



# ICS-G7526/G7528/G7826/G7828

## Series

### Hardware Installation Guide

First Edition, May 2011

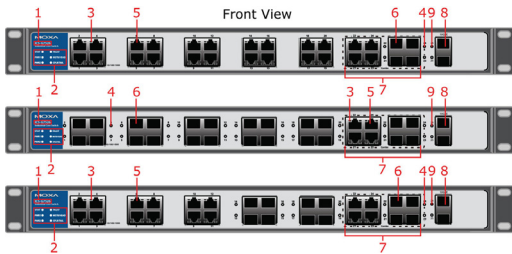
#### Package Checklist

The Moxa ICS-G7526/G7528/G7826/G7828 Series industrial rackmount switches are shipped with the following items. If any of these items are missing or damaged, please contact your customer service representative for assistance.

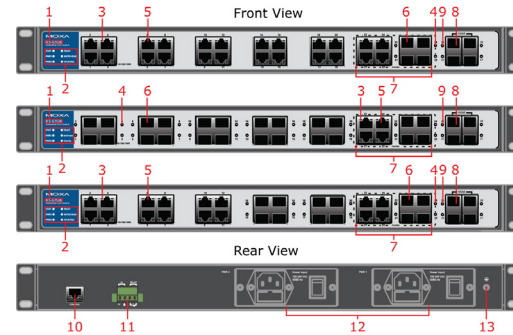
- ICS-G7526/G7528/G7826/G7828 switch
- RJ45 to DB9 console port cable
- 2 power cords
- Protective caps for unused ports
- 2 rackmount ears
- Documentation and software CD
- Hardware installation guide (printed)
- Warranty card

#### Panel Layouts

##### ICS-G7526/G7826

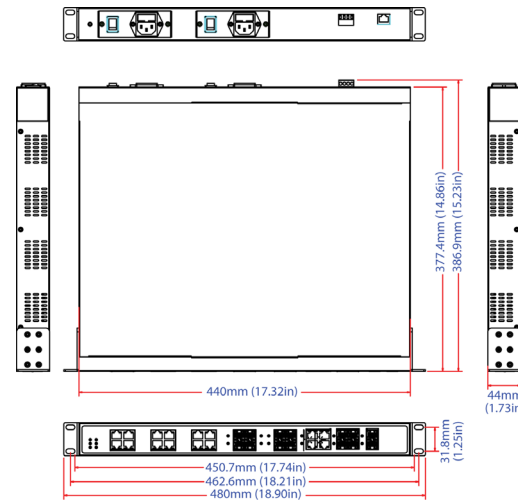


##### ICS-G7528/G7828



1. Model Name
2. System status LEDs
3. 10/100/1000 BaseT(X) port status LEDs
4. 100/1000Base SFP port status LEDs
5. 10/100/1000 BaseT(X) port
6. 100/1000Base SFP slot
7. 10/100/1000 BaseT(X) or 100/1000Base SFP slot combo ports
8. 10 Gigabit Ethernet SFP+ slot
9. 10 Gigabit Ethernet SFP+ port status LEDs
10. Serial Console port
11. Terminal block for Relay Output, Digital Input
12. AC power sockets for power inputs
13. Grounding screw

#### Dimensions (unit = mm)



#### Grounding the Industrial Rackmount Switch

Grounding and wire routing help limit the effects of noise due to electromagnetic interference (EMI). Run the ground connection from the ground screw to the grounding surface prior to connecting devices.

#### Connecting the Power Inputs

The ICS-G7526/G7528/G7826/G7828 switches support dual redundant power supplies: *Power Supply 1 (PWR1)* and *Power Supply 2 (PWR2)*. The connections for PWR1 and PWR2 are located on the rear side (shown below). Be sure to use a standard power cord with an IEC C13 connector, which is compatible with the AC power inlet.



#### LED Indicators

The front panel of the ICS-G7526/G7528/G7826/G7828 switches contain several LED indicators. The function of each LED is described in the table below.

LED	Color	State	Description
<b>System LEDs</b>			
STAT	GREEN	On	The system passed the self-diagnosis test on boot-up and is ready to run.
		Blinking	The system is undergoing the self-diagnosis test.
PWR1	AMBER	On	The system failed self-diagnosis on boot-up.
		Off	Power is being supplied to the main module's power input PWR1.
PWR2	AMBER	On	Power is not being supplied to the main module's power input PWR1.
		Off	Power is being supplied to the main module's power input PWR2.
FAULT	RED	On	Power is not being supplied to the main module's power input PWR2.
		Off	The system has failed, or is under quick inspection.
MSTR/HEAD	GREEN	On	The system is operating normally.
		Blinking	When the ICS-G7526/G7528/G7826/G7828 switch is set as the Master of the Turbo Ring, or as the Head of the Turbo Chain. The ICS-G7526/G7528/G7826/G7828 switch has become the Ring Master of the Turbo Ring, or the Head of the Turbo Chain, after the Turbo Ring or the Turbo Chain is down.

		Off	The ICS-G7526/G7528/G7826/G7828 switch is not the Master of this Turbo Ring or is set as a Member of the Turbo Chain
CPLR/ TAIL	GREEN	On	When the ICS-G7526/G7528/G7826/G7828 switch's coupling function is enabled to form a back-up path, or when it's set as the Tail of the Turbo Chain.
		Blinking	When the Turbo Chain is down
		Off	When this ICS-G7526/G7528/G7826/G7828 switch disables the coupling function.

