Model Name	Sv	witch-	-M24eGLPWR+		401-28248-ID-SP03
Model No.		PI	N28248-ID	Product Specification	Page 1 of 10
1.	Sw and	d two pairs	-	Hub with management function having 24 ports of SFP extension slot, one of which is selectable. upply function.	10/100/1000BASE-T
2.		eatures Has wire-:	speed Layer 2 switching function.		
		Also their	speed and communication mode cand 26 can be used as a 10/100/10	ts corresponding to auto-negotiation. an be switched by configuration. 000BASE-T port corresponding to auto-negotiation	or an SFP extension slot
	(3)		24 can supply power conforming w power up to 30 W per port, and u		
	(4)	Simply con (This func	, ,	cable auto sensing function. whether it is a terminal or a network device. munication configuration is set at Fixed or Link Ag	gregation.
	(5)		ows remote configuration changes configure the PoE setting for each	and verifications of the Switching Hub. a port (Ports 1 to 24).	
	(6)	When the		E) conforming to IEEE802.3az (LPI). up, the energy-saving state automatically starts so t	that power consumption
	(7)	Equipped	power saving mode detects the co	nnection status automatically and saves power cons	sumption to minimum.
	(8)	VLAN fun	ction allows free grouping of up to	256 VLANs.	
	(9)	The IEEE8	802.1w Rapid Spanning Tree Prot	ocol is supported, allowing to build a system with re	edundancy.
(	(10)	The IEEE8	302.1p compatible QoS function is	supported.	
(	(11)	The IEEE8	302.1X compatible user authentica	tion function (EAP-MD5/TLS/PEAP) is supported.	
(	(12)	Has an Int	ernet Mansion function, which ens	sures security between each port.	
(		When a po Moreover ,	rt is shut off and recovered autom	a port where loop has occurred can be automatical atically, SNMP trap can be sent to notify the incide ified by loop notification on the LEDs on the main o	ent to the administrator.
(	(14)	The PoE s	cheduler function enables scheduli	ing of PoE power supply control.	
(	(15)	Supports Z	EQUO assist Plus. Processes from	n introduction to maintenance can be performed ea	sily.
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Date	e re	vised	Feb. 22, 2016	Panasonic Eco Solutions N	etworks Co., Lta.

Model Name	Switch-M24eGLP	WR+		401-28248-ID-SP03			
Model No.	PN28248-ID	Product Specification		Page 2 of 10			
3.	Rated/Environmental Conditions						
	3-1. Power supply 3-2. Power consumption	Normally [If the s Normally	-240V, 50/60Hz, 4.5A (with a built-in power suppl y, Max.234W (33.6W when not supplying power), M sixth number from the left of the serial number is 1. y, Max.248W (39.6W when not supplying power), M sixth number from the left of the serial number is 0.	/in.19.5W   /in.22.9W			
	3-3. Operating environment	ing environment Temperature: 0 - 50°C Humidity: 20 - 80%RH (no condensation)					
	3-4. Storage environment Humidity: -20 - 70°C 10 - 90%RH (no condensation)						
	3-5. EMC compliance	EN 5502 AS/NZS VCCI C EN 6100 CISPR 2 EN 5502 IEC 610	200–3–2, EN 61000–3–3 24	00-4-5,			
	3-6. Safety compliance	IEC 609 EN 6095					
	3–7. Environment compliance	RoHS co	ompliant				

# 4. Form

4–1. Form and materials/colors	Dimensions	:44mm(Height) × 440mm(Width) × 257mm(Depth) (Excluding protruding sections)
	Case material Color	:SECC : Main unit: Green 03, Front face: Black 03, Face plate label: Black 04
4-2. Mass(Weight)	3,900g	

