



DSBOX-THRMAX

USER MANUAL

UM-DSBXTHRMAX-01

Document Revision: 1.0

09/06/2026



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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 DSBOX-THRMAX. Therefore, this manual only represents the technical status of Forecr DSBOX-THRMAX at the time of publishing.

Forecr shall not be held responsible for any damages that may occur directly or indirectly as a result of any technical or typographical errors or omissions found in this document or for any discrepancies between the product and the user's manual.

Customer Support

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

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 DSBOX-THRMAX. This warranty period is valid from the original purchase date of the DSBOX-THRMAX. In order to maintain warranty, the DSBOX-THRMAX must not be altered or modified in any way. Changes or modifications to the DSBOX-THRMAX 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 DSBOX-THRMAX 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	09.06.2026	Preliminary Release

1. Introduction

Introducing the DSBOX-THRMAX, FORECR’s new industrial - grade Edge AI computer accelerated by NVIDIA Jetson T4000 & T5000. Engineered for next generation robotics, vision-based systems, and autonomous platforms, this rugged, enclosed system delivers exceptional computing performance with 128GB of LPDDR5X memory and cutting-edge connectivity including QSFP+, dual USB-C, and high-speed PCIe Gen5 storage. With support for dual HDMI 2.1, it handles multi-display, high-resolution video workloads effortlessly. Its versatile I/O, including CAN, RS-232/422/485, digital inputs/outputs, IMU, and temperature sensors, makes it the ideal choice for real-time, sensor-rich AI applications.

Designed for mission-critical deployment in the harshest environments, the DSBOX-THRMAX features an extended temperature range (-25°C to +85°C) and a robust enclosure measuring 225x135x83mm. Built-in support for WiFi, Bluetooth, LTE/5G, and optional 8x GMSL2 camera connectivity allows seamless integration into vision systems, drones, autonomous vehicles, and edge based surveillance platforms.

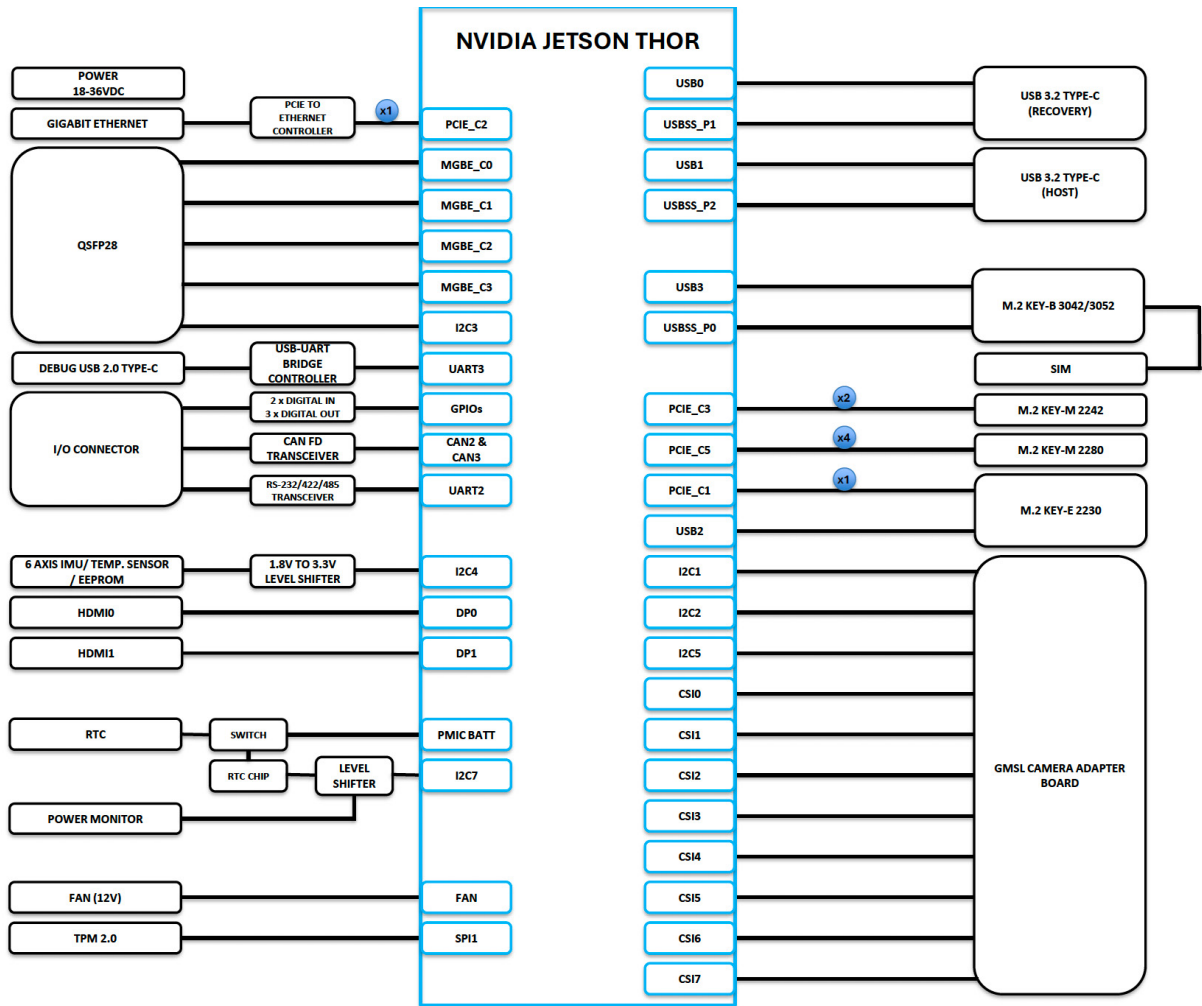
Latest revision of this user manual, datasheet, and 3D model can be downloaded from [Forecr](#) Web Page.

