

skAlnet Edge-Compute v1.5

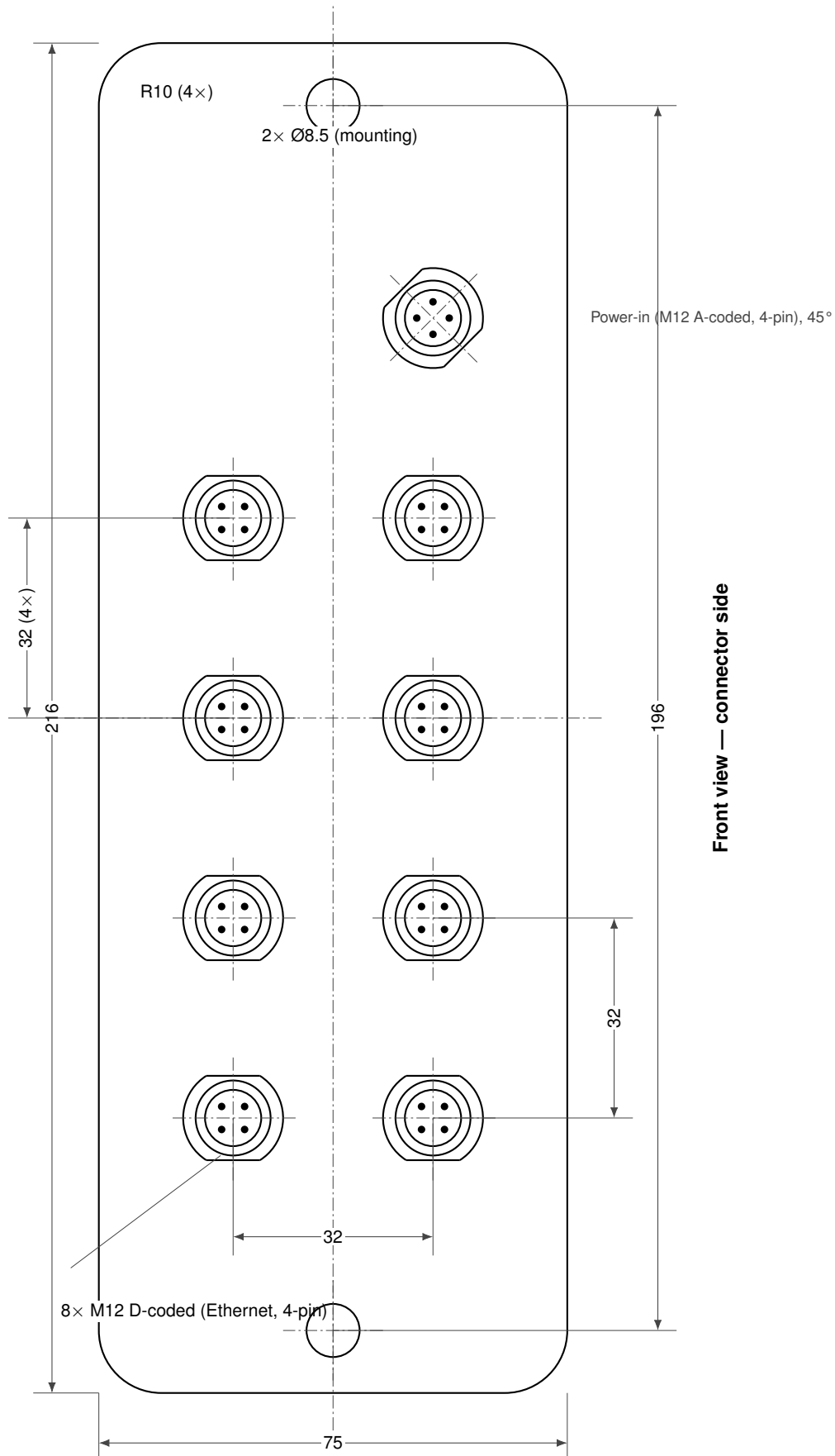
Programmable M12-PoE switch, router, and Linux compute module for industrial edge data acquisition



