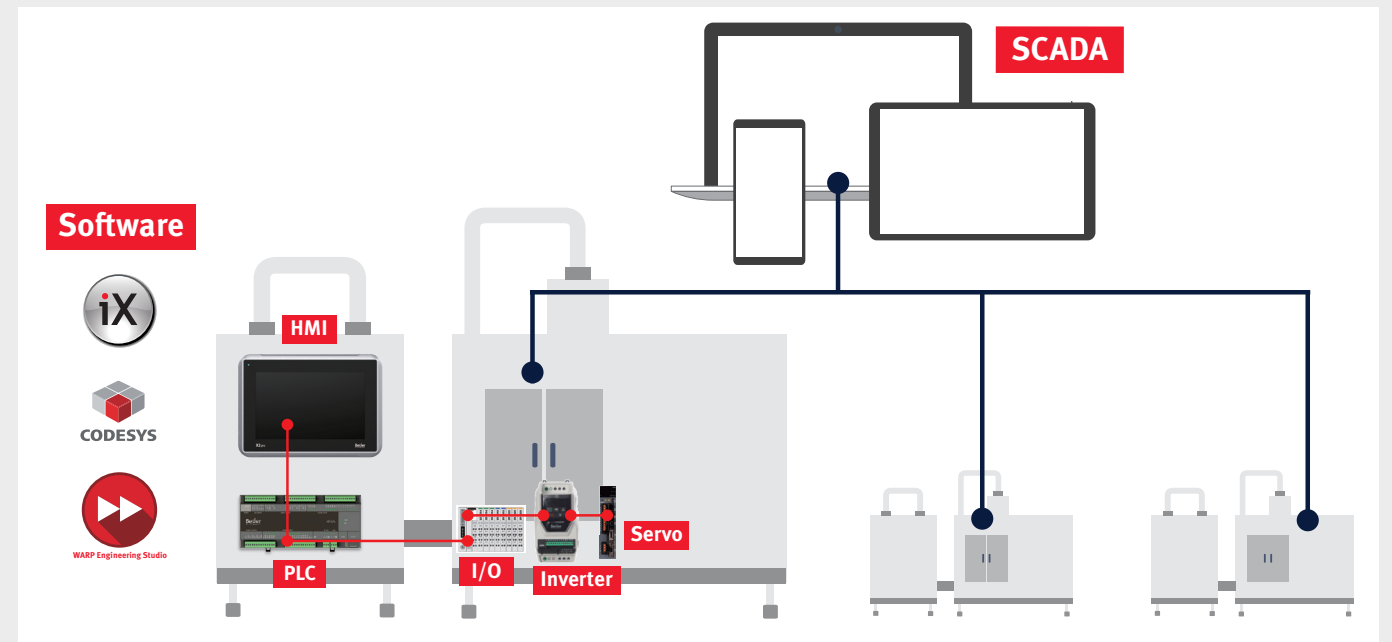- BCS Tools PROFESSIONAL
- BCS Tools ADVANCED

Automation solutions

Our small to large automation solutions solve automation needs in targeted industries. SCADA, HMIs, CODESYS, PLCs, motion, control, I/O are enablers to solve the needs our customers have, by using WARP Engineering Studio to shorten the time to market and reduce complexity.

Product offering

Software

iX software
The iX software gives you smart communication tools. It combines top-class vector graphics and easy-to-use functions that provide reliable operation, and almost limitless connectivity to your other equipment.

Connect to all automation brands
An extensive driver list enables communication with your PLC and other equipment from all major brands. Share data and have safe control of complex systems, even over long distances. Transfer files and control panels remotely with FTP and VNC.
Functionality for advanced users
Beijer Electronics HMI has support for .NET technology,providing options for advanced developers to design specialized functionality. Use C# scripting or .NET components. Extend the application with CODESYS SoftControl and SoftMotion, boosted by EtherCAT communication.

CODESYS control
Then high performance version offers integrated CODESYS PLC functionality running on dedicated CPU cores for safe and fast program execution. Just add remote I/Os for a scalable, cost-effective solution.

Advantages of CODESYS control
• Fully integrated development system
• Fully adaptable to your system's requirements
• Can be embedded in virtually any system
• Select CPU platform, operating system or manufacturer of device
• Powerful with integrated compilers, object-oriented programming, alarm management and add-ons such as UML/SYN integration

