



SUPPLEMENTAL/BID BULLETIN

Project Reference No.	IB No. 2023-64
Name of the Project	Modernization for Network Infrastructure of CICT Building
Location of the Project	WVSU - Main Campus

ADDENDUM NO. 2023-48 December 06, 2023

This Addendum No. 2023-48 is issued to modify the Section VII. Technical Specifications. This shall form an integral part of the Bidding Documents.

I. Section VII. Technical Specifications:

Item No.	Description	Corrections/ Amendments/ Instructions		
I.	Modernization for Network Infrastructure of CICT Building	Modernization for Network Infrastructure of CICT Building		
	Qty/Unit: 1 lot	Qty/ Unit: 1 lot		
	Pls. specify brand and model:	Pls. specify brand and model:		
	Unit Cost: 7,000,000.00	Unit Cost: 7,000,000.00		
Ι.	Manageable Network Switch I – 1 unit	Manageable Network Switch I – 1 unit		
	- Layer 3	- Layer 3		
	- Port: 24-port 1G SFP with modular uplinks, Network Advantage	 Port: 24-port 1G SFP with modular uplinks, Network Advantage 		
	- With 8 x 10G/mGig Network Module Card	- With 8 x 10GE Network Module Card		
	- With 8 x 1G/10G BASE-T Copper SFP Module	- With 8 x 1G BASE-T Copper SFP Module		
	- Mac Address: 32,000	- Mac Address: 32,000		
	- VLAN IDs: 4094	- VLAN IDs: 4094		
	- IPv4 routing: 32,000	- IPv4 routing: 32,000		
	- IPv6 routing entries: 16,000	- IPv6 routing entries: 16,000		
	- Forwarding rate: 154.76 Mpps	- Forwarding rate: 154.76 Mpps		
	- Switching capacity: 208 Gbps	- Switching capacity: 208 Gbps		
	- Multicast routing scale: 8,000	- Multicast routing scale: 8,000		
	- Qos/ACL: Superior QoS includes granular wireless bandwidth management and fair sharing, 802.1p Class of Service (CoS) and Differentiated Services Code Point (DSCP) field classification, Shaped Round Robin (SRR) scheduling, Committed Information Rate (CIR), and eight egress queues per port.	 Qos/ACL: Superior QoS includes granular wireless bandwidth management and fair sharing, 802.1p Class of Service (CoS) and Differentiated Services Code Point (DSCP) field classification, Shaped Round Robin (SRR) scheduling, Committed Information Rate (CIR), and eight egress queues per port. 		
	- Support for AES-256 with the powerful MACsec 256-bit encryption algorithm available on all models	- Support for AES-256 with the powerful MACsec 256-bit encryption algorithm available on all models		
	 Unified management of wired and wireless networks 	- Unified management of wired and wireless networks		
	 provide power stacking among members for power redundancy 	 provide power stacking among members for power redundancy 		
	 transformational management solution that reduces operational expenses and enhances business agility 	 transformational management solution that reduces operational expenses and enhances business agility 		
	 WebUI is an embedded GUI-based device- management tool that provides the ability to provision the device, to simplify device deployment and manageability, and to enhance the user experience. 	- WebUI is an embedded GUI-based device-management tool that provides the ability to provision the device, to simplify device deployment and manageability, and to enhance the user experience.		
	- Up to 1 TBps of local stackable switching bandwidth	- Up to 1 TBps of local stackable switching bandwidth		
	- Deeper buffer and higher scale model options for rich multi-media content delivery applications	 Deeper buffer and higher scale model options for rich multi-media content delivery applications 		





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- Intelligent Power Management	- Intelligent Power Management
- IPv6 support in hardware, providing wire-rate forwarding for IPv6 networks	- IPv6 support in hardware, providing wire-rate forwarding for IPv6 networks
- Support for both static and dynamic NAT and Port Address Translation (PAT)	- Support for both static and dynamic NAT and Port Address Translation (PAT)
Precision Time Protocol (PTP; IEEE 1588v2) provides accurate clock synchronization with sub- microsecond accuracy making it suitable for distribution and synchronization of time and frequency over network	 Precision Time Protocol (PTP; IEEE 1588v2) provides accurate clock synchronization with sub-microsecond accuracy making it suitable for distribution and synchronization of time and frequency over network
- Power Supply	- Power Supply
- Certification: UL 60950-1, CAN/CSA-C222.2 No. 60950-1, EN 60950-1, IEC 60950-1, AS/NZS 60950.1, IEEE 802.3	 Certification: UL 60950-1, CAN/CSA-C222.2 No. 60950-1, EN 60950-1, IEC 60950-1, AS/NZS 60950.1, IEEE 802.3
- Encrypted Traffic Analytics (ETA): Utilizes machine learning to identify and respond to threats or anomalies in the network, including malware detection in encrypted traffic without decryption.	- Encrypted Traffic Analytics (ETA): Utilizes machine learning to identify and respond to threats or anomalies in the network, including malware detection in encrypted traffic without decryption.
- Trustworthy solutions: Hardware anchored Secure Boot and Secure Unique Device Identification (SUDI) support for Plug and Play, verifying the identity of hardware and software.	- Trustworthy solutions: Hardware anchored Secure Boot and Secure Unique Device Identification (SUDI) support for Plug and Play, verifying the identity of hardware and software.
- Advanced security features.	- Advanced security features.
- This network core switch offers advanced features, security, and management capabilities, making it suitable for demanding network environments, including support for wired and wireless networks. It is certified to meet various international safety and performance standards.	- This network core switch offers advanced features, security, and management capabilities, making it suitable for demanding network environments, including support for wired and wireless networks. It is certified to meet various international safety and performance standards.
IPv6 support in hardware, providing wire-rate forwarding for IPv6 networks	- IPv6 support in hardware, providing wire-rate forwarding for IPv6 networks
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- Trustworthy solutions: Hardware anchored Secure Boot and Secure Unique Device Identification (SUDI) support for Plug and Play, verifying the identity of hardware and software.	- Trustworthy solutions: Hardware anchored Secure Boot and Secure Unique Device Identification (SUDI) support for Plug and Play, verifying the identity of hardware and software.
- Advanced security features.	- Advanced security features.
- This network core switch offers advanced features, security, and management capabilities, making it suitable for demanding network environments, including support for wired and wireless networks. It is certified to meet various international safety and performance standards.	- This network core switch offers advanced features, security, and management capabilities, making it suitable for demanding network environments, including support for wired and wireless networks. It is certified to meet various international safety and performance standards.
	 Must be compatible with the existing Core Switch L3 of the University (Cisco 3650). Bidders must have a certified engineer/s and used best
-	practices deployment method





