CONTROLLER AMAX 80-C

Linux based Controller with EtherCAT Slice I/O Bus

Intel® Celeron® Control IPC, Linux based, with EtherCAT I/O modules and PCIe modules

The AMAX-80-C controller is a compact and powerful Linux real-time controller with an Intel Celeron CPU. With its DATA EXCHANGE LAYER (D.E.L.) it is the ideal open control platform for all future challenges. The controller has a high-performance backplane bus for the use of EtherCAT I/O modules of the AMAX-5000 series as well as various interfaces onboard. On the left side of the device, the controller has an integrated standard PCIe interface for the integration of communication modules such as NVRAM or Wifi modules. The AMAX-80-C controller with D.E.L. is the best solution for data acquisition, transmission, control and analysis. Seamless integration with I/O can reduce costs and meet a wide range of automation projects.

ORDER DETAILS

Function: Intel® Celeron processor, 2.6 GHz with 4GB DDR4 memory, 128Gb SSD, 2xGbE, 4xUSB 3.0, 2xRS-232 /422/485, 1xVGA, 1xHDMI, Wireless mPCIe module support for 3G/LTE/Wi-Fi/GPS
SKU/Order No.: SA-AMAX-5580-C3000A

Features

Multi-Runtime support

The system supports several runtime systems simultaneously, for example two Codesys programs together with the SALut system. This makes it possible to control several machines with one control hardware or to build your own re-use concept.

Management of data exchange between installed applications

The D.E.L. technology uses mechanisms from the field of **Shared Memory** and **OPC-UA**. The two resulting data pools are kept constantly **synchronized**. This ensures data exchange between real-time and non-real-time applications. To ensure that only the data that should be exchanged is exchanged, the D.E.L. also contains a **user and rights management** that is operated by the user.

Monitoring of Health State possible at any time

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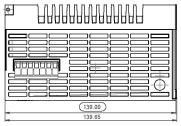
Integrated open marketplace

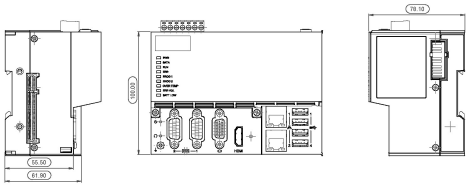
Integrated marketplace to let user install the applications. This marketplace has easy to install and update application with a web interface. There are various specifically designed software for the hardware systems. These softwares can let anyone manage SCADA, PLC or HMI display.

Longer lifetime with passive cooling

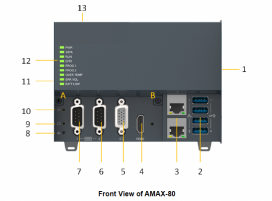
Our hardware is designed to be cooled passive without any fan. This leads to a longer lifetime.

Mechanical Dimensions





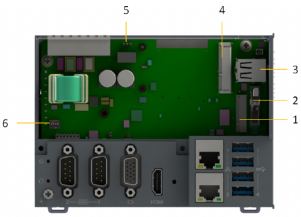
Drawings



Front View of AMAX-80

Legend of Configuration for the AMAX-80 CPU Module		
No.	Component	Description
1	EtherCAT Slice Connection	Connection for EtherCAT Slice IO extension modules.
2	USB Interface	Interfaces for peripherals such as mouse, key-board or USB memory.
3	RJ45 Ethernet Interface	For connecting to local networks, internet or EtherCAT.
4	HDMI Interface	Digital interface for a monitor or panel with audio output
5	VGA Interface	Analogue interface for a monitor or panel.
6 & 7	DB9 Interface	Interface for serial communication (RS-232/ 422/485 selectable in BIOS)
8	Shielding Ground Connection	Screw to fix the shielding ground connection
9	Reset Button	Hidden button for PC hardware reset function
10	Power Button	Hidden button for PC power function
11	Multi-function Connection	Connection for PCIe extension modules
12	Diagnostic LEDs	Diagnostic LEDs for CPU module
13	Power Input Wiring Terminal	7-pin terminal for dual 24VDC power input wir-ing and alarm output.
A & B	Screws	Screws to open the front cover for internal con-figuration

