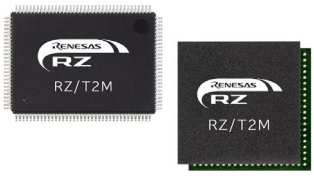
RENESAS
BIG IDEAS FOR EVERY SPACE

RENESAS RZ

Industry Leading High-Speed, High Precision Control MPU

RENESAS RZ/T2M GROUP

The RZ/T2M microprocessor (MPU) combines fast and highly precise real-time motor control capabilities, together with the latest Industrial Ethernet system architecture on a single chip, while supporting functional safety operation. The RZ/T2M provides all essential peripheral functions for motor control, enabling customers to reduce the number of external components reducing BOM costs and product size.



Key Features

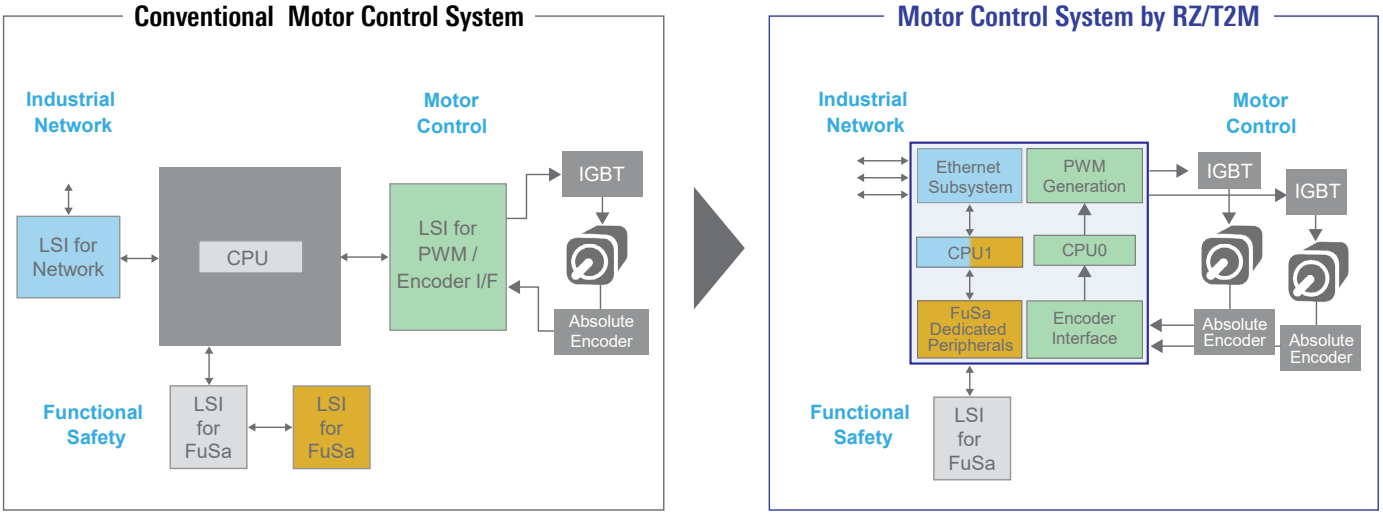
- Perform high-speed and high-precision real time control by Cortex®-R52 CPU (Max 800MHz), implement large Tightly Coupled Memory(576KB) and Low Latency Peripheral Port bus.
- Support major Industrial Ethernet protocols including PROFINET IRT, and the next-generation network standard – TSN – with an embedded Ethernet switch.
- Support functional safety processing with one of the dual CPU and dedicated peripheral functions used together with Functional Safety Software.
- Support dual axes motor control using rich peripherals. (PWM, ΔΣ I/F, Encoder I/F, etc)

Benefits

- Reduce BOM cost of motor control system
- Control dual axes using one chip

Applications

- AC servo
- Industrial motor
- Inverter
- Motion controllers
- Robot



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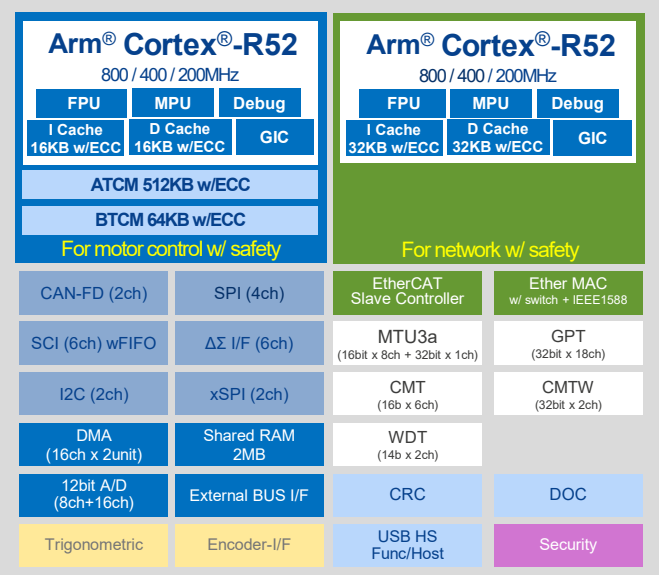
Block Diagram



Evaluation Environment and Software

- Renesas e²studio + J-Link by Segger
- IAR Embedded Workbench for Arm + I-Jet ICE/ I-Jet Trace by IAR
- Flexible Software Package (FSP)
- Encoder I/F library
- Industrial network protocols (sample code)
- RZ/T2M Renesas Starter Kit Plus (RSK+)

RZ/T2M RSK+

Product Information

Security	R9A07G075M28GBG	R9A07G075M26GBG	R9A07G075M28GBA	R9A07G075M26GBA	R9A07G075M27GBA	R9A07G075M05GFP	R9A07G075M05GFA
Non-Security	R9A07G075M24GBG	R9A07G075M22GBG	R9A07G075M24GBA	R9A07G075M22GBA	R9A07G075M21GBA	R9A07G075M01GFP	R9A07G075M01GFA
CPU	Dual Cortex®-R52 (800+800MHz)					Single Cortex®-R52 (800MHz)	
Package	BGA320 (17mmx17mm, 0.8mm pitch)		BGA225 (13mmx13mm, 0.8mm pitch)			QFP176 (24mmx24mm, 0.5mm pitch)	QFP128 (14mmx20mm, 0.5mm pitch)
System RAM	2.0MB wECC					1.5MB wECC	
TCM Memory	CPU0 : ATCM: 512KB wECC, BTCM: 64KB wECC CPU1 : ATCM: none, BTCM: none					CPU0 : ATCM: 512KB wECC, BTCM: 64KB wECC	
∑Δ interface	3ch x 2 units						
Encoder I/F Protocol	A-format™, BiSS-C, EnDat2.2, Tamagawa, HIPERFACE DSL®						
Motor Control Peripherals	PWM Timer (MTU3a, GPT), ∑Δ Interface, 12bit ADC, Encoder Interface, Trigonometric Accelerator						
Ethernet Port	3ports(100/1000Mbps)				None		
EtherCAT Port	Max 3ports (Exclusive with Ethernet)				None		
Industrial Ethernet Protocol	EtherCAT®, PROFINET RT/IRT, EtherNet/IP™, CC-Link IE Basic, TSN (IEC/IEEE 60802 Industrial Profile), OPC UA over TSN				None		
Power Supply	1.1V, 1.8V, 3.3V						
Operating Temperature	Tj = -40 to +125°C						

Visit www.renesas.com/rzt2m to learn more about RZ/T2M

Visit www.renesas.com/rzt2m-rsk to learn more about RZ/T2M RSK+

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