

X2 pro

# X2 series

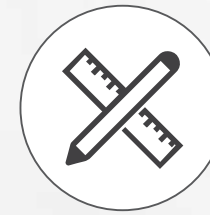
Strong. Stylish. Smart.

Beijer  
ELECTRONICS

# X2 series

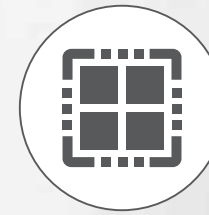
Strong. Stylish. Smart.

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.



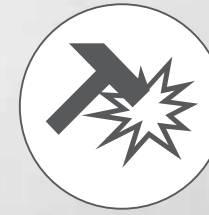
## One family, one great design

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.



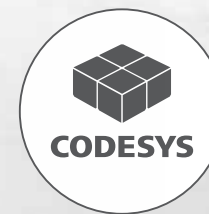
## Robust reliability

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.



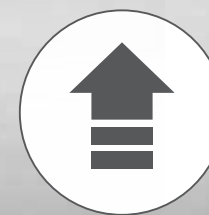
## Prepared for any environment

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.



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 40 models and additional options.

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

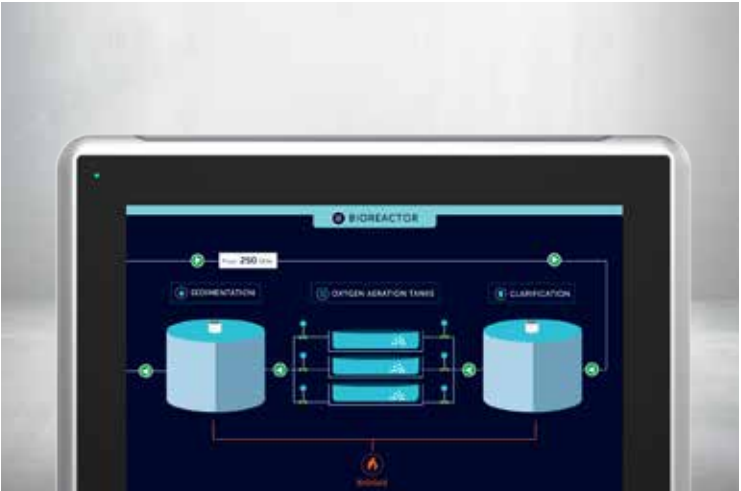
**X2 extreme**  
Rugged HMIs for tough environments  
Available in 7, 12 and 15 inches with optional high brightness display, integrated CODESYS PLC functionality and in a fully sealed version.  
X2 extreme is scheduled for release in mid 2017.

**X2 pro**  
High performance HMIs for all automation needs  
Available in 4, 7, 10, 12, 15 and 21 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

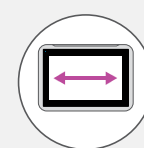
X2 base panels are cost-effective industrial HMIs with high-resolution touch-screens and modern design. The X2 base panels combine IP65 corrosion resistant plastic housing with the full version of the iX software, providing a cost-effective yet advanced HMI solution for small to medium applications.

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

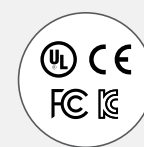


*See page 20 for technical data.*

### 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.



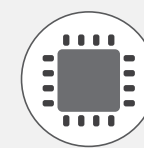
**iX software – why you'll love our hardware**  
The iX software gives you smart communication tools. iX combines top-class vector graphics and easy-to-use functions that provide reliable operation, and almost limitless connectivity to your other equipment.



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

# X2 pro

## High performance HMIs for all automation needs

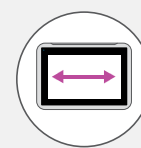
X2 pro includes a range of high performance industrial panels designed for demanding applications. All with the high performance of powerful ARM Cortex-A9 processors, the latest screen technology and a wide range of connectivity options to cover all your automation needs.

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

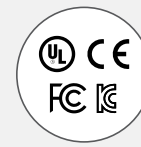


See page 22-23 for technical data.