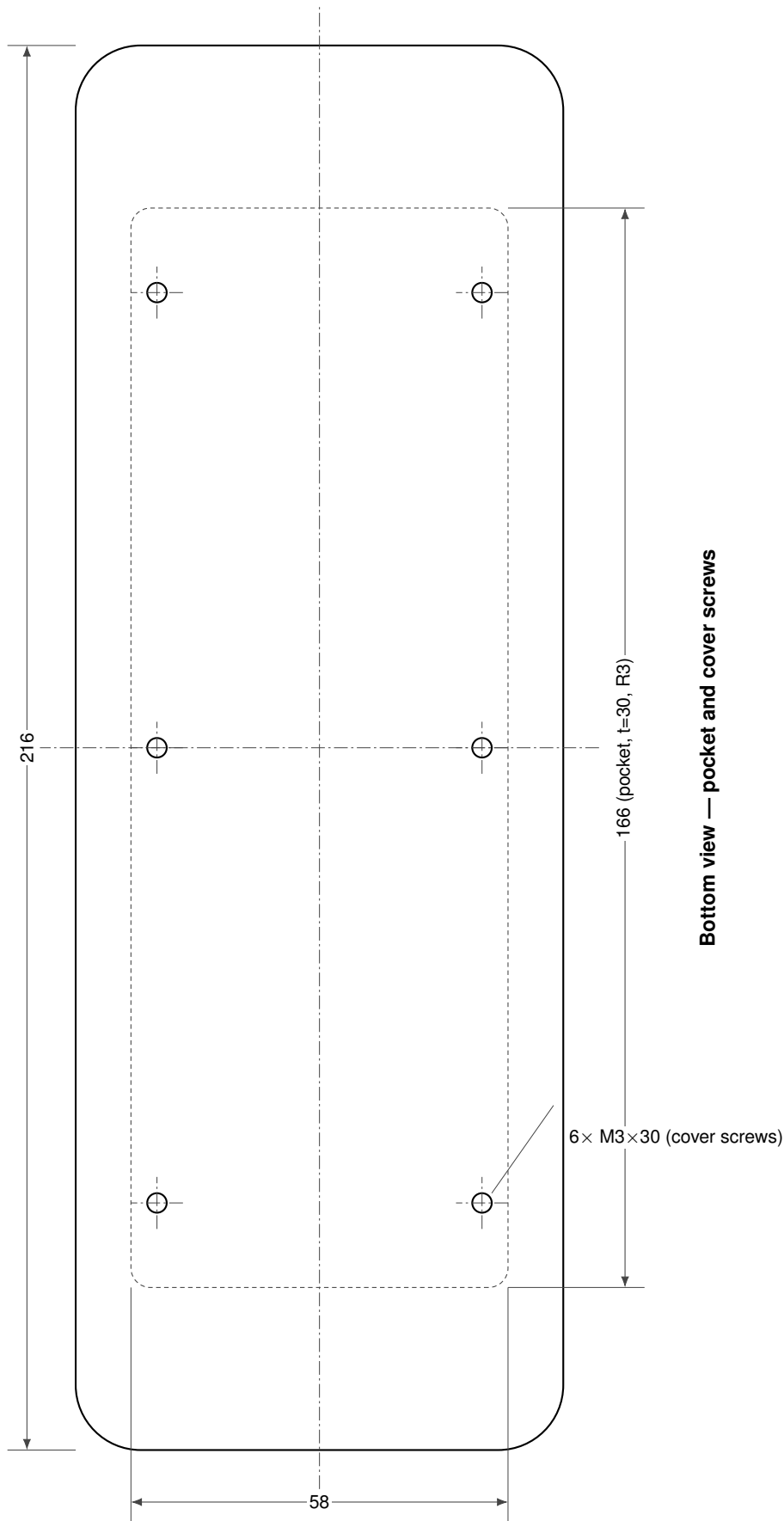
Description. The skAlnet Edge-Compute is Auto-Intern GmbH’s universal data-acquisition and monitoring platform. An anodized aluminum enclosure, machined from a single block, combines an 8-port switch with seven external M12 PoE+ LAN ports (D-coded), a separate M12 WAN port (D-coded), and a swappable compute module (Raspberry Pi CM pin-compatible). All connections use sealing M12 connectors; the device operates under water at up to 1 bar. Measurement data is buffered, pre-processed, and analyzed on the device; only data explicitly configured for forwarding reaches the upstream network.