Fast forward engineering
Create integrated HMI, control, drives and data communication solutions with WARP Engineering Studio. WARP automatically configures all hardware, software and communication in your application. What used to take days to set up, can be up and running in a few minutes.
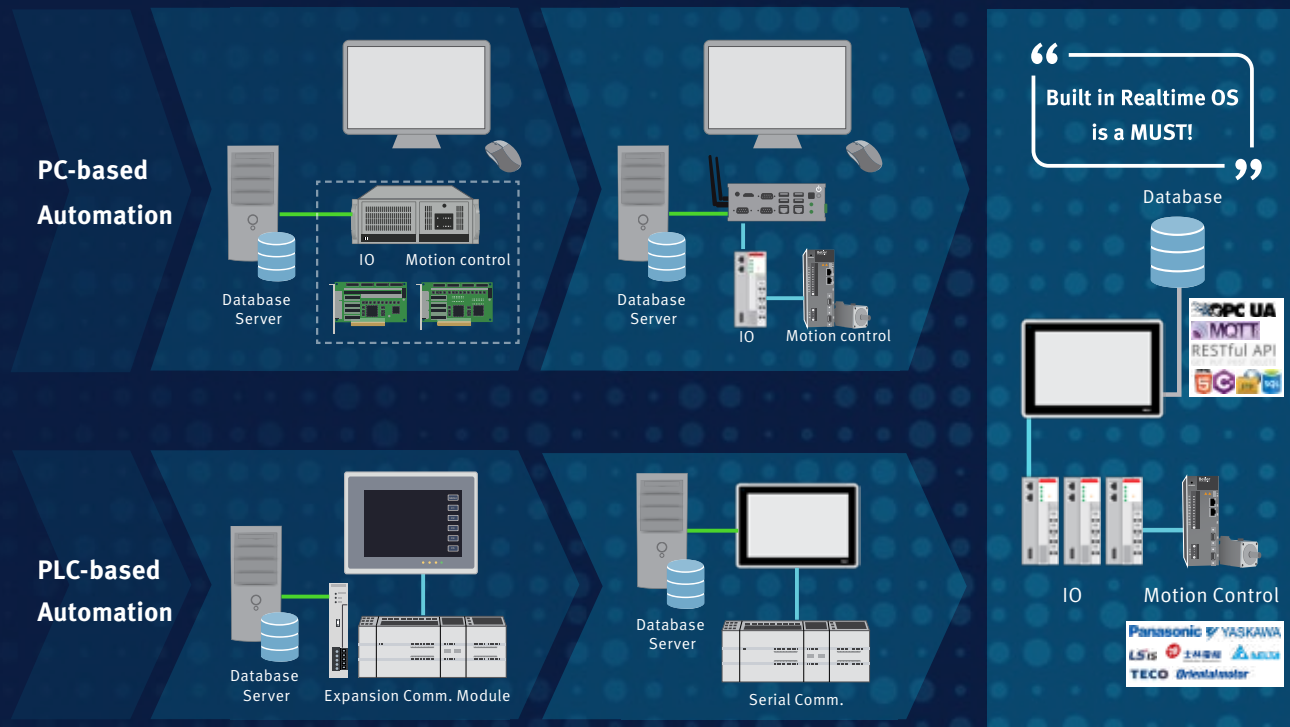
Features
• Seamless integration of Beijer Electronics products.
• Structured and integrated workflow with drag & drop.
• Auto-configuration of all hardware, software and communication settings.
• Simply draw lines to interconnect devices.
• Avoid mistakes and work failsafe with auto-resolve.
• Access all individual application program editors automatically.
• Smart objects with embedded functionality such as PLC code.
• Easy distribution, backup and recovery of projects.
• Shortcuts to important documentation.
• Generate bill of material for simplified purchase.

CoDeSys-based Edge Controllers

BeiJer
People & Technology. Connected.

CODESYS

BeiJer
ELECTRONICS
People & Technology. Connected.

Controller with real-time OS

becomes the mainstream

PC-based Automation

Database Server

IO   Motion control

Database Server

IO   Motion control

PLC-based Automation

Database Server

Expansion Comm. Module

Database Server

Serial Comm.

" Built in Realtime OS is a MUST! "

Database

OPC UA
MQTT
RESTful API

IO   Motion Control

Panasonic YASKAWA
LSis 士林電機 MELISO
TECO Orientalmotor

Powerful CoDeSys control

The leading hardware-independent IEC 61131-3 development tool on the market. Fast program execution combined with generous program memory and CoDeSys's large instruction set means you can create complex projects that would otherwise require a modular PLC system. This makes the distributed CoDeSys controller a perfect choice for OEMs, machine builders and for other industrial applications. Millions of CoDeSys-compatible single devices, over 1,000 different device types from more than 400 manufacturers, and tens of thousands of CoDeSys end users across the globe all prove that CoDeSys is the leading manufacturer-independent IEC 61131-3 programming tool. This will allow users to develop applications and choose the hardware vendor freely, reducing its engineering and training needs.

IEC61131-3 FEATURES

ENGINEERING FEATURES

- Online debugging and monitoring
- Online changes
- Offline simulating
- Symbolic variables
- Easy hardware configuration
- System diagnostics
- Global variable lists

BACKUP FEATURES

- Source code memory area

The industrial IOT Landscape

CoDeSys-based edge controller

▸ Same IIoT gateway or edge computing function but with more higher reliability
▸ Compact solution to save the space inside the control cabinet

