

# ECU-479

## IEC-61850-3 Certified Power Automation Computer Based on 13th Generation Intel® Core™ Processors

NEW



### Features

- 13th Gen Intel® Processor with 8+8 Cores
- Quad display interfaces for SCADA and more multi-display use cases
- Support for a RAID card, HSR/PRP expansion card, and redundant PSU
- Supports Intel® AMT, iBMC, SNMP for remote management
- Wide operating temperature range, fanless rugged design for harsh environments
- Optional 10-year warranty and long product life cycle for substations

### Introduction

The ECU-479 is an IEC 61850-3 and IEEE 1613 certified product that provides high reliability and stability for power automation applications. The ECU-479 boasts a fanless, durable design, high CPU performance, easy maintenance, versatile expansion options, and a wide range of communication interfaces. Additionally, it supports virtualization technology, making it well suited for the digitalization of power substations.

### Specifications

#### General

- **Certification** CE, FCC, IEC-61850-3, IEEE-1613, CB/UL
- **Power\*** 2 x hot-swappable power supply, 150W  
Power1 (default): 100 ~ 240 V<sub>AC</sub>, 100 ~ 240 V<sub>DC</sub>  
Power2 (optional): 100 ~ 240 V<sub>AC</sub>, 100 ~ 240 V<sub>DC</sub>
- **Dimensions (W x D x H)** 483 x 478 x 88 mm
- **Enclosure** SECC and aluminum
- **Weight** 13.0 kg
- **Mounting** 2U Rackmount
- **Cooling** Fanless

\*Please refer to user manual for hot-swap operation.

#### System Hardware

- **CPU\*** 13th Gen Intel® Core™ Processors, up to Core™ i7
- **Chipset** Intel® R680E chipset
- **Memory\*** 2 x DDR4 SODIMM RAM with ECC, up to 64GB
- **Storage\*** 4 x 2.5" hot-swappable SATA SSDs, up to 9.5mm height  
1 x M.2 2280 M-Key NVMe PCIe Gen. 3 x4 / SATA  
Supports Intel® RST RAID 0,1,5,10
- **Display** 4 x DP++ 1.2 up to 4K @ 60Hz
- **Watchdog Timer** Programmable, with 256 time intervals, from 1 to 255 seconds for each tier
- **Relay** Relay Output Form C  
Contact 5A @ 125V<sub>AC</sub>/ 5A @ 30V<sub>DC</sub>  
Channel 1

\*To be assembled in the Advantech CTOS center.

#### Communication Interface

- **LAN** 4 x 10/100/1000 Base-T RJ-45 ports  
2,500V isolation  
Supports iBMC, Intel® AMT, SNMP remote management
- **Serial Port** 2 x RS-232/422/485 (DB9 connectors)  
2,500V isolation  
50 - 115.2 kbps
- **USB** 3 x USB 3.2 Gen1 at rear I/O  
2 x USB 3.2 Gen1 at front I/O  
1 x internal USB 2.0
- **Expansion** 1 x standard PCIe x16 slot Gen. 4 low profile  
3 x standard PCIe x4 slot Gen. 3 low profile  
1 x PCIe + PCI interface for ECU-P card extension

