

Smart, Compact VPN Routers

SCR-E (LAN), SCR-L (LTE)

Focussed on
the Basics

For Industry
and Buildings



The routers of the SCR series are IoT gateways of the special kind. They provide latest technology in a compact, flexible mountable housing for a very attractive price.

The SCR series is available in LTE and LAN versions, both optionally as I/O variant. Users can connect both, IP-based and serial devices, to this Smart Device locally. This allows to transform elder existing plants in modern IT environments with a retrofit.

The two mounting directions make an SCR suitable for both, a switch cabinet in industrial environments and flat building connection boxes.

Besides the INSYS operating system icom OS, the icom SmartBox is also on board, an integrated Linux environment that allows to execute scripts and programs directly on the router based on so-called containers.

Therefore, an SCR router can not only be used for secure remote maintenance and control, but also for capturing and processing application data within the scope of edge computing. This also allows to monitor the conditions and values of connected devices and realise reporting or benchmarking across different plants thanks to plug & play connection to cloud services.

Highlights

- LAN and LTE version
- I/O variants available per version
- Compact, flat housing
- Installation in distribution boxes and switch cabinets
- Wall and DIN rail mounting
- Interfaces for IP-capable and serial devices
- Stateful firewall also in VPN tunnel
- Strengthened operating system
- Integrated Linux environment for edge computing (icom SmartBox)
- PPPoE for external ADSL modem
- Quick start for icom Connectivity Suite – VPN

Technical Data

SCR-E (LAN), SCR-L (LTE)

Mobile communication SCR-L	
Frequency bands	4G/LTE*: 700, 800, 900, 1.800, 2.100 MHz (bands 1, 3, 8, 20, 28) LTE Cat. 1 (DL: max. 10.2 Mbps, UL: max. 5.2 Mbps) 2G/GPRS/EDGE: 900, 1.800 MHz; GPRS/EDGE Class 12 (DL: max. 85.6 kbps, UL: max. 85.6 kbps)
Antenna connection	1x SMA female
SIM	Slot for 1 Mini-SIM card (2FF), locked
Router	
Function	Up to 5 IP networks local (LAN) or as WAN, VLAN incl. tags and trunk ports; own DHCP server per IP network, static routing, routing priority configurable; dynamic routing OSPF, BGP, RIP, RIPv2, RIPng; netfilters: DNAT, SNAT, IP/port forwarding, netmapping, DNS relay, dynDNS support
Security	OpenVPN (client and server), IPsec, GRE (incl. multi-port), DMVPN, IP filters (stateful firewall) also in VPN tunnel, several VPN tunnels in parallel possible, MAC filters, PPTP server
Redundancy	WAN chains: several WAN accesses configurable (prioritised and event-controlled), WAN groups: parallel operation of WAN interfaces or VPNs, several OpenVPN servers Dual APN (cellular only): traffic division across 2 APNs - e.g. for separating payload and management data
Ethernet switch, interfaces	
Ports	2x RJ45, 10/100 MBit/s, full/half-duplex, auto MDI-X, 1.5 kV isolation voltage
Function	Each port can be freely assigned to the IP networks, Link up/down detection, configuration port
I/O variant (for LAN and LTE version)	2 digital inputs, high-active (as per EN 61131-2, Type 1) 2x open collector outputs (24 V/100 mA)
Events (selection)	Change: input, Ethernet port, WAN chain, profile, supply input, cellular field strength; timer expiry, firewall violation, login attempt detection, pulse sequence at digital input, counter
Event-controlled actions (selection)	Messages via e-mail, SMS (only cellular variant), SNMP traps, MCIP; switching profile, switching connection, changing modem state, starting timer, switching output or pulse sequence, activating firmware, reset, restart SmartBox container
Serial interface	
RS232 (Serial1)	1 x RS232 / D-Sub-9 (m)
Functions	Serial-Ethernet gateway (incoming and outgoing connections, Modbus TCP/RTU gateway, modem emulation, editable AT answer list, phone number conversion to IP addresses), PPPoE for external ADSL modem
Operation	
Wizards	Configuration of connection incl. VPN, adding LAN networks, quick start of icom Connectivity Suite – VPN
Help	Web interface with inline help texts, online help, FAQ, exemplary profiles, plausibility check
Configuration	Local and remote web interface (http, https; with session management), command line interface (CLI), Telnet, SSH, ASCII and binary file (also for backup), configuration management with switchable profiles (event-controlled)
Indications (LEDs)	Power, WAN (Internet connection), Signal (for cellular radio)
Authentication	Several users, different user roles and rights, certificate-based authentication with revocation list
Diagnostics	SNMP traps and agent, configurable system logs, remote syslog, support packet, help functions Diagnosis tools: ping, tcpdump, traceroute, DNS lookup, AT commands
Firmware updates	Incremental, fail-safe, automated via update server (http, ftp, https, ftps)
System time	NTP client and server, real-time clock
Edge Computing	
icom SmartBox	Linux programming environment: creation of LXC containers for programs and scripts (apps), ARMv7 CPU, 448 MB RAM, 7 GB flash memory