II.	Manageable Network Switch II – 11 unit/s	Manageable Network Switch II – 11 unit/s
	 Port: 48*10 /100/1000Bas e-T adaptive Ethernet ports, 4*10G SFP+ ports 	 Port: 48*10 /100/1000Bas e-T adaptive Ethernet ports, 4*10G SFP+ ports
	- Mac Address: Static MAC address , Blackhole MAC address	 Mac Address: Static MAC address , Blackhole MAC address
	 VLAN: Port-based VLAN, MAC-based VLAN, Protocol-based VLAN, 	 VLAN: Port-based VLAN, MAC-based VLAN, Protocol- based VLAN,
	- VLAN mapping, Voice VLAN, MVRP	- VLAN mapping, Voice VLAN, MVRP
	- QinQ and selective QinQ	- QinQ and selective QinQ
	- IP Routing: Static routing, RIPv1/v2 and RIPng, OSPFv1/v2 and OSPFv3	- IP Routing: Static routing, RIPv1/v2 and RIPng, OSPFv1/v2 and OSPFv3
	 Multicast: IGMP Snooping V2/V3, PIM Snooping, MLD Snooping, Multicast VLAN, Multicast VLAN+ 	 Multicast: IGMP Snooping V2/V3, PIM Snooping, MLD Snooping, Multicast VLAN, Multicast VLAN+
	- IPv6 routing: Static route, RIPng	- IPv6 routing: Static route, RIPng
	- Forwarding performance: 77.4Mpps	- Forwarding performance: 77.4Mpps
	- Switching capacity: 176 Gbps	- Switching capacity: 176 Gbps
	 Layer 2 ring network protocol: STP/RSTP/MSTP/PVST/PVST+, STP Root Protection, Smart Link, RRPP 	 Layer 2 ring network protocol: STP/RSTP/MSTP/PVST/PVST+, STP Root Protection, Smart Link, RRPP
	- G.8032 ERPS (Ethernet Ring Protection Switching)	- Remove
	- Qos/ACL: Packet filtering based on packet header fields from Layer 2 through Layer 4, including source MAC, destination MAC, source IP, destination IP, TCP/UDP port number, protocol type, and VLAN	- Qos/ACL: Packet filtering based on packet header fields from Layer 2 through Layer 4, including source MAC, destination MAC, source IP, destination IP, TCP/UDP port number, protocol type, and VLAN
	 Flexible queuing and scheduling algorithms configured on a per-port or per-queue basis, including strict priority (SP), weighted round robin (WRR), and SP+WRR 	- Flexible queuing and scheduling algorithms configured on a per-port or per-queue basis, including strict priority (SP), weighted round robin (WRR), and SP+WRR
	- Committed access rate (CAR)	- Committed access rate (CAR)
	- Port rate limit (receiving and transmitting)	- Port rate limit (receiving and transmitting)
	- Packet redirection	- Packet redirection
	 Security: Hierarchical user management and password protection, AAA authentication support, RADIUS authentication, HWTACACS, SSH2.0, Port isolation, 802.1X authentication, centralized MAC authentication, Port security, IP Source Guard, HTTPs, EAD 	 Security: Hierarchical user management and password protection, AAA authentication support, RADIUS authentication, HWTACACS, SSH2.0, Port isolation, 802.1X authentication, centralized MAC authentication, Port security, IP Source Guard, HTTPs, EAD
	- Management:	- Management:
	- Remote monitoring (RMON) alarm, event, and history recording	- Remote monitoring (RMON) alarm, event, and history recording
	- IMC NMS	- Remove
	- System log, alarming based on severities, and output of debugging information	- System log, alarming based on severities, and output of debugging information
	- NTP	- NTP
	- Ping, Tracert, Virtual cable test (VCT), Device link detection protocol (DLDP) Loopback-detection	- Ping, Tracert, Virtual cable test (VCT), Device link detection protocol (DLDP) Loopback-detection
	- Dual swappable power supply	- Dual swappable power supply
	- Certification Vendors must have certified engineer/s	- Bidders must have a certified engineer/s and used best
	and used best practices deployment method	practices deployment method
III.	Transceiver Module – 22 unit/s	Transceiver Module – 22 unit/s
	- Multimode compatible	- Multimode compatible
	- Form Factor: SFP	- Form Factor: SFP
	- Wavelength: 850nm	- Wavelength: 850nm
	- Connector: Duplex LC	- Connector: Duplex LC
	- Transmitter Type: VCSEL	- Transmitter Type: VCSEL





	- DDM/DOM	- DDM/DOM
	- TX Power: -9.5 ~ - 3dBm	- TX Power: -9.5 ~ - 3dBm
	- Typical Power Consumption	- Typical Power Consumption
	- EMC (Electro Magnetic Compatibility)	- EMC (Electro Magnetic Compatibility)
	- Protocols: IEEE 802.3z, SFF-8472, SFP MSA (INF- 8074i) Compliant	- Protocols: IEEE 802.3z, SFF-8472, SFP MSA (INF- 8074i) Compliant
	- MTBF (SX): 2,457,002 Hours	- Remove
	- Must be compatible with item I and II	- Must be compatible with item I and II
	- Certification Vendors must have certified engineer/s and used best practices deployment method	- Bidders must have a certified engineer/s and used best practices deployment method
IV.	Fiber Structured Cabling - 1 Lot	Fiber Structured Cabling - 1 Lot
а.	Fiber Optics Cable – 470 Meters	Fiber Optics Cable – 470 Meters
	- 8-Core Fiber Cable, OM3, Multimode, Indoor, Multitube Distribution, Tight Buffer	- 8-Core Fiber Cable, OM3, Multimode, Indoor, Multitube Distribution, Tight Buffer
	 Structure specifications: Fiber Type: OM3 Tight Buffer Material: PVC 	 Structure specifications: Fiber Type: OM3 Tight Buffer Material: PVC
	- Shealth: LSOH	- Shealth: LSOH
	- Central Strength Member: FRP	- Central Strength Member: FRP
	 Mechanical Characteristics: Operating Temperature Range: - 20C To + 60C Storage Temperature Range: - 20C To + 60C Installation Temperature Range: - 5C To + 50C 	 Mechanical Characteristics: Operating Temperature Range: - 20C To + 60C Storage Temperature Range: - 20C To + 60C Installation Temperature Range: - 5C To + 50C
	 Optical Performance: Max Attenuation Wavelength 850 / 1300nm 1310 / 1550nm Minimum Bandwidth:850 / 1300nm 	 Optical Performance: Max Attenuation Wavelength 850 / 1300nm 1310 / 1550nm Minimum Bandwidth:850 / 1300nm
	 Compliances: ITU-T G651, ITU-T G652D ICEA-596 	 Compliances: ITU-T G651, ITU-T G652D ICEA-596
	- ANSI/TIA 568-B.3 - IEC 794 - IEC-60332 - RoHS	- ANSI/TIA 568-B.3 - IEC 794 - IEC-60332 - RoHS
	Applications:Distribution Cable for Fttx System	Applications:Distribution Cable for Fttx System
	 Direct termination as patch cable for Datacenter Note: Fiber connectivity per IDF going to MDF must be properly terminated and must have corresponding OTDR testing and result to be submitted to the end 	 Direct termination as patch cable for Datacenter Note: Fiber connectivity per IDF going to MDF must be properly terminated and must have corresponding OTDR testing and result to be submitted to the end user
<i>b</i> .	user Fiber Patch Panel – 15 unit/s	Fiber Patch Panel – 15 unit/s
	- Unique modular design and full range of accessories allows to assembly a patch panel as needed	- Unique modular design and full range of accessories allows to assembly a patch panel as needed
	- Three adapter slot can be covered by SC, ST, LC or FC-D-Flange adapter panels of 4,6, or 8 ports	- Three adapter slot can be covered by SC, ST, LC or FC- D-Flange adapter panels of 4,6, or 8 ports
	- must contain splice cassette	- must contain splice cassette
	- Smooth sliding tray with self lock function can be opened up to 155 degree angle	- Smooth sliding tray with self lock function can be opened up to 155 degree angle
	- TIA/EIA 568-B.3 compliant	- TIA/EIA 568-B.3 compliant
	- RoHS compliant	- RoHS compliant
	- Applications:	- Applications:
	Telecommunications	Telecommunications
	Local Area Network	Local Area Network
	FTTH deployments	FTTH deployments
	CATV	CATV







