MILBOX-AGXMAX

USER MANUAL

UM-MBXAGXMAX-01
Revision 1.0
24/11/2025

NVIDIA Elite Partner

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Preface

Disclaimer

Forecr emphasizes that the information contained in this user manual is continuously updated in line with the technical modifications and enhancements made by Forecr to its MILBOX-AGXMAX. Therefore, this manual only represents the technical status of Forecr MILBOX-AGXMAX at the time of publishing.

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Customer Support

In case you encounter any challenges after reading the user manual and/or using the MILBOX-AGXMAX, please reach out to the Forecr reseller from which you purchased the MILBOX-AGXMAX.

See the contact information section below for more information on how to contact us directly.

Contact Information

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Limited Product Warranty

Forecr provides a 1-year Warranty for the MILBOX-AGXMAX. This warranty period is valid from the original purchase date of the MILBOX-AGXMAX. In order to maintain warranty, the MILBOX-AGXMAX must not be altered or modified in any way. Changes or modifications to the MILBOX-AGXMAX that are not explicitly approved by Forecr and described in this user manual or received from Forecr Support as a special handling instruction, will void your warranty.
To receive warranty service, the MILBOX-AGXMAX must be delivered to Forecr within the warranty period together with the original invoice or proof of purchase.

Revision History

Revision No	Revision Date	Revision Description
rev 1.0	24.11.2025	Preliminary Release

1. Introduction

Introducing our latest military grade ruggedized computer, powered by the cutting-edge AGX Orin SoM technology. This compact and powerful device is designed to withstand the toughest environments, making it the perfect solution for military, industrial, and other demanding applications.

With 3x Gigabit Ethernet ports,1x 10G Ethernet port, 2x USB3.2, HDMI, 2x CAN, 4x RS-232/422 and 4x configurable BNC connectors, this ruggedized computer offers unparalleled connectivity options.

Our ruggedized computer is built to last, with a ruggedized chassis that can withstand extreme temperatures, shocks, and vibrations. You can rely on this device to operate reliably in the most challenging environments. Whether you're in the military, working in industrial settings, or need a reliable computing solution for outdoor applications, our ruggedized computer is the ideal choice. With its powerful performance, rugged design, and extensive connectivity options, this device is sure to exceed your expectations.

