



series

Explosion-Proof Painting Robots



Kawasaki Robotics (USA), Inc.

Simple  friendly

simply the highest performance robots on the planet





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Explosion-Proof Painting Robots Engineered for Excellence

Kawasaki Robotics has become known worldwide for manufacturing the highest performance robots on the planet. Over the past 30 years, well over 65,000 Kawasaki Robots have been installed. During this period, Kawasaki has obtained an unparalleled level of experience in all types of industries and applications. Our engineers continuously listen to the demands of our customers, and as a result, have designed a completely new line of explosion-proof painting robots.

The K-Series painting robots were developed with our "Simple and Friendly" concept. With eight explosion-proof models available, Kawasaki has a robot that will suit any robotic painting application from small paint cells to complete multi-robot automotive finishing systems.



Pre-Engineered Systems

The K-Series Robots can be provided as part of a Kawasaki Robotics pre-engineered finishing system. These designs are ideal for stand alone finishing cells and are available in a variety of sizes and configurations. Kawasaki currently offers five unique explosion proof cells providing a compact yet sophisticated solution to your finishing needs. These designs are standard, therefore proven in the field. Choosing a K-Series finishing system means less time spent in design and manufacturing resulting in the shortest time to production.

For full details and specifications, please visit our website at:
www.kawasakirobotics.com.

www.kawasakirobotics.com

K Series

simply the highest performance robots on the planet

Kawasaki's experience and expertise in the field of robotic painting has resulted in the production of the highest-performance units in the industry.

1

A comprehensive line-up of robots

Kawasaki offers eight unique explosion-proof models from the KF 121 for small applications to the KE 610 robots for automotive inner and outer body finishing. Kawasaki can offer the right solution for your robotic paint application by matching a K-Series robot with your system requirements.

2

Built-in hoses

Hollow wrist versions of the K-Series arms are fitted with built-in hoses as standard equipment. Internally fitting the hoses minimizes overspray adhering to the piping, reducing the risk of contaminants in the finish.

3

Easy system integration

A control panel is provided to enhance the ease of system building and interfacing with other peripheral equipment. Kawasaki Robotics can provide pre-engineered painting systems for quick start-up and integration with a rail, shuttle, spinner, etc.

4

Kawasaki's painting experience

Over 30 years of robotic painting experience has enabled Kawasaki to design robots to meet the needs of today's most demanding customers. The K-Series robots are now equipped with more advanced functions than ever offered before, resulting in increased productivity.

5

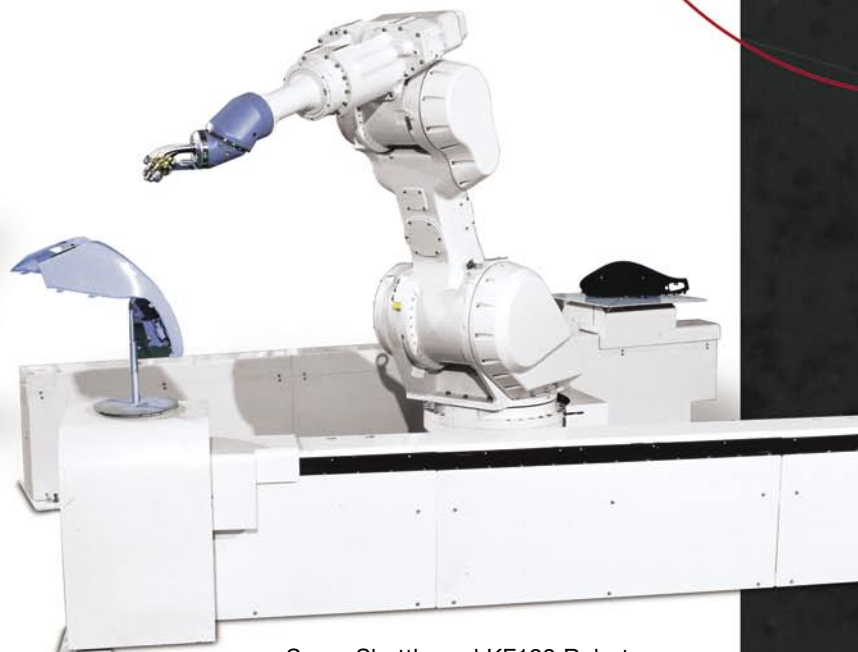
Customer Support

Our professional staff will be available for support from the initial planning stage right up to equipment start-up. This service will be of great benefit to those new to painting applications.

