



MINISTÉRIO PÚBLICO DO ESTADO DO AMAZONAS  
Avenida Coronel Teixeira, 7995 - CEP 69000-000 - Manaus - AM - www.mpam.mp.br

PARECER Nº 5.2024.SIET.1231791.2023.009971

PROCESSO DE COMPRA 2023.009971

**OBJETO:** Registro de preços, para eventual fornecimento de equipamentos para rede lógica de dados: **Switchs, APs** (Access Point), **Transceivers** e **Appliance**, com garantia e assistência técnica, visando atender as demandas das unidades integrantes do Ministério Público do Estado do Amazonas, Procuradoria-Geral de Justiça, por um período de 12 (doze) meses

**ORIGEM:** Pregão Eletrônico n. 4.053/2023-CPL/MP/PGJ, Termo de Referência 10.2023.DTIC.1046533.2023.009971

## 1. Relatório

Trata-se de pedido de auxílio na **análise da proposta de preços** apresentada pela empresa TL SOLUÇÕES TECNOLÓGICAS LTDA, inscrita no CNPJ (MF) nº : 49.490.183/0001-60, recebida pela COMISSÃO PERMANENTE DE LICITAÇÃO (CPL), documentos Proposta (1231113) e Anexos (1231149).

## 2. Análise

Em atenção ao pedido de manifestação técnica relativa a **proposta de preços** apresentada pela empresa TL SOLUÇÕES TECNOLÓGICAS LTDA, temos a informar que a marca e modelos sugeridos como referência no Edital são os mesmos apresentados na proposta apresentada pela empresa.

Quanto aos valores apresentados na proposta da empresa TL SOLUÇÕES TECNOLÓGICAS LTDA, estão compatíveis com os valores apresentados na loja virtual do fabricante Ubiquiti (<https://br.store.ui.com/collections/unifi-network-unifi-os-consoles>), conforme tabela abaixo:

Descrição	Modelo	Loja Virtual UBIQUITI			TLSoluções		
		Valor (R\$)	QTD	TOTAIS	Valor (R\$)	QTD	TOTAIS
SW1_48POE+ (48x2.5G + 4x10G)	USW-Enterprise-48-PoE	10.879,00	35	380.765,00	9.000,00	35	315.000,00
SW2_24POE+ (12x2.5G + 12x1G + 2x10G)	USW-Enterprise-24-PoE	5.999,00	25	149.975,00	6.300,00	25	157.500,00
SW3_48POE+ (48x1G + 4x10G)	USW-Pro-48-PoE	7.529,00	10	75.290,00	7.528,29	10	75.282,90
SW4_24POE+ (24x1G + 2x10G)	USW-pro-24-PoE	4.789,00	45	215.505,00	5.600,00	45	252.000,00
SW5_16POE+ (16x1G + 2x1G)	USW-16-PoE	2.079,00	60	124.740,00	2.758,06	60	165.483,60
AP1_wifi6_POE+ (1x1G / 2.5G)	U6-Enterprise	2.149,00	50	107.450,00	2.650,00	50	132.500,00
AP2_wifi6_POE+ (1x1G)	U6-Pro	1.229,00	130	159.770,00	1.650,00	130	214.500,00
Appliance	UDM-SE	3.499,00	1	3.499,00	4.200,00	1	4.200,00
Módulo Óptico Multimodo de 10 Gbps	UACC-OM-MM-10G-D-2	349,00	35	12.215,00	291,65	35	10.207,75
Módulo Óptico Multimodo de 1 Gbps	UACC-OM-MM-1G-D-2	159,00	20	3.180,00	63,60	20	1.272,00
Módulo Óptico MONOModo de 1 Gbps	UACC-OM-SM-1G-S-2	199,00	5	995,00	355,09	5	1.775,45
Módulo de 1G SFP para 1G RJ-45	UACC-CM-RJ45-1G	179,00	80	14.320,00	265,16	80	21.212,80
				<b>1.247.704,00</b>			<b>1.350.934,50</b>

Manaus, 18 de janeiro de 2024.

**CARLOS ALEXANDRE DOS SANTOS NOGUEIRA**

Chefe do Setor de Infraestrutura e Telecomunicação



Documento assinado eletronicamente por **Carlos Alexandre dos Santos Nogueira, Chefe do Setor de Infraestrutura e Telecomunicação - SIET**, em 18/01/2024, às 11:42, conforme art. 1º, III, "b", da Lei 11.419/2006.



A autenticidade do documento pode ser conferida no link [http://sei.mpam.mp.br/sei/controlador\\_externo.php?acao=documento\\_conferir&id\\_orgao\\_acesso\\_externo=0](http://sei.mpam.mp.br/sei/controlador_externo.php?acao=documento_conferir&id_orgao_acesso_externo=0) informando o código verificador **1231791** e o código CRC **EA202C47**.





TL TECNOLOGIA

# TL Soluções Tecnológicas LTDA

CNPJ 49.490.183/0001-60

## PREGÃO, NA PREGAO ELETRÔNICA N° 4053/2023

### PROPOSTA COMERCIAL

Apresentamos nossa proposta para fornecimento do objeto da presente licitação Pregão, na Forma Eletrônica nº 4053/2023 acatando todas as estipulações consignadas no respectivo Edital e seus anexos.

