

# iDS24GF



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## Intelligent IEC61850-3 Compliant 16+6 Integrated Device Server and Ethernet Switch

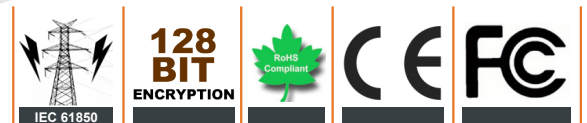
### Features

- Supports up to 16 Serial RS232/422/485 ports with protocol gateway functionality with enhanced 1KV isolation.
- Compliant with IEC61850-3 and IEEE1613.
- Supports ModBus TCP, DNP3, and TIN serial protocols.
- Supports up to 6 Ethernet Ports; 4x10/100/1000Tx, and 2x100/1000 (X).
- 5 Host Devices: Virtual COM, TCP Server, TCP Client Mode.
- Supports application based QoS management.
- Security: SSL encryption - Secured management by HTTPS and SSH - IP Access, IP White list.
- Supports 2 In, 2 Out IRIG B (Future Option).
- Internet Communication: PPPoE.
- Supports SNMP v1/v2/v3.
- Event warning by Syslog, Email, SNMP Trap, and Relay.
- Administration by Web-browser, Telnet, Console (CLI), and iManage Software Suite.
- 19 inch Galvanized steel rack mount chassis.
- Designed to meet IP40 for ingress protection.
- Redundant dual hot swappable power supplies.



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## Introduction

The iDS24GF is a modular Serial Device Server with up to 16 serial ports and 6 Ethernet ports designed for power substation applications. The iDS24GF is fully compliant with IEC 61850-3 and IEEE 1613. It has standard features such as a TCP/IP interface with versatile operation modes: Virtual Com, Serial Tunnel, TCP Server, TCP Client, UDP and a Modbus Gateway. In addition, using the iManage Windows utility or the DS-Tool; allows for the easy configuration of multiple devices and the setup of Virtual Com. Features such as the NAT Router Pass Through, DDNS, and PPPoE, make it more convenient for administrators to configure the device servers through NAT routers from different IP domains or Internet via a remote modem. The iDS24GF can also simultaneously transfer data to 5 redundant host PC's to avoid Ethernet connection breakdown or any host PC fails. It has features such as HTTPS, SSH, and SSL encryption to assure the security of critical data transmission.

The iDS24GF supports a wide operating temperature of -40 oC to 85oC, allowing it to operate in harsh industrial environments making it ideal for the high demand of secure serial to Ethernet data communication.

## Specifications

Model Number iDS24GF	
Physical Ports	
10/100/1000 Base-TX Ports Auto MDI/MDIX	Up to 4 Ports RJ45
100FX or 1000SX, LX	Up to 2 Ports SFP
IRIG-B	2 In and 2 Out BNC Ports (Future Option)
Serial Ports	16 x RS232/422/485 Ports
Technology	
Ethernet Standards	IEEE 802.3 for 10Base-T IEEE 802.3u for 100Base-TX IEEE 802.3ab for 1000Base-T IEEE 802.z for 1000Base-X IEEE 802.3x for Flow control IEEE 802.3ad for LACP (Link Aggregation Control Protocol ) IEEE 802.1p for COS (Class of Service) IEEE 802.1Q for VLAN Tagging IEEE 802.1D for STP (Spanning Tree Protocol) IEEE 802.1w for RSTP (Rapid Spanning Tree Protocol) IEEE 802.1s for MSTP (Multiple Spanning Tree Protocol) IEEE 802.1x for Authentication IEEE 802.1AB for LLDP (Link Layer Discovery Protocol) ITU-T G.8032v2 Ethernet ring (<50mS recovery) IEEE 802.3ad LAG with LACP IEEE 802.1q VLAN segregation VLAN tagging according to L2-L4 headers IEEE 802.1p per port queues
MAC Table	16k
Priority Queues	8
Processing	Store-and-Forward
Switch Properties	Line rate L2/L3 switching throughput Switching latency <10µSec Max. Number of Available VLANs: 4K
Jumbo frame	Up to 9K Bytes



