

# DGS-R9812GP-AIO\_S

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Industrial desktop type Layer-3 20-port managed Gigabit Ethernet switch with

8x10/100/1000Base-T(X) ports and 12x100/1000Base-X, SFP socket, LC connector bypass

### Features

- > Supports Layer 3 routing, RIP and static routing function
- Supports O-Ring (recovery time < 30ms over 250 units of connection) and MSTP(RSTP/STP compatible) for Ethernet Redundancy
- > Open-Ring support the other vendor's ring technology in open architecture
- > O-Chain allow multiple redundant network rings
- > Support standard IEC 62439-2 MRP (Media Redundancy Protocol) function
- Provide two optical bypass function
- Support IEEE 1588v2 clock synchronization
- Supports IPV6 new internet protocol version
- Support Modbus TCP protocol
- Support IEEE 802.3az Energy-Efficient Ethernet technology
- Provided HTTPS/SSH protocol to enhance network security
- Supports SMTP client
- Supports IP-based bandwidth management
- Supports application-based QoS management
- Supports Device Binding security function
- Supports DOS/DDOS auto prevention
- IGMP v2/v3 (IGMP snooping support) for filtering multicast traffic
- Supports SNMP v1/v2c/v3 & RMON & 802.1Q VLAN Network Management
- Support ACL, TACACS+ and 802.1x User Authentication for security
- Supports 9.6K Bytes Jumbo Frame
- Multiple notification for warning of unexpected event
- > Web-based ,Telnet, Console (CLI), and Windows utility (Open-Vision) configuration
- Support LLDP Protocol
- Rigid IP-30 housing design

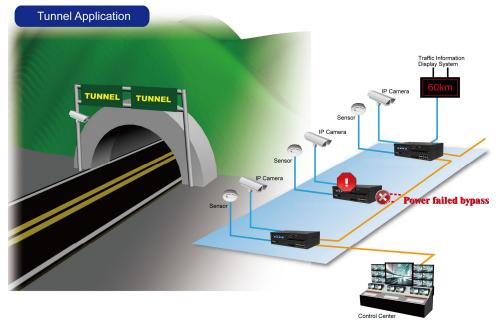


#### Introduction

DGS-R9812GP-AIO\_S is Layer-3 managed redundant ring Ethernet switch with 8x10/100/1000Base-T(X) ports and 12x100/1000Base-X SFP ports. The DGS-R9812GP-AIO\_S supports Layer-3 routing for better network performance on large-scale LANs into multiple subnets to support long-haul and EMI immunity communications. The hardware Layer-3 switch is optimized to transmit data as fast as Layer-2 switches. With completely support of Ethernet Redundancy protocol, O-Ring (recovery time < 30ms over 250 units of connection) and MSTP (RSTP/STP compatible) can protect your mission-critical applications from network interruptions or temporary malfunctions with its fast recovery technology. And support wide operating temperature from -40 °C to 70 °C. DGS-R9812GP-AIO\_S includes 2 sets of bypass ports that protect the network from failures and Network maintenance by ensuring network integrity during power loss. DGS-R9812GP-AIO\_S can also be managed centralized and convenient by Open-Vision, Except the Web-based interface, Telnet and console (CLI)

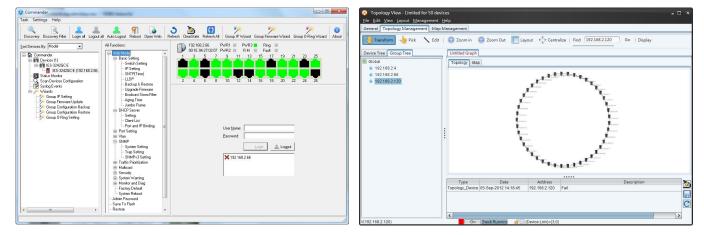
configuration. Therefore, the switch is one of the most reliable choice for highly-managed and Fiber Ethernet power substation and rolling stock application.

- <u>O-Ring</u>: O-Ring is ORing's proprietary redundant ring technology, with recovery time of less 30 milliseconds and up to 250 nodes. The O-Ring redundant ring technology can protect mission-critical application from network interruptions or temporary malfunction with its fast recover technology.
- <u>Open-Ring</u>: Open-Ring is an enhanced redundant technology that makes ORing's switches compatible with other vendor's proprietary redundant ring technologies. It enables ORing's switches to form a single ring with other vendor's switch. In cases where the ring is setup using proprietary technology, ORing offers a compatibility service where ORing can make its switches compatible with your particular network requirements.
- <u>O-Chain :</u> O-Chain is the revolutionary network redundancy technology that provides the add-on network redundancy topology for any backbone network, O-Chain allows multiple redundant network rings of different redundancy protocols to join and function together as a larger and more robust compound network topology. O-Chain providing ease-of-use while maximizing fault-recovery swiftness, flexibility, compatibility, and cost-effectiveness in one set of network redundancy topology.
- <u>MRP</u>: Media Redundancy Protocol (MRP) is a data network protocol standardized by the IEC 62439-2. It allows rings of Ethernet switches to overcome any single failure with recovery time much faster than achievable with Spanning Tree Protocol.
- IP-based Bandwidth Management : The switch provide advanced IP-based bandwidth management which can limit the maximum bandwidth for each IP device. User can configure IP camera and NVR with more bandwidth and limit other device bandwidth.
- <u>Application-Based QoS</u>: The switch also support application-based QoS. Application-based QoS can set highest priority for data stream according to TCP/UDP port number.
- <u>Device Binding Function</u>: ORing special Device Binding function can only permit allowed IP address with MAC address to access the network. Hacker cannot access the IP surveillance network without permission. It can avoid hacker from stealing video privacy data and attacking IP camera, NVR and controllers.
- <u>Advanced DOS/DDOS Auto Prevention</u>: The switch also provided advanced DOS/DDOS auto prevention. If there is any IP flow become big in short time, the switch will lock the source IP address for certain time to prevent the attack. It's hardware based prevention so it can prevent DOS/DDOS attack immediately and completely.
- <u>IEEE 1588 Technology</u>: The IEEE 1588 technology can fulfill precision time synchronization requirements for protection and control applications.
- Modbus TCP : This is a Modbus variant used for communications over TCP/IP networks.
- <u>IEEE 802.3az Energy-Efficient Ethernet</u>: This is a set of enhancements to the twisted-pair and backplane Ethernet family of networking standards that will allow for less power consumption during periods of low data activity. The intention was to reduce power consumption by 50% or more.



