PERFFCTRON

SCH300

IEC-61850-3 , IEEE-1613
Substation Fanless Computer

Extended Temperature +85°C / -40°C

CPU Full Speed HIGH

POWER AUTOMATION COMPUTER

- Intel® Core™ i7-9700TE
- 2 x SO-DIMM up to 64GB DDR4-2666MHz
- 2 x 2.5"Easy swap SSD Tray
- 4 x PoE, 2 x RJ45 LAN
- 4 x USB3.0, 2 x USB2.0
- 1 x DP, 1 x DVI, 1 x HDMI
- 6 x COM (RS232/422/485)
- Extended Operating Temp.:-40°C~60°C

SCH300

Introduction

SCH300, a sophisticated fanless power substation solution with rich and powerful I/O connectors, such as 4 x PoE (RJ45 or M12), 6 x COM (RS232/422/485) with isolated DIDO (4 x DI, 4 x DO), and also 8 x USB ports. According to your actual requirement, there are flexible options like up to 10 x COM (RS232/422/485), or up to 10 x LAN (RJ45), and even at most 8 x POE (RJ45 or M12) for our energy customers.

Moreover, 9V-48V, an Ultra-Wide DC power input is really crucial for a stable and reliable power substation system. SCH300 allows the system to be utilized in extensive power types. And also, sudden drop or surge of power posts absolutely no threat to this smart and outstanding system.

One more thing, it's the optional HSR/ PRP Ethernet board. Which is an Ethernet Redundancy concept, and allows user to have a more stable and efficient solution for troubleshooting without any delay. As well as its extended operation temperature, -40~60°C, SCH300 is really a best solution of your smart power substation!
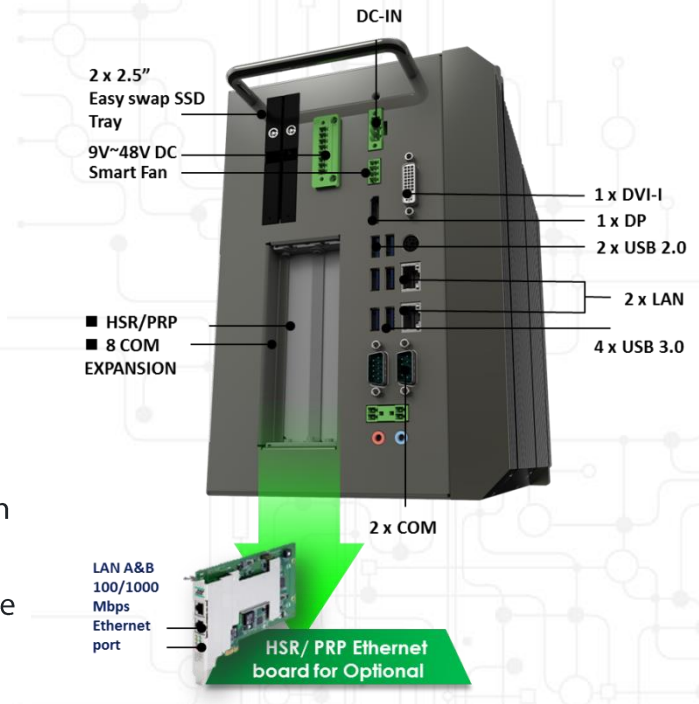
Key Features of SCH300

(1) Security Redundancy

(2) Network Redundancy

(3) Rich Communication Interface

(4) IEC-61850-3

(5) Comprehensive Extension Module

(6) IEEE-1613

(7) Extreme Operating Temperature

(8) Ultra Wide Voltage Support

SCH300

Key Feature

(1)Security Redundancy

Integrating TPM module, operating systems can require an authentication to protect keys, data or systems.

(2)Network Redundancy

PRP/HSR network is an efficient and cost effective solution to construct a seamless/bumpless communication infrastructure.

(3)Rich communication Interface

In advantage of SCH300's diverse I/O, 6 x COM (All support RS232/422/485), 8 x USB, 4 x POE, 2 x LAN, the SCH300 system can meet all clients' communication requirement.