Security Features	<p>Https / SSH enhance network security          Enable/Disable port          Port access filter per MAC / IP addresses          Egress filtering per VLAN          SCADA firewall per port (Modbus, IEC101/104, DNP3.0)          Remote access using reverse SSH tunnel          Limited access authorizations per user          Local and remote user authentication and authorizations          Traffic activity log for Trail audit          Command-Line interface over local console or over remote SSH          SNMPv1/v2/v3          Local and remote user authentication (RADIUS, TACACS)</p>
Software Features	<p>STP/RSTP/MSTP (IEEE 802.1D/w/s)          TOS/Diffserv supported          VLAN (802.1Q) with VLAN tagging and GVRP/GMRP supported          IGMP Snooping          IGMP v1,v2,v3          Application-based QoS management          Port configuration, status, statistics, monitoring, security DHCP Client/Server          FTP/SFTP client          TFTP client          SMTP Client          Telnet Server/Client</p>
Bridging Serial Streams	<p>Transparent tunneling serial streams          Protocol Gateway - Serial to Ethernet (Modbus, EC101/104, DNP3.0, TG 800)          ModBus RTU          Terminal Server</p>
Local Operation	<p>RS-232 Serial Console Port in DB9 connector with console cable. 9600 bps, , 8, N, 1          Local Console port for:</p> <ul style="list-style-type: none"> <li>- Emergency boot</li> <li>- Discrete inputs for user-defined triggers</li> <li>- Discrete outputs reporting system alarms</li> <li>- Failsafe output relay reporting critical alarm</li> </ul>
<b>Fault Contact</b>	
Relay	Relay output capacity of 2A at 24VDC
<b>Power</b>	
Hot Swappable Power Supplies	Dual Power Supplies available in any combination of 24VDC (Nom.), 48VDC (Nom.) and 88-264VAC (50/60Hz)/87-300VDC
Overload current protection	Present
<b>Physical Characteristic</b>	
Enclosure	19 inch Rack Mountable Steel Housing
<b>Environmental</b>	
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Operating Temperature	-40°C to 85°C (-40°F to 185°F)
Operating Humidity	5% to 95% Non-condensing



## Regulatory Approvals

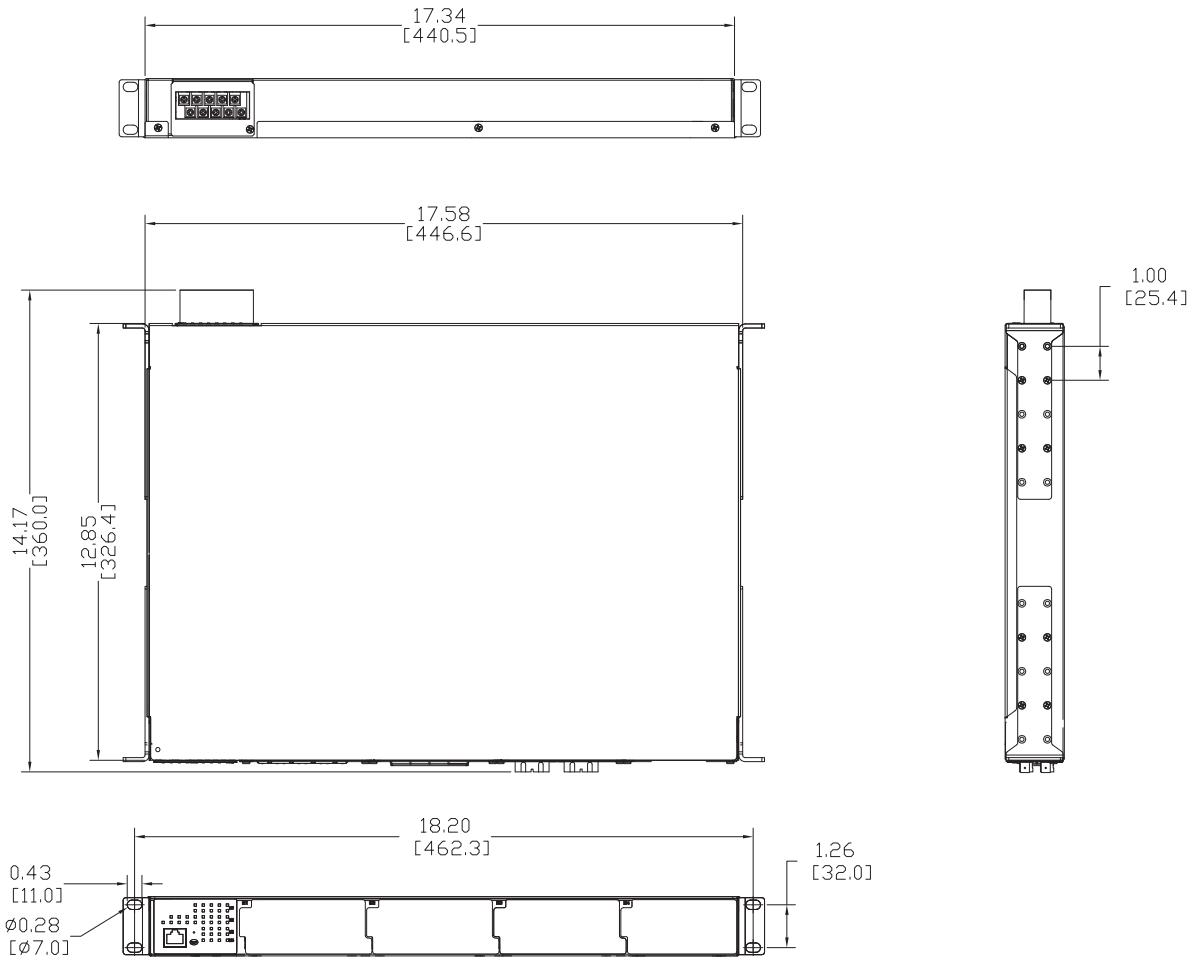
Power Automation	IEC 61850-3, IEEE 1613
EMI	FCC Part 15, CISPR (EN55022) class A
EMS	EN61000-4-2 (ESD), EN61000-4-3 (RS), EN61000-4-4 (EFT), EN61000-4-5 (Surge), EN61000-4-6 (CS), EN61000-4-8, EN61000-4-11
Shock	IEC60068-2-27
Free Fall	IEC60068-2-32
Vibration	IEC60068-2-6