### 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.



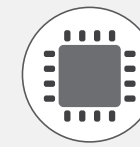
**iX software – why you'll love our hardware**  
The iX software gives you smart communication tools. iX combines top-class vector graphics and easy-to-use functions that provide reliable operation, and almost limitless connectivity to your other equipment.



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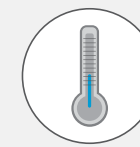
**Non-branded front**  
For customers requesting a non-branded HMI solution we offer X2 panels without the family name and Beijer Electronics' logo on the front.



**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.



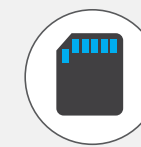
**Wide operating temperature -10°C to +60°C\***  
The wide -10°C to +60°C operating temperature range satisfies the demands of most industries.



**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 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

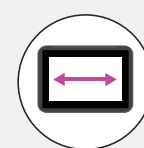
X2 marine offers user-friendly, reliable operation offshore, on ships and in other maritime applications. With black frame and nautical society certifications, X2 marine panels are suitable for mounting on the bridge, in the engine room and inside cabins. X2 marine panels are available with optional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

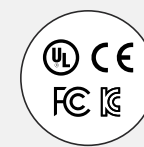


See page 21 for technical data.

## 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.



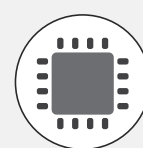
**iX software – why you'll love our hardware**  
The iX software gives you smart communication tools. iX combines top-class vector graphics and easy-to-use functions that provide reliable operation, and almost limitless connectivity to your other equipment.



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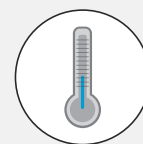
**Non-branded front**  
For customers requesting a non-branded HMI solution we offer X2 panels without the family name and Beijer Electronics' logo on the front.



**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.



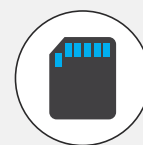
**Wide operating temperature -10°C to +60°C**  
The wide -10° to +60°C operating temperature range satisfies the demands of most industries.



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



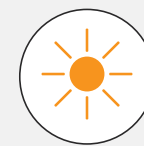
**CiX CAN, Profibus and MPI module**  
It's easy to interface with controllers using optional CiX CAN, Profibus or MPI modules.



**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.



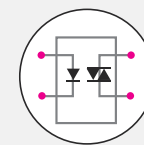
**Dimmable backlight**  
Comfortable and safe operation in high and low ambient light. Backlight is continuously dimmable to less than one cd/m².



**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

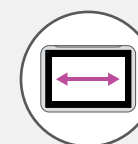
X2 control panels combine industrial HMI and CODESYS PLC functionality in the same compact hardware. Panels range from ultra-compact 4-inch to 15-inch panels designed for demanding applications. Add standard distributed I/Os and you'll get an elegant, scalable and cost-effective solution that's cutting-edge.

*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.



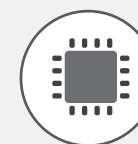
**iX software – why you'll love our hardware**  
The iX software gives you smart communication tools. iX combines top-class vector graphics and easy-to-use functions that provide reliable operation, and almost limitless connectivity to your other equipment.



**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.



**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.



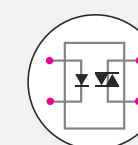
**2 Ethernet ports as standard**  
Panels have two built-in Ethernet ports as standard for communication with other equipment.



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



**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

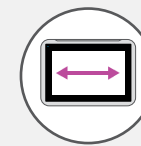
X2 motion panels deliver intuitive HMI with integrated CODESYS motion and PLC functionality in the same compact hardware. Panels range from ultra-compact 4-inch to 15-inch panels designed for demanding applications. Our lean yet powerful hardware with super-fast EtherCAT communication provides the speed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



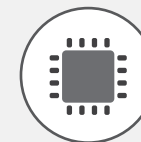
**iX software – why you'll love our hardware**  
The iX software gives you smart communication tools. iX combines top-class vector graphics and easy-to-use functions that provide reliable operation, and almost limitless connectivity to your other equipment.