(4)IEC-61850-3

IEC 61850 defines the communication protocols for intelligent electronic devices at electric substations. IEC-61850-3 defines the complete testing requirement for the equipment which conforms to the standard.

(6)IEEE-1613

Detail environment and testing requirements for communications networking devices in electric power substations.

(5)Comprehensive Extension Module

No matter POE or LAN, M12 or RJ45 port, as well as full function RS232/422/485 COM port, SCH300 offers user with variety of options, which can meet all industrial/ energy critical needs.

(8)Ultra Wide Voltage Support

9V-48V, a very wide range voltage of DC-input capability, allows users to adopt all kinds of working site and applications scenario.

(7)Extreme Operating Temperature

Ensure high reliability and stability while operating under a harsh environment such as temperature from -40°C up to 60°C

SCH300

Specifications

System

CPU	Intel® Core™ i7-9700TE
Memory type	2 x SO-DIMM up to 64GB DDR4-2666MHz
Expansion Slot	2 x I/O Expansion Slots (Default: 4 x POE + 4 x COM) 2 x PCIe 3.0 X8
Storage Device	2 x 2.5"Easy swap SSD Tray

Rear I/O

Power Input	DC 9V~48V
USB	4 x USB3.1, 2 x USB2.0
Ethernet	2 x RJ45 LAN
DisplayPort	1 x 20Pin DisplayPort connector (Female), resolution up to 4096x2160@60Hz
DVI	1 x 20Pin DVI-I connector, resolution up to 2560x1600@60Hz
COM	2 x RS232 / 422 / 485 (Support Power 5V / 12V)
PS/2	1
Audio	1 x Mic-in, 1 x Line-out
Graphic External Power	1 x 12V
Terminal Block	1 x 2Pin Terminal Block Remote Power ON/OFF 1 x 2Pin Terminal Block Remote Reset 1 x 4Pin Terminal Block External FAN Connector 1 x 3Pin Terminal Block Power Input

FRONT I/O

Power Button	1 x (with LED indicator)
HDMI	1 x 19Pin HDMI1.4 connector, resolution up to 3840x2160@30Hz
USB	2 x USB 3.0
Serial Port	4x COM (RS232 / 422 / 485), with 8-bit Isolated DIDO
POE	4x RJ45

SCH300

Optional Expansion Slots

HSR/PRP	HSR/PRP Dual LAN Card

OS support list

Windows	Windows 10 64Bit
Linux	Ubuntu14.04, Fedora 20/23, RedHat Linux EL 7.1/7.2

Mechanical & Environment

Dimension	170 x264 x 250 mm (W x D x H)
System Design	Fanless
Mounting	Rackmount Cube
Operating Temp.	-40°C to 60°C (35W CPU)
Storage Temp	-40°C to 85°C
Relative Humidity	5% to 95%, non-condensing

Certification

EMC	CE, FCC compliant
Green Product	RoHS, WEEE compliance

MIL-STD-810G Test
Operating Tests

Low Temperature	Method 502.5 Procedure 2	exposure(24h x 3 cycle) at -40℃ min.
High Temperature	Method 501.5 Procedure 2	60ºC for 2 hours after temperature stabilization.
Humidity	Method 507.5 Procedure 2	RH -95%. Test cycles: ten 24-hours , functional test after 5th and 10th cycles
Vibration	Method 514.6 Category 20	10—500Hz 1.04Grms Test duration: 1 hours x 3 axis (total 3 hours)
Shock	Method 516.6 Procedure 1	20G, 11mSec, 3 per axis

