

Model Name	1000BASE-SX SFP Module	Product Specification	401-54021K-SG-SP02																										
Model No.	PN54021K-SG		Page 1 of 3																										
1. Summary 1000BASE-SX SFP Module is SFP (Small-Factor Pluggable) module to be connected to a Panasonic Ethernet Switch’s SFP extension slot. 2. Rated/Environmental Conditions <table><tr><td>2-1. Operating Voltage</td><td>DC 3.3V</td></tr><tr><td>2-2. Power consumption</td><td>0.7W max.</td></tr><tr><td>2-3. Operating environment</td><td>Temperature: 0 – 50℃ Humidity: 20 – 80%RH (no condensation)</td></tr><tr><td>2-4. Storage environment</td><td>Temperature: -20 – 70℃ Humidity: 10 – 90%RH (no condensation)</td></tr><tr><td>2-5. Standards</td><td>IEEE802.3z 1000BASE-SX SFF-8431 Specification for Enhanced Small Form Factor Pluggable Module SFP+ SFF-8472 Diagnostic Monitoring Interface Class 1 Laser Product (EN 62368-1, EN 62368-2) EN 62368-1</td></tr></table> 3. Form <table><tr><td>3-1. External Dimensions</td><td>9mm (Height) × 14mm (Width) × 57mm (Depth) (Excluding protruding sections)</td></tr><tr><td>3-2. Mass (Weight)</td><td>17g</td></tr></table> 4. Hardware Specifications <table><tr><td>4-1. Interface</td><td>Fiber port :LC connector (Duplex), 1port Transmitting and receiving network system: IEEE802.3z 1000BASE-SX Transmission speed :1000Mbps Compatible cable :Multi Mode Fiber cable 50/125 μ m, 62.5/125 μ m Maximum transmission distance :550m (50/125 μ m/500MHz•km Fiber) 500m (50/125 μ m/400MHz•km Fiber) 275m (62.5/125 μ m/200MHz•km Fiber) 220m (62.5/125 μ m/160MHz•km Fiber)</td></tr><tr><td>4-2. Optical wavelength</td><td>850nm</td></tr><tr><td>4-3. Output Optical Power</td><td>-9.5dBm min. - -4dBm max.</td></tr><tr><td>4-4. Optical Input Power minimum (Sensitivity)</td><td>-18dBm</td></tr><tr><td>4-5. Diagnostic Monitoring Interface</td><td>SFF-8472 Diagnostic Monitoring Interface for Optical Transceivers (DMI) Ethernet Switch that the device has been installed must have a DMI function too. * 1 Refer 6-1. Supported Products.</td></tr></table> 5. Accessories <table><tr><td>5-1. Accessories</td><td>(1) Installation Guide :1 (2) Protection cap of the fiber optic port (Attached to the module) :1</td></tr></table>				2-1. Operating Voltage	DC 3.3V	2-2. Power consumption	0.7W max.	2-3. Operating environment	Temperature: 0 – 50℃ Humidity: 20 – 80%RH (no condensation)	2-4. Storage environment	Temperature: -20 – 70℃ Humidity: 10 – 90%RH (no condensation)	2-5. Standards	IEEE802.3z 1000BASE-SX SFF-8431 Specification for Enhanced Small Form Factor Pluggable Module SFP+ SFF-8472 Diagnostic Monitoring Interface Class 1 Laser Product (EN 62368-1, EN 62368-2) EN 62368-1	3-1. External Dimensions	9mm (Height) × 14mm (Width) × 57mm (Depth) (Excluding protruding sections)	3-2. Mass (Weight)	17g	4-1. Interface	Fiber port :LC connector (Duplex), 1port Transmitting and receiving network system: IEEE802.3z 1000BASE-SX Transmission speed :1000Mbps Compatible cable :Multi Mode Fiber cable 50/125 μ m, 62.5/125 μ m Maximum transmission distance :550m (50/125 μ m/500MHz•km Fiber) 500m (50/125 μ m/400MHz•km Fiber) 275m (62.5/125 μ m/200MHz•km Fiber) 220m (62.5/125 μ m/160MHz•km Fiber)	4-2. Optical wavelength	850nm	4-3. Output Optical Power	-9.5dBm min. - -4dBm max.	4-4. Optical Input Power minimum (Sensitivity)	-18dBm	4-5. Diagnostic Monitoring Interface	SFF-8472 Diagnostic Monitoring Interface for Optical Transceivers (DMI) Ethernet Switch that the device has been installed must have a DMI function too. * 1 Refer 6-1. Supported Products.	5-1. Accessories	(1) Installation Guide :1 (2) Protection cap of the fiber optic port (Attached to the module) :1
2-1. Operating Voltage	DC 3.3V																												
2-2. Power consumption	0.7W max.																												