#### IDENTIFICAÇÃO DO CONCORRENTE:

**NOME DA EMPRESA:** TL SOLUÇÕES TECNOLÓGICAS LTDA

**CNPJ:** 49.490.183/0001-60

**INSCRIÇÃO ESTADUAL:** 90986049-09

**REPRESENTANTE e CARGO:** THAILA SAIANA ANDREATTA DA SILVA

**CARTEIRA DE IDENTIDADE e CPF:** RG: 11.131.209-5 / CPF: 107.291.639-89

**DATA DE NASCIMENTO:** 12/01/1998

**ENDEREÇO E TELEFONE:** Rua Sete de Setembro, 643. Fdo Fundos. Santa Terezinha 85506-040 - Pato Branco - PR

**BANCO:** NUBANK (260) **AGÊNCIA:** 0001 **CONTA CORRENTE:** 95166915-4

#### TABELA PROPOSTA

item	qtd	unid	Especificações do material	marca	modelo	valor unitario	valor total
1	35	UN	Switch camada 3 de 48 portas	UBIQUITI	USW-Enterprise-48-PoE	R\$ 9.000,00	R\$ 315.000,00
2	25	UN	Switch camada 3 de 24 portas híbrido	UBIQUITI	USW-ENTERPRISE-24-Poe-BR	R\$ 6.300,00	R\$ 157.500,00
3	10	UN	Switch camada 3 de 48 portas	UBIQUITI	USW-PRO-48-Poe-BR	R\$ 7.528,29	R\$ 75.282,90
4	45	UN	Switch camada 3 de 24 portas	UBIQUITI	USW-PRO-24-Poe-BR	R\$ 5.600,00	R\$ 252.000,00
5	60	UN	Switch camada 2 de 16 portas	UBIQUITI	USW-16-PoE	R\$ 2.758,06	R\$ 165.483,60
6	50	UN	Ponto de acesso sem fios com tecnologia Wi-Fi 6E	UBIQUITI	U6-Enterprise	R\$ 2.650,00	R\$ 132.500,00
7	130	UN	Ponto de acesso sem fios com tecnologia Wi-Fi 6	UBIQUITI	U6-Pro	R\$ 1.650,00	R\$ 214.500,00
8	5	UN	Controlador de rede / concentrador virtual ou dedicado	UBIQUITI	UDM-SE	R\$ 4.200,00	R\$ 21.000,00
9	35	UN	TRANSCEIVER PARA SWITCH - 10 GBPS PAR	UBIQUITI	UACC-OM-MM-10G-D-2	R\$ 291,65	R\$ 10.207,75
10	20	UN	TRANSCEIVER PARA SWITCH - 1 GBPS PAR	UBIQUITI	UACC-OM-MM-1G-D-2	R\$ 63,60	R\$ 1.272,00
11	5	UN	TRANSCEIVER PARA SWITCH - 1 GBPS (Monomodo) PAR	UBIQUITI	ACC-OM-SM-1G-S-2	R\$ 355,09	R\$ 1.775,45
12	80	UN	TRANSCEIVER PARA SWITCH - 1 GBPS SFP PARA 1 GBPS RJ-45	UBIQUITI	UACC-CM-RJ45-1G	R\$ 265,16	R\$ 21.212,80
<b>TOTAL</b>							<b>R\$ 1.367.734,50</b>

#### PREÇO

Deverá ser cotado, preço unitário e total por item, de acordo com o **ANEXO I** do Edital.

PROPOSTA: R\$ 1.367.734,50 (um milhão trezentos e sessenta e sete mil setecentos e trinta e quatro reais e cinquenta centavos)

Rua Sete de Setembro, 643, Bairro Santa Terezinha, CEP 85.506-040 – Pato Branco/PR

TELEFONE: (46) 99119-8223  
E-MAIL: T.L.SOLUCOES@HOTMAIL.COM



TL TECNOLOGIA

# TL Soluções Tecnológicas LTDA

## CNPJ 49.490.183/0001-60

### CONDIÇÕES GERAIS

A proponente declara conhecer os termos do instrumento convocatório que rege a presente licitação.

### LOCAL E PRAZO DE ENTREGA

De acordo com o especificado no Anexo I, deste Edital.

**Obs.:** No preço cotado já estão incluídas eventuais vantagens e/ou abatimentos, impostos, taxas e encargos sociais, obrigações trabalhistas, previdenciárias, fiscais e comerciais, assim como despesas com transportes e deslocamentos e outras quaisquer que incidam sobre a contratação.

### VALIDADE DA PROPOSTA COMERCIAL

De no mínimo, 120 (cento e vinte) dias contados a partir da data da sessão pública do Pregão.

**Pato Branco/PR, 17 de janeiro de 2024.**

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TL SOLUÇÕES TECNOLÓGICAS LTDA  
THAILA SAIANA ANDREATA DA SILVA  
SÓCIA ADMINISTRADORA  
RG: 11.131.209-5 / CPF: 107.291.639-89

「40.490.183/0001-60」

TL SOLUÇÕES TECNOLÓGICAS LTDA

RUA SETE DE SETEMBRO, Nº 643, SANTA  
TEREZINHA - CEP: 85.506-040

「PATO BRANCO

PR」

Rua Sete de Setembro, 643, Bairro Santa  
Terezinha, CEP 85.506-040 – Pato  
Branco/PR

TELEFONE: (46) 99119-8223  
E-MAIL: T.L.SOLUCOES@HOTMAIL.COM





# Switch Enterprise 48 PoE

Layer 3 switch with (48) 2.5GbE RJ45 ports with PoE+ support for WiFi 6 access points and (4) 10G SFP+ ports.

The Switch Enterprise 48 PoE (USW Enterprise 48 PoE) is a configurable, Layer 3 switch with (48) auto-sensing, 2.5GbE RJ45 ports that can deliver 802.3af/at PoE+ to WiFi 6 access points, as well as (4) 10G SFP+ ports to supply you with additional fiber uplink options. The USW Enterprise 48 PoE also offers an extensive suite of advanced Layer 2 switching protocols, including port-specific operation modes (switching, mirroring, or aggregate). Additionally, it features a 1.3" LCM color touchscreen that simplifies system and connection management when used with the UniFi Network mobile app's AR switch scanning feature. The USW Enterprise 48 PoE can be fully managed and configured with either the UniFi Network web application or mobile app.



