InSerial

Controller Gateway

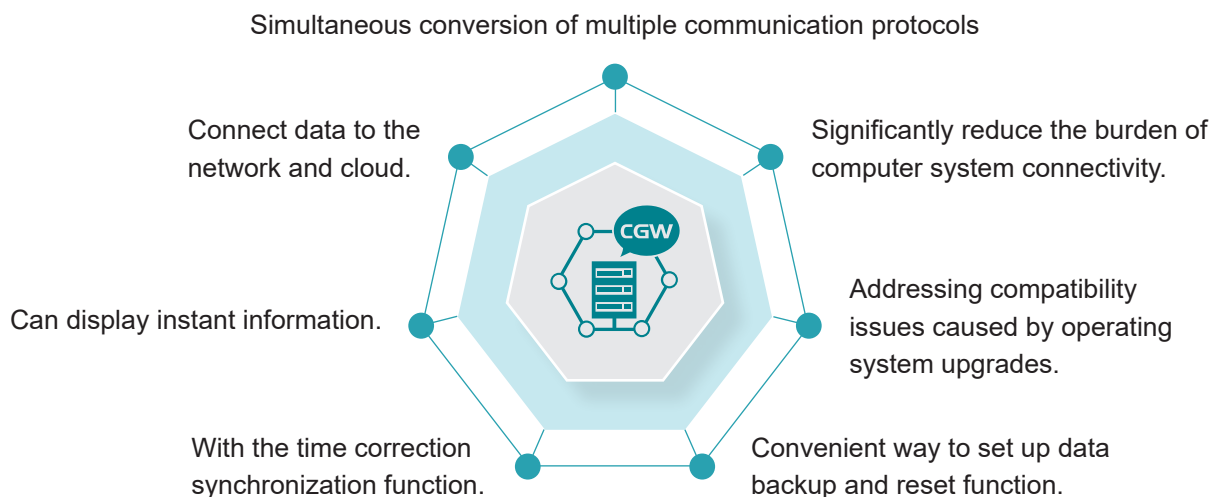## Intelligent choice for integrating plant-wide communication protocols.

A single unit converts over 15 industrial communication protocols, preferred for simplifying system and equipment communication architectures.

Simplify and Stabilize Communication with CGW

Experience a more efficient way to convert multiple communication protocols while streamlining your communication architecture and ensuring stable system connectivity.

The CGW smart gateway controller seamlessly integrates common industrial communication protocols and establishes an Industrial IoT foundation through OPC UA. With an independent operating platform, it reduces the need for installed drivers on computers, simplifies the system communication architecture, and minimizes the risk of on-site computer crashes due to excessive load. Say goodbye to worries about driver incompatibility caused by operating system upgrades.

CGW helps you solve pain points and achieve goals

Simultaneous conversion of multiple communication protocols

Connect data to the network and cloud.

Significantly reduce the burden of computer system connectivity.

Can display instant information.

Addressing compatibility issues caused by operating system upgrades.

With the time correction synchronization function.

Convenient way to set up data backup and reset function.

Key features

Universal Protocol Support with CGW

With over 15 supported industrial communication protocols, CGW streamlines data exchange between PLCs, devices, and systems, eliminating the need for multiple gateways to handle different protocols.

Multiple ports selection, networking functionality provided

CGW provides 2 Ethernet ports and options for 2, 4, 8, or 16 RS-232/422/485 ports. Among which 2 CGW ports provide 4G and WiFi functions, enabling data to be uploaded to the cloud.

SuiteLink Client Support

CGW supports AVEVA SuiteLink Client, enabling direct data communication with AVEVA InTouch, System Platform, and Historian.
This allows CGW to act as a real-time data gateway between field devices and AVEVA software systems—without additional OPC or DCOM configuration.

To solve driver compatibility issues and reduce system burden

There is no need for CGW setting DCOM and will not unusable due to operating system upgrades. Equipped with self diagnosis function, automatic restart in case of abnormalities, and easy maintenance.

