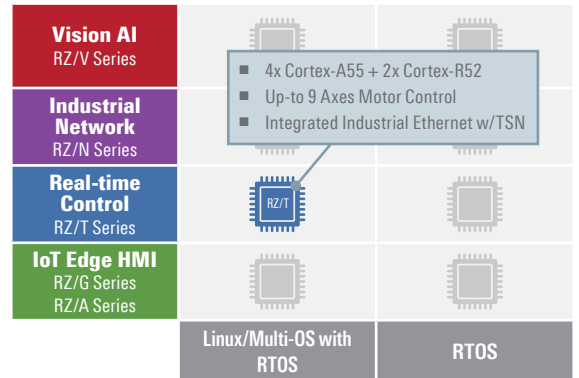




Multi-Axis Control, Industrial Ethernet and Linux Application in One Chip

# RENESAS RZ/T2H GROUP

Renesas RZ/T2H is a group of high-end MPUs for industrial automation offering high-performance computing power for Linux application, high-speed real-time processing power for up to 9 axes motor control and multiple protocol support for Industrial Ethernet. The RZ/T2H MPUs are ideal for industrial robots with multi-axis control and controller applications such as PLC, DCS, CNC and motion controllers.



## Key Features

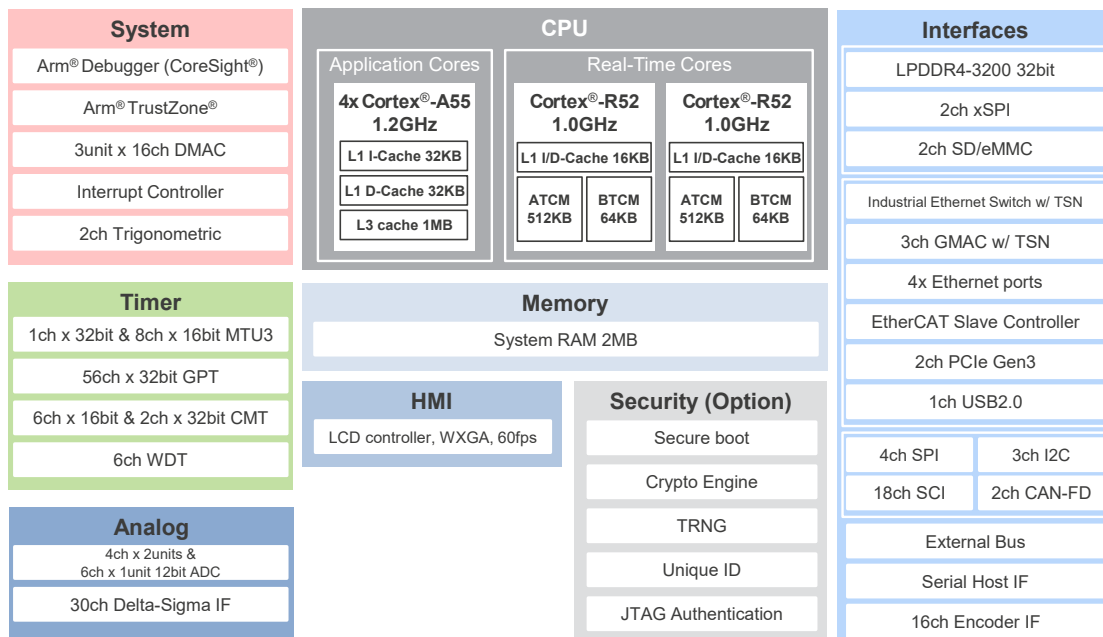
- Integrated powerful application CPU 4x Arm® Cortex®-A55 @ 1.2GHz and high real-time performance CPU 2x Arm® Cortex®-R52 @ Max 1GHz w/ TCM\* 576KB
- Integrated multi-axis motor control peripherals up to 9 axes in one chip
- Integrated Ethernet functionalities of 4 Ethernet ports, 3ch GMAC w/ TSN, 3ports Ethernet switch supporting Industrial Ethernet controller(master) and device(slave)
- Abundant peripherals and functionalities such as PCIe Gen3, LPDDR4-3200, SD/eMMC, CAN-FD and LCD Controller

\* Tightly Coupled Memory

## Applications

- Industrial Robot
  - Articulated robot
  - SCARA robot
  - Collaborative robot
  - AGV/AMR
- Controller
  - Motion controller
  - PLC
  - DCS
  - CNC

## Block Diagram



## Development Environment and Software

OS, sample software including application-specific solutions and tools are ready to use.

