



XP-9168-IoT11-M1/XP-9368-IoT11-M1/ XP-9768-IoT11-M1

Win-GRAF based Windows 11 IoT PAC

■ Features

- Windows 11 IoT Enterprise LTSC (64-bit)
- Intel® Atom™ x7211RE CPU (1.0 ~3.2 GHz Turbo, Dual-core)
- Embedded Win-GRAF SoftLogic (IEC 61131-3)
- 8 GB DDR5 SDRAM
- 1x 256GB eMMC, 1 x CFast card slot, 1 x M.2 PCIe slot (Accessories: Key M/ KEY B/ Key E)
- VGA and HDMI Port Output
- 1 x RJ-45, 10/100/1000M
- 1 x RJ-45, 10/100/1000/2500M
- Redundant Power Input



■ Introduction

The Win-GRAF XP-9x68-IoT11-M1 series are Windows 11 IoT Enterprise LTSC based PACs that combine computing, I/O, and operator interface into a single unit, and provide the perfect solution for integrating HMI, data acquisition and control in an individual PAC. It is equipped with an Intel® Atom™ x7211RE CPU, 1/3/7 I/O expansion slots and a variety of connectives including dual Gigabit Ethernet, VGA, USB port, RS-232 and RS-485 interface. Local I/O slots are available to use our I-9K and I-97K series I/O modules and remote I/O expansions are available to use Ethernet I/O modules and RS-485 I/O modules.

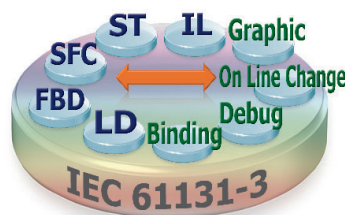
Windows 11 IoT Enterprise is the latest generation in the Windows IoT family, delivering next-level performance, security, and manageability for IoT applications. Built on the same foundation as Windows 10 IoT, it fully leverages the extensive Windows ecosystem and cloud connectivity, while introducing a modern user experience and higher security standards.

■ Win-GRAF

Win-GRAF is a soft logic programming platform compliant with the IEC 61131-3 standard, designed for developing industrial control and automation solutions. It serves as a framework that allows users to create customized applications for various industrial systems, such as Programmable Logic Controllers (PLCs), Remote Terminal Units (RTUs), and embedded controllers. The Workbench supports all IEC 61131-3 programming languages, including Structured Text (ST), Function Block Diagram (FBD), Ladder Diagram (LD), Instruction List (IL), and Sequential Function Chart (SFC). With diverse libraries and built-in function blocks, it works seamlessly with all ICP DAS Win-GRAF controllers for fast and efficient development.

Features of the Win-GRAF:

- IEC 61131-3 Standard Open PLC Syntax (LD, FBD, SFC, ST, IL)
- Open Architecture: to integrate and customize for specific applications
- Event Triggered Data Binding (Exchange Data between PACs)
- Provide IDE: includes a user-friendly graphical user interface
- On Line Program Modification
- Various Protocols
- Plenty of Functions, Function Blocks, I/O Boards
- Redundancy



