Industrial Cellular routers

M!DGE

M!DGE cellular routers are primary 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 and Security.

Market leader

- Serial SCADA protocols
- SFP Interface
- Expansion ready – mPCIe
- Hybrid networks

Performance

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

Security

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

Reliability

- Industrial hardened design
- Approved for power substations
- −40 to +70 °C
- MTBF > 100 years

2× SIM

2× ANT

1× USB
2× DI, 2× DO, 1× difDI
1× SFP
4× Ethernet
DIN rail clip

mPCIe expansion
2× RS232 or
1× Cellular or
1× GPS

Power

1× RS232/485

RACOM

Cellular interface	M!DGE3	
Frequency bands W	4G LTE - Band 1 (2100 MHz), Band 2 (1900 MHz), Band 3 (1800 MHz), Band 4 (2100 MHz), Band 5 (850 MHz), Band 7 (2600 MHz), Band 8 (900 MHz), Band 12 (700 MHz), Band 13 (700 MHz), Band 18 (850 MHz), Band 19 (850 MHz), Band 20 (800 MHz), Band 26 (850 MHz), Band 28 (700 MHz), Band 38 (2600 MHz), Band 40 (2300 MHz), Band 41 (2500 MHz), Band 66 (2100 MHz)	
	3G UMTS/HSDPA/HSUPA - Band 1 (2100 MHz), Band 2 (1900 MHz), Band 3 (1800 MHz), Band 4 (2100 MHz), Band 5 (850 MHz), Band 6 (850 MHz), Band 8 (900 MHz), Band 19 (850 MHz)	
	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	
Electrical		
Primary power	10 – 50 VDC	
Power consumption	Average 7W	
Interfaces		
Ethernet	4× Ethernet 10/100/1000 Base-T, Auto MDX, bridged or routed	4× RJ45
SFP	1× 10/100/1000 Base or T/1000Base-SX or 1000Base-LX	1× SFP
Serial	1× RS232/RS485 SW configurable 2× RS232 (mPCIe expansion board) 600 b/s – 1 Mb/s	Terminals 1× RJ45
USB	1× USB 3.0 / Host A	
Inputs/Outputs	1× HW alarm input, 1× HW alarm output, 1× Sleep input 2× DI, 2× DO, 1× difDI (when mPCIe-COMS is not used)	Power connector RJ45
Antenna	2× SMA female – receiver diversity	
Optional Expansions	1× mPCIe: Cellular module or 2x RS232 or GPS	
Environmental		
IP Code (Ingress Protection)	IP40	
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	Metal	
Dimensions	132 H × 43 W × 110 D mm (5.20 × 1.69 × 4.33 in)	
Weight	0.50 kg (1.1 lbs)	
Mounting	DIN rail, optionally: Flat-bracket or L-bracket	
Security		
Management	HTTPS (Web), SSH (CLI)	
Role-based access control (RBAC)	4 levels (Guest, Tech, SecTech, Admin)	
IPsec	Yes	
Firewall	Layer 2 – MAC, Layer 3 – IP, Layer 4 – TCP/UDP, SMS filter	
AAA protocol	RADIUS	
FW	Digitally signed	
HW tamper	Case opening evidence	
SW		
Fallback management	Yes	
Connection supervision	Yes	
Automatic connect recovery	Yes	
SMS management	Yes	
Routing	Static / Dynamic	
BGP/OSPF/BABEL	Yes/Yes/Yes	
QoS	Yes	
NAPT	Yes	
User protocols on Ethernet	Yes	
Serial SCADA protocols	DNP3, DF1, IEC101, Modbus RTU, PR2000, RDS, Siemens 3964(R), COMLI, SAIA S-bus, Mars-A, UNI, Async Link	
Serial to IP convertors	DNP3 / DNP3 TCP, Modbus RTU / Modbus TCP, Terminal servers	
VPN	IPsec, GRE	
NTP	Client, Server	
SNMP	v1, v2c, v3	
Approvals	CE, FCC, … Ask for others	

All information provided is preliminary and may change after the product is launched.