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Model Name	Switch-	-M24eGLP	WR+	Drag large C		401-28248-ID-SP03
∕lodel No.	Pl	N28248-ID	Product Specification		Page 3 of 10	
5.	Hardware	Specifications				
	5–1. Interfac	26	Freese SFP externs	pair port 1-26 smitting and receiving networ gy efficient Ethernet (*2) smission speed patible cable mum transmission distance -Negotiation o 30 W of power can be supp Embedded power saving mod and saves power consumptio Equipped with energy efficien When there is no data transmin automatically starts so that p ension slot 25,26 8472 (DMI:Diagnostic Monit ect either of RJ45 or SFP for ponal Accessories	IEEE802.3 IEEE802.3u IEEE802.3ab IEEE802.3ab IEEE802.3az(LPI 10/100/1000Mbp Twisted pair cabl (At least equivalent 100m Communication s automatically rec The setting can l or 1000Mbps and or 1000Mbps and or 1000Mbps and or 1000Mbps and or 1000Mbps and or 1000Mbps and communication s automatically rec The setting can l or 1000Mbps and or 1000Mbps and or 1000Mbps and communication s automatically rec The setting can l or 1000Mbps and communication s automatically rec The setting can l or 1000Mbps and communication s communication s commun	10BASE-T 100BASE-TX 1000BASE-T ) pos, full/half duplex e to EIA/TIA568 category 5e) peed and full/half duplex are cognized. be fixed to 10Mbps, 100Mbps, d full duplex or half duplex. on status automatically porming to IEEE802.3az (LPI). energy-saving state a be reduced on each port. FP Module (PN54021K-ID)
	5-2. Switching mode 5-3. Terminal emulator connection		Switchin Packet t MAC Ac Buffer m Flow con Aging tin Jumbo fi	ntrol	:Store and Forwar :52Gbps :Non-blocking Max 1,488,000pp Max 148,800pps/ Max 14,880pps/p :Max 8K entry/ur Automatic learnin for each port. Fix :512K Byte/unit :half-duplex Back full-duplex IEE	s/port (1000Mbps) port (100Mbps) ort (10Mbps) it g can be enabled/disabled ed registration is enabled. & pressure
			Console Trans Emul		:RJ45 connector 1 :RS-232C (ITU-T :VT100	-
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Model Name	Switch-	-M24eGLP	WR+		401-28248-ID-SP03
Model No.	Pì	V28248-ID		Product Specification	Page 4 of 10
5.	Hardware	Specifications			
	5-4. LED di		<ul> <li>(2) STA</li> <li>(3) PoE</li> <li>(4) FAN</li> <li>(5) TEM</li> <li>(6) LOC</li> <li>(7) Port</li> <li>(8) Port</li> </ul>	VER (Power) LED Green Light : Power is ON Off : Power is OFF TUS/ECO LED (Status/ECO mode) Green Blink : Operating in status mode. Green Blink : Operating in ECO mode. All port LEDs (left) are turned off. Orange Light : Starting Orange Blink : Malfunction (Contact the seller) LIM. LED (PoE limit) Off Supplying power in the range from 0 to 170 W Green Light : Supplying power in the range from Orange Blink : A single port's power supply is exce or the total power supply of the Swi 185 W. 1 LED (Fan sensor) Green Light : System is operating normally. Orange Blink : Fan fault is occurring. IP LED (Temperature sensor) Green Light : The system is normally operating. Orange Blink : The temperature exceeded the set to temperature sensor. Set threshold of the internal temper (factory default) OP HISTORY LED (Loop History mode) Green Light : Operating in Loop History mode. Green Blink : Loop is occurring, or occurred within t LED (left) Green light (when the LOOP HISTORY LED lamp : Link is established at 10/100/1/ Green light (when the LOOP HISTORY LED lamp : Link is established at 10/100/1/ Green light (when the LOOP HISTORY LED lamp : Link is established at 10/100/1/ Green light (when the LOOP HISTORY LED lamp : Data is being sent/received at I Orange light : Power is supplied normally. (Port t LED (right) Green light : Power is supplied normally. (Port Orange flashing : Oterload power supply (ports 1 to or overload in a single port. Off : Power is not supplied or PoE re connected. LED (Left) —	170 to 185 W. reding the upper limit, itching Hub is exceeding threshold of the internal rature sensor: $67^{\circ}$ C a the last 3 days. is off) 000 Mbps. thing) as been eliminated 10/100/1000 Mbps. hutoff function ECO mode is set. s 1 to 24 only) to 24 only)