Enter-prise

Cloud platforms   IT

Edge platforms   IT

IIoT gateways   OT

IIoT endpoints   OT

CODESYS
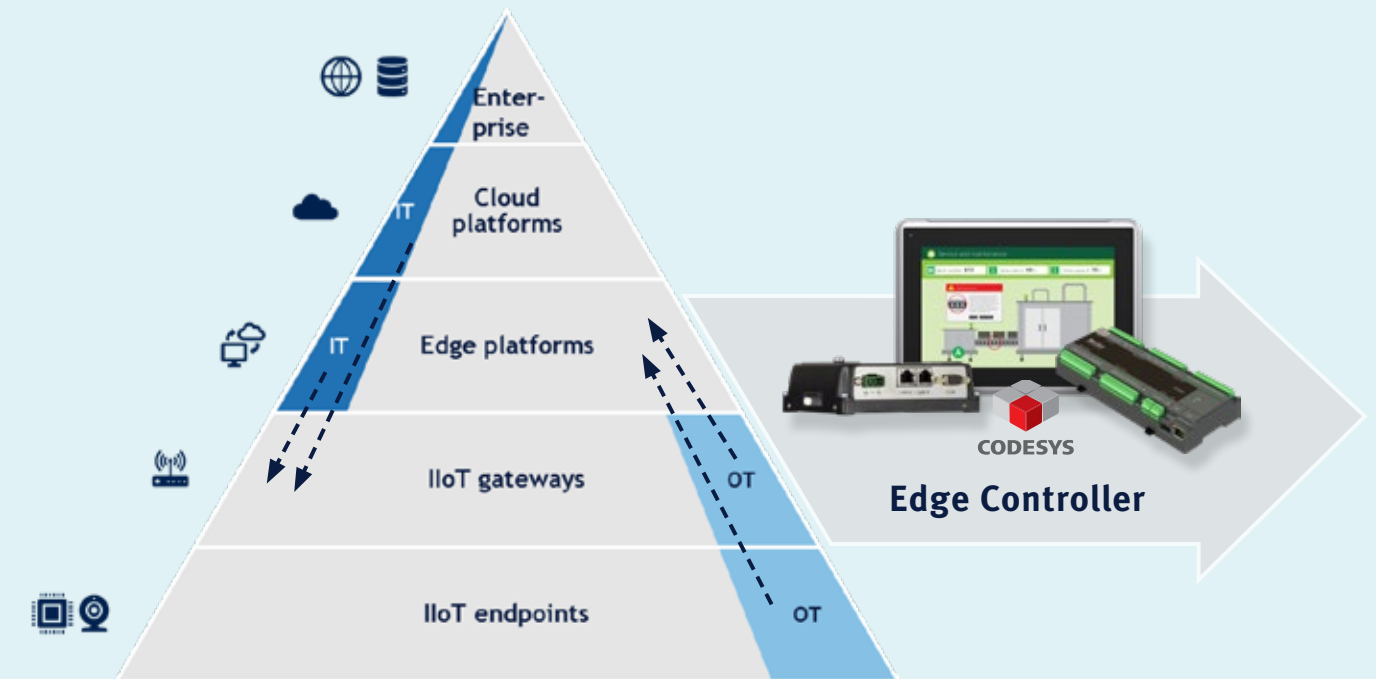
Edge Controller

What we offer to you

X2 control   **IIoT gateway**   **Modular Controller**   **Compact controller**   **Remote I/O**

X2 control

X2 control panels combine industrial HMI and CoDeSys PLC functionality in the same compact hardware. Add standard distributed I/Os and you'll get an elegant, scalable and cost-effective solution that's cutting-edge.

Features

- A cost-efficient solution for medium to large sized HMI applications
- Display sizes 4, 7, 10, 12 and 15"
- High performance CPUs
- Communition with I/Os via high-speed EtherCAT fieldbus or Modbus
- The latest screen technology; LED backlight for clear screens with wide viewing angles
- Fast mounting and slim hardware dimensions for easy installation
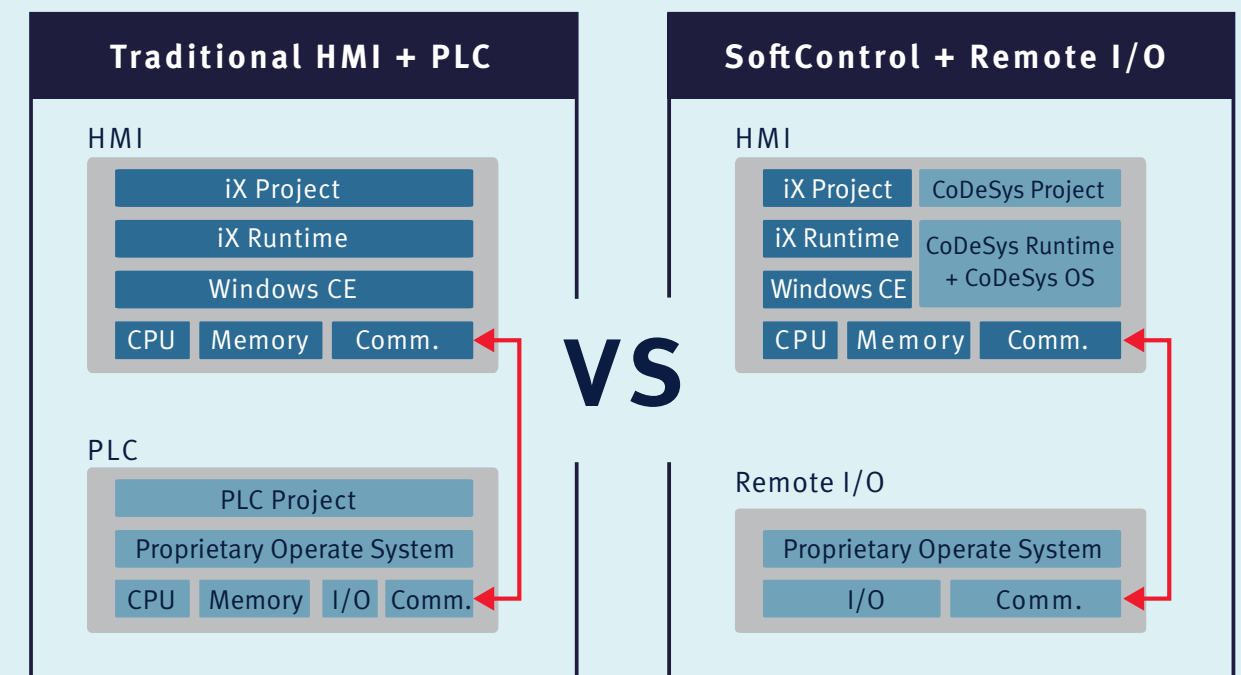- Marine Certified
- Dedicated SRAM for retain variables

Why unify PLC and HMI?

- Microprocessors of today can manage the operator interface tasks and the control logic from one single device
- Combined with standard modern remote I/Os, X2 Control provides an elegant, scalable and cost-effective all-in-one solution
- The EtherCAT technology is designed for speed - fully Ethernet-compatible and truly open
- Unifying HMI and soft control means:

  Reduced cost by eliminating components and wiring

  Less space required and improved operation by centralizing remote access and administration

Traditional HMI + PLC

HMI
- iX Project
- iX Runtime
- Windows CE
- CPU | Memory | Comm.

PLC
- PLC Project
- Proprietary Operate System
- CPU | Memory | I/O | Comm.

VS

SoftControl + Remote I/O

HMI
- iX Project | CoDeSys Project
- iX Runtime | CoDeSys Runtime + CoDeSys OS
- Windows CE
- CPU | Memory | Comm.

Remote I/O
- Proprietary Operate System
- I/O | Comm.

BoX2 control

Clever connectivity. Smarter functions.

BoX2 is a series of IoT gateways offering clever connectivity and the possibility to add optional smart functions. BoX2 series gateways enable customers to create high-technological modern solutions for essential application requirements in the industry.