## Warranty

Warranty	5 Years
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## Dimensions

All Dimensions are in Inches





# Ordering Information

Base	Power Supply 1	Power Supply 2	Mount	Serial Port 1-4	Serial Port 5-8	Serial Port 9-12	Serial Port 13-16	Ethernet Ports 1-2	Ethernet Ports 3-6	Description
iDS24GF	LV	XX	RF	4DB9	4DB9	4DB9	4DB9	2GSFP	4GRJ45	
iDS24GF										Core assembly and packaging
		XX								None
	LV	LV								10-48VDC
	MV	MV								36-72VDC
	HV	HV								88-300VDC or 85-264VAC
			RF							Rack Mount Power Terminals in the Front/Display Rear
			RR							Rack Mount Power Terminals in the Rear/Display Front
			P							Panel Mounting
			N							No Mounting Hardware
				XX	XX	XX	XX			None
				4RJ48	4RJ48	4RJ48	4RJ48			4 X RS232/422/485 RJ45 Serial Ports
				4DB9	4DB9	4DB9	4DB9			4 X RS232/422/485 DB9 Serial Ports
				4BNC	4BNC	4BNC	4BNC			2 X IRIB B - 2 In and 2 Out (Future)
							1V24			V.24 Modem (Future)
							1V90			V.90 Modem (Future)
							2SIM			Dual SIM GPRS/UMTS (Future)
							1GSM			1 Port Cell Modem GSM,EDGE,HSPA (Future)
							2GSM			2 Port Cell Modem GSM,EDGE,HSPA (Future)
							1EVD			1 Port Cell Modem EVDO (Future)
							2EVD			2 Port Cell Modem EVDO (Future)
							1GSM1EVD			1 Port Cell Modem GSM,EDGE,HSPA, 1 Port Cell Modem EVDO (Future)
								XX		None
								2GSFP		2 X 100/1000 Base X SFP** (Blank No Transceiver)
									XX	None
									4GRJ45	4 X 10/100/1000 Base TX RJ45

**Example Order Code:** iDS24GF-HV-XX-RF-4DB9-4DB9-4DB9-4DB9-2GSFP-4GRJ45

**Description:** 16+6 Device Server/Switch, Single High Voltage Power Supply, Rack Mount with Power Terminals in the Front/Display Rear, 4 x 4-RS232/422/485 DB9 Ports, 2x100/1000 Base (X) SFP (No Transceivers) Ports, 4x10/100/1000 Base TX Ports

C1 – Add for conformal coating

FW – Leave blank for latest firmware

\*\*SEE ACCESSORIES FOR SFP TRANSCEIVER PRICING



\*\*SFP's to be ordered separately.

