



# 6 PORTS INDUSTRIAL L2+ MANAGED SWITCH - GIGA

## DDSMG SERIES



## SYNOPSIS

- THE DATABRIDGE DYNAMIC DDSMG 304-2S ST SERIES ARE HIGH-RELIABILITY MANAGED INDUSTRIAL ETHERNET SWITCHES FEATURING 4× 10/100/1000-T RJ45 PORTS AND 2× 1G/2.5GBASE-X FIBER INTERFACES.
- SUPPORT ERPS REDUNDANT NETWORKING, DELIVERING <20 MS SELF-RECOVERY TIME UNDER FULL LOAD, ENABLING HIGHLY RELIABLE ETHERNET NETWORKS WITH REDUNDANT RING TOPOLOGIES.
- PROVIDE IPV4/IPV6 STATIC ROUTING, DHCP SERVER, AND ROBUST LAYER-2 MANAGEMENT AND SECURITY FEATURES, MEETING THE DEMANDING REQUIREMENTS OF INDUSTRIAL AUTOMATION ENVIRONMENTS.
- OFFER COST-EFFECTIVE, EASY-TO-USE INDUSTRIAL NETWORKING, INCLUDING:
  1. 12–58 VDC WIDE-RANGE POWER INPUT
  2. REDUNDANT POWER DESIGN WITH REVERSE POLARITY, OVER-VOLTAGE, AND OVER-CURRENT PROTECTION
  3. RUGGED IP40 FANLESS HOUSING WITH DIN-RAIL MOUNTING
  4. WIDE OPERATING TEMPERATURE RANGE: –40°C TO 75°C
  5. HIGH EMI/EMC IMMUNITY
- IDEAL FOR DEPLOYMENT IN HEAVY INDUSTRIAL PLANTS, TRANSPORTATION SYSTEMS, OIL & GAS FACILITIES, CHEMICAL INDUSTRIES, IP SURVEILLANCE, AND PROCESS AUTOMATION, WHERE RELIABLE OPERATION IN HARSH AND CRITICAL ENVIRONMENTS IS ESSENTIAL.

## FEATURES & BENEFITS

- 4\*10/100/1000BASE-T RJ45 PORTS, 2\*1000/2500BASE-X SFP SLOTS
- REDUNDANT POWER 12-58V INPUT WITH POLARITY REVERSE/OVER-VOLTAGE/OVER-CURRENT PROTECTION
- SUPPORT USB ONE KEY CONFIGURATION AND UPGRADING(OPTIONAL)
- SUPPORT DI/DO/RS485(OPTIONAL)
- LAYER 3 FEATURES: SUPPORT IPV4/IPV6 STATIC ROUTING, DHCP SERVER
- SUPPORT LAYER 2 MANAGEMENT FUNCTION: VLAN/VLAN CLASSIFICATION/QINQ/STP, RSTP, MSTP/PORT MIRRORING/DHCP/MULTICAST/ACL/IGMP/QOS/LLDP/802.1X/DYING GASP/SFP DDM/IPV6 MANAGEMENT/WEB/SNMP/TELNET/TFTP/WEB UPGRADING
- SUPPORT G.8032 ERPS PROTOCOL, RECOVERY TIME ≤20MS
- SUPPORT 6KV SURGE PROTECTION AND ESD: AIR-15KV, CONTACT-8KV PROTECTION
- IP40 FAN-LESS AND DIN-RAIL HARDWARE DESIGN
- OPERATION TEMPERATURE: -40 °C TO +75°C

## SPECIFICATIONS

### INTERFACE

|                    |                                                             |
|--------------------|-------------------------------------------------------------|
| <b>Copper Port</b> | 4 * 10/100/1000M                                            |
| <b>Fiber Port</b>  | 2 * 1G/2.5G Base-X SFP                                      |
| <b>Console</b>     | 1*RJ45 Console port (115200,8, N,1)<br>1*USB 2.0 (optional) |

**Data & Alarm channel  
(optional)**

1 channel RS485  
1 channel DI (digital input)  
1 channel DO (digital output)

**Standard**

IEEE 802.3 10Base-T Ethernet  
IEEE 802.3u 100Base-TX Ethernet  
IEEE 802.3ab 1000Base-T Ethernet  
IEEE 802.3z 1000Base-X Ethernet  
IEEE802.3x Flow Control and Back Pressure  
IEEE 802.1D Spanning Tree Protocol  
IEEE 802.1w Rapid Spanning Tree Protocol  
IEEE 802.1Q VLAN  
ITU-T G.8032 ERPS  
IEEE 802.1X Port Authentication Network Control  
IEEE 802.1ab LLDP  
IEEE 802.3ad LACP