Features

Smarter functions
Add smarter functions such as local data base storage, alarm servers, data exchange, reporting, C# scripting, etc. via the iX software.

Drivers for all major brands
BoX2 can access all data hidden in your machines or facility through more than 75 PLC driver families from all leading controller brands.

Safe storage, access and administration
Beijer cloud is hosted on Microsoft Azure with administration of organization, user, devices, device groups, cloud tags and roles via WARP.

Secure all the way
BoX2 has a traceable unique identity used to identify the device in the cloud. BoX2 devices are never visible on the public internet.

Connect to ERP systems, analytic tools, etc.
BoX2 supports OPC UA, a communication protocol designed to connect ERP systems, analytic tools, etc. with real-world data.

Easy configuration with WARP
Create integrated solutions with WARP Engineering Studio and configure all hardware, software and communication in a few minutes.

Powerful local logic control
Fully integrated IEC 61131-3 development tool with integrated compilers, object-oriented programming, alarm management, add-ons, etc.

Cross-platform mobile applications
HTML5 appears the same across all platforms and browsers, simplifying coding and is faster and more adaptive.

Control everything from one device

BoX2 enables you to perform powerful local logic control. CoDeSys is a fully integrated development system. Complete with integrated compilers, object-oriented programming, alarm management and add-ons such as UML/SYN integration. CoDeSys can be embedded in virtually any system offering code transparency between systems.
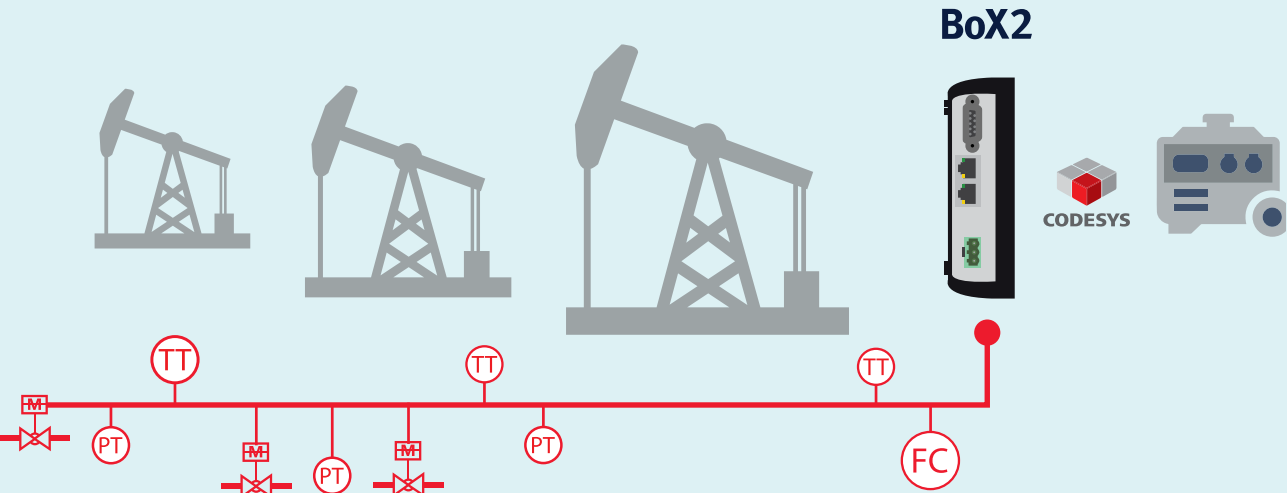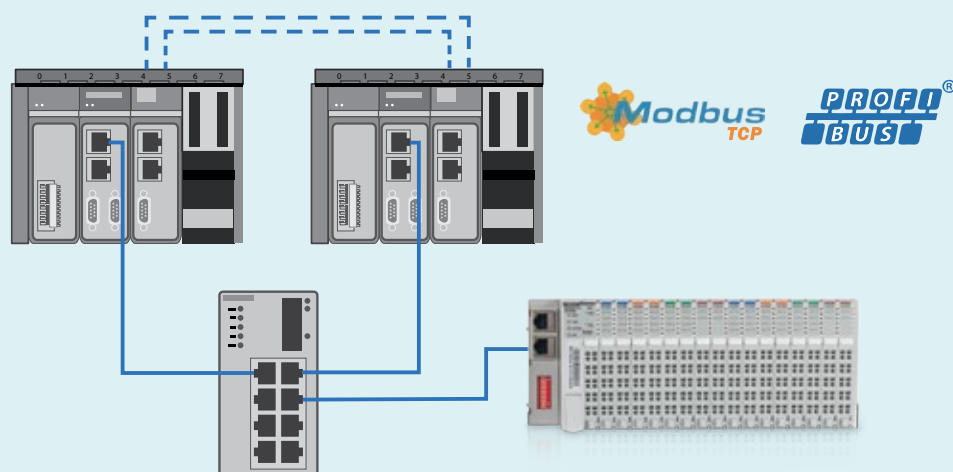
Nexto

Scalable, modular Controller empowers you with complete control

> **Reliable** – complete solution for non-stop automation
> **Scalable** – from small to big applications
> **Efficient** – CoDeSys do the job

▶ **The Nexto modular Controller brings you the next generation of programmable controllers, where technique is designed to complement you**

▶ **Nexto delivers premium reliability and connectivity**

▶ **There's an integrated programming environment along with cutting-edge technology supplying hot-swap functionality**

▶ **In addition, Nexto features one-touch diagnostics with clear and bright LCD display**

CPU redundant Architecture

Nexto product overview

Racks
NX9000 - 8-slot backplane rack
NX9001 - 12-slot backplane rack
NX9002 - 16-slot backplane rack
NX9003 - 24-slot backplane rack
NX9010 - 8-Slot backplane rack (No Hot Swap)
NX9020 - 2-Slot base for panel assembly

Power supply modules
NX8000 - 30 W 24 VDC power supply module

CPUs – central processing units
NX3003 - "slim with built in I/O"
NX3004 - "Compact"
NX3005 - "Webserver"
NX3010 - "Small"
NX3020 - "Medium"
NX3030 - "Redundancy"
NX3810 - Safety CPU SIL3, PROFIsafe

