

ICS 1000

Server-grade Intel® Xeon® D-2800/D-2700 Processor
Expandable GPU-accelerated System with Discrete Graphics



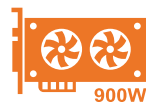
ICS-1000



- Server-level Platform : Intel® Xeon® D-2800/ D-2700 Processor (Eddy Lake D)
- Max 1800W power budget supports dual 900W NVIDIA® or AMD 2-slot full-length graphics card
- Flexible Power Input Design with Software Ignition Control : DC 16V to 50V or AC 220V
- 2 10G SFP+, 4 GigE LAN, 4 USB, 16-bit Isolated DIO
- Max 6 PCIe expansions : PCIe 4.0 x16, PCIe x8, PCIe x2
- Multiple 5G/WiFi 6/4G/LTE/GPRS/UMTS, 2 Front-access 2.5" SSD/HDD Tray
- Supports Intel® vPro, Intel® QAT (QuickAssist Technology), and TPM 2.0
- Optional supports TSN and Intel® TCC
- Support remote devices Out-Of-Band management functions powered by Allxon

Power-efficient Performance | Server-Grade Integration Flexible Configuration | Industrial Optimization

The Rugged Science ICS-1000 is a highly expandable, GPU-accelerated system featuring discrete graphics capabilities. Powered by the Intel® Xeon® D-2800/D-2700 Processor, this system delivers server-grade computing performance. The ICS-1000 supports up to 6 PCIe slot expansions and can accommodate a substantial 1800W power budget for dual NVIDIA/AMD graphics cards, ideal for AI and inferencing tasks. Leveraging Intel® QuickAssist Technology and high-speed interfaces such as PCIe 4.0, SATA 3.0, USB 3.0, and 10GigE LAN, the ICS-1000 ensures optimized performance for workload-intensive applications. Perfectly suited for space and power-constrained environments at the edge, this robust system excels in autonomous driving, robotic control, public security, and other demanding edge AI applications. Its ability to deliver unparalleled performance in challenging conditions makes the ICS-1000 an exceptional choice for advanced computing needs..



Specifications

System

Processor	- 16-core Intel® Xeon® D-2876NT Processor (Eddy Lake D HCC) - 12-core Intel® Xeon® D-2752TER Processor (Ice Lake D HCC)
BIOS	AMI
SIO	IT8786E
Memory	8 DDR4 UDIMM/RDIMM 2933MHz, up to 512GB (ECC support by UDIMM only)
OS	Windows 10, Windows Server, Linux

I/O Interface

Serial	4 COM RS-232/422/485
USB	- 2 USB 3.0 Type-A - 2 USB 2.0 Type-A
Isolated DIO	16 Isolated DIO : 8 DI, 8 DO
Display	VGA : Up to 1920 x 1080 @60Hz
LED	Power, HDD, Wireless, OOB
SIM Card	1 External Nano SIM Card Socket

Expansion

PCIe	ICS-1600 : 6 PCIe x16 slots with 4 PCIe 4.0 x8, 1 PCIe x8, 1 PCIe x2 signal ICS-1640 : 4 PCIe x16 slots with 2 PCIe 4.0 x16, 1 PCIe x8, 1 PCIe x2 signal
M.2	- 1 M.2 Key B Socket (3042/3052/2280, PCIe x2/USB 3.0) - 1 M.2 Key E Socket (2230, PCIe x1)

Storage

SATA	2 SATA III (6Gbps) support software RAID 0, 1
M.2	1 M.2 Key M Socket (2280/22110, PCIe x2/SATA)
Storage Device	2 Front-access 2.5" SSD/HDD Tray

Ethernet

LAN 1 to LAN 4	Intel® I350 GigE LAN
LAN 5 to LAN 6	10G SFP+ LAN by Intel® Xeon® SoC (OS Windows Server support only)

Power

Power Input	ICS-1600 : DC 16V to 50V ICS-1600A : AC 90V to 240V for dual discrete graphics card operation)	(2000W @220V)
Power Interface	ICS-1600 : 4-pin Terminal Block : V+, V+, V-, V- ICS-1600A : 3-pin C14-type AC Plug	
Ignition Control	16-mode Software Ignition Control	
Remote Switch	3-pin Terminal Block	

Out-of-Band Management

MCU	Nuvoton NUC980
Interface	OOB LAN, 10/100Mb Ethernet LAN, RJ45 Connector
Remote Management	Support Remote Power ON/OFF, Reset and Power Cycling

Others

TPM	Infineon SLB9670 supports TPM 2.0, SPI Interface
Watchdog Timer	Reset: 1 to 255 sec./min. per step
Smart Mgmt.	Wake on LAN, PXE supported
HW Monitor	Monitoring temperature, voltages. Auto throttling control when CPU overheats.

Mechanical

Dimensions	243.5mm x 271.3mm x 390.0mm (9.58" x 10.68" x 15.35")
Weight	10.2kg (22.48lb)
Mounting	Wallmount by mounting bracket

Environment

Operating Temperature	ICS-1600 : -25°C to 45°C (-13°F to 113°F) ICS-1600A : -5°C to 45°C (23°F to 113°F)
Storage Temperature	ICS-1600 : -40°C to 85°C (-40°F to 185°F) ICS-1600A : -20°C to 85°C (-4°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing
Relative Humidity	95% @45°C

*Environmental ratings for base system only

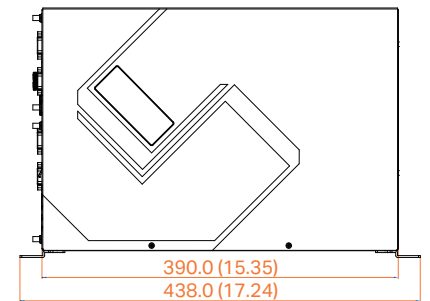
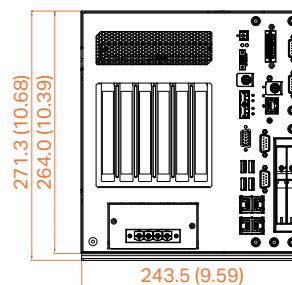
Order Information

Model	LAN		PCIe			SSD Tray	Power Input
	10G SFP+	1G	x16	x8	x2		
ICS-1640-2876NT	2	4	2	1	1	2	DC
ICS-1640A-2876NT				AC			
ICS-1660-2876NT			-	5			DC
ICS-1660A-2876NT				AC			
ICS-1640-2752TER			2	1			DC
ICS-1640A-2752TER			AC				
ICS-1660-2752TER			-	5			DC
ICS-1660A-2752TER				AC			

Dimensions & Drawing

Unit : mm (inch)

ICS-1000



ICS-1000A