**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.



**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.



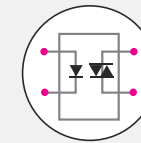
**2 Ethernet ports as standard**  
Panels have two built-in Ethernet ports as standard for communication with other equipment.



**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

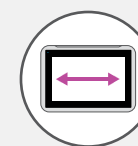
X2 extreme panels are certified by all major classification societies. Designed to perform in rugged marine environments and in hazardous areas where gases, vapors and dust are present. Extended environmental capabilities include operating temperatures from -30°C to +70°C, high vibrations and high-pressure 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**  
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**UL, CE, FCC and KCC certificates**  
The entire X2 range offers a strong standard certification with UL, CE, FCC and KCC certificates.



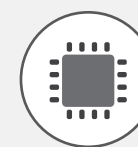
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**Non-branded front**  
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**Powerful ARM Cortex-A9 processor**  
Powerful dual or quad core ARM Cortex-A9 processor delivers fast screen changes and program execution in demanding applications.



**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.



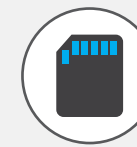
**Extreme operating temperature -30°C to +70°C**  
Extreme -30°C to +70°C operating temperature range guarantees trouble-free use in the harshest environments.



**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.



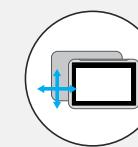
**Internal isolation**  
Internal isolation conforms to marine standards for both burst and surge immunity.



**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 mid 2017. Please refer to [www.beijerelectronics.com](http://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 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](http://smartstore.beijerelectronics.com) and try out the free demo version of iX.

# Fast forward engineering

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|                          | 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/m²                                                                                                                                                                                                             | 400 cd/m²         | 350 cd/m²         |
| 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/m² (HB, HB SC: 1000 cd/m²)                                                                                                                                                                                     | 450 cd/m² (HB, HB SC: 1000 cd/m²)                          |
| Backlight dimming        | Marine optimized dimming, down to 0,5 cd/m²                                                                                                                                                                           |                                                            |
| 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    | -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                                                                                                                                                                                                |                                                            |

\*Certifications pending. Please refer to [www.beijerelectronics.com/x2](http://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 × 128mm                        |
| Weight                   | 0.5 kg                                                                                                                                                                                                              | 0.8 kg                             |
| Housing material         | Powder-coated aluminum, Gray                                                                                                                                                                                        |                                    |
| Power                    |                                                                                                                                                                                                                     |                                    |
| Input voltage            | 24 VDC (18 to 32VDC) 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/m²                                                                                                                                                                                                           | 350 cd/m²                          |
| 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](http://www.beijerelectronics.com/x2) for detailed status.