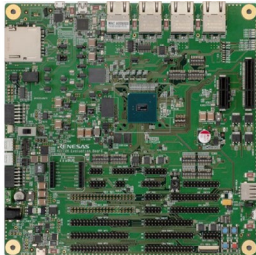
OS	CPU	SW Package	Tools
Linux	Cortex-A55	<ul style="list-style-type: none"> <li>■ CIP Linux BSP</li> <li>■ Industrial Network Package</li> <li>■ XDP Package</li> <li>■ TSN Package</li> <li>■ Security Package</li> <li>■ Multi-OS Package</li> </ul>	<ul style="list-style-type: none"> <li>■ Yocto</li> <li>■ Smart Configurator for RZ</li> </ul>
FreeRTOS /BareMetal	Cortex-A55 /Cortex-R52	<ul style="list-style-type: none"> <li>■ FSP BSP &amp; HAL drivers</li> <li>■ Example program</li> <li>■ Industrial Ethernet Solution</li> <li>■ Encoder Library</li> <li>■ 9 axes motor control solution</li> <li>■ Security Solution</li> </ul>	<ul style="list-style-type: none"> <li>■ Renesas e<sup>2</sup>studio                             <ul style="list-style-type: none"> <li>– ICE : Segger J-Link</li> <li>– FSP : Smart Configurator</li> </ul> </li> <li>■ IAR Embedded Workbench<sup>®</sup> for Arm                             <ul style="list-style-type: none"> <li>– ICE : IAR I-Jet™ / I-Jet Trace</li> <li>– FSP Smart Configurator</li> </ul> </li> </ul>

## Development Board

### RZ/T2H Evaluation Board Kit

(P/N: [RTK9RZT2H0S00000BJ](#))

- A general-purpose evaluation board to operate software for evaluation of RZ/T2H functions
- Available Segger's on-board debugger

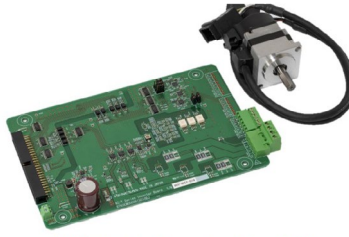


RZ/T2H Evaluation Board Kit

### RZ/T Series Inverter Board Kit

(P/N: [RTK0EM0000S05010BJ](#))

- Use with the RZ/T2H evaluation board, users can immediately start evaluating motor control functions

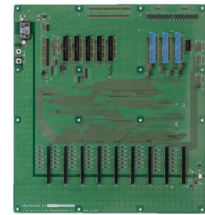


RZ/T Series Inverter Board Kit

### Bus Board for RZ/T2H

(P/N: [RTK0EM0000Z03000BJ](#))

- Evaluate up to 9 axes motor control by connecting RZ/T2H evaluation board and RZ/T series inverter board kit



Bus Board for RZ/T2H

## Ordering Information

Secure	R9A09G077M48GBG	R9A09G077M28GBG	R9A09G077M08GBG
Non-Secure	R9A09G077M44GBG	R9A09G077M24GBG	R9A09G077M04GBG
Cortex-A55	Quad	Dual	Single
Cortex-R52	Two CPUs		
Package	FCBGA 729pin, 23x23mm, 0.8mm pitch		
Operating Temperature	Tj = -40 to +125°C		

For more information, visit: [www.renesas.com/rzt2h](http://www.renesas.com/rzt2h)

