

# Industrial Cellular Routers

# M!DGE



M!DGE cellular routers are primarily designed for SCADA & Telemetry applications in 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

- 5G, 4G, LTE 450, NB-IoT
- 2× SIM + eSIM
- SFP Interface
- Extension ready – mPCIe

## Performance

- Serial SCADA protocols
- Static & Dynamic routing
- Advanced diagnostics, API
- Hybrid networks

## Reliability

- Industrial hardened design
- Approved for Power substations
- -40 to +70 °C
- MTBF > 100 years, Made in Czechia, EU

## Security

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



# Technical parameters

	MIDGE3	MIDGE3e
mPCIe	Yes	No
Interfaces	4× ETH, 1× SFP, 1× COM, 1× USB	2× ETH, 1× COM, 1× USB
Inputs / Outputs	2× DI, 2× DO, 1× DiffDI	No
HW tamper	Yes	No
Dynamic routing	BGP / OSPF / Babel	No
Link management	Yes	No

Model	Order Code	Frequency bands	Data rates
5G* MIDGE3	'Q' (Cinterion MV32-W)	5G (SA and NSA), 3GPP Release 16: n1, n2, n3, n5, n7, n8, n12, n13, n14, n18, n20, n25, n26, n28, n30, n38, n40, n41, n48, n53, n66, n70, n71, n75, n76, n77, n78, n79	TBC
		4G LTE Advanced-Pro, 3GPP Release 15: B1, B2, B3, B4, B5, B7, B8, B12, B13, B14, B17, B18, B19, B20, B25, B26, B28, B29, B30, B32, B34, B38, B39, B40, B41, B42, B43, B46, B48, B66, B71, B75, B76	DL(Cat.20) 2.0 Gb/s, UL(Cat.13) 211 Mb/s
		3G UMTS/HSPA+, 3GPP Release 8: B1, B2, B4, B5, B8	DL(Cat. 24) 42 Mb/s, UL(Cat. 6) 11 Mb/s
4G MIDGE3, MIDGE3e* mPCIe ext. board	'W' (Cinterion PLS83-W)	4G LTE (also 5G NSA), 3GPP Release 9: B1, B2, B3, B4, B5, B7, B8, B12, B13, B18, B19, B20, B26, B28, B38, B40, B41, B66	Cat.4, DL 150 Mb/s, UL 50 Mb/s
		3G UMTS/HSDPA/HSUPA, 3GPP Release 8: B1, B2, B3, B4, B5, B6, B8, B19	HSDPA Cat.10, HSUPA Cat.6: DL 14.4 Mb/s, UL 5.76 Mb/s
		2G GSM/GPRS/EDGE, 3GPP Release 8: GSM 850 MHz, E-GSM 900 MHz, DCS 1800 MHz, PCS 1900 MHz	Class 12, DL 237 kb/s, UL 237kb/s
LTE 450 NB IoT MIDGE3, MIDGE3e* mPCIe ext. board	'M' (Cinterion TX62-W-C)	4G LTE Cat M1, 3GPP Release 14: B1, B3, B8, B20, B28, B31, B72	M1 - DL 300 kb/s, UL 1.1 Mb/s NB1 - DL 27 kb/s, UL 63 kb/s NB2 - DL 124 kb/s, UL 158 kb/s
		4G LTE Cat NB1/2, 3GPP Release 14: B1, B3, B8, B20, B28, B31, B72	
	'O' (Cinterion TX62-W-B)	4G LTE Cat M1, 3GPP Release 14: B1, B2, B3, B4, B5, B8, B12, B13, B18, B19, B20, B25, B26, B27, B28, B66, B85 4G LTE Cat NB1/2, 3GPP Release 14: B1, B2, B3, B4, B5, B8, B12, B13, B18, B19, B20, B25, B26, B28, B66, B71, B85	

Electrical	MIDGE3	MIDGE3e
Primary power	10 – 50 VDC	
Power consumption	Average 7W	
<b>Interfaces</b>		
SIM slot	2× Micro SIM + 1× eSIM <sup>1)</sup>	2× Micro SIM
Ethernet	4× Ethernet 10/100/1000 Base-T, Auto MDX, bridged or routed	4× RJ45 2× Ethernet 10/100/1000 Base-T, Auto MDX, bridged or routed 2× RJ45
SFP	1× 10/100/1000 Base or T/1000Base-SX or 1000Base-LX	1× SFP No
Serial	1× RS232/RS485 SW configurable 2× RS232 (mPCIe expansion board) 600 b/s – 1 Mb/s	Terminals 1× RS232/RS485 SW configurable Terminals 600 b/s – 1 Mb/s
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× diffDI (when mPCIe-COMS is not used)	Power connector RJ45 1× HW alarm input, 1× HW alarm output, 1× Sleep input Power connector
Antenna	2× SMA female – receiver diversity (2x2 MIMO)	
Optional Expansions	1× mPCIe: Cellular module ('W' or 'M' or 'O') or 2x RS232 or GPS	No
<b>Environmental</b>		
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	
<b>Mechanical</b>		
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	
<b>Security</b>		
Management	HTTPS (Web or API)	
Role-based access control (RBAC)	4 levels (Guest, Tech, SecTech, Admin)	
IPsec, OpenVPN	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	No
<b>SW</b>		
Fallback management	Yes	
Connection supervision	Yes	
Automatic connect recovery	Yes	
SMS management	Yes	
Routing	Static / Dynamic - BGP / OSPF / Babel	Static
Link management	Yes	No
QoS	Yes	
NAPT	Yes	
User protocols on Ethernet	Yes	
Serial SCADA protocols	DNP3, DF1, IEC101, Modbus RTU, PR2000, RDS, Siemens 3964(R), COMLI, SAI A-S-bus, Mars-A, UNI, Async Link, PPP, Transparent	
Serial to IP convertors	DNP3 / DNP3 TCP, Modbus RTU / Modbus TCP, Terminal servers	
VPN	IPsec, OpenVPN, GRE	
NTP	Client, Server	
SNMP	v1, v2c, v3	
Approvals	CE, FCC, ... Ask for others	

<sup>1)</sup> eSIM only for 5G

<sup>\*)</sup> Pending

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