#### **Open-Vision**

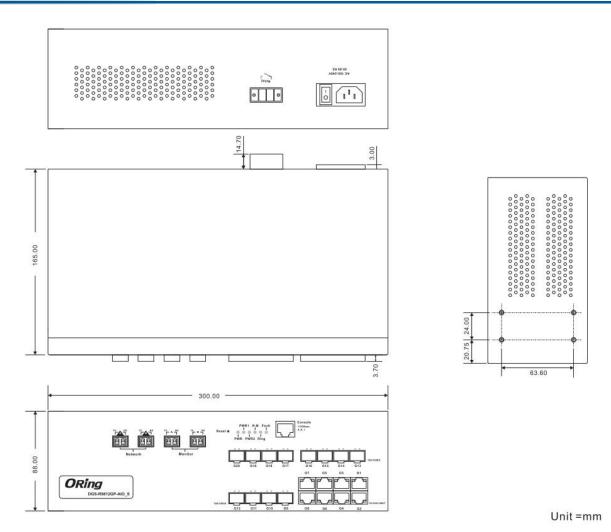
ORing's switches are intelligent switches. Different from other traditional redundant switches, ORing provides a set of Windows utility (Open-Vision) for user to manage and monitor all of industrial Ethernet switches on the industrial network.



Commander

Topology View

Dimension



# Specifications

ORing Switch Model	DGS-R9812GP-SS-AIO_S	DGS-R9812GP-MM-AIO_S	
Physical Ports			
10/100/1000Base-T(X) Ports in RJ45			
Auto MDI/MDIX	8		
100/1000Base-X with SFP port	12	12	
LC Bypass Port Type	Single-Mode	Multi-Mode	
Technology			
Ethernet Standards	IEEE 802.3 for 10Base-T IEEE 802.3u for 100Base-TX and 100Base-FX IEEE 802.3ab for 1000Base-T IEEE 802.2 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 802.1W for RSTP (Rapid Spanning Tree Protocol) IEEE 802.1x for Authentication		
MAC Table	IEEE 802.1AB for LLDP (Link Layer Discovery Protocol) 8k		
Priority Queues	8		
Processing	8 Store-and-Forward		
Switch Properties	Switching latency: 7 us Switching bandwidth: 40Gbps Max. Number of Available VLANs: 256 IGMP multicast groups: 128 for each VLAN Port rate limiting: User Define		
Jumbo frame	Https / SSH enhance network security Up to 9.6K Bytes		
Security Features	Device Binding security feature Enable/disable ports, MAC based port security Port based network access control (802.1x) Single 802.1x and Multiple 802.1x MAC-based authentication QoS assignment Guest VLAN MAC address limit TACACS+ VLAN (802.1Q) to segregate and secure network traffic Radius centralized password management SNMPv3 encrypted authentication and access security Web and CLI authentication and authorization Authorization (15 levels) IP source guard Https / SSH enhance network security Hardware routing, RIP and static routing		
Software Features	IEEE 1588v2 clock synchronization IEEE 802.1D Bridge, auto MAC address learning/aging and MAC address (static) Multiple Registration Protocol (MRP) RSTP/MSTP (IEEE 802.1w/s) Redundant Ring (O-Ring) with recovery time less than 30ms over 250 units TOS/Diffserv supported Quality of Service (802.1p) for real-time traffic VLAN (802.10) with VLAN tagging Voice VLAN IGMP v2/v3 Snooping IP-based bandwidth management Application-based QoS management DOS/DDOS auto prevention Port configuration, status, statistics, monitoring, security DHCP Server/Client/snooping DHCP Relay		