Special modules
NX4000 - bus expansion module
NX4010 - redundancy link module

Fieldbus interfaces
NX5000 - Ethernet Modbus /TCP module
NX5001 - PROFIBUS-DP Master
NX5110 - PROFIBUS-DP Slave
NX5210 - PROFIBUS-DP Redundant Slave
NX5100 - MODBUS TCP Head
NX5101 - MODBUS TCP Head without hotswap,
          with 14 digitial inputs and 10 digital outputs

I/O modules
NX1001 - 24 Vdc 16 DI module
NX1005 - 24 Vdc 8 DO transistor / 8 DI
NX1800 - safety DI
NX2001 - 24 Vdc 16 DO transistor module
NX2020 - 16 DO relay module
NX2800 - safety DO
NX6000 - 8 AI voltage/current module
NX6010 - 8 AI Thermocouple module
NX6020 - 4 AI RTD module
NX6100 - 4 AO voltage/current module
NJ1001 - 24 Vdc 16 DI module
NJ1005 - 24 Vdc 8 DO transistor / 8 DI
NJ2001 - 24 Vdc 16 DO transistor module
NJ6000 - 8 AI voltage/current module
NJ6001 - 6 AI voltage/current module – 12-bit
NJ6005 - 6 AI / 4 AO V/I module – 12-bit
NJ6010 - 8 AI Thermocouple module
NJ6011 - 4 AI Thermocouple module
NJ6020 - 4 AI RTD module
NJ6100 - 4 AO voltage/current module
NJ6101 - 4 AO voltage/current module – 12-bit

Accessories
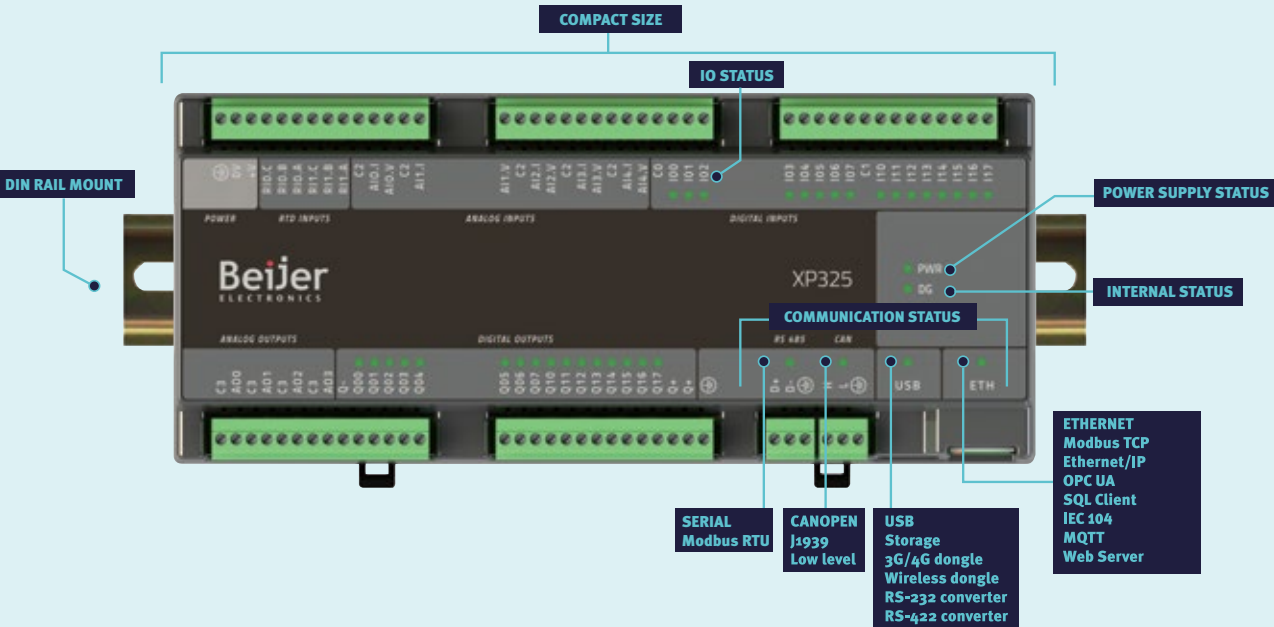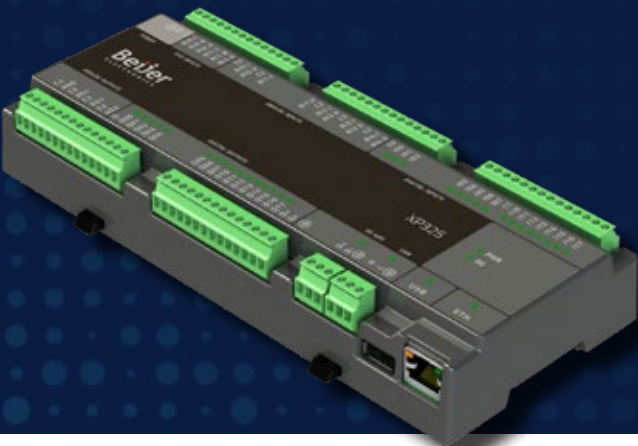NX9100 - left/right side rack ends
NX9102 - rack connector cover

Software
BCS Tools LITE
BCS Tools BASIC
BCS Tools PROFESSIONAL
BCS Tools ADVANCED

Nexto Xpress series

Nexto Xpress compact controllers with embedded IOs are the perfect match for smaller and medium sized control applications.

Why choose Nexto Xpress ?

Industry 4.0 ready by connectivity via OPC UA, MQTT & Microsoft SQL client.

Cost-efficient in a compact format offering the perfect mix of digital and analog I/Os.

Perfect within machinery, building automation, water and waste water, infrastructure, etc.

Same powerful CoDeSys programming environment for all Nexto controllers.