Support data conversion between different ports

Analog conversion can be set to convert the original values into engineering values. Supports Port to Port, Port to Ethernet, Ethernet to Ethernet.
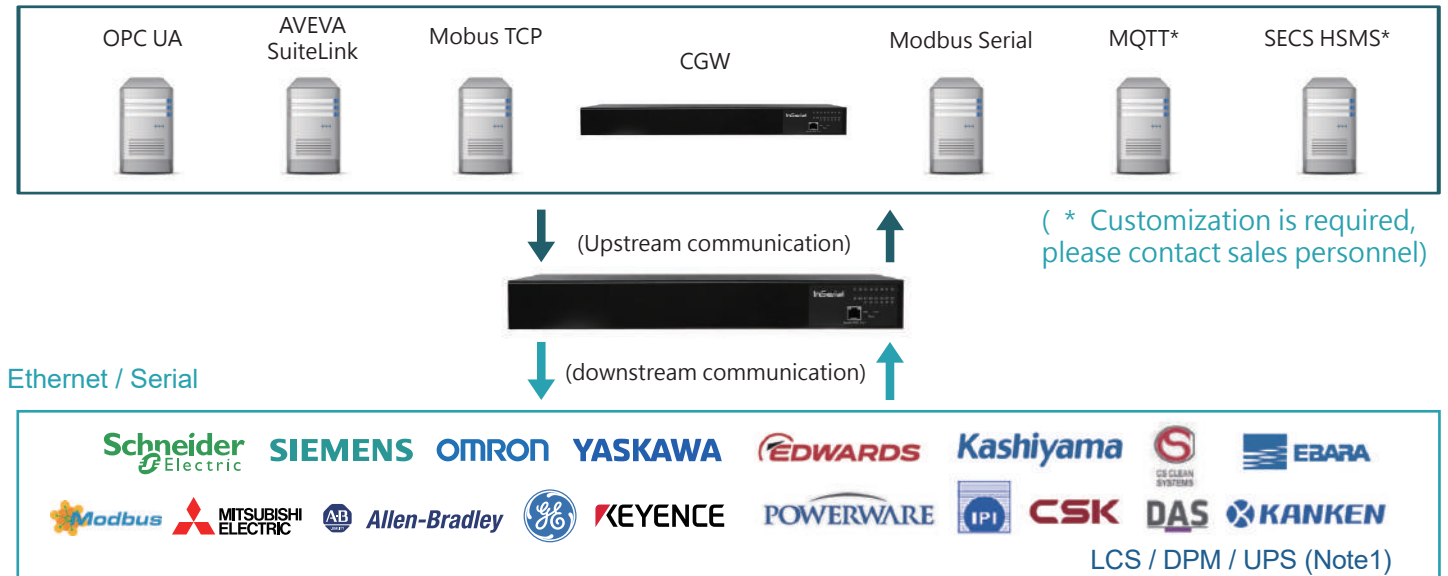
Superior communication quality

CGW can diagnose each I/O and record the communication status of PLCs or devices in real-time. And it has a time correction function to ensure consistent system operation time.

