

X2 pro

X2 series

Strong. Stylish. Smart.

Beijer
ELECTRONICS

X2 series

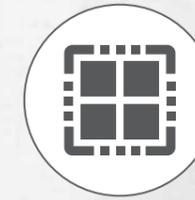
Strong. Stylish. Smart.

The X2 series is the next generation of HMIs from Beijer Electronics. Six product families combine great design with strong performance to power your HMI solutions. Create smart integrated solutions boosted by iX HMI software and WARP Engineering Studio.



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.



Integrated CODESYS control

The X2 series offer integrated CODESYS IEC 61131-3 PLC functionality directly in the panel by multicore processors for fast, safe program execution.



A simple path forward

It's easy to upgrade your existing iX HMI solution to 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 23 models and additional options.

X2 control
Integrated CODESYS control
Available in 4, 7, 10, 12 and 15 inches.

X2 extreme
Rugged HMIs for tough environments
Available in 7, 12 and 15 inches with optional high brightness display, integrated CODESYS PLC functionality and in a fully sealed version.
X2 extreme is scheduled for release in Q2 2017.

X2 pro
High performance HMIs for all automation needs
Available in 4, 7, 10, 12 and 15 inches.



X2 base
Cost-effective, full functionality HMIs
Available in 5, 7 and 10 inches.

X2 marine
Built for life at sea
Available in 7 and 15 inches with optional high brightness display and integrated CODESYS PLC functionality.

X2 motion
Integrated CODESYS motion and control
Available in 4, 7, 10, 12 and 15 inches.



X2 base

Cost-effective, full functionality HMIs

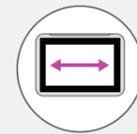
X2 base panels are cost-effective industrial HMIs with high-resolution touch-screens and modern design. The X2 base panels combine IP65 corrosion resistant plastic housing with the full version of the iX software, providing a cost-effective yet advanced HMI solution for small to medium applications.

X2 base panels are available in 5, 7 and 10 inches.



See page 20 for technical data.

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.



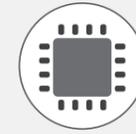
iX software – why you'll love our hardware
The iX software gives you smart communication tools. iX combines top-class vector graphics and easy-to-use functions that provide reliable operation, and almost limitless connectivity to your other equipment.



Fast forward engineering with WARP
Create integrated HMI, control, drives and data communication solutions with WARP Engineering Studio. WARP automatically configures all hardware, software and communication in your application.



Non-branded front
For customers requesting a non-branded HMI solution we offer X2 panels without the family name and Beijer Electronics' logo on the front.



Power efficient ARM9 processors
Power efficient ARM9 processor provides strong performance for small and medium sized applications.



Corrosion resistant IP65 plastic housing
Corrosion resistant plastic housing with IP65 front. Resistant to direct rain, snow or wash-downs, dirt, grime and dust.



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 x USB as standard, securing ample communication with other equipment. 1 x Ethernet, 4 x serial.

X2 pro

High performance HMIs for all automation needs

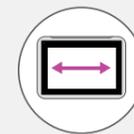
X2 pro includes a range of high performance industrial panels designed for demanding applications. All with the high performance of powerful ARM Cortex-A9 processors, the latest screen technology and a wide range of connectivity options to cover all your automation needs.

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



See page 22-23 for technical data.

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.



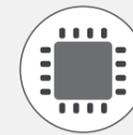
iX software – why you'll love our hardware
The iX software gives you smart communication tools. iX combines top-class vector graphics and easy-to-use functions that provide reliable operation, and almost limitless connectivity to your other equipment.



Fast forward engineering with WARP
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Non-branded front
For customers requesting a non-branded HMI solution we offer X2 panels without the family name and Beijer Electronics' logo on the front.



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.



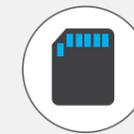
Wide operating temperature -10°C to +60°C
The wide -10°C to +60°C operating temperature range satisfies the demands of most industries.