Expandable with additional Xpress units, G series or Nexto Jet series remote I/O.

Wide range of connectivity options using standard industrial protocols.

Built-in high speed I/O for precise machine control.

Interface with other equipment via integrated CAN bus.

Functions	XP300	XP315	XP325	XP340
Digital inputs (DI) /outputs (DO)				
Inputs (DI)	16	16	16	16
Outputs (DO)	16	16	16	16
Analog inputs (12-bit resolution)				
0 to 10 V	N/A	5	5	5
0 to 20 mA, 4 to 20 mA	N/A	5	5	5
RTD inputs				
Pt100, Pt1000	N/A	2	2	2
Liner: 0 to 400 Ω	N/A	2	2	2
Analog onputs (12-bit resolution)				
0 to 10 V	N/A	N/A	4	4
0 to 20 mA, 4 to 20 mA	N/A	N/A	4	4
Ethernet TCP/IP interface				
Webserver	N/A	N/A	N/A	YES
IEC104	N/A	N/A	N/A	YES
OPC UA/DA server				
ARTI				
SQL Client				
Modbus/TCP	YES	YES	YES	YES
MQTT				
Ethernet IP (scanner)				
SNTP Client				
SNMP Agent (Ethernet Network Managment)				
Serial interface				
Modbus RTU	YES	YES	YES	YES
CAN interface				
CANopen Master/Slave				
CAN Low Level	YES	YES	YES	YES
J1939 (extra license fee needed)				
USB interface				
Storage				
3G/4G dongle	YES	YES	YES	YES
Wireless dongle				

# Distributed IO for smart solutions and CODESYS control

The G series distributed IOs provide you with supreme field and bus connectivity for smart integrated solutions through a wide range of digital, analog and special modules for almost any signal type.

Communicate effectively with overlying systems or other equipment via widely used communication protocols by combining slice I/Os with a network adapter module to match your requirements.

Whatever configuration you choose you can easily advance to a powerful distributed CODESYS control solution. G series CODESYS controller modules support MODBUS TCP and RTU protocols. And with the powerful CODESYS software platform you´ll enjoy program speed every bit as fast as the classic PLC.

The G series conforms to CE, UL and FCC standards making it suitable for tough industrial applications anywhere.

Using WARP Engineering Studio, you can configure IO nodes and create smart integrated solutions utilizing the full scope of the G series in combination with other Beijer Electronics products.
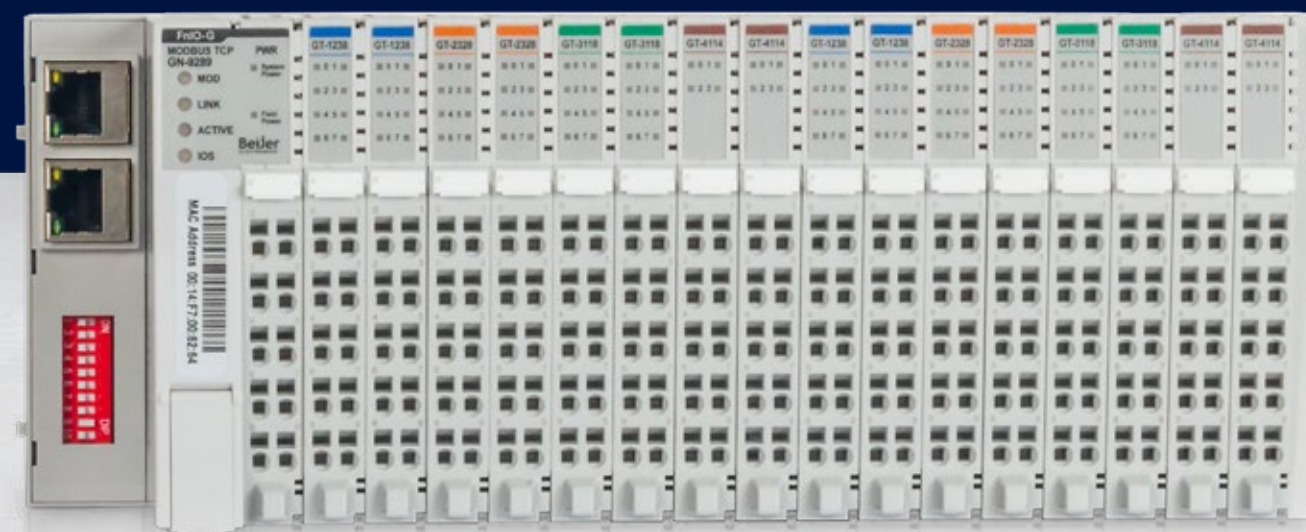
Full connectivity

Communicate effectively with other equipment or systems via widely used industrial communication protocols. G series network adapters offer Ethernet interface as a programming port.

Fully certified

The G series conforms to CE, UL and FCC standards making it suitable for tough industrial applications anywhere.

Advance to CODESYS control

Upgrade your distributed IO solution to an advanced CODESYS control solution simply by replacing the standard network adapter with a CODESYS controller module.
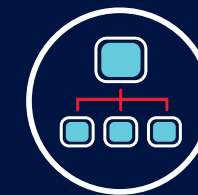
Plug in, plug out

The IO modules feature removable terminal blocks (RTB). Unplug the RTB, release the DIN rail lock and slide off the module you want to exchange. Insert the new one, lock – and plugin the RTB with all wiring fixed. Done.
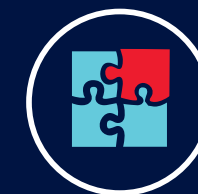
Build to size

Build your system to the exact size, specifications and IO signals for your needs. An IO node can be expanded from just a few slices up to 63 slices when needed.

Integrated solutions

The G series perfectly complements our range of hardware and software products enabling you to create integrated solutions and control, connect and present data.

G series for extended performance

The G series offers better performance than standard IOs. Higher IO and network scan frequency and a wide range of industrial certifications lets you operate safely in tough industrial applications.