LED	Color	State	Description
<b>Port Status LEDs</b>			
10/100/ 1000M (TP ports)	GREEN	On	The corresponding port's link is active.
		Blinking	The corresponding port's data is being transmitted.
		Off	The corresponding port's link is inactive.
100/1000M (Fiber Optic ports)	GREEN	On	The fiber optic port's 1000 Mbps link is active.
		Blinking	Data is being transmitted at 1000 Mbps.
		Off	The fiber optic port's 1000 Mbps link is inactive.
	AMBER	On	The fiber optic port's 100 Mbps link is active.
		Blinking	Data is being transmitted at 100 Mbps.
		Off	The fiber optic port's 100 Mbps link is inactive.
10GbE (Fiber Optic ports)	GREEN	On	The corresponding port's link is active.
		Blinking	The corresponding port's data is being transmitted.
		Off	The corresponding port's link is inactive.

## Specifications

Technology	
Standards	IEEE 802.3 for 10BaseT IEEE 802.3u for 100BaseT(X) and 100BaseFX IEEE 802.3ab for 1000BaseT(X) IEEE 802.3z for 1000BaseSX/LX/LHX/ZX IEEE 802.3ae for 10 Gigabit Ethernet IEEE 802.3x for Flow Control

	IEEE 802.1D for Spanning Tree Protocol IEEE 802.1w for Rapid STP IEEE 802.1Q for VLAN Tagging IEEE 802.1p for Class of Service IEEE 802.1X for Authentication IEEE 802.3ad for Port Trunk with LACP
Protocols	IGMPv1/v2 device, GMRP, GVRP, SNMPv1/v2c/v3, DHCP Server/Client, DHCP Option 82, BootP, TFTP, SNMP, SMTP, RARP, RMON, HTTP, HTTPS, Telnet, SSH, Syslog
Layer 3 Switching	Static routing, RIP V1/V2, OSPF, VRRP for router redundancy (ICS-G7826/G7828 only)
MIB	MIB-II, Ethernet-like MIB, P-BRIDGE MIB, Q-BRIDGE MIB, Bridge MIB, RSTP MIB, RMON MIB Groups 1, 2, 3, 9
Flow Control	IEEE 802.3x flow control, back pressure flow control
<b>Interface</b>	
Gigabit Ethernet	10/100/1000BaseT(X) or 100/1000BaseSFP slot
10 Gigabit Ethernet	10GbE SFP+ slot
Console Port	RS-232 (RJ45 connector)
LED Indicators	STAT, PWR1, PWR2, FAULT, MSTR/HEAD, CPLR/TAIL
Alarm Contact	1 relay output with current carrying capacity of 2 A @ 30 VDC
Digital Inputs	1 input with the same ground, but electrically isolated from the electronics. • +13 to +30V for state "1" • -30 to +3V for state "0" • Max. input current: 8 mA
<b>Power Requirements</b>	
Input Voltage	110/220 VAC (85 to 264 VAC)
Input Current	ICS-G7526/G7826: Max. 0.98/0.55 A @ 110/220 VAC ICS-G7528/G7828: Max. 1.16/0.65 A @ 110/220 VAC
Overload Current Protection	Present
Reverse Polarity Protection	Present
<b>Physical Characteristics</b>	
Housing	IP 30 protection
Dimensions	440 x 44 x 386.9 mm (17.32 x 1.73 x 15.23 in)
Installation	19" rack mounting
<b>Environmental Limits</b>	
Operating Temp.	0 to 60°C (32 to 140°F)
Storage Temp.	-40 to 85°C (-40 to 185°F)
Ambient Relative Humidity	5 to 95% (non-condensing)
<b>Standards and Certifications</b>	
Safety	UL 60950-1 (Pending), EN 60950-1 (Pending)

EMI	FCC Part 15 Subpart B Class A, EN 55022 Class A
Rail Traffic	EN50121-4
<b>Warranty</b>	
Warranty Period	5 years
Details	See <a href="http://www.moxa.com/warranty">www.moxa.com/warranty</a>

## Rack Mounting Instructions

- Elevated Operating Ambient:** If installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack environment may be greater than room ambient. Therefore, consideration should be given to installing the equipment in an environment compatible with the maximum ambient temperature (T<sub>ma</sub>) specified by the manufacturer.
- Reduced Air Flow:** Installation of the equipment in a rack should be such that the amount of air flow required for safe operation of the equipment is not compromised.
- Mechanical Loading:** Mounting of the equipment in the rack should be such that a hazardous condition is not achieved due to uneven mechanical loading.
- Circuit Overloading:** Consideration should be given to the connection of the equipment to the supply circuit and the effect that overloading of the circuits might have on overcurrent protection and supply wiring. Appropriate consideration of equipment nameplate ratings should be used when addressing this concern.
- Reliable Earthing:** Reliable earthing of rack-mounted equipment should be maintained. Particular attention should be given to supply connections other than direct connections to the branch circuit (e.g. use of power strips)."



## Restricted Access Locations

- This equipment is intended to be used in Restricted Access Locations, such as a computer room, with access limited to SERVICE PERSONAL or USERS who have been instructed on how to handle the metal chassis of equipment that is so hot that special protection may be needed before touching it. The location should only be accessible with a key or through a security identity system.
- External metal parts of this equipment are extremely hot!! Before touching the equipment, you must take special precautions to protect your hands and body from serious injury.

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