	5–5. Cascade connections			the Auto MDI/MDI-X function settings. 24 are set to "Disable," and Ports 25-26 are set to	"Enable" at factory default
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6. Software Specifications         6-1. Configuration         Control parameters can be set by the following procedures:	5 of 10			
6–1. Configuration Control parameters can be set by the following procedures:				
(1) Configuration from an asynchronous terminal connected to the console por (2) Configuration from a remote terminal connected via TELNET and SSH (3) Configuration from a remote terminal via the Internet	guration from an asynchronous terminal connected to the console port. guration from a remote terminal connected via TELNET and SSH			
<ul> <li>6-2. Switching Hub Control</li> <li>Switching Hub can be controlled by the following procedures: <ol> <li>Control from an asynchronous terminal connected to the console port.</li> <li>Control from a remote terminal using SSH/TELNET and TCP/IP network connection</li> <li>Control using SNMP Manager</li> <li>The switching Hub operation status can be checked using the following function</li> <li>Internal temperature sensor function</li> <li>Function to display the CPU usage and memory usage</li> <li>SFP module status checking function (DDM: Digital Diagnostic Monitoring)</li> </ol> </li> </ul>	ions.			
6-3. Rebooting (1) Warm start (2) Reset to factory default (3) Reset items other than the IP address to factory default The reboot timer function can also be used in each mode.				
6-4. Supported Agent Management protocol TELNET SSH v2 Management protocol SSH v2 RFC4251,RFC4252, RFC4253,RFC4254, Data transfer protocol TFTP (RFC783)				
6-5. Supported MIB RFC1213-MIB (MIB II) SNMPv2-MIB IP-FORWARDING-MIB RMON-MIB RMON-MIB RMON-MIB RFC 2819) Group 1,2,3,9 BRIDGE-MIB (RFC 2674) Q-BRIDGE-MIB (RFC 2674) Q-BRIDGE-MIB (RFC 2674) IF-MIB (RFC 2233) Other than IfTestTal RADIUS-AUTH-CLIENT-MIB (RFC 2618) POWER-ETHERNET-MIB (RFC 3621) deelxSoppConfigTabl Other than dotlxSuppS IEEE8021-PAE-MIB (IEEE802.1X MIB) IEEE8023-LAG-MIB (IEEE802.3ad MIB) RSTP-MIB	ole e,			
6-6. System log Maximum number to be kept: 1,024 Transfers system logs to the Syslog server (IPv4)				
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Model Name	Switch-M24eGLP	WR+		401-28248-ID-SP0
Model No.	PN28248-ID		Product Specification	Page 6 of 10
6.	Software Specifications			
	6-7. Loop detection	At this t prevent During la LOOP H · Loop d · Loop d	a the port LED with a orange light when a loop occur ime, the relevant port automatically shuts down (de loop from occurring. bop is occurring, or if loop has occurred within the l IISTORY LED blinks to notify this. etection setting Enabled (factory default setting) Enabled/disabled can be switched by co the console. The setting is kept even when the powe etection port Enabled: Ports 1 to 24 (factory default Disabled: Ports 25 and 26 (factory default Disabled: Ports 25 and 26 (factory default mutoff time 60 to 86400 sec. (Factory default settin The set time Port LED lights up orange istory retention time 3 days The LOOP HISTORY LED lamp flashes The Port LED lamp also remains lit for the loop is eliminated.	fault setting: 60 sec.) to latest 3 days, onfiguring a setting using er is turned OFF. setting) ult setting) ng: 60 sec.) e and the port shuts off. s for three days.
	6–8. Others	TFTP C SNTP C Login R ZEQUO	Client (Transfers system logs to the Syslog server.) lient (Upgrades the software and saves/loads config lient ADIUS (login authentication function by the RADIU assist Plus er applications	