Mix and match to your specific needs

Connect to everything, from digital and analog input and output, to special IO signals like high-speed IOs, temperature and communication IOs.

Get the building blocks you need for the exact functionality you want. Start with a compact network adapter and add slice IO modules to fit your requirements. Easily design and configure your IO installation in WARP Engineering Studio.

Your requirements, your choice.

All modules are color-coded to make them easy to identify. Here is an overview of the modules available:

Network adapter modules

Part no.	Type no.	Description	Replaces *1
100-8016	GN-9273	Modbus RTU network adapter, 128 bytes input and 128 bytes output, max 63 slices	NA-9173/9473
100-8015	GN-9289	Modbus TCP network adapter, 128 bytes input and 128 bytes output, max 63 slices	NA-9289
100-8017	GN-9386	EtherCAT network adapter, 128 bytes input and 128 bytes output, max 63 slices	NA-9286
100-8060	GN-9261	CANopen network adapter, 252 bytes input and 252 bytes output, max 63 slices	NA-9261
100-8061	GN-9222	PROFIBUS DP/V1 network adapter, 244 bytes input/244 bytes output, max 63 slices	NA-9222

CODESYS controller module

Part no.	Type no.	Description	Replaces *1
100-8018	GN-9372	Programmable I/O with CODESYS, 16Mb application memory, file system, Modbus RTU/TCP master/slave, up to 63 slices	NA-9372 NA-9373

Digital input modules

Part no.	Type no.	Description	Replaces *1
100-8000	GT-1238	8 digital input (24VDC), sink/source, cage clamp, 10pt removable terminal	ST-1228
100-8064	GT-12DF	16 digital input (24VDC), sink/source, cage clamp, 18pt removable connector, height 109 mm	N/A (new)
100-8003	GT-1804	4 digital input (120VAC), cage clamp, 10pt removable terminal	ST-1804
100-8004	GT-1904	4 digital input (240VAC), cage clamp, 10pt removable terminal	ST-1904

Digital output modules

Part no.	Type no.	Description	Replaces *1
100-8005	GT-2318	8 digital output (24VDC/0.5A), sink, cage clamp, 10pt removable terminal	ST-2318
100-8006	GT-2328	8 digital output (24VDC/0.5A), source, cage clamp, 10pt removable terminal	ST-2328
100-8007	GT-2618	8 digital output (24VDC/2A), sink, cage clamp, 10pt removable terminal	ST-2618
100-8008	GT-2628	8 digital output, (24VDC/2A), source, cage clamp, 10pt removable terminal	ST-2628
100-8010	GT-2744	4 digital output relay (24VDC/2A, 240VAC/2A), cage clamp, 10pt removable terminal	ST-2744
100-8065	GT-225F	16 digital output (24VDC/0.3A), sink, cage clamp, 18pt removable terminal, height 109mm	N/A (new)
100-8066	GT-226F	16 digital output, (24VDC/0.3A), source, cage clamp, 18pt removable terminal, height 109mm	N/A (new)

Analog input modules

Part no.	Type no.	Description	Replaces *1
100-8067	GT-3114	4 analog input (0~20/4~20mA), 12bit resolution, cage clamp, 10pt removable terminal	ST-3114
100-8036	GT-3118	8 analog input (0~20/4~20mA), 12bit resolution, cage clamp, 10pt removable terminal	ST-3118
100-8068	GT-3424	4 analog input (0~10/0~5/1~5 V), 12bit resolution, cage clamp, 10pt removable terminal	ST-3424
100-8038	GT-3428	8 analog input (0~10/0~5/1~5 V), 12bit resolution, cage clamp, 10pt removable terminal	ST-3428
100-8040	GT-3704	4 analog input RTD (PT100/PT1000/Ni1000LG), 16bit resolution, cage clamp, 10pt removable terminal	ST-3704
100-8041	GT-3708	8 analog input RTD (PT100/PT1000/Ni1000LG), 16bit resolution, 20pt connector	ST-3708
100-8044	GT-3804	4 analog input thermocouple (K/J/T/B/R/S/E/N/L/U/C/D), 16bit resolution, cage clamp, 10pt removable terminal	ST-3804
100-8048	GT-3914	4 analog input differential current (0~20/4~20/-20~20mA), 12bit resolution, cage clamp, 10pt removable terminal	N/A (new)
100-8049	GT-3924	4 analog input differential voltage (0~10/0~5/-10~10/-5~5V), 12bit resolution, cage clamp, 10pt removable terminal	N/A (new)

Analog output modules

Part no.	Type no.	Description	Replaces *1
100-8025	GT-4114	4 analog output (0~20mA), 12bit resolution, cage clamp, 10pt removable terminal	ST-4114
100-8026	GT-4118	8 analog output (0~20mA), 12bit resolution, cage clamp, 10pt removable terminal	ST-4114
100-8070	GT-4424	4 analog output (0~10 V), 12bit resolution, cage clamp, 10pt removable terminal	ST-4424
100-8027	GT-4428	8 analog output (0~10 V), 12bit resolution, cage clamp, 10pt removable terminal	ST-4424