## Mechanical

Dimensions	442 x 44 x 400 mm (17.4 x 1.7 x 15.7")
Weight	Without mount: 6.2 kg (13.67 lb) With mount: 6.3 kg (13.89 lb)
Enclosure material	SGCC steel
Mount material	SGCC steel

## Hardware

Total non-blocking throughput	160 Gbps
Switching capacity	320 Gbps
Forwarding rate	238.095 Mpps
Max. power consumption (excluding PoE output)	150 W
Power method	(1) Universal AC input, 100-240VAC, 10A Max, 50/60 Hz (1) USP-RPS DC input, 52VDC, 13.84A; 11.5VDC, 13A
Power supply	AC/DC, internal, 100-240V, 10A max.
Management interface	Ethernet in-band
Networking interfaces	(48) 100MbE/1GbE/2.5GbE RJ45 port
SFP+ interfaces	(4) 1G/10G SFP+ ports
PoE interfaces	(48) PoE+ IEEE 802.3af/at (pins 1, 2+; 3, 6-)
Total PoE supply	720 W
Max. PoE+ wattage per port by PSE	34.2 W
Voltage range 802.3af mode	44 to 57V
Voltage range 802.3at mode	50 to 57V
Services	SMB Layer 3 PoE Gigabit Ethernet switch
ESD/EMP protection	Air: ± 16 kV, contact: ± 12 kV
Display	(1) 1.3" LCM color touchscreen Bootup animation: bootup in progress Firmware update icon: firmware updating Steady white: factory defaults, awaiting adoption Steady blue: device is adopted
Button	Factory reset
Operating temperature	-5 to 40° C (23 to 104° F)
Operating humidity	10 - 90% noncondensing
Certifications	CE, FCC, IC



## LEDs

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Ethernet	White: link or activity
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SFP+	White: link or activity
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Specifications are subject to change. Ubiquiti products are sold with a limited warranty described at [www.ui.com/support/warranty](http://www.ui.com/support/warranty)

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## Switch Enterprise 24 PoE



## Mechanical

Dimensions	442.4 x 43.7 x 325 mm (17.4 x 1.7 x 12.8")
Weight	Without mount: 5.11 kg (11.27 lb) With mount: 5.2 kg (11.46 lb)
Enclosure material	SGCC steel
Mount material	SGCC steel

## Hardware

Total non-blocking throughput	62 Gbps
Switching capacity	124 Gbps
Forwarding rate	92.25 Mpps
Max. power consumption	550W
Power method	(1) Universal AC input: 100–240V AC, 8.5A Max., 50/60 Hz (1) USP-RPS DC input: 52V DC, 7.7A; 11.5V DC, 8.7A
Power supply	AC/DC, internal, 550W
Management interface	Ethernet In-Band
Networking interface	(12) 10/100/1000 MbE RJ45 (12) 100/1000/2500 MbE RJ45
SFP+ interface	(2) 1/10G SFP+
PoE interface	(24) PoE/PoE+ (Pins 1, 2+; 3, 6-)
Max. PoE+ wattage per port by PSE	34.2W
PoE budget	400W
Voltage range PoE mode	44–57V
Voltage range PoE+ mode	50–57V
Services	SMB layer 3 PoE GbE switch
ESD/EMP protection	Air: ± 16 kV, contact: ± 12 kV
Operating temperature	-5 to 40° C (23 to 104° F)
Operating humidity	10 to 95% noncondensing
Certifications	CE, FCC, IC

## LEDs

System	(1) Bootup animation: bootup in progress Firmware upgrade icon: firmware upgrading Steady white: factory defaults, awaiting adoption Steady blue: device is adopted
Ethernet	White: link or activity
SFP+	White: link or activity



## Switch Pro 48 PoE



## Mechanical

Dimensions	442.4 x 399.6 x 43.7 mm (17.4 x 15.7 x 1.7")
Weight	Without mounting brackets: 6.2 kg (13.8 lb) With mounting brackets: 6.3 kg (14 lb)
Enclosure material	SGCC steel

## Hardware

Management interface	Ethernet In-band
Networking interface	(48) GbE RJ45 ports (4) 1/10G SFP+ ports
PoE interface	(40) PoE/PoE+ (Pins 1, 2+; 3, 6-) (8) 60W PoE++; PoE/PoE+ (Pins 1, 2+; 3, 6-) / PoE++ (Pair A 1, 2+; 3, 6-) (Pair B 4, 5+; 7, 8-)
Total non-blocking throughput	88 Gbps
Switching capacity	176 Gbps
Forwarding rate	130.944 Mpps
Power method	Universal input, 100–240V AC, 50/60 Hz USP RPS DC input, 52V DC, 11.54A / 11.5V DC, 5.22A
Power supply	AC/DC, internal, 660W
Supported voltage range	100–240V AC
Max. power consumption	60W (Excluding PoE output)
Total available PoE	600W
Max. PoE wattage per port by PSE	PoE+: 32W PoE++: 64W
Voltage range PoE mode	PoE: 44–57V PoE+: 50–57V
ESD/EMP protection	Air: ± 16kV, contact: ± 12kV
LCM display	(1) 1.3" touchscreen
Button	Factory reset
Shock and vibration	ETSI300-019-1.4 Standard
Operating temperature	-5 to 40° C (23 to 104° F)
Operating humidity	10 to 90% noncondensing
Certifications	CE, FCC, IC

## LEDs

System	Status
Ethernet	PoE Speed/link/activity
SFP+	Speed/link/activity
RPS	Status



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## Switch Pro 24 PoE





## Mechanical

Dimensions	442.4 x 285.4 x 43.7 mm (17.4 x 11.2 x 1.7")
Weight	Without mounting brackets: 4.3 kg (9.5 lb) With mounting brackets: 4.4 kg (9.7 lb)
Enclosure material	SGCC steel