| X2 pro 10                                                                                                                                                                                                             | X2 pro 12         | X2 pro 15         | X2 pro 21                                       |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|-------------------|-------------------------------------------------|
| 630000305                                                                                                                                                                                                             | 640000205         | 640000305         | 640009505                                       |
| CE, FCC, KCC                                                                                                                                                                                                          |                   |                   |                                                 |
| DNV, KR, GL, LR, ABS, CCS                                                                                                                                                                                             |                   |                   | CE, FCC                                         |
| UL 61010-2-201                                                                                                                                                                                                        |                   |                   |                                                 |
| 292 × 194 × 52mm                                                                                                                                                                                                      | 340 × 242 × 57 mm | 410 × 286 × 61mm  | 556 × 347 × 65mm                                |
| Resistive                                                                                                                                                                                                             |                   |                   |                                                 |
| 275 × 177mm                                                                                                                                                                                                           | 324 × 226mm       | 394 × 270mm       | 539 × 331mm                                     |
| 1.65 kg                                                                                                                                                                                                               | 2.6 kg            | 3.85 kg           | 7,38 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             | 45,6W                                           |
| Internal DC fuse                                                                                                                                                                                                      |                   |                   |                                                 |
| i.MX6DualLite, Dual Cortex-A9 1.0GHz 512kBL2cache                                                                                                                                                                     |                   |                   |                                                 |
| 1 GB                                                                                                                                                                                                                  |                   |                   | i.MX6Quad, Quad ARM Cortex-A9 1.0GHz 1MBL2cache |
| 2GB SSD(eMMC), 1.5GB free for application storage                                                                                                                                                                     |                   |                   |                                                 |
| 10.1" diagonal                                                                                                                                                                                                        | 12.1" diagonal    | 15.4" diagonal    | 21,5" diagonal                                  |
| 1024 × 600 pixels                                                                                                                                                                                                     | 1280 × 800 pixels | 1280 × 800 pixels | 1920 × 1080 pixels                              |
| LED Backlight                                                                                                                                                                                                         |                   |                   |                                                 |
| 50 000 hours                                                                                                                                                                                                          |                   |                   |                                                 |
| 500 cd/m²                                                                                                                                                                                                             | 400 cd/m²         | 450 cd/m²         | 250 cd/m²                                       |
| Industrial Dimming                                                                                                                                                                                                    |                   |                   |                                                 |
| TFT-LCD with LED backlight                                                                                                                                                                                            |                   |                   |                                                 |
| Class I (ISO9241-307)                                                                                                                                                                                                 |                   |                   |                                                 |
| 1 Port 9pin DSUB                                                                                                                                                                                                      |                   |                   |                                                 |
| RS 232 (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                                                                                                                                                                                                        |                   |                   | 0°C to +50°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](http://www.beijerelectronics.com/x2) for detailed status.



| X2 control 10                                                                                                                                                                                                                       | X2 control 12     | X2 control 15     |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|-------------------|
| 630001905                                                                                                                                                                                                                           | 640002205         | 640002405         |
| CE, FCC, KCC                                                                                                                                                                                                                        |                   |                   |
| DNV, KR, GL, LR, ABS, CCS                                                                                                                                                                                                           |                   |                   |
| UL 61010-2-201                                                                                                                                                                                                                      |                   |                   |
| 292 × 194 × 52 mm                                                                                                                                                                                                                   | 340 × 242 × 57 mm | 410 × 286 × 61mm  |
| Resistive                                                                                                                                                                                                                           |                   |                   |
| 275 × 177 mm                                                                                                                                                                                                                        | 324 × 226 mm      | 394 × 270mm       |
| 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 ARMCortex-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/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            | 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](http://www.beijerelectronics.com/x2) for detailed status.



| X2 motion 10                                                                                                                                                                                                          | X2 motion 12      | X2 motion 15      |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|-------------------|
| 630008905                                                                                                                                                                                                             | 640002305         | 640002505         |
| 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 ARMCortex-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                                                                                                                                                                                                      |                   |                   |
| 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                                                                                                                                                                                                |                   |                   |



Technical data - X2 extreme



|                          | 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, Zone 22                 |
| 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                                                     |
| Power                    |                                                                            |
| Input voltage            | 24 VDC (18 to 32 VDC) or 12 VDC (9 to 16 VDC) (HP: 24 VDC (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 mid 2017.



| X2 extreme 12 / X2 extreme 12 HP                           | X2 extreme 15 / X2 extreme 15 HP |
|------------------------------------------------------------|----------------------------------|
| TBD                                                        |                                  |
| CE, FCC, KCC TBD                                           |                                  |
| DNV, KR, GL, LR, ABS, CCS TBD                              |                                  |
| UL 61010/Class I Div 2, ATEX Zone 2, IECEx Zone 2, Zone 22 |                                  |
| 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                                     |                                  |
| 24 V DC (18 to 32 VDC)                                     |                                  |
| TBD                                                        |                                  |
| Internal DC fuse                                           |                                  |
| i.MX6 version TBD                                          |                                  |
| TBD                                                        |                                  |
| TBD                                                        |                                  |
| 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)                                      |                                  |
| - (HP: 3.5)                                                |                                  |
| - (HP: Yes)                                                |                                  |
| - (HP: Yes)                                                |                                  |
| - (HP: Yes)                                                |                                  |
| - (HP: Yes)                                                |                                  |
| 2                                                          |                                  |
| TBD                                                        |                                  |
| TBD                                                        |                                  |
| -                                                          |                                  |
| 2                                                          |                                  |
| 1 × 10/100 Base-T (shielded RJ45)                          |                                  |
| 1 × 10/100 Base-T (shielded RJ45)                          |                                  |
| No, however has integrated CAN Bus                         |                                  |
| SD and SDHC                                                |                                  |
| 2xUSB 2.0 500mA                                            |                                  |
| -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 mid 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 | -                      |
| -            | 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 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 | -       |