## 7. Layer 2 Switching Functions

7-1. Spannir	ng Tree	IEEE 80	2.1w Spanning Tree Protocol, Rapid Spanning Tree Protocol		
7-2. VLAN	-	IEEE802 Port Bas Number	2.1Q Tag VLAN Protocol se VLAN . of VLAN registrations: 256 (including default) . Mansion function		
7−3. Trunkin	lg		2.ad Link Aggregation function (LACP/Manual) groups can be created (up to 8 ports per group).		
7-4. Port M	onitoring		of the target port can be copied to the specified port and transmitted. more target ports can be specified.)		
7–5. Multica	ıst		nooping(IGMP v1/v2) function st filtering function		
7–6. QoS	<ul> <li>7-6. QoS</li> <li>7-7. Authentication Function</li> <li>7-8. PoE power supply function</li> <li>7-9. PoE scheduler function</li> <li>7-10. Ring protocol</li> </ul>		IEEE802.1p       Four levels of Priority Queue supported         Scheduling Method:       Priority Queuing (PQ:Strict priority queuing )         Weighted Round Robin (WRR:Weighted round robin scheduling )       DSCP Mapping function         IEEE802.1X Port-based authentication       EAP Packet Forwarding function         (Enable/disable EAP transmission can be specified for each port.)		
7-7. Authen					
7-8. PoE po			<ul> <li>2.3at PoE power supply function.</li> <li>85 W of power can be supplied to ports 1 to 24 in total.</li> <li>num power supplied to a port: 30 W)</li> <li>nethod :Alternative A(Cable signal lines 1, 2, 3, and 6 are used.)</li> </ul>		
7-9. PoE sc			PoE power supply control can be scheduled. The setting can be configured by the month, week, day or specific date. The maximum number of schedules to be registered: 32		
7-10. Ring p			Redundancy is enabled by ring configuration. (Up to one group can be registered.)		
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Model No.	PN28248-ID		Product Specification		Page 7 of 10		
8.	WEB Browser-based Control (WEB control screen)						
	8-1. System Requirements						
	8-1-1. WEB Browser	Microsof	ft Internet Explorer 11				
	8-1-2. Runtime for Executing Java Applet	Java Rur	a Runtime Environment (Ver. 1.4 and above)				
	8-2. Configuration Function						
	8-2-1. Switch Configuration	IP Addre SNMP C Port Cor System S ID/Passy Forwardi Time(SN VLAN C Link Agg Port Mor QoS Cor Storm Co Static Af LLDP Co 802.1X A	ration Configuration onfiguration onfiguration figuration security Configuration word Change ng Database(FDB) Configuration TP) Configuration onfiguration gregation Configuration nitoring Configuration figuration control Configuration RP Table onfiguration Access Control Configuration g Tree Configuration	DDM Configu RRP Domain Ping Executio Exception Ha Watchdog Tii IGMP Snoopi PoE Configur Statistics Software Upd Configuratior System Reboo System Log	Management on andler mer ng Configuration ration late n File Transfer ot Configuration mission Configuration		
	8-2-2. Time Configuration SNTP Setting						
	8-3. Monitoring Configuration						
	8-3-1. General Information	System I	Display of insta	iled description act (sysContact Ilation location name (sysName	) (sysLocation)		

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Mo Nar	<sup>el</sup> Switch-M24eGLPWR+		401-28248-ID-SP03
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### 9. Connector Pin Arrangement

9-1. Port 1 - 26											
	Status	Pin No.	1	2	3	6	4	5	7	8	Pin No. 1 2 3 4 5 6 7 8
	MDI-X	Signal	BI_DB+	BI_DB-	BI_DA+	BI_DA-	BI_DD+	BI_DD-	BI_DC+	BI_DC-	
	MDI	Signal	BI_DA+	BI_DA-	BI_DB+	BI_DB-	BI_DC+	BI_DC-	BI_DD+	BI_DD-	
9–2. Console port											
		Pin No.	S	lignal	Pin N	lo.	Signal				Pin No. 1 2 3 4 5 6 7 8
		1		NC	5		GND				
		2		NC	6		RXD				
		3		ГXD	7		NC				
		4	(	GND	8		NC				

