groov PRODUCT COMPARISON CHART

	groov EPIC®		*groov* RIO®			*groov* Server for Windows
	GRV-EPIC-PR1	GRV-EPIC-PR2	GRV-R7-MM1001-10	GRV-R7-MM2001-10	GRV-R7-I1VAPM-3	
Description	Edge programmable industrial controller		Universal edge I/O	Universal edge I/O with Ignition Edge	Energy monitoring edge I/O	Server for *groov* View HMI
Industrially hardened device	●	●	●	●	●	(Depends on PC)
Software that runs on Windows PC						●
Field I/O	0–16 *groov* I/O modules can be placed on same chassis		Built-in, software-configurable I/O		64 energy data channels	
Purpose						
Real-time industrial control	●	●				
I/O	●	●	●	●	●	
Data processing	●	●	●	●	●	
Data communication	●	●	●	●	●	
IIoT connectivity	●	●	●	●	●	
Visualization (HMI)	●	●	●*	●*	●*	●
Software						
Control programming	• PAC Control software • CODESYS Development System (all IEC 611310-3 compliant languages) • Custom programs run via secure shell access (SSH)		CODESYS Development System (all IEC 611310-3 compliant languages)			
Node-RED (data flows, dashboard)	●	●	●	●	●	
MQTT communications (string and Sparkplug)	●	●	●	●	●	
Ignition from Inductive Automation® (additional cost)	Ignition 7 (or 8**)	Ignition 8		Ignition 8		
Ignition Edge® (additional cost; OPC UA drivers for PLCs, Modbus®/TCP devices & software; MQTT/Sparkplug communications)	Ignition Edge 7 (or 8**)	Ignition Edge 8		Ignition Edge 8		
groov View (HMIs for mobile devices, PCs, any device with a web browser)	●	●				●
Secure shell access (SSH)	●	●	●	●	●	
groov Manage (configuration)	●	●	●	●	●	

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IIoT Connectivity						
OPC UA (multiple independent servers)	●	●	●	●	●	●
- Native to I/O & OptoMMP Scratch Pad	●	●	●	●	●	
- Native to PAC Control variables & I/O	●	●				
- Ignition tags, including 3rd-party drivers	●	●		●		
- CODESYS program & I/O	●	●				
- Node-RED via OPC UA Server node	●	●	●	●	●	
MQTT with strings and Sparkplug B	●	●	●	●	●	
Node-RED	●	●	●	●	●	
RESTful APIs	• PAC Control variables • *groov* Manage (to I/O) • *groov* View Data Stores		*groov* Manage (to I/O)	*groov* Manage (to I/O)	*groov* Manage (to I/O)	*groov* View Data Stores
Data Handling						
Data acquisition	●	●	●	●	●	
Data storage	●	●	●	●	●	
Data processing	●	●	via Node-RED	via Node-RED	via Node-RED	
Data communication	●	●	●	●	●	
Security and Networking						
Data encryption (HTTPS/TLS)	●	●	●	●	●	●
User authentication	●	●	●	●	●	●
Self-signed or Certificate Authority certificates	●	●	●	●	●	●
Device firewall, configurable	●	●	●	●	●	
LDAP support	●	●	●	●	●	
SNMP support	●	●	●	●	●	
VPN client	●	●	●	●	●	(Depends on IT)
Two independent Ethernet NICs (different IP addresses)	●	●				(Depends on PC)
Two switched Ethernet NICs (same IP address)			●	●	●	
HDMI ports	One (for external monitor)					
USB ports	Two USB 2.0 (for external keyboard or mouse, WiFi adapter, serial adapter, approved USB Bluetooth adapter, or USB memory stick to 32 GB)		One USB 2.0 (for WiFi adapter, serial adapter, or USB memory stick to 32 GB)			

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General						
Built-in, high-resolution color touchscreen display	●	●				
Mounting	Requires *groov* EPIC chassis. Chassis can be DIN-rail or panel mounted		Self-contained; DIN-rail or panel mounted			
Power	AC, DC, or pass-through power supply options on chassis		Power over Ethernet or 10–32 VDC input			
Operating temperature	-20 °C to +70 °C		-20 °C to +70 °C			(Depends on PC)
Storage temperature	-40 °C to +85 °C		-40 °C to +85 °C			
Relative humidity, non-condensing (operating)	5 to 95%		5 to 95%			(Depends on PC)
Agency approvals	UL/cUL(Class 1 Div. 2); CE, ATEX(Category 3, Zone 2), UKCA, RoHS; DFARS; CB Scheme		UL/cUL(Class 1 Div. 2); CE, ATEX(Category 3, Zone 2), UKCA, RoHS; DFARS; CB Scheme			
Warranty	Processor: 30 months Most I/O modules: lifetime warranty		30 months			

* Via Node-RED dashboard UI
** GRV-EPIC-PR2 is recommended for Ignition version 8, due to its larger memory.

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