

AFE-E630

Arm-Based Industrial Edge System with isolation protection I/O



Features

- Rockchip RK3568 Arm 4x Cortex-A55 up to 1.8GHz, 1tops NPU
- 4KP60 ,H265, H.264, VP9, VP8,MPEG decoding
- 1080P60 H.265, H.264 encoding
- 1 x HDMI2.0
- 2 x GbE LAN, 2 x USB3.0, 2 x RS232/RS485, 1 x CAN FD, 6 x GPIO
- Extend Isolated I/O: 4 x RS485, 2 x CAN2.0, 8 x DI, 8 x DO
- Support 4G/GPS/Wi-Fi6/BT/NVME SSD
- Support wall mount or Din-rail mount
- Support Android12, Linux Debian12 and Advantech EMS builder
- Support Preempt Real-Time Kernel



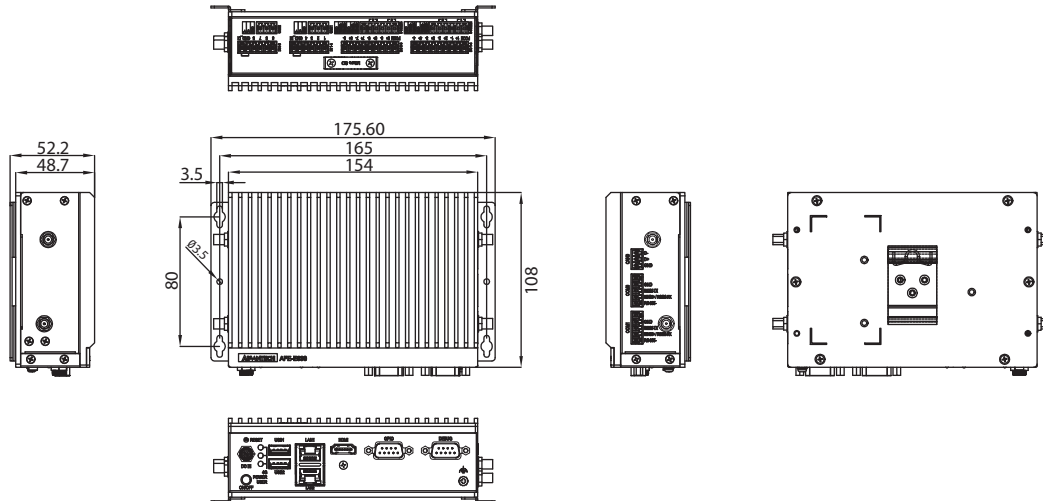
Advantech AFE-E630 support more industrial interfaces as LAN,USB,RS485/RS232,CAN,DI/DO, in particular, RS485/CAN/DI/DO support isolated and non-isolated, also support wireless technologies including 4G/GPS,Wi-Fi6. It is widely used in energy and power filed, focus on commercial and industrial storage system.

Specifications

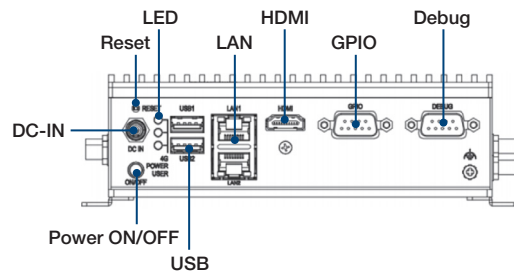
Processor	CPU	Rockchip RK3568J/RK3568B2 Arm Quad Cortex-A55 up to 2.0GHz/1.8GHz, 1tops NPU	
Storage	Capacity	4GB/8GB LPDDR4 @2133MHz	
	Flash	32/64GB EMMC NAND Flash for OS and 64Mb SPI NOR Flash for Advantech boot loader	
Graphics	HDMI	1 x HDMI2.0, 4k@60FPS	
Ethernet	Ethernet	2 x 10/100/1000Mbps	
WatchDog Timer	WatchDog Timer	1~6527s, default 60s	
RTC	RTC	Support	
I/O	USB	2 x USB3.0 type A host	
	HDMI	1 x HDMI2.0, 4k@60FPS	
	CAN	1 x CAN FD	
	Serial Port	2 x RS232/RS485(default RS485), 1 x debug port	
	GPIO	6 (3.3V level)	
Indicator	LED	3 Green LED for power,4G,user status	
Expansion	Mini PCIe	1 x mini PCIe slot (only USB2.0 signal for 4G/GPS)	
	M.2 E Key	1 x M.2 E Key slot (for WiFi6/BT or NVME SSD)	
	Micro SD	1 x Micro SD socket	
	SIM	1 x standard SIM socket	
	Antenna Holes	4 (4G/GPS x 2, WiFi/BT x 2)	
Botton	Reset Botton	1 x reset botton	
Extend I/O (option)	Isolated I/O		UIO-4033+UIO-4033D
			Serial port
		CAN	4 x RS485 with 2500 V _{DC} isolation protection
			2 x CAN 2.0 with 2500 V _{DC} isolation protection
		DI	8 x DI with 2500 V _{DC} isolation protection
			- Dry contact(default): Logic 0: Close to ground Logic 1: Open (default) -Wet contact: Logic 0: 10 ~ 30 V _{DC} Logic 1: 0 ~ 3 V _{DC}
		DO	8 x DO with 2500 Vdc isolation protection,sink type, Voltage Range: 5 ~ 30 V _{DC} Current: MAX 500 mA/channel
Mechanical	System	154 x 108 x 48.7 mm	
	Mounting	Wall mount or Din-rail mount	
Power	Power supply	9~30V DC IN ATX/AT mode	
Environment	Operating temperature	-40~70°C/0~60°C	
Operating System	Linux; Android	Debian12, Android12	
Certifications		UL/CE/FCC Class B/CCC, IEC 62443-4-2 AOC	