с.	Fiber Adapter – 24 unit/s	Fiber Adapter – 24 unit/s
	8 port LC Adapter panel	8 port LC Adapter panel
	Duplex Multimode Adapter	Duplex Multimode Adapter
	Front Connection: Flush, Termination Area: Front	Front Connection: Flush, Termination Area: Front
<i>d</i> .	Fiber Pigtails – 176 unit/s	Fiber Pigtails – 176 unit/s
	- LC	- LC
	- multimode	- multimode
	- Meets with TIA/EIA-568-B.3 and ISO/IEC 11801	- Meets with TIA/EIA-568-B.3 and ISO/IEC 11801
	specifications for insertion lossITU-T G.651 compliant	 specifications for insertion loss ITU-T G.651 compliant
	 Provide total immunity to electrical interference 	 Provide total immunity to electrical interference
	- Ultra polished connectors	- Ultra polished connectors
	- Low insertion loss, high return loss	Low insertion loss, high return loss
	- RoHS compliant	- RoHS compliant
	Fiber Patch Cord – 30 unit/s	Fiber Patch Cord – 30 unit/s
е.		
	- LC-LC Duplex - 2 meters	- LC-LC Duplex - 2 meters
	- Type: Multimode	- Type: Multimode
	- compliant with TIA/EIA-568B.3 standard	- compliant with TIA/EIA-568B.3 standard
	- compliant with ITU G.651	- compliant with ITU G.651
	- connectors meet IEC60874 and IEC61754	- connectors meet IEC60874 and IEC61754
	- provide total immunity to electrical interference	- provide total immunity to electrical interference
	- RoHS Compliant	- RoHS Compliant
	 Specifications: Core Diameter: 50±2.5um to 60±2.5um 	 Specifications: Core Diameter: 50±2.5um to 60±2.5um
	- Cladding Diameter:125±1.0um	- Cladding Diameter:125±1.0um
	 Proof test level:≥ 1 % 	 Proof test level:≥ 1 %
f.	Cable Manager - 11 unit/s	Cable Manager - 11 unit/s
<i>J</i> .	- 19" standard rack and cabinet mountable	- 19" standard rack and cabinet mountable
	- Meets EIA/TIA bend radius requirement	Meets EIA/TIA bend radius requirement
	- Prevents cable tangles	Prevents cable tangles
	- The panel is configured with 12 rings	- The panel is configured with 12 rings
	- 2 openings in the rear to provide access pathway	- 2 openings in the rear to provide access pathway
	- RoHs compliant	- RoHs compliant
	- 1RU configurations	- 1RU configurations
g.	Uninterruptible Power Supply MDF - 1 Unit/s	Uninterruptible Power Supply MDF - 1 Unit/s
8.	- Form factor: 1RU rack mountable	- Form factor: 1RU rack mountable
	- Rated Voltage (V): 230V	- Rated Voltage (V): 230V
	- Rated power: 3000VA	- Rated power: 3000VA
	- Active Power: 2700W	- Active Power: 2700W
	- Rated frequency [Hz]: 50 / 60 ±5	- Rated frequency [Hz]: 50 / 60 ±5
	- Power factor: >0.98	- Power factor: >0.98
	- Communication: USB / DB9 with RS232 and	 Communication: USB / DB9 with RS232 and contacts /
	contacts /	 Slot for communications interface
	- Slot for communications interface	Input Diversi 1: EC 200 C20 (10 A)
	- Input Plugs: 1x IEC 320 C20 (16 A)	- Input Plugs: 1x IEC 320 C20 (16 A)
	- Output sockets: 8x IEC 320 C13 (10 A) +	- Output sockets: 8x IEC 320 C13 (10 A) +







	- Ambient temperature for the UPS:0 °C - +40 °C	- Ambient temperature for the UPS:0 °C - +40 °C	
	- Relative humidity: 5-95% non-condensing	- Relative humidity: 5-95% non-condensing	
	- Noise level at 1 m: <40	- Noise level at 1 m: <40	
	- Waveform: Sinewave	- Waveform: Sinewave	
	- With mounting kit	- With mounting kit	
h.	Uninterruptible Power Supply IDF - 11 Unit/s	Uninterruptible Power Supply IDF - 11 Unit/s	
	- Form factor: 1RU rack mountable	- Form factor: 1RU rack mountable	
	- Rated Voltage (V): 230V	- Rated Voltage (V): 230V	
	- Rated power: 2200VA	- Rated power: 2200VA	
	- Active Power: 1760W	- Active Power: 1760W	
	- Rated frequency [Hz]: 50 / 60 ±5	- Rated frequency [Hz]: 50 / 60 ±5	
	- Power factor: >0.98	- Power factor: >0.98	
	- Communication: USB / DB9 with RS232 and	- Communication: USB / DB9 with RS232 and contacts /	
	contacts /	- Slot for communications interface	
	- Slot for communications interface	Input Diver: 1x IEC 220 C20 (16 A)	
	 Input Plugs: 1x IEC 320 C20 (16 A) Output sockets: 8x IEC 320 C13 (10 A) + 	 Input Plugs: 1x IEC 320 C20 (16 A) Output sockets: 8x IEC 320 C13 (10 A) + 	
	- 1x IEC 320 C19 (16 A)	- Output sockets: 8x IEC 320 C13 (10 A) + - 1x IEC 320 C19 (16 A)	
	- Ambient temperature for the UPS:0 °C - +40 °C	- Ambient temperature for the UPS:0 °C - +40 °C	
	- Relative humidity: 5-95% non-condensing	- Relative humidity: 5-95% non-condensing	
	- Noise level at 1 m: <40	- Noise level at 1 m: <40	
	- Waveform: Sinewave	- Waveform: Sinewave	
	- With mounting kit	- With mounting kit	
<i>V</i> .	Copper Structured Cabling - 1 Lot	Copper Structured Cabling - 1 Lot	
а.	UTP Cable – 28 rolls	UTP Cable – 28 rolls	
	- Indoor	- Indoor	
	- Cat6, 4-Pair, U/UTP	- Cat6, 4-Pair, U/UTP	
	- Compliant with:	- Compliant with:	
	- ISO/IEC 11801 ED.2.2:2011	- ISO/IEC 11801 ED.2.2:2011	
	- ANSI/TIA 568-C.2:2011	- ANSI/TIA 568-C.2:2011	
	- IEC61156-5:2012(Edition 2.0)	- IEC61156-5:2012(Edition 2.0)	
	- IEC 60754-2:2011 (Edition 2.0)	- IEC 60754-2:2011 (Edition 2.0)	
	- RoHS compliant (EU Directive 2011/65/EC)	- RoHS compliant (EU Directive 2011/65/EC)	
	- Configuration/Specifications	- Configuration/Specifications	
	- Conductor Material: Bare Copper	- Conductor Material: Bare Copper	
	- Conductor Construction: 23 AWG	- Conductor Construction: 23 AWG	
	- Insulation Material: HDPE	- Insulation Material: HDPE	
	- Sheath thickness: 0.5mm nominal	- Sheath thickness: 0.5mm nominal	
	 Sheath thickness: 0.5mm nominal Sheath diameter: 6.2 ± 0.3mm 	 Sheath thickness: 0.5mm nominal Sheath diameter: 6.2 ± 0.3mm 	
<i>b</i> .			
<i>b</i> .	- Sheath diameter: 6.2 ± 0.3 mm	- Sheath diameter: 6.2 ± 0.3 mm	
<i>b</i> .	- Sheath diameter: 6.2 ± 0.3mm Data Cabinet (IDF) – 11 unit/s 6.2 ± 0.3mm	- Sheath diameter: 6.2 ± 0.3mm Data Cabinet (IDF) – 11 unit/s	
<i>b</i> .	 Sheath diameter: 6.2 ± 0.3mm Data Cabinet (IDF) – 11 unit/s 15 RU x 600mm x 600mm (H x W x D) 	- Sheath diameter: 6.2 ± 0.3mm Data Cabinet (IDF) – 11 unit/s - 15 RU x 600mm x 600mm (H x W x D)	
<i>b</i> .	 Sheath diameter: 6.2 ± 0.3mm Data Cabinet (IDF) – 11 unit/s 15 RU x 600mm x 600mm (H x W x D) Cable entry from top and bottom 	 Sheath diameter: 6.2 ± 0.3mm Data Cabinet (IDF) – 11 unit/s 15 RU x 600mm x 600mm (H x W x D) Cable entry from top and bottom 	
<i>b</i> .	 Sheath diameter: 6.2 ± 0.3mm Data Cabinet (IDF) – 11 unit/s 15 RU x 600mm x 600mm (H x W x D) Cable entry from top and bottom up to 60kgs static loading capacity 	 Sheath diameter: 6.2 ± 0.3mm Data Cabinet (IDF) – 11 unit/s 15 RU x 600mm x 600mm (H x W x D) Cable entry from top and bottom up to 60kgs static loading capacity 	
<i>b</i> .	 Sheath diameter: 6.2 ± 0.3mm Data Cabinet (IDF) – 11 unit/s 15 RU x 600mm x 600mm (H x W x D) Cable entry from top and bottom up to 60kgs static loading capacity lockable side door easy to open for installation fixed 100mm space at rear frame 	 Sheath diameter: 6.2 ± 0.3mm Data Cabinet (IDF) – 11 unit/s 15 RU x 600mm x 600mm (H x W x D) Cable entry from top and bottom up to 60kgs static loading capacity lockable side door easy to open for installation fixed 100mm space at rear frame 	
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<i>b</i> .	 Sheath diameter: 6.2 ± 0.3mm Data Cabinet (IDF) – 11 unit/s 15 RU x 600mm x 600mm (H x W x D) Cable entry from top and bottom up to 60kgs static loading capacity lockable side door easy to open for installation fixed 100mm space at rear frame 24 sets cage nuts 	 Sheath diameter: 6.2 ± 0.3mm Data Cabinet (IDF) – 11 unit/s 15 RU x 600mm x 600mm (H x W x D) Cable entry from top and bottom up to 60kgs static loading capacity lockable side door easy to open for installation fixed 100mm space at rear frame 24 sets cage nuts 	