Kawasaki Robotics offers pre-engineered paint system peripherals.



Servo Twister and KF121 Robot



Servo Shuttle and KF193 Robot

Servo Tombow, Servo Spinner, and Servo Turntable also available. Visit www.kawasakirobotics.com for more information.

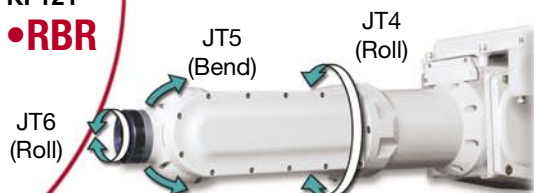


Kawasaki Robotics (USA), Inc.

Wrist Configurations

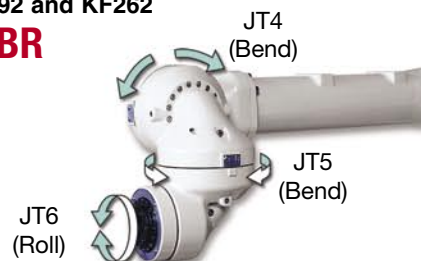
KF121

•**RBR**



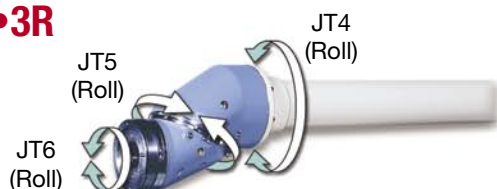
KF192 and KF262

•**BBR**



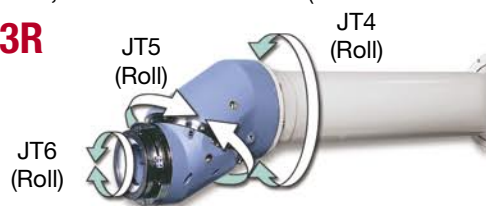
KF193 and KF263 (40mm I.D. hollow wrist)

•**3R**



KF264, KE610H and KE610L (70mm I.D. hollow wrist)

•**3R**



TYPE			KF121	KF192	KF193	KF262	KF263	KF264	KE610H	KE610L
Degrees of Freedom			6							
Wrist Type			RBR	BBR	3Rø40 (Hose Built-In)	BBR	3Rø40 (Hose Built-In)	3Rø70 (Hose Built-In)		
Work Envelope	Range of Motion	JT1(Turning)	±160°	±150°					±148°	
		JT2(lower arm)	±90°	+110° ~ -60°					+108° ~ -58°	
		JT3(Upper arm)	±150°	+90° ~ -80°					+88° ~ -78°	
		JT4	±270°	±360°	±720°	±360°	±720°			
		JT5	±145°	±360°	±720°	±360°	±720°			
		JT6	±360°	±360°	±410°	±360°	±410°			
	Max. Speed		1.5 m/s	2.0 m/s						
Repeatability			±0.2 mm	±0.5 mm					±1.0 mm	
Max. Reach			1,240 mm	1,973 mm	1,973 mm	2,665 mm	2,665 mm	2,668 mm	2,714 mm	3,014 mm
Max. Payload			5 kg	Wrist: 12 kg Arm: 20 kg					Wrist: 15 kg Arm: 25 kg	Wrist: 15 kg Arm: 20 kg
Moment	JT4	7.8 N·m	33.3 N·m	33.2 N·m	33.3 N·m	33.2 N·m	35.4 N·m	61.1 N·m		
	JT5	7.8 N·m	28.8 N·m	26.7 N·m	28.8 N·m	26.7 N·m	27.7 N·m	48.4 N·m		
	JT6	2.9 N·m	7.9 N·m	7.9 N·m	7.9 N·m	7.9 N·m	7.9 N·m	18.3 N·m		
Moment of Inertia	JT4	0.17 kg·m ²	1.28 kg·m ²	1.27 kg·m ²	1.28 kg·m ²	1.27 kg·m ²	1.45 kg·m ²	2.59 kg·m ²		
	JT5	0.17 kg·m ²	0.96 kg·m ²	0.82 kg·m ²	0.96 kg·m ²	0.82 kg·m ²	0.89 kg·m ²	1.63 kg·m ²		
	JT6	0.06 kg·m ²	0.11 kg·m ²	0.11 kg·m ²	0.11 kg·m ²	0.11 kg·m ²	0.11 kg·m ²	0.23 kg·m ²		
Weight			140 kg	690 kg	720 kg	720 kg	740 kg	770 kg	800 kg	810 kg
Explosion Protection			Pressurized and Intrinsically Safe (Class 1, Zone 1, Group IIB & T4 certified)*							
Ambient Temperature			0~ 40°C							
Body color			Kawasaki Standard							