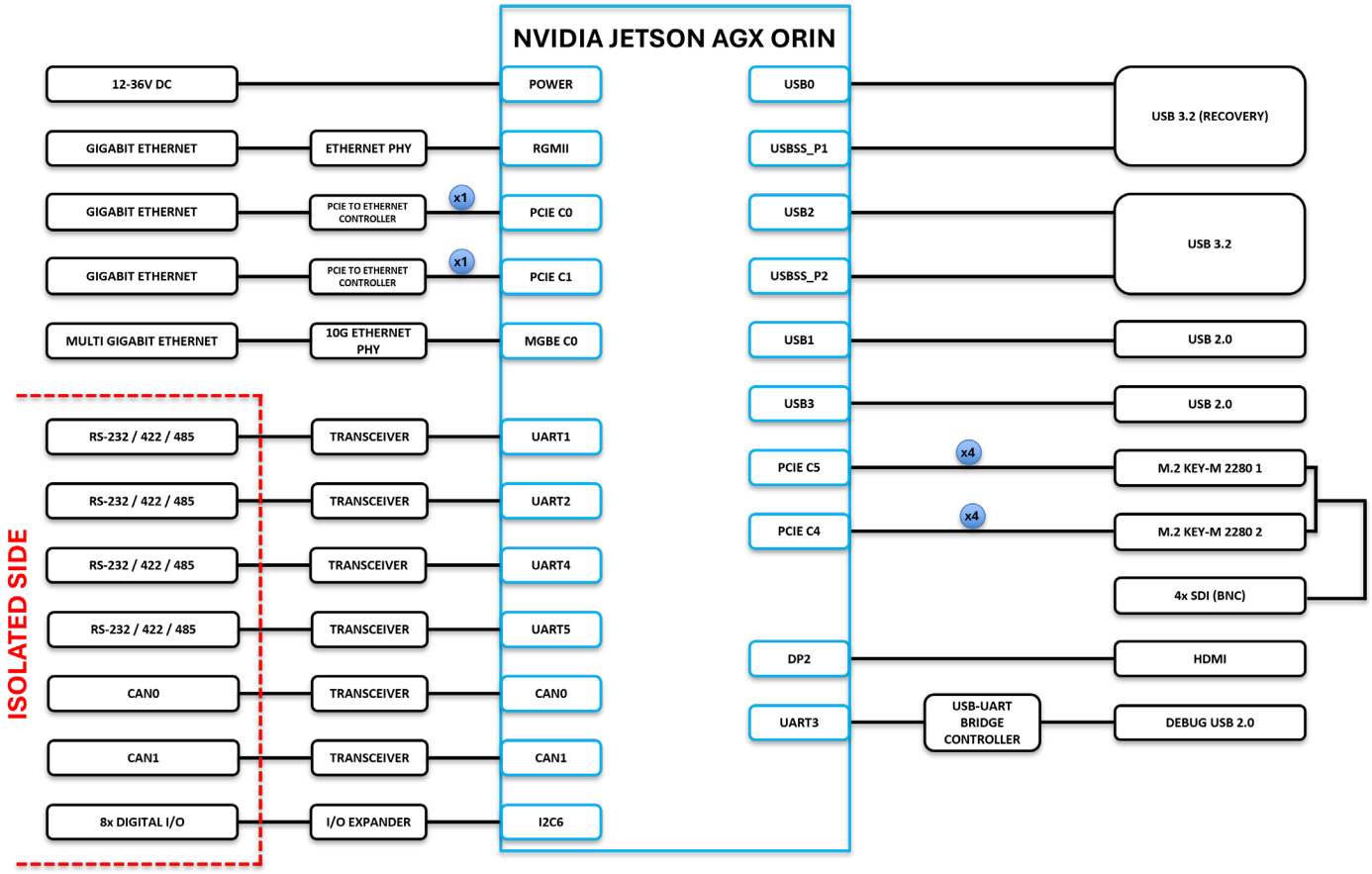
Latest revision of this user manual, datasheet, and 3D model can be downloaded from Forecr Web Page.

2. Product Specification

2.1 Technical Specification

Supported Modules	NVIDIA Jetson AGX Orin 32GB NVIDIA Jetson AGX Orin 64GB NVIDIA Jetson AGX Orin Industrial
Memory	32 GB 256-bit LPDDR5x 64 GB 256-bit LPDDR5x
Graphics Interfaces	1x HDMI 2.0
Interfaces	3x Gigabit Ethernet 1x 10G Ethernet 2x USB 3.2 2x USB 2.0 1x USB 2.0 (Serial Console) 2x CAN Bus 4x RS232/422 8x Digital IO 4x BNC (Configurable)
Wireless Communication	None
Power Supply	12-36 VDC (28 VDC Nominal)
Extension Sockets	None
Mass Storage	64 GB eMMC 5.1 Flash 2x M.2 Key-M SSD Slot (occupied) SD Card
Ambient Conditions	-25°C ... +70°C (-40°C for Industrial Module)
Form Factor / Dimensions	30cm x 24cm x 10cm, 5292gr
Operating Systems	Ubuntu Linux 20.04 Ubuntu Linux 22.04
Standards	Designed to meet MIL-STD-1275/704, MIL-STD-810, MIL-STD-461, IP67
JetPack Support	JetPack 5.x JetPack 6.x

2.2 Block Diagram



2.3 MILBOX-AGXMAX Visuals

3.Hardware Information

3.1 Connector Location

3.1.1 Front Side

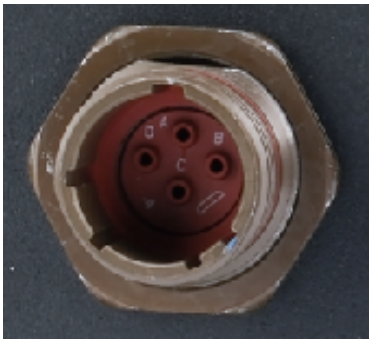
3.1.2 Rear Side

3.2 List of Connector

Connectors
MILBOX-AGXMAX Power Connector
MILBOX-AGXMAX HIGH-SPEED Connector
MILBOX-AGXMAX USB 3.0 Connector
MILBOX-AGXMAX Ethernet Connectors
MILBOX-AGXMAX LOW-SPEED Connector
MILBOX-AGXMAX BNC Connectors