CGW Solutions
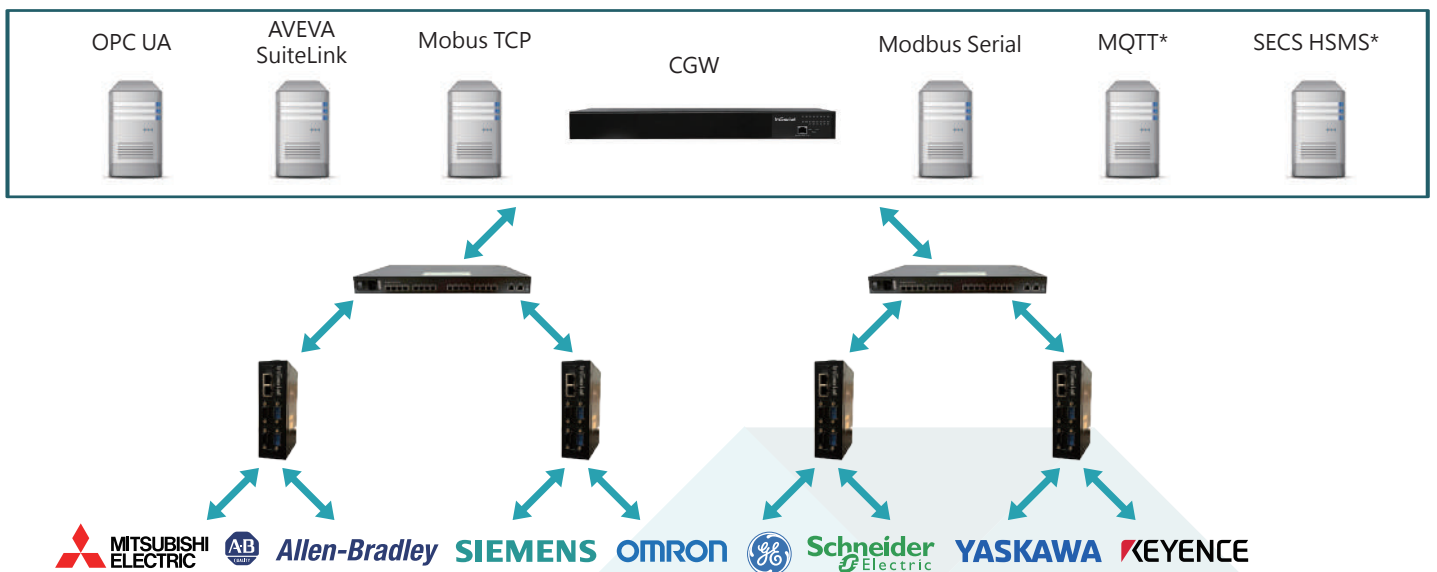
Each CGW model will be offered in three Solution Versions:

Version	Description
FF (Full function)	Supports all communicate protocols
nPLC (non PLC)	Does Not support PLC communication
PLC	Supporting only PLC communication

Communication Transmission Architecture

Note 1: LCS stands for Local Scrubber, and DPM stands for Dry Pump

2-tier Architecture Using Multiple CGW Models

※ When connecting to multiple databases, please contact our sales representative to discuss the feasibility of the system architecture.

Supported communication protocols, PLCs, and equipments models

#	Dry pump	Type	Protocol	Interface
1	ALCATEL (ADIXEN)	ADP 122 P, ADP 122 LM, ADS 602 H, ADS 602 P, ADS 602 LM,ADS 1202 H, ADS 1202 P, ADS 1802 H, ADS 1802 P	Alcatel ADP ADS Series	RS-232 / 485
		IPUP A100L	ALCATEL IPUP A100 Series	RS-232 / 485
		ATH 1300 M, ATH 1600 M, ATH 1603 M, ATH 2300 M,ATH 2303 M, ATH 2800 M, ATH 3200 M , ATP 2300 M,ATH 1300 MT, ATH 1600 MT, ATH 2300 MT, ATH 2800 MT, ATH 3200 MT equipped with heater band	Alcatel ATH	RS-232 / 485
2	LEVITRONIX	BPS-4 Pump System	Levitronix Serial	RS-232
3	Pfeiffer Vacuum	DCU 110 / 200 / 300 / 600	Pfeiffer Vacuum DCU	RS-485
		TC110 / 400 / 1200 Electtonic Drive Unit	Pfeiffer Vacuum TC	RS-485
		A 124H, A 204H, A 604H, A 804H, A 1204H, A 1504H, A 1804H,A 204X, A 804X, A 1504X, A 1804X, A 1504XN, A 1804 XN	Pfeiffer Vacuum A4 Series	RS-232 / 485
4	Varian Turbo	V301 Navigator	Varian Turbo V301	RS-232 / 485 / 422 Optional
5	Ebara	A series, AA series, AA-V1 series, AAS series, A200W, A400P,A300W, AAS72W+AA400BP, AAS900TN, AAE series	EBARA A Series	RS-232
		ESR Series, VOS Series, EST Series, EST 200WN-TE, A300W-T, A300WM-IU, EV-S Series, EV-M Series, ESA 25XW, ESA 30XW, ESA 25D, ESA 70WD, ESA 80W-HDF, ESA 80W-HDF(INV) , ESA 100W, ESA 100WN, ESA 300W, ESA 500W	EBARA ESx Series	RS-232
		G5 SCRUBBER CMS COMMUNICATION	EBARA G5 Scrubber CMS Comm	RS-232
6	Edwards	iGX / GX / iXH / iXL / pXH / iQ / iH Control System	Edwards Series	RS-232
		SCU-750 / 800 / 1500 / 1600	Edwards SCU Control Unit	RS-232 / 485
7	Kashiyama	SDE Series (PC201 Controller)	Kashiyama SDE Series	RS-422
		MU & T Series (PC80 Controller)	Kashiyama MU & T Series	RS-232
8	SKY	JGH & JGM Series		RS-232 / 485

