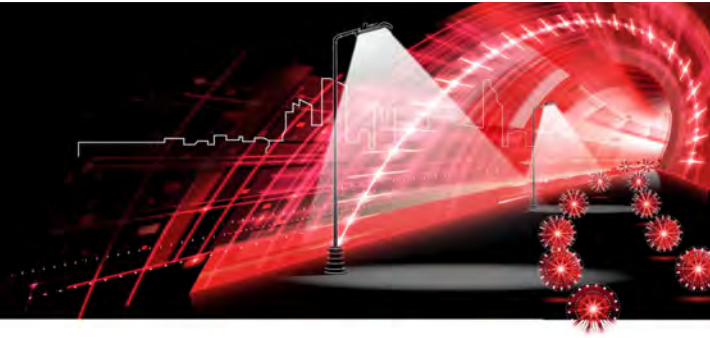
GW-1700-DC09WMG/4G SPECIFICATION

Product introduction

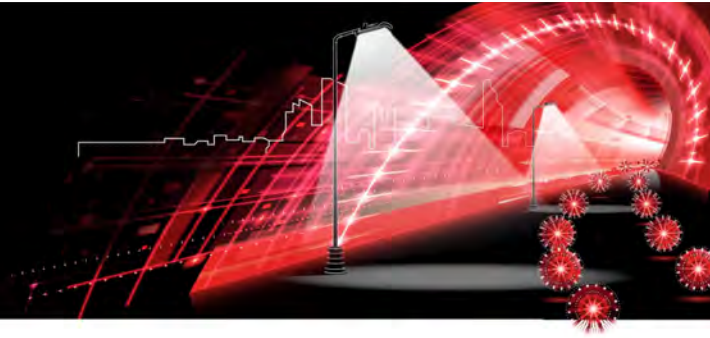
GW-1700-DC09WMG/4G data concentrator utilizes the latest developments in wireless technologies to configure and collect data from GATEWAY's intelligent wireless lighting controllers and transmits data to and from the GATEWAY cloud-based central server. Data concentrators provide extensive fault monitoring to report on day ON/OFF of circuit breakers, cabinet opening, over/under voltage, abnormal power consumption, low power factors, communication failures, leakage current. All faults are sent to GATEWAY's cloud-based Central Management System for alarm routing, visualization, and fault correction. Alerts can be sent directly to relevant users via emails or text messages (SMS) or WeChat immediately when they occur. Alerts are time stamped and contain key parameters associated with the fault/alarm.

2. Main Technical Features

- **Robust and Reliable:** Communicates with up to 255 GATEWAY intelligent wireless lighting controllers spread across significant distances with high scalability and fault tolerance, using self-forming and self-healing mesh networking.
- **Wireless Technologies:** GATEWAY's Wireless Gateway utilizes the latest developments in wireless technologies to configure and collect data from GATEWAY's intelligent wireless lighting controllers and transmits data to and from the GATEWAY cloud-based central server.
- **Local Intelligence:** GATEWAY's Wireless Gateway uses an extremely powerful 32-bit microcontroller that enables local complex logic and intelligence for faster response times and better performance.
- **Local Data Storage:** GATEWAY's Wireless Gateway can store large amounts of data in the event of a communication link failure. This data is transferred to the cloud and GATEWAY's cloud-based Central Management System once the link is available, thus ensuring data integrity.