## Hardware

Management interface	Ethernet In-band
Networking interface	(24) GbE RJ45 ports (2) 1/10G SFP+ ports
PoE interface	(16) PoE/PoE+ (Pins 1, 2+; 3, 6-) (8) 60W PoE++; PoE/PoE+ (Pins 1, 2+; 3, 6-) / PoE++ (Pair A 1, 2+; 3, 6-) (Pair B 4, 5+; 7, 8-)
Total non-blocking throughput	44 Gbps
Switching capacity	88 Gbps
Forwarding rate	65.472 Mpps
Power method	Universal input, 100–240V AC, 50/60 Hz USP RPS DC input, 52V DC, 7.69A / 11.5V DC, 2.61A
Power supply	AC/DC, internal, 450W
Supported voltage range	100–240V AC
Max. power consumption	50W (Excluding PoE output)
Total available PoE	400W
Max. PoE wattage per port by PSE	PoE+: 32W PoE++: 64W
Voltage range PoE mode	PoE: 44–57V PoE+: 50–57V
ESD/EMP protection	Air: ± 16kV, contact: ± 12kV
LCM display	(1) 1.3" touchscreen
Button	Factory reset
Shock and vibration	ETSI300-019-1.4 Standard
Operating temperature	-5 to 40° C (23 to 104° F)
Operating humidity	10 to 90% noncondensing
Certifications	CE, FCC, IC

## LEDs

System	Status
Ethernet	PoE Speed/link/activity
SFP+	Speed/link/activity
RPS	Status





## 802.3at PoE Gigabit Switches with SFP

Auto-Sensing IEEE 802.3af/at PoE

SFP Ports for Gigabit Fiber Connectivity

Quiet Cooling for Any Workspace

Models: USW-16-PoE, USW-24-PoE, USW-48-PoE



## Overview

Expand and power your network with the UniFi® PoE Switch, part of the Ubiquiti® UniFi Enterprise System. It is available in the following models:

- **USW-16-PoE** 16 RJ45 ports with 2 SFP ports
- **USW-24-PoE** 24 RJ45 ports with 2 SFP ports
- **USW-48-PoE** 48 RJ45 ports with 4 SFP ports

The 16-port and 24-port models measure only 7.9" in depth, making them ideal for convenient installation: rackmounted in a SOHO rack cabinet or placed on a desktop.

## Fiber Connectivity

SFP ports enable network uplinks of up to 1 Gbps.

## Fanless, Silent Cooling

The UniFi PoE Switch features fanless, silent thermal cooling\*, so it can be deployed in areas where fan noise would be distracting.

\* Fanless switches must not be stacked.

## Switching Performance

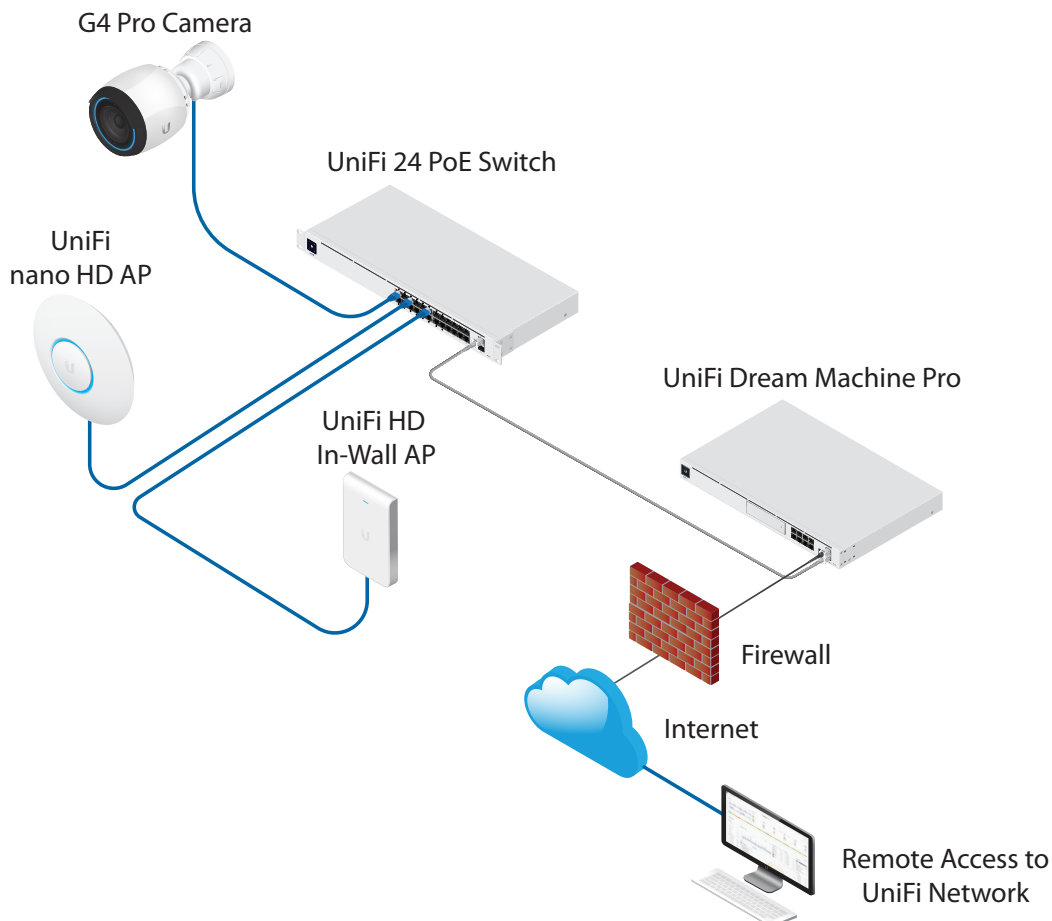
The UniFi PoE Switch offers the forwarding capacity to simultaneously process traffic on all ports at line rate without any packet loss.

## 802.3af/at PoE

PoE support simplifies your network infrastructure and cabling. PoE ports offer 802.3af/at to power your PoE devices, such as UniFi APs and cameras.