3.3 The Definition of Each Connector

3.3.1 Power Connector (X1)

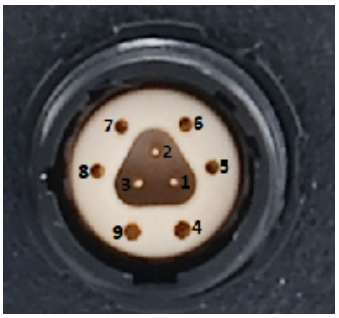


Function	Description	
Mating Connector	D38999/26WC4SN	
Voltage Range	12-36 VDC (28 VDC Nominal)	
X1-Pinout	**Pin**	**Description**
	A	VIN
	B	VIN
	C	GND
	D	GND

3.3.2 High-Speed Connector (X2)

Function	Description			
Mating Connector	UP01L18 M042C BK1 Z1ZB			
X2-Pinout	**Pin**	**Description**	**Pin**	**Description**
	1*	HDMI_CONN.TXD1_P	22	DGND
	2*	HDMI_CONN.TXD1_N	23*	USBSS_P2_CONN.D_P
	3	DGND	24*	USBSS_P2_CONN.D_N
	4*	HDMI_CONN.TXC_P	25*	USBSS_P2_CONN.RX_P
	5*	HDMI_CONN.TXC_N	26*	USBSS_P2_CONN.RX_N
	6*	HDMI_CONN.TXD0_P	27	RECOVERY_CON
	7*	HDMI_CONN.TXD0_N	28	RESET_CON
	8	DGND	29	DGND
	9	DGND	30	USBHS_P1_VBUS
	10*	HDMI_CONN.TXD2_P	31	USBSS_P2_VBUS
	11*	HDMI_CONN.TXD2_N	32	VBUS_DEBUG
	12	VDD_5V_HDMI_CON	33	DGND
	13	DGND	34*	USBHS_P1_CONN.D_P
	14	HDMI_CONN.HPD	35*	USBHS_P1_CONN.D_N
	15	HDMI_CONN.SCL	36	DGND
	16	HDMI_CONN.SDA	37	USBHS_P2_VBUS
	17	HDMI_CONN.CEC	38*	DBG_USB_PANEL.D_N
	18	DGND	39*	DBG_USB_PANEL.D_P
	19	DGND	40	DGND
	20*	USBSS_P2_CONN.TX_P	41*	USBHS_P2_CONN.D_P
	21*	USBSS_P2_CONN.TX_N	42*	USBHS_P2_CONN.D_N
	Note: Pins with * mark in Pin section are differential signals.			

3.3.3 USB 3.2 Connector (X3)

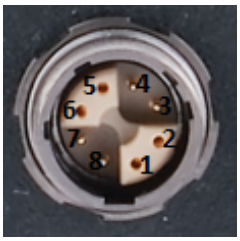


Function	Description	
Mating Connector	MP11ZS08 2007 BK1 Z1AS	
X3-Pinout	**Pin**	**Description**
	1*	USBSS_P1_CONN.D_N
	2	DGND
	3*	USBSS_P1_CONN.D_P
	4	USBSS_P1_VBUS
	5*	USBSS_P1_CONN.TX_N
	6*	USBSS_P1_CONN.TX_P
	7*	USBSS_P1_CONN.RX_N
	8*	USBSS_P1_CONN.RX_P
	9	DGND
	Note: Pins with * mark in Pin section are differential signals.	