#	Local Scrubber	Type	Protocol	Interface
1	CSK	Modbus TCP	Modbus Ethernet	TCP
2	IPI	Modbus TCP	Modbus Ethernet	TCP
3	CT	SS003A1-KH	Modbus Ethernet	TCP
4	Edwards	Helios, ATSP, MK3B, Proteus	Modbus Ethernet	TCP
5	Zillion Tek	ACS1	Modbus Ethernet	TCP
6	Wholetech	AWTC	Modbus Ethernet	TCP
7	KanKen	KT1000FA	Omron FINS Ethernet	TCP / UDP
8	DAS	Salix, Styrax, Escap	Omron FINS Ethernet	TCP / UDP
9	Ebara	EUV	Keyence PLC	TCP

#	PLC	Type	Protocol	Interface
1	Allen-Bradley (AB)	SLC 500, PLC5	AB DF1	RS-232 / 485
		SLC500, CompactLogix, MicroLogix , ControlLogix	AB CIP	TCP
2	Emerson (GE)	90-30, 90-70, RX3i, Rx7i, VersaMAX, VersaMax Micro, VersaMax Nano	GESNP	RS-232 / 485
		90-30, 90-70, RX3i, Rx7i, VersaMAX, VersaMax Micro, VersaMax Nano	GESRTP	TCP
3	Mitsubishi	A Series, AnA / AnU Series, Q Series, QnA Series, FxN Series, FX3U Series, FX5U Series	Mitsubishi Serial	RS-232 / 485 / 422
		A Series, AnA / AnU Series, FxN Series, Q Series, QnA Series, iQ-R Series, iQ-F Series , FX3U Series, FX5U Series	Mitsubishi EThernet	TCP / UDP
4	OMRON	CS / CJ / CP / CV Series	Omron FINS Serial	RS-232 / 485
		CS / CJ / CP / CV Series	Omron FINS Ethernet	TCP / UDP
		CV Series (CV500 / CV1000 / CV2000 / CVM1) , C Series (C20H / C200H / CQM1)	Omron HostLink	RS-232 / 485
5	Schneider	Modbus ASCII / RTU	Modbus Serial	RS-232 / 485 / 422
		Modbus TCP	Modbus Ethernet	TCP
6	Siemens	S7-200 / 300 / 400 / 1200 / 1500	SIEMENS S7 Ethernet	TCP
7	Yaskawa	CP218TX	Yaskawa PLC (Memobus)	TCP
8	KOYO	Koyo H0 / H2 / H4 w / ECOM100	Koyo PLC (Modbus TCP)	TCP
9	FATEK	FBs PLC	FATEK FBs Series	RS-232 / 485
10	Keyence	KV Nano, KV-700 / 1000 / 3000 / 5000 / 7000 / 8000	Keyence PLC	TCP