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		 cooling fan, with three pins German-type plug, 1wire/2 fans (cable length,2M) 	
с.	Data Cabinet (MDF) – 1 unit/s	Data Cabinet (MDF) – 1 unit/s	
	- Network Server Cabinet	- Network Server Cabinet	
	- height 42U, 800mm x 1000mm,	- height 42U, 800mm x 1000mm,	
	- cable entry from the top cover and bottom panel	- cable entry from the top cover and bottom panel	
	- removable side doors for easy installation and maintenance	- removable side doors for easy installation and maintenance	
	 4 pcs of M12 adjustable feet and 4 pcs of 2" heavy duty castors included 	 4 pcs of M12 adjustable feet and 4 pcs of 2" heavy duty castors included 	
	- 40 sets M6 cage nuts included (below 32U 20 sets)	- 40 sets M6 cage nuts included (below 32U 20 sets)	
	- 1 pair of vertical cable management included for 800mm depth cabinet	- 1 pair of vertical cable management included for 800mm depth cabinet	
	 up to 800 kgs static loading capacity with adjustable feet, perforated front door, dual perforated rear door 	- up to 800 kgs static loading capacity with adjustable feet, perforated front door, dual perforated rear door	
	- Fan unit (4 fans units)	- Fan unit (4 fans units)	
	 standard "S" type vertical rail ("L" type vertical rail on request) 	 standard "S" type vertical rail ("L" type vertical rail on request) 	
	 1U 19" PDU, w/ Aluminum body, US (NEMA5- 15P) Plug, 6 universal outlets, w/LED master switch 	- 1U 19" PDU, w/ Aluminum body, US (NEMA5-15P) Plug, 6 universal outlets, w/LED master switch	
	- Comply with ANSI/EIA RS-310-D, IEC297-2, DIN41491.Part1, Part7, DIN4144	- Comply with ANSI/EIA RS-310-D, IEC297-2, DIN41491.Part1, Part7, DIN4144	
	- Black	- Black	
d.	Patch Panel - 21 unit/s	Patch Panel - 21 unit/s	
	- Physical Characteristics:	- Physical Characteristics:	
	 Jack Material: Phosphor bronze with 50µ inch gold plating over nickel in the contact area. 	 Jack Material: Phosphor bronze with 50µ inch gold plating over nickel in the contact area. 	
	- IDC (Insulation-Displacement Contact):	- IDC (Insulation-Displacement Contact):	
	 Material: 100µ inch nickel plated over phosphor bronze. 	- Material: 100µ inch nickel plated over phosphor bronze.	
	- Electrical Characteristics:	- Electrical Characteristics:	
	- Dielectric Strength: Able to withstand 1000V RMS for 1 minute.	- Dielectric Strength: Able to withstand 1000V RMS for 1 minute.	
	 Current Rating: Supports a maximum current of 1.5Amp. 	- Current Rating: Supports a maximum current of 1.5Amp.	
	 Insulation Resistance: Maintains a minimum of 10MΩ insulation resistance. 	 Insulation Resistance: Maintains a minimum of 10MΩ insulation resistance. 	
	 Contact Resistance: Exhibits a contact resistance of 2mΩ per contact. 	 Contact Resistance: Exhibits a contact resistance of 2mΩ per contact. 	
	 Temperature Range: Operates within a temperature range of -10°C to 60°C. 	 Temperature Range: Operates within a temperature range of -10°C to 60°C. 	
	- Humidity: Works in a humidity range of 10% to 90% without condensation.	- Humidity: Works in a humidity range of 10% to 90% without condensation.	
	- Applications:	- Applications:	
	- Suitable for various applications, including but not limited to:	- Suitable for various applications, including but not limited to:	
	- 1000BASE-TX Gigabit Ethernet	- 1000BASE-TX Gigabit Ethernet	
	- 1000BASE-T Gigabit Ethernet	- 1000BASE-T Gigabit Ethernet	
	- 100BASE-TX Fast Ethernet	- 100BASE-TX Fast Ethernet	
	- 10BASE-T Ethernet	- 10BASE-T Ethernet	
	 Voice, Video, and other data transmission applications. 	- Voice, Video, and other data transmission applications.	
	- This patch panel is designed to meet the physical and electrical requirements of these applications, ensuring reliable network connections and performance.	- This patch panel is designed to meet the physical and electrical requirements of these applications, ensuring reliable network connections and performance.	