2. Product Specification

2.1 Technical Specification

Supported Modules	NVIDIA Jetson T5000 NVIDIA Jetson T4000
Memory	128 GB 256-bit LPDDR5X 64 GB 256-bit LPDDR5X
Graphics Interfaces	2x HDMI 2.1
Interfaces	1x Gigabit Ethernet (RJ45) 1x USB3.2 Type-C 1x USB3.2 Type-C (Recovery Port) 1x Debug USB-C 1x QSFP28 (4x 25GbE) 1x RS-232/422/485 2x CAN Bus (CAN FD supported) 2x Digital Input (11-60V compatible) 3x Digital Output (11-60V compatible) EEPROM, IMU, Temperature Sensor RTC (10+ years lifetime)
Wireless Communication	WiFi/Bluetooth/LTE/5G Connectivity (optional)
Security	ST33TPHF2XSPI TPM2.0 chipset
Power Supply	18-36V DC
Camera Connections	8x GMSL2 (optional)
Mass Storage	1x M.2 Key-M 2280 (PCIe Gen5 x4) 1x M.2 Key-M 2242 (PCIe Gen5 x2)
Ambient Conditions	-25°C ... +55°C
Form Factor / Dimensions	225x135x83 mm
Operating Systems	Ubuntu Linux 24.04
JetPack Support	JetPack 7.x