Maximum reach: The RBR (Roll Bend Roll) wrist refers to the distance from the centre of JT1 to the centre of JT5. 1 N·m = 0.102 kgf·m * contact KRI for latest certifications.
The BBR (Bend Bend Roll) wrist is the distance from the top arm centre line to the JT4 axis. 1 kg·m² = 0.102 kgf·m·s²
The 3R (Roll Roll Roll) wrist is the distance from JT1 to the axis cross-point between JT4 and JT5. 1 kgf = 2.2 lbf
Other options or Software : Please contact us. 1 m = 3.28 ft.



Explosion-Proof Painting Robots

Eight unique robot models to suit any painting application.



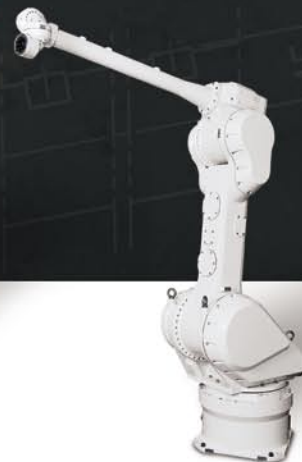
KF121



KF192

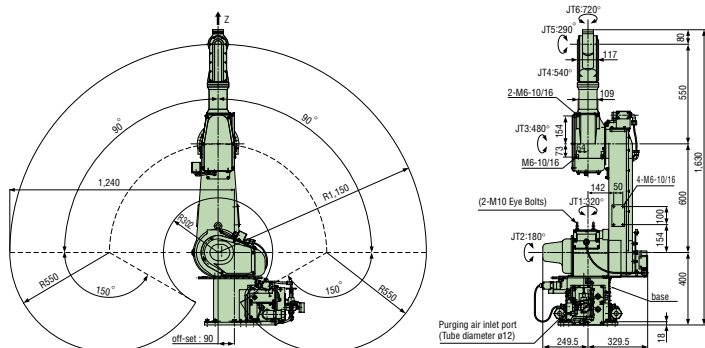


KF193

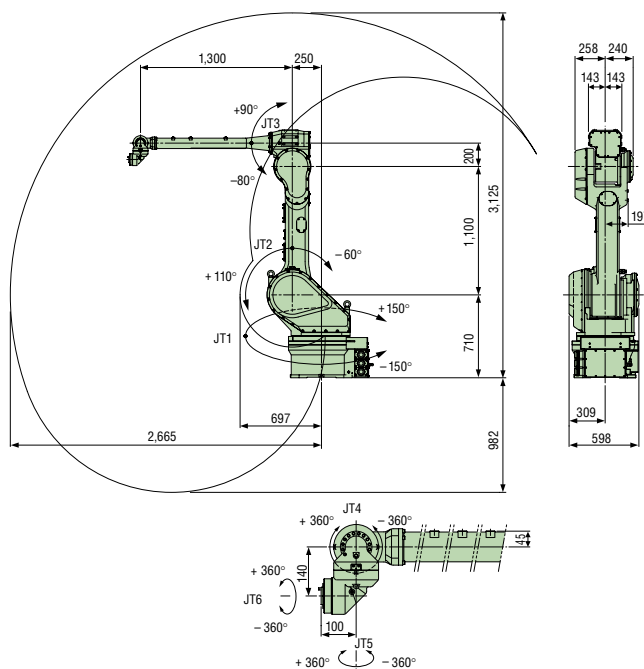


KF262

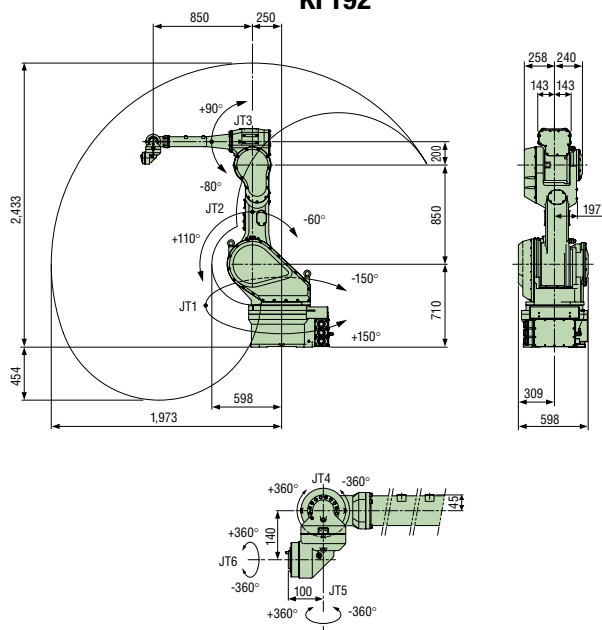
KF121



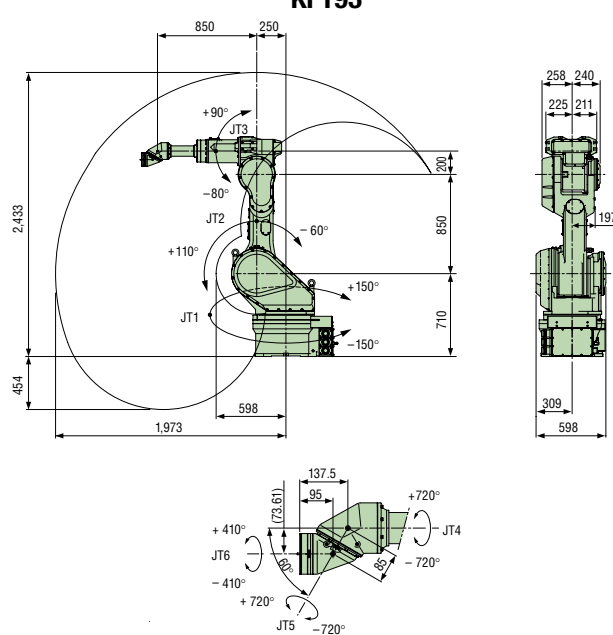
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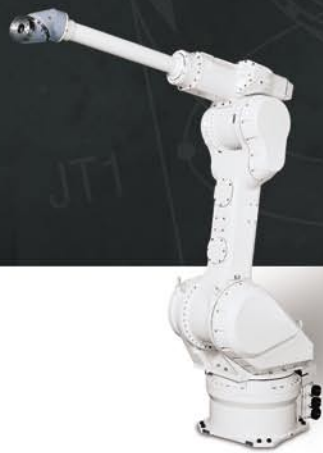