е.	Patch Cords - 430 unit/s	Patch Cords - 430 unit/s
	- 1 meter	- 1 meter
	 Category 6 U/UTP RJ45 contacts 50µ inch gold plated 	- Category 6 U/UTP RJ45 contacts 50µ inch gold plated
	- Material Size Bare Copper: 30 AWG	- Material Size Bare Copper: 30 AWG
	- Insulation Material: HDPE	- Insulation Material: HDPE
	- Diameter: 0.55 ± 0.05 mm	- Diameter: $0.55 \pm 0.05 \text{ mm}$
	- Sheath Material: LSOH	- Sheath Material: LSOH
	- Diameter: 3.1 ± 0.2 mm	- Diameter: 3.1 ± 0.2 mm
	- 1000BASE-TX Gigabit Ethernet	- 1000BASE-TX Gigabit Ethernet
	- 1000BASE-T Gigabit Ethernet	- 1000BASE-T Gigabit Ethernet
	- 100BASE-TX Fast Ethernet	- 100BASE-TX Fast Ethernet
	- 10BASE-T Ethernet	- 10BASE-T Ethernet
	- Voice, Video and other applications	- Voice, Video and other applications
	- Molded snag proof boot	- Molded snag proof boot
	- ANSI/TIA 568-2.D:2018	- ANSI/TIA 568-2.D:2018
	- ISO/IEC 11801-1 Class E:2017	- ISO/IEC 11801-1 Class E:2017
	- CENELEC EN 50173-1:2018	- CENELEC EN 50173-1:2018
	- CENELEC EN 50288-10-2:2015	- CENELEC EN 50288-10-2:2015
	- IEC 61935-2:2010 (Edition 3.0)	- IEC 61935-2:2010 (Edition 3.0)
	- IEC 61156-6:2012	- IEC 61156-6:2012
	- Compliant with safety standards as:	- Compliant with safety standards as:
	- IEC 60332-1-2:2004	- IEC 60332-1-2:2004
	- RoHS compliant (EU Directive 2011/65/EC)	- RoHS compliant (EU Directive 2011/65/EC)
f.	RoHS compliant (EU Directive 2011/65/EC) Information Outlet - 45 unit/s	 RoHS compliant (EU Directive 2011/65/EC) Information Outlet - 45 unit/s
<i>f</i> .		
<i>f</i> .	Information Outlet - 45 unit/s	Information Outlet - 45 unit/s
f.	Information Outlet - 45 unit/s - 1000BASE-TX Gigabit Ethernet	Information Outlet - 45 unit/s - 1000BASE-TX Gigabit Ethernet
<u>f.</u>	Information Outlet - 45 unit/s - 1000BASE-TX Gigabit Ethernet - 1000BASE-T Gigabit Ethernet	Information Outlet - 45 unit/s - 1000BASE-TX Gigabit Ethernet - 1000BASE-T Gigabit Ethernet
<u>f.</u>	Information Outlet - 45 unit/s - 1000BASE-TX Gigabit Ethernet - 1000BASE-T Gigabit Ethernet - 100BASE-TX Fast Ethernet	Information Outlet - 45 unit/s - 1000BASE-TX Gigabit Ethernet - 1000BASE-T Gigabit Ethernet - 100BASE-TX Fast Ethernet
<u>f.</u>	Information Outlet - 45 unit/s - 1000BASE-TX Gigabit Ethernet - 1000BASE-T Gigabit Ethernet - 100BASE-TX Fast Ethernet - 10BASE-T Ethernet	Information Outlet - 45 unit/s- 1000BASE-TX Gigabit Ethernet- 1000BASE-T Gigabit Ethernet- 100BASE-TX Fast Ethernet- 10BASE-T Ethernet
<u>f.</u>	Information Outlet - 45 unit/s - 1000BASE-TX Gigabit Ethernet - 1000BASE-T Gigabit Ethernet - 100BASE-TX Fast Ethernet - 100BASE-T Ethernet - 10BASE-T Ethernet - 10BASE-T Ethernet - Voice, Video and other applications - Conform to TIA/EIA-568.2-D, ISO/IEC 11801-1 and EN50173-1 specifications - Compact design for high-density applications: up to	Information Outlet - 45 unit/s-1000BASE-TX Gigabit Ethernet-1000BASE-T Gigabit Ethernet-100BASE-TX Fast Ethernet-10BASE-T Ethernet-10BASE-T Ethernet-Voice, Video and other applications-Conform to TIA/EIA-568.2-D, ISO/IEC 11801-1 and EN50173-1 specifications-Compact design for high-density applications: up to 24
<i>f</i> .	Information Outlet - 45 unit/s - 1000BASE-TX Gigabit Ethernet - 1000BASE-T Gigabit Ethernet - 100BASE-TX Fast Ethernet - 100BASE-T Ethernet - 10BASE-T Ethernet - 10BASE-T Ethernet - Voice, Video and other applications - Conform to TIA/EIA-568.2-D, ISO/IEC 11801-1 and EN50173-1 specifications - Compact design for high-density applications: up to 24 keystone jacks can fit into 1U 24 port	Information Outlet - 45 unit/s - 1000BASE-TX Gigabit Ethernet - 1000BASE-T Gigabit Ethernet - 100BASE-TX Fast Ethernet - 100BASE-T Ethernet - 10BASE-T Ethernet - 10BASE-T Ethernet - Voice, Video and other applications - Conform to TIA/EIA-568.2-D, ISO/IEC 11801-1 and EN50173-1 specifications - Compact design for high-density applications: up to 24 keystone jacks can fit into 1U 24 port
<u>f</u> .	Information Outlet - 45 unit/s-1000BASE-TX Gigabit Ethernet-1000BASE-T Gigabit Ethernet-100BASE-TX Fast Ethernet-10BASE-T Ethernet-10BASE-T Ethernet-Voice, Video and other applications-Conform to TIA/EIA-568.2-D, ISO/IEC 11801-1 and EN50173-1 specifications-Compact design for high-density applications: up to 24 keystone jacks can fit into 1U 24 port-unloaded patch panel (P/N 171022402)	Information Outlet - 45 unit/s-1000BASE-TX Gigabit Ethernet-1000BASE-T Gigabit Ethernet-100BASE-TX Fast Ethernet-10BASE-T Ethernet-Voice, Video and other applications-Conform to TIA/EIA-568.2-D, ISO/IEC 11801-1 and EN50173-1 specifications-Compact design for high-density applications: up to 24 keystone jacks can fit into 1U 24 port-unloaded patch panel (P/N 171022402)
<u>f.</u>	Information Outlet - 45 unit/s - 1000BASE-TX Gigabit Ethernet - 1000BASE-T Gigabit Ethernet - 100BASE-T Gigabit Ethernet - 100BASE-TX Fast Ethernet - 10BASE-T Ethernet - 10BASE-T Ethernet - Voice, Video and other applications - Conform to TIA/EIA-568.2-D, ISO/IEC 11801-1 and EN50173-1 specifications - Compact design for high-density applications: up to 24 keystone jacks can fit into 1U 24 port - unloaded patch panel (P/N 171022402) - Supports T568 A&B wiring & easy installation - Dual IDC connector can accept 22-26 AWG solid	Information Outlet - 45 unit/s - 1000BASE-TX Gigabit Ethernet - 1000BASE-T Gigabit Ethernet - 100BASE-TX Fast Ethernet - 100BASE-T Ethernet - 10BASE-T Ethernet - 10BASE-T Ethernet - Voice, Video and other applications - Conform to TIA/EIA-568.2-D, ISO/IEC 11801-1 and EN50173-1 specifications - Compact design for high-density applications: up to 24 keystone jacks can fit into 1U 24 port
<u>f.</u>	Information Outlet - 45 unit/s-1000BASE-TX Gigabit Ethernet-1000BASE-T Gigabit Ethernet-100BASE-TX Fast Ethernet-10BASE-T Ethernet-10BASE-T Ethernet-Voice, Video and other applications-Conform to TIA/EIA-568.2-D, ISO/IEC 11801-1 and EN50173-1 specifications-Compact design for high-density applications: up to 24 keystone jacks can fit into 1U 24 port-unloaded patch panel (P/N 171022402)-Supports T568 A&B wiring & easy installation-Dual IDC connector can accept 22-26 AWG solid cables	Information Outlet - 45 unit/s - 1000BASE-TX Gigabit Ethernet - 1000BASE-T Gigabit Ethernet - 100BASE-TX Fast Ethernet - 100BASE-T Ethernet - 10BASE-T Ethernet - 10BASE-T Ethernet - Voice, Video and other applications - Conform to TIA/EIA-568.2-D, ISO/IEC 11801-1 and EN50173-1 specifications - Compact design for high-density applications: up to 24 keystone jacks can fit into 1U 24 port - unloaded patch panel (P/N 171022402) - Supports T568 A&B wiring & easy installation - Dual IDC connector can accept 22-26 AWG solid cables
<u>f.</u>	Information Outlet - 45 unit/s - 1000BASE-TX Gigabit Ethernet - 1000BASE-T Gigabit Ethernet - 100BASE-TX Fast Ethernet - 100BASE-T Ethernet - 10BASE-T Ethernet - 10BASE-T Ethernet - Voice, Video and other applications - Conform to TIA/EIA-568.2-D, ISO/IEC 11801-1 and EN50173-1 specifications - Compact design for high-density applications: up to 24 keystone jacks can fit into 1U 24 port - unloaded patch panel (P/N 171022402) - Supports T568 A&B wiring & easy installation - Dual IDC connector can accept 22-26 AWG solid cables	Information Outlet - 45 unit/s-1000BASE-TX Gigabit Ethernet-1000BASE-T Gigabit Ethernet-100BASE-TX Fast Ethernet-10BASE-T Ethernet-10BASE-T Ethernet-Voice, Video and other applications-Conform to TIA/EIA-568.2-D, ISO/IEC 11801-1 and EN50173-1 specifications-Compact design for high-density applications: up to 24 keystone jacks can fit into 1U 24 port-unloaded patch panel (P/N 171022402)-Supports T568 A&B wiring & easy installation
<u>f.</u>	Information Outlet - 45 unit/s-1000BASE-TX Gigabit Ethernet-1000BASE-T Gigabit Ethernet-100BASE-TX Fast Ethernet-10BASE-T Ethernet-10BASE-T Ethernet-Voice, Video and other applications-Conform to TIA/EIA-568.2-D, ISO/IEC 11801-1 and EN50173-1 specifications-Compact design for high-density applications: up to 24 keystone jacks can fit into 1U 24 port-unloaded patch panel (P/N 171022402)-Supports T568 A&B wiring & easy installation-Dual IDC connector can accept 22-26 AWG solid cables-Termination by 110 or Krone tools	Information Outlet - 45 unit/s - 1000BASE-TX Gigabit Ethernet - 1000BASE-T Gigabit Ethernet - 100BASE-TX Fast Ethernet - 10BASE-T Ethernet - 10BASE-T Ethernet - 10BASE-T Ethernet - Voice, Video and other applications - Conform to TIA/EIA-568.2-D, ISO/IEC 11801-1 and EN50173-1 specifications - Compact design for high-density applications: up to 24 keystone jacks can fit into 1U 24 port - unloaded patch panel (P/N 171022402) - Supports T568 A&B wiring & easy installation - Dual IDC connector can accept 22-26 AWG solid cables - Termination by 110 or Krone tools
	Information Outlet - 45 unit/s-1000BASE-TX Gigabit Ethernet-1000BASE-T Gigabit Ethernet-100BASE-TX Fast Ethernet-10BASE-T Ethernet-10BASE-T Ethernet-Voice, Video and other applications-Conform to TIA/EIA-568.2-D, ISO/IEC 11801-1 and EN50173-1 specifications-Compact design for high-density applications: up to 24 keystone jacks can fit into 1U 24 port-unloaded patch panel (P/N 171022402)-Supports T568 A&B wiring & easy installation-Dual IDC connector can accept 22-26 AWG solid cables-Termination by 110 or Krone tools-ETL Verified	Information Outlet - 45 unit/s 1000BASE-TX Gigabit Ethernet 1000BASE-T Gigabit Ethernet 100BASE-TX Fast Ethernet 100BASE-T Ethernet Voice, Video and other applications Conform to TIA/EIA-568.2-D, ISO/IEC 11801-1 and EN50173-1 specifications Compact design for high-density applications: up to 24 keystone jacks can fit into 1U 24 port unloaded patch panel (P/N 171022402) Supports T568 A&B wiring & easy installation Dual IDC connector can accept 22-26 AWG solid cables ETL Verified
	Information Outlet - 45 unit/s-1000BASE-TX Gigabit Ethernet-1000BASE-T Gigabit Ethernet-100BASE-TX Fast Ethernet-10BASE-T Ethernet-10BASE-T Ethernet-Voice, Video and other applications-Conform to TIA/EIA-568.2-D, ISO/IEC 11801-1 and EN50173-1 specifications-Compact design for high-density applications: up to 24 keystone jacks can fit into 1U 24 port-unloaded patch panel (P/N 171022402)-Supports T568 A&B wiring & easy installation-Dual IDC connector can accept 22-26 AWG solid cables-Termination by 110 or Krone tools-ETL Verified-RoHS compliant-Dielectric Strength 1000V RMS for 1min	Information Outlet - 45 unit/s - 1000BASE-TX Gigabit Ethernet - 1000BASE-T Gigabit Ethernet - 100BASE-TX Fast Ethernet - 100BASE-T Ethernet - 10BASE-T Ethernet - 10BASE-T Ethernet - 10BASE-T Ethernet - 10BASE-T Ethernet - Voice, Video and other applications - Conform to TIA/EIA-568.2-D, ISO/IEC 11801-1 and EN50173-1 specifications - Compact design for high-density applications: up to 24 keystone jacks can fit into 1U 24 port - unloaded patch panel (P/N 171022402) - Supports T568 A&B wiring & easy installation - Dual IDC connector can accept 22-26 AWG solid cables - Termination by 110 or Krone tools - ETL Verified - RoHS compliant
	Information Outlet - 45 unit/s-1000BASE-TX Gigabit Ethernet-1000BASE-T Gigabit Ethernet-100BASE-TX Fast Ethernet-10BASE-T Ethernet-10BASE-T Ethernet-Voice, Video and other applications-Conform to TIA/EIA-568.2-D, ISO/IEC 11801-1 and EN50173-1 specifications-Compact design for high-density applications: up to 24 keystone jacks can fit into 1U 24 port-unloaded patch panel (P/N 171022402)-Supports T568 A&B wiring & easy installation-Dual IDC connector can accept 22-26 AWG solid cables-Termination by 110 or Krone tools-ETL Verified-RoHS compliant-Dielectric Strength 1000V RMS for 1min	Information Outlet - 45 unit/s 1000BASE-TX Gigabit Ethernet 1000BASE-T Gigabit Ethernet 100BASE-T Gigabit Ethernet 100BASE-TX Fast Ethernet 10BASE-T Ethernet Voice, Video and other applications Conform to TIA/EIA-568.2-D, ISO/IEC 11801-1 and EN50173-1 specifications Compact design for high-density applications: up to 24 keystone jacks can fit into 1U 24 port unloaded patch panel (P/N 171022402) Supports T568 A&B wiring & easy installation Dual IDC connector can accept 22-26 AWG solid cables Termination by 110 or Krone tools ETL Verified RoHS compliant Dielectric Strength 1000V RMS for 1min
	Information Outlet - 45 unit/s - 1000BASE-TX Gigabit Ethernet - 1000BASE-T Gigabit Ethernet - 100BASE-TX Fast Ethernet - 10BASE-T Ethernet - 10BASE-T Ethernet - Voice, Video and other applications - Conform to TIA/EIA-568.2-D, ISO/IEC 11801-1 and EN50173-1 specifications - Compact design for high-density applications: up to 24 keystone jacks can fit into 1U 24 port - unloaded patch panel (P/N 171022402) - Supports T568 A&B wiring & easy installation - Dual IDC connector can accept 22-26 AWG solid cables - Termination by 110 or Krone tools - ETL Verified - RoHS compliant - Dielectric Strength 1000V RMS for 1min - Current Rating 1.5Amp Max. - Insulation Resistance 10MΩ Min.	Information Outlet - 45 unit/s 1000BASE-TX Gigabit Ethernet 1000BASE-T Gigabit Ethernet 100BASE-TX Fast Ethernet 100BASE-T Ethernet Voice, Video and other applications Conform to TIA/EIA-568.2-D, ISO/IEC 11801-1 and EN50173-1 specifications Compact design for high-density applications: up to 24 keystone jacks can fit into 1U 24 port unloaded patch panel (P/N 171022402) Supports T568 A&B wiring & easy installation Dual IDC connector can accept 22-26 AWG solid cables Termination by 110 or Krone tools ETL Verified RoHS compliant Dielectric Strength 1000V RMS for 1min Current Rating 1.5Amp Max. Insulation Resistance 10MΩ Min.
	Information Outlet - 45 unit/s - 1000BASE-TX Gigabit Ethernet - 100BASE-T Gigabit Ethernet - 100BASE-T Gigabit Ethernet - 100BASE-TX Fast Ethernet - 10BASE-T Ethernet - Voice, Video and other applications - Conform to TIA/EIA-568.2-D, ISO/IEC 11801-1 and EN50173-1 specifications - Compact design for high-density applications: up to 24 keystone jacks can fit into 1U 24 port - unloaded patch panel (P/N 171022402) - Supports T568 A&B wiring & easy installation - Dual IDC connector can accept 22-26 AWG solid cables - Termination by 110 or Krone tools - ETL Verified - RoHS compliant - Dielectric Strength 1000V RMS for 1min - Current Rating 1.5Amp Max. - Insulation Resistance 10MΩ Min. - Contact Resistance 2mΩ per contact	Information Outlet - 45 unit/s - 1000BASE-TX Gigabit Ethernet - 100BASE-T Gigabit Ethernet - 100BASE-T Fast Ethernet - 10BASE-T Ethernet - 10BASE-T Ethernet - Voice, Video and other applications - Conform to TIA/EIA-568.2-D, ISO/IEC 11801-1 and EN50173-1 specifications - Compact design for high-density applications: up to 24 keystone jacks can fit into 1U 24 port - unloaded patch panel (P/N 171022402) - Supports T568 A&B wiring & easy installation - Dual IDC connector can accept 22-26 AWG solid cables - Termination by 110 or Krone tools - ETL Verified - RoHS compliant - Dielectric Strength 1000V RMS for 1min - Current Rating 1.5Amp Max. - Insulation Resistance 10MΩ Min. - Contact Resistance 2mΩ per contact
	Information Outlet - 45 unit/s - 1000BASE-TX Gigabit Ethernet - 1000BASE-T Gigabit Ethernet - 100BASE-TX Fast Ethernet - 10BASE-T Ethernet - 10BASE-T Ethernet - Voice, Video and other applications - Conform to TIA/EIA-568.2-D, ISO/IEC 11801-1 and EN50173-1 specifications - Compact design for high-density applications: up to 24 keystone jacks can fit into 1U 24 port - unloaded patch panel (P/N 171022402) - Supports T568 A&B wiring & easy installation - Dual IDC connector can accept 22-26 AWG solid cables - Termination by 110 or Krone tools - ETL Verified - RoHS compliant - Dielectric Strength 1000V RMS for 1min - Current Rating 1.5Amp Max. - Insulation Resistance 10MΩ Min.	Information Outlet - 45 unit/s 1000BASE-TX Gigabit Ethernet 1000BASE-T Gigabit Ethernet 100BASE-TX Fast Ethernet 100BASE-T Ethernet Voice, Video and other applications Conform to TIA/EIA-568.2-D, ISO/IEC 11801-1 and EN50173-1 specifications Compact design for high-density applications: up to 24 keystone jacks can fit into 1U 24 port unloaded patch panel (P/N 171022402) Supports T568 A&B wiring & easy installation Dual IDC connector can accept 22-26 AWG solid cables Termination by 110 or Krone tools ETL Verified RoHS compliant Dielectric Strength 1000V RMS for 1min Current Rating 1.5Amp Max. Insulation Resistance 10MΩ Min.





