

The Company

Headquarter:

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For further information on Beijer Electronics

please see the company's website at

www.beijerelectronics.com

Products

General

The products are CE-labeled. The products meet the requirements of the RoHS Directive (EU directive 2011/65/EU) and REACH Directive (No 1907/2006)

Mechanicals

Aluminum and stainless steel are judged to be environmentally non-hazardous. Expanded rubber packing for the front, expanded polyethylene packing for the display with adhesive that is not classified as environmentally hazardous. Screws may have the following surface treatments: Bright nickel-plated or bright zinc-plated. Any display frame and the CF cover are made of halogen-free plastic, PC/ABS.

Electronics

Circuit boards

The majority of the components on the circuit boards are surface mount, which use less solder compared to through-hole mount components. All materials and components are RoHS compliant.

Display

The liquid crystals in the display are cyclohexane compounds. The backlight uses LED technology.

Batteries

The product contains a poly-carbonmonofluoride Lithium battery (BR2330 or BR2477).

Documentation

Product documentation is available in digital form on the Beijer Electronics website,

www.beijerelectronics.com

Distribution

The packaging consists of 91% wood fiber and 7% bleached new fiber (oxygen and chlorine dioxide bleach). A white coating on the inside and outside consists of starch. The glue for the packaging is made from wheat or corn starch. Inside the packaging is a plastic bag for brackets or other mounting hardware.

Use

The products are tested and comply with the EMC requirements as per directive 2014/30/EU. The products require no special maintenance. The products produce no noise.

Environmental Impact Report

Recycling

The products consist largely of aluminum. It is a great advantage from the viewpoint of both resources and the environment if this can be recycled. Make sure that the worn-out product goes to a facility for electronic scrap. Beijer Electronics' electronic waste is recycled. Aluminum front/rear casing and other covers can be removed and recycled. Any plastic display frame and the CF cover must be sorted as solid plastic. The circuit board contains many valuable metals and should therefore be recycled. Remove the lithium battery. Electrolytic capacitors and displays are currently not classified as hazardous waste but may be harmful to health and the environment. The packaging is made from wood fiber and should be recycled. The label and the plastic bag for the brackets are sorted as soft plastic. The protective film on the front is sorted as soft plastic. When the product is no longer useful it can be returned to Beijer Electronics for environmentally responsible recycling. Contact the company for further information.

Environmental Impact

A product has an impact on the environment throughout its entire life cycle. An operator panel impacts on the environment through its function, i.e. controlling industrial equipment. The energy and the scrapped parts that can be saved with efficient controls mean that the product contributes to a reduced environmental burden. Other important environmental impact factors are the energy the product consumes during use, as well as the non-renewable raw materials in the form of metals, etc. that are included in the product and which are obtained using environmentally harmful mining.

Opportunities to reduce environmental burden during use

- Switch the system off when it is not in use.
- Use green electricity.
- Use energy-saving options, e.g. turn off backlighting to save energy and reduce wear on the backlight.
- If possible, reduce the brightness of the backlighting to reduce energy consumption.
- Ensure that the product, battery and packaging are recycled in an environmentally responsible way.

Parameter	X2 extreme 7 12 V	X2 extreme 7	X2 extreme 7 HP ⁽¹⁾
Front panel, W×H×D	205×143×7 mm		
Cut out dimensions, W×H	188±1 mm×127±1 mm. Maximum corner radius: 4 mm. For IP66 UL/NEMA Type 4X, Type12, panel must maintain a flatness < 1 mm overall and < 0.05 mm/mm with a surface roughness, Ra < 1.6 µm		
Mounting depth	55 mm (155 mm including clearance)		
Front panel seal	IP66 UL/NEMA Type 4X, Type12		
Rear panel seal	IP 20		
Touch screen material	Polyester on glass, ITO film, resistive		
Frame overlay	Autoflex EBA 180L		
Touch screen operations	1 million finger touch operations		
Reverse side material	Powder-coated aluminum		
Frame material	Powder-coated aluminum		
Weight	1.2 kg		
CPU	i.MX6DualLite Dual ARM Cortex-A9 Core 800 MHz 512 kB L2 cache		i.MX6Quad Quad ARM Cortex-A9 Core 1.0 GHz 1 MB L2 cache
Serial port COMA	Standard D-SUB (9 Pin, female). 1×RS-232 Rx/Tx with RTS/CTS 1×RS-422, or 2×RS-485 or 2×CAN 2.0B		Standard D-SUB (9 Pin, female). 1×RS-232 Rx/Tx with RTS/CTS 1×RS-422 or 1×RS-485 or 1×CAN 2.0B
Serial port COMB	N/A		Standard D-SUB (9 Pin, female). 1×RS-485 with isolated +5 V/5 mA out for bias resistor network or 1×CAN 2.0B with termination.
Ethernet LAN A	Standard RJ45 connector, Tab up with LEDs 10/100 Mbit		Standard RJ45 connector, Tab up with LEDs 10/100 Mbit via RMII

