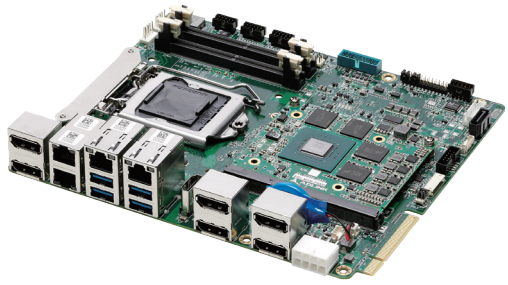
ROScube-I Starter Kit Series

ROS Starter Kit with Intel® Core™ Embedded Motherboard and MXM Graphics Module

Features

- Compatible with ROS/ROS 2
- Rich I/O interface
- GPU accelerates AI computing
- ADLINK MXM graphics module support (Type A/B, up to 120W)



Introduction

ADLINK ROSCube-I Starter Kit Series is an ROS/ROS 2-based embedded motherboard powered by 8th/9th Gen Intel® Core™ i7/i5/i3 processor, featuring flexible connectivity with a wide range of I/O ports and support for AI computation platforms via an MXM graphics module. In addition, compatibility with open source ROS/ROS 2 provides full access to open-source application libraries for robot control, including vision, navigation, and motion, for quick realization of ROS/ROS 2 functionality.

Ordering Information

- **RSM-57**
  Embedded Motherboard supporting MXM Graphics Module with Intel® Core ™ i7
- **RSM-55**
  Embedded Motherboard supporting MXM Graphics Module with Intel® Core ™ i5
- **RSM-53**
  Embedded Motherboard supporting MXM Graphics Module with Intel® Core ™ i3

Software Support

- **Ubuntu 18.04 L4T**
- **Neuron SDK**
- **ROS/ROS 2**
- **Intel® OpenVINO™**

Optional Accessories

- **Wireless Module**
  Intel® Wireless-AC 9260 M.2 2230, Dual-Band 2x2 Wi-Fi + Bluetooth+ 5 kit (P/N: 91-95266-0010)
- **DDR 4 SO-DIMM Storage**
  Dual channel non-ECC 2400 MHz DDR4 8 GB memory (P/N: 29-6B800-L430)
  Dual channel non-ECC 2400 MHz DDR4 16 GB memory (P/N: 29-6BC00-L430)
- **MXM Graphics Module: EGX-MXM-P1000/P2000/P3000/P5000**
- **AC/DC Power Adapter**
  240W AC/DC power adapter with 8-pin ATX connector (P/N: 31-62164-0000-A0)

Specifications

Model Name	RSM-57	RSM-55	RSM-53
MXM Support	EGX-MXM-P1000/P2000/P3000/P5000 (optional)		
Processor	Intel® Core™ i7-9700TE, 1.8GHz, 12M cache, 35W TDP	Intel® Core™ i5-8500T, 2.1GHz, 9M cache, 35W TDP	Intel® Core™ i3-8100T, 3.1GHz, 6M cache, 35W TDP
Chipset	Intel® Q370 Chipset		
Memory	1x Non-ECC DDR4 16GB 2400MHz, dual SO-DIMMs, up to 32GB	1x Non-ECC DDR4 16GB 2400MHz, dual SO-DIMMs, up to 32GB	1x Non-ECC DDR4 8GB 2400MHz, dual SO-DIMMs, up to 16GB
I/O Interface			
Display	1x internal HDMI (vertical connector)		
Ethernet	4x GbE: 3x Intel® i210-AT, 1x Intel® i219-LM		
Series Port	1x RS-232/422/485 pin header, 1x RS-232 pin header		
USB	4x USB 3.1 Gen 1 Type A ports, 2x USB 3.1 Gen1 pin headers 2x USB 2.0 pin headers		
Digital I/O	4 DI, 4 DO via 1x 10-pin 2.0mm wafer (one ground pin, one power pin, no power/5V/12V, 0.5A by BIOS selection)		
M.2	1x M.2 E Key supporting 1630 or 2230 for Wi-Fi, Bluetooth module 1x M.2 B Key supporting 2242 or 2280 for SATA storage module 1x M.2 M Key supporting 2242 or 2280 for SATA/PCIe x4 storage module		
PCB Edge Connector	1x PCIe x8 Gen2 PCB edge connector (data is from 2x PCIe x4 root ports, one set of clocks, up to 50W) One PCIe power connector up to 12V @3.5A		
eSIM	Optional		
TPM 2.0	Optional		
Storage Devices			
SATA	2x SATA 6Gb/s, one SATA power connector 2x SATA 6Gb/s signals via M.2 M&B Key connector Intel® RST RAID support		
Power Requirements			
DC Input	DC 12V ±5% input (Molex DC-in jack)		
AC Input	240W (12V @20A) AC/DC adapter (optional)		
Mechanical			
Dimensions	197.72(W) x 167.32(L) mm (7.784" x 6.587 inches)		
Mounting	ADLINK proprietary mounting hole locations ADLINK proprietary CPU cooler bracket		
Environmental			
Operating Temperature	0°C~60°C(32°F~140°F, w/o MXM), 0°C~55°C(32°F~131°F, w/ MXM)		
Operating Humidity	10% to 90%, non-condensing		
Storage Temperature	-40~85°C(-40°F~185°F)		
EMC	EN 55032/EN 55024		
Software			
SDK	Neuron SDK		
Environment	Ubuntu 18.04 LTS		
Middleware	ROS/ROS 2 Intel® OpenVINO™		

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