#	Other Equipment		Type	Protocol	Interface
1	Weighing Scale	METTLER TOLEDO	IND231 / IND236 / IND780 Weighing Terminal	Mettler Toledo IND	RS-232
		KUBOTA	KL-D1000 Weight Indicator	Kubota KL D1000	RS-232
		UWE	UWE 1705 Digital Weighing Indicator	UWE1705	RS-232
		A&D Weighing	AD-4328	AD-4328	RS-232 / 485 / 422
2	Seismograph	IMV	SW74T	Seismic Serial	RS-232
			SW94	Seismic Serial	RS-232
3	Single Circuit Controller	YOKOGAWA	YS1000	Yokogawa Serial	RS-232
4	Temperature Controller	YOKOGAWA	UT551	Yokogawa Serial	RS-232
5	Moisture Analyzer	AMETEK	3050 AM, 5830, 5900 / 5910 / 5920 UHP Moisture Analyzer	Ametek Moisture Analyzer	RS-232 / 485
6	Sanfu Gas Cabinet	Air Products and Chemicals, Inc.	APCI GASGUARD 450 / 500 / 250, GasGuard AP2 / AP3 Gas Cabinet Controller	APCI GASGUARD MONITORING PROTOCOL	RS-232 / 422 / 485
7	Waste Gas Treatment	CS CLEAN SOLUTIONS	CLEANSORB Controller	CLEANSORB Controller	RS-232
8	Paper Belt Detector	Honeywell	CM4 Toxic Gas Monitor	Honeywell CM4	RS-232 / 422 / 485
9	Particle Measuring Systems (PMS)	Particle Measuring Systems (PMS)	PMS HPGP-101-C High Pressure Gas Probe with PDS-E	Particle Hpgp 101	RS-232
10	Micro Oxygen Analyzer	SERVOMEX	DF-550E Oxygen Analyzer	SERVOMEX Delta F Oxygen Analyzer Nano Trace	RS-232 / 422

	Other Equipment		Type	Protocol	Interface
11	Fan Filter Unit	AIRTECH	AIRTECH FFU	AIRTECH FFU	RS-232
12	Oil leak detection	Agar Environmental Ltd.	Leakwise CDSP-220	GE Leakwise DSP220	RS-232 / 485
13	Gas Analyzer	Peak Performer	Peak Performer 1 Series (Gas Analyzers)	Peak Performer 1 Series	Port 2 : RS-232
14	Vacuum Display	PFEIFFER VACUUM	PFEIFFER TPG 256A VACUUM CONTROLLER	Maxigauge TPG256A	RS-232 / 422 / 485
15	RFID Reader	PONGEE	PK-UHF201 UHF Long Range RFID Reader And Writer	RFID Reader	RS-232 / 485
16	Uninterruptible Power Supply	Eaton	Powerware UPS	Powerware UPS	RS-232
				Modbus Ethernet	TCP
17	Ultrapure Water Microparticle Counters	Praxair	Praxair UP100 Ultrapurge Gas Cabinet System Controller	Praxair UP100	Port 1 : RS-422 Port 2 : RS-485
18	Thermal Flow Meter	Tokyo Keiso	Tokyo Keiso TRX-700 Series Thermal Flowmeter Converter	Tokyo Keiso RTX-700 Series	RS-485
19	Crystal Oscillation type Deposition Controller	ULVAC	ULVAC CRTM-9000G Crystal Oscillation type Deposition Controller	ULVAC CRTM-9000G	RS-232
20	Load Computer	Honeywell Enraf	Load Computer 1010 CJ	Load Computer 1010 CJ	RS-232 / 422 / 485
21	Barcode Scanner	ZEBRA	DS9308 Hands-Free Imaging Scanner		RS-232
22	Chiller	SMEE	STCP 10000W-5/10		RS-232
23	Stress tester	Druck	PACE 1000 / 5000 / 6000 Series	SCPI	RS-232, TCP

※ The above are the common industrial communication protocols supported by CGW. For more detailed support information, please feel free to contact us!