**LED Indicator**

P (Power indicator)  
S (System status indicator)  
USB (USB status indicator) Green  
ALM (Fault status indicator) Red  
1-4 (Copper ports indicators) Green  
1-4 (Copper speed indicators) Yellow  
5-6 (Fiber ports indicators) Green

## SOFTWARE FEATURES

### L2 FEATURES

**Port aggregation**

Support GE port aggregation  
Support 2.5GE aggregation  
Support static aggregation  
Support LACP dynamic aggregation  
Up to 64 aggregation groups and up to 8 ports per group

**Mac-address table  
management**

Support static Mac-address management  
Support dynamic Mac-address Management  
Support filtering Mac-address  
Support MAC limit based on port and VLAN  
Support MAC flapping based on port and VLAN

## Port Features

Support IEEE802.3x flow control  
Support interface counters  
Support port isolation  
Port mirroring (One-to-One, Many-to-One)  
Support loop detection (Port-based; VLAN-based)  
Support broadcast storm suppression (broadcast; unknown multicast; unknown unicast)

## VLAN

Support access mode  
Support trunk mode  
Support hybrid mode

## VLAN classification

Mac Based VLAN  
IP Based VLAN  
Protocol Based VLAN

## GVRP

Normal mode  
Fixed mode  
Forbidden mode

## QinQ

Port-based QinQ  
VLAN-based QinQ (VLAN-stacking; VLAN-mapping)  
Flow-based QinQ

## LLDP

LLDP (Link Layer Discovery Protocol)

## Ring network protocol

Support IEEE802.1D-STP  
Support IEEE802.1W-RSTP  
Support IEEE802.1S-MSTP  
Support G.8032 ERPS protocol single ring, sub-Ring and major ring  
Recovery time  $\leq 20\text{ms}$

## L2 MULTICAST

## IGMP snooping

Support IGMP snooping

## Group address

Support group address

## SECURITY

## ACL

IP Standard ACL  
MAC extend ACL  
IP extend ACL  
IPv6 ACL

## QoS

Support QoS Class, remarking  
Support SP, WRR queue scheduling  
Ingress port-based rate-limit  
Egress port-based rate-limit  
Support policy-based QoS

## 802.1x

Port access control  
Mac-address access control  
RADIUS server

## Port-security

Port-security

## IP source guard

IP Port/MAC binding

## ARP-check

Support ARP-check and ARP packet filtering for illegal users

## Access control

Support Telnet/SSH/HTTP/HTTPS user access control

## MANAGEMENT

## User management

Support password protection  
Support user authorization management

## SNMP

Supporting SNMP V1/V2C/V3 version

## Web Management

Web Management  
Support HTTP V1.1  
Support HTTPS

## CLI management

Console/Telnet command line management

## RMON

Support RMON (Remote Monitoring) alarm

## Firmware upgrade

Firmware upgrade

## Fault Detection

Ping/Tracerout  
Dying gasp  
Support optical transceiver DDM function

## Cable detection

Support copper port cable detection

## NTP

Network Time Protocol

## Syslog/Debug

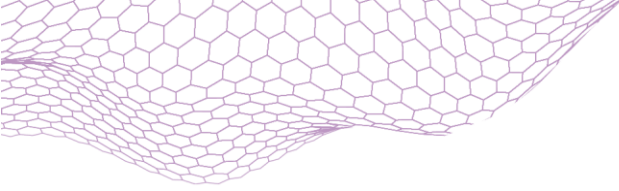
Syslog/Debug  
Syslog sends to three servers

## Configuration import/export

Support FTP/TFTP remote import/export

## Dual partition management

Support dual partition switching



## APPLICATION

|                      |                                                                                          |
|----------------------|------------------------------------------------------------------------------------------|
| <b>DHCP Snooping</b> | DHCP snooping trust port<br>Support remote-id/circuit-id configuration<br>DHCP option-82 |
| <b>DHCP client</b>   | Support DHCP client                                                                      |
| <b>Telnet server</b> | Support telnet server                                                                    |
| <b>Telnet client</b> | Support telnet client                                                                    |
| <b>SSH server</b>    | Support SSH server                                                                       |
| <b>TACACS</b>        | Support TACACS (the terminal access controller accesses the control system)              |
| <b>sflow</b>         | Support network traffic analysis                                                         |
| <b>TFTP</b>          | Support TFTP Client                                                                      |

## LAYER 3 FUNCTION

|                    |                 |
|--------------------|-----------------|
| <b>ARP</b>         | ARP table aging |
| <b>DHCP server</b> | Support         |
| <b>IPv4 / IPv6</b> | static routing  |