Specifications

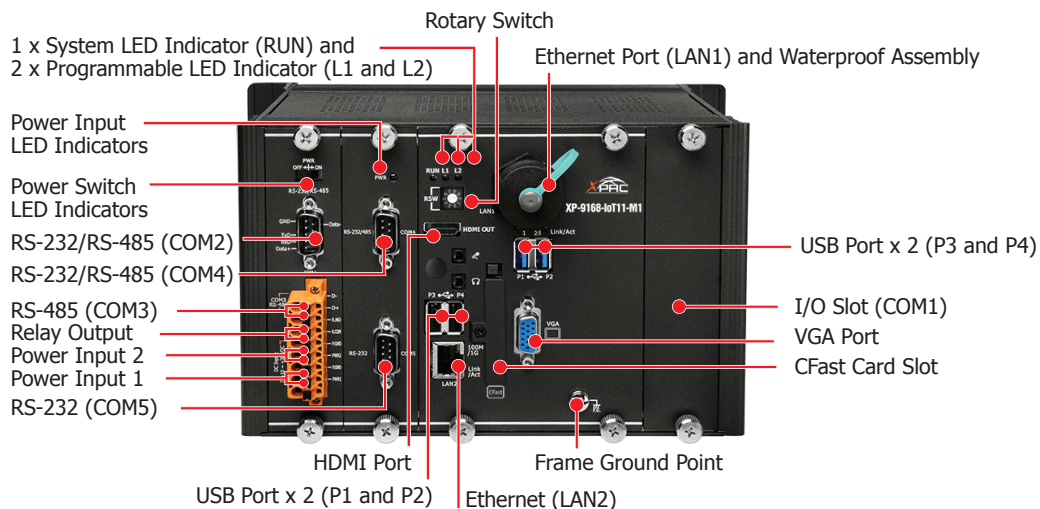
Model	XP-9168-IoT11-M1		XP-9368-IoT11-M1	XP-9768-IoT11-M1
Software				
OS	Windows 11 IoT Enterprise LTSC (64-bit)			
Framework Support	.Net Framework 3.5 ~ 4.8.1, .NET 6/8			
Multilanguage Support	English, German, French, Spanish, Portuguese, Russian, Italian, Korean, Japanese, Simplified Chinese, Traditional Chinese			
SDK	DII for VC, DII for Visual Studio.Net			
Main Unit				
CPU	Intel® Atom ™ x7211RE CPU (1.0 ~3.2 GHz Turbo, Dual-core)			
64-bit Hardware Serial Number	Yes			
System Memory	8 GB DDR5 SDRAM			
Storage	1x 256 GB eMMC , 1 x CFast card slot, 1 x M.2 PCIe slot (Accessories: Key M/ KEY B/ Key E)			
Non-Volatile Memory	128 KB MRAM, 16 KB EEPROM			
Real Time Clock	Provide seconds, minutes, hours, dates, day of week, month, year			
Watchdog Timer	Dual Watchdog Timer			
Display				
Signal	VGA, HDMI			
Resolution	VGA 1280 x 1024 ~ 1920 x 1080 (16 : 9), 640 x 480 ~ 1024 x 768 (4 : 3) HDMI 2560 x 1600 @ 24bpp			
LED Indicators				
Status	1 x System, 2 x Power, 2 x Programmable			
I/O Expansion				
I/O Type	I-9K, I-97K series			
Slots	1	3	7	
COM Ports				
Ports	1 x RS-232 (3000 VDC Isolated), 1 x RS-485 (3000 VDC Isolated), 2 x RS-232/RS-485 (3000 VDC Isolated)			
HMI				
Buzzer	Yes			
Rotary Switch	1 x 10 Position (0 ~ 9)			
Audio				
Socket	Microphone-in and Earphone-out			
Ethernet				
Ports	1 x RJ-45, 10/100/1000M 1 x RJ-45, 10/100/1000/2500M			
USB				
Ports	4 x USB 2.0			
Power				
Input Range	+10 ~ 30 VDC (1 kV Isolated)			
Redundant Power Inputs	Yes			
Consumption	18.5 W	18.7 W	20.4 W	
Mechanical				
Dimensions(W x L x H)	239 x 164 x 133 mm	300 x 164 x 133 mm	422 x 164 x 133 mm	
Installation	DIN-Rail, Wall mounting			
Environmental				
Operating Temperature	-25 ~ +60 ° C			
Storage Temperature	-30 ~ +80 ° C			
Humidity	10 ~ 90 % RH (non-condensing)			