KF192

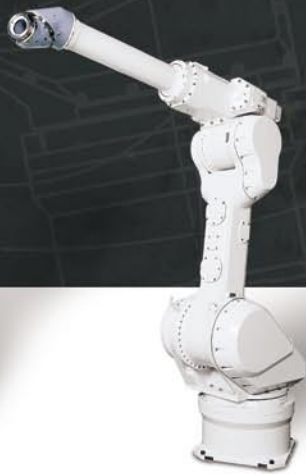


KF193





KF263



KF264

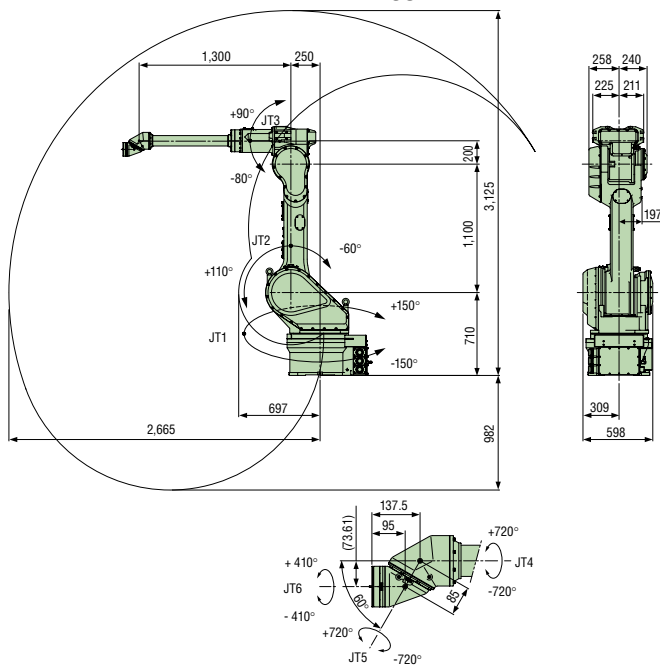


KE610H

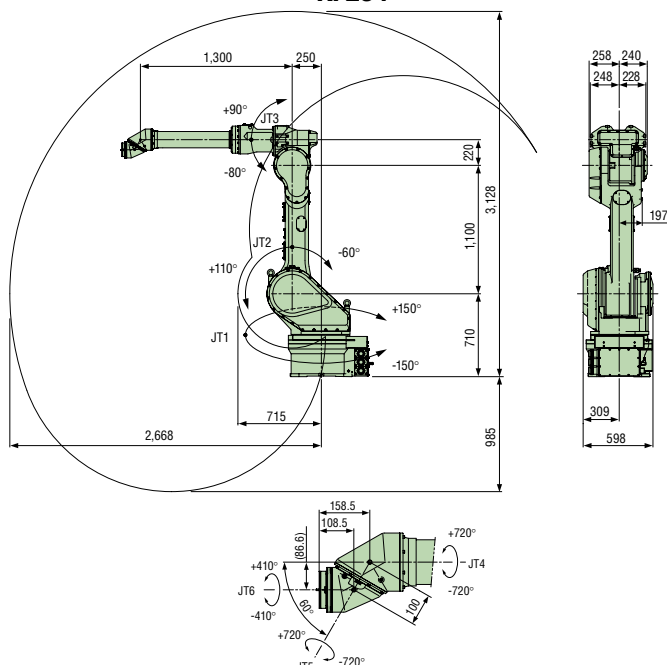


KE610L

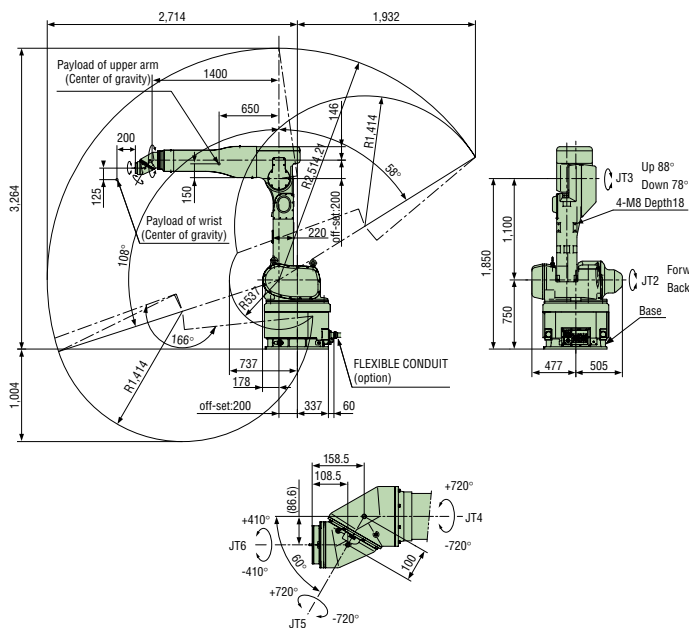
KF263



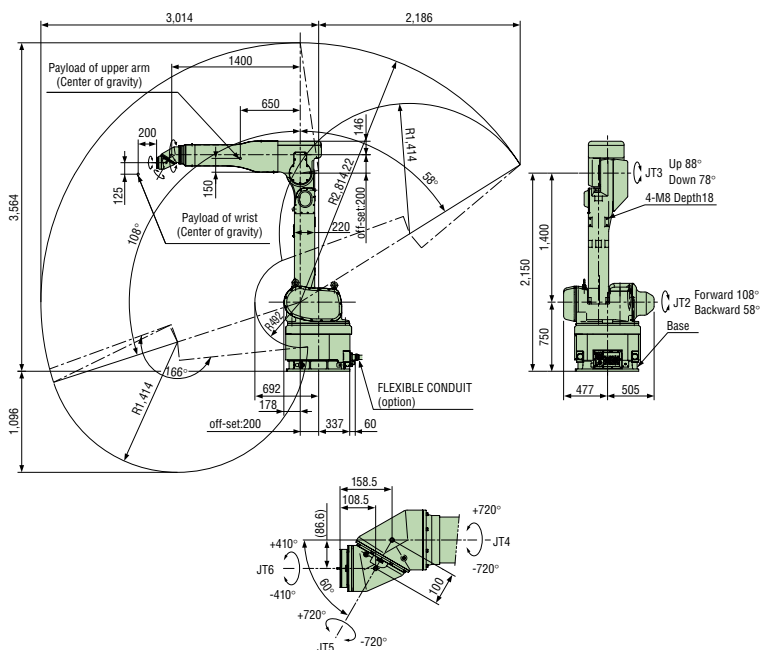
KF264



KE610H



KE610L



Simple and friendly

C35/37 Controller

Sophisticated Motion Control Functions

Kawasaki's progressive motion control provides high-speed, high-precision path control. In addition, various options such as collision detection, soft absorber, and conveyor tracking are available to meet your system application needs.

Duplicate Safety Circuits

Dual channel safety circuits provide redundant protection. If a failure occurs in one system, the other system's safety circuits will still offer protection.

Painting Unit Control Functions

