

RIPEX AS A4

EMSRPXASA4

RipEX es una plataforma de radio modem que proporciona un servicio fiable 24/7 para la transferencia inalámbrica de datos en aplicaciones de misión crítica como SCADA y telemetría en infraestructuras esenciales como empresas de suministro de electricidad, agua, petróleo, gas y muchas otras.

Racom



> Características:

- 1.7 Mb/s, 256 QAM
- Enrutamiento dinámico
- Radio y celular en uno
- Cobertura ilimitada sin estaciones base

> Desempeño:

- 160, 300, 400, 800, 900 MHz
- 2CPFSK – 256 QAM
- Canales de 6.25 a 300 kHz
- 10 W, half-duplex o full duplex

> Seguridad:

- IPsec, OpenVPN, AES256
- RADIUS, Firewall, VLAN
- Firmware firmado digitalmente, inicio seguro
- HW Tamper

> Confiabilidad:

- Diseño industrial robusto, de -40 a +70 °C
- Cada unidad probada en cámara climática
- MTBF > 100 años, Fabricado en Chequia, UE
- Rutas de respaldo, redundancia 1+1

	RipEX2	RipEX2e	RipEX
Max. Speed	1.7 Mb/s @ 256QAM	250 kb/s @ 64QAM	166 kb/s @ 16DEQAM
Speed @ 25 kHz	167 kb/s	125 kb/s	83 kb/s
Channel size	6.25 – 300 kHz	6.25 – 50 kHz	6.25 – 50 kHz
Interfaces	4× ETH, 1× SFP, 2× COM, 1× USB	2× ETH, 2× COM, 1× USB	1× ETH, 2× COM, 1× USB
mPCIe	Yes	No	No
Full-duplex	Yes	No	No