Win-GRAF Specifications

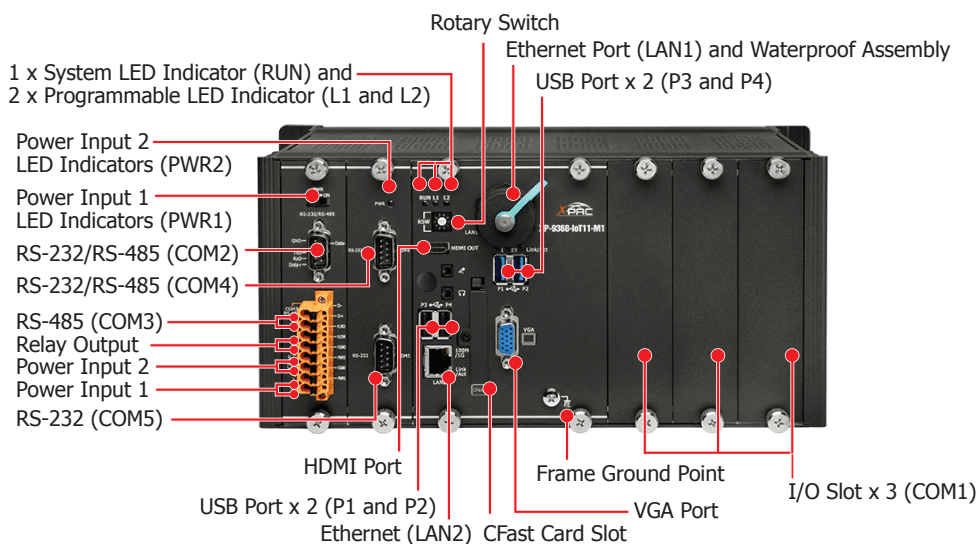
Models	XP-9x68-IoT11-M1
Protocols (Note that certain protocols require optional devices)	
OPC UA Server	The OPC UA Server is an application that provides data and information, serving as the core of OPC UA technology. It is responsible for managing, collecting, storing, and distributing data. Functioning like a central controller, the OPC UA Server connects to various clients to enable data access and exchange.
Modbus TCP/IP Master	Supported. Can connect up to 128 IP devices.
Modbus TCP/IP Slave	Supported. Up to 64 connections via the two Ethernet ports (LAN1 & LAN2).
Modbus RTU/ASCII Master	Supported. Up to 16(*) communication ports available.
Modbus RTU Slave	Supported. Up to 16(*) communication ports available.
User-defined Protocol	Supported. Up to 16(*) communication ports available.
Functions	
eLogger HMI	Supports eLogger.
Password Protection	Equipped with a built-in 64-bit (8-byte) hardware serial number and a proprietary algorithm to generate authentication codes, effectively protecting the security of Win-GRAF programs.
Data Binding	Supported. Enables data exchange between Win-GRAF Runtime devices.
Online Program Modification	Supports online change functionality.
Retain Variables	Supported. Provides up to 128K bytes of non-volatile memory for data retention after power loss.
File Access & Data Log	Supports file Read/Write.
Additional I/O Module Support	
Local I/O Modules	Supports I-9K and I-97K high-profile I/O modules.
Modbus TCP I/O	Supports ET-7000 series, I-8KE4/8-MTCP, and tPET/tET series I/O modules.
Modbus RTU I/O	Supports M-7000 series, tM series, and LC series I/O modules.
DCON Remote I/O	Supports I-7000 series, M-7000 series, and I-87K expansion units.
*The number of COM ports depends on the model configuration and the use of expansion communication modules (e.g., I-8144iW, I-8142iW, I-8112iW, I-8114iW...)	