	USW-16-PoE	USW-24-PoE	USW-48-PoE
Number of PoE Ports	8	16	32
Total Available PoE	42W	95W	195W
Max. PoE Wattage per Port	32W	32W	32W

## Deployment Example



The UniFi 24 PoE Switch powers the UniFi nano HD AP, UniFi HD In-Wall AP, and G4 Pro Camera.



### UniFi 16-Port PoE Switch

- (8) Gigabit RJ45 ports with 802.3af/at
- (8) Gigabit RJ45 ports
- (2) 1G SFP ports
- 1U Rackmountable (hardware included)



USW-16-PoE

### UniFi 24-Port PoE Switch

- (16) Gigabit RJ45 ports with 802.3af/at
- (8) Gigabit RJ45 ports
- (2) 1G SFP ports
- 1U Rackmountable (hardware included)



USW-24-PoE

### UniFi 48-Port PoE Switch

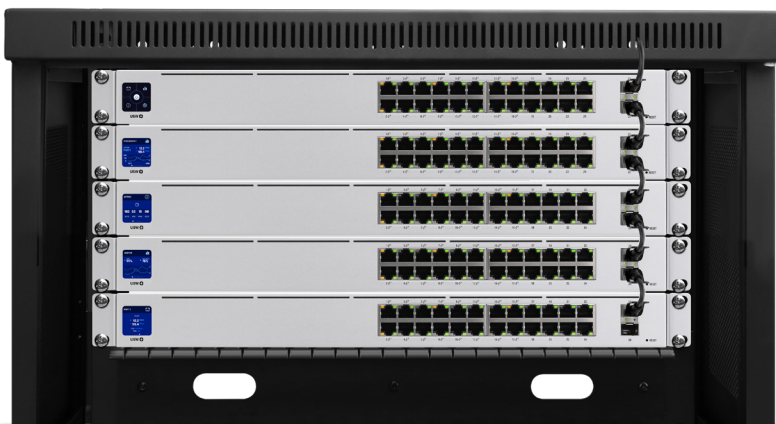
- (32) Gigabit RJ45 ports with 802.3af/at
- (16) Gigabit RJ45 ports
- (4) 1G SFP ports
- 1U Rackmountable (hardware included)



USW-48-PoE

### Innovative Display

The 1.3" touchscreen displays status information for easy monitoring and quick troubleshooting.





## Scalable UniFi Network Controller

### Management Capabilities

The UniFi Network Controller can provision UniFi devices, map out networks, and quickly manage system traffic. Important network details are logically organized for a simplified, yet powerful, interface.

### Network Overview

From a single pane of glass, view network topology and configuration, real-time statistics, and debugging metrics. Monitor your network's vitals and make on-the-fly adjustments as needed.

### Deep Packet Inspection

Ubiquiti's proprietary Deep Packet Inspection (DPI) engine includes the latest application identification signatures to track which applications (and IP addresses) are using the most bandwidth.

### Detailed Analytics

The UniFi Network Controller provides configurable reporting and analytics to manage large user populations and expedite troubleshooting. Advanced search and sorting capabilities make network management more efficient.

### Multi-Site Management

A single controller running in the cloud can manage multiple sites: multiple, distributed deployments and multi-tenancy for managed service providers. Each site is logically separated and has its own configuration, maps, statistics, guest portal, and administrator accounts.

### Switch Configuration

You can access any managed UniFi Switch through the UniFi Controller to configure a variety of features:

- Operation mode (switching, mirroring, or aggregate) per port
- Network/VLAN configuration
- Jumbo frame and flow control services
- Network settings
- Storm control setting per port
- Spanning tree configuration
- 802.1X control and RADIUS VLAN
- Debug terminal option for command-line interface

### Switch Port Status

You can also view status information for each port:

- Connection speed and duplex mode
- TX/RX data rates
- Network/VLAN setting

### Software Features

The UniFi Network Controller software offers the following features:

- Centralized configuration management (including configuration cloning)
- Auto-MDIX automatically adjusts as needed for straight through or crossover cable
- 802.1X (RADIUS) authentication and dynamic VLAN





USW-16-PoE	
Dimensions	442.4 x 200 x 43.7 mm (17.42 x 7.87 x 1.72")
Weight With Brackets	2.80 kg (6.17 lb) 2.89 kg (6.37 lb)
Interfaces Networking	(16) 10/100/1000 RJ45 Ports (2) 1G SFP Ethernet Ports
Management	Ethernet In-Band
Total Non-Blocking Throughput	18 Gbps
Switching Capacity	36 Gbps
Forwarding Rate	26.78 Mpps
Power Method	100-240VAC, 50/60 Hz, Universal Input
Power Supply	AC/DC, Internal, 60W
Voltage Range	100 to 240VAC
Max Power Consumption (Excluding PoE Output)	18W
LEDs RJ45 Data Ports SFP Data Ports	PoE; Speed/Link/Activity Link/Activity
ESD/EMP Protection	Air: ± 16 kV, Contact: ± 12 kV
Shock and Vibration	ETSI300-019-1.4 Standard
Operating Temperature	-5 to 40° C (23 to 104° F)
Operating Humidity	10 - 90% Noncondensing
Certifications	CE, FCC, IC

PoE	
Total Available PoE	42W
PoE Interfaces Ports 1-8	POE+ IEEE 802.3af/at (Pins 1, 2+; 3, 6-)
Max. PoE Wattage per Port by PSE 802.3at	32W
Voltage Range 802.3af Mode 802.3at Mode	44-57V 50-57V



