EQIO

RNB-156-W01

PRODUCT MANUAL

15.6-inch Intel Xeon Rugged Notebook

Intel Xeon W-11865MRE



Appearance reference (generated from product photos); shipped units may differ.

Measurement and control, made easy.

Easy · Quick · Input · Output

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01 OVERVIEW

15.6-inch Intel Xeon Rugged Notebook

Rugged notebook and tablet · Industrial automation · Field survey · Field measurement and control · Intel

RNB-156-W01 uses Intel Xeon W-11865MRE processor, configured with 64GB DDR4 memory and 2TB SSD, equipped with 15.6-inch Full HD display, rugged aluminium-alloy frame and industrial communications I/O, used for field measurement and control, data processing and field work. Dual Gigabit optical port, USB, VGA and RS-232/422/485 composite serial facilitates attach instrument and industrial communications equipment. Built-in battery and DC input also cover mobile portable use and fixed workstation, can as field log, equipment maintenance and data analysis operation terminal.



Multi-angle reference (generated from product photos); shipped units may differ.

Key features

- Xeon W-11865MRE processor
- 64GB DDR4 and 2TB SSD
- 15.6-inch Full HD display
- Dual Gigabit optical port and industrial serial
- Aluminium alloy rugged frame

Applications

Industrial automation	Field survey	Field measurement and control

02 FUNCTIONS

Functions and engineering value

Mobile workstation compute configured with

Xeon W-11865MRE together with 64GB DDR4 and 2TB SSD, run Windows 10, field application provides compute storage resources. 15.6-inch Full HD display used for operation and result view, actual software load should combined with product cooling conditions verification.

Fibre network and industrial serial

2-ch Gigabit optical port used for compatible fibre network connect, RS-232/RS-422/RS-485 composite serial interface with corresponding industrial equipment, 4-ch USB and VGA connect common peripherals. Built-in USB encryption I/O software licensed equipment retain location, specific equipment compatible must single independent confirm.

Rugged portable use and dual power method

Rugged aluminium-alloy frame and including handle no more than 8kg specification suited to field move, 95Wh battery and 20V DC input supports mobile and fixed workstation used. Data gives maximum 1.5 hours runtime aperture, actual duration will with CPU load, peripherals and display settings change.

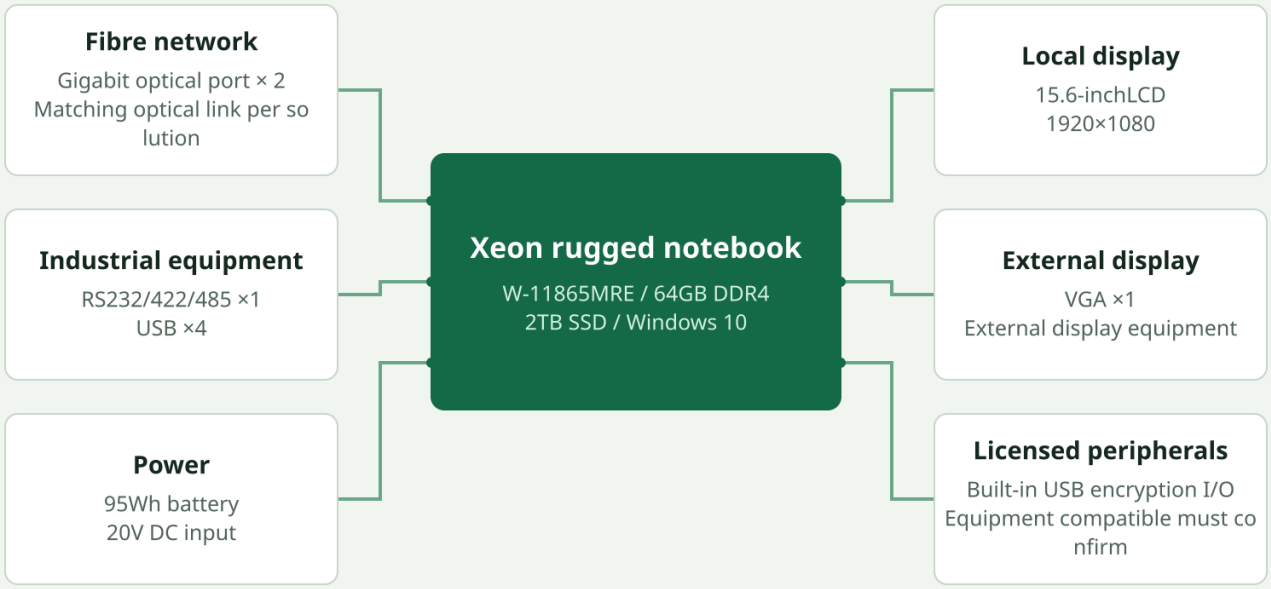
The functional notes explain the product’s role from published configuration. Optional functions, software and peripherals follow the project definition. Chip capability is not the same as implemented I/O.

03 ARCHITECTURE

Product functional architecture

FUNCTIONAL BLOCK DIAGRAM

RNB-156-W01



Functional relationships · lines do not show internal circuits, pins or dedicated bus topology

From published specification illustrative functional grouping, does not show internal circuits, on-board bus or signal routing; I/O direction actual protocol shall prevail.

Platform and I/O

Uses Xeon W-11865MRE, product rated 2.6GHz, configured with 64GB DDR4 and 2TB SSD. Device profile lists 8-core16 threads, 24MB cache and up to 4.70GHz turbo; these belongs to processor specification, not should accordingly claim product continuous frequency, ECC enable or not listed out I/O capability.