Non-Operating Tests

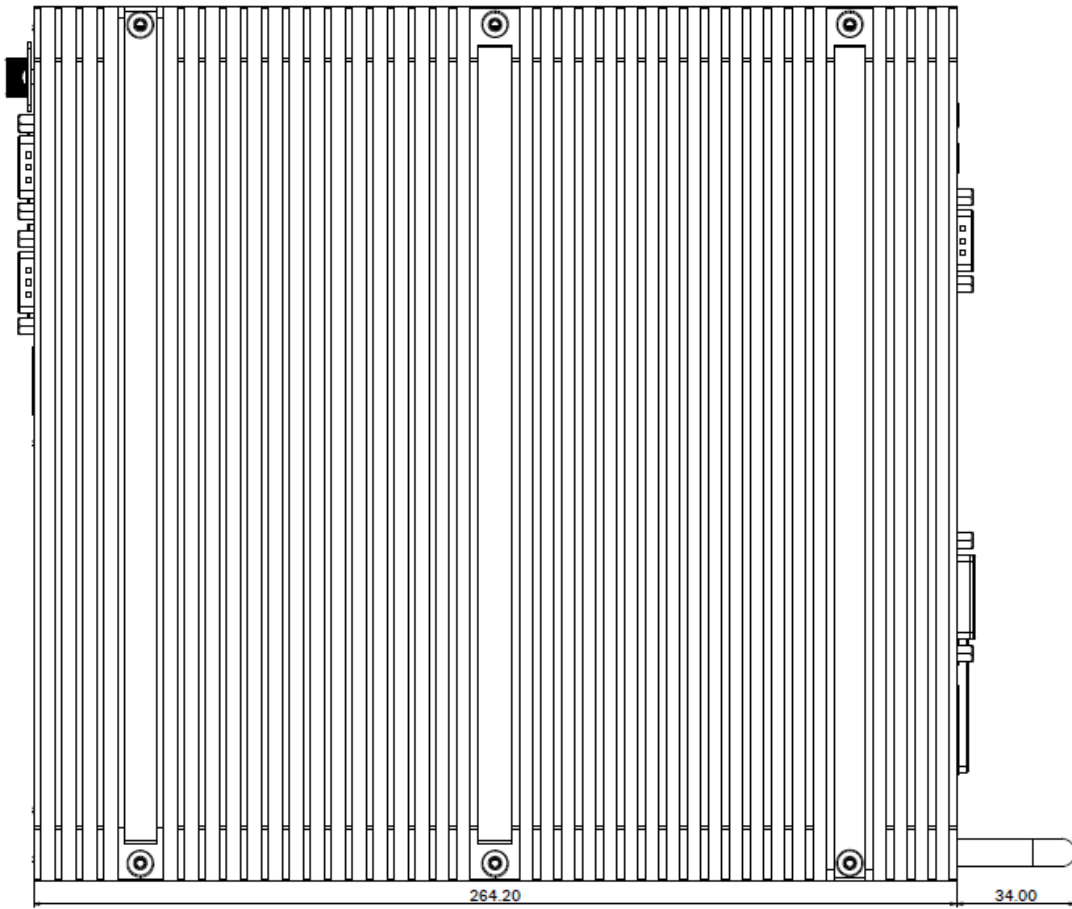| Low Temperature Storage	Method 502.5	exposure(24h x 7 cycle) at -40℃ min.
High Temperature Storage	Method 501.5 Procedure 1	71℃ for 2 hours after temperature stabilization.
Vibration	Method 514.6 Category 24	200 to 2000Hz Test duration: One hour per axis; rms = 7.7 gs
Shock	Method 516.6 Procedure V	40G, 11ms, 3 pluse.