	- Admissible Conductor 22AWG ~ 26AWG insulation	- Admissible Conductor 22AWG ~ 26AWG insulation
	 wire 8pin contact in PCB Jack Phosphor bronze: 50µ inch 	 wire 8pin contact in PCB Jack Phosphor bronze: 50µ inch gold
	gold plated over nickel plated	plated over nickel plated
	- Operating life: Minimum 750 insertions	- Operating life: Minimum 750 insertions
g.	Faceplate - 23 unit/s	Faceplate - 23 unit/s
	- Dimensions: 70 x 115mm	- Dimensions: 70 x 115mm
	- Keystone jacks can easily be snapped in and out	- Keystone jacks can easily be snapped in and out
	- Number of ports: 2	- Number of ports: 2
	- Screws included	- Screws included
	- Material: UL-94V-0 high-impact, fire-retardant ABS resin	- Material: UL-94V-0 high-impact, fire-retardant ABS resin
	- RoHS compliant	- RoHS compliant
h	Cable Manager Specifications	Cable Manager Specifications
	- 22 units x 1RU	- 22 units x 1RU
	- 3 units x 2RU	- 3 units x 2RU
	- 19" standard rack and cabinet mountable	- 19" standard rack and cabinet mountable
	- Meets EIA/TIA bend radius requirement	- Meets EIA/TIA bend radius requirement
	- Prevents cable tangles	- Prevents cable tangles
	- The panel is configured with 12 rings	- The panel is configured with 12 rings
	- 2 openings in the rear to provide access pathway	- 2 openings in the rear to provide access pathway
	- RoHs compliant	- RoHs compliant
VI.	Local Materials/Miscellaneous - 1 Lot	Local Materials/Miscellaneous - 1 Lot
	- PVC Pipes	- PVC Pipes
	- PVC Elbow	- PVC Elbow
	- PVC Connector	- PVC Connector
	- PVC Tee	- PVC Tee
	- EMT Pipes 1.5"	- EMT Pipes 1.5"
	- EMT Elbow	- EMT Elbow
	- EMT Connector	- EMT Connector
	- Moulding 1" White	- Moulding 1" White
	- No More Nails	- No More Nails
	- Pullbox	- Pullbox
	- Junction Box	- Junction Box
	- PVC Solvent	- PVC Solvent
	- Hangers and Support	 Hangers and Support Must consider and support overhead piping and Cable trays
	- Electrical components (3.5mm royal cord/3C, 11units x 20A circuit breaker, sockets)	 Electrical components Must provide Load Distribution Panel for each Floor allocated for the IDF & MDF 3rd Floor LDP Main Breaker: 60A/2P Distribution Breakers: 6 x 20A/2P Wiring must be 3.5mm THHN (Line to Line), 250 mtrs 2nd Floor LDP Main Breaker: 50A/2P Onstribution Breakers: 6 x 20A/2P Wiring must be 3.5mm THHN (Line to Line), 250 mtrs Panel must be 3.5mm THHN (Line to Line), 250 mtrs Panel must have a grounding busbar , dead front panel, hidged cover Wall mounted , powder coated finish





