

# Industrial Cellular routers

## MIDGE

MIDGE cellular routers are primarily designed for SCADA & Telemetry applications at critical infrastructure like Power and Water Utilities and Oil & Gas. They are also well suited to many other applications where high reliability is required, such as POS, ATM, Lottery and Security.



## Market leader

- Serial SCADA protocols
- Programmable scripts
- Expansion ready - mPCIe
- Hybrid networks

## Performance

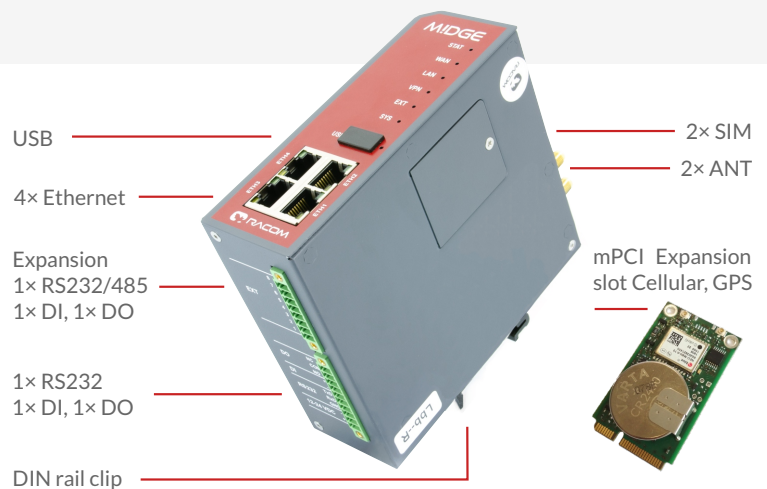
- 4G/LTE, 3G/UMTS, 2G/EDGE
- 2× SIM
- Static & Dynamic routing
- QoS

## Security

- IPsec, OpenVPN
- RADIUS, SNMPv3
- Firewall, VLAN
- Digitally signed FW

## Reliability

- Industrial hardened design
- Metal casing
- -40 to +70 °C
- MTBF > 25 years



# Technical parameters

|                                  |   |
|----------------------------------|---|
| <b>Cellular interface</b>        | <b>MIDGE2</b>   |
| Frequency bands E                | 4G LTE - Band 20 (800 MHz), Band 5 (850 MHz), Band 8 (900 MHz), Band 3 (1800 MHz), Band 1 (2100 MHz), Band 7 (2600 MHz)<br>3G UMTS/HSDPA/HSUPA - Band 5 (850 MHz), Band 8 (900 MHz), Band 2 (1900 MHz), Band 1 (2100 MHz)<br>2G GSM/GPRS/EDGE - GSM 850 MHz, E-GSM 900 MHz, DCS 1800 MHz, PCS 1900 MHz            |
| Frequency bands P                | 4G LTE - Band 28 (750 MHz), Band 5 (850 MHz), Band 8 (900 MHz), Band 3 (1800 MHz), Band 1 (2100 MHz), Band 7 (2600 MHz)<br>3G UMTS/HSDPA/HSUPA - Band 5 (850 MHz), Band 8 (900 MHz), Band 2 (1900 MHz), Band 1 (2100 MHz)<br>2G GSM/GPRS/EDGE - GSM 850 MHz, E-GSM 900 MHz, DCS 1800 MHz, PCS 1900 MHz            |
| Frequency bands A                | 4G LTE - Band 17 (700 MHz), Band 5 (850 MHz), Band 4 (1700 MHz), Band 2 (1900 MHz), Band 7 (2600 MHz)<br>3G UMTS/HSDPA/HSUPA - Band 5 (850 MHz), Band 8 (900 MHz), Band 4 (AWS, i.e. 1700 MHz), Band 2 (1900 MHz), Band 1 (2100 MHz)<br>2G GSM/GPRS/EDGE - GSM 850 MHz, E-GSM 900 MHz, DCS 1800 MHz, PCS 1900 MHz |
| Frequency bands U                | 3G UMTS/HSDPA/HSUPA - Band 5 (850 MHz), Band 8 (900 MHz), Band 2 (1900 MHz), Band 1 (2+B1:B21)<br>2G GSM/GPRS/EDGE - GSM 850 MHz, E-GSM 900 MHz, DCS 1800 MHz, PCS 1900 MHz   |
| Data rates                       | Up to 150 Mb/s downlink; 50 Mb/s uplink   |
| SIM slot                         | 2x Micro SIM  |
| <b>Electrical</b>                |   |
| Primary power                    | 12 – 24 VDC, +/- 20%  |
| Power consumption                | Average 7W (including max. 2.5W on USB port)  |
| <b>Interfaces</b>                |   |
| Ethernet                         | 4x Ethernet 10/100 Base-T, Auto MDX, 4x RJ45, bridged or routed   |
| Serial                           | 1x RS232, 300–115 200 b/s, screws, RxD, TxD, GND  |
| USB                              | 1x USB 2.0 / Host A   |
| Inputs/Outputs                   | 1x DI, 1x DO  |
| Antenna                          | 2x SMA female – receive diversity   |
| <b>Expansion</b>                 |   |
| Proprietary extension slot       | COM/IO: RS232/RS485 + 1x DI, 1x DO  |
| mPCIe slot                       | GPS with Pulse per second output or the second cellular module: E, P, A, U  |
| <b>Environmental</b>             |   |
| IP Code (Ingress Protection)     | IP40  |
| MTBF (Mean Time Between Failure) | > 220.000 hours (> 25 years)  |
| Operating temperature            | – 40 to +70°C   |
| Operating humidity               | 5 to 95% non-condensing   |
| <b>Mechanical</b>                |   |
| Casing                           | Metal   |
| Dimensions                       | 125 H x 45 W x 110 D mm (4.9 x 1.8 x 4.3 in)  |
| Weight                           | 450 g (1.0 lbs)   |
| Mounting                         | DIN rail, Flat-bracket  |
| <b>Security</b>                  |   |
| Management                       | HTTPS (Web), SSH (CLI)  |
| Access accounts                  | 2 levels (User, Admin)  |
| Encryption                       | AES256 with IPsec, OpenVPN  |
| IPsec                            | Yes   |
| Firewall                         | Layer 2 – MAC, Layer 3 – IP, Layer 4 – TCP/UDP, SMS filter  |
| AAA protocol                     | RADIUS  |
| <b>SW</b>                        |   |
| Fallback management              | Yes   |
| Connection supervision           | Yes   |
| Automatic connect recovery       | Yes   |
| SMS management                   | Yes   |
| Software Development Kit         | Full featured   |
| Linux container                  | LXC   |
| SMS / E-mail event notification  | Yes / Yes   |
| Routing                          | Static / Dynamic  |
| BGP / OSPF                       | Yes / Yes   |
| QoS                              | Yes   |
| NAPT                             | Yes   |
| User protocols on Ethernet       | Yes   |
| Serial SCADA protocols           | Modbus RTU, DNP3, IEC101, DF1, COMLI, C24, Cactus, ITT Flyght, RP570, Siemens 3964(R), UNI  |
| Serial to IP convertors          | Modbus RTU / Modbus TCP, Terminal server  |
| VPN                              | OpenVPN, IPsec, PPTP, GRE   |
| VRRP                             | Yes   |
| NTP                              | Client / Server   |
| SNMP                             | v1, v2c, v3   |
| <b>Approvals</b>                 | CE, FCC   |

Technical parameters are subject to change without prior notification. For more details see [User manuals](#).