Model DP           DBS climit proxy APP inspection           SMIP Climit           Origing Open-Ring Open-Ring Origina           Origing Open-Ring Origina           SS225 serial Console Part           RS-2325 serial Console Part           RS-2325 serial Console Part           RS-2325 serial Console Part           RM-Indicator (RMR/1/2)           Green : indicate system operated in 0-Ring Master mode           RM-Indicator (RMR/1/2)           Green : indicate system operated in 0-Ring Master mode           RM-Indicator (RMR/1/2)         Green : indicate system operated in 0-Ring Master mode           Fault Indicator (RMR/1/2)         Green : indicate system operated in 0-Ring Master mode           Fault Indicator (RMR/1/2)         Green for part Lim/Act Matator           Fault Indicator (RMR/1/2)         Green for part Lim/Act Matator           Fault Indicator (RMR/1/2)         Green for part Lim/Act           Fault Exotist         Ealing output to carry capacity of 1A at 24VDC           Four Consumption (Typ.)         16 WortS           Poster         Dual 100-240V AC power inputs in single power socket           Power consumption (Typ.)         16 WortS           Over ond uurnet protocionel         Poster           Poster         Socrego Tomperature           Indisare				
APP inspection           SMIP Clene           Quart Ang           Quart Ang           Open Ang           Open Ang           Open Ang           Open Ang           State Console Port           Estate Incomery           MSP           MSP           State ICE Inclusion           State Inclusion           State Inclusion           State ICE Inclusion           State Inclusion		Modbus TCP		
SMP Cleant           0-Ring Open Reig Open Reig Open Reig         0-Chain Mate           85:223 Serial Cansale Pool         85:223 in R45 connector with console cable. 115200ops, 9, N, 1           85:223 Serial Cansale Pool         85:223 in R45 connector with console cable. 115200ops, 9, N, 1           80:00007         Mate           Matrix (ESTPATE compatibule)         Green : power InED x 3           RM Indicator (RMN)         Green : indicate system operated in 0-Ring made           FAult Indicator (RMN)         Green : indicate system operated in 0-Ring made           FAult Indicator (RMN)         Green : indicate system operated in 0-Ring made           FAult Indicator (RMN)         Green : indicate system operated in 0-Ring made           FAult Indicator (RMN)         Green : Indicate system operated in 0-Ring made           FAult Indicator (RMN)         Green for InSACI Indicato           FAult Indicator (RMN)         Green for InSACI Indicato           FAULT ONTO/COMBANC (QR ALS prover Indicate Indicate : Green for 100Mtpps, Amber for 100Mtpps, Off-light for 10Mtpps           FAULT ONTO/COMBANC (QR ALS prover Indicate I				
OFRig Open Reig       O-Chain         Vectorian       O-Chain         Vectorian       Fast Recovery         MSP       Fast Recovery         MSP       RS-322 Serial Console Port         RS-322 Serial Console Port       RS-323 in R45 connector with console cable.       1152000ps, 8, N, 1         Switch LED Indicators       RS-323 in R45 connector with console cable.       1152000ps, 8, N, 1         Power Indicator (PWR/1/2)       Green : indicate system operated in O-Ring Master mode       RM indicator (RM)         RM. Indicator (RM)       Green : indicate system operated in O-Ring mode       Fault indicator (Fault)         Amber : Indicate system operated in O-Ring mode       Fault indicator (Fault)       Amber : Indicate unexpected event occurred         10/1007/1000Base-1(0), R45 port Indicator       Green far Link/ACI indicator       Dual doite [Or speed indicator : Green for 100Mtps, Amber for 100Mtps, Off-light for 10Mtps         SFP Floor port indicator       Green far Link/ACI indicator       Dual doite [Or speed indicator : Green for 100Mtps, Off-light for 10Mtps         Green : Environmental       Power output to carry capacity of 1A at 24/DC       Food         Food       Fault and carrent protochar Person       Power Socket         Power consumption (Typ.)       16 Watts       Food         Overbad current protochar       Present       Presol		·		
Derwork Redundancy         Open-Bring O-Chain ARB Fost Recovery MSTP (RSTP/STP compatible)           RS-232 Serial Console Port         RS-232 in RA4S connector with console cable. 115200bps. 8. N. 1           SWICh LED Indicators         Serial Console Port           RM. Indicator (RM/)         Green : Indicato system operated in O-Ring Master modo           RM. Indicator (RM)         Green : Indicate system operated in O-Ring mode           Fault Indicator (RM)         Green : Indicate system operated in O-Ring mode           Fault Indicator (RM)         Green in Indicate unsepted event occurred           On/On/OTOBEAN-(SD RAF) part         Green for Indicate unsepted event occurred           On/On/OTOBEAN-(SD RAF) part         Green for Indicate unsepted event occurred           On/On/OTOBEAN-(SD RAF) part         Green for Indicate unsepted event occurred           On/On/OTOBEAN-(SD RAF) part         Green for Indicate unsepted event occurred           On/On/OTOBEAN-(SD RAF) part         Dual color LED for speed indicator : Green for 1000Mbps, Amber for 100Mbps, Off-light for 10Mbps           SPF Floe part Indicatar         Belay output to carry capacity of 1A at 24/DC           Power         Dual color LED for Speed indicator : Green for 1000Mbps, Structor           Floet Consume for (Vp.)         16 Watts           Power for Land Autor         Dual Color LED for Speed indicator : Green for Inditakator           Sprage Temperature <td></td> <td></td>				
Network Redundancy         Origin           MBP         Friad Recovery           MBT (RSTP/ST compatible)         RS-322 Serial Console Port           RS-322 Serial Console Port         RS-322 In RAIS connector with console cable. 115200bps, B, N, 1           SWIGH LED Indicators         Green: power LED x 3           RAM Indicator (RMA)         Green: indicate system operated in D-Ring Master mode           Ring indicator (RNa)         Green: indicate system operated in D-Ring master mode           Fault Indicator (Ruf)         Amber : indicate unexpected event occurred           Fault Indicator (Ruf)         Green in Indicator           Indicator (Ruf)         Green for Uni/Act Indicator           Fault Indicator         Green for Uni/Act Indicator           Indicator         Green for Uni/Act Indicator           Fault Indicator         Green for Uni/Act Indicator				
Network Redundancy         Map First Recovery MSTP (RSTP/STP compatible)           RS-22 Serial Console Port         RS-232 In RIA5 connector with console cable. 115200pps. 8. N, 1           Switch LED Indicators         Foremanneable           RM. Indicator (RM.)         Green: power LED x 3           RM. Indicator (RM.)         Green: indicate system operated in 0-Ring Master mode           Ring Indicator (RM.)         Green: indicate system operated in 0-Ring mode           Fault Indicator (RM.)         Green in indicate system operated in 0-Ring mode           Fault Indicator (RM.)         Green for Intickati Indicator           Indicator         Green for Intickati Indicator i Green for Intickati Green for Intickati Indicator i Green for Inti Green for Intick				