Radio parameters	RipEX2	RipEX2e	RipEX			
Frequency bands	135–175; 285–335; 335–400; 400–470; 450–520; 803 – 897; 860 – 960 MHz		135–154; 154–174; 215-240; 300–320; 320–340; 340–360 368–400; 400–432; 432–470; 470-512; 928–960 MHz			
Channel spacing	6.25; 12.5; 25; 50; 100; 150; 200; 250; 300 kHz	6.25; 12.5; 25; 50 kHz	6.25; 12.5; 25; 50 kHz			
Frequency stability	+/- 0.5 ppm		+/- 1.0 ppm			
Modulations	QAM: 256QAM, 64QAM, 16DEQAM, D8PSK, π /4DQPSK, DPSK FSK: 4CPFSK, 2CPFSK	QAM: 64QAM, 16DEQAM, D8PSK, π /4DQPSK, DPSK FSK: 4CPFSK, 2CPFSK	QAM: 16DEQAM, D8PSK, π /4DQPSK, DPSK FSK: 4CPFSK, 2CPFSK			
FEC (Forward Error Correction)	2/3; 3/4; 5/6; Off		3/4; Off			
Gross data rate	up to 1.7 Mb/s	up to 250 kb/s	up to 167 kb/s			
RF Output power	20-40 dBm PEP (0.1-10 W RMS), 1 dB step programmable		20-40 dBm PEP (0.1-10 W RMS), 9 levels programmable			
Duty cycle	Continuous					
Rx to Tx Time	< 0.7 ms @ 25 kHz; < 1 ms @ 12.5 kHz channel		< 1.5 ms			
Sensitivity	- 97 dBm (256QAM; 12.5 kHz; BER 10-6; 2/3 FEC) -117 dBm (2CPFSK; 12.5 kHz BER 10-6; 3/4 FEC)	- 101 dBm (64QAM; 12.5 kHz; BER 10-6; 2/3 FEC) -117 dBm (2CPFSK; 12.5 kHz BER 10-6; 3/4 FEC)	- 99 dBm (16DEQAM; 12.5 kHz; BER 10-6; 3/4 FEC) -111 dBm (2CPFSK; 12.5 kHz BER 10-6; 3/4 FEC)			
Electrical						
Primary power	10 to 30 VDC, negative GND					
Rx	8.3 W @ 24 V		4.8 W @ 24 V			
Tx	12 – 40 W @ 24 V		13 – 38 W @ 24 V			
Sleep mode	0.01 W		0.1 W			
Interfaces						
Ethernet	4x 10/100/1000 Base-T Auto MDI/MDIX	4x RJ45	2x 10/100/1000 Base-T Auto MDI/MDIX	2x RJ45	1x 10/100 Base-T Auto MDI/MDIX	1x RJ45
SFP	1x 10/100/1000 Base or T/1000Base-SX or 1000Base-LX	1x SFP	No		No	
Serial	1x RS232/RS485 SW configurable 1x RS232 600 b/s – 1 Mb/s	1x DB9F	1x RS232/RS485 SW configurable 1x RS232 600 b/s – 1 Mb/s	1x DB9F	1x RS232 1x RS232/RS485 SW configurable 300 b/s – 115 kb/s	1x DB9F 1x DB9F
USB	USB 3.0 / Host A				USB 1.1 / Host A	
Antenna	2x TNC female @ 50 ohms SW configurable: 1x Rx/Tx or 1x Rx + 1x Tx		1x TNC female @ 50 ohms, Rx/Tx		1x TNC female @ 50 ohms (Rx/Tx) or 2x TNC (1x Rx + 1x Tx) - different HW model	
Inputs/Outputs	1x HW alarm input, 1x HW alarm output, 1x Sleep input, 2x DI, 2x DO, 1x DiffDI (when mPCle-COMS is not used)		1x HW alarm input, 1x HW alarm output, 1x Sleep input		1x HW alarm input, 1x HW alarm output, 1x Sleep input	
Optional Expansions	1x mPCle: Cellular module, GPS...		No		GPS	
Indication LEDs						
LED panel	5x tri-color status LEDs (SYS, AUX, Rx, Tx, COM)				7x tri-color status LEDs (Power, ETH, COM1, COM2, Rx, Tx, Status)	
ETH	4x RJ45 (Link and Activity LEDs), 1x SFP (Status LED)		2x RJ45 (Link and Activity LEDs)			
Environmental						
IP Code (Ingress Protection)	IP41, IP42, IP52				IP40, IP51	
MTBF (Mean Time Between Failure)	> 900 000 hours (> 100 years)					
Operating temperature	- 40 to +70 °C (- 40 to +158 °F)					
Operating humidity	5 to 95% non-condensing					
Mechanical						
Casing	Rugged die-cast aluminium					
Dimensions	60 H x 185 W x 125 D mm (2.34 x 7.2 x 4.9 in)				50 H x 150 W x 118 D mm (1.97 x 5.9 x 4.65 in)	
Weight	1.55 kg (3.4 lbs)				1.1 kg (2.4 lbs)	
Mounting	DIN rail, L-bracket, Flat-bracket, 19" Rack chassis					
Radio channel						
Radio protocols	Transparent @ Bridge; Flexible, Base driven @ Router					
Routing (Radio channel included)	Static, Dynamic				Static, Backup routes	
Multi master applications	Yes					
Report by exception	Yes					
Collision Avoidance Capability	Yes					
Remote to Remote communication	Yes					
Repeaters	Store-and-forward; Every unit; Unlimited number					
QoS	8 levels on all interfaces, Radio included					
SCADA protocols						
Serial	DNP3, DF1, IEC101, Modbus RTU, PR2000, RDS, Siemens 3964(R), COMLI, SAIA S-bus, Mars-A, UNI, Async Link...					
Ethernet	Modbus TCP, IEC104, DNP3 TCP, Comli TCP...					
Serial to IP converters	Modbus RTU / Modbus TCP, DNP3 / DNP3 TCP, Terminal server					
Security						
Management	HTTPS (Web), SSH (CLI)					
Role-based access control (RBAC)	4 levels (Guest, Tech, SecTech, Admin)				2 levels (Guest, Admin)	
Encryption	AES256 - CCM					
VPN	IPsec, OpenVPN, GRE					
VLAN	IEEE 802.1Q (tagging), Q-in-Q for Transparent mode					
AAA protocol	RADIUS				No	
Firewall	Layer 2 - MAC, Layer 3 - IP, Layer 4 - TCP/UDP					
FW	Digitally signed, Secure boot					
HW tamper	Case opening evidence				No	
Diagnostics						
Radio link testing	Ping with RSS, MSE (DQ)					
Logs	Status, Event log				Status	
Statistics	Historical and differential statistics (Rx/Tx packets etc.) for all interfaces, for Radio channel in adition RSS, MSE (DQ), Repeats etc.					
Monitoring	Real time analysis of all interfaces (Radio, ETH 1-5 , COM 1-3, Cellular...)					
NTP	Client, Server					
SNMP	SNMPv1, SNMPv2c, SNMPv3, SNMP Trap / Inform alarms generation as per settings					
SMS	SMS alarms generation as per settings		No		No	
Approvals	CE (RED), FCC, Ask for others					

**Para más detalles de las especificaciones técnicas del producto en mención, solicitar la ficha técnica del fabricante*