#### 10. Installation Procedures and Accessories

10–1. Installation Procedures	Mounting to rack				
10–2. Accessories	<ol> <li>Installation Guide</li> <li>CD-ROM</li> <li>Rubber foot</li> <li>Mounting bracket (for 19-inch rack)</li> <li>Screw (for 19-inch rack)</li> <li>Screw (for fixing the main unit and the 19 inch rack mount bracket)</li> <li>Power cord (CEE7/7) (*)</li> <li>The attached power cord is dedicated for AC 100 - 240 V use.</li> </ol>	:1 :1 :4 :2 :4 :8 :1			

## 11. Optional Accessories

11-1. 1000BASE-SX	Fiber optic port connector type :LC connector (Duplex)			
SFP Module	Standards	:IEEE802.3z 1000BASE-SX		
(Model No. :PN54021K-ID)	Transmission speed	:1000Mbps, full duplex		
	Compatible cable	:Fiber cable		
		$50/125 \mu$ m Multi Mode Fiber		
		$62.5/125\mu$ m Multi Mode Fiber		
	Maximum transmission distance	:550 m at 50/125 $\mu$ m		
		220 m at 62.5/125 $\mu$ m		
11-2. 1000BASE-LX	Fiber optic port connector type :LC connector (Duplex)			
SFP Module	Standards	:IEEE802.3z 1000BASE-LX		
(Model No.:PN54023K-ID)	Transmission speed	:1000Mbps, full duplex		
	Compatible cable	:Fiber cable		
		$10/125 \mu$ m Single Mode Fiber		
		$50/125 \mu$ m Multi Mode Fiber		
		$62.5/125\mu$ m Multi Mode Fiber		
	Maximum transmission distance	:10 km when Single Mode Fiber is used		
		550 m when Multi Mode Fiber is used		