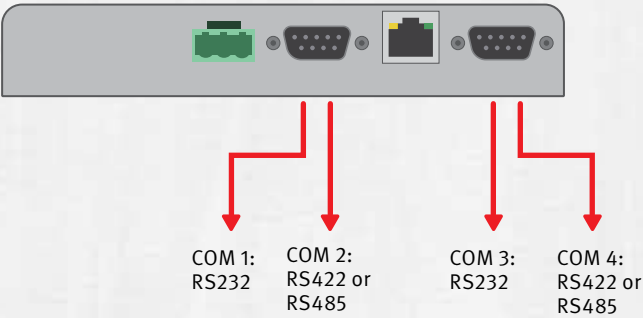
### iX application upgrade



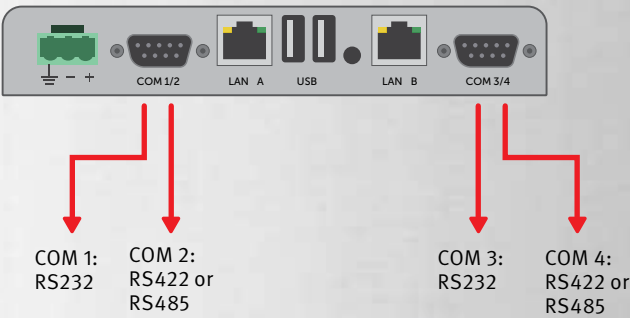
X2 panels are software compatible with iX 2.20 SP2 and forwards. Watch the video on [www.beijerelectronics.com/X2](http://www.beijerelectronics.com/X2) to see how easily you update an existing iX application to an X2 panel.

### Serial port layout

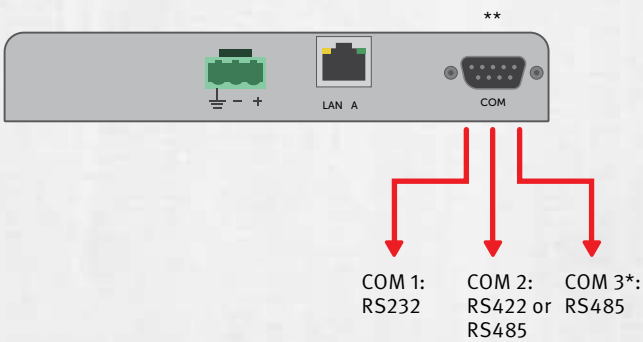
#### TxA



#### TxB



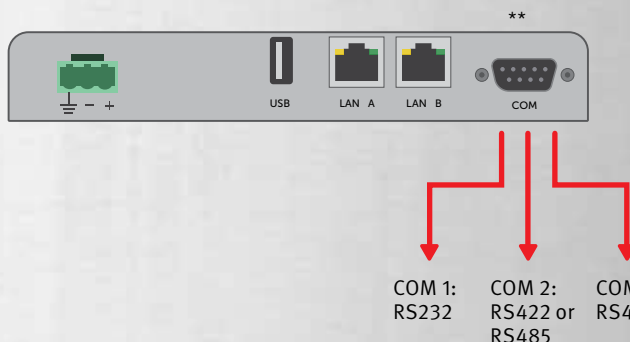
#### X2 pro 4 and X2 pro 7



\* COM3 can only be used if COM2 is RS485

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

#### 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 × 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](http://www.beijerelectronics.com)

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