2.2 Block Diagram



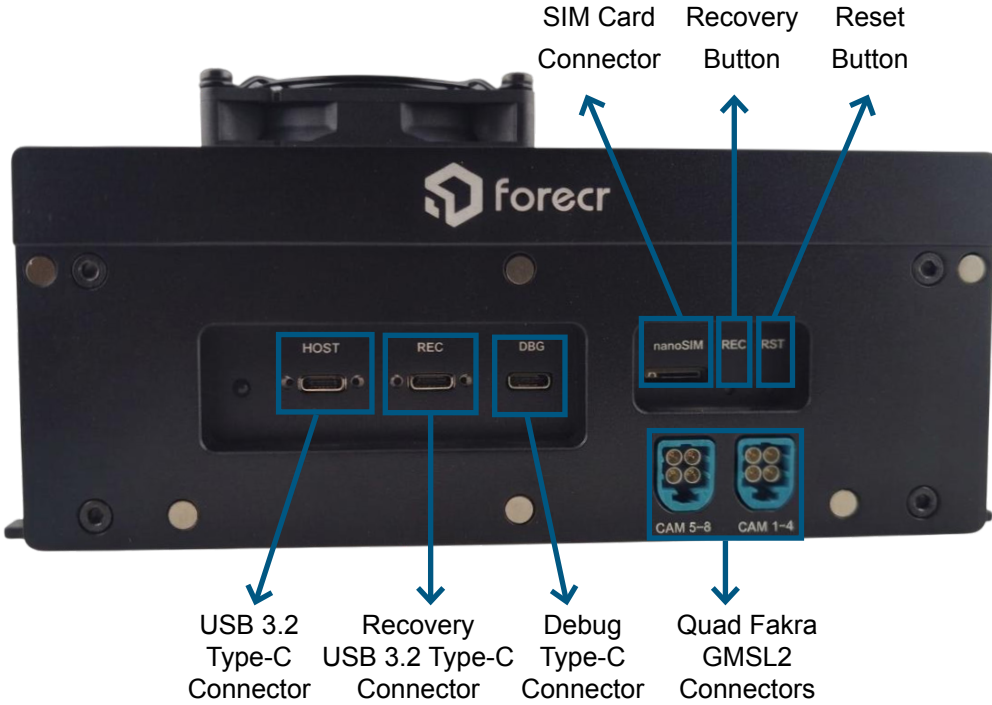
2.3 DSBOX Visuals



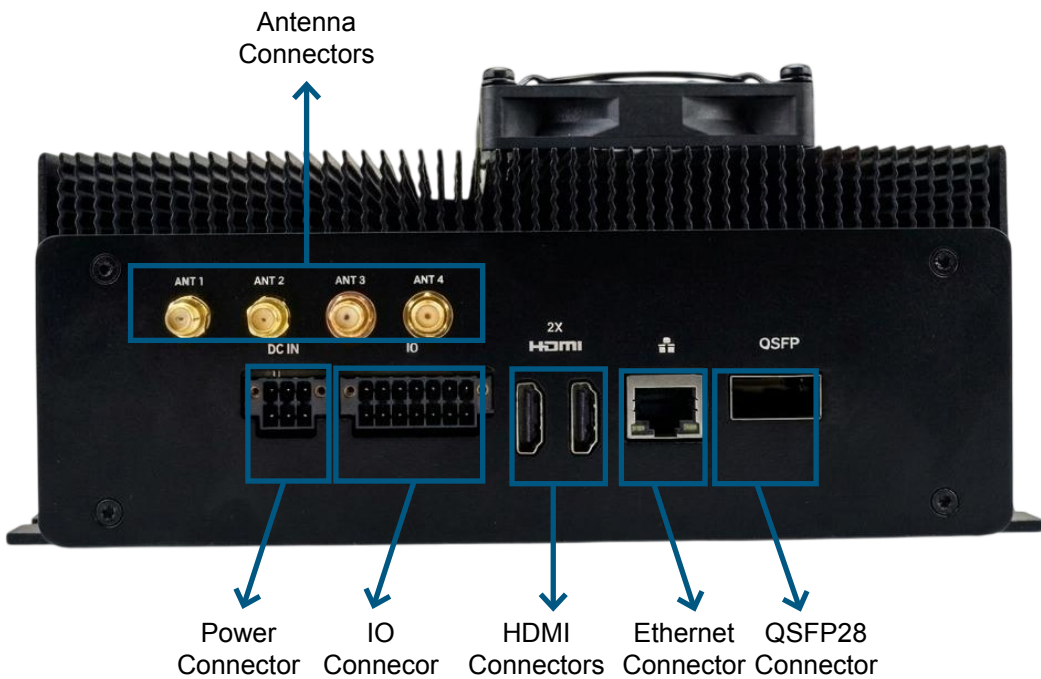
3. Hardware Information

3.1 Connector Location

3.1.1 Front Side



3.1.2 Rear Side

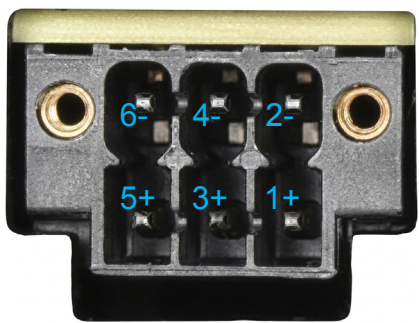


3.2 List of Connectors and Buttons


Connectors
DSBOX-THRMAX Power Connector
DSBOX-THRMAX I/O Connector
DSBOX-THRMAX HDMI Connectors
DSBOX-THRMAX QSFP28 Connector
DSBOX-THRMAX 10/100/1000 Ethernet Connector
DSBOX-THRMAX Recovery Mode USB 3.2 Type-C Connector
DSBOX-THRMAX Debug Mode Type-C Connector
DSBOX-THRMAX USB 3.2 Type C Connector
DSBOX-THRMAX SIM Card Connector
DSBOX-THRMAX Quad Fakra GMSL2 Connectors
DSBOX-THRMAX Antenna Connectors
Buttons
DSBOX-THRMAX Recovery Pushbutton
DSBOX-THRMAX Reset Pushbutton

3.3 The Definition of Each Connector


3.3.1 Power Connector

	Function		Description																
	Connector Type		1787027																
	Mating Connector		1790302																
	Minimum Input Voltage		+18V																
	Maximum Input Voltage		+36V																
	Pinout		<table border="1"> <thead> <tr> <th>Pin</th> <th>Description</th> <th>Pin</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Positive</td> <td>4</td> <td>Negative</td> </tr> <tr> <td>2</td> <td>Negative</td> <td>5</td> <td>Positive</td> </tr> <tr> <td>3</td> <td>Positive</td> <td>6</td> <td>Negative</td> </tr> </tbody> </table>	Pin	Description	Pin	Description	1	Positive	4	Negative	2	Negative	5	Positive	3	Positive	6	Negative
Pin	Description	Pin	Description																
1	Positive	4	Negative																
2	Negative	5	Positive																
3	Positive	6	Negative																


3.3.2 I/O Connector

	Function		Description																																													
	Connector Type		1787069																																													
	Mating connector		1790344																																													
	Pinout		14 Pin Connector																																													