CGW Product Specifications

CGW511

※ CGW511 is a special 1-port model in the CGW series which must be specially ordered. The built-in time synchronization feature operates only when the device is powered on.

CGW512

Ethernet Communication		
Compatibility	IEEE 802.3, IEEE 802.3u	
Speed	10/100 Mbps	
Number of Ports	2 (8-pin RJ45)	
Protection	Built-in 2.25 k VDC magnetic isolation	

Serial Communication		
Port Type	RS-232/422/485-2w/485-4w	RS-232/422/485-2w/485-4w, software selectable (CGW 512 CI-CE supports RS-422/485 only)
Number of Ports	1	2
Connector Type	DB9 Male	
Data Bits	7, 8	
Stop Bits	1, 1.5, 2	1, 2
Parity	None, Odd, Even, Space, Mark	
Flow Control	XON/XOFF, RTS/CTS, DTR/DSR	XON/XOFF, RTS/CTS
Baud Rate	1200 bps to 46.08 kbps (Max. 921.6 Kbps)	50 bps ~ 921.6 kbps, any baud rate setting
Serial Signals	**RS-232:** xD, RxD, RTS, CTS, DTR, DSR, DCD, GND **RS-422:** Tx-, Tx+, Rx+, Rx- **RS-485 2 wire:** Data-, Data+ **RS-485 4 wire:** Tx-, Tx+, Rx+, Rx-	(CE Ver.) **RS-232:** TxD, RxD, CTS, RTS, DTR, DSR, DCD, GND, RI **RS-422:** TxD+, TxD-, RxD+, RxD-, GND **RS-485:** Data+, Data-, GND (DE Ver.) **RS-232 isolation:** TxD, RxD, CTS, RTS, GND **RS-232:** TxD, RxD, CTS, RTS, DCD, RI, GND, DTR, DSR Terminal Block **RS-422:** GND, RxD-, RxD+, TxD+, TxDRS- **RS 485 2-wire:** GND, NC, NC, TxD+, TxD **RS-485 4-wire:** GND, RxD-, RxD+, TxD+, TxD
Protection	15 KV ESD for all signals	

Software & Mechanics		
Configuration	Web Browser	
Dimensions (mm)	26 x 75 x 110	42 x 140 x 95
Material	IP30 Metal with solid mounting hardware	IP30 Metal with solid mounting hardware
Mounting Method	DIN-rail, Wall	DIN-rail, Wall
LED Indicators	System: Power, System Status; LAN: Speed, Link/Active; Serial: Tx, Rx	

Power and Environment Requirements		
Power Input	12 ~ 48 VDC, redundant dual inputs	
Connector	Terminal Block	
Power Consumption	1.44 W	4.1 W
Operating Temperature	-40 to 70°C (-40 to 158°F)	-10 ~ 60 °C (14 ~ 140 °F), 'CI & I' models: -40 ~ 80 °C (-40 ~ 176 °F)
Storage Temperature	-40 ~ 85 °C (-40 ~ 185 °F)	-20 ~ 80 °C (-4 ~ 176 °F)
Humidity	5% to 95% non-condensing	10% ~ 95% RH

Regulatory Approvals		
EMC	FCC Part 15B, CISPR 32 (EN55032 Class A) EN61000-4-2 (ESD), EN61000-4-3 (RS), EN61000-4-4 (EFT), EN61000-4-5 (Surge), EN61000-4-6 (CS), EN61000-4-8, EN61000-4-11	CE, FCC Part 15 Subpart B (Class A), UL/cUL (Class I, Division 2, Groups A, B, C and D), ATEX (Zone 2 Ex nA nC IIC T4 Gc)