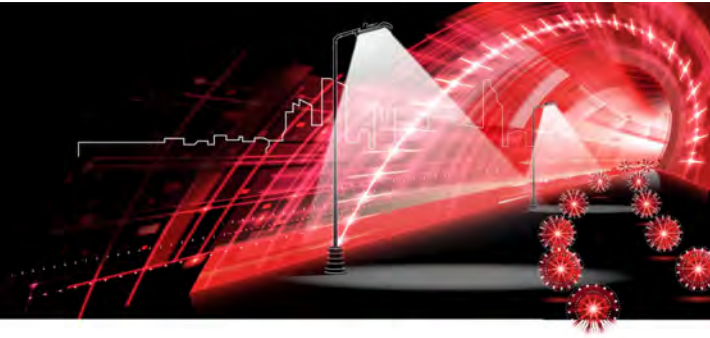


- **Multiple Connectivity Options:** GATEWAY's Wireless Gateway offers several wired and wireless options to connect to the cloud including Ethernet, Serial/USB Interface, GPRS (Cellular) support.
- **Simple Remote Configuration:** GATEWAY's Wireless Gateway can be remotely configured from an easy-to-use web interface. Configurations include input and output mapping, polling rates and GPS coordinates.
- **Multiple Protocol Support:** GATEWAY's Gateway provides support for several industry standard protocols that enable easy integration with other systems and networks.
- **Revenue Grade Energy Metering:** GATEWAY's Gateway monitor 3-phase Current, Voltage, Frequency, Power Factor, kW, and kWh, and offer metering accuracy as high as 0.5% for accurate consumption data and billing.
- **Fault Monitoring:** GATEWAY's Gateway provide extensive fault monitoring to report on day ON/OFF of circuit breakers, cabinet opening, over/under voltage, abnormal power consumption, low power factors, communication failures, leakage current. All faults are sent to GATEWAY's cloud-based Central Management System for alarm routing, visualization, and fault correction. Alerts can be sent directly to relevant users via emails or text messages (SMS) or WeChat immediately when they occur. Alerts are time stamped and contain key parameters associated with the fault/alarm.
- **Simple Installation:** GATEWAY's Wireless Gateway can be pole or rooftop mounted for easy installation.
- **Large User's Interface:** Large LCD display 128*64 dots for UI, with 6 Button.
- **Serial Port for Console:** 1 RS232 Serial Port for Console, 1 RS485 Port for extension
- **Easy Update:** GATEWAY's Wireless Gateway can be updated by local interface or by remote air.



3. Technical Specification

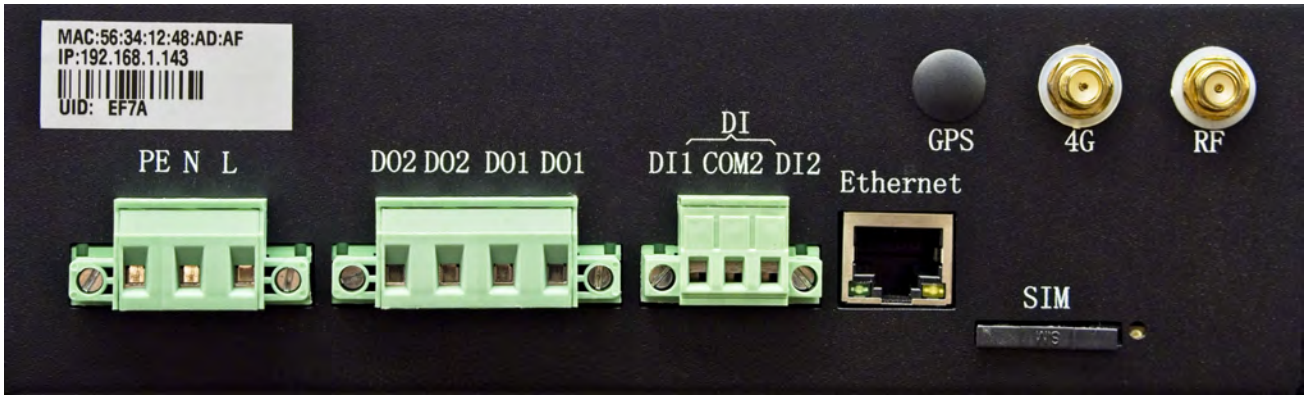
Processor	32-bit ARM COTEX-M3 based running at 100 MHz
Real Time Clock	Battery-backed RTC
Radio Characteristics (Option)	868 MHz, IEEE 802.15.4 Data Rate: 250 kbps Receiver Sensitivity: -102 dBm Network Fault Tolerance: Self-healing mesh Open Field Range: 5000 ft/1.5 km RF Transceiver Certifications: United States (FCC), Canada (IC) and Europe (ETSI) Transmit Power: +18 dBm Network Type: Self-forming mesh network Hardware: CSMA/CA Mechanism Data Protection: 128-bit/256-bit AES encryption
Radio Characteristics (Option)	915 MHz, IEEE 802.15.4 Data Rate: 250 kbps Receiver Sensitivity: -102 dBm Network Fault Tolerance: Self-healing mesh Open Field Range: 5000 ft/1.5 km RF Transceiver Certifications: United States (FCC), Canada (IC) and Europe (ETSI) Transmit Power: +18 dBm Network Type: Self-forming mesh network Hardware: CSMA/CA Mechanism Data Protection: 128-bit/256-bit AES encryption
4G Characteristics	Multi-band US/Canada: 4G: 700(B17)/850(B5)/AWS1700(B4), 1900(B2) 3G: 850(B5)/1900(B2) 2G: 850/1900 US-Verizon: 4G: 700(B13)/AWS1700(B4) Europe:

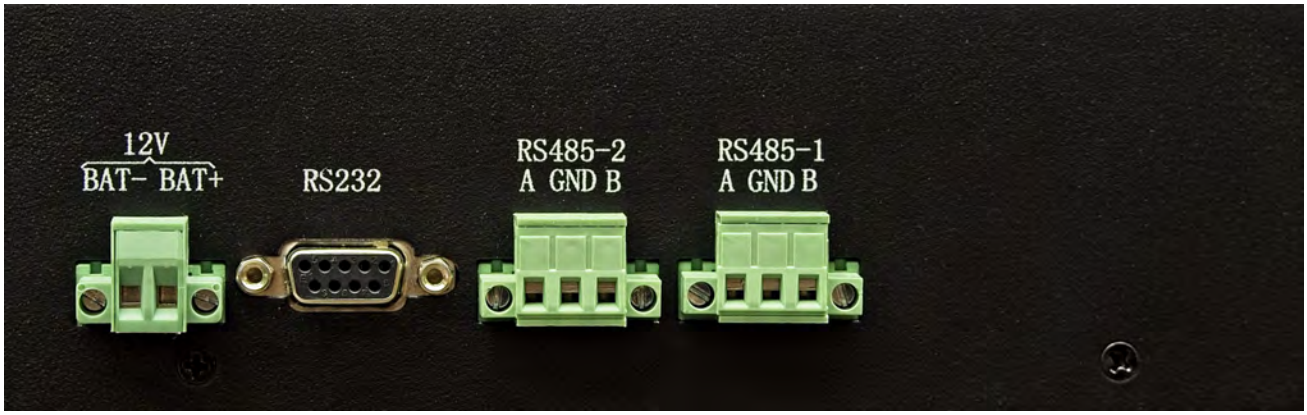


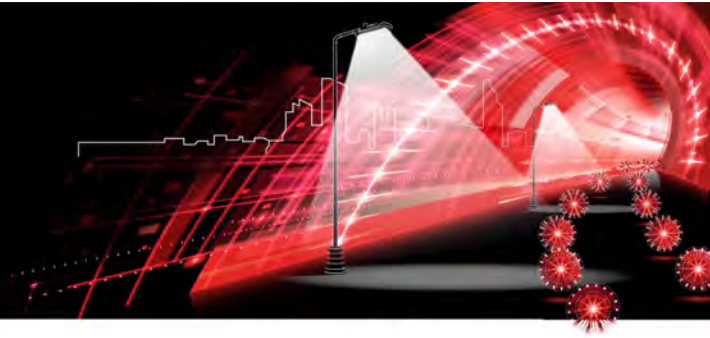
	4G: 800(B20)/1800(B3)/2600(B7) 3G: 850(B5)/900(B8), 2100(B1) 2G: 900/1800 Mobile Originate, Mobile Terminated and Cell Broadcast PDU or Text Mode Performance: LTE 3GPP Release 9 (Category 3; 100 Mbps peak downlink/50 Mbps peak uplink) with HSPA+ 42/GPRS fallback
GPS	Yes
Storage Memory	Flash Storage (2 GB SLC or 4 GB MLC)
Power	Universal 3-phase AC input 90-400 VAC, 50/60 HZ
Power Backup	2-8 Hours for graceful shutdown
Ports	Ethernet: 10/100 Base-T IPv4 and IPv6 compatible, RS-232, RS485
IO Ports	2 Digital Outputs (16A/250V relay for breaker On/OFF), 2 Digital Inputs (internal 24V dry contact), 2 RS485 Inputs
Installation	Wall Mount or DIN Mount
Enclosure	Dimension: 207mm x 115mm x 60mm
Operating Conditions	-40°C to +70°C / -40°F to +158°F, 20% to 90% Rh non-condensing
IP Rating	IP54
Surge Protection	Standard: 445 Joule CATB (6kV/3kA)
Markings	CE
Regulatory	IEC1000-4-2/3/4-1995 Electromagnetic compatibility IEC60529-2013 Degrees of protection provided by enclosures (IP code)

4. Interface description

4.1 interface type







NO.	Item	Description	Remarks
1	status lights	Power：Power lights. Status：Running lights (Blinking：Running) DO1、DO2：DO1、DO2 Status lights (bright：common, not bright：disconnect)	
2	status lights	RS485-1：Blinking: communication. RS485-2：Blinking: communication. Comm：2G/3G/4G Running lights, Flashing：Connecting to the network; Slow flash：Connected network. ZIGBEE: Blinking: Running;	
3	LCD	Display and set the parameter of DC09WE/4G	
4	Key	Up, down, left, right key, Confirm, Return	
5	Reset	With this button, the product can be reset.	
6	AC input	110/220V	
7	DO	2 Digital Inputs (internal 24V dry contact)	
8	DI	2 Digital Outputs (16A/250V relay for breaker ON/OFF)	
9	RJ45 Ethernet port	The RJ45 has two LED's. Connection status indicator on the left and right for signal transmission indicator, which under normal connection status indicator is green and often bright, red signal light normal should often flashing.	A 10 / 100M Ethernet port (RJ45 jack), built in 1.5KV magnetic isolation protection
10	SIM/UIM card port	Standard clamshell user card interface, Support 1.8V/3V SIM/UIM card	Built-in 15KV ESD protection
11	Antenna	ZIGBEE：Standard SMA female outer screw hole 4G：Standard SMA female outer screw hole	
12	Battery input	12V	
13	RS232 port	Standard DB9 head	Overvoltage\ 15KVESD protection
14	RS485-1	External smart meter, light meter, vehicle flow detection and other sensors	
15	RS485-2	External PLC coupler SEMS-Couple, extended PLC function.	

5. Dimensions

6. Installation

①DIN Mount, Fixed with M5 * 10, or M5 * 15 screws.

②Rail Mount