Appearance

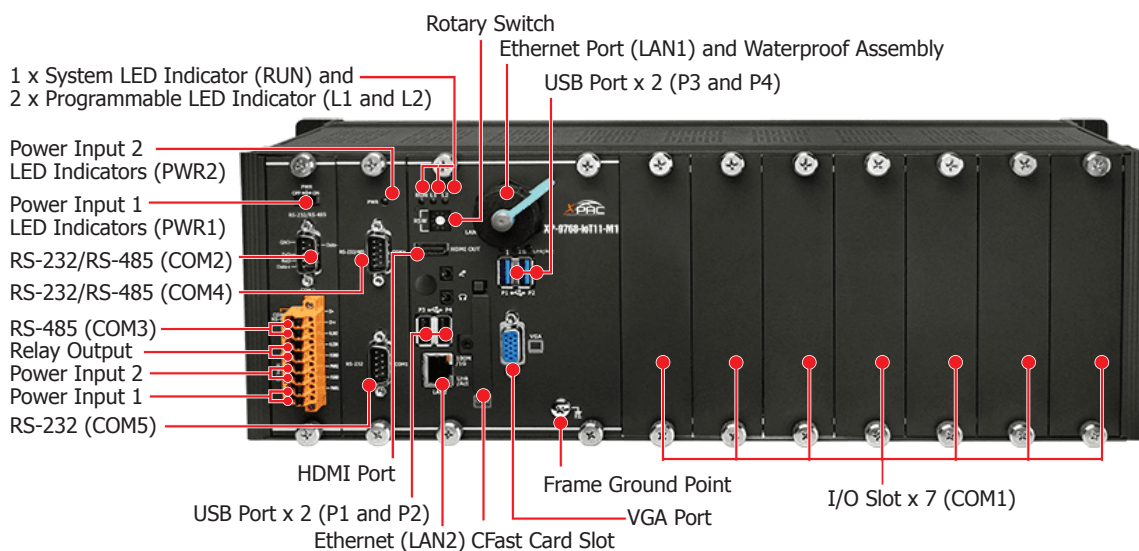
XP-9168-IoT11-M1



XP-9368-IoT11-M1

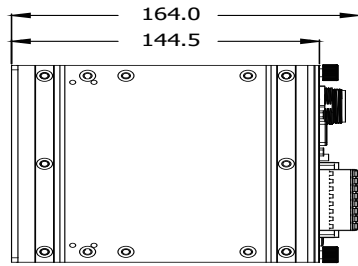


XP-9768-IoT11-M1



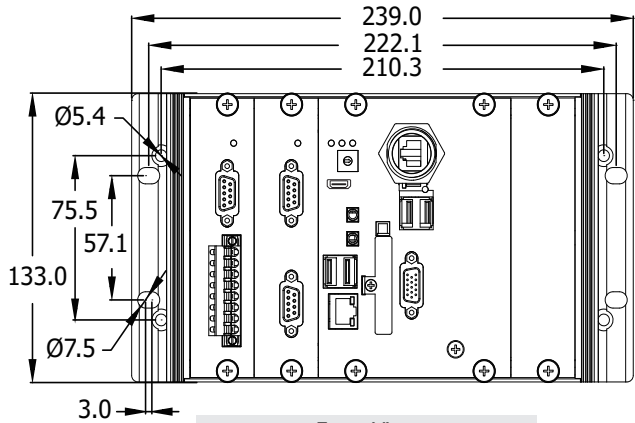
■ Dimensions (Units: mm)

XP-9x68-IoT11-M1



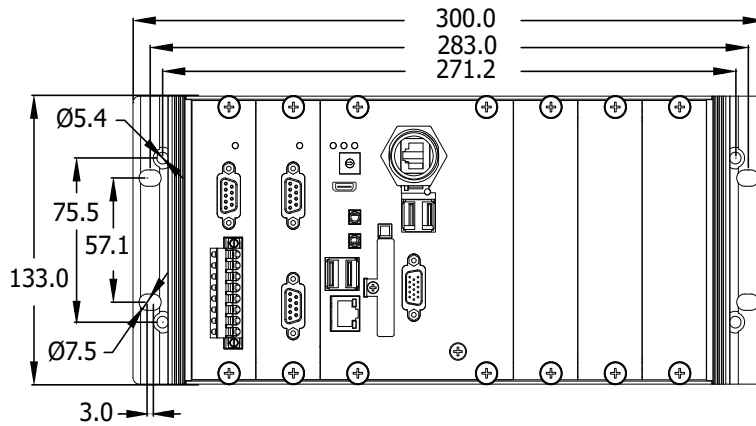
Left Side View

XP-9168-IoT11-M1



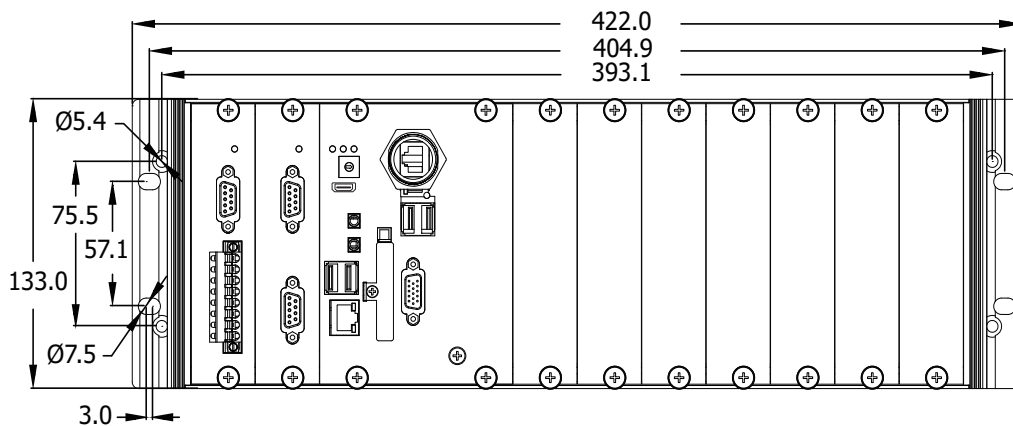
Front View

XP-9368-IoT11-M1



Front View

XP-9768-IoT11-M1



Front View

■ Ordering Information

XP-9168-IoT11-M1 CR	1-slot Win-GRAF Metal PAC with Intel® Atom™ x7211RE CPU and Windows 11 IoT (RoHS)
XP-9368-IoT11-M1 CR	3-slot Win-GRAF Metal PAC with Intel® Atom™ x7211RE CPU and Windows 11 IoT (RoHS)
XP-9768-IoT11-M1 CR	7-slot Win-GRAF Metal PAC with Intel® Atom™ x7211RE CPU and Windows 11 IoT (RoHS)

■ Related Products

Win-GRAF Development Software	
Win-GRAF Workbench	Win-GRAF Workbench Software with one USB Dongle
WGW-S-License	Win-GRAF Workbench Software License