	CGW514	CGW516	CGW518
Ethernet Communication			
Compatibility	IEEE 802.3, IEEE 802.3u	IEEE 802.3, IEEE 802.3u, IEEE 802.3ab	IEEE 802.3, IEEE 802.3u IEEE 802.3ab
Speed	10/100 Mbps	10/100/1000 Mbps, auto MDI/MDIX	10/100/1000 Mbps, auto MDI/MDIX
Number of Ports	2 (8-pin RJ45)		
Protection	Built-in 2.25 k VDC magnetic isolation	Built-in 1.5 KV magnetic isolation	Built-in 1.5 KV magnetic isolation
Serial Communication			
Port Type	RS-232/422/485-2w/485-4w, software selectable	RS-232/422/485, software selectable	RS-232/422/485, software selectable
Number of Ports	4	16	8
Connector Type	DB9 Male	DB9 Male (Also provide RJ45)	DB9 Male (Also provide RJ45)
Data Bits	7, 8		
Stop Bits	1, 2		
Parity	None, Odd, Even, Space, Mark		
Flow Control	XON/XOFF, RTS/CTS	XON/XOFF, RTS/CTS, DTR/DSR	XON/XOFF, RTS/CTS, DTR/DSR
Baud Rate	50 bps ~ 921.6 kbps, any baud rate setting	50 bps ~ 921.6 kbps, any baud rate setting, 16 ports up to 230.4 kbps simultaneously	50 bps ~ 921.6 kbps, any baud rate setting
Serial Signals	**RS-232:** TxD, RxD, CTS, RTS, DTR, DSR, DCD, GND, RI **RS-422:** TxD+, TxD-, RxD+, RxD-, GND **RS-485:** Data+, Data-, GND		
Protection	15 KV ESD for all signals		
Software & Mechanics			
Configuration	Web Browser		
Dimensions (mm)	42 x 140 x 95	438 x 43.6 x 259.2	438 x 43.6 x 259.2
Material	IP30 Metal with solid mounting hardware	SECC chassis	SECC chassis
Mounting Method	DIN-rail, Wall	Rack	Rack
LED Indicators	System: Power, System Status; LAN: Speed, Link/Active; Serial: Tx, Rx		
Power and Environment Requirements			
Power Input	12 ~ 48 VDC, redundant dual inputs	12 ~ 48 VDC, redundant dual inputs	100 ~ 240 VAC, 50 ~ 60 Hz, 12-48 VDC
Connector	Terminal Block		
Power Consumption	4.1 W	5.6 W	5.6 W
Operating Temperature	-10 ~ 60 °C (14 ~ 140 °F) 'CI & I' models: -40 ~ 80 °C (-40 ~ 176 °F)		
Storage Temperature	-40 ~ 85 °C (-40 ~ 185 °F)	-20 ~ 80 °C (-4 ~ 176 °F)	-40 ~ 85 °C (-40 ~ 185 °F)
Humidity	10 ~ 95% RH		
Regulatory Approvals			
EMC	CE, FCC Part 15 Subpart B (Class A)		

◣ Model Numbers for Ordering

Serial	
CGW 512/514/518/516	2/4/8/16-port RS-232/422/485 selectable via software
OPT1I	1-meter RJ45 to DB9 male connector cable; Suitable for 518/516 (optional).
OPT1J	30 cm RJ45 to DB9 male connector cable. ; Suitable for 518/516 (optional).
1702002600	US standard power adapter and a 1.8-meter power cord. ; Suitable for 518/516 (optional).
1702002605	EU standard power adapter and a 1.8-meter power cord ; Suitable for 518/516 (optional).
1702031801	UK standard power adapter and a 1.8-meter power cord ; Suitable for 518/516 (optional).
1702031836	Chinese and Australian power adapters and a 1.8-meter power cord. ; Suitable for 518/516 (optional).

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