SFP Module #	Description
SFP100-MM-2	SFP 100Mbps Multimode LC Transceiver 2km, 1310nm, -40C - +85C
SFP100-SM-30	SFP 100Mbps Singlemode LC Transceiver 30km, 1310nm, -40C - +85C
SFP100-SM-60	SFP 100Mbps Singlemode LC Transceiver 60km, 1310nm, -40C - +85C
SFP100-SM-100	SFP 100Mbps Singlemode LC Transceiver 100km, 1550nm, -40C - +85C
SFP100-SM-120	SFP 100Mbps Singlemode LC Transceiver 120km, 1550nm, -40C - +85C
SFP100BIDI1-SM-20	SFP 100Mbps Bi-Directional Singlemode LC Transceiver 20km, TX1310 nm, RX1550nm, -40C - +85C
SFP100BIDI2-SM-20	SFP 100Mbps Bi-Directional Singlemode LC Transceiver 20km, TX1550 nm, RX1310nm, -40C - +85C
SFP100BIDI1-SM-40	SFP 100Mbps Bi-Directional Singlemode LC Transceiver 40km, TX1310 nm, RX1550nm, -40C - +85C
SFP100BIDI2-SM-40	SFP 100Mbps Bi-Directional Singlemode LC Transceiver 40km, TX1550 nm, RX1310nm, -40C - +85C
SFP100BIDI1-SM-60	SFP 100Mbps Bi-Directional Singlemode LC Transceiver 60km, TX1310 nm, RX1550nm, -40C - +85C
SFP100BIDI2-SM-60	SFP 100Mbps Bi-Directional Singlemode LC Transceiver 60km, TX1550 nm, RX1310nm, -40C - +85C
SFP1000-MM-550	SFP 1Gbps Multimode LC Transceiver 500m, 850nm, -20C - +85C
SFP1000-MM-2	SFP 1Gbps Multimode LC Transceiver 2km, 1310nm, -40C - +85C
SFP1000-SM-10	SFP 1Gbps Singlemode LC Transceiver 10km, 1310nm, -40C - +85C
SFP1000-SM-20	SFP 1Gbps Singlemode LC Transceiver 20km, 1310nm, -40C - +85C
SFP1000-SM-30	SFP 1Gbps Singlemode LC Transceiver 30km, 1310nm, -40C - +85C
SFP1000-SM-40	SFP 1Gbps Singlemode LC Transceiver 40km, 1310nm, -40C - +85C
SFP1000-SM-50	SFP 1Gbps Singlemode LC Transceiver 50km, 1550nm, -40C - +85C
SFP1000-SM-70	SFP 1Gbps Singlemode LC Transceiver 70km, 1550nm, -40C - +85C
SFP1000-SM-8-	SFP 1Gbps Singlemode LC Transceiver 80km, 1550nm, -40C - +85C
SFP1000BIDI1-SM-10	SFP 1Gbps Bi-Directional Singlemode LC Transceiver 10km, TX1310 nm, RX1550nm, -40C - +85C
SFP1000BIDI2-SM-10	SFP 1Gbps Bi-Directional Singlemode LC Transceiver 10km, TX1550 nm, RX1310nm, -40C - +85C
SFP1000BIDI1-SM-20	SFP 1Gbps Bi-Directional Singlemode LC Transceiver 20km, TX1310 nm, RX1550nm, -40C - +85C
SFP1000BIDI2-SM-20	SFP 1Gbps Bi-Directional Singlemode LC Transceiver 20km, TX1550 nm, RX1310nm, -40C - +85C
SFP1000BIDI1-SM-40	SFP 1Gbps Bi-Directional Singlemode LC Transceiver 40km, TX1310 nm, RX1550nm, -40C - +85C
SFP1000BIDI2-SM-40	SFP 1Gbps Bi-Directional Singlemode LC Transceiver 40km, TX1550 nm, RX1310nm, -40C - +85C
SFP1000BIDI1-SM-60	SFP 1Gbps Bi-Directional Singlemode LC Transceiver 60km, TX1310 nm, RX1550nm, -40C - +85C
SFP1000BIDI2-SM-60	SFP 1Gbps Bi-Directional Singlemode LC Transceiver 60km, TX1550 nm, RX1310nm, -40C - +85C
SFP1000BIDI1-SM-80	SFP 1Gbps Bi-Directional Singlemode LC Transceiver 80km, TX1310 nm, RX1550nm, -40C - +85C
SFP1000BIDI2-SM-80	SFP 1Gbps Bi-Directional Singlemode LC Transceiver 80km, TX1550 nm, RX1310nm, -40C - +85C