Fail Recovery MSTP (RSTP/ST compatible)           Rs-222 Serial Cansole Port         Rs-222 In B445 connector with console cable. 115000ps, 8, N, 1           Switch LED Indicators         Foren : power IED x 3           Power Indicator (RM)         Green : power IED x 3           RM. Indicator (RM)         Green : indicate system operated in 0-Ring Master mode           Ring Indicator (RM)         Green : indicate system operated in 0-Ring Master mode           Fault Indicator (Sul1)         Anber : Indicate unexpected event occurred           10/100/1000Base-T(S) R45 port         Green for Dink/Act Indicator           Indicator         Dual color LED for speed indicator : Green for 1000Mbps, Amber for 100Mbps, Off-light for 10Mbps           SPF Fber port Indicator         Dual color LED for speed indicator : Green for 1000Mbps, Amber for 100Mbps, Off-light for 10Mbps           SPF Fber port Indicator         Green for port Link/Act Indicator           Power consumption (Typ.)         Green for port Link/Act Indicator           Power consumption (Typ.)         16 Watts           Overfoad current protoction         Presont           Power consumption (Typ.)         16 Watts           Overfoad current protoction         Presont           Power consumption (Typ.)         16 Watts           Overfoad current protoction         Presont           Power consumption (Typ.) <t< td=""><td>Network Redundancy</td><td></td></t<>	Network Redundancy			
MR1P (MSTP/STP compatible)           RS-222 Serial Canols Port         ME321 RL45 consector with console cable. 115200bps, 8, N, 1           RS-222 Serial Canols Port         Green : indicate system operated in 0-Ring Master mode           RM indicator (RM)         Green : indicate system operated in 0-Ring Master mode           RM indicator (Ring)         Green : indicate system operated in 0-Ring mode           Fault Indicator (Ring)         Green : indicate unexpected event occurred           Indicator (Ring)         Green or Indicate operated in 0-Ring mode           Fault Indicator (Fault)         Amber : indicate unexpected event occurred           Indicator (Fault)         Green or Inti-McAt Indicator           Indicator         Green or Inti-McAt Indicator           Indicator         Green or Inti-McAt Indicator           Fault context         Green or Inti-McAt Indicator           Redundant Input power         Dual 100-2409 AC power inputs in single power socket           Power consumption (Typ.)         16 Watts           Overobac corrent protection         Prose           Dimension (W x D x H)         200 (W) x 165 (D) x 88 (H) mm (11.81 x 6.5 x 3.47 Inch)           Weight (G)         2410 g           Exorementat         4010 x 95°C (-40 to 185°F)           Operating Humidity         540 to 95°C (-40 to 185°F)           Operating Humi				
R5-232 Serial Console Port     R5-232 In R45 connector with console cable. 115200bps, 8, N, 1       Switch LED Indicators     Fourier Indicator (PWR/1/2)     Creen : power LED x 3       R.M. Indicator (RM.)     Creen : indicate system operated in 0-Ring Master mode       Fault Indicator (Run)     Amber : Indicate unexpected event occurred       10/100/1000Base-TQ3 R45 port     Green for Ink/Ad1 indicator       Data Constance     Data Constance       Fault Indicator     Green for port Link/Ad1 indicator       Data Constance     Green for port Link/Ad1 indicator       Data Constance     Green for port Link/Ad1 indicator       Power     Green for port Link/Ad1 indicator       Power consumption (Typ.)     It was a constant of the system operated in 0-18 mg mode       Power consumption (Typ.)     16 Watts       Power consumption (Typ.)     16 Watts       Power consumption (Typ.)     16 Watts       Define for Link/Ad1 Instance     Final Constance       Prover     Present       Physical Characteristic     Foresent       Prover     100 (00 x 165 (D) x 88 (P) mm (11.81 x 6.5 x 3.47 inch)       Weight (g)     2410 g       Environmental     -40 to 85°C (-40 to 185°F)       Operating Temperature     -40 to 85°C (-40 to 185°F)       Operating Humidity     5% to 95% Non-condensing       Regulatory Approvals     EN10000-4.				
Switch LED indicators         Green : power LED x 3           Power Indicator (PWR/1/2)         Green : indicate system operated in 0-Ring Master mode           RM_ indicator (RM_0)         Green : indicate system operated in 0-Ring mode           Fault indicator (RM_0)         Green : indicate system operated in 0-Ring mode           Fault indicator (RM_0)         Amber : indicate system operated in 0-Ring mode           Fault indicator (RM_0)         Green for Dink/Act indicator           Din/00/10008aso-T(X) RMs port         Green for Dink/Act indicator           Din/on/10008aso-T(X) RMs port         Green for Dink/Act indicator           Fault contact         Green for Dink/Act indicator           Fault contact         Green for Dink/Act indicator           Power         Green for Dink/Act indicator           Relay         Relay autput to carry capacity of 1A at 24VDC           Power         Dual 100-240V AC power inputs in single power socket           Power consumption (Typ.)         16 Watts           Overload current protection         Present           Physical Characteristic         IP-30           Dimension (W x D x H)         300 (W) x 165 (D) x 88 (H) mm (11.81 x 6.5 x 3.47 inch)           Weight (g)         2410 g           Environmental         IStrage Tomporature           Operating Temperature         -40 to 85	RS-232 Serial Console Port			
Power Indicator (PI/RV1/2)         Creen : power LED x 3           R.M. Indicator (R.M.)         Green : indicate system operated in O-Ring Master mode           Ring Indicator (Ring)         Green : indicate system operated in O-Ring mode           Fault Indicator (Ring)         Green in Indicate unexpected event occurred           10/100/100888-7(0) R45 port         Green for port Link/Act indicator           Daul color LED for speed indicator : Green for 1000Mbps, Amber for 100Mbps, Off-light for 10Mbps           SFP Eber port Indicator         Green for port Link/Act.           Foult contati         Relay output to carry capacity of 1A at 24VDC           Power         Power or consumption (Typ.)           Redundant Input power         Dual 100–240V AC power inputs in single power socket           Power or consumption (Typ.)         16 Watts           Overboad current protection         Present           Physical Character/BIU         200 (W) x 165 (D) x 88 (H) mm (11.81 x 6.5 x 3.47 Inch)           Weight (g)         2410 g           Environmental         40 to 85°C (-40 to 185°F)           Operating Humidity         5% to 95% Non-condensing           Regulatory approvals         40 to 70°C (-40 to 185°F)           Operating Humidity         5% to 95% Non-condensing           Feb/Star (ENSTO022) class A         EN10000-4.3 (RS), EN1000-4.3 (RS), EN1000-4.4 (FT), EN10	Switch LED indicators			
