

SAFETY COMMUNICATIONS

VICOS CSA 4G LTE

VoIP over 4G LTE call point electronics for safety-critical trackside and station communication.

AT A GLANCE

Model	**VICOS CSA 4G LTE**
Type	**VoIP call point electronics**
Dimensions	**114 x 160 x 30 mm**
Weight	**297 g**
Power	**48 VDC**
Connectivity	**4G LTE**

Overview

VICOS (Voice over IP Communication System) is a VoIP call point electronic designed for safety-critical trackside and station applications. This VoIP over 4G LTE variant adds an integrated 4G LTE mobile module, enabling connectivity at sites without fixed-line infrastructure.

The VICOS CSA 4G LTE is an autonomous call point, powered locally by 48 VDC for remote and off-grid sites. Built on a cellular router platform, it provides advanced routing, firewall and VPN capability, with dual SIM support for network resilience and remote management, configuration and diagnostics through NIS tools and SNMP.

Key benefits

01

Cellular connectivity

Integrated 4G LTE keeps the call point connected over the mobile network, with 3G and 2G fallback for resilient coverage in remote and trackside locations.

02

No fixed-line infrastructure required

Deploy a fully functional VoIP call point wherever there is mobile coverage, removing the cost and delay of trenching fibre or copper to the site.

03

Remote management and diagnostics

Monitoring, configuration and software updates are handled remotely via NIS tools, with auto or remote SNMP diagnostics across the deployed estate.

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Features

- 4G LTE connectivity for extended distances
- Dual mode operation: hands-free or handset
- Reassurance messages in 12 languages
- 3 inputs and 3 outputs for surveillance and control
- Remote monitoring, configuration and software downloads via NIS tools
- Auto or remote diagnostics via SNMP
- Integration into TDM or customer-specific enclosures
- SIP signalling (RFC 3261) with optional G.722 and G.729 codecs

Specifications

GENERAL

Model	VICOS CSA 4G LTE
Type	VoIP call point electronics for trackside and station communication
Dimensions	114 x 160 x 30 mm (H x W x D)
Weight	297 g
MTBF	200,000 hours
Service interface	RS232

POWER

Input	48 VDC ±30%, optional wide range ±50%
Consumption	Sleep 96 mA, active 1.4 W

ENVIRONMENTAL

Operating temperature	-40°C to 75°C
Storage temperature	-40°C to +90°C
Humidity	0 to 90% non-condensing

INPUTS / OUTPUTS

Digital inputs	3 (optocoupler, 0.5 mA, 1 kV isolation)
Relay outputs	3 (50 VA, 1 A, bistable, changeover, 1 kV isolation)
External inputs	1 to 4 programmable call buttons

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COMMUNICATION

Signalling	SIP (RFC 3261)
Authentication	Digest MD5
Codecs	Optional G.722 / G.729
Mobile module	4G LTE Cat 4 up to 150 DL / 50 UL Mbps; 3G up to 21 DL / 5.76 UL Mbps; 2G up to 236.8 DL / 236.8 UL kbps
Status	IMSI, ICCID, operator, operator state, data connection state, network type, bandwidth, connected band, signal strength (RSSI), SINR, RSRP, RSRQ, EC/IO, RSCP, data sent/received, LAC, TAC, cell ID, ARFCN, UARFCN, EARFCN, MCC, MNC
APN	Auto APN
Routing	Static routing, dynamic routing (BGP, OSPF v2, RIP v1/v2, EIGRP, NHRP), policy-based routing
VoIP passthrough	H.323 and SIP-alg protocol NAT helpers, allowing proper routing of VoIP packets

CONNECTIVITY

Antennas	2x SMA for 4G LTE
SIM	2x SIM slots

SECURITY & VPN

Firewall	Preconfigured firewall rules enabled via WebUI, unlimited configuration via CLI, DMZ, NAT, NAT-T, NAT64
VLAN	Port and tag-based VLAN separation
OpenVPN	Multiple clients and a server can run simultaneously, 27 encryption methods

AUDIO

Audio output	80 to 105 dB @ 30 cm, RASTI 0.85, 2 W rating
Audio input	3.9 kΩ impedance, electret or electrodynamic, phantom power, microphone -50 to -38 dB

PART NUMBERS

Part number	218322-20000-4G-LTE

Applications

Railway stations	**Trackside systems**	**Public transport**	**Remote / off-grid sites**	**Help point systems**

Compliance

Rail: EN 50121-4	**EMC: EN 55022 Class A, EN 55024, EN 61000-6-2 / 6-4**	**Safety: EN 60950-1**	**Vibration: ISO 14837-1**

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