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



CiX CAN, Profibus and MPI module
It's easy to interface with controllers using 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 marine

Built for life at sea

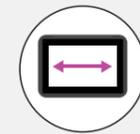
X2 marine offers user-friendly, reliable operation offshore, on ships and in other maritime applications. With black frame and nautical society certifications, X2 marine panels are suitable for mounting on the bridge, in the engine room and inside cabins. X2 marine panels are available with optional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



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.



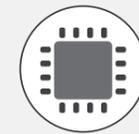
iX software – why you'll love our hardware
The iX software gives you smart communication tools. iX combines top-class vector graphics and easy-to-use functions that provide reliable operation, and almost limitless connectivity to your other equipment.



Fast forward engineering with WARP
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Non-branded front
For customers requesting a non-branded HMI solution we offer X2 panels without the family name and Beijer Electronics' logo on the front.



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.



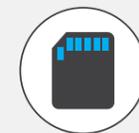
Wide operating temperature -10°C to +60°C
The wide -10° to +60°C operating temperature range satisfies the demands of most industries.



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



CiX CAN, Profibus and MPI module
It's easy to interface with controllers using 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.



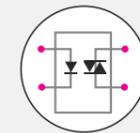
Dimmable backlight
Comfortable and safe operation in high and low ambient light. Backlight is continuously dimmable to less than one cd/m².



High brightness display
Optional 1,000 cd/m² backlight provides excellent readability in high ambient light levels such as sunlight.



Add control by CODESYS
Choose optional IEC 61131-3 PLC functionality by CODESYS, running on dedicated CPU cores for safe and fast program execution. 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

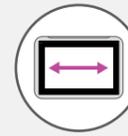
X2 control panels combine industrial HMI and CODESYS PLC functionality in the same compact hardware. Panels range from ultra-compact 4-inch to 15-inch panels designed for demanding applications. Add standard distributed I/Os and you'll get an elegant, scalable and cost-effective solution that's cutting-edge.

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



See page 24-25 for technical data.

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.



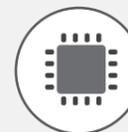
iX software – why you'll love our hardware
The iX software gives you smart communication tools. iX combines top-class vector graphics and easy-to-use functions that provide reliable operation, and almost limitless connectivity to your other equipment.



Fast forward engineering with WARP
Create integrated HMI, control, drives and data communication solutions with WARP Engineering Studio. WARP automatically configures all hardware, software and communication in your application.



Non-branded front
For customers requesting a non-branded HMI solution we offer X2 panels without the family name and Beijer Electronics' logo on the front.



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 -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.



Can CAN, Profibus and MPI module
It's easy to interface with controllers using 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.



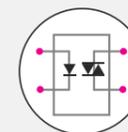
2 Ethernet ports as standard
Panels have two built-in Ethernet ports as standard for communication with other equipment.



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



Control by CODESYS
Integrated IEC 61131-3 PLC functionality by CODESYS, running on dedicated CPU cores for safe and fast program execution. 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 motion

Integrated CODESYS motion and control

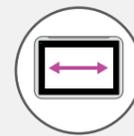
X2 motion panels deliver intuitive HMI with integrated CODESYS motion and PLC functionality in the same compact hardware. Panels range from ultra-compact 4-inch to 15-inch panels designed for demanding applications. Our lean yet powerful hardware with super-fast EtherCAT communication provides the speed you want with the stability you need.

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



See page 26-27 for technical data.

Features X2 motion



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.



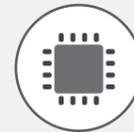
iX software – why you'll love our hardware
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Fast forward engineering with WARP
Create integrated HMI, control, drives and data communication solutions with WARP Engineering Studio. WARP automatically configures all hardware, software and communication in your application.



Non-branded front
For customers requesting a non-branded HMI solution we offer X2 panels without the family name and Beijer Electronics' logo on the front.



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 -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.