Ring indicator (Ring)     Green : indicate system operated in 0-Ring mode       Fault indicator (Fault)     Ambor : indicate unexpected event occurred       10/10/000Base-T(X) RJ/5 port     Green for Link/Act indicator       Indicator     Dual color LED for speed indicator : Green for 1000Mbps, Amber for 100Mbps, Off-light for 10Mbps       SPF Fiber port indicator     Green for port Link/Act.       Fault contact     Relay output to carry capacity of 1A at 24VDC       Power     Power onsumption (Typ.)       Redundant Input power     Dual 100 - 240V AC power inputs in single power socket       Power consumption (Typ.)     16 Watts       Power onsumption (Typ.)     16 Watts       Power onsumption (Typ.)     16 Watts       Producator kortscore     IP-30       Dimension (W x D x H)     300 (W) x 165 (D) x 88 (H) mm (11.81 x 6.5 x 3.47 inch)       Weight (g)     2410 g       Environmental     -40 to 85°C (-40 to 158°F)       Operating Temperature     -40 to 70°C (-40 to 158°F)       Operating Temperature     -5% to 95% Non-condensing       Regulatory approvalis     ENV1000-4-2 (ESD)       EMS     ENV1000-4-2 (ESD)		Green : power LED x 3		
Fault indicator (Fault)       Amber : Indicate unexpected event occurred         10/100/1000Base-T(X) RU45 port indicator       Green for Link/Act indicator         Dual color LED for speed indicator : Green for 1000Mbps, Amber for 100Mbps, Off-light for 10Mbps         SPF Fiber port indicator       Green for port Link/Act.         Foult contact       Relay         Relay       Relay output to carry capacity of 1A at 24VDC         Power       Dual 100~240V AC power inputs in single power socket         Power consumption (Typ.)       16 Watts         Overload current protection       Present         Physicial Characteristic       Enclosure         Enclosure       1P-30         Dimension (W x D x H)       300 (W) x 165 (D) x 88 (H) mm (11.81 x 6.5 x 3.47 inch)         Weight (g)       2410 g         Environmental       -40 to 85°C (-40 to 18°F)         Operating Temperature       -40 to 85°C (-40 to 18°F)         Operating Humidity       5% to 95% Non-condensing         Regulatory approvals       EN1000-4-2 (ESD)         EMS       EN1000-4-4 (ETT), EN1000-4-4 (ETT), EN1000-4-4 (ETT), EN1000-4-5 (Surge), EN1000-4-5 (Surge), EN1000-4-6 (CS), EN1000-4-6 (CS), EN1000-4-7 (EC60068-2-27         Shock <t< td=""><td>· · ·</td><td colspan="2"></td></t<>	· · ·			
Fault indicator (Fault)       Amber : Indicate unexpected event occurred         10/100/1000Base-T(X) RU45 port indicator       Green for Link/Act indicator         Dual color LED for speed indicator : Green for 1000Mbps, Amber for 100Mbps, Off-light for 10Mbps         SPF Fiber port indicator       Green for port Link/Act.         Foult contact       Relay         Relay       Relay output to carry capacity of 1A at 24VDC         Power       Dual 100~240V AC power inputs in single power socket         Power consumption (Typ.)       16 Watts         Overload current protection       Present         Physicial Characteristic       Enclosure         Enclosure       1P-30         Dimension (W x D x H)       300 (W) x 165 (D) x 88 (H) mm (11.81 x 6.5 x 3.47 inch)         Weight (g)       2410 g         Environmental       -40 to 85°C (-40 to 18°F)         Operating Temperature       -40 to 85°C (-40 to 18°F)         Operating Humidity       5% to 95% Non-condensing         Regulatory approvals       EN1000-4-2 (ESD)         EMS       EN1000-4-4 (ETT), EN1000-4-4 (ETT), EN1000-4-4 (ETT), EN1000-4-5 (Surge), EN1000-4-5 (Surge), EN1000-4-6 (CS), EN1000-4-6 (CS), EN1000-4-7 (EC60068-2-27         Shock <t< td=""><td></td><td colspan="2"></td></t<>				
Indicator         Dual color LED for speed indicator : Green for 1000Mbps, Amber for 100Mbps, Off-light for 10Mbps           SPP Fiber port indicator         Green for port Link/Act.           Fault         Fault Contact           Relay         Green for port Link/Act.           Relay         Relay output to carry capacity of 1A at 24VDC           Power         Execution 11 pout power           Redundant Input power         Dual 100-240V AC power inputs in single power socket           Power consumption (Typ.)         16 Watts           Overload current protection         Present           Protect         19-30           Dimeission (W x D x H)         300 (W) x 165 (D) x 88 (H) mm (11.81 x 6.5 x 3.47 inch)           Weight (g)         2410 g           Environmental         -40 to 85°C (-40 to 185°F)           Operating Temperature         -40 to 85°C (-40 to 158°F)           Operating Humidity         50 roge C (-40 to 158°F)           Operating Humidity         50 roge C (-40 to 158°F)           EMI         FCC Part 15, CISPR (ENS5022) class A           EMI         FCC Part 15, CISPR (ENS5022) class A           EMI (COULD - 4 (ET), ENS1000-4-4 (EN), ENS1000-4-4 (ET), ENS1000-4-4 (EN), ENS1000-4-4 (ET), ENS1000-				
Indicator         Dual color LED for speed indicator : Green for 1000Mbps, Amber for 100Mbps, Off-light for 10Mbps           SPP Fiber port indicator         Green for port Link/Act.           Fault         Fault Contact           Relay         Green for port Link/Act.           Relay         Relay output to carry capacity of 1A at 24VDC           Power         Execution 11 pout power           Redundant Input power         Dual 100-240V AC power inputs in single power socket           Power consumption (Typ.)         16 Watts           Overload current protection         Present           Protect         19-30           Dimeission (W x D x H)         300 (W) x 165 (D) x 88 (H) mm (11.81 x 6.5 x 3.47 inch)           Weight (g)         2410 g           Environmental         -40 to 85°C (-40 to 185°F)           Operating Temperature         -40 to 85°C (-40 to 158°F)           Operating Humidity         50 roge C (-40 to 158°F)           Operating Humidity         50 roge C (-40 to 158°F)           EMI         FCC Part 15, CISPR (ENS5022) class A           EMI         FCC Part 15, CISPR (ENS5022) class A           EMI (COULD - 4 (ET), ENS1000-4-4 (EN), ENS1000-4-4 (ET), ENS1000-4-4 (EN), ENS1000-4-4 (ET), ENS1000-				
Fault contact         Relay output to carry capacity of 1A at 24VDC           Power         Redundant Input power         Dual 100-240V AC power inputs in single power socket           Power consumption (Typ.)         16 Watts         Control of the Watts           Overload current protection         Present         Present           Physical Characteristic         IP-30         Control of the Watts           Dimension (W x D x H)         300 (W) x 165 (D) x 88 (H) mm (11.81 x 6.5 x 3.47 inch)         Weight (g)           Veright (g)         2410 g         Enclosure           Environmental         -40 to 85°C (-40 to 185°F)         Control of the Watts           Operating Temperature         -40 to 70°C (-40 to 158°F)         Control of the Watts           Operating Temperature         -40 to 70°C (-40 to 158°F)         Control of the Watts           EMI         FCC Part 15, CISPR (ENS5022) class A         ENs1000-4-2 (ESD)           ENS         ENs1000-4-2 (ESD)         ENs1000-4-2 (ESD)           ENs1000-4-3 (ES), ENs1000-4-4 (ET), ENs1000-4-2 (ESD)         ENs1000-4-3 (ES), ENs1000-4-4 (ET), ENs1000-4-1 (EC00068-2-32         ENs1000-4-1 (EC00068-2-32           Vbration         IEC00068-2-6         ENs100		Dual color LED for speed indicator : Green for 1000Mbps, Amber for 100Mbps, Off-light for 10Mbps		