Dimensions

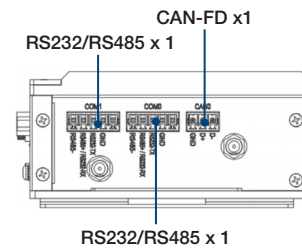
Unit: mm



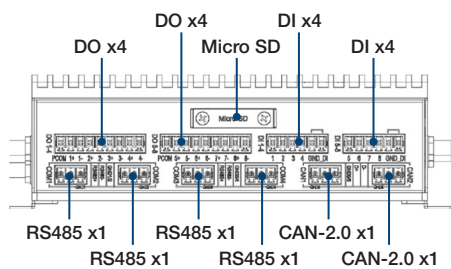
Front Panel External I/O Mechanical Layout/Drawing



Side Panel External I/O Mechanical Layout/Drawing



Rear Panel I/O Mechanical Layout/Drawing-2 (UIO-4033+UIO-4033D)



Ordering Information

Part Number	CPU	Memory	EMMC	HDMI	USB	LAN	Non-isolated Serial Port	Isolated Serial Port	Non-isolated CAN	Isolated CAN	Isolated DI/DO	Micro SD	GPIO	Mini PCIe	M.2 Key-E	Operating Temperature	ATX/AT
AFE-E630-U0E1	RK3568J 1.8GHz	4GB	32GB	1	2xUSB3.0	2	2xRS485/RS232 1xDebug	4xRS485	1	2	8xDI 8xDO	1	6	1	1	-40 ~ 70°C	AT
AFE-E630-U0F1	RK3568J 1.8GHz	8GB	32GB	1	2xUSB3.0	2	2xRS485/RS232 1xDebug	4xRS485	1	2	8xDI 8xDO	1	6	1	1	-40 ~ 70°C	AT
AFE-E630-U0H1	RK3568B2 2.0GHz	4GB	32GB	1	2xUSB3.0	2	2xRS485/RS232 1xDebug	4xRS485	1	2	8xDI 8xDO	1	6	1	1	0 ~ 60°C	AT
AFE-E630-U0I1	RK3568J 1.8GHz	8GB	64GB	1	2xUSB3.0	2	2xRS485/RS232	4xRS485	1	2	8xDI 8xDO	1	6	1	1	-40 ~ 70°C	AT

Packing List

Part Number	Description
1652008790-01	TEP Push-In 1x3/3.81/PA66/VA(F)/Sn/BK/H7.7
1652008507-01	Terminal Plug 1x5P/3.81/PA66/VA/BK/H22.9mm
1930008529	Screw M3*4.0L S/S D=4.8 H=0.8 (2+) ST/H BZn
1960099634N003	Mount Bracket for EPC-R3720 Powder 432C
1652008508-01	Terminal Plug 1x6P/3.81/PA66/VA/BK/H22.9mm
1652008510-01	Terminal Plug 1x9P/3.81/PA66/VA/BK/H22.9mm
1970005861T001	HD R2 None 3.4W 45x40x18.8mm SC PCIE for 4G heatsink (QTY *1)
1990029618N000	Thermal-Pad 39x29.5x1 K=6 TP GR-HM DMS-SJ03 for 4G module(QTY *1)
1970005863T001	HD R2 None 6.93W 37x22x20.7mm SC NVME for WiFi or SSD heatsink (QTY *1)
1990027162N010	Thermal Pad XR-HL 20x20x1.5mm K=1.2 for WIFI module (QTY *1)
1990010451N000	Thermal Pad GR-HM 15X15X2t for POC-S175 for SSD module (QTY *1)

Optional Accessories

Part Number	Description
96PSA-A36W12W7-5	ADP A/D 100-240V 36W 12V C6 LOCK DC JACK 62368
96PSA-A60W24T2-3	ADP A/D 100-240V 60W 24V C14 CORD END 2PIN 62368
1702002605	Power Cord 3P EU 10A 250V 183 cm (72 in)
1702031801	Power Cord 3P UK 10A 250V 183 cm (72 in)
1702002600	Power Cord UL 3P 10A 125V 183 cm (72 in)
1700008921	Power Cord 3P PSE 183 cm (72 in)
1700009652	Power Cord CCC 3P 10A 250V 187 cm (73.6 in)
AIW-344FQ-N01	AIW-3 series LTE CAT4 mini PCIe module for US (QTY *1)
AIW-344FQ-E02	AIW-3 series LTE CAT4 mini PCI-e module for Europe (QTY *1)
AIW-344FQ-J01	AIW-3 series LTE CAT4 mini PCI-e module for JP (QTY *1)
TBD	Quectel EC20CEFRSG-MINIPCI-E-C 4G module for China (QTY *1)
1750009372-01	Ant.SMA/M 90/180 5G BLK 167mm RG178 for 4G Antenna (QTY *2)
1751000361-01	GPS&BEIDOU ANTENNA L=5m for GPS Antenna (QTY *1)
1750008652-01	Cable Ant. SMA/F-BH CI-113/113 BLK 200mm for 4G/GPS cable (QTY *1)
1750009035-01	Cable Ant. SMA/F-BH MHF1/113 BLK L100mm for 4G cable (QTY *1)
AIW-162BS-GI1	Industrial grade Wi-Fi 6 M.2 solution (QTY *1)
1751000591-01	Dipole Ant. WiFi 6E SMA/M-R BLK L163.1mm for WiFi6 Antenna (QTY *2)
1750009360-01	Cable Ant. SMA/F-R-BH MHF4/113 BLK L100mm for WiFi6 Antenna Cable (QTY *2)
1950003423T10A	DIN RAIL(POWDER Pantone 432C)ASS'Y FOR EKI-2741F