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Model Name	SWITCH-MZ46GTLAMK+		-M24eGLPWR+		401-28248-ID-SP03		
Model No.		Pl	N28248-ID	Product Specification	Page 9 of 10		
12. Prohibitions when Using the Product to Guarantee Safety The manufacturer assumes no responsibility for any problems occurring when the following conditions are not satisfied. Observe the following items when using the product.							
	<ul> <li>(1) Do not use power supply other than AC 100 - 240 V.</li> <li>Deviation could lead to fire, electric shock, and/or equipment failure.</li> </ul>						
<ul><li>(2) Do not handle the power cord with wet hand. Deviation could lead to electric shock, and/or equipment failure.</li></ul>							
(3) Do not handle this Switching Hub and connection cables during a thunderstorm. Deviation could lead to electric shock.							
	<ul> <li>(4) Do not disassemble and/or modify this Switching Hub. Deviation could lead to fire, electric shock, and/or equipment failure.</li> <li>(5) Do not damage the power cord. Do not bend too tightly, stretch, twist, bundle with other cord, pinch, put under a heavy object and/or heat it. Damaged power cord could lead to fire, short, and/or electric shock.</li> </ul>						
	(6)	and/or	put foreign objects (such as meta do not drop them into the inside ion could lead to fire, electric sho	-	l pair port, console port),		
	(7)		connect equipments other than 1 ion could lead to fire, electric sho	.0BASE-T/100BASE-TX/1000BASE-T to twisted p ock, and/or equipment failure.	pair port.		
<ul> <li>(8) Do not place this Switching Hub in harsh environment (such as near water, high humid, and/or high dust). Deviation could lead to fire, electric shock, and/or equipment failure.</li> <li>(9) Do not place this Switching Hub under direct sunlight and/or high temperature. Deviation could lead to high internal temperature and fire.</li> <li>(10) Do not insert any modules other than the optional SFP modules (PN54021K-ID/PN54023K-ID) into the SFP extension Deviation could lead to fire, electric shock, and/or equipment failure. For the latest information about compatible SFP extension modules, check our website.</li> </ul>					/or high dust).		
					ID) into the SFP extension slot.		
	<ul><li>(11) Do not install this Switching Hub at the location with continuous vibration or strong shock, or at the unstable location. Deviation could lead to injury and/or equipment failure.</li><li>(12) Do not put this Switching Hub into fire. Deviation could lead to explosion and/or fire.</li></ul>						
	(13)		use the supplied power cord for a ion could lead to fire, electric sho				
	(14)		the power cord in case of equipm ion, such as keeping connected fo				
	<ul><li>(15) Connect this Switching Hub to ground. Deviation could lead to electric shock, malfunction, and/or equipment failure.</li><li>(16) Connect the power cord firmly to the power port. Deviation could lead to electric fire, shock, and/or malfunction.</li></ul>						
	(17) Unplug the power cord if the STATUS/ECO LED (Status/ECO mode) or TEMP LED (temperature sensor), FAN LED (Fan sensor) blinks in orange (system fault). Deviation, such as keeping connected for a long time, could lead to fire.						
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Model Name	Switch	-M24eGLPWR+		401-28248-ID-SP03					
Model No.	P	N28248-ID	Product Specification	Page 10 of 10					
12.	. Prohibit	Prohibitions when Using the Product to Guarantee Safety							
		the Switching Hub carefully so ther cord hook block.	at fingers or hands may not be damaged by twisted	pair port, console port,					
	(19) To con	nect a power receiving equipment	supporting IEEE802.3at to this Switching Hub, use	a cable rated Cat5e or higher.					
13.	. Basic In	structions for the Use o	f This Product						
	(1) For insp	pection and/or repair, consult the	retailer.						
	(2) Use cor	nmercial power supply from a wall	socket, which is close and easily accessible to this	Switching Hub.					
	(3) Unplug	the power cord when installing or	moving this Switching Hub.						
	(4) Unplug	Unplug the power cord when cleaning this Switching Hub.							
	(5) Use thi	Use this Switching Hub within the specifications. Deviation could lead to malfunction.							
			J45 connector, the modular plug of connected twiste imity of them. Static electricity could lead to equipm	-					
	(7) Do not put the modular plug of the connected twisted pair cable on objects that can carry static charge, such as Do not place it in the proximity. Static electricity could lead to equipment failure.								
		put a strong shock, including drop on could lead to equipment failure							
	(9) Before connecting a console cable to the console port, discharge static electricity, for example by touching metal applia (do not discharge by touching this Switching Hub).								
	(Store - High - Dust - Unde - Poss	<ul> <li>Do not store and/or use this Switching Hub in the environment with the characteristics listed below.</li> <li>(Store and/or use this Switching Hub in the environment in accordance with the specification.)</li> <li>High humidity. Possible spilled liquid (water).</li> <li>Dusty. Possible static charge (such as carpet).</li> <li>Under direct sunlight.</li> <li>Possible condensation. High/low temperature exceeding the specifications environment.</li> <li>Strong vibration and/or strong shock.</li> </ul>							
	(11) Please use this Switching Hub in place where ambient temperature is from 0 to 50°C. Failure to satisfy the conditions above may result in a fire, electric shock, equipment failure, and/or malfunction. Such events are not covered by the warranty. Do not block the ventilator of the Switching Hub. Blocked ventilator induces the heat accumulation inside, causing equipment failure and/or malfunction. If used at a temperature out of the operating temperature range, the protection equipment becomes activated and PoE power supply stops.								
		2) When using two Switching Hubs, do not stack them. When you place them side by side, allow for a space of 20 mm or more between them. This space is not necessary if you use supplied connection brackets.							
	<ul> <li>(13) Operation is not guaranteed if a module other than the optional SFP extension modules (PN54021K-ID/PN54023K-ID) is inserted into the SFP extension slot.</li> <li>For the latest information about compatible SFP extension modules, check our website.</li> </ul>								
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Date	e revised Feb. 22, 2016		Panasonic Eco Solutions Networks Co., L						