Compute		Power	
Module	Raspberry Pi CM4 (standard); CM5 or NVIDIA Jetson on request, pin-compatible, swappable	Input	48 V to 72 V DC via M12 A-coded (4-pin, TE T4140012041-000)
CPU	8 cores, 64-bit ARM, 1.5 GHz	PSU Minimum	recommended ≥ 100 W 25 W (compute only, no PoE loads)
RAM	8 GB LPDDR4-3200	Environmental & mechanical	
Storage	32 GB eMMC	Enclosure	anodized aluminum, machined from solid, shockproof
Operating system	Yocto Linux with documented SBOM (EU Cyber Resilience Act); encrypted OTA updates or offline via USB image	Ingress protection	IP67, all ports and back plate sealed; operation under water up to 1 bar
Networking		Temperature	−25 °C to 70 °C
WAN	1 × M12 D-coded (4-pin), Giga-bit Ethernet, DHCP client	Dimensions	216 × 75 × 32 mm (W×D×H); overall depth incl. connectors approx. 51 mm
LAN	7 × M12 D-coded (4-pin, Ethernet) with PoE+, internally connected to an 8-port switch (DHCP server, 192.168.199.1/24)	Front plate	8 × M12 D-coded (7 × PoE LAN, 1 × WAN) in a 4×2 grid, 1 × M12 A-coded power-in; custom branding available
PoE	IEEE 802.3at (PoE+) on all 7 LAN ports; typical devices draw up to approx. 10 W	Software	
Cabling	1 certified Cat-5e M12 cable per device	Access	SSH (port 22022); custom applications in C++ or Python, Docker deployment; minimal examples on GitHub
Data interface	Live data via WebSocket (port 8001, JSON, ns timestamps)	Remote support	optional manufacturer remote maintenance via encrypted access, can be disabled
Upstream APIs	REST, WebSocket, webhooks, MQTT, OPC UA, Modbus-TCP, EPICS, gRPC, AMQP, CoAP, SNMP, Prometheus, InfluxDB, SFTP/rsync	Updates	encrypted OTA updates via the WAN port or offline via USB image
Capacity	250+ concurrent channels proven in production	Field references	
		DB Netz DIANA (switch-point motor monitoring) · Kelvion (IR fouling detection) · Kurtz Ersä / Global Point HORUS (soldering process monitoring) · RUB/GSI-FAIR PANDA (luminosity detector) · MSU CBE (river impedance spectroscopy) · NexuFed AI / RUB (federated pump monitoring)	