Relay         Relay output to carry capacity of 1A at 24VDC           Power         Power           Redundant Input power         Dual 100–240V AC power inputs in single power socket           Power consumption (Typ.)         16 Watts           Overload current protection         Present           Physical Characteristic         IP-30           Dimension (W x D x H)         300 (W) x 165 (D) x 88 (H) mm (11.81 x 6.5 x 3.47 inch)           Weight (g)         2410 g           Environmental         -           Environmental         -           Operating Temperature         -40 to 85°C (-40 to 185°F)           Operating Temperature         -40 to 70°C (-40 to 158°F )           Operating Temperature         -5% to 95% Non-condensing           Regulatory approvals         EN61000-4-2 (ESD)           EMI         FCC Part 15, CISPR (EN55022) class A           EN61000-4-3 (RS),         EN61000-4-3 (RS),           EN61000-4-4 (EFT),         EN61000-4-4 (EST),           EN61000-4-5 (Surge),         EN61000-4-4 (EST),           EN61000-4-5 (Surge),         EN61000-4-1           EN61000-4-6 (CS),         EN61000-4-1           EN61000-4-1         EN61000-4-1           EN61000-4-1         EN61000-4-1           EN61000-4-1         EN61000-4	SFP Fiber port indicator	Green for port Link/Act.		
Power         Dual 100-240V AC power inputs in single power socket           Power consumption (Typ.)         16 Watts           Overload current protection         Present           Physical Characteristic         Present           Enclosure         IP-30           Dimension (W x D x H)         300 (W) x 165 (D) x 88 (H) mm (11.81 x 6.5 x 3.47 inch)           Weight (g)         2410 g           Environmental         -           Storage Temperature         -40 to 85°C (-40 to 185°F)           Operating Temperature         -40 to 70°C (-40 to 158°F)           EMI         FCC Part 15, CISPR (EN55022) class A           EMI         FCC Part 15, CISPR (EN55022) class A           EN61000-4-2 (ESD)         EN61000-4-4 (ET),           EN61000-4-4 (ET),         EN61000-4-4 (ES),           EN61000-4-4 (ET),         EN61000-4-4 (ES),           EN61000-4-4 (ES),         EN61000-4-4 (ES),           EN61000-4-4 (ES),         EN61000-4-4 (ES), </td <td>Fault contact</td> <td></td>	Fault contact			
Redundant Input power         Dual 100-240V AC power inputs in single power socket           Power consumption (Typ.)         16 Watts           Overload current protection         Present           Physical Characteristic         IP-30           Dimension (W x D x H)         300 (W) x 165 (D) x 88 (H) mm (11.81 x 6.5 x 3.47 Inch)           Weight (g)         2410 g           Enclosure         -40 to 85°C (-40 to 185°F)           Operating Temperature         -40 to 70°C (-40 to 158°F )           Operating Temperature         -40 to 70°C (-40 to 158°F )           Operating Temperature         -50 c Part 15, CISPR (EN55022) class A           Regulatory approvals         50 (EN1000-4-2 (ESD)           EN61000-4-3 (RS), EN61000-4-4 (EFT), EN61000-4-4 (EFT), EN61000-4-4 (CS), EN61000-4-4 (CS), EN61000-4-5 (CS), EN61000-4	Relay	Relay output to carry capacity of 1A at 24VDC		
Power consumption (Typ.)         16 Watts           Overload current protection         Present           Physical Characteristic         IP-30           Enclosure         IP-30           Dimension (W x D x H)         300 (W) x 165 (D) x 88 (H) mm (11.81 x 6.5 x 3.47 inch)           Weight (g)         2410 g           Environmental         -40 to 85°C (-40 to 185°F)           Operating Temperature         -40 to 70°C (-40 to 158°F )           Operating Temperature         -40 to 70°C (-40 to 158°F )           Operating Temperature         -40 to 70°C (-40 to 158°F )           Operating Temperature         -40 to 70°C (-40 to 158°F )           Operating Temperature         -40 to 70°C (-40 to 158°F )           Operating Temperature         -40 to 70°C (-40 to 158°F )           Operating Temperature         -40 to 70°C (-40 to 158°F )           Operating Temperature         -40 to 70°C (-40 to 158°F )           Operating Temperature         -40 to 70°C (-40 to 158°F )           Dimension (Utition 2.40 to 70°C (-40 to 158°F )         ENG to 70°C (-40 to 158°F )           Operating Temperature         -40 to 70°C (-40 to 158°F )           Operating Temperature         -40 to 70°C (-40 to 158°F )           EMI         FCC Part 15, CISPR (EN55022) class A           EN61000-4-2 (ESD)         EN61000-	Power			
Overload current protection         Present           Physical Characteristic         IP-30           Dimension (W × D × H)         300 (W) × 165 (D) × 88 (H) mm (11.81 × 6.5 × 3.47 inch)           Weight (g)         2410 g           Environmental            Storage Temperature         -40 to 85°C (-40 to 185°F)           Operating Temperature         -40 to 70°C (-40 to 158°F )           Operating Temperature         -40 to 70°C (-40 to 158°F )           Operating Temperature         -40 to 70°C (-40 to 158°F )           Operating Temperature         -40 to 70°C (-40 to 158°F )           Operating Temperature         -40 to 70°C (-40 to 158°F )           Operating Temperature         -40 to 70°C (-40 to 158°F )           Operating Humidity         5% to 95% Non-condensing           Regulatory approvals         EMI           EMI         FCC Part 15, CISPR (EN55022) class A           EMS         EN61000-4-2 (ESD) EN61000-4-2 (ESD) EN61000-4-5 (Surge), EN61000-4-4 (EFT), EN61000-4-6 (CS), EN61000-4-6 (CS), EN61000-4-6 (CS), EN61000-4-11           Shock         IEC60068-2-27           Free Fall         IEC60068-2-32           Vibration         IEC60068-2-6           Safety         EN60950-1	Redundant Input power	Dual 100~240V AC power inputs in single power socket		
Physicial Characteristic         IP-30           Enclosure         IP-30           Dimension (W x D x H)         300 (W) x 165 (D) x 88 (H) mm (11.81 x 6.5 x 3.47 inch)           Weight (g)         2410 g           Environmental         -40 to 85°C (-40 to 185°F)           Operating Temperature         -40 to 70°C (-40 to 158°F )           Operating Temperature         -40 to 70°C (-40 to 158°F )           Operating Humidity         5% to 95% Non-condensing           Regulatory approvals         E           EMI         FCC Part 15, CISPR (EN55022) class A           EN61000 -4-2 (ESD)         EN61000 -4-2 (ESD)           EN61000 -4-3 (RS),         EN61000 -4-3 (RS),           EN61000 -4-3 (SC),         EN61000 -4-3 (SC),           EN61000 -4-11         EN61000 -4-11           Shock         IEC60068-2-27           Free Fall         IEC60068-2-32           Vibration         IEC60068-2-6           Safety         EN60950-1	Power consumption (Typ.)	16 Watts		
