MACHINE REMOTE MAINTENANCE

RAS & M2Me

MAINTENANCE WITHOUT TRAVELLING

M2Me solution is dedicated to remotely maintain and control any type of industrial devices (PLC, HMI, Drive, ...).

Using M2Me you can quickly from your PC, your tablet or your smartphone be «teleported» in real time and safely onto the remote site you want to monitor or maintain.

DOC_MPR_RAS_Data sheet_F (latest update 03/01/2023)

RAS Machine Access Box

- **Simple configuration**
  Wizard
- **Ultra-secure connection**
- **MultiWAN**
  Ethernet, 3G+/4G, Wi-Fi
- **Compatible with Store4Me solution**
- **Compatible with Collect & Alert**
  SMS, E-mail, e*Message
- **Datalogger & Alarms**
  SMS, E-mail, e*Message, MQTTs, HTTPs, OPCUA
- **Compatible with MindSphere & EcoStruxure™ Machine Advisor**
- **RS232 & RS485, LoRa**
- **GPS Tracking**
- **5 years warranty**

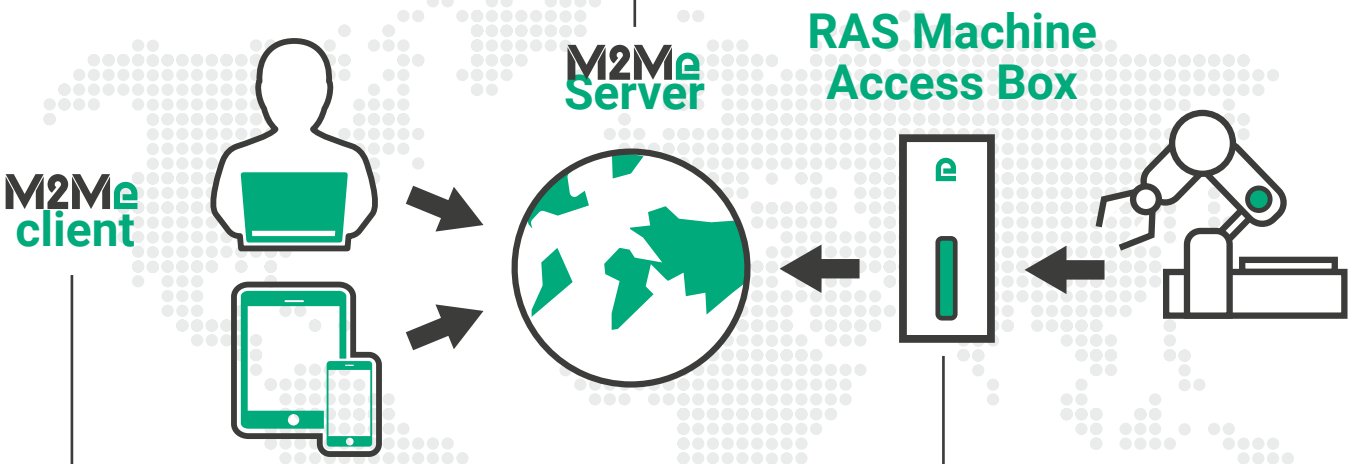
etic TELECOM

Since 1985, Etic Telecom designs and markets products and solutions to interconnect machines and industrial systems.

We are present in the market for water, energy, transportation, urban infrastructure and industry 4.0.

THE M2Me SOLUTION

The M2Me_Connect service offers a secure end-to-end connection.



The M2Me client installed on the remote operator's PC, tablet or smartphone connects to the M2Me server (cloud-based solution operated by Etic Telecom) to establish **a secure connection (VPN) onto the machine.**
It also organizes in a simple way the remote sites to be maintained or monitored.

A Machine Access Box (industrial VPN Router) connects the machine or the remote industrial equipment to the M2Me server in a simple and totally secure way.

ADVANTAGES

Simplicity of implementation
RAS is delivered together with a Wizard.

Plant network integrity
The RAS establishes an outgoing VPN connection that does not require any modification of the existing plant network (firewall, proxy, ...).

A non-intrusive solution
The M2Me technology guarantees that the operator can only connect to the machine network and in no case to the other equipment of the industrial site.

A secure solution
M2Me relies on VPN technology and implements authentication to the M2Me server by certificates for the remote user and the RAS.

Management of access rights
The RAS allows a personalized management of access rights allowing an operator to connect to all or part of the equipment.