Parameter	X2 extreme 7 12 V	X2 extreme 7	X2 extreme 7 HP ⁽¹⁾
Ethernet LAN B	N/A		Standard RJ45 connector, Tab up with LEDs 10/100Mbit
USB A/B	Standard USB Type A connector, dual stack horizontal Supports up to USB 2.0 High Speed		
External storage media	1×SD card		
Flash memory (application memory)	1.5 GB SSD (eMMC)		3.5 GB SSD (eMMC)
Memory RAM	1 GB DDR3		2 GB DDR3
NVRAM	N/A		64 kB
LED	1 × Multi color		
Real time clock	Yes		
Battery	BR 2330A/GAN lithium battery, non replaceable		BR 2477A/GAN lithium battery, non replaceable
Power consumption at rated voltage	11 W	10 W	17 W
Fuse	Internal DC fuse, 4 AT SMT		
Power supply	+12 V DC (9 to 16 V DC)	+24 V DC (18 to 32 V DC)	
	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 2 power supplies.		
Display	TFT-LCD with LED backlight 800 × 480 pixels, 262k colors		
Active area of display, W × H	7" diagonal		
Pixel errors	Class I (ISO 9241-307)		
Backlight brightness	500 cd/m ²		1000 cd/m ²
Backlight lifetime	50,000 hours		100,000 hours
Operating temperature	-30 °C to +70 °C		
Storage temperature	-40 °C to +80 °C		
Relative humidity in operation	5% - 95% non-condensation		
Vibration	4g, according to IEC 60068-2-6, Test Fc		
Mechanical shock	40g, half-sine, 11ms according to IEC 60068-2-27		

Parameter	X2 extreme 7 12V	X2 extreme 7	X2 extreme 7 HP ⁽¹⁾
Approvals and certifications	CE / FCC / KC Information is available on www.beijerelectronics.com		
UL approval	Information is available on www.beijerelectronics.com		
Marine certificates	Information is available on www.beijerelectronics.com		
Certifications for hazardous environments	ATEX/IECEX		

⁽¹⁾Including the variants SC and SM

Parameter	X2 extreme 12	X2 extreme 12 HP ⁽¹⁾
Front panel, W×H×D	341 × 243 × 7 mm	
Cut out dimensions, W×H	324±1 mm × 226±1 mm. Maximum corner radius: 4 mm For IP66 UL/NEMA Type 4X, Type 12, panel must maintain a flatness < 1 mm overall and < 0.05 mm/mm with a surface roughness, Ra < 1.6 µm	
Mounting depth	62 mm (162 mm including clearance)	
Front panel seal	IP66 UL/NEMA Type 4X, Type 12	
Rear panel seal	IP 20	
Touch screen material	Polyester on glass, ITO film, resistive	
Frame overlay	Autoflex EBA 180L	
Touch screen operations	1 million finger touch operations	
Reverse side material	Powder-coated aluminum	
Frame material	Powder-coated aluminum	
Weight	2.8 kg	
CPU	i.MX 6DualLite Dual ARM Cortex-A9 Core 800MHz 512 kB L2 cache	i.MX 6Quad Quad ARM Cortex-A9 Core 1.0 GHz 1 MB L2 cache
Serial port COM A	Standard D-sub (9 Pin, female) 1×RS-232 Rx/Tx with RTS/CTS and 1×RS-422 or 2×RS-485 or 2×CAN 2.0B	Standard D-sub (9 Pin, female) 1×RS-232 Rx/Tx with RTS/CTS and 1×RS-422 or 1×RS-485 or 1×CAN 2.0B
Serial port COM B	N/A	Standard D-sub (9 Pin, female) 1×RS-485 with isolated +5 V/5 mA out for bias resistor network or 1×CAN 2.0B with termination
Ethernet LAN A	Standard RJ45 connector, Tab up with LEDs 10/100 Mbit via RMII	