USW-24-PoE	
Dimensions	442.4 x 200 x 43.7 mm (17.42 x 7.87 x 1.72")
Weight With Brackets	3.00 kg (6.61 lb) 3.09 kg (6.81 lb)
Interfaces Networking	(24) 10/100/1000 RJ45 Ports (2) 1G SFP Ethernet Ports
Management	Ethernet In-Band
Total Non-Blocking Throughput	26 Gbps
Switching Capacity	52 Gbps
Forwarding Rate	38.69 Mpps
Power Method	100-240VAC, 50/60 Hz, Universal Input
Power Supply	AC/DC, Internal, 120W
Voltage Range	100 to 240VAC
Max Power Consumption (Excluding PoE Output)	25W
LEDs RJ45 Data Ports SFP Data Ports	PoE; Speed/Link/Activity Link/Activity
ESD/EMP Protection	Air: ± 16 kV, Contact: ± 12 kV
Shock and Vibration	ETSI300-019-1.4 Standard
Operating Temperature	-5 to 40° C (23 to 104° F)
Operating Humidity	10 - 90% Noncondensing
Certifications	CE, FCC, IC

PoE	
Total Available PoE	95W
PoE Interfaces Ports 1-16	PoE+ IEEE 802.3af/at (Pins 1, 2+; 3, 6-)
Max. PoE Wattage per Port by PSE 802.3at	32W
Voltage Range 802.3af Mode 802.3at Mode	44-57V 50-57V





USW-48-PoE	
Dimensions	442.4 x 285 x 43.7 mm (17.42 x 11.22 x 1.72")
Weight With Brackets	4.52 kg (9.97 lb) 4.61 kg (10.16 lb)
Interfaces Networking	(48) 10/100/1000 RJ45 Ports (4) 1G SFP Ethernet Ports
Management	Ethernet In-Band
Total Non-Blocking Throughput	52 Gbps
Switching Capacity	104 Gbps
Forwarding Rate	77.38 Mpps
Power Method	100-240VAC, 50/60 Hz, Universal Input
Power Supply	AC/DC, Internal, 240W
Voltage Range	100 to 240VAC
Max Power Consumption (Excluding PoE Output)	45W
LEDs RJ45 Data Ports SFP Data Ports	PoE; Speed/Link/Activity Link/Activity
ESD/EMP Protection	Air: ± 16 kV, Contact: ± 12 kV
Shock and Vibration	ETSI300-019-1.4 Standard
Operating Temperature	-5 to 40° C (23 to 104° F)
Operating Humidity	10 - 90% Noncondensing
Certifications	CE, FCC, IC

PoE	
Total Available PoE	195W
PoE Interfaces Ports 1-32	PoE+ IEEE 802.3af/at (Pins 1, 2+; 3, 6-)
Max. PoE Wattage per Port by PSE 802.3at	32W
Voltage Range 802.3af Mode 802.3at Mode	44-57V 50-57V

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## Access Point U6 Enterprise



## Mechanical

Dimensions	Ø220 x 48 mm (Ø8.7 x 1.9")
Weight	Without mount: 960 g (2.1 lb) With mount: 1090 g (2.4 lb)
Enclosure materials	Top housing: polycarbonate Bottom housing: aluminium
Mount material	Stainless steel (SUS304)

## Hardware

Networking interface	(1) 2.5GbE RJ45 port	
Management interface	Ethernet Bluetooth	
Power method	PoE+	
Power supply	UniFi PoE switch 48V, 0.5A PoE adapter (optional)	
Supported voltage range	44–57V DC	
Max. power consumption	22W	
Max. TX power	2.4 GHz	22 dBm
	5-7 GHz	26 dBm
MIMO	2.4 GHz	2 x 2 (UL MU-MIMO)
	5 GHz	4 x 4 (DL/UL MU-MIMO)
	6 GHz	4 x 4 (DL/UL MU-MIMO)
Throughput rate	2.4 GHz	573.5 Mbps
	5 GHz	4.8 Gbps
	6 GHz	4.8 Gbps
Antenna gain	2.4 GHz	3.2 dBi
	5 GHz	5.3 dBi
	6 GHz	6 dBi
LEDs	White/blue	
Buttons	Reboot and factory reset	
Mounting	Wall/ceiling (Included)	
Operating temperature	-30 to 60° C (-22 to 140° F)	
Operating humidity	5 to 95% noncondensing	
Certifications	CE, FCC, IC	

## Software

WiFi standards	802.11a/b/g WiFi 4/WiFi 5/WiFi 6/WiFi 6E
Wireless security	WPA-PSK, WPA-Enterprise (WPA/WPA2/WPA3)
BSSID	8 per radio
VLAN	802.1Q



Advanced QoS	Per-user rate limiting
Guest traffic isolation	Supported
Concurrent clients	600+
Zero wait DFS	Yes

### Supported Data Rates

802.11a	6, 9, 12, 18, 24, 36, 48, 54 Mbps
802.11b	1, 2, 5.5, 11 Mbps
802.11g	6, 9, 12, 18, 24, 36, 48, 54 Mbps
802.11n (WiFi 4)	6.5 Mbps to 600 Mbps (MCS0 - MCS31, HT 20/40)
802.11ac (WiFi 5)	6.5 Mbps to 3.4 Gbps (MCS0 - MCS9 NSS1/2/3/4, VHT 20/40/80/160)
802.11ax (WiFi 6/6E)	7.3 Mbps to 4.8 Gbps (MCS0 - MCS11 NSS1/2/3/4, HE 20/40/80/160)



## Access Point U6 Pro



## Mechanical

Dimensions	Ø197 x 35 mm (Ø7.8 x 1.4")
Weight	Without mount: 460 g (1 lb) With mount: 600 g (1.3 lb)
Enclosure material	Polycarbonate
Mount material	Stainless steel (SUS304)
Weatherproofing	IP54