* Please check the availability of the LTE frequencies in the planned operating area.
Above specified frequencies are currently used in Europe, Middle East, Africa and, to some extent, in the Asia-Pacific region, Australia and South America.

Technical Data

SCR-E (LAN), SCR-L (LTE)

Supply	
Voltage	12 ... 24 V DC (± 20%)
Terminals	2-pin terminal connectors, rigid/flexible conductors up to 2.5 mm ²
Power consumption	Cellular radio variant: typical approx. 2.5 W, max. 6.0 W LAN variant: typical approx. 2.0 W, max. 3.0 W Sleep mode: typical approx. 55 mW
Sleep mode	Sleep mode: Energy conservation mode with event-triggered activation, stopping via timer, reset or re-establishing supply
Ambient conditions	
Dimensions (WxDxH)	Industrial distribution box (switch cabinet): 41.5 x 105 x 90 mm Building distribution box: 105 x 41.5 x 90 mm
Operating temperature	-30...+70 °C, -30...+75 °C under restricted conditions (refer to www.insys-icom.com/restricted)
Humidity	0...95% (non-condensing)
Mounting / protection class	DIN rail mounting / housing: IP40, terminals: IP30
Approvals & Standards	
Certifications	Cellular radio variant: CE LAN variant: CE, FCC Part 15 Class B, IC
EMC	Emission: EN 55032 Class B; Immunity: EN 61000-6-2, EN 55024
Security	IEC 62368-1
Environmental conditions	Temperature tests as per EN 60068-2-1, EN 60068-2-2, EN 60068-2-14, EN 60068-30

Product description	Features	Order number
SCR-E200	LAN router, 2x LAN, 1x RS232	10020726
SCR-E300	LAN router, 2x LAN, 1x RS232, 2x digital input, 2x digital output	10020727
SCR-L200	LTE router, 2x LAN, 1x RS232	10020728
SCR-L300	LTE router, 2x LAN, 1x RS232, 2x digital input, 2x digital output	10020729

Suitable accessories

Product description	Description	Order number/Information
Magnetic base antenna 4G/3G/2G SMA	Frequencies (MHz): 700, 800, 850, 900, 1800, 1900, 2100	10019504
Outside mounted antenna 4G/3G/2G SMA	Frequencies (MHz): 700, 800, 850, 900, 1800, 1900, 2100	10017467
Antenna extension cable 5 m SMA	Device connector: SMA (f), antenna connection: SMA (m)	10015193
Antenna extension cable 10 m SMA	Device connector: SMA (f), antenna connection: SMA (m)	10000742
Antenna extension cable 15 m SMA	Device connector: SMA (f), antenna connection: SMA (m)	10000735
Power supply unit	TDK Lambda DSP 10-24 AC/DC power supply unit for DIN rail	10014249
icom Connectivity Suite – VPN	VPN Service for M2M Applications	insys-icom.de/iCS/VPN
icom Connectivity Suite – M2M SIM	Industrial SIM cards, multi-roaming, pooling, management portal	insys-icom.de/iCS/SIM

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