2-3. Operating environment	Temperature: 0 – 50℃ Humidity: 20 – 80%RH (no condensation)																												
2-4. Storage environment	Temperature: -20 – 70℃ Humidity: 10 – 90%RH (no condensation)																												
2-5. Standards	IEEE802.3z 1000BASE-SX SFF-8431 Specification for Enhanced Small Form Factor Pluggable Module SFP+ SFF-8472 Diagnostic Monitoring Interface Class 1 Laser Product (EN 62368-1, EN 62368-2) EN 62368-1																												
3-1. External Dimensions	9mm (Height) × 14mm (Width) × 57mm (Depth) (Excluding protruding sections)																												
3-2. Mass (Weight)	17g																												
4-1. Interface	Fiber port :LC connector (Duplex), 1port Transmitting and receiving network system: IEEE802.3z 1000BASE-SX Transmission speed :1000Mbps Compatible cable :Multi Mode Fiber cable 50/125 μ m, 62.5/125 μ m Maximum transmission distance :550m (50/125 μ m/500MHz•km Fiber) 500m (50/125 μ m/400MHz•km Fiber) 275m (62.5/125 μ m/200MHz•km Fiber) 220m (62.5/125 μ m/160MHz•km Fiber)																												
4-2. Optical wavelength	850nm																												
4-3. Output Optical Power	-9.5dBm min. - -4dBm max.																												
4-4. Optical Input Power minimum (Sensitivity)	-18dBm																												
4-5. Diagnostic Monitoring Interface	SFF-8472 Diagnostic Monitoring Interface for Optical Transceivers (DMI) Ethernet Switch that the device has been installed must have a DMI function too. * 1 Refer 6-1. Supported Products.																												
5-1. Accessories	(1) Installation Guide :1 (2) Protection cap of the fiber optic port (Attached to the module) :1																												
Date issued	July. 15, 2016	Panasonic Electric Works Networks Co., Ltd.																											
Date revised	Apr. 1, 2022																												

Model Name	1000BASE-SX SFP Module	Product Specification	401-54021K-SG-SP02																																																																				
Model No.	PN54021K-SG		Page 2 of 3																																																																				
6. Supported Products																																																																							
<table><tr><td>6-1. Supported Products</td><td colspan="3">Please use in Panasonic Ethernet Switches listed below.</td></tr><tr><td></td><td>Supported Product Name</td><td colspan="2">Supported Product Number</td></tr><tr><td></td><td>ZEQUO 6500</td><td colspan="2">PN36242E-SG (*1 Supported DMI function)</td></tr><tr><td></td><td>ZEQUO 6400</td><td colspan="2">PN36240E-SG (*1 Supported DMI function)</td></tr><tr><td></td><td>ZEQUO 2200</td><td colspan="2">PN26241-SG (*1 Supported DMI function)</td></tr><tr><td></td><td>ZEQUO 2210</td><td colspan="2">PN26161-SG (*1 Supported DMI function)</td></tr><tr><td></td><td>Switch-M24eGLPWR+</td><td colspan="2">PN28248-SG (*1 Supported DMI function)</td></tr><tr><td></td><td>Switch-M16eGLPWR+</td><td colspan="2">PN28168-SG (*1 Supported DMI function)</td></tr><tr><td></td><td>Switch-M12eGLPWR+</td><td colspan="2">PN28128-SG (*1 Supported DMI function)</td></tr><tr><td></td><td>Switch-M8eGLPWR+</td><td colspan="2">PN28088-SG (*1 Supported DMI function)</td></tr><tr><td></td><td>Switch-M5eGLPWR+</td><td colspan="2">PN28058-SG (*1 Supported DMI function)</td></tr><tr><td></td><td>Switch-M48eG</td><td colspan="2">PN28480K-SG (*1 Supported DMI function)</td></tr><tr><td></td><td>Switch-M24eG</td><td colspan="2">PN28240K-SG (*1 Supported DMI function)</td></tr><tr><td></td><td>Switch-M16eG</td><td colspan="2">PN28160K-SG (*1 Supported DMI function)</td></tr><tr><td></td><td>Switch-M8eG</td><td colspan="2">PN28080K-SG (*1 Supported DMI function)</td></tr><tr><td></td><td colspan="3">For the latest information about supported product, check our website.</td></tr><tr><td></td><td colspan="3">*1 DMI: Diagnostic Monitoring Interface</td></tr></table>				6-1. Supported Products	Please use in Panasonic Ethernet Switches listed below.				Supported Product Name	Supported Product Number			ZEQUO 6500	PN36242E-SG (*1 Supported DMI function)			ZEQUO 6400	PN36240E-SG (*1 Supported DMI function)			ZEQUO 2200	PN26241-SG (*1 Supported DMI function)			ZEQUO 2210	PN26161-SG (*1 Supported DMI function)			Switch-M24eGLPWR+	PN28248-SG (*1 Supported DMI function)			Switch-M16eGLPWR+	PN28168-SG (*1 Supported DMI function)			Switch-M12eGLPWR+	PN28128-SG (*1 Supported DMI function)			Switch-M8eGLPWR+	PN28088-SG (*1 Supported DMI function)			Switch-M5eGLPWR+	PN28058-SG (*1 Supported DMI function)			Switch-M48eG	PN28480K-SG (*1 Supported DMI function)			Switch-M24eG	PN28240K-SG (*1 Supported DMI function)			Switch-M16eG	PN28160K-SG (*1 Supported DMI function)			Switch-M8eG	PN28080K-SG (*1 Supported DMI function)			For the latest information about supported product, check our website.				*1 DMI: Diagnostic Monitoring Interface		
6-1. Supported Products	Please use in Panasonic Ethernet Switches listed below.																																																																						