#### Environment

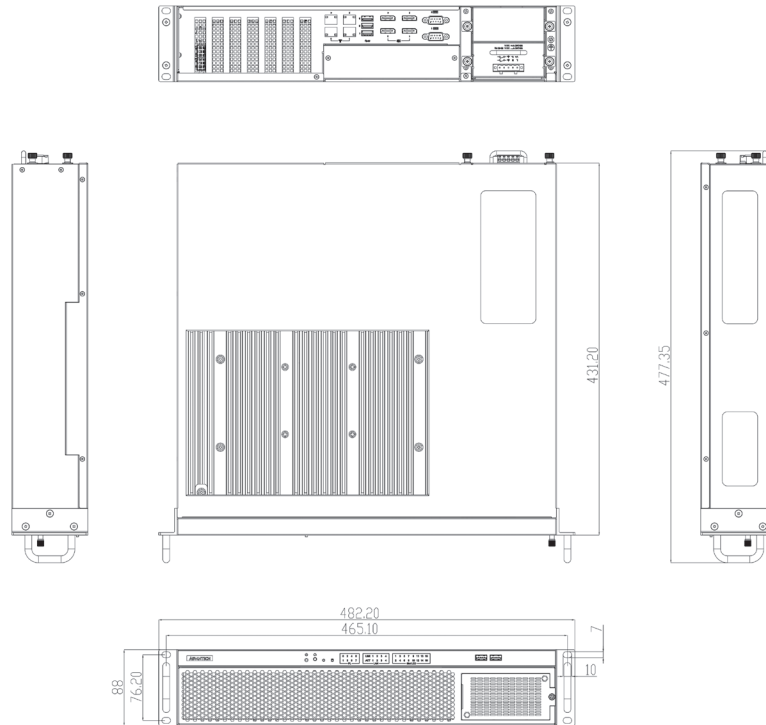
- **Operating Temperature** -25 to 70°C  
(Depends on CPU model and configuration)
- **Storage Temperature** -40 - 85°C
- **Operating Humidity** 5 - 95% RH (non-condensing)
- **Storage Humidity** 5 - 95% RH (non-condensing)
- **Shock Protection** IEC 60068-2-27: 20G half sine, 11 ms
- **Vibration Protection** IEC 60068-2-64: Random 1 Oct./min, 1hr/axis.
- **IP Rating** IP20

#### Operating System

- **Windows** Windows 10  
Windows 11  
Windows Server 2022
- **Linux** Ubuntu 22.04

## Dimensions

Unit: mm



### CPU Compatibility List

Part Number	Description
96MPI-13700TE-16E	Intel® Core™ i7-13700TE Processor
96MPI-13500TE-14E	Intel® Core™ i5-13500TE Processor
96MPI-13100TE-4E	Intel® Core™ i3-13100TE Processor

### RAM Compatibility List

Part Number	Size	Speed	Operating Temperature	ECC
SQR-SD4I32G3K2SEAB	32GB	3200	-40 - 85°C	Y
SQR-SD4I16G3K2SECB	16GB	3200	-40 - 85°C	Y
SQR-SD4I8G3K2SEBCB	8GB	3200	-40 - 85°C	Y
AQD-SD4U32E32-SBW	32GB	3200	-40 - 85°C	Y
AQD-SD4U16E32-SEW	16GB	3200	-40 - 85°C	Y
AQD-SD4U8GE32-SEW	8GB	3200	-40 - 85°C	Y

### Optional Accessories

Part Number	Description
FRU-ECUPWR-100A	PSU module 150W 100-240Vac/dc
96RC-SAS-4P-PE-AD6*	Adaptec 3101E-4i SAS PCIe x8 RAID card. Supports RAID 0,1,5,10.
1700034612-01	Mini SAS HD to SATA 22Px4 cable
1700024985-01	Power cable 4P-5.08 to 4P-2.5
96NIC-1G2P-PE-IN3	Intel® NIC 100/1000M dual RJ-45 PCIe x4
PCIE-1131PS-00A1E	Intel® I350 Quad 1G SFP PCIe x4
PCA-TPMSPI-00A1	TPM 2.0 module by SPI for CPU cards

\*Required to order with 1700034612-01 x1, 1700024985-01 xN. (N=q'ty of 2.5" SSD)

### Ordering Information

- **ECU-479-V1-S1** RPL-S Processors, 1 x PSU (AC/DC), 4 x LAN, 4 x DP, 1 x EP Slot, 4 x PCIe
- **ECU-479-V1-N1\*** RPL-S Processors, 0 x PSU (ordered separately), 4 x LAN, 4 x DP, 1 x EP Slot, 4 x PCIe

\*Available in Q1 of 2024.