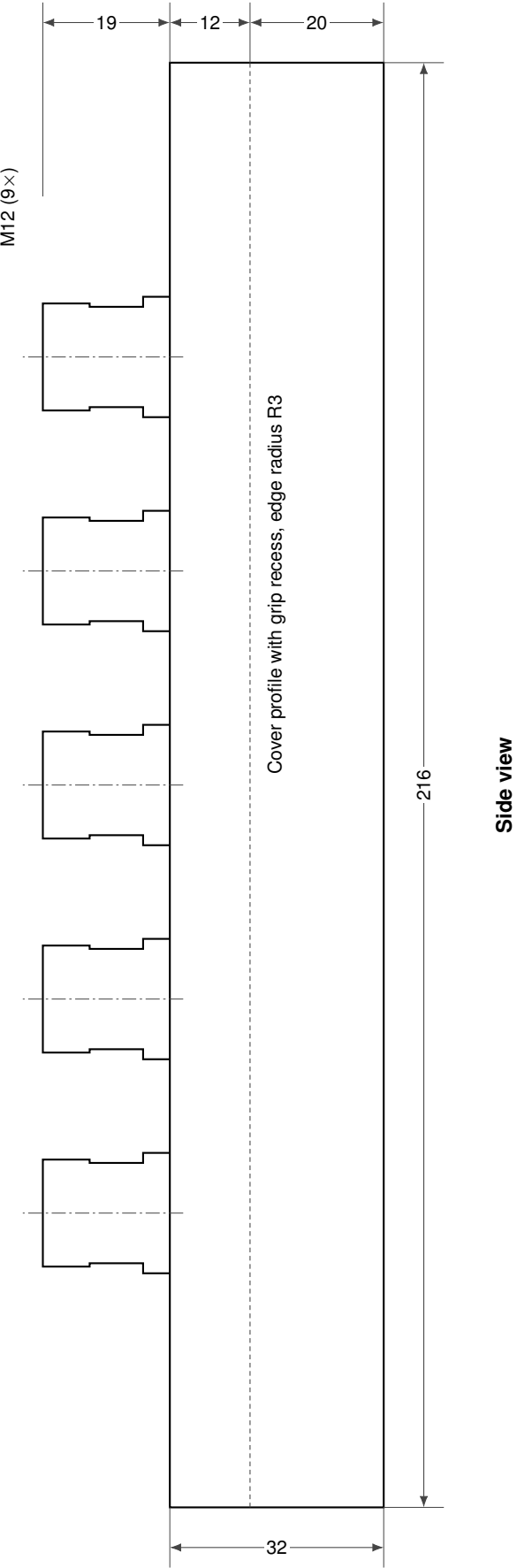
Manufacturer: Auto-Intern GmbH · Herner Str. 299, Building B29, 44809 Bochum, Germany · info@auto-intern.de · +49 234 9345 1121
Price: from 720 € / \$830 net · **Documentation:** edge-compute.skainet.io

Dimensioned Drawing — Enclosure Edge-Compute v1.5All dimensions in mm · General tolerances ISO 2768-mK · Material: Al, anodized · **Scale 1:1** · Sheet 1/4: front view

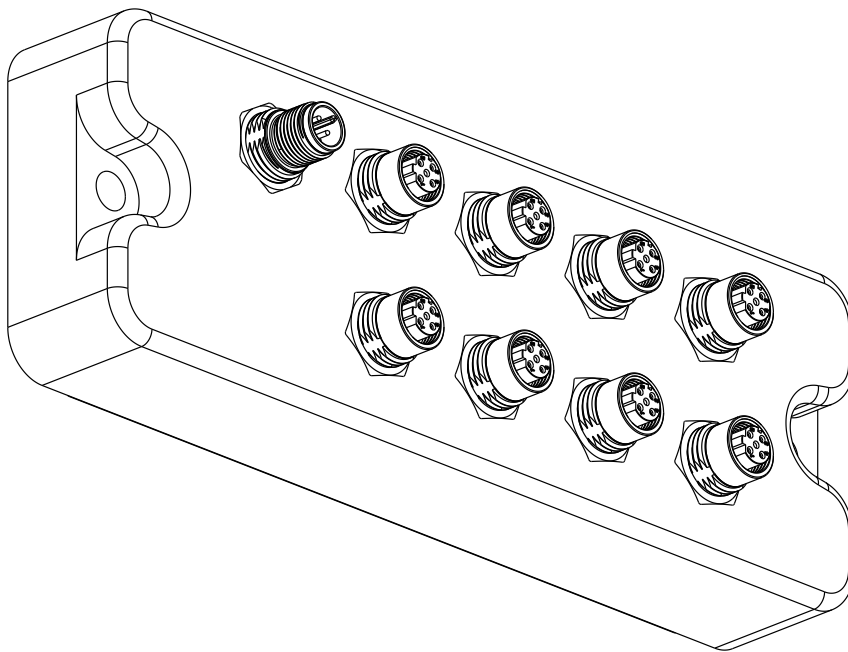
All dimensions in mm · **Scale 1:1** · Sheet 2/4: bottom view



All dimensions in mm · **Scale 1:1** · Sheet 3/4: side view



Sheet 4/4: isometric view of the compute module, connector side (not to scale)



All connectors M12, IP67: 8 × D-coded (7 × PoE LAN, 1 × WAN, 4-pin Ethernet), pitch 32×32 ; 1 × A-coded power-in (4-pin), rotated 45° . Cover fastening: 6 × M3 × 30. Subject to change without notice.