	• Please refer to the attached Electrical Diagram for the
	SLD • Wiring must be 3.5mm THHN (Line to Line) • Wiring must be insulated and must have its dedicated
	 piping line Must provide Plug-in twist lock for the hardwire to UPS connectivity
-	 Grounding components There must be a dedicated grounding line for the Electrical panel connected to the MDF and IDFs Please refer to the attached Grounding Diagram for the SLD Wiring must be 5.5mm TW @125meters. Must provide common busbar for the Load Distribution panels Provide dedicated Grounding rod separate from the
- Fiber Termination & OTDR Testing	 building ground. Fiber Termination & OTDR Testing
Cable laying and Rectification, Testing and Commissioning	 Cable laying and Rectification, Testing and Commissioning
- Painting Works (For the Piping)	- Painting Works (For the Piping)
- RJ45 Connectors	- RJ45 Connectors
- Faceplates Double Gang	- Faceplates Double Gang
- Tox and screws	- Tox and screws
- Cable Tray	 Cable Tray wire mesh/steel matting Dim: 100mmD x 200mmW x 2400mm L Powder Coated finish Locally Fabricated
- Aluminum Threshold 3m - 30 units	- Aluminum Threshold 3m - 30 units
- Etc.	- Etc.
TERMS AND CONDITIONS	TERMS AND CONDITIONS
Submittals	Submittals
- The Solution Provider must have at least 1 designer/installer accredited by the BRAND that is being offered. Must have worked as an organic employee for at least one year. (Only for items 1, 2, 4, and 5)	– Remove
- To extend the maximum warranty, the supplier must submit a letter of authorization from the manufacturer stating that they are a certified partner and authorized reseller of the brand they carry. (For items 1, 2, 3, 4 and 5).	– Remove
 Proof of End-to-End Solution – Submit Letter from the Country Manager of the Cabling System Manufacturer of the Country where it will be installed that they manufacture end-to-end structured cabling system, fiber optic cables and their associated fiber connecting hardware. (For items 4 and 5). 	 Proof of End-to-End Solution – Submit Letter from the Country Manager of the Cabling System Manufacturer of the Country where it will be installed that they manufacture end-to-end structured cabling system, fiber optic cables and their associated fiber connecting hardware. (For items 4 and 5).
– Submit Warranty Statement and clearly inform on the liability for labor, parts	 Submit Warranty Statement and clearly inform on the liability for labor, parts etc.