## Hardware

Networking interface	(1) GbE RJ45 port	
Management interface	Ethernet Bluetooth	
Power method	PoE	
Power supply	UniFi PoE switch 48V, 0.5A PoE adapter (optional)	
Supported voltage range	44–57V DC	
Max. power consumption	13W	
Max. TX power	2.4 GHz	22 dBm
	5 GHz	26 dBm
MIMO	2.4 GHz	2 x 2 (UL MU-MIMO)
	5 GHz	4 x 4 (DL/UL MU-MIMO)
Throughput rate	2.4 GHz	573.5 Mbps
	5 GHz	4.8 Gbps
Antenna gain	2.4 GHz	4 dBi
	5 GHz	6 dBi
LEDs	White/blue	
Button	Factory reset	
Mounting	Wall/ceiling (included)	
Operating temperature	-30 to 60° C (-22 to 140° F)	
Operating humidity	5 to 95% noncondensing	
Certifications	CE, FCC, IC, MIC	

## Software

WiFi standards	802.11a/b/g WiFi 4/WiFi 5/WiFi 6
Wireless security	WPA-PSK, WPA-Enterprise (WPA/WPA2/WPA3)
BSSID	8 per radio
VLAN	802.1Q
Advanced QoS	Per-user rate limiting
Guest traffic isolation	Supported



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Concurrent clients	300+
Zero wait DFS	Yes

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### Supported Data Rates

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802.11a	6, 9, 12, 18, 24, 36, 48, 54 Mbps
802.11b	1, 2, 5.5, 11 Mbps
802.11g	6, 9, 12, 18, 24, 36, 48, 54 Mbps
802.11n (WiFi 4)	6.5 Mbps to 600 Mbps (MCS0 - MCS31, HT 20/40)
802.11ac (WiFi 5)	6.5 Mbps to 3.4 Gbps (MCS0 - MCS9 NSS1/2/3/4, VHT 20/40/80/160)
802.11ax (WiFi 6)	7.3 Mbps to 4.8 Gbps (MCS0 - MCS11 NSS1/2/3/4, HE 20/40/80/160)

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## Dream Machine Special Edition



## Mechanical

Dimensions	442.4 x 43.7 x 285.6 mm (17.4 x 1.7 x 11.2")
Weight	4.95 kg (10.9 lb)
Enclosure materials	Aluminium CNC, SGCC steel
Mount material	SGCC steel

## Hardware

Processor	Quad-core ARM® Cortex®-A57 at 1.7 GHz
System memory	4 GB DDR4
On-board storage	16 GB eMMC Integrated 128 GB SSD
Management interface	Ethernet Bluetooth
Networking interface	(8) LAN: GbE RJ45 ports (1) WAN: 2.5 GbE RJ45 port
SFP+ interface	(1) LAN: 10G SFP+ (1) WAN: 10G SFP+
PoE interface	(6) PoE (Pair A 1, 2+; 3, 6-) (2) PoE+ (Pair A 1, 2+; 3, 6-)
IDS/IPS throughput	3.5 Gbps* <small>*Measured with iPerf3</small>
Power method	(1) Universal AC input, 100–240V AC, 4.4A Max., 50/60 Hz (1) USP-RPS DC input, 52V DC, 3.94A
Power supply	AC/DC, internal, 240W
Supported voltage range	100–240V AC
Max. power consumption	50W (Excluding PoE output)
Max. PoE wattage per port by PSE	PoE: 15.4W PoE+: 30W
Voltage range PoE mode	PoE: 44–57V PoE+: 50–57V
ESD/EMP protection	Air: ± 15kV, contact: ± 8kV
LCM display	(1) 1.3" touchscreen
Button	Factory reset
Operating temperature	-10 to 40° C (14 to 104° F)
Operating humidity	5 to 95% noncondensing
Certifications	CE, FCC, IC

## LEDs

Ethernet	White: link/activity
SFP+	White: link/activity
HDD	White: disk activity Amber: disk error









# Datasheet UACC-OM-MM-10G-D/1G-D



# Multi-mode Optical Module

## UACC-OM-MM-10G-D:

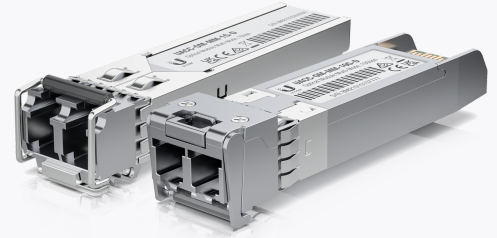
Multi-mode, duplex, fiber transceiver module.

The 10 Gbps Multi-mode Optical Module is a duplex transceiver that delivers up to 10 Gbps speed over distances up to 300 meters.

## UACC-OM-MM-1G-D:

Multi-mode, duplex, fiber transceiver module.

The 1 Gbps Multi-mode Optical Module is a duplex transceiver that delivers up to 1.25 Gbps speed over distances up to 550 meters.



## UACC-OM-MM-10G-D

Supported Media	Multi-Mode Fiber
Connector Type	(2) LC
TX Wavelength	Black Latch: 850 nm
RX Wavelength	Black Latch: 850 nm
Data Rate	10 Gbps
Max. Power Consumption	0.8W
Cable Distance	300 m
Operating Temperature	0 to 70° C (32 to 158° F)
Pack Options	2-pack, 20-pack
WARNING	CLASS 1 LASER PRODUCT, IEC/EN 60825-1:2014 – Do not look into the ends of the fiber optic cable or SFP module while converters are powered.

## UACC-OM-MM-1G-D

Supported Media	Multi-Mode Fiber
Connector Type	(2) LC
TX Wavelength	Black Latch: 850 nm
RX Wavelength	Black Latch: 850 nm
Data Rate	1.25 Gbps
Max. Power Consumption	0.66W
Cable Distance	550 m
Operating Temperature	0 to 70° C (32 to 158° F)
Pack Options	2-pack, 20-pack
WARNING	CLASS 1 LASER PRODUCT, IEC/EN 60825-1:2014 – Do not look into the ends of the fiber optic cable or SFP module while converters are powered.



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# Datasheet UACC-OM-SM-10G-D/10G-S/1G-S



# Single-mode Optical Module

## UACC-OM-SM-10G-D:

Single-mode, duplex, fiber transceiver module.