3.3.4 Ethernet Connector (X4,X5,X6)

X4 and X5

X6



Function	Description	
Mating Connector	MP11ZS08 0008 BK1 Z1AS	
X4,X5,X6-Pinout	**Pin**	**Description**
	1*	ENET0_CONN.D0_P
	2*	ENET0_CONN.D0_N
	3*	ENET0_CONN.D1_P
	4*	ENET0_CONN.D1_N
	5*	ENET0_CONN.D2_P
	6*	ENET0_CONN.D2_N
	7*	ENET0_CONN.D3_P
	8*	ENET0_CONN.D3_N
	Note: Pins with * mark in Pin section are differential signals.	

3.3.5 Ethernet Connector 10G (X7)

X7	Function	Description	
	Mating Connector	MP11ZS08 0008 BK1 Z1AS	
	X7-Pinout	**Pin**	**Description**
		1*	ENET_10G.D0_P
		2*	ENET_10G.D0_N
		3*	ENET_10G.D1_P
		4*	ENET_10G.D1_N
		5*	ENET_10G.D2_P
		6*	ENET_10G.D2_N
		7*	ENET_10G.D3_P
		8*	ENET_10G.D3_N
		Note: Pins with * mark in Pin section are differential signals.	

3.3.6 Low-Speed Connector (X8)

Function	Description			
Mating Connector	UP01L18 M042C BK2 Z1ZB			
X8-Pinout	**Pin**	**Description**	**Pin**	**Description**
	1*	RS422_CH0.RX_P	22	GND_ISO
	2*	RS422_CH0.RX_N	23	DIGITAL_IO_CH4
	3	GND_ISO	24	DIGITAL_IO_CH5
	4*	RS422_CH0.TX_N	25	GND_ISO
	5*	RS422_CH0.TX_P	26	DIGITAL_IO_CH6
	6	GND_ISO	27	DIGITAL_IO_CH7
	7*	RS422_CH1.RX_P	28	GND_ISO
	8*	RS422_CH1.RX_N	29	GND_ISO
	9*	RS422_CH1.TX_N	30*	CAN0_CONN.C0_N
	10*	RS422_CH1.TX_P	31*	CAN0_CONN.C0_P
	11	GND_ISO	32	GND_ISO
	12	GND_ISO	33*	RS422_CH2.TX_P
	13	DIGITAL_IO_CH0	34*	RS422_CH2.TX_N
	14	DIGITAL_IO_CH1	35*	RS422_CH2.RX_N
	15	GND_ISO	36*	RS422_CH2.RX_P
	16	GND_ISO	37	GND_ISO
	17*	CAN1_CONN.C1_P	38*	RS422_CH3.TX_P
	18*	CAN1_CONN.C1_N	39*	RS422_CH3.TX_N
	19	GND_ISO	40	GND_ISO
	20	DIGITAL_IO_CH2	41*	RS422_CH3.RX_N
	21	DIGITAL_IO_CH3	42*	RS422_CH3.RX_P
	Note: Pins with * mark in Pin section are differential signals.			