	abling brand must be an ISO 9001 ied. (For items 4 and 5).	_	The cabling brand must be an ISO 9001 certified. (For items 4 and 5).
Certifi	m Provider shall submit copy of ISO 9001 cation of Cabling System Manufacturer. ems 4 and 5).	_	Solution Provider shall submit copy of ISO 9001 Certification of Cabling System Manufacturer. (For items 4 and 5).
Autho Appro the Co the co the So busin and d	ion Provider shall submit Letter of prization and Certificate of oval from the Country Manager of abling System Manufacturer where abling be implemented, stating that plution Provider is an authorized ess partner and certified installer designer of that Cabling System facturer. (For items 4 and 5).		Solution Provider shall submit Letter of Authorization and Certificate of Approval from the Country Manager of the Cabling System Manufacturer where the cabling be implemented, stating that the Solution Provider is an authorized business partner and certified installer and designer of that Cabling System Manufacturer. (For items 4 and 5).
Warra Systen Cabli Provi Systen Cabli Soluti produ	ion Provider shall submit Letter of anty Support from the Cabling In Manufacturer stating that the Ing Installation of the Solution der shall be supported by 25 years In Warranty to be issued by the Ing System Manufacturer (not by the ion Provider) which would cover acts, cables, labor and application intee for 25 years . (For items 4 and	_	Solution Provider shall submit Letter of Warranty Support from the Cabling System Manufacturer stating that the Cabling Installation of the Solution Provider shall be supported by 25 years System Warranty to be issued by the Cabling System Manufacturer (not by the Solution Provider) which would cover products, cables, labor and application guarantee for 25 years . (For items 4 and 5).
certifie Manuf of the p	on Provider shall have at least 2 personnel ad designer/installer by the Cabling acturer and should be an organic employee prospective bidder's company for a um of one year.	_	Solution Provider shall have at least 2 personnel certified designer/installer by the Cabling Manufacturer and should be an organic employee of the prospective bidder's company for a minimum of one year.
Center Data C should	m Provider should have 1 Certified Data Professional (CDCP) and 1 Certified Center Expert (CDCE) personnel and be an organic employee of the prospective 's company for a minimum of one year.	_	Solution Provider should have 1 Certified Data Center Professional (CDCP) and 1 Certified Data Center Expert (CDCE) personnel and should be an organic employee of the prospective bidder's company for a minimum of one year.
	ons provider should have a PCAB te for Communications Facilities.	_	Solutions provider should have a PCAB license for Communications Facilities.
– Scope Of Work		Scope O	f Work
– Mobili	zation of tools, local materials.	_	Mobilization of tools, local materials.
	ng/layout of pipe raceways from le/handhole to manhole/handhole.	_	Chipping/layout of pipe raceways from manhole/handhole to manhole/handhole.
– Layout	t of PVC pipes, pull boxes, and supports.	-	Layout of PVC pipes, pull boxes, and supports.
– Install	ation of Data Cabinets for IDF allocations	_	Installation of Data Cabinets for IDF allocations
– Fiber o IDFs.	optic cable installation/pulling from IDF to	_	Fiber optic cable installation/pulling from IDF to IDFs.
– Harne.	ssing of Fiber optic cable backbone.	_	Harnessing of Fiber optic cable backbone.
– Install	ation of Fiber trays and adapter plates.	_	Installation of Fiber trays and adapter plates.
– Fiber o pigtail	optic end-to-end termination using LC s.	_	Fiber optic end-to-end termination using LC pigtails.
	Backbone End-to-end and documentation nufacturer's Warranty.	_	Fiber Backbone End-to-end and documentation for Manufacturer's Warranty.
– Outdoo	or UTP Cable pulling and harnessing	_	Outdoor UTP Cable pulling and harnessing
	ation and configuration of active nent in the MDF and IDFs.	-	Installation and configuration of active equipment in the MDF and IDFs.





-	Fiber Optic testing and documentation for Manufacturer's Warranty.	 Fiber Optic testing and documentation for Manufacturer's Warranty.
_	Demobilization of tools and equipment.	- Demobilization of tools and equipment.
Testing		Testing
_	Fiber Optic Testing Procedures	- Fiber Optic Testing Procedures
_	<i>Testing of cable channels shall be performed prior to system cut-over.</i>	 Testing of cable channels shall be performed prior to system cut-over.
_	Fiber backbone cables shall be 100% tested for attenuation and length.	 Fiber backbone cables shall be 100% tested for attenuation and length.
_	Length shall be tested using an OTDR, optical length test measurement device or sequential cable measurement markings.	 Length shall be tested using an OTDR, optical length test measurement device or sequential cable measurement markings.
-	Attenuation shall be tested at 850nm and 1300nm for 50/125 µm multimode in at least one direction. Acceptable attenuation test results shall be determined using the following calculation:	 Attenuation shall be tested at 850nm and 1300nm for 50/125 µm multimode in at least one direction. Acceptable attenuation test results shall be determined using the following calculation:
	*Link attenuation = cable attenuation + connector attenuation	 *Link attenuation = cable attenuation + connector attenuation
***DC _	OCUMENTATION Cable Labeling Backbone cables shall be labeled at each end. The cable or its label shall be marked with its identifier.	***DOCUMENTATION Cable Labeling - Backbone cables shall be labeled at each end. The cable or its label shall be marked with its identifier.
_	Adapter Plates Labeling A unique identifier shall be marked on each faceplate to identify it as connecting hardware.	Adapter Plates Labeling – A unique identifier shall be marked on each faceplate to identify it as connecting hardware.
_	Each port in the faceplate shall be labeled with its identifier.	- Each port in the faceplate shall be labeled with its identifier.
	Racks, Panels, Blocks Labeling	Racks, Panels, Blocks Labeling
	A unique identifier shall be marked on each piece of connecting hardware to identify it as connecting hardware.	 A unique identifier shall be marked on each piece of connecting hardware to identify it a connecting hardware.
-	Each port on the connecting hardware shall be labeled with its identifier.	 Each port on the connecting hardware shall be labeled with its identifier.
_	Drawings (Diagrams) As-built drawing shall be supplied by the Solution Provider showing the locations of and identifiers for all:	Drawings (Diagrams) – As-built drawing shall be supplied by the Solution Provider showing the locations of and identifiers for all:
-	Backbone cable routing and terminations	– Backbone cable routing and terminations
_	Records All records shall be created by the installation Solution Provider and turned over at the completion of work. The format shall be computer based and both	Records – All records shall be created by the installation Solution Provider and turned over at the completion of work. The format shall be computer based and both soft copie



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soft copies and hard copies shall be part of the As-built package. The minimum requirements include: - Cable records must contain the identifier, cable type, termination positions at both ends, splice information as well as any damaged pairs/conductors. - Connecting hardware and connecting hardware position records must contain the identifier, type, damaged position numbers, and references to the cable identifier attached to it. - Test documentation on all cable types shall be included as part of the As-built package. Reports - All reports shall be generated from the computer-based program used to create the records above. These reports should include but not limited to: - Cable Reports - Cross-connect Reports - Products (Ciber parch panels, wiring blocks, connectors, adapter plates, fiber patch cross) - Fiber Optic Cables - Application Assurance Products & Cables Warrany - Covers components against defects in material or workmanythip under normal and proper use. Labor Warrany - The Cabling System Manufacturer adult by a texponsible in any labor works which results in any valid warrany claim as as to replace or reinstall a defective component. Application Assurance Products K Cables Warrany - Covers components against defects in material or workmanythip under normal and proper use. Labor Warrany - The Cabling System Manufacture shall be testing of a chamel		
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 ***WARRANTY A twenty (25) year system warranty certificate shall be issued by the Cabling System Manufacturer after audit by a technical engineer from the Cabling System Manufacturer of the structured cabling system installed. 	 cable type, termination positions at both ends, splice information as well as any damaged pairs/conductors. Connecting hardware and connecting hardware position records must contain the identifier, type, damaged position numbers, and references to the cable identifier attached to it. Test documentation on all cable types shall be included as part of the As-built package. Reports All reports shall be generated from the computer-based program used to create the records above. These reports should include but not limited to: Cable Reports Cross-connect Reports 	 cable type, termination positions at both ends, splice information as well as any damaged pairs/conductors. Connecting hardware and connecting hardware position records must contain the identifier, type, damaged position numbers, and references to the cable identifier attached to it. Test documentation on all cable types shall be included as part of the As-built package. Reports All reports shall be generated from the computer-based program used to create the records above. These reports should include but not limited to: Cable Reports Cross-connect Reports
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Configuration of Devices. – End-User Transfer Knowledge and Orientation	End-user requirements. – End-User Transfer Knowledge and Orientation
***Conditions:	***Conditions:
1. The following group must belong to the same manufacturer to ensure optimal system performance and compatibility:Group 1: (items: 2 & 3)	 The following group must belong to the same manufacturer to ensure optimal system performance and compatibility: a. Group 1: (items: 2 & 3)
Group 2: (items: 4 & 5)	b. Group 2: (items: 4 & 5)
2. The bidder must have a local office in the Visayas Area for maximum after-sales warranty support available 24/7 via phone call and onsite support next business day.	2. The bidder must have a local office in the Visayas Area for maximum after-sales warranty support available 24/7 via phone call and onsite support next business day.
3. Following system implementation and turn-over, the bidder should deliver a minimum of 8 hours of knowledge transfer to the in-charge staff.	3. Following system implementation and turn-over, the bidder should deliver a minimum of 8 hours of knowledge transfer to the in-charge staff.
	4. The Solution Provider must have at least 1 Certified designer/installer accredited by the BRAND that is being offered. Must have worked as an organic employee for at least one year. (Only for items 1, 2, 4, and 5)
	5. To extend the maximum warranty, the supplier must submit a letter of authorization from the manufacturer stating that they are a certified partner and authorized reseller of the brand they carry. (For items 1, 2, 3, 4 and 5).
Nothing Follows	Nothing Follows

For guidance and information of all concerned.

JULIUS B. UNDAR

Chairperson, Bids and Awards Committee