		<table border="1"> <thead> <tr> <th>Pin</th> <th>Description</th> <th>I/O Type</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>RS422 B</td> <td>I/O</td> </tr> <tr> <td>2</td> <td>RS422 Y</td> <td>I/O</td> </tr> <tr> <td>3</td> <td>RS232 RX / RS422 A</td> <td>I/O</td> </tr> <tr> <td>4</td> <td>RS232 TX / RS422 Z</td> <td>I/O</td> </tr> <tr> <td>5</td> <td>CAN2_H</td> <td>I/O</td> </tr> <tr> <td>6</td> <td>CAN3_H</td> <td>I/O</td> </tr> <tr> <td>7</td> <td>CAN2_L</td> <td>I/O</td> </tr> <tr> <td>8</td> <td>CAN3_L</td> <td>I/O</td> </tr> <tr> <td>9</td> <td>DIGITAL_OUT2</td> <td>I/O</td> </tr> <tr> <td>10</td> <td>DGND</td> <td>Power</td> </tr> <tr> <td>11</td> <td>DIGITAL_OUT1</td> <td>I/O</td> </tr> <tr> <td>12</td> <td>DIGITAL_IN1</td> <td>I/O</td> </tr> <tr> <td>13</td> <td>DIGITAL_OUT0</td> <td>I/O</td> </tr> <tr> <td>14</td> <td>DIGITAL_IN0</td> <td>I/O</td> </tr> </tbody> </table>	Pin	Description	I/O Type	1	RS422 B	I/O	2	RS422 Y	I/O	3	RS232 RX / RS422 A	I/O	4	RS232 TX / RS422 Z	I/O	5	CAN2_H	I/O	6	CAN3_H	I/O	7	CAN2_L	I/O	8	CAN3_L	I/O	9	DIGITAL_OUT2	I/O	10	DGND	Power	11	DIGITAL_OUT1	I/O	12	DIGITAL_IN1	I/O	13	DIGITAL_OUT0	I/O	14	DIGITAL_IN0	I/O	
	Pin	Description	I/O Type																																													
	1	RS422 B	I/O																																													
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	5	CAN2_H	I/O																																													
	6	CAN3_H	I/O																																													
	7	CAN2_L	I/O																																													
	8	CAN3_L	I/O																																													
	9	DIGITAL_OUT2	I/O																																													
10	DGND	Power																																														
11	DIGITAL_OUT1	I/O																																														
12	DIGITAL_IN1	I/O																																														
13	DIGITAL_OUT0	I/O																																														
14	DIGITAL_IN0	I/O																																														