CiX CAN, Profibus and MPI module
It's easy to interface with controllers using 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.



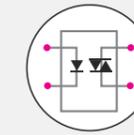
2 Ethernet ports as standard
Panels have two built-in Ethernet ports as standard for communication with other equipment.



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



Motion and control by CODESYS
Integrated CODESYS motion and IEC 61131-3 PLC functionality running on dedicated CPU cores for safe and fast program execution. Connect directly to a BSD servo drive and add 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/motion in the panel. Add BSD servo drives and remote I/Os to fit your needs, and take advantage of the super-fast EtherCAT communication.



Get a head start
You're off to a flying start with our ready-made template project which sets up all the basic settings for iX and CODESYS. Download the project, adapt it to your application and you're good to go.



Servo drives and motors fitting seamlessly
Our servo drives and motors give you great functions such as auto detect of motor and encoder, online auto tuning, advanced filters, open high-speed EtherCAT network, safe torque-off, etc.

X2 extreme

Rugged HMIs for tough environments

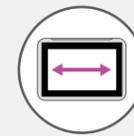
X2 extreme panels are certified by all major classification societies. Designed to perform in rugged marine environments and in hazardous areas where gases, vapors and dust are present. Extended environmental capabilities include operating temperatures from -30°C to +70°C, high vibrations and high-pressure wash-downs. X2 extreme panels are available with optional high brightness display, integrated CODESYS PLC functionality and in a fully sealed version.

X2 extreme panels are available in 7, 12 and 15 inches, all in 3 versions. A standard version, a high performance version with high brightness display and integrated CODESYS PLC functionality, and a fully sealed version.



See page 28-29 for technical data.

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.



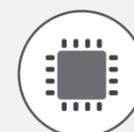
iX software – why you'll love our hardware
The iX software gives you smart communication tools. iX combines top-class vector graphics and easy-to-use functions that provide reliable operation, and almost limitless connectivity to your other equipment.



Fast forward engineering with WARP
Create integrated HMI, control, drives and data communication solutions with WARP Engineering Studio. WARP automatically configures all hardware, software and communication in your application.



Non-branded front
For customers requesting a non-branded HMI solution we offer X2 panels without the family name and Beijer Electronics logo on the front.



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, NEMA 4X/12 and UL Type 4X/12 front. Resistant to direct rain, snow or high-pressure wash-downs, dirt, grime and dust.



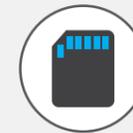
Extreme operating temperature -30°C to +70°C
Extreme -30°C to +70°C operating temperature range guarantees trouble-free use in the harshest environments.



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



Integrated CiX CAN bus
It's easy to interface with controllers using the integrated CiX 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 less than one cd/m².



High brightness display
The high performance version features 1,000 cd/m² backlight providing excellent readability in high ambient light levels such as sunlight.



Add control by CODESYS
The high performance version offers integrated CODESYS IEC 61131-3 PLC functionality running on dedicated CPU cores for safe and fast program execution. 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.



Extensive testing
We perform extensive testing to ensure our panels meet high environmental standards and guarantee reliable operation in challenging environments.



Fully sealed version
A fully sealed version for all sizes holds IP66, NEMA 4X/12 and UL Type 4X/12 ingress protection rating for the entire product. Equipped with M12 connectors, X2 extreme conforms to ATEX Zone 2 and ATEX Zone 22 certification.

X2 extreme is scheduled for release in Q2 2017. Please refer to www.beijerelectronics.com for our current range of rugged HMIs.

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 SQL, FTP, OPC and web.

Connect to all automation brands

An extensive driver list of more than 70 drivers enables communication with 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.

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 or HMI screens
- 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, HMI screens, 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.



Download WARP Engineering Studio

Go to smartstore.beijerelectronics.com and try out the full version of WARP Engineering Studio for free.