3.3.7 BNC Connectors

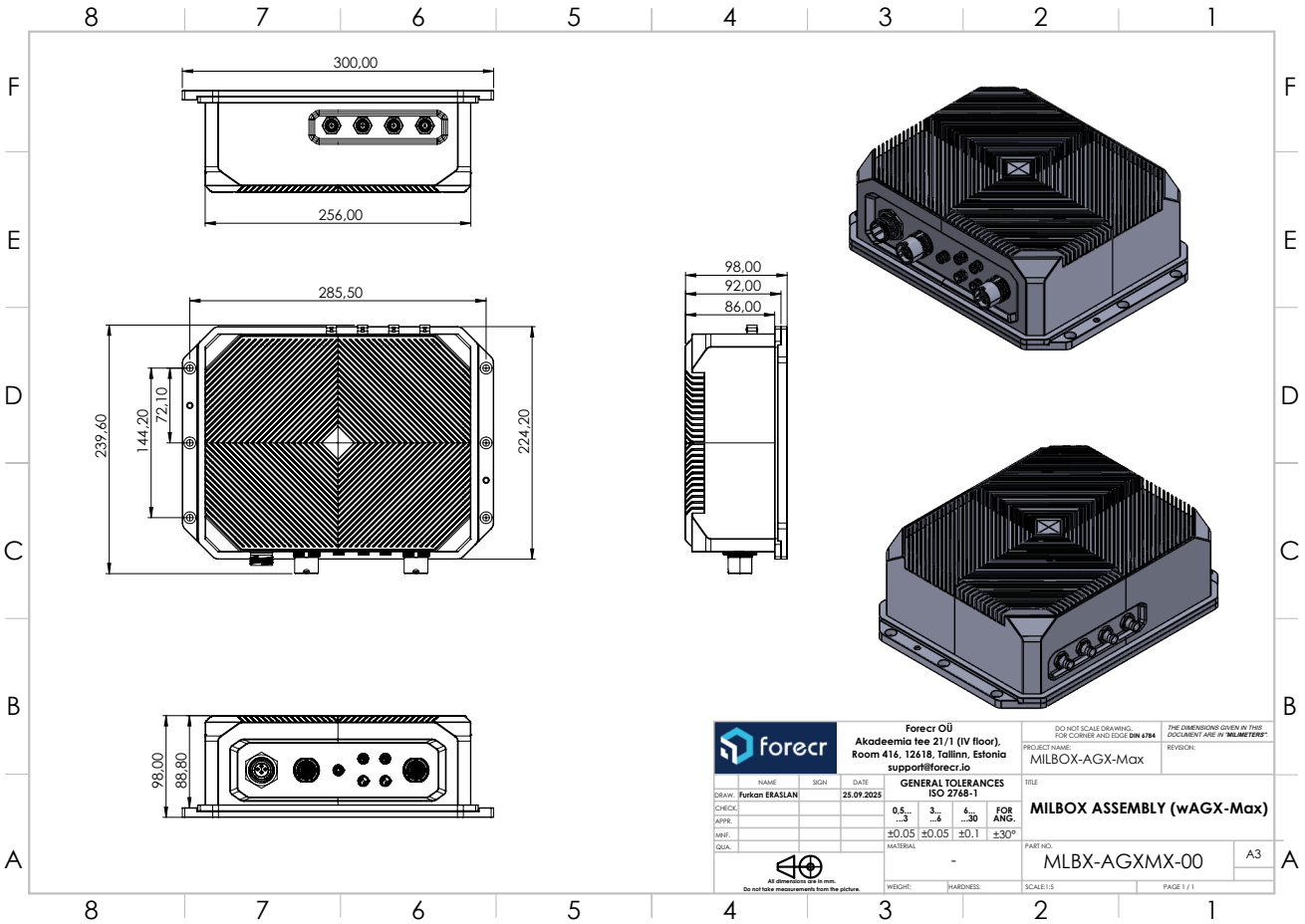
	Function	Description
	Connector Type	BNC connectors. Functionality can change depending on configuration. Examples: SDI input, SDI output, Analog video input, GMSL2.

4. Software Information

4.1 Installation

This section will be completed soon. It will be published on our website once completed. Please check our Forecr Web Page regularly.

5. Mechanical Drawing



6. Power Consumption

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7. Cables

Power Cable (for X1)	
End 1	D38999/26WC4SN
End 2	4x Open Wire (2 for positive, 2 for negative)
Cable Length	100cm

High-Speed Cable (for X2)	
End 1	UP01L18 M042C BK1 Z1ZB
End 2	1x HDMI Female, 3x USB-2.0 Type-A Female (1 for Debug, 2 for USB host), 4x Open Wire (GND (pin-26), Recovery (pin-27), Reset (pin-28), ID (pin-31, unused))
Cable Length	50cm

USB Cable (for X3)	
End 1	MP11ZS08 2007 AN1 Z1AS
End 2	USB-3.0 Type-A Female
Cable Length	50cm

Ethernet Cable (for X4, X5, X6, X7)	
End 1	MP11ZS08 0008 AN1 Z1AS
End 2	RJ-45 Ethernet Male
Cable Length	150cm

8. MTBF Prediction

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