	Supported Product Name	Supported Product Number																																																																					
	ZEQUO 6500	PN36242E-SG (*1 Supported DMI function)																																																																					
	ZEQUO 6400	PN36240E-SG (*1 Supported DMI function)																																																																					
	ZEQUO 2200	PN26241-SG (*1 Supported DMI function)																																																																					
	ZEQUO 2210	PN26161-SG (*1 Supported DMI function)																																																																					
	Switch-M24eGLPWR+	PN28248-SG (*1 Supported DMI function)																																																																					
	Switch-M16eGLPWR+	PN28168-SG (*1 Supported DMI function)																																																																					
	Switch-M12eGLPWR+	PN28128-SG (*1 Supported DMI function)																																																																					
	Switch-M8eGLPWR+	PN28088-SG (*1 Supported DMI function)																																																																					
	Switch-M5eGLPWR+	PN28058-SG (*1 Supported DMI function)																																																																					
	Switch-M48eG	PN28480K-SG (*1 Supported DMI function)																																																																					
	Switch-M24eG	PN28240K-SG (*1 Supported DMI function)																																																																					
	Switch-M16eG	PN28160K-SG (*1 Supported DMI function)																																																																					
	Switch-M8eG	PN28080K-SG (*1 Supported DMI function)																																																																					
	For the latest information about supported product, check our website.																																																																						
	*1 DMI: Diagnostic Monitoring Interface																																																																						
Date issued	July. 15, 2016	Panasonic Electric Works Networks Co., Ltd.																																																																					
Date revised	Apr. 1, 2022																																																																						

Model Name	1000BASE-SX SFP Module	Product Specification	401-54021K-SG-SP02
Model No.	PN54021K-SG		Page 3 of 3
7. 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. (1) Do not look at the laser light. Deviation could lead to visual impairment. (Class 1 Laser Product) (2) Do not disassemble and/or modify this SFP Module. Deviation could lead to fire, electric shock, and/or equipment failure. (3) Handle the SFP Module carefully so that fibers or hands may not be injured by its end connected to the Ethernet Switch or the SFP extension slot of the Ethernet Switch. (4) Do not handle this SFP Module and connection cables during a thunderstorm. Deviation could lead to electric shock. (5) Do not put foreign objects (such as metal and combustible) into the opening (such as fiber port, case), and/or do not drop them into the inside of the SFP Module. Deviation could lead to fire, electric shock, and/or equipment failure. (6) Do not place this SFP Module in harsh environment (such as near water, high humid, and/or high dust). Deviation could lead to fire, electric shock, and/or equipment failure. (7) Do not place this SFP Module under direct sunlight and/or high temperature. Deviation could lead to high internal temperature and fire. (8) Do not install this SFP Module at the location with continuous vibration or strong shock, or at the unstable location. Deviation could lead to injury and/or equipment failure. (9) Do not connect any equipment other than compliance to fiber port. Deviation could lead to fire, electric shock, and/or equipment failure. (10) Do not put this SFP Module into fire. Deviation could lead to explosion and/or fire. 8. Basic Instructions for the Use of This Product (1) For inspection and/or diagnosis, consult the retailer. (2) Correctly and securely connect the SFP Module to the SFP extension slot of a Panasonic Ethernet Switch. (3) Check the connector of the fiber optic cable for dirt and dust. If it is dirty, be sure to clean it before connecting it to the fiber optic port. (4) When removing this SFP Module from the SFP extension slot, unlatch the fiber optic cable and remove it from the SFP Module. Then pull down the lever of the SFP Module to the front, pull out the SFP Module in a state where its latch is released. (5) Remove the SFP Module from the SFP extension slot before cleaning the SFP Module. (6) Do not touch the metal terminal or place electrically-charged objects in the proximity of the SFP Module. Static electricity could lead to breakdown. (7) Please use the SFP Module in locations where the ambient temperature is from 0 to 50°C. (8) Do not use the SFP Module in any condition where the specification limits are exceeded. Deviation could lead to equipment failure.			
Date issued	July. 15, 2016	Panasonic Electric Works Networks Co., Ltd.	
Date revised	Apr. 1, 2022		