	X2 base 5	X2 base 7	X2 base 10
General description			
Part number	630005105	630005205	630005305
Certifications			
General	CE, FCC, KCC		
Marine	-		
UL	UL 61010-2-201		
Mechanical			
Mechanical size	170 × 107 × 49 mm	196 × 146 × 52 mm	284 × 187 × 52 mm
Touch type	Resistive		
Cut-out size	161 × 93 mm	186 × 136 mm	275 × 177 mm
Weight	0.5 kg	0.7 kg	1.3 kg
Housing material	Plastic (PC+ABS), 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 supply must conform with the requirements for class II power supplies.		
Power consumption	6W	9.6W	10.8W
Input fuse	Internal DC fuse		
System			
CPU	ARM9 400 MHz		
RAM	128 MB		
FLASH	256 MB, 200 MB free for application storage		
Display			
Size diagonal	5" diagonal	7" diagonal	10.1" diagonal
Resolution	800 × 480 pixels		
Backlight	LED Backlight		
Backlight life time	20 000 hours		
Backlight brightness	300 cd/m ²	400 cd/m ²	350 cd/m ²
Backlight dimming	Industrial Dimming		
Display type	TFT-LCD with LED backlight		
Display pixel error	Class I (ISO9241-307)		
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	RS 232		
Serial port 4	RS 485		
Ethernet communication			
Number of ethernet ports	1		
Ethernet port 1	1 × 10/100 Base-T (shielded RJ45)		
Ethernet port 2	-		
Expansion interface			
Expansion port	No		
SD card	No		
USB	1 × USB 2.0 500mA		
Environmental			
Operating temperature	-10°C to +50°C		
Storage temperature	-20° 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		



	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)
Certifications*		
General	CE, FCC, KCC	
Marine	DNV, KR, GL, LR, ABS, CCS, EN60945	
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) CE: The power supply must conform with the requirements according to IEC 60950 and IEC 61558-2-4. UL and cUL: The power supply must conform with the requirements for class II power supplies.	
Power consumption	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 ARM Cortex-A9, SC: Dual Cortex-A9)	i.MX6Quad, Quad ARM Cortex-A9 1.0GHz 1MBL2cache
RAM	512 MB (HB, HB SC: 2 GB, SC: 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: 30000 hours)
Backlight brightness	500 cd/m ² (HB, HB SC: 1000 cd/m ²)	450 cd/m ² (HB, HB SC: 1000 cd/m ²)
Backlight dimming	Marine optimized dimming, down to 0,5 cd/m ²	
Display type	TFT-LCD with LED backlight	
Display pixel error	Class I (ISO9241-307)	
Softcontrol		
Codesys runtime version	- (SC, HB SC: 3.5)	
Codesys EtherCAT	- (SC, HB SC: Yes)	
Codesys Modbus Ethernet	- (SC, HB SC: Yes)	
Codesys Modbus RTU	- (SC, HB SC: Yes)	
Digital IO		
Digital output	- (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	-(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: 2xUSB 2.0 500mA)	2 × USB 2.0 500mA
Environmental		
Operating temperature	-15°C to +55°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	

*Certifications pending. Please refer to www.beijerelectronics.com/x2 for detailed status.

Technical data - X2 pro



	X2 pro 4	X2 pro 7
General description		
Part number	630000105	630000205
Certifications*		
General	CE, FCC, KCC	
Marine	DNV, KR, GL, LR, ABS, CCS	
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) CE: The power supply must conform with the requirements according to IEC 60950 and IEC 61558-2-4. UL and cUL: The power supply must conform with the requirements for class II power supplies.	
Power consumption	12W	14.4W
Input fuse	Internal DC fuse	
System		
CPU	i.MX6Solo Single Cortex-A9 1.0GHz 512kBL2cache	
RAM	512 MB	
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/m ²	350 cd/m ²
Backlight dimming	Industrial Dimming	
Display type	TFT-LCD with LED backlight	
Display pixel error	Class I (ISO9241-307)	
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	
Ethernet port 1	1 × 10/100 Base-T (shielded RJ45)	
Ethernet port 2	NA	
Expansion interface		
Expansion port	Yes, ciX expansion module	
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	

*Certifications pending. Please refer to www.beijerelectronics.com/x2 for detailed status.