The 10 Gbps Single-mode Optical Module is a duplex transceiver that delivers up to 10 Gbps speed over distances up to 10 kilometers.

## UACC-OM-SM-10G-S:

Single-mode, simplex, fiber transceiver module.

The 10 Gbps Bidirectional Single-mode Optical Module is a simplex transceiver that delivers up to 10 Gbps speed over distances up to 10 kilometers.

## UACC-OM-SM-1G-S:

Single-mode, simplex, fiber transceiver module.

The 1 Gbps Bidirectional Single-mode Optical Module is a simplex transceiver that delivers up to 1.25 Gbps speed over distances up to 3 kilometers.



## UACC-OM-SM-10G-D

Supported Media	Single-Mode Fiber
Connector Type	(2) LC
BiDi	No
TX Wavelength	Blue Latch: 1310 nm
RX Wavelength	Blue Latch: 1310 nm
Data Rate	10 Gbps
Max. Power Consumption	1W
Cable Distance	10 km
Operating Temperature	0 to 70° C (32 to 158° F)
Pack Options	2-pack, 20-pack
WARNING	CLASS 1 LASER PRODUCT, IEC/EN 60825-1:2014 – Do not look into the ends of the fiber optic cable or SFP module while converters are powered.

## UACC-OM-SM-10G-S

Supported Media	Single-Mode Fiber
Connector Type	(1) LC
BiDi	Yes
TX Wavelength*	Blue Latch: 1270 nm Red Latch: 1330 nm <small>*It must be used in pairs (blue latch and red latch)</small>
RX Wavelength*	Blue Latch: 1270 nm Red Latch: 1330 nm <small>*It must be used in pairs (blue latch and red latch)</small>
Data Rate	10 Gbps
Max. Power Consumption	1W
Cable Distance	10 km
Operating Temperature	0 to 70° C (32 to 158° F)
Pack Options	2-pack, 20-pack

WARNING

CLASS 1 LASER PRODUCT, IEC/EN 60825-1:2014 – Do not look into the ends of the fiber optic cable or SFP module while converters are powered.

## UACC-OM-SM-1G-S

Supported Media	Single-Mode Fiber
Connector Type	(1) LC
BiDi	Yes
TX Wavelength*	Blue Latch: 1310 nm Yellow Latch: 1550 nm <small>*It must be used in pairs (blue latch and yellow latch)</small>
RX Wavelength*	Blue Latch: 1550 nm Yellow Latch: 1310 nm <small>*It must be used in pairs (blue latch and yellow latch)</small>
Data Rate	1.25 Gbps
Max. Power Consumption	0.66W
Cable Distance	3 km
Operating Temperature	0 to 70° C (32 to 158° F)
Pack Options	2-pack, 20-pack

WARNING

CLASS 1 LASER PRODUCT, IEC/EN 60825-1:2014 – Do not look into the ends of the fiber optic cable or SFP module while converters are powered.

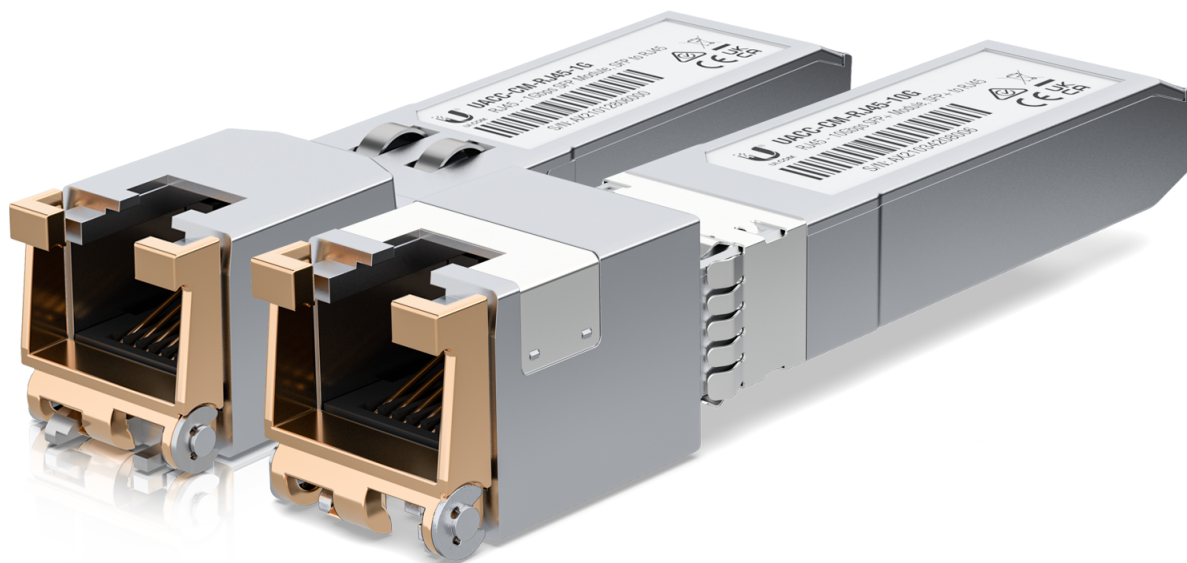


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## RJ45 to SFP/SFP+ Module



**UACC-CM-RJ45-10G**

Supported Media	Copper
Connector Type	RJ45
Data Rate	1/10 Gbps
Max. Power Consumption	3W
Cable Distance	1 Gbps (Cat 5e): 100 m 10 Gbps (Cat 6A): 30 m
Operating Temperature	0 to 70° C (32 to 158° F)
Pack Options	1-pack

**UACC-CM-RJ45-1G**

Supported Media	Copper
Connector Type	RJ45
Data Rate	10/100/1000 Mbps
Max. Power Consumption	1.2W
Cable Distance	100 m
Operating Temperature	0 to 70° C (32 to 158° F)
Pack Options	1-pack