Wireless solution for isolated sites
Some RAS have a 3G + or 4G connection to establish an Internet link through a cellular network.

A sustainable solution
The RAS is an industrial device with 5 years warranty.

Compatible with Store4Me solution
Store4Me allows the collection and storage in the Cloud of industrial data. Those data can be used for dashboard creation.

RAS fleet management (RFM)
Thanks to RAS Fleet Manager, you simplify the management of your fleet of Machine Access Box by updating automatically the lists of remote maintenance sites and by centralizing in the RFM the management of the access rights for each operator.

Wireless access to industrial equipment
Some machines may be difficult to access in the factory. The optional RAS Wi-Fi hotspot allows you to remotely configure the Machine Access Box from a PC or a tablet.

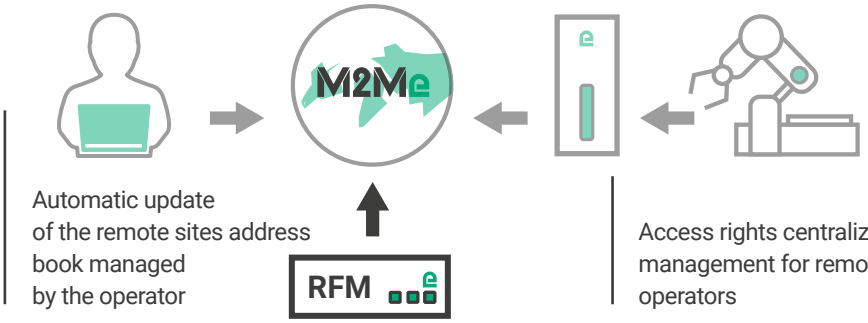
Wireless Internet access via Wi-Fi
The RAS optionally has a Wi-Fi client that allows access to the Internet via a Wi-Fi access point of the industrial site or by using its smartphone in connection-sharing mode.

Solution compatible with alarms sending and data logger
The Collect & Alert option allows the raising of alarms and its transmission (CSV files).
The alerted manager can then visualize Web pages or take the hand (VPN) on the PLC or the HMI of the machine.

SELECTION GUIDE

RAS-	E-100	EW-100	C-100	E-400	E-220	EW-400	EW-220	EC-400	EC-220	ECW-400	ECW-220
WAN : Ethernet	1	1		1	1	1	1	1	1	1	1
WAN: cellular - LW : 4G monde - LTE-M			1					1	1	1	1
Wi-Fi: 2,4-5 GHz (Access point & client)		1				1	1			1	1
LAN : Ethernet	1	1	1	4	2	4	2	4	2	4	2
RS232 / RS485					✓		✓		✓		✓
GPS Option (with ANT405)				✓	✓	✓	✓	✓	✓	✓	✓
2 power inputs				✓	✓	✓	✓	✓	✓	✓	✓
2 SIM readers								✓	✓	✓	✓
Passerelle LoRa	E-180					EW-480		EC-480			

RAS FLEET MANAGER :
Centralized management of your RAS fleet



Automatic update of the remote sites address book managed by the operator

Access rights centralized management for remote operators

ACCESSORIES

	ANT305	ANT310	ANT320	ANT217	ANT311	ANT219	ANT405
Type	Panel Mount	Roof	Magnet	Panel Mount	Roof	Magnet	Magnet
Network	3G⁺/4G (compatible LoRa)	3G⁺/4G (compatible LoRa)	3G⁺/4G (compatible LoRa)	Wi-Fi (2.4 et 5 GHz)	Wi-Fi (2.4 et 5 GHz)	Wi-Fi (2.4 et 5 GHz)	GPS (1.57 GHz)
Connector	Male SMA	Male SMA	Male SMA	Male RP SMA	Male RP SMA	Male RP SMA	USB
Cable	-	5m	3m	-	2,5m	1m	3m
Dimensions	H = 160mm	H = 82mm Ø = 48mm	H = 72mm Ø = 31mm	H = 90mm	H = 23mm Ø = 80mm	H = 220mm Ø = 60mm	H = 15mm Ø = 38mm