> **Reading the diagram**
>
> Solid lines show published functional relationships, not on-board buses, bridge chips or connector pins. Optional controllers, radios, storage and software follow the configuration and interface files.

04 SPECIFICATIONS

Technical specifications

Compiled from published product data. Batch, I/O and environmental ratings follow the order confirmation.

Core system

Processor	Intel® Xeon W-11865MRE@2.6GHz
Capacity	64G DDR4 + standard 2TB SSD solid-state HDD
Operating system	Windows 10
Display	15.6-inch LCD LCD display, maximum resolution 1920 × 1080

I/O and expansion

External I/O	1-ch VGA I/O, 4-ch USB I/O, 2-ch Gigabit optical port, 1-ch RS-232/422/485 serial
Built-in I/O	1-ch USB encryption I/O

Mechanical specifications and system requirements

Dimensions / weight	408±2mm × 314±2mm × 68±2mm (including handle), product weight≤8Kg
Environmental ratings	Operating temperature: -40°C ~ 55°C, storage temperature: -50°C ~ 70°C
Battery	95Wh, maximum supports 1.5 hours runtime, supports 20V DC input

05 COMPONENTS

Processor and device specifications

Device figures come from vendor publications and describe the chip or module. The implemented product follows the specification tables. Optional devices are supplied with the selected configuration.

Intel W-11865MRE

Micro architecture codename	Tiger Lake
Manufacturing process	10 nm SuperFin
CPU core number	8
CPU threads number	16
Up to turbo	4.70 GHz
Shared cache	24 MB Intel® Smart Cache
CTDP-up should be based on frequency	2.60 GHz
CTDP-up power	45 W
CTDP-down should be based on frequency	2.10 GHz
CTDP-down power	35 W

Intel W-11865MRE (continued)

CPU memory controller capacity upper limit	128 GB
CPU memory controller supports type	DDR4-3200
Memory channel number	2
CPU ECC supports	Supports
Integrates graphics unit	Intel® UHD Graphics for 11th Gen Intel® Processors
IGPU basic frequency	350 MHz
IGPU up to dynamic frequency	1.35 GHz
IGPU actuation unit	32

05 COMPONENTS

Processor and device specifications (continued)

Intel W-11865MRE (continued)

Chip supports display quantity upper limit	4
Chip display output protocol	eDP 1.4b, MIPI-DSI 2.0, DP 1.4, HDMI 2.0b
Processor PCIe version	Gen 4
PCH side PCIe version	Gen 3
CPU PCIe channel configured with	Up to 1x16+1x4, 2x8+1x4, 1x8+3x4
CPU PCIe channel upper limit	20
Package	FCBGA1787
Package dimensions	50 x 26.5
VT-x virtualization	Supports

Intel W-11865MRE (continued)

VT-d directional I/O virtualization	Supports
Quick Sync video acceleration	Supports
Command width	64-bit

Sources: Intel, Intel W-11865MRE Processor Specifications.

06 GALLERY

Appearance and scene

Reference views



Product appearance reference; shipped units may differ.

Scene



Application illustration (not a product photo).

07 APPLICATIONS

From product capability to applications

Field measurement and control workstation

Dual Gigabit optical port and composite serial can connect measurement and control network and industrial instrument, 64GB memory and 2TB SSD used for run application and save data. Windows 10 platform can hosts via verification software tool, delivery first requires check I/O driver, software licensed and target equipment protocol.

Field data processing

Equipment can with personnel move to operation point, local viewing, compiled and processing acquisition data, then through network or peripherals transfer result. Rugged structure, operating temperature and battery specification deployment provides based on, complete system should also check optical module, cables, protection and power matching.

Industrial equipment maintenance bring-up

USB and RS-232/422/485 can attach equipment maintenance I/O, VGA facilitates connect external display unit, dual optical port used for connect already has fibre network. Built-in USB encryption I/O can together with licensed tool used, maintenance program and transfer wiring harness should first actual equipment on completes compatible verification.

Integration checks

Fibre matching	Confirm 2-ch Gigabit optical port optical module, wavelength, fibre and connector specification.
Serial mode	RS-232/422/485 per equipment selection, and confirm isolated and terminal match conditions.
Software deployment	Check Windows 10 driver, licensed tool and built-in USB encryption equipment compatible.
Power and load	Confirm 20V input and 95Wh battery, target load under test runtime and cooling.

08 CONFIGURATION

Configuration, options and selection

Configuration

Equipped with 95Wh battery and supports 20V DC input, provides Windows 10 system.

Selection guide

Order confirmation	Batch, I/O and environmental ratings follow the order confirmation
Published data	Compiled from published product data; EQIO provides selection and system integration
Configuration talk	Share the application, I/O count, environment and software so a configuration can be proposed

Request a quotation and selection support

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EQIO

Easy · Quick · Input · Output

BRAND

Measurement and control, made easy.



EQIO product family · concept rendering

Brand story

EQIO builds measurement and control products and systems. The name stands for Easy Quick Input Output: Easy is a clear structure that is quick to learn, Quick is a direct path to efficient delivery, and Input / Output is every link between the device under test and the control system.
The soft single-cycle wave inside the Q links the brand to signals, acquisition and I/O. “Measurement and control, made easy” is our promise for every selection, integration and delivery.

What we do

Products

Data acquisition, test instruments, control and I/O, modular platforms, software, cables

Systems

Configured to the measurand, channels, accuracy and software, from design to commissioning

Support

Selection advice, training, maintenance and calibration

How we deliver

01
Requirements

02
Solution design

03
Build & integration

04
Factory test

05
Delivery & training

06
Ongoing support

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