X2 pro 10	X2 pro 12	X2 pro 15
630000305	640000205	640000305
Certifications*		
CE, FCC, KCC		
DNV, KR, GL, LR, ABS, CCS		
UL 61010-2-201		
Mechanical		
292 × 194 × 52mm	340 × 242 × 57 mm	410 × 286 × 61mm
Resistive		
275 × 177mm	324 × 226mm	394 × 270mm
1.65 kg	2.6 kg	3.85 kg
Powder-coated aluminum, Gray		
Power		
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 supply must conform with the requirements for class II power supplies.		
21.6W	28.8W	31.2W
Internal DC fuse		
System		
i.MX6DualLite, Dual Cortex-A9 1.0GHz 512kBL2cache		
1 GB		
2GB SSD(eMMC), 1.5GB free for application storage		
Display		
10.1" diagonal	12.1" diagonal	15.4" diagonal
1024 × 600 pixels	1280 × 800 pixels	1280 × 800 pixels
LED Backlight		
50 000 hours		
500 cd/m ²	400 cd/m ²	450 cd/m ²
Industrial Dimming		
TFT-LCD with LED backlight		
Class I (ISO9241-307)		
Communication serial		
1 Port 9pin DSUB		
RS 232 (RTS/CTS)		
RS422/485		
RS485 (only if COM 2 is RS485)		
Ethernet communication		
2		
1 × 10/100 Base-T (shielded RJ45)		
1 × 10/100 Base-T (shielded RJ45)		
Expansion interface		
Yes, ciX expansion module		
SD and SDHC		
2 × USB 2.0 500mA		
Environmental		
-10°C to +60°C		
-20°C to +70°C		
15g, half-sine, 11ms according to IEC60068-2-27		
1g, according to IEC 60068-2-6, Test Fc		
IP65, NEMA 4X/12 and UL Type 4X/12		
IP20		
5% – 85% non-condensed		

Technical data - X2 control



	X2 control 4	X2 control 7
General description		
Part number	630001705	630001805
Certifications*		
General	CE, FCC, KCC	
Marine	DNV, KR, GL, LR, ABS, CCS	
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	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 supply must conform with the requirements for class II power supplies.	
Power consumption	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	
Display pixel error	Class I (ISO9241-307)	
Softcontrol		
Codesys runtime version	3.5	
Codesys EtherCAT	Yes	
Codesys Modbus Ethernet	Yes	
Codesys Modbus RTU	Yes	
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, ciX expansion module	
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	

*Certifications pending. Please refer to www.beijerelectronics.com/x2 for detailed status.



X2 control 10	X2 control 12	X2 control 15
630001905	640002205	640002405
Certifications*		
CE, FCC, KCC		
DNV, KR, GL, LR, ABS, CCS		
UL 61010-2-201		
292 × 194 × 52 mm	340 × 242 × 57 mm	410 × 286 × 61 mm
Resistive		
275 × 177 mm	324 × 226 mm	394 × 270 mm
1.65 kg	2.6 kg	3.85 kg
Powder-coated aluminum, Gray		
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 supply must conform with the requirements for class II power supplies.		
21.6W	28.8W	31.2W
Internal DC fuse		
i.MX6Quad, Quad ARM Cortex-A9 1.0GHz 1MBL2cache		
2 GB		
2GB SSD(eMMC), 1.5GB free for application storage		
10.1" diagonal	12.1" diagonal	15.4" diagonal
1024 × 600 pixels	1280 × 800 pixels	1280 × 800 pixels
LED Backlight		
50 000 hours		
500 cd/m²	400 cd/m²	450 cd/m²
Industrial Dimming		
TFT-LCD with LED backlight		
Class I (ISO9241-307)		
3.5		
Yes		
Yes		
Yes		
1 Port 9pin DSUB		
RS232 (RTS/CTS)		
RS422/485		
RS485 (only if COM 2 is RS485)		
2		
1 × 10/100 Base-T (shielded RJ45)		
1 × 10/100 Base-T (shielded RJ45)		
Yes, ciX expansion module		
SD and SDHC		
2 × USB 2.0 500mA		
-10°C to +60°C		
-20°C to +70°C		
15g, half-sine, 11ms according to IEC60068-2-27		
1g, according to IEC 60068-2-6, Test Fc		
IP65, NEMA 4X/12 and UL Type 4X/12		
IP20		
5% – 85% non-condensed		