## SWITCHING FEATURES

|                               |                  |
|-------------------------------|------------------|
| <b>Switching capacity</b>     | 18Gbps           |
| <b>Packet forwarding rate</b> | 26.7Mpps         |
| <b>MAC address table</b>      | 16K              |
| <b>VLAN</b>                   | 4K               |
| <b>Buffer</b>                 | 12Mbit           |
| <b>Forwarding delay</b>       | <5us             |
| <b>Jumbo Frame</b>            | Support 10Kbytes |
| <b>MDX/MIDX</b>               | Support          |
| <b>Watchdog</b>               | Support          |
| <b>MTBF</b>                   | > 200,000 hours  |

## APPROVALS & STANDARDS TESTED FOR

### EMS

Surge protection of power:

IEC 61000-4-5 6KV/4KV (8/20us)

Surge protection of Ethernet ports:

IEC 61000-4-5 6KV/2KV (10/700us)

RS : IEC 61000-4-3 80 MHz-1 GHz : 10 V/m

EFT : IEC 61000-4-4 4K/2K

CS : IEC 61000-4-6 10V

ESD : IEC 61000-4-2 Contact: 8K ; Air: 15K

### EMI

FCC Part 15B Class A

### Shock

IEC 60068-2-27

### Free fall

IEC 60068-2-32

### Vibration

IEC 60068-2-6

### Certification

CCC/CE/UKCA/RoHS/REACH/FCC

### POWER

#### Input Voltage

12-58VDC, redundant power input

#### Input Current

0.7A Max

#### Power Consumption

Full loading  $\leq 8W$

#### Connector

Removable 4-pin terminal block

#### Reverse polarity protection

Support

#### Over-voltage protection

Support

#### Over-current protection

Support

## PHYSICAL CHARACTERISTICS

#### Dimension (W\*D\*H)

54\*115\*158mm

#### Enclosure

IP40

#### Installation

DIN-rail

#### Weight

DDSMG 304-2S ST :1.08Kg

DDSMG 304-2S FI ST :1.25Kg

## ENVIRONMENT

#### Working Temperature

-40°C to +75°C

#### Storage Temperature

-40°C to +85°C

#### Relative Humidity

10 - 90% RH

#### Storage humidity

5% - 95%RH

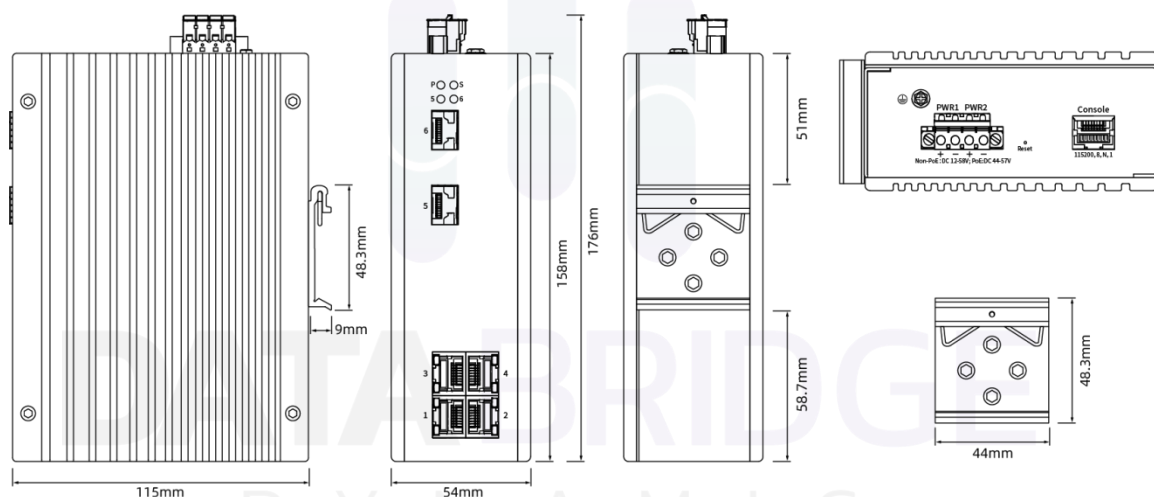
## ORDERING CODE

DDSMG 304-2S (FI) ST

|                      |                                                   |
|----------------------|---------------------------------------------------|
| <b>DDSMG</b>         | Industrial Grade Giga L2+ Managed Ethernet Switch |
| <b>304</b>           | 4* 10/100/1000M Copper Port                       |
| <b>2S</b>            | 2 * 1G/2.5G Base-X SFP                            |
| <b>FI (Optional)</b> | Supports DI/DO/RS485                              |
| <b>ST</b>            | Fixed                                             |

## STRUCTURE DIAGRAM

### 1. DDSMG 304-2S ST



### 1. DDSMG 304-2S FI ST

