

**PERFECTRON**

# SCM7

**MICRO-GRID I9-10900TE FANLESS  
COMPUTER**



## **MICRO-GRID COMPUTER**

- 10th Gen Core™ i9-10900TE Cometlake-S
- 2x DDR4- up to 64GB
- 2x SSD – Support RAID 0/1
- TPM & FTDI Security on Board
- Multi Display with DisplayPort, HDMI,
- 2 x COM, 2 x LAN, 6 x USB
- 12V DC-IN

## Introduction

A Microgrid is a small scale, a type of local electric subsystem that combines power from distributed energy generation sources, connected to the general grid at a single point. A Microgrid is a self-contained power system that has the ability to locally generate, distribute, and store energy. It also is a localised energy grid, which is generally



linked to the main grid but can disconnect automatically and function as its own independent grid when necessary. This connection also can be acted as a switch that makes it possible to disconnect a Microgrid from the public grid (should anything happen to the main grid such as a blackout.) and operate it temporarily in island mode.

A Microgrid can be powered by distributed generators, batteries, and/or renewable resources like solar panels. Depending on how its requirements are managed, a Microgrid might run indefinitely.

## How does Micro-Grid work?

Microgrid is including three essential sections:

1. Local energy (such as photovoltaic panels, wind turbines, heat pumps, biomass plants, hydroelectric turbines, etc.) and an additional back-up supply of energy (power generators).
2. Storage system: batteries, a supply of water for pumped-storage hydroelectricity.
3. Smart management system to ensure the continuous balance between electricity generation and demand.

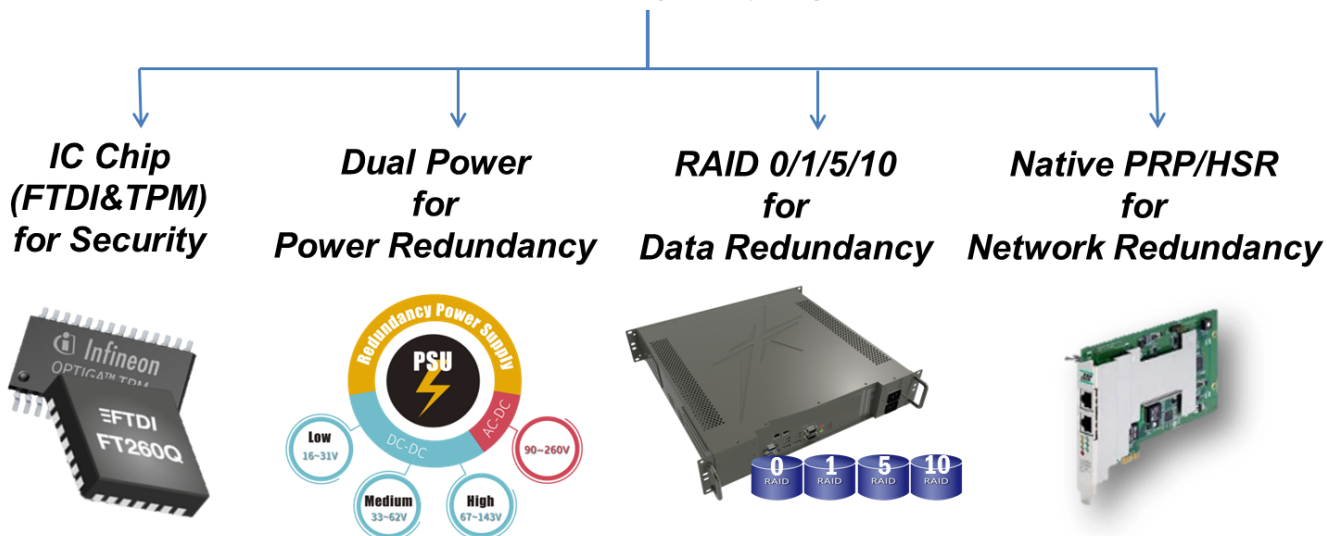
A fully functioning Microgrid computer system is important for ensuring all processes work correctly and that energy is always being distributed in an efficient manner. 7Starlake provides state-of-the-art

solutions for substation automation and Micro-Grid applications for both public utilities and enterprises. Our rich experience in this industry, coupled with our innovative work on the latest technologies, enables us to develop market-specific solutions for computing and communication applications in this domain.