Technical data - X2 motion



	X2 motion 4	X2 motion 7
General description		
Part number	630008305	630008405
Certifications*		
General	CE, FCC, KCC	
Marine	DNV, KR, GL, LR, ABS, CCS	
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) CE: The power supply must conform with the requirements according to IEC 60950 and IEC 61558-2-4. UL and cUL: The power supply must conform with the requirements for class II power supplies.	
Power consumption	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/m ²	350 cd/m ²
Backlight dimming	Industrial Dimming	
Display type	TFT-LCD with LED backlight	
Display pixel error	Class I (ISO9241-307)	
Softcontrol		
Codesys runtime version	3.5	
Codesys EtherCAT	Yes	
Codesys Modbus Ethernet	Yes	
Codesys Modbus RTU	Yes	
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, ciX expansion module	
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	

*Certifications pending. Please refer to www.beijerelectronics.com/x2 for detailed status.



X2 motion 10	X2 motion 12	X2 motion 15
630008905	640002305	640002505
Certifications*		
CE, FCC, KCC		
DNV, KR, GL, LR, ABS, CCS		
UL 61010-2-201		
292 × 194 × 52mm	340 × 242 × 57mm	410 × 286 × 61mm
Resistive		
275 × 177mm	324 × 226mm	394 × 270mm
1.65 kg	2.6 kg	3.85 kg
Powder-coated aluminum, Gray		
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 supply must conform with the requirements for class II power supplies.		
21.6W	28.8W	31.2W
Internal DC fuse		
i.MX6Quad, Quad ARM Cortex-A9 1.0GHz 1MBL2cache		
2 GB		
2GB SSD(eMMC), 1.5GB free for application storage		
10.1" diagonal	12.1" diagonal	15.4" diagonal
1024 × 600 pixels	1280 × 800 pixels	1280 × 800 pixels
LED Backlight		
50 000 hours		
500 cd/m ²	400 cd/m ²	450 cd/m ²
Industrial Dimming		
TFT-LCD with LED backlight		
Class I (ISO9241-307)		
3.5		
Yes		
Yes		
Yes		
1 Port 9pin DSUB		
RS 232 (RTS/CTS)		
RS422/485		
RS485 (only if COM 2 is RS485)		
2		
1x10/100 Base-T (shielded RJ45)		
1x10/100 Base-T (shielded RJ45)		
Yes, ciX expansion module		
SD and SDHC		
2xUSB 2.0 500mA		
-10°C to +60°C		
-20°C to +70°C		
15g, half-sine, 11ms according to IEC60068-2-27		
1g, according to IEC 60068-2-6, Test Fc		
IP65, NEMA 4X/12 and UL Type 4X/12		
IP20		
5% – 85% non-condensed		



