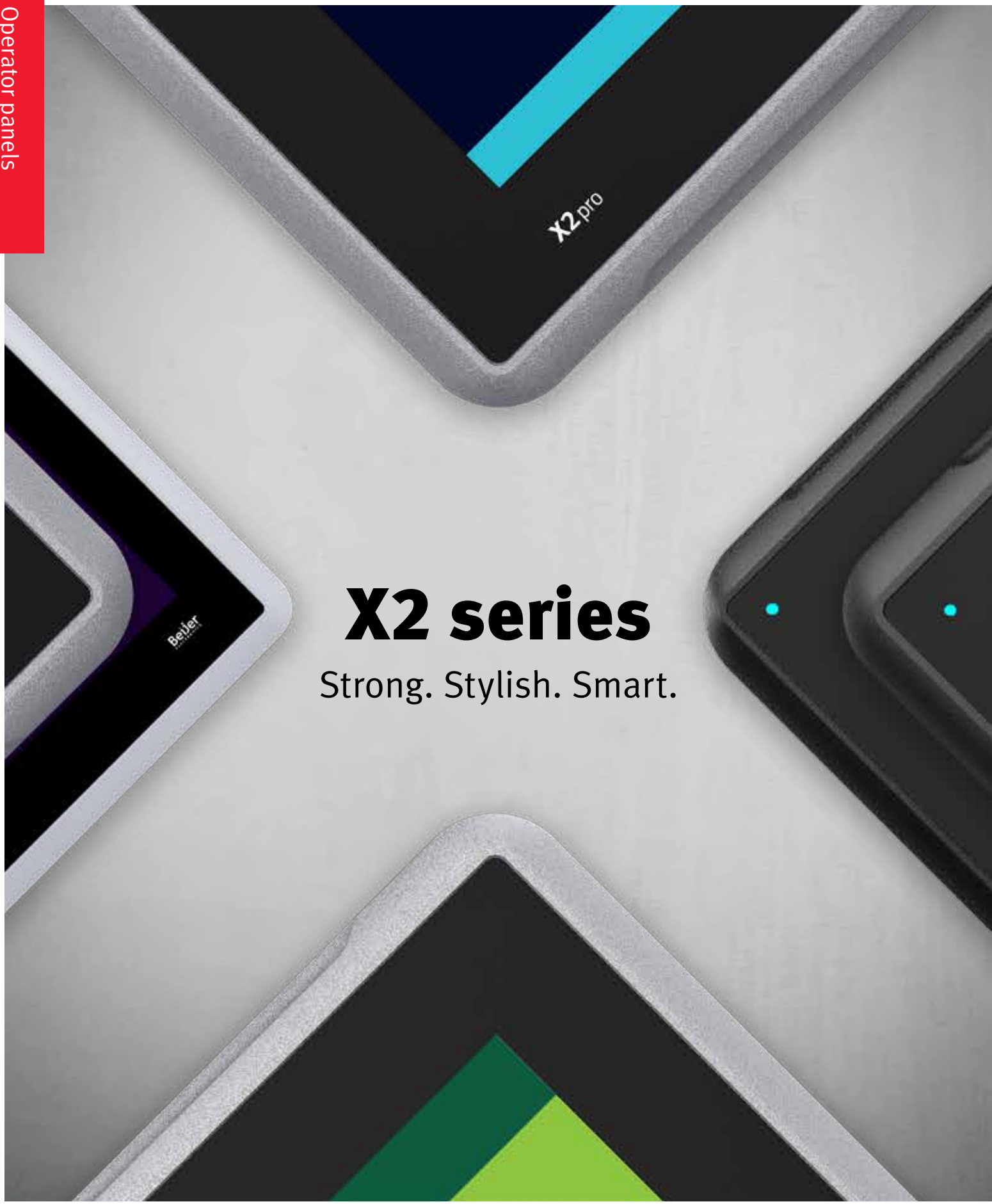
Operator panels



X2 series

Strong. Stylish. Smart.

Beijer ELECTRONICS

People & Technology. Connected.