Special modules

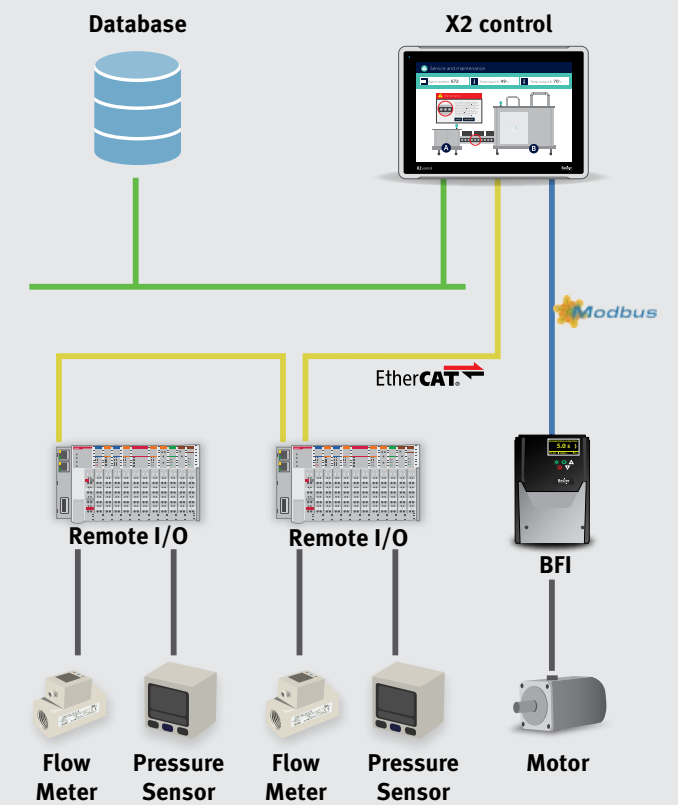| Part no.	Type no.	Description	Replaces *1
100-8030	GT-5112	2 channel high speed counter (up to 100kHz/24 V DC), cage clamp, 10pt removable terminal	ST-5112
100-8033	GT-5221	1 channel serial interface (RS422, 300~115 200bps), cage clamp, 10pt removable terminal	ST-5221
100-8034	GT-5231	1 channel serial interface (RS485, 300~115 200 bps), cage clamp, 10pt removable terminal	ST-5231

Power modules

Part no.	Type no.	Description	Replaces *1
100-8019	GT-7408	Potential distributor module, 8 connections for shield, cage clamp, 10pt removable terminal	ST-7008
100-8020	GT-7508	Potential distributor module, 10 connections for 0V, cage clamp, 10pt removable terminal	ST-7508
100-8021	GT-7511	Power expansion supply module, input 24VDC, output 5VDC/1A, cage clamp, 10pt removable terminal	ST-7511
100-8022	GT-7518	Potential distributor module, 10 connections for 24VDC, cage clamp, 10pt removable terminal	ST-7518
100-8023	GT-7588	Potential distributor module, 5 connections for 0V/5 connections for 24VDC, cage clamp, 10pt removable terminal	ST-7588
100-8024	GT-7641	Field power distribution module, 24/48VDC, 110/220VAC, cage clamp, 10pt removable terminal	ST-7641

CUSTOMER CASE

- The power of iX developer was key. The X2 control 7 has in excess of 70 pages.

- The scaleable elegance of an EtherCAT network. Want more I/O? just drop on another EtherCAT node!

- The larger Chlorine Dioxide Generator system for which they also use Beijer, consists of X2 Control 15 with 5 No. EtherCAT stations and more remote I/O.

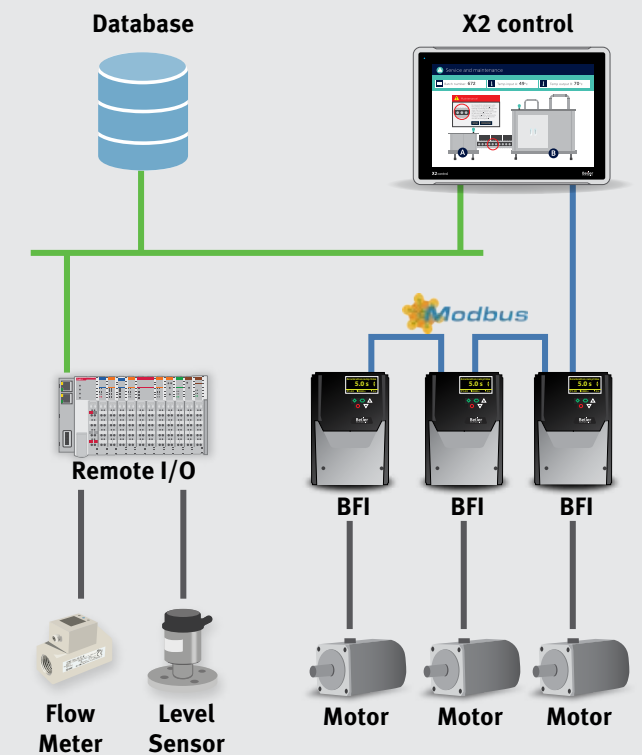- Support commercially and technically we are a cut above the competition.

Database **X2 control**

Modbus

EtherCAT

Remote I/O **Remote I/O** **BFI**

Flow Meter **Pressure Sensor** **Flow Meter** **Pressure Sensor** **Motor**

EtherCAT Station 1

EtherCAT Station 2

EtherCAT Station 3

Chlorine Dioxide Generator

Distributed by Gross Automation | +1 (262) 252-1600. | beijersales@grossautomation.com

Irrigation solution for greenspace management

CUSTOMER CASE

- The customer is one the major irrigation players on the Swedish market.
- Greenspace management – irrigation solution which contains one X2 control, remote I/O and 3 pieces of frequency inverter BFI-H3 15 kW.
- We have a cost effective solution with fantastic functionality by using iX and CoDeSys together with built-in pump functionality of the Frequency inverters.

Database   **X2 control**

Modbus

Remote I/O   **BFI**   **BFI**   **BFI**

Flow Meter   **Level Sensor**   **Motor**   **Motor**   **Motor**

- Applications are Irrigation of golf courses and football fields.

- Optimerar
- Maximerar
- Minimerar

About Beijer Electronics

Beijer Electronics is a multinational, cross-industry innovator that connects people and technologies to optimize processes for business-critical applications. Our offer includes operator communication, automation solutions, digitalization, display solutions and support. As experts in user-friendly software, hardware and services for the Industrial Internet of Things, we empower you to meet your challenges through leading-edge solutions.

Beijer Electronics is a Beijer Group company. Beijer Group has a sale over 1.4 billion SEK in 2018 and is listed on the NASDAQ OMX Nordic Stockholm Small Cap list under the ticker.

Our website : www.beijerelectronics.tw

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