Enclosure         IP-30           Dimension (W x D x H)         300 (W) x 165 (D) x 88 (H) mm (11.81 x 6.5 x 3.47 inch)           Weight (g)         2410 g           Environmental         -           Storage Temperature         -40 to 85°C (-40 to 185°F)           Operating Temperature         -40 to 70°C (-40 to 158°F )           Operating Temperature         -40 to 70°C (-40 to 158°F )           Operating Humidity         5% to 95% Non-condensing           Regulatory approvals         EN61000-4.2 (ESD)           EMI         FCC Part 15, CISPR (EN55022) class A           EMS         EN61000-4.2 (ESD)           EN61000-4.2 (ESD)         EN61000-4.3 (RS),           EN61000-4.4 (ETT),         EN61000-4.6 (CS),           EN61000-4.6 (CS),         EN61000-4.6 (CS),           EN61000-4.6 (CS),         EN61000-4.6 (S),           EN61000-4.6 (SS),         EN61000-4.6 (SS),           EN61000-4.7 (SS),         EN610	Overload current protection	Present		
Dimension (W x D x H)         300 (W) x 165 (D) x 88 (H) mm (11.81 x 6.5 x 3.47 inch)           Weight (g)         2410 g           Environmental         -           Storage Temperature         -40 to 85°C (-40 to 185°F)           Operating Temperature         -40 to 70°C (-40 to 158°F)           Operating Humidity         5% to 95% Non-condensing           EMI         FCC Part 15, CISPR (EN55022) class A           EMS         EN61000-4-2 (ESD) EN61000-4-2 (ESD) EN61000-4-3 (RS), EN61000-4-5 (Surge), EN61000-4-6 (CS), EN61000-4-6 (CS), EN61000-4-6 (CS), EN61000-4-6 (CS), EN61000-4-11           Shock         IEC60068-2-27           Free Fall         IEC60068-2-32           Vibration         IEC60068-2-32           Vibration         IEC60068-2-6           Safety         EN6050-1	Physical Characteristic			
Weight (g)         2410 g           Environmental         -40 to 85°C (-40 to 185°F)           Operating Temperature         -40 to 70°C (-40 to 158°F)           Operating Temperature         -40 to 70°C (-40 to 158°F)           Operating Humidity         5% to 95% Non-condensing           Regulatory approvals         EMI           FCC Part 15, CISPR (EN55022) class A         EN61000-4-2 (ESD)           EN61000-4-2 (ESD)         EN61000-4-3 (RS),           EN61000-4-4 (EFT),         EN61000-4-4 (EFT),           EMS         EN61000-4-6 (CS),           EN61000-4-6, (CS),         EN61000-4-8,           EN61000-4-1         EN61000-4-8,           EN61000-4-8,         EN61000-4-8,           EN61000-4-8,         EN61000-4-8,           EN61000-4-8,         EN61000-4-8,           EN61000-4-1         EC60068-2-32           Vibration         IEC60068-2-32           Vibration         EK600950-1	Enclosure	IP-30		
EnvironmentalStorage Temperature-40 to 85°C (-40 to 185°F)Operating Temperature-40 to 70°C (-40 to 158°F)Operating Humidity5% to 95% Non-condensingRegulatory approvalsEMIFCC Part 15, CISPR (EN55022) class AEMSEN61000-4-2 (ESD) EN61000-4-3 (RS), EN61000-4-4 (EFT), EN61000-4-8, EN61000-4-8, EN61000-4-1ShockIEC60068-2-27Free FallIEC60068-2-6VibrationIEC60068-2-6SafetyEN6050-1	Dimension (W x D x H)	300 (W) x 165 (D) x 88 (H) mm (11.81 x 6.5 x 3.47 inch)		
Storage Temperature-40 to 85°C (-40 to 185°F)Operating Temperature-40 to 70°C (-40 to 158°F )Operating Humidity5% to 95% Non-condensingRegulatory approvalsEMIFCC Part 15, CISPR (EN55022) class AEMSEN61000-4-2 (ESD) EN61000-4-3 (RS), EN61000-4-5 (Surge), EN61000-4-5 (Surge), EN61000-4-6 (CS), EN61000-4-11ShockIEC60068-2-27Free FallIEC60068-2-32VibrationIEC60068-2-6SafetyEN60950-1	Weight (g)	2410 g		
Operating Temperature-40 to 70°C (-40 to 158°F )Operating Humidity5% to 95% Non-condensingRegulatory approvalsEMIFCC Part 15, CISPR (EN55022) class AEMSEN61000-4-2 (ESD) EN61000-4-3 (RS), EN61000-4-3 (RS), EN61000-4-4 (EFT), EN61000-4-4 (EFT), EN61000-4-8, EN61000-4-8, EN61000-4-8, EN61000-4-11ShockIEC60068-2-27Free FailIEC60068-2-6VibrationIEC60068-2-6SafetyEN6050-1	Environmental			
Operating Humidity5% to 95% Non-condensingRegulatory approvalsEMIFCC Part 15, CISPR (EN55022) class AEMSEN61000-4-2 (ESD) EN61000-4-3 (RS), EN61000-4-3 (RS), EN61000-4-4 (EFT), EN61000-4-5 (Surge), EN61000-4-6 (CS), EN61000-4-8, EN61000-4-8, EN61000-4-11ShockIEC60068-2-27Free FallIEC60068-2-32VibrationIEC60068-2-6SafetyEN60950-1	Storage Temperature	-40 to 85°C (-40 to 185°F)		
Regulatory approvalsEMIFCC Part 15, CISPR (EN55022) class AENG1000-4-2 (ESD) EN61000-4-3 (RS), EN61000-4-3 (RS), EN61000-4-4 (EFT),EMSEN61000-4-3 (RS), EN61000-4-5 (Surge), EN61000-4-5 (Surge), EN61000-4-6 (CS), EN61000-4-8, EN61000-4-11ShockIEC60068-2-27Free FallIEC60068-2-32VibrationIEC60068-2-6SafetyEN60950-1	Operating Temperature			
Regulatory approvalsEMIFCC Part 15, CISPR (EN55022) class AENG1000-4-2 (ESD) EN61000-4-3 (RS), EN61000-4-3 (RS), EN61000-4-4 (EFT),EMSEN61000-4-3 (RS), EN61000-4-5 (Surge), EN61000-4-5 (Surge), EN61000-4-6 (CS), EN61000-4-8, EN61000-4-11ShockIEC60068-2-27Free FallIEC60068-2-32VibrationIEC60068-2-6SafetyEN60950-1	Operating Humidity	5% to 95% Non-condensing		
EMI         FCC Part 15, CISPR (EN55022) class A           EM5         EN61000-4-2 (ESD) EN61000-4-3 (RS), EN61000-4-4 (EFT), EN61000-4-5 (Surge), 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           Safety         EN60950-1				
EMS         EN61000-4-2 (ESD)           EMS         EN61000-4-3 (RS),           EN61000-4-4 (EFT),         EN61000-4-4 (EFT),           EN61000-4-5 (Surge),         EN61000-4-6 (CS),           EN61000-4-8,         EN61000-4-8,           EN61000-4-11         EN61000-4-11           Shock         IEC60068-2-27           Free Fall         IEC60068-2-32           Vibration         IEC60068-2-6           Safety         EN60950-1		FCC Part 15, CISPR (EN55022) class A		
EMS         EN61000-4-3 (RS), EN61000-4-4 (EFT), EN61000-4-5 (Surge), EN61000-4-5 (Surge), EN61000-4-8, EN61000-4-8, EN61000-4-11           Shock         IEC60068-2-27           Free Fall         IEC60068-2-32           Vibration         IEC60068-2-6           Safety         EN60950-1				
EMS         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           Safety         EN60950-1				
EMS         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           Safety         EN60950-1				
EN61000-4-6 (CS),           EN61000-4-8,           EN61000-4-11           Shock         IEC60068-2-27           Free Fall         IEC60068-2-32           Vibration         IEC60068-2-6           Safety         EN60950-1	EMS			
EN61000-4-11           Shock         IEC60068-2-27           Free Fall         IEC60068-2-32           Vibration         IEC60068-2-6           Safety         EN60950-1				
Shock         IEC60068-2-27           Free Fall         IEC60068-2-32           Vibration         IEC60068-2-6           Safety         EN60950-1		EN61000-4-8,		
Free Fall     IEC60068-2-32       Vibration     IEC60068-2-6       Safety     EN60950-1		EN61000-4-11		
Vibration     IEC60068-2-6       Safety     EN60950-1	Shock	IEC60068-2-27		
Safety EN60950-1	Free Fall	IEC60068-2-32		
	Vibration	IEC60068-2-6		
Warranty 5 years	Safety	EN60950-1		
	Warranty	5 years		

