

EMS HARDWARE

EMS Specification Sheet

Hardware specifications for the ARQ Controls EMS x30G industrial mini-PC platform.

ARQ CONTROLS · INDUSTRIAL ENERGY CONTROL

RS485
MODBUS

Specifications

ARQ Controls EMS x30G, a fanless industrial mini-PC built for continuous energy-control duty.

PARAMETER	VALUE
Model number	X30G-2COM485
Type	Mini desktop, fanless
Processor brand	Intel
Processor model	Celeron J6412 / J4125 / J1900 / N2830
Processor frequency	2.0 GHz base
Graphics	Integrated
Memory type	1 × SODIMM DDR4
Memory capacity	≥ 4 GB
Hard drive capacity	128 GB
Hard drive support	1 × mini SATA, 1 × SATA 2.5 inch
Ethernet	2 × RJ45 Realtek RTL8111H GbE, WOL / PXE
COM ports	2 × DB9 RS232 / RS485 adjustable
USB ports	4 × USB 3.0, 2 × USB 2.0 (J1900 / N2840: 1 × USB 3.0, 5 × USB 2.0)
Display	1 × HDMI 1.4, 1 × VGA
Audio	Realtek ALC 897, 1 × combo audio jack
SIM slot	1 × SIM slot onboard
Expansion	1 × Mini PCIe slot for WiFi / 4G modules
Power input	DC 12 V, 3 A
Cooling	Fanless aluminum chassis, passive cooling
PC dimension	134 × 124 × 34 mm
Operating temperature	–20°C to 70°C
Storage temperature	–20°C to 65°C
OS support	Windows 11, Windows 10, Linux
Certification	CE, FCC, RoHS
Origin	Mainland China
Package includes	1 × mini PC, 1 × AC adapter, 1 × SATA cable, 1 × VESA mount

x30G fanless industrial mini-PC

Dual Gigabit Ethernet, two COM ports (RS232 / RS485 adjustable), supports WiFi / 4G modules.

COMPONENT	SPECIFICATION
CPU	Intel Celeron J6412, 4 cores / 4 threads, 2.0 GHz base, 2.60 GHz max. J6425, 4 cores / 4 threads, 2.0 GHz base, 2.70 GHz max. J1900, 4 cores / 4 threads, 2.0 GHz base, 2.42 GHz max. N2840, 2 cores / 2 threads, 2.16 GHz base, 2.58 GHz max.
Memory	J6412 / J4125: 1 × SODIMM DDR4. J6412 max 16 GB 3200 MHz, J4125 max 8 GB 2400 MHz. J1900 / N2840: 1 × SODIMM DDR3L, max 1333 / 1600 MHz 8 GB.
Hard disk	J6412: 1 × M.2 key-M 2280 NVMe / SATA SSD plus 1 × SATA 3.0 2.5" HDD / SSD. J4125 / J1900 / N2840: 1 × mSATA SSD plus 1 × 2.5" SATA 3.0 HDD / SSD.
Graphics	Intel HD Graphics, integrated, processor-dependent.
Audio	Realtek ALC 897, 7.1-channel HI-FI, supports MIC IN / Line Out.
Front I/O	4 × USB 3.0 (J1900 / N2840: 1 × USB 3.0 plus USB 2.0). 1 × audio 3.5 mm combo jack. 2 × DB9 RS232, adjustable to RS485 (jumper-free BIOS setting). 1 × HDD LED, 1 × power button.
Rear I/O	1 × HDMI 1.4, 1 × VGA. 2 × USB 2.0. 2 × RJ45 GbE LAN (Realtek RTL8111H). 1 × DC in 12 V.
Internal I/O	1 × Mini PCIe for WiFi / 3G / 4G LTE. 1 × SIM slot, 3 × USB 2.0 expansion. 1 × 4P socket DC-IN, 1 × SATA connector.
Power adapter	DC 12 V, 3 A.
OS support	Windows 7 / 8.1 / 10 / 11, Linux / Ubuntu / CentOS. J4125 / J6412 do not support Windows 7 or 8.1.
Features	WOL, PXE, auto power-on on power restore, hardware watchdog (0 to 255 s).
Temperature	Working -20°C to 70°C. Storage -20°C to 70°C, 5% to 95% non-condensing.
Dimension	134 × 134 × 40 mm.
Construction	Fanless passive-cooling aluminum chassis.
Package	1 × mini PC, 1 × AC adapter, 1 × power cord, 1 × SATA cable, 1 × user guide.

COM port configuration: RS232 / RS485

Set COM1 / COM2 to RS232 or RS485

JC1	JRS485_SW1	COM1 MODE
1–3 short	1–3 short, 2–4 short	RS232, standard DB9
3–5 short	3–5 short, 4–6 short	RS485, COM1: Pin 1 (A), Pin 2 (B)

JC1	JRS485_SW2	COM2 MODE
2–4 short	1–3 short, 2–4 short	RS232, standard DB9
4–6 short	3–5 short, 4–6 short	RS485, COM2: Pin 1 (A), Pin 2 (B)

Jumper settings

FUNCTION	SETTING	RESULT
Clear CMOS	Pin 1–2 short	Normal working state
Clear CMOS	Pin 2–3 short	Clear CMOS, restore BIOS defaults
AT-ATX power	Pin 1–2 short	Disable auto power-on
AT-ATX power	Pin 2–3 short	Enable auto power-on after AC restore

COM1 / COM2 DB9 pin definitions, RS232 mode

PIN	SIGNAL	PIN	SIGNAL
1	DCD (A)	6	DSR
2	RXD (B)	7	RTS
3	TXD	8	CTS
4	DTR	9	RI
5	GND	10	NC

External connectors

Intel Celeron J6412 board. Connector layout is representative. If the board has been revised, refer to the unit received.

INTERFACE	DETAIL
Ethernet	2 × Gigabit, Realtek 8111H GbE, supports WOL, PXE
Display	HDMI 1.4 plus VGA, independent video output
COM ports	COM1 and COM2, RS232 / RS485 adjustable
USB, front	4 × USB 3.0
USB, rear	2 × USB 2.0

FOR FURTHER ENQUIRIES

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