3.3.3 HDMI Connectors

	The NVIDIA® Jetson Thor modules will output video via the DSBOX-THRMAX vertical HDMI connectors that is HDMI 2.1 capable.
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3.3.4 QSFP28 Connector

	<p>The DSBOX-THRMAX implements a Multi-Gigabit Ethernet connection in QSFP28 form factor that supports up to 100G (4x25G).</p>
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3.3.5 10/100/1000 Ethernet Connector

	<p>The DSBOX-THRMAX implements a RJ-45 Ethernet connector for network communication that supports up to 1G.</p>
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3.3.6 Recovery Mode USB 3.2 Type-C Connector

	<p>The DSBOX-THRMAX implements a USB 3.2 Type-C connector to allow to install or upgrade the operating system. This port can be used in host mode when recovery functionality is not needed.</p>
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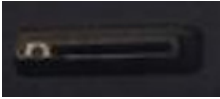
3.3.7 Debug Mode Type-C Connector

	<p>The DSBOX-THRMAX implements a Type-C USB connector to access the module by using serial connection.</p>
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3.3.8 USB 3.2 Type C Connector

	<p>The DSBOX-THRMAX incorporates USB 3.2 Type-C connector.</p>
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3.3.9 SIM Card Connector

	<p>The DSBOX-THRMAX implements a nano SIM card connector.</p>
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3.3.10 Quad Fakra GMSL2 Connectors (Optional)


	<p>The DSBOX-THRMAX implements optional 2 Quad Fakra GMSL2 camera connectors.</p>
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3.3.11 Antenna Connectors (Optional)


	<p>The DSBOX-THRMAX implements optional SMA/RP-SMA type antenna connectors to use with WiFi, LTE, 5G, Bluetooth addons.</p>
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3.4 The Definition of Buttons

3.4.1 Recovery Pushbutton

	<p>The DSBOX-THRMAX implements a recovery pushbutton. Recovery button should be pressed with reset button at the same time. After released reset button, recovery button should be pressed a little bit more (min. 250 ms).</p>
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3.4.2 Reset Pushbutton