Parameter	X2 extreme 12	X2 extreme 12 HP ⁽¹⁾
Ethernet LANB	N/A	Standard RJ45 connector, Tab up with LEDs 10/100Mbit
USB-A/B	Standard USB Type A connector, dual stack horizontal. Supports up to USB 2.0 High Speed	
External storage media	1 × SD card	
Flash memory (application memory)	1.5 GB SSD (eMMC)	3.5 GB SSD (eMMC)
Memory RAM	1 GB DDR3	2 GB DDR3
NVRAM	N/A	64 kB
LED	1 × Multi color	
Real time clock	Yes	
Battery	BR 2477A/GAN lithium battery, non replaceable	
Power consumption at rated voltage	16 W	23 W
Fuse	Internal DC fuse, 4 AT SMT	
Power supply	+24 VDC (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 2 power supplies.	
Display	TFT-LCD with LED backlight 1280 × 800 pixels, 16.7M colors	
Active area of display, W × H	12.1" diagonal	
Pixel errors	Class I (ISO 9241-307)	
Backlight brightness	500 cd/m ²	1500 cd/m ²
Backlight lifetime	100,000 hours	
Operating temperature	-30° C to +70° C	
Storage temperature	-40° C to +80° C	
Relative humidity in operation	5% - 95% non-condensation	
Vibration	4g, according to IEC 60068-2-6, Test Fc	
Mechanical shock	40g, half-sine, 11ms according to IEC60068-2-27	
Approvals and certifications	CE / FCC / KC Information is available on www.beijerelectronics.com	
UL approval	Information is available on www.beijerelectronics.com	

Parameter	X2 extreme 12	X2 extreme 12 HP ⁽¹⁾
Marine certificates	Information is available on www.beijerelectronics.com	
Certifications for hazardous environments	ATEX/IECEX	

⁽¹⁾Including the variants SC and SM

Parameter	X2 extreme 15	X2 extreme 15 HP ⁽¹⁾
Front panel, W×H×D	411×286×7 mm	
Cut out dimensions, W×H	394±1mm×270±1mm. Maximum corner radius: 4 mm For IP66 UL/NEMA Type 4X, Type 12, panel must maintain a flatness < 1 mm overall and < 0.05 mm/mm with a surface roughness, Ra < 1.6 µm	
Mounting depth	66 mm (166 mm including clearance)	
Front panel seal	IP66 UL/NEMA Type 4X, Type 12	
Rear panel seal	IP 20	
Touch screen material	Polyester on glass, ITO film, resistive	
Frame overlay	Autoflex EBA 180L	
Touch screen operations	1 million finger touch operations	
Reverse side material	Powder-coated aluminum	
Frame material	Powder-coated aluminum	
Weight	4.1 kg	
CPU	i.MX 6DualLite Dual ARM Cortex-A9 Core 800MHz 512 kB L2 cache	i.MX 6Quad Quad ARM Cortex-A9 Core 1.0 GHz 1 MB L2 cache
Serial port for COMA	Standard D-sub (9 Pin, female) 1×RS-232 Rx/Tx with RTS/CTS and 1×RS-422 or 2×RS-485 or 2×CAN 2.0B	Standard D-sub (9 Pin, female) 1×RS-232 Rx/Tx with RTS/CTS and 1×RS-422 or 1×RS-485 or 1×CAN 2.0B
Serial port for COMB	N/A	Standard D-sub (9 Pin, female) 1×RS-485 with isolated +5 V/5 mA out for bias resistor network or 1×CAN 2.0B with termination
Ethernet LAN A	Standard RJ45 connector, Tab up with LEDs 10/100 Mbit via RMII	
Ethernet LAN B	N/A	Standard RJ45 connector, Tab up with LEDs 10/100 Mbit

