



MAHARASHTRA STATE ELECTRICITY TRANSMISSION CO. LTD.

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CIN No. : U40109MH2005SGC153646

Ref No.SE/PAC/C/KRD/T / **No 2 9 4**

Date:- **18 JUL 2025**

**Budgetary offer
(Through MSETCL webpage)
TO WHOM SO EVER IT MAY CONCERN**

Dear Sir,

The budgetary offers through email are invited for supply of **RTU, Ethernet Switch, Router, IEDs as per technical specification** at SE, PAC Circle Office, Karad as per Schedule A. You are requested to quote your lowest rates for tentative quantities as per schedule attached herewith

SCHEDULE 'A'

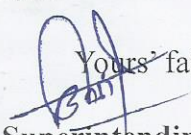
Sr. No.	Particular	Unit	Qty	Ex. rate in Rs	GST in %	Estimated Rate/unit (in Rs.) including all Taxes
1	Supply of RTU, Ethernet Switch, Router, IEDs as per technical specification at SE, PAC Circle Office, Karad					
A	Station RTU	EA	06			
B	Station level Ethernet switch	EA	06			
C	Router	EA	03			
D	Intelligent Electronic Device (IEDs)	EA	06			
	Total Amount in Rs					

The above rates are inclusive of all taxes and charges.

Note:-

- 1) Please note that said budgetary offer is only for estimate purpose & not considered for any bidding & no work order will be issued based on this Enquiry.
- 2) All interested bidders are requested to submit their best reasonable budgetary offer for above works on Email ID: se3500@mahatransco.in upto 18:00 Hrs on Dtd. 25.07.2025

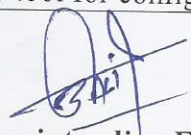
Thanking you,


Yours faithfully,
**Superintending Engineer
PAC Circle, Karad.**

GTP & Technical specification for Ethernet Switch, Router, IEDs

Sr. No.	Item	Type	Specification and Scope
1	Station RTU	Ports	6 Ethernet LAN TCP/IP, 10/100BaseTx (IEC61850 & IEC104) Modbus TCP
			4 serial ports (RS485/RS232-C)
			2 SFP base optical ports
			Separate port for RTU configuration
		Protocol	IEC 61850 Station level IEC 60870-5-101 · IEC 60870-5-104 · Modbus TCP · master/slave Modbus RS485
			SNMP network management
		Inputs/ outputs Expandable	NTP / SNTP · clock synchronization
			AI= 8 (4-20 mA, 2-3 kV isolation) , Tag points min-4000
			DI= 200, DO= 50 (Capable 80-300 V DC) Expandable upto DI= 300, DO= 70 2-3 kV isolation
		Processor	32 bit processor
		Memory	1 GB memory (512 MB SDRAM, 512 MB SLC Flash)
		Power supply	Universal 60-300VDC
		Hardware compliance	IEC61850 -3 Compliant; MMS Compliance
		Cyber security	NERC/CIP, IEC 62351, IEEE 1686
2	Station level Ethernet switch	IEC-104 addressing	Struct URE format as per MSETCL requirement
		GPRS MODEM/ LTE	BUILT IN
		Switch Type	Managed Layer 2 switch with LED indicators, EN50022 DIN RAIL type, Industrial, Operating Temperature -40-75deg C,
		Ports	8/16GbE RJ45 Cu 10/100BaseTX & 4 GbE SFP(FO Ports)
		Protocol	MSR,STP, RSTP, PRP, HSRP
		Standard	IEC61850 -3Compliant; MMS Compliance, IEEE1613, EMC IEC/EN 61000-6-2, EN 50121-1/-4, CE class A,FCC subpart-15 class A EMS: IEC/EN 61000-6-4, EN 50121-1/-4, EN 61000-4-2,4-3,4-4,4-5,4-6,4-8&4-9 Vibration IEC60068-2-6,IEC 60068-2-36, shock IEC 60068-2-27, freefall IEC 60068-2-32
		Power supply	DC 10~60V power redundancy/Dual redundant Power Supply: 80-300V DC and AC/with Power adapter 220VDC/AC
			Layer 3 VPN MPLS Router with LED indicators, -40~75°C wide temperature, Options:Modbus TCP/RTU gateway for Modbus devices control, Modbus2SNMP gateway for convenient IT management, Complete Layer 3 routing support: Static, OSPF, RIP
		Ports	3 Nos Gigabit Copper Ports (3 x 10/100/1000 Tx RJ45) 1 Port

3	Router		Gigabit/RJ/SFP combo WAN + Console (3 pin header-RS-232)
		Standard	IEEE 802.3u: Auto negotiation on TP, IEEE 802.3x, 802.1p: flow control and prioritization, IEEE 802.1Q: VLANs, maximum 32 VLANs, IEEE 802.1d, 802.1w: Spanning Tree, IEEE 802.1p: Diff Serv, traffic prioritization for routed IP flows/ports; Support IPv4 and IPv6 simultaneously. EMI: CISPR 16-1-2/ 16-2-1/ 16-2-3 / 22, FCC Part 15 Subpart B Class A, ANSI C63.4 Heavy Industrial IEC/EN61000-6-4, EMS: Heavy Industrial IEC/EN 61000-6-2, IEC 61000-4-2, IEC 61000-4-3, IEC 61000-4-4, IEC 61000-4-5, IEC 61000-4-6, IEC 61000-4-8, IEC 61000-4-9 Shock: IEC60068-2-27, Bump: IEC60068-2-29, Vibration IEC60068-2-64, FreeFall: IEC60068-2-32
		Protocol	All standard Routing protocols such as RIP, OSPF with latest version, BGP, HSDPA etc. IP traffic, ARP, PPP, CHAP, IPv4, IPv6, PAP, ICMP, TCP, UDP, NFS, SNMP v1/v2c/v3, NTP, SSH1.0/2.0, SSL, Open VPN, Ipsec, PPP, PPPoE, PPTP, FTP, HTTP, SMTP, DNS, L2TPv3, L2TP over IPsec, OSPF, RIP v1.0/2.0, BGP*, 802.11*, HSDPA*, GPRS* telnet, dhcp, VLAN
		Power supply	DC 9~36V power input with reverse protection with Power adapter 220VDC/AC
		Firewall	Network Address Translation DES/AES Encryption NERC Compliance Support IPsec/VPN with 3DES/AES, Encryption, inspection/filtering - Shall support static Network Address Translation, OpenVPN, IPsec VPN, NAT
4	Intelligent Electronic Device(IEDs)	Power supply	48-250V DC (Universal),
		Display	LCD Display for indication of measured values
		Metering Function	Calculation of derived measured values i.e. active and reactive power, power factor and frequency
		Integrated FO interface	Integrated FO interface with IEC61850 Protocol Ed. 1 / Ed. 2
		Digital Inputs & Outputs	Digital Inputs: 24/36 Nos. & Digital Outputs: 11/16 Nos.,
		Parameters	Instantaneous parameters: voltage, current, frequency, power factor, apparent power, reactive power, active power, etc. integrated parameters like Mwh, Mvarh, etc
			Event and Alarm recording time stamp with 1ms resolution,
			4 CT Inputs with continuous current rating 3 times the nominal current rating and short time current rating of 100 times the nominal current for 1 sec. 4 PT Input rated from 100V to 170V, Software tool for configuration


Superintending Engineer
PAC Circle, Karad