X2 extreme 7 / X2 extreme 7 HP	
General description	
Part number	TBD
Certifications	
General	CE, FCC, KCC TBD
Marine	DNV, KR, GL, LR, ABS, CCS TBD
UL	UL 61010/Class I Div 2, ATEX Zone 2, IECEx Zone 2
Mechanical	
Mechanical size	204 × 143 × 50 mm (estimated)
Touch type	Resistive
Cut-out size	189 × 128 mm (estimated)
Weight	1 kg (estimated)
Housing material	Powder-coated aluminum, Gray TBD
Power	
Input voltage	Input voltage 24 V DC (18 to 32 VDC)
Power consumption	TBD
Input fuse	Internal DC fuse
System	
CPU	i.MX6 version TBD
RAM	TBD
FLASH	TBD
Display	
Size diagonal	7" diagonal
Resolution	800 × 480 pixels
Backlight	LED Backlight
Backlight life time	TBD
Backlight brightness	TBD (HP: ≥ 1000 cd/m² TBD)
Backlight dimming	TBD (HP: Marine)
Display type	TFT-LCD with LED backlight
Display pixel error	Class I (ISO9241-307)
Softcontrol	
Codesys runtime version	- (HP: 3.5)
Codesys EtherCAT	- (HP: Yes)
Codesys Modbus Ethernet	- (HP: Yes)
Codesys Modbus RTU	- (HP: Yes)
Communication serial	
Number of serial ports	2
Serial port 1	TBD
Serial port 2	TBD
Serial port 3	-
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	No, however has integrated CAN Bus
SD card	SD and SDHC
USB	2 × USB 2.0 500mA
Environmental	
Operating temperature	-30°C to +70°C
Storage temperature	-40°C to +80°C
Shock	40g, half-sine, 11ms
Vibration	4g
Sealing front	IP66, NEMA 4X/12 and UL Type 4X/12
Sealing back	IP20
Humidity	5% – 85% non-condensed

TBD: To be determined
 Preliminary data – X2 extreme is scheduled for release in Q2 2017.



X2 extreme 12 / X2 extreme 12 HP		X2 extreme 15 / X2 extreme 15 HP	
General description			
TBD			
Certifications			
CE, FCC, KCC TBD			
DNV, KR, GL, LR, ABS, CCS TBD			
UL 61010/Class I Div 2, ATEX Zone 2, IECEx Zone 2			
Mechanical		Mechanical	
340 × 242 × 57mm (estimated)		410 × 286 × 61mm (estimated)	
Resistive			
324 × 226 mm (estimated)		394 × 270 mm (estimated)	
2.6 kg (estimated)		3.8 kg (estimated)	
Powder-coated aluminum, Gray TBD			
Power			
Input voltage 24 V DC (18 to 32 VDC)			
TBD			
Internal DC fuse			
System			
i.MX6 version TBD			
TBD			
TBD			
Display		Display	
12.1" diagonal		15.4" diagonal	
1280 × 800 pixels			
LED Backlight			
TBD			
TBD (HP: ≥ 1000 cd/m² TBD)			
TBD			
TFT-LCD with LED backlight			
Class I (ISO9241-307)			
Softcontrol			
- (HP: 3.5)			
- (HP: Yes)			
- (HP: Yes)			
- (HP: Yes)			
Communication serial			
2			
TBD			
TBD			
Ethernet communication			
2			
1 × 10/100 Base-T (shielded RJ45)		1 × 10/100 Base-T (shielded RJ45)	
1 × 10/100 Base-T (shielded RJ45)		1 × 10/100 Base-T (shielded RJ45)	
Expansion interface			
No, however has integrated CAN Bus			
SD and SDHC			
2xUSB 2.0 500mA			
Environmental			
-30°C to +70°C			
-40°C to +80°C			
40g, half-sine, 11ms			
4g			
IP66, NEMA 4X/12 and UL Type 4X/12			
IP20			
5% – 85% non-condensed			

TBD: To be determined
 Preliminary data – X2 extreme is scheduled for release in Q2 2017.

