

FACTORY AUTOMATION

MELSEC iQ-R
series

**iQ Platform-compatible PAC
RapidPlan 2.0 Control FB Library**

Broadcast



RapidPlan

RapidPlan is a software product offered by Realtime Robotics, Inc. (hereinafter referred to as RTR). It features proprietary motion planning technology for real-time generation of robot movement paths that do not collide with obstacles. For details, refer to the RTR website.
<http://rtr.ai/>



■ **Easy to achieve collision-free robot motion**

RapidPlan generates the optimum movement path from current position to destination in real-time. Conventional robot programming required teaching of intermediate points to avoid interference with obstacles, which is no longer necessary with RapidPlan.

■ **Makes cooperative control of multiple robots easy**

RapidPlan enables simultaneous cooperative control of multiple robots from various manufacturers. RapidPlan performs control in real-time to prevent robots from colliding with each other. Obstacle avoidance and robot cooperative control can be easily realized, contributing to the seamless construction of robot systems.

RapidPlan 2.0 control FB libraries

RapidPlan 2.0 control FB libraries are libraries of FB for the MELSEC iQ-R Series programmable controller CPUs. Commands can be sent from the programmable controller to RapidPlan, and responses from RapidPlan can be analyzed by the FB. Combining FBs enables robots to be operated by the programmable controller.

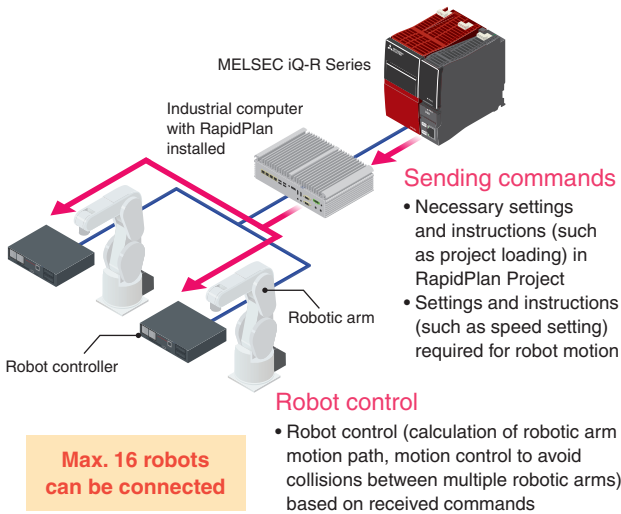
■ **Enables robot operation from programmable controller programs**

Robot control has conventionally been performed with robot programs. FB libraries make it possible to operate robots using only a programmable controller program.

Points

- Easy to achieve collision-free robot motion
- Makes performing cooperative control of multiple robots easy
- Enables robot operation from programmable controller programs
- Introduction is easy even with little robot programming experience
- One programmable controller can control up to 16 robots

Features



■ Introduction is easy even with little robot programming experience

Robot control can be performed from the programmable controller program, making it easy for users with little robot programming experience to introduce robotic systems and control the motion of robotic arms. This reduces the man-hours and labor required to introduce new robotic systems at diverse production sites and contributes to the advancement of factory automation.

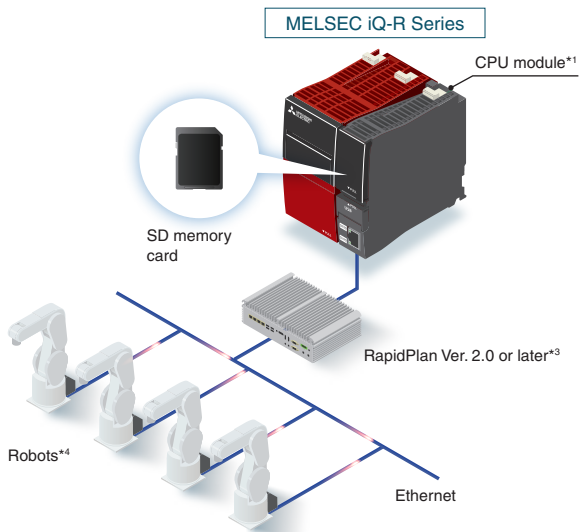
■ One programmable controller can control up to 16 robots

In conventional systems with multiple robots, each robot's program needed to be executed to monitor no collisions between robots. One programmable controller can now operate multiple robots without collision as RapidPlan realizes monitoring to avoid interference.

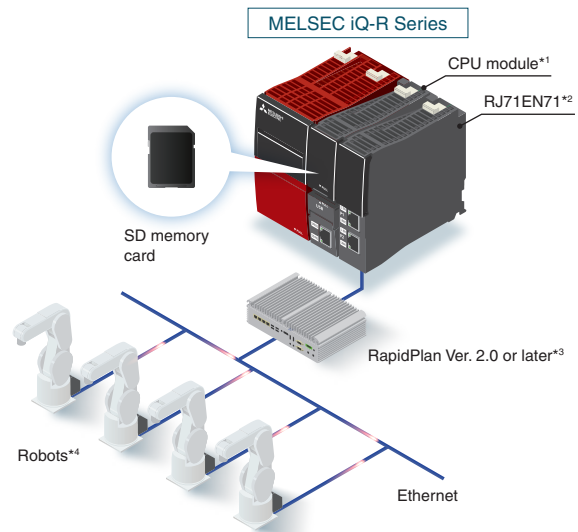
System configuration

The MELSEC iQ-R Series CPU modules and Ethernet interface module support robot control using this FB library.

■ Configuration example for communication using a CPU module



■ Configuration example for communication using an Ethernet interface module



*1. Supported by R08CPU or later and firmware version "62" or later.

*2. Supported by firmware version "61" or later.

*3. An industrial computer with RapidPlan installed is separately required. (RTR recommended product: Axiomtek eBOX671A-RTR01-19)

*4. Up to 16 RapidPlan-supported robots from various manufacturers (Mitsubishi Electric MELFA, Universal Robots, Yaskawa Electric, Kawasaki Heavy Industries, FANUC, Kuka, etc.) can be mixed.

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⚠ For safe use

• To use the products listed in this publication properly, always read the relevant manuals before use.

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