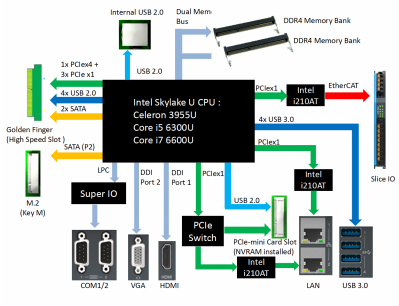
Legend of Configuration for the AMAX-80 CPU Module



Internal configuration under the front cover of AMAX-80

Legend of Configuration Inside the AMAX-80 CPU Module		
No.	Component	Description
1	M.2 Connector (M Key)	To install M.2 SSD for operation system installation.
2	RTC Battery	Battery to keep RTC and BIOS settings
3	Internal USB Interface	Interfaces for peripherals such as USB mem-ory or USB dongle key.
4	PCIe-mini card slot	Slot for PCIe-mini cards, such as NVRAM card or Embedded Wireless Module (EWM)
5	Jumpers	Jumpers for power alarm output (NO/NC) (Refer to p.20 ERR-LOGIC1)
6	DIP Switch	For VGA, USB, AT power setting. (Refer to p.20 ERR-LOGIC1)

Internal configuration under the front cover of AMAX-80



System Architecture of AMAX-80

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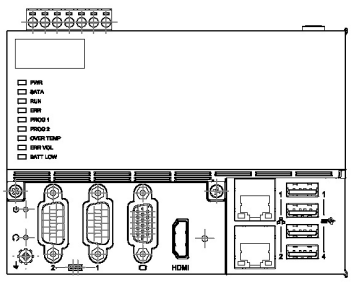

Technical Data

Interface

LED Panel	LEDs for Power, Storage, Run(Program) and Abnormal status, LAN (LINK, ACT)
Serial Ports	2 x RS-232/422/485 (DB9), 50 ~ 115.2kbps
LAN Ports	2 x RJ45, 10/100/1000 Mbps IEEE 802.3u 1000BASE-T Fast Ethernet
Display	1 x VGA, support up to 1920 x 1200 @60Hz 1 x HDMI, support up to 4096 x 2160 @24Hz
Grounding Protection	Chassis grounding
USB Ports	4 x USB ports (USB 3.0 compliant), 1 x internal USB

Input Data

Input Voltage Range DC	24 VDC ± 20%
Power Consumption (max.)	15 W (Typical), 42 W (Max)

Mechanical Data

Housing	Aluminum alloy
Mounting DIN Rail according EN 60715	DIN-rail
Weight (typ.)	Approx. 1.3kg
Cooling Method	Passive cooling and front accessible

Dimensions

Depth (mm)	80 mm
Height (mm)	100 mm
Width (mm)	139 mm

Ambient Condition

Ambient Temperature (operating)	-20 ... 60°C (-4 ... 140°F) @ 5 ... 85% RH with 0.7m/s airflow
Ambient Temperature (operating with expansion)	-20 ... 55°C (-4 ... 131°F) @ 5 ... 85% RH with 0.7m/s airflow (with EtherCAT expansions and mPCIe)
Ambient Temperature (storage/transport)	-40 ... 85°C (-40 ... 185°F)

Operating Humidity (non-condensing)	95% RH @ 40°C

Standards and Regulations

Shock Test	Operating, IEC 60068-2-27, 10G, half sine, 11 ms
Vibration	Operating, IEC 60068-2-64, 1 Grms, random, 5 ~ 500 Hz, 1hr/axis (M.2)

System Hardware

BIOS	AMI EFI 128Mbit Flash BIOS
Watchdog Timer	Programmable 255 levels timer interval, from 1 to 255 sec
Processor	Intel® Celeron 3955U 2.0GHz Skylake Dual Core, 2MB L2
Memory	DDR4 2666MHz, 4GB (two socket support up to 16G)
Ethernet	Intel® i210-IT GbE, 802.1Qav, IEEE1588/802.1AS, 802.3az
Expansion	1 x full-size mPCIe slot, left side PCIe, right side EtherCAT Slice IO

Commercial Data

Customs Tariff Number	85371091

Certification

Certification	FCC, UL