SCHX4 is designed especially for Microgrid customer such as SCHNEIDER with a highly efficient and powerful computing performance driven by the Intel 10th Gen, Cometlake-S i9-10900TE, in addition, SCHX4 system also supports a wide range DC-in from 12V to 24V, and accepts the extend range of temperature from -20°C to 60°C (CPU Full Speed with no throttling @ 50°C). SCHX4 passes the MIL-STD 810G compliance which can operate successfully in any harsh environments.

## Main feature

### Micro-grid & Substation Main Features



# Specifications

## SYSTEM

CPU	Intel® 10th Gen Core™ i9-10900TE (Cometlake-S) Processors,
Memory type	Up to 64GB DDR4 RAM
Chipset	Q470

## DISPLAY

GPU	Intel® UHD Graphics
Display Port	DisplayPort 1.4, DP++ Max resolution up to 4096x2160@60Hz
HDMI	HDMI 2.0a, Max resolution up to 4096x2160@60Hz

## STORAGE

Storage Device	1 x PCIe x 16 (Gen3, Support riser card x8/x8, x8/x4/x4 ) 1 x M.2 (Key E, 2230) with PCIe x1 and shared USB 2.0 for Wireless 1 x M.2 (Key E, 3042) with shared USB 2.0 and SIM for 4G 1 x M.2 (Key E, 2280) with PCIE x 4 and SATA3 for SSD 1 x SIM socket connected to M.2 key B
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## ETHERNET

Ethernet	1 x Intel Gigabit Ethernet LAN Interfaces (10/100/1000 Mbps) 1 x Intel Gigabit Ethernet LAN Interfaces (10/100/1000/2500 Mbps)
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## I/O

Display Port	2 x DP 1.4
HDMI	1 x HDMI 2.0a
Ethernet	1 x 1 Gigabit Ethernet LAN, 1 x 2.5 Gigabit Ethernet LAN
USB	4 x USB3.2 Gen2 standard-A connectors 2 x USB 2.0
Serial Port	2 x COM (RS-232/422/485)
Audio Port	1 x Line-Out, 1 x MIC-In connector
DC-IN	4P Rugged Terminal connector, 12V DC-IN
Operating System	Windows 10 64bit Ubuntu16.04, Ubuntu18.04, Fedora 28

## PHYSICAL

Dimension	430(L) x 300.6(D) x 75(H) mm
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Weight	TBC
Chassis	Aluminum Alloy, Corrosion Resistant.
Finish	Anodic aluminum oxide (Color Blue Silver)
Cooling	Natural Passive Convection/Conduction. No Moving Parts
Connectors	DC-IN : PHOENIX CONTACT 1776715 RJ45 Ethernet : RTB-19GB9J1A COM: FEN YING SM10-09P HDMI + DP : JKCR Display and HDMI Female
Ingress Protection	Dust Proof (Similar to IP50)

## ENVIRONMENTAL

Low Temperature	Method 502.5 Procedure 2	-20°C, 4 hours, ±3°C
High Temperature	Method 501.5 Procedure 2	+55°C, 4 hours, , ±3°C
Humidity	Method 507.5	85%-95% RH without condensation, 24 hours/ cycle, conduct 10 cycles.
Vibration	Method 514.6	5-500Hz, Vertical 2.20Grms, 40mins x 3axis.
Shock	Method 516.6	20 Grms, 11ms, 3 axes.
Storage Temp.	-40 to 85°C	
Operating Temp.	-20 to 60°C	
EMC	CE and FCC compliance	

## Ordering Information

### SCHX401

Micro-Grid Fanless Computer with Intel 10th Gen (Cometlake-S) i9-10900TE processor, 32GB Memory, 128GB SSD, 100~240V AC-IN Redundant, non PCIe expansion, non FTDI, Extended range of Temperature 20°C ~ 60°C

### SCHX402

Micro-Grid Fanless Computer with Intel 10th Gen (Cometlake-S) i7-10700TE processor, 32GB Memory, 128GB SSD, 12V DC-IN, Extended range of Temperature -20°C ~ 60°C

### SCHX403

Micro-Grid Fanless Computer with Intel 10th Gen (Cometlake-S) i9-10900TE processor, 64GB Memory, 128GB SSD, 12V DC-IN, Extended range of Temperature -20°C ~ 60°C

# Drawing and Dimension