X2 base

New versions of cost-effective, full functionality HMI panels

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

X2 base v2 HMIs are available in 5, 7 and 10 inches and in 7, 10 and 15 inches high-performance versions.

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

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.

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

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

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

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

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

iX software – why you'll love our hardware

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

Efficient workflow

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

Complete HMI functionality

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

Functionality for advanced users

iX has support for .NET technology, providing options to design specialized functionality. Use C# scripting or .NET components. Take advantage of third party objects and import .NET assemblies to extend the functionality further. Control and exchange data with multiple controllers and enjoy connectivity via FTP, OPC and web.

Connect to all automation brands

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

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

Download iX HMI software

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

Get insights from the cloud with acirro+

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

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

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

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

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

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

ACCELERATE TO DIGITAL NOW!

The safe and secure IIoT solution

Securely transmitted data

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

No unauthorized access

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

Identified devices only

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

Safe hosting

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

Learn more

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

Technical data – X2 base

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

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

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

A simple path forward

It’s easy to upgrade your existing iX HMI solution

Continues on next page ...

Hardware upgrade to X2 series

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

From iX HMI Industrial to X2 pro

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

From iX HMI Marine to X2 marine

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

From iX HMI SoftControl to X2 control

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

From iX HMI TxF-2 series to X2 base

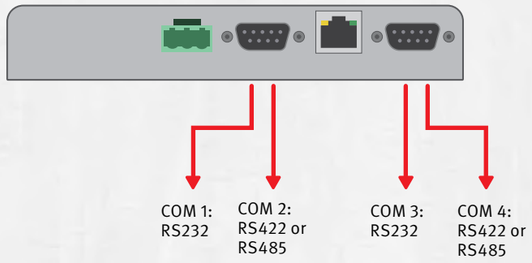
iX HMI panel	X2 panel	Comment
iX T5F-2	X2 base 5	-
iX T7F-2	X2 base 7	-
iX T10F-2	X2 base 10	-

iX application upgrade

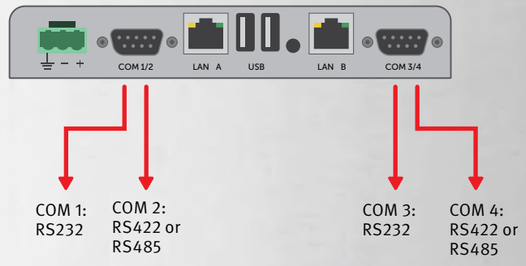
X2 panels are software compatible with iX 2.20 SP2 and forwards. Watch the video on www.beijerelectronics.com/X2 to see how easily you update an existing iX application to an X2 panel.

Serial port layout

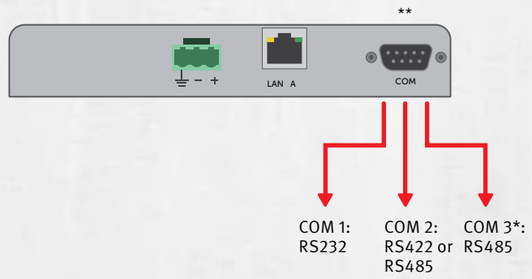
TxA



TxB

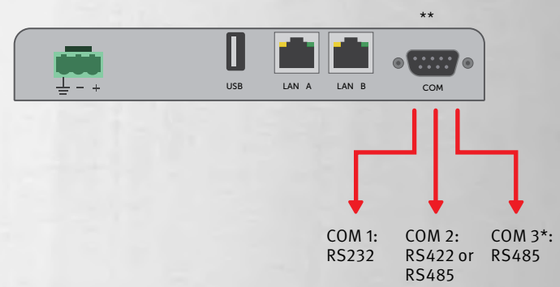


X2 pro 4 and X2 pro 7



** COM3 can only be used if COM2 is RS485*

X2 pro 10, X2 pro 12 and X2 pro 15



** COM3 can only be used if COM2 is RS485*

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

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

Beijer Electronics is a Beijer Group company. Beijer Group has a sale over 1.6 billion SEK in 2019 and is listed on the NASDAQ OMX Nordic Stockholm Small Cap list under the ticker BELE. www.beijergroup.com

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