DG-A8/A16

Industrial Rackmountable Gateway for Smart Grid

- Special designing based on ARM Cortex-A8 architecture
- High performance yet ultra low power consumption
- Easy IEC 61850 SCL(CID/ICD) import and configuration
- Configurable MMS (IEC 61850-8-1) server & client application
- Support GOOSE publish and subscribe
- Advanced online internal calculating task
- Configurable hardware watchdog
- Full functional NTP for time synchronization
- Support IRIG-B DC time synchronization
- Dual mode of RS232/RS485 isolated serial ports
- 10/100M IEEE 802.3 Ethernet ports
- Support CAN bus communication
- Remote diagnosis or maintenance by network
- Compliant to IEC 61850-3, IEEE 1613 standards

▶▶ Overview

As the 1U, 19 inch standard rack-mount data concentrating unit for system,DG-AX series are designed in conformity with the IEC 61850 standards. It can be deployed to be an intelligent unit to collect data by all its RS232/RS485 serial ports, CAN bus ports and Ethernet ports. By importing any pre-specified IEC 61850 SCL(.icd/.cid) template file and after mapping the data to internal VMD model with the configuration tool - ICE, the unit can be viewed just as the standard IEC 61850 IED from the master station.

With powerful data communication and process function, high reliability, low power consumption, flexible and easy installation advantages, DG-AX series are the ideal intelligent device choice for any kinds of system integrated solutions.

▶▶ Features & Benefits

Hardware Parameters

Performance: ARMv7 800MHz Core
RAM: 512M DDR2-333
Build-in storage: 512M Nand Flash
Extra storage: 8G/64G Micro SD(Optional)
Ethernet: 10/100Base-T
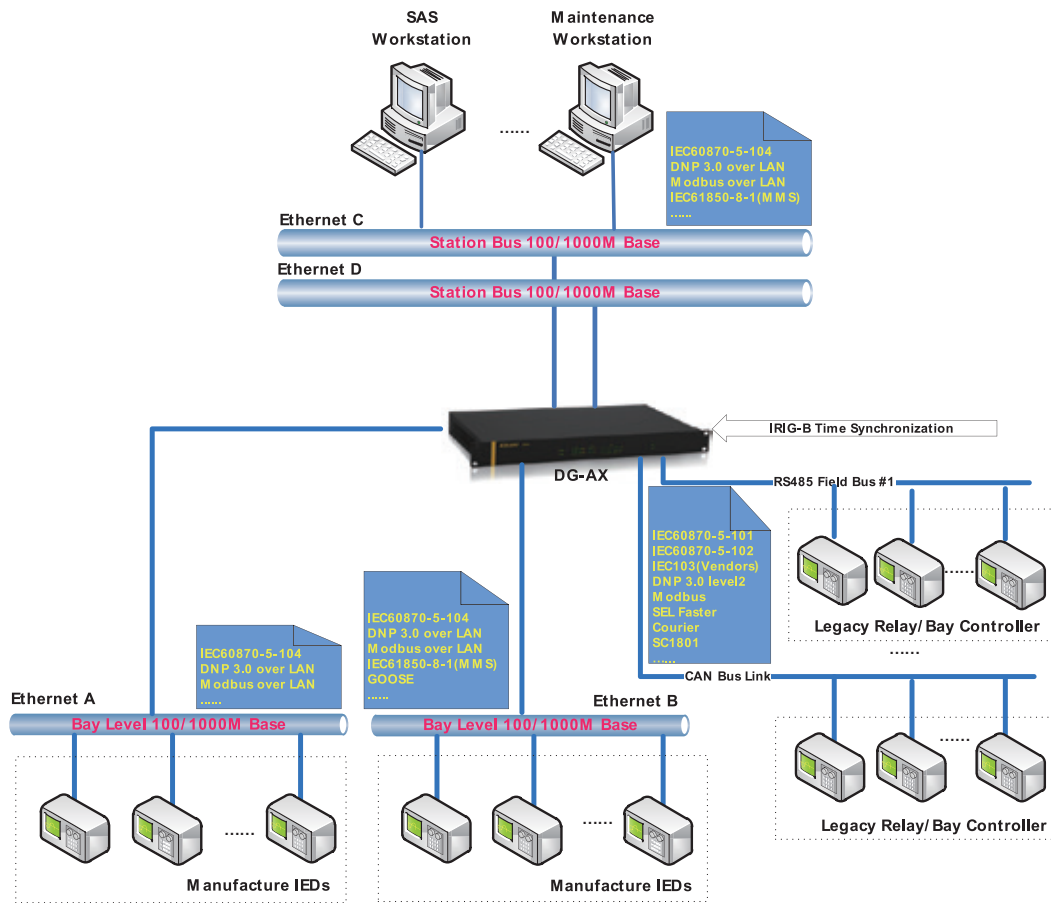Serial Ports: RS232/RS485(Isolated)
Field Bus: CAN Ports