# Ordering Information

DGS-R	DGS-R9 <mark>ABBCC-DD</mark> -AIO_S		
Code Definition	10/100/1000Base-T(X) Port Number	100/1000Base-(F)X SFP SFP Additional Port Type Fiber Optical Mode	
Option	- 8: 8 ports	- 12: 12 ports - GP: Gigabit SFP ports - MM: Multi-mode - SS: Single-mode	
	Model Name	Description	
	DGS-R9812GP-SS-AIO_S_U	Industrial desktop type Layer-3 20-port managed Gigabit Ethernet switch with 8x10/100/1000Base-T(X) ports and 12x100/1000Base-X, SFP socket, single-mode LC connector bypass, US power cord	
DGS-R9812GP-SS-AIO_ Available Model DGS-R9812GP-SS-AIO_ DGS-R9812GP-MM-AIO_ DGS-R9812GP-MM-AIO_ DGS-R9812GP-MM-AIO_	DGS-R9812GP-SS-AIO_S_E	<ul> <li>Industrial desktop type Layer-3 20-port managed Gigabit Ethernet switch with</li> <li>8x10/100/1000Base-T(X) ports and 12x100/1000Base-X, SFP socket, single-mode</li> <li>LC connector bypass, EU power cord</li> </ul>	
	DGS-R9812GP-SS-AIO_S_U	Industrial desktop type Layer-3 20-port managed Gigabit Ethernet switch with 8x10/100/1000Base-T(X) ports and 12x100/1000Base-X, SFP socket, single-mode LC connector bypass, UK power cord	
	DGS-R9812GP-SS-AIO_S_J	Industrial desktop type Layer-3 20-port managed Gigabit Ethernet switch with 8x10/100/1000Base-T(X) ports and 12x100/1000Base-X, SFP socket, single-mode LC connector bypass, JP power cord	
	DGS-R9812GP-MM-AIO_S_U	<ul> <li>Industrial desktop type Layer-3 20-port managed Gigabit Ethernet switch with</li> <li>8x10/100/1000Base-T(X) ports and 12x100/1000Base-X, SFP socket, multi-mode</li> <li>LC connector bypass, US power cord</li> </ul>	
	DGS-R9812GP-MM-AIO_S_E	<ul> <li>Industrial desktop type Layer-3 20-port managed Gigabit Ethernet switch with</li> <li>8x10/100/1000Base-T(X) ports and 12x100/1000Base-X, SFP socket, multi-mode</li> <li>LC connector bypass, EU power cord</li> </ul>	
	DGS-R9812GP-MM-AIO_S_U	<ul> <li>Industrial desktop type Layer-3 20-port managed Gigabit Ethernet switch with</li> <li>8x10/100/1000Base-T(X) ports and 12x100/1000Base-X, SFP socket, multi-mode</li> <li>LC connector bypass, UK power cord</li> </ul>	
	DGS-R9812GP-MM-AIO_S_J	P Industrial desktop type Layer-3 20-port managed Gigabit Ethernet switch with 8x10/100/1000Base-T(X) ports and 12x100/1000Base-X, SFP socket, multi-mode LC connector bypass, JP power cord	

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## Packing List

- DGS-R9812GP-AIO\_S x 1
- ORing Tool CD x 1
- Quick Installation Guide x 1

- Console Cable x 1
- Power Cable x 1

### Optional Accessories

• Open-Vision M500 : Powerful Network Management Windows Utility Suit, 500 IP devices

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- SFP 1G series : 1Gbps SFP optical transceiver
- SFP 100 series : 100Mbps SFP optical transceiver
- Rack-Mount Kit