Parameter	X2 extreme 15	X2 extreme 15 HP ⁽¹⁾
USB-A/B	Standard USB Type A connector, dual stack horizontal. Supports up to USB 2.0 High Speed	
External storage media	1 × SD card	
Flash memory (application memory)	1.5 GB SSD (eMMC)	3.5 GB SSD (eMMC)
Memory RAM	1 GB DDR3	2 GB DDR3
NVRAM	N/A	64 kB
LED	1 × Multi color	
Real time clock	Yes	
Battery	BR 2477A/GAN lithium battery, non replaceable	
Power consumption at rated voltage	18 W	28 W
Fuse	Internal DC fuse, 4 AT SMT	
Power supply	+24 V DC (18 to 32 V DC) 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 2 power supplies.	
Display	TFT-LCD with LED backlight 1280 × 800 pixels, 16.2M colors	
Active area of display, W × H	15.4" diagonal	
Pixel errors	Class I (ISO 9241-307)	
Backlight brightness	450 cd/m ²	1000 cd/m ²
Backlight lifetime	50,000 hours	100,000 hours
Operating temperature	-30° C to +70° C	
Storage temperature	-40° C to +80° C	
Relative humidity in operation	5% - 95% non-condensation	
Vibration	4g, according to IEC 60068-2-6, Test Fc	
Mechanical shock	40g, half-sine, 11ms according to IEC60068-2-27	
Approvals and certifications	CE / FCC / KC Information is available on www.beijerelectronics.com	
UL approval	Information is available on www.beijerelectronics.com	
Marine certificates	Information is available on www.beijerelectronics.com	
Certifications for hazardous environments	ATEX/IECEX	

⁽¹⁾Including the variants SC and SM

Parameter	X2 extreme 7 SL HP ⁽¹⁾	X2 extreme 12 SL HP ⁽¹⁾	X2 extreme 15 SL HP ⁽¹⁾
Panel dimensions, W x H x D	205 x 144 x 65 mm	341 x 243 x 65 mm	411 x 286 x 65 mm
Panel seal	IP66 UL/NEMA Type 4X, Type 12		
Touch screen material	Polyester on glass, ITO film, resistive		
Frame overlay	Autoflex EBA 180L		
Touch screen operations	1 million finger touch operations		
Reverse side material	Powder-coated aluminum		
Frame material	Powder-coated aluminum		
Weight	1.6 kg	3.4 kg	4.8 kg
CPU	i.MX 6Quad Quad ARM Cortex-A9 Core 1.0GHz 1 MB L2 cache		
Serial port COM A	M12 (8 Pin, female) RS-232 Rx/Tx with RTS (without CTS) 1xRS-422 or 1xRS-485 or 1xCAN 2.0B		
Serial port COM B	M12 (8 Pin, female) RS-485 with isolated +5V/5mA out for bias resistor network or 1xCAN 2.0B with termination		
Ethernet LAN A	M12 (4 Pin, female, D-coded according to IEC 61076-2-101) 10/100 Mbit via RMII		
Ethernet LAN B	M12 (4 Pin, female, D-coded according to IEC 61076-2-101) 10/100 Mbit via RMII		
USB A/B	M12 (8 Pin, female) Supports up to USB 2.0 High Speed		
External storage media	1xSD card		
Flash memory (application memory)	3.5 GB SSD (eMMC)		
Memory RAM	2 GB DDR3		
NVRAM	64 kB		
LED	1 x Multi color		
Real time clock	Yes		

Parameter	X2 extreme 7 SL HP ⁽¹⁾	X2 extreme 12 SL HP ⁽¹⁾	X2 extreme 15 SL HP ⁽¹⁾
Battery	BR 2477A/GAN lithium battery, non replaceable		
Power consumption at rated voltage	17 W	23 W	28 W
Fuse	Internal DC fuse, 4 AT		
Power supply	+24 V DC 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 2 power supplies.		
Display	TFT-LCD with LED backlight		
	800 × 480 pixels, 262k colors	1280 × 800 pixels, 16.7M colors	
Active area of display, W × H	7" diagonal	12.1" diagonal	15.4" diagonal
Pixel errors	Class I (ISO 9241-307)		
Backlight brightness	1000 cd/m ²	1500 cd/m ²	1000 cd/m ²
Backlight lifetime	100,000 hours		
Operating temperature	-30 °C to +70 °C		
Storage temperature	-40 °C to +80 °C		
Relative humidity in operation	5% - 95% non-condensation		
Vibration	4g, according to IEC 60068-2-6, Test Fc		
Mechanical shock	40g, half-sine, 11 ms according to IEC60068-2-27		
Approvals and certifications	CE / FCC / KC Information is available on www.beijerelectronics.com		
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Marine certificates	Information is available on www.beijerelectronics.com		

⁽¹⁾Including the variant SC