Controlling the valves, such as CCV, is traditionally performed with an external PLC. The Kawasaki controller's main CPU can be used to provide control of the CCV. In addition, linking the rotation control function to the discharge rate gear pump control, results in an increase in paint quality.

Network Communications

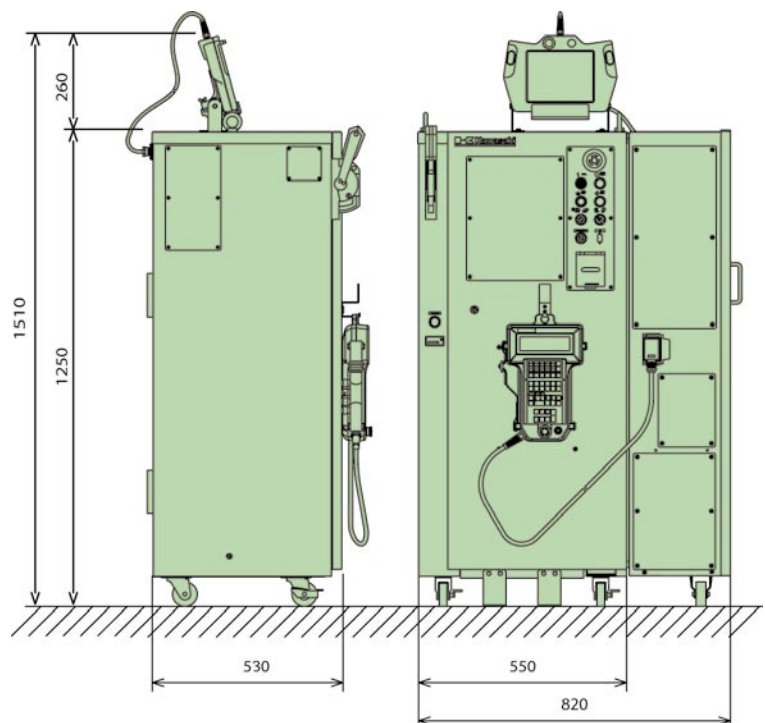
This system can use a variety of communication protocols such as Ethernet, DeviceNet, CC-Link, Interbus, etc.

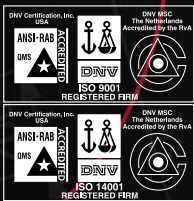
Multi-function Panel

A large 7" color LCD touch panel is used for system set-up, status monitoring, programming, and troubleshooting as well as an Input/Output operation panel to interface with peripheral equipment.

Explosion-Proof Teach Pendant

The explosion-proof teach pendant features include an LCD, emergency stop button, teach lock switch, trigger switch, all in an intrinsically safe explosion-proof construction. The teach pendant utilizes the same operating system as all C Series Controllers.





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