5m coaxial extension: CO-LL6-SF-SM-500 // Kit antenne kit-ANT3xx

TECHNICAL CHARACTERISTICS

GENERAL CHARACTERISTICS	
Dimensions	• RAS-X-100: 120x37x88mm (h,l,d) • Other RAS: 135x47x115mm (h,l,d)
Weight	Between 500g and 650g depending on model (without packaging)
Power	• RAS-X-100: Nominal 12 - 24 VDC (min 10 - max 30) • RAS-E: Nominal 12 - 48 VDC (min 10 - max 60) • Phoenix type 2 pts connector
Consumption	• RAS-E 2W • RAS-EC or RAS-EW: 5W, RAS-ECW: 8W
Temperature	• Storage: -40 °C - +85 °C • Operation: -40 °C - +70 °C • Humidity 5 to 95%
EMC	Immunity (EN 61000-6-2) • EN61000-4-2: Electrostatic discharge (ESD) • EN61000-4-3: RF radiated • EN61000-4-4: EFT/Burst • EN61000-4-5: Surge • EN61000-4-6: RF Conducted • EN61000-4-8: Magnetic field Emission (EN 61000-6-4) • EN 55022: Radiated and Conducted emission FCC: RAS-X-100: FCC PART 15
Electrical Safety	IEC-EN 62368-1 RAS-X-100: UL 62368-1
Hazardous substances	• Directive 2002/95/CE (RoHS) • REACH
Casing	Metallic IP20 (RAS-E, RAS-M) or IP31 (RAS-X-100) with DINRail mounting
WAN NETWORK	
Ethernet	• RJ45 • Auto: 10/100 full & half MDI/MDI-X
4G/3G+	• 4G World Wide (-LW) and LTE-M • Max. data rate 4G: UL @ 50 Mbps and DL @ 100Mbps • Max. data rate 3G+: UL @ 5,7 Mbps and DL @ 21 Mbps • Max. data rate 2G: UL @ 237 Kbps and DL @ 237 Kbps • Antenna connector Female SMA • Certified antennas: see Accessories page 3
Wi-Fi	• Client 2.4 and 5 GHz • 802.11 a/b/g/n • Antenna connector Female RP-SMA • Certified antennas: see Accessories page 3
LAN NETWORK	
Ethernet	• RJ45, 1 up to 4 ports depending on model • Auto: 10/100 full & half MDI/MDI-X
RS232/RS485	• 1200 up to 115200bps 10 or 11 bits • RAW TCP server, TCP client & UDP gateway • ModBus master or slave gateway • Unitelway gateway for master PLC • RS232: RJ45 • RS485: 2 points phoenix connector
Wi-Fi	Access point 2.4 and 5 GHz (up to 5 users)

ROUTING / IP@ / MANAGEMENT	
Routing IP	• Routing tables • RIP • Address translation (DNAT, SNAT and NAT 1:1)
Assigning IP@	• WAN interface: DHCP client or fixed IP • LAN interface: DHCP server
DNS	• WAN interface: compatible with DYNDNS, No-IP or ETIC DNS • LAN interface: relay & DNS server
Redundancy	VRRP RFC 3768 protocole
Management	MIB 2 andTraps SNMP V2 and V3
Configuration	HTTP, HTTPs, SSH
CYBER SECURITY	
VPN tunnel	• OpenVPN (TLS/SSL), IPSEC, L2TP/IPSEC, PPTP • Shared Key or X.509 Certificate • Encryption AES 256 CBC and GCM • Authentication: SHA 512 • Up to 10 VPN tunnels (mix OpenVPN and IPSEC allowed)
Firewall	• Stafeful packet inspection (SPI: 50 rules) • Filtering IP@ and Ports
Internal report	• Timestamped • Events: connection, restart, alarms • Syslog: local or centralized authentication. Active Directory, LDAP, LDAPs, Radius
Alarms	• Digital input: email, SMS • Digital output: Power supply failure, user connection, ...
Redondancy	VRRP protocol RFC 3768
M2ME SOLUTION	
Users	Up to 100 remote users
Security	• Access to the RAS by Login & Password & Certificate (optionnal) and optional certificate • Single RAS product key required for the remote user • Customizable LAN machine network access rights • Local or centralized authentication. Active Directory, LDAP, LDAPS, Radius
Redondancy	Multi WAN for backup on specific models
Communication	End to end VPN: OpenVPN
Management	• Saving a configuration • Recording on USB flash drive, SD card or internal memory • Reset product to return to factory configuration • Option managed from the client area of the WEB site or Store4Me area
M2Me Client	• PC: Windows • Smartphone and tablet PC: Android and iOS
OPTIONS	
Collect & Alert	Industrial data collection and alert on incident
Store4Me	Data storage in the Cloud and dashboarding
RAS Manager	RAS fleet centralised management

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