Firmware

DNP 3.0 Level-2 slave/master over serial port or LAN
Modbus(RTU/ASCII)/Modbus slave/master over serial port and LAN
IEC 60870-5-101/104 salve/master
IEC 61850 MMS/GOOSE
Advanced online calculator
Hundred of customization

Technical Benefits

Easy framework configurable by all-in one integration tools
Later data binding & mapping technology without needing change SCL modeling file
Advanced data internal processing functionality

▶▶ Typical Application

Data concentrating with DG-AX series gateway

▶▶ Technical Parameters

Item	A8	A16
Console port	RS232, RJ45	RS232, RJ45
Serial ports	8xRS232/RS485(Isolated)	8xRS232/RS485(Isolated)+8xRS485
Ethernet	4 x 10/100M RJ45	4 x 10/100M RJ45
Field Bus	2 x CAN Bus Ports	1 x CAN Bus port
Build-in storage	512M Nand Flash	512M Nand Flash
Extra storage	8G/64G Micro SD	8G/64G Micro SD
Hardware Watchdog	Configurable	Configurable
Time synchronization	NTP	NTP and IRIG-B DC
Power supply	85 ~ 264V AC	85 ~ 264V AC
Power consumption	< 8W	< 8W
Weight	3 kg	3 kg
Dimensions(W*H*D)	483mm x 45mm x 200mm	483mm x 45mm x 200mm
Mounting	1U, 19" rack-mount	1U, 19" rack-mount
Operating Temperature	- 40℃ to +85℃	- 40℃ to +85℃

❯❯ Electrical Parameter

Input: 85 ~ 264V AC
Average power consumption: 5W
Relative humidity : 5%~ 95% (no condensation)
Electrostatic discharge immunity test: GB/T 17626.2-1998 IEC 61000-4-2-1995 class 4
Transient immunity: GB/T 17626.4-1998 IEC 61000-4-4-1995 class 4
Surge immunity: GB/T 17626.5-1998 IEC 61000-4-5-1995 class 4
Power frequency magnetic fields immunity: GB/T 17626.8-1998 IEC 61000-4-8-1995 class 5
Ring waves immunity: GB/T 17626.12-1998 IEC 61000-4-12-1995 class 4
Pulse magnetic field immunity: GB/T17626.9-1998 IEC 61000-4-9-1995 class 5
Damped oscillatory magnetic field immunity: GB/T17626.10-1998 IEC 61000-4-10-1995 class 4
Voltage dips and short interruptions and voltage variations immunity: GB/T 15153.1-1998 IEC 61000-4-11 2004 Δ U-100% , Δ t = 0.5s
Insulation resistance: >5MΩ
Insulating strength: no breakdown when applying 500V and 1500V to the communication ports and power supply ports respectively
Dry heat test: GB/T2423.2-2001 IEC 60068-2-2 75°C, 24 hours
Cold test: GB/T2423.1-2001 IEC 60068-2-1 -25°C, 24 hours
Damp heat: GB/T2423.3-1993 IEC 60068-2-3 +40°C ± 2°C, 93% ± 3%, insulation resistance: >1MΩ

❯❯ Ordering Information

		TYPE	POWER	ETHERNET	SERIAL PORT	EXTENTION FLASH STORAGE	CAN PORTS	F/W	
	DGW	-A8X	-1	-1	D	D	1	-E	G
TYPE									
DG-AX(1U,19" Rack Mount)									
POWER									
85~265V AC /100~375V DC									
ETHERNET									
4 x 10/100M BASE-T									
SERIAL PORT									
8 x RS232/RS485 SERIAL PORTS					1				
8 x RS232/RS485 + 8 x RS485 SERIAL PORTS					2				
EXTENTION FLASH STORAGE									
N/A						0			
8G BYTES						1			
64G BYTES						3			
CAN PORT									
1|2 x CAN（DEFAULT）									
FIRMWARE									
DEFAULT (IEC 101/104/DNP 3.0/Modbus Slave/Master)								0	0
DG-A4(MMS Server)								A	4
DG-A5(MMS Client)								A	5
DG-A6(MMS Client/Server)								A	6