

20G-2X.5.16.F

- 2x SFP+ slot 10 GBASE-R / 1000 BASE-X
- 1x RJ45 port 10/100/1000 BASE-T
- 4x gigabit ethernet port with PoE, max. 95 W per port
- 16x RJ45 port 10/100 BASE-T with PoE
- 2x RS485 / Modbus-RTU
- 2x digital/alarm input
- 1x programmable relay output
- 3 independent power inputs
- Redundant topology LAN-RING, RSTP
- Overvoltage protection up to 30A (8/20µs)
- Event management with support for:
HTTP/ONVIF client, E-mail, IP Watchdogs, ETH events, TCP, Modbus, DIO, balanced loops...
- VLAN, QoS, SNMP, SMTP, SNTP, IGMP, RSTP(-M), LLDP, 802.1X
- Operating temperature from -30°C to +50°C



Industrial managed PoE++ LAN-RING switches equipped with Ethernet ports, gigabit port, SFP+ slots and RS485 bus, digital/alarm inputs and relay output. Event management, which is part of advanced management, makes these switches an ideal solution for applications with high demands on security and flexibility of the devices used. The switches support redundant MESH/RING topologies with up to 30 ms link recovery. The highly resilient hardware allows the switches to be deployed in a wide operating temperature range from -30 to 50 °C with a maximum PoE power of 700 W. The large number of PoE++ ports makes the switches ideal for use in buildings and multi-camera sites.

The devices are developed and manufactured in the EU and are NDAA compliant.

Available models

Order name	Order code
20G-2X.5.16.F-POE-750-UNIT/1U	1-994-411



Technical parameters

SFP+ SLOT

Number of	2
Supported formats	10 GBASE-R / 1000BASE-X

GIGABIT ETHERNET

Number of	5
Supported formats	10BaseT, 100BaseTx, 1000BaseTx
Surge protection	30 A waveform 8/20 μ s
Connector	RJ45

FAST ETHERNET

Number of	16
Supported formats	10BaseT, 100BaseTx
Surge protection	30 A waveform 8/20 μ s
Connector	RJ45

RS485

Number of	2
Speed	max. 115200 bps
Surge protection	30 A waveform 8/20 μ s

DI/BI INPUTS

Number of	2
Digital mode	NC / NO
Alarm mode	Analog 0 - 30 k Ω for symmetrical loops

RELÉ OUTPUT

Number of	1
Contact type	Switching
Max. Load	62.5 VA (30 W) / 1 A / 60 V (resistive load)

230 VAC POWER SUPPLY

Number of	1
Input voltage range	100 - 264 VAC
Connector	IEC 60320 C15
Power supply	The input is connected to an internal 750 W / 56 VDC power supply



POWER SUPPLY 10 - 60 VDC

Number of	2
Input voltage range	10 - 60 VDC
Connector	WR-TBL Series 3405 - 5.08 mm
Energy consumption	Max. 20 W without PoE
Surge protection	1500 W waveform 10/1000 µs

PoE+

Number of PoE+ ports	16
Maximum power / port	30 W
Standards	IEEE 802.3af/at - Mode A, UPOE, POH
Maximum total PoE consumption (P1 - P8)	240 W
Maximum total PoE consumption (P9 - P16)	240 W

PoE++

Number of PoE++ ports	4
Maximum power / port	95 W
Standards	IEEE 802.3af/at/bt, UPOE, POH
Maximum total PoE power consumption (G1 - G4)	240 W

ENVIRONMENT

Operating temperature	-30...+50 °C
Storage temperature	-30...+70 °C
Humidity	Max. 95 % (non-condensing)

MECHANICS

Weight	5.4 kg
Dimensions - h / w / d	1U x 483 x 333 mm
IP protection	IP 20
Cooling	Active - temperature controlled

SECURITY

Secure Booting	The code is stored and executed directly on SoC, therefore it is not externally accessible.
Firmware Upgrade	The FW image is encrypted and signed using AES-256, RSA-4096, SHA-512



SECURITY

SNMP	SNMPv3 - SHA-512 / AES-256 (recommended) SNMPv2c (obsolete)
GUI Application	Digitally signed installation file using SHA-256, RSA 4096
IEEE 802.1X-2004	RFC3748 - EAP Packet Format, Authenticator PAE, Supplicant PAE

MANAGEMENT

Application	SIMULand.v4
SNMPv3	Encrypted

SWITCH

MAC address	16 K
Max. frame size	10 K (Jumbo) on root ports
Packet buffer memory	2 Mbit
Switching	Store-and-forward, full wire-speed, non-blocking on all ports
Switching capacity	53.2 Gbps

Standards and protocols

Standard	Note
IEEE 802.3i	10BASE-T 10 Mbit/s (1.25 MB/s) over twisted pair IEEE 802.3u for 100BaseT(X) and 100BaseFX
IEEE 802.3u	100BASE-TX, 100BASE-T4, 100BASE-FX Fast Ethernet at 100 Mbit/s (12.5 MB/s) with autonegotiation
IEEE 802.3ab	1000BASE-T Gbit/s ethernet over twisted pair at 1 Gbit/s (125 MB/s)
IEEE 802.3z	1000BASE-X Gbit/s ethernet over optical fiber at 1 Gbit/s (125 MB/s)
IEEE 802.3ae	10 Gbit/s ethernet over fiber
IEEE 802.3ac	Max. frame size 1522 bytes (allow 802.1Q tag)
IEEE 802.3af/at/bt	Power over Ethernet up to 15.4 / 30 / 90W
IEEE 802.3x	Flow Control
IEEE 802.1p	Class of Service
IEEE 802.1X	Port-based Network Access Control (PNAC)
IEEE 802.1q	VLAN tagging
Modbus TCP/RTU	Master / Slave
SNMP v2c/v3	Simple Network Management Protocols
IGMP v1/v2	Internet Group Management Protocols
SNTP	Simple Network Time Protocol
SMTP	Simple Mail Transfer Protocol
RSTP	Rapid Spanning Tree Protocol
LAN-RING.v1, v2	Ring topology with a very short time reconfiguration of max. 30ms
Protocol for managing devices on IP networks	GUI SIMULandv4 - USB cable B(C) / Encrypted management via LAN

EMC and safety

Standard	Level	Note
EN 50121-4 ed.4		Railway applications - EMC Emission and immunity of signalling and communication equipment



Standard	Level	Note
EN 61000-6-2		Immunity - industrial environment
IEEE 1613		Environmental and Testing Requirements Electric Power Substations
EN 50130-4 ed. 2		Alarm systems - Part 4: Electromagnetic compatibility
EN 55035		EMC of multimedia devices - immunity requirements
EN 55032		EMC of multimedia devices - emission requirements
EN 62368-1		Safety requirements of Information technology equipment
EN IEC 63000		The Assessment Of Electrical And Electronic Products With Respect To The ROHS
EN 61000-4-2	8 kV	Air discharge
EN 61000-4-2	4 kV	Contact discharge
EN 61000-4-3	10 V/m	Radiated HF field
EN 61000-4-4	2 kV	Bursty
EN 61000-4-5	2 kV	Shock pulses
EN 61000-4-6	10 V	Resistance to HF field induced line disturbances
EN 61000-4-8	30 A/m	Magnetic field
EN 61000-4-11		Short-term power dips and outages

Notes

- The manufacturer reserves the right to change technical parameters without prior notice.

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