



MAHARASHTRA STATE ELECTRICITY TRANSMISSION CO. LTD.

Name of Office : Superintending Engineer, PAC Circle, Karad.
Office Address : Administrative Building, Ground Floor, Vijaynagar,
Post – Supane, Tal – Karad Dist – Satara, Pin No. 415114
Contact No. : 02164-255211
Email ID : se3500@mahatransco.in
Website : www.mahatransco.in.
CIN No. : U40109MH2005SGC153646

Ref No.SE/PAC/C/KRD/T / No 338

Date:- 28 AUG 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	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. 08.09.2025

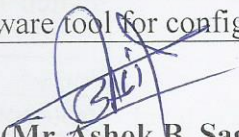
Thanking you,

Yours' faithfully,
(Mr. Ashok B. Sagare)
Superintending Engineer
PAC Circle, Karad.

GTP & Technical specification for Ethernet Switch, Router, IEDs

Sr. No.	Item	Type	Specification and Scope
1	Direct Pulling RTU Compliance to IEC 61850 & IEC104	Ports	Serial Port:- RS232 and RS485 ports , 2 ports each (RS 232 for IEC 101 Data out & RS 485 for MFM Data IN) No. of Ethernet port:- RJ45 – Min. 4 Nos without any AC/DC convertor
		Protocol	IEC 61850 ,IEC 60870-5-104 ,Modbus TCP
		Memory	eMMC 4 GB Flash RRAM 512 MB DDR3 SD RAM
		Power supply	Universal 24-230 V AC/DC
		Hardware compliance	No. of console ports:-1, Multi-client reporting
		IEC-104 addressing	Structure format as per MSETCL requirement
2	Direct Pulling RTU Compliance to IEC 61850 & IEC104	Ports	Serial Port:- RS232 and RS485 ports , 2 ports each (RS 232 for IEC 101 Data out & RS 485 for MFM Data IN) No. of Ethernet port:- RJ45 – Min. 4 Nos without any AC/DC convertor
		Protocol	IEC 61850 ,IEC 60870-5-104 ,Modbus TCP
		Memory	eMMC 4 GB Flash RRAM 512 MB DDR3 SD RAM
		Power supply	Universal 24-230 V AC/DC
		Hardware compliance	No. of console ports:-1, Multi-client reporting
		IEC-104 addressing	Structure format as per MSETCL requirement
		Inputs/ outputs Expandable	AI= 16(4-20 mA, 2-3 kV isolation) , Tag Points-Min-4000 DI= 60 (Capable 80-300 V DC)
3	Station level Ethernet switch	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
4	Router		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 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, OpenVPN, Isec, 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
5	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


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 PAC Circle, Karad