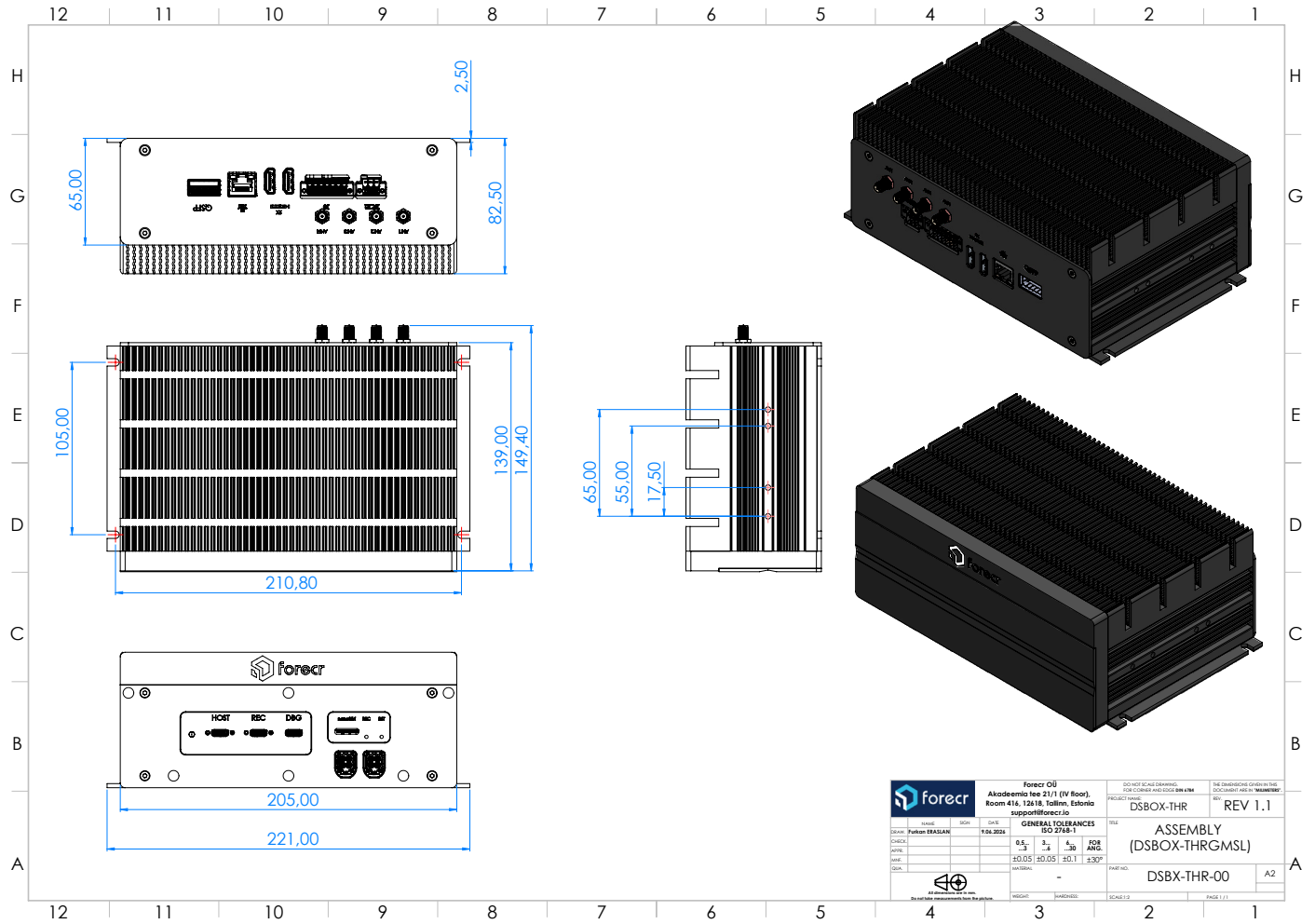
	<p>The DSBOX-THRMAX implements a reset button. It is recommended to use needle-like material.</p>
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4. 3D Model & Mechanical Information

4.1 3D Model

Full 3D models of all DSBOX-THRMAX can be found [here](#).

4.2 2D Mechanical Drawing



5. Power Consumption

5.1 AGX THOR T4000

Input Voltage: 24V

All CPU and GPU cores are %100 loaded.

	Power Up Sequence	Idle	Standby (Suspend mode)	70W (12 core)	MAXN (12 core)
Current (A)	1.3	0.96	0.13	3.17	3.37
Power (W)	31.2	23.04	3.12	76.08	80.88

5.2 AGX THOR T5000

Input Voltage: 24V


All CPU and GPU cores are %100 loaded.


	Power Up Sequence	Idle	Standby (Suspend mode)	70W (12 core)	90W (12core)	120W (14 core)	MAXN (14 core)
Current (A)	2.34	1.1	0.12	5.16	5.72	6.72	6.84
Power (W)	56.16	26.4	2.88	123.84	137.28	161.28	164.16

6. MTBF Prediction

Methodology	Telcordia SR-332 (Parts Count)
Operating Environment	Ground Fixed (GF), Uncontrolled
Ambient Temperature	40 °C
MTBF	131,690 hours
MTBF (years, 24/7 operation)	15.03 years

7. Accessories

	Part Number	Description	Quantity
	1790344	IO Connector	1

	Part Number	Description	Quantity
	1790302	Power Connector	1

8. Ordering Information