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	-

From iX HMI Marine to X2 marine

iX HMI panel	X2 panel	Comment
iX T7AM	X2 marine 7	-
-	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 7-inch panel with integrated control
-	X2 marine 15 HB SC	New 7-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 SoftMotion to X2 motion

iX HMI panel	X2 panel	Comment
-	X2 motion 4	New 4-inch panel with integrated motion and control
iX T7B-SM	X2 motion 7	-
-	X2 motion 10	New 10-inch panel with integrated motion and control
iX T12B-SM	X2 motion 12	-
iX T15B-SM	X2 motion 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	-

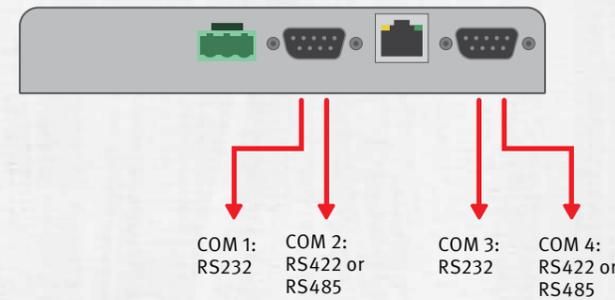
iX application upgrade



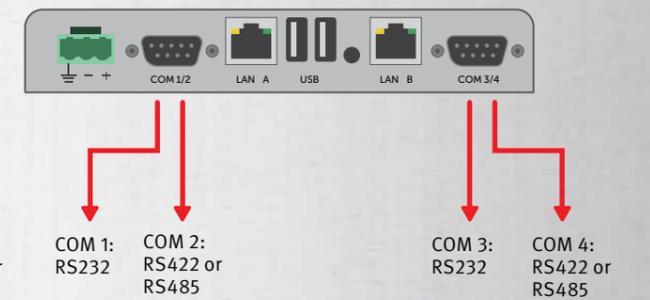
X2 panels are software compatible with iX 2.20 SP2 and forwards. Watch the video on www.beijerelectronics.com/X2 to see how easily you update an existing iX application to an X2 panel.

Serial port layout

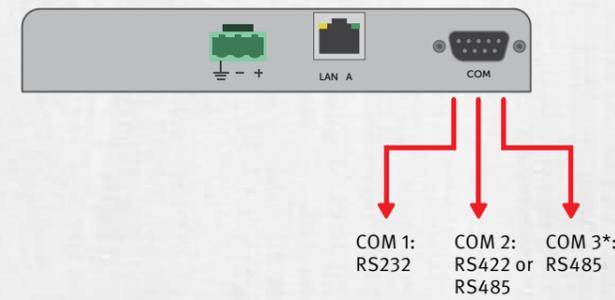
TxA



TxB

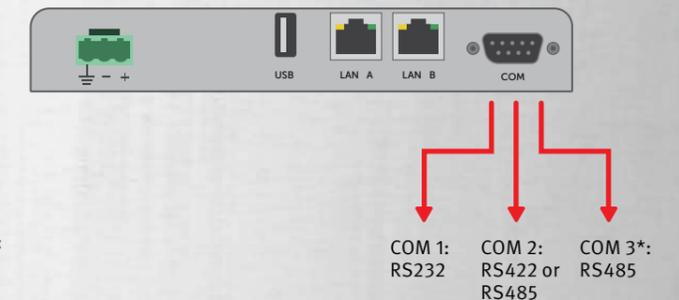


X2 pro 4 and X2 pro 7

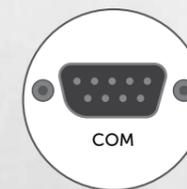


* COM3 can only be used if COM2 is RS485

X2 pro 10, X2 pro 12 and X2 pro 15



* COM3 can only be used if COM2 is RS485



If you use COM3 for RS232 in TxA or TxB:

- Change to COM 1

If you use 2 x 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



About Beijer Electronics

Beijer Electronics is a high technology company active in industrial automation and data communication. The company develops and markets competitive products and solutions that focus on the user. Since its start-up in 1981, Beijer Electronics has evolved into a multinational group with sales of 1,375 MSEK 2015. The company is listed on the NASDAQ OMX Nordic Stockholm Small Cap list under the ticker BELE. www.beijerelectronics.com

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