Mechanical Dimensions

MIC
LINE-OUT
RESET
SW
COM1
COM2
LAN1
USB3.0
LAN2
PS/2
USB2.0
DVI-I
DP
FAN
DC-IN 9V~48V
PWR-GRAPHIC 12V
SSD

8.00
8.00
112.00

PERFECTRON

264.20

34.00
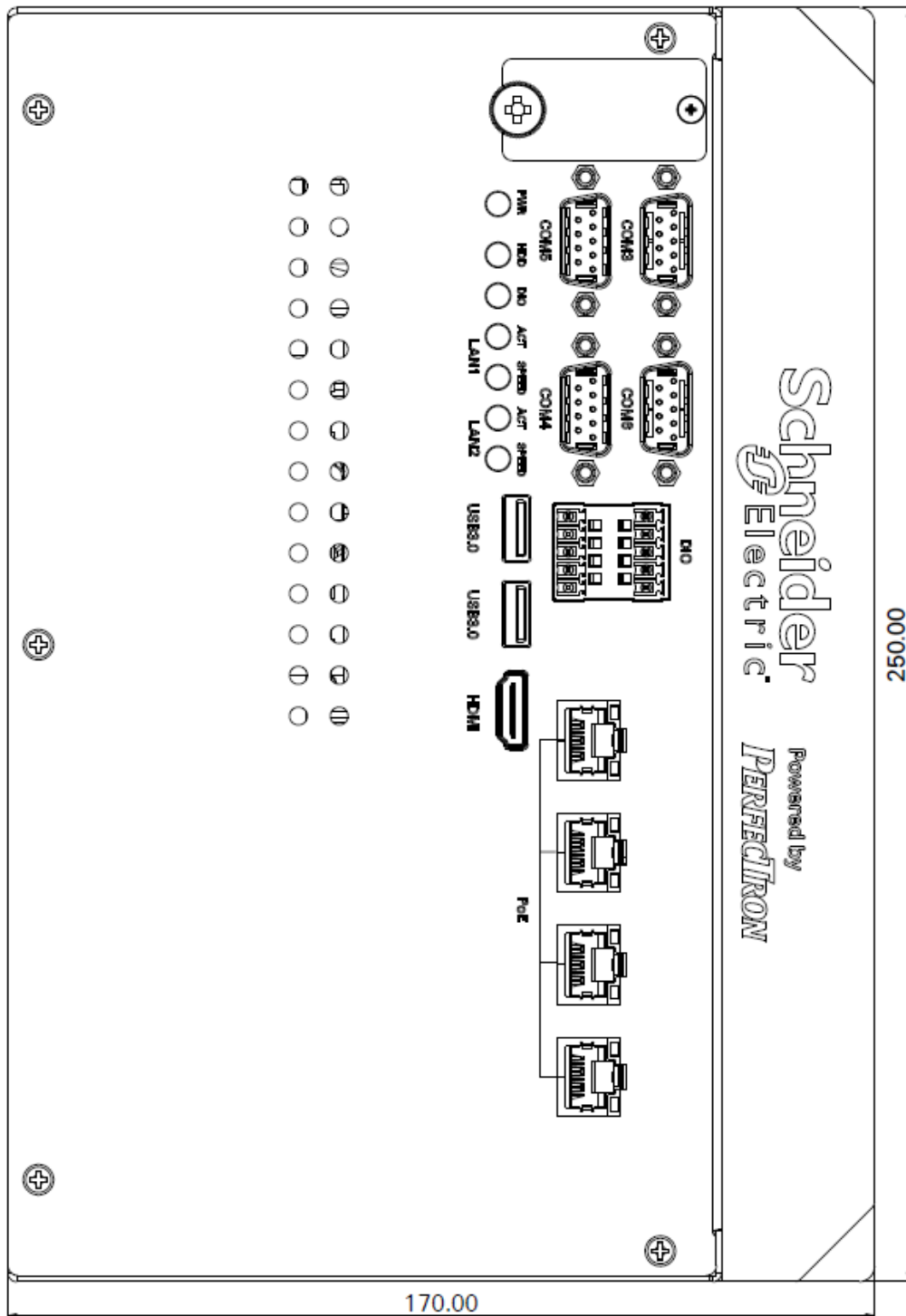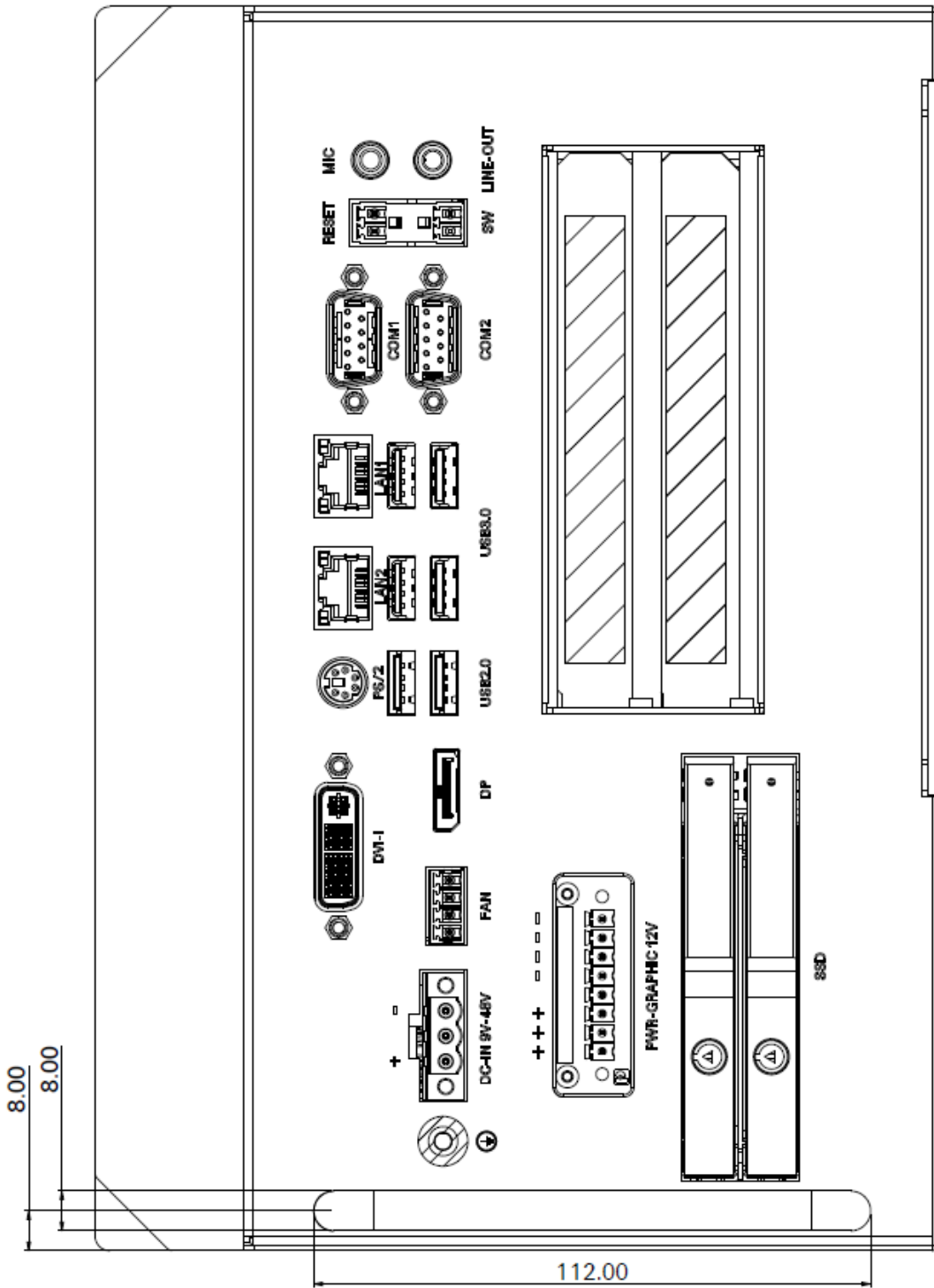
Ordering Information

Model: SCH300

Ordering Number	LAN Port	POE	COM Port
S301	2 x RJ45	4 x RJ45	6 x RS232 / 422 / 485, 8-bit Isolated DIDO (4 x DI, 4 x DO)
S302	6 x RJ45	N/A	6 x RS232 / 422 / 485, 8-bit Isolated DIDO (4 x DI, 4 x DO)
S303	2 x RJ45	4 x RJ45 + 4 x M12	2 x RS232 / 422 / 485
S304	2 x RJ45	8 x M12	2 x RS232 / 422 / 485
S305	2 x RJ45	8 x RJ45	2 x RS232 / 422 / 485
S306	10 x RJ45	N/A	2 x RS232 / 422 / 485
S307	2 x RJ45	N/A	10 x RS232 / 422 / 485, 8-bit Isolated DIDO (4 x DI, 4 x DO)
S308	2 x RJ45	4 x M12	6 x RS232 / 422 / 485, 8-bit Isolated DIDO (4 x DI, 4 x DO)