

3 to 8 Ethernet ports RJ45 and FOC

Unmanaged Plug & Play Ethernet switches for DIN rail assembly in control cabinets

Commercial temp.: 0°C ... +55°C / Industrial temp.: -40 ... +70°C



- Fast Ethernet Non-Blocking Switch architecture in accordance with IEEE 802.3
- Variants with industrial temperature range of -40°C ... +70°C
- Wide range power supply 24/48 VDC
- Surge protection and reverse polarity protection
- Minimum energy consumption due to energy-efficient Ethernet

Target markets

Machinery & Robotics	Automation	Industrial network Infrastructure
Wind Energy, Solar Energy	Transportation	Shipbuilding



General Description

The Ha-VIS eCon 2000 Fast Ethernet family of unmanaged Ethernet switches is equipped with up to 8 Fast Ethernet ports and allow for cost-efficient and quick expansion and/or reconstruction of network infrastructures. Due to the extremely flat design, these switches can be accommodated in installations where space is restricted towards the cable connection

at the front. The selection includes various combinations of variants with RJ45 and fibre optic ports. Automatic detection of the transmission rate (auto-negotiation) and of the wiring of the twisted pair data cable (auto-polarity and auto-MDI(X)) allow for simple plug & play. All variants are available with the temperature ranges "Industrial" and "Commercial".

Specification

Switch Features

Housing width	46.5 mm	60 mm	120 mm
Number of ports	3, 4, 5	8	7, 8
Switching technology	Store and Forward		
Supported standards	IEEE 802.3		
Frame Size	1552 bytes		
MAC table size	1k entries		
Packet buffer size	448 kbit		
Non-blocking	Yes		
Quality of Service	Yes		
Energy Efficient Ethernet	Yes		
PROFINET compatible	Yes		
EthernetIP compatible	Yes		

Power supply

Nominal voltage	24 VDC \equiv	48 VDC \equiv
Permissible voltage range	9 VDC ... 60 VDC \equiv	
Surge protection	Yes	
Reverse polarity proof	Yes	
Starting current	1.60 A	3.20 A
Overcurrent protection at input	Yes (4 A)	
Max. power consumption @ 24 VDC	2.88 W ... 3.72 W	
Conductor cross-section	0.08 mm ² ... 2.5 mm ² (28 AWG ... 12 AWG)	
Type of connection	3-pole, pluggable screwed contact	
Pinout	+ / - / \oplus	
Supply circuit (according to 60950)	SELV (circuit breaker 10 A)	

Ethernet ports 10BASE-Te / 100BASE-TX EEE

Type of connection	RJ45
Auto-negotiation	Yes
Auto-polarity	Yes
Auto-MDI(X)	Yes
Transfer conditions	Twisted pair
Transfer speed	10 / 100 Mbit/s
Transfer length	100 m (Twisted Pair, Cat 5)

Ethernet ports 100BASE-FX

Type of fibre	Multi-mode (MM)	Single-mode (SM)
Type of connection	SC Duplex	
Transfer conditions	FOC	
Wavelength	1310 nm	
Transfer speed	100 Mbit/s	
Transfer length	2 km	15 km
Output power	-19 dBm ... -14 dBm	-15 dBm ... -8 dBm
Input sensitivity	\leq -32 dBm	\leq -34 dBm

Ambient conditions

Commercial temperature range	0°C ... +55°C
Industrial temperature range	-40°C ... +70°C
Storage temperature range	-40°C ... +85°C
Relative humidity (operation)	0% ... 95% (non-condensing)
Relative humidity (storage and transport)	0% ... 95% (non-condensing)
Air pressure	2000 m (795 hPa)



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Housing

Housing width	46.5 mm	60 mm	120 mm
Dimensions H x W x D (without pluggable screwed contact and holding bracket)	113.5 mm x 46.5 mm x 27.3 mm	113.5 mm x 60 mm x 27.3 mm	113.5 mm x 120 mm x 27.3 mm
Weight	162 g ... 170 g	217 g	364 g ... 420 g
Type of installation	35 mm DIN rail acc. to EN 60 715		
Material hoods/housings	Anodised aluminium		
Protection class (with plugged screwed contact)	IP30		
Protection class	III		

Status and diagnostic displays

Power ("Pwr") illuminated green	Supply voltage is applied
Link/Activity ("L/A") off	No link
Link/Activity ("L/A") illuminated green	Link is active
Link/Activity ("L/A") flashes green	Link is active and data is transferred
Link speed ("Spd") off	10 Mbit/s
Link speed ("Spd") illuminated yellow	100 Mbit/s

Approvals (in preparation)

CE (FCC CFR 47 Part 15, cJUL US 508 listed, DNV, GL, ABS, NK)

EMC and environmental conditions

EMC interference immunity (EN 61000-6-1, 61 000-6-2 55024)

Electrostatic discharge (ESD) EN 61 000-4-2

Electromagnetic field EN 61 000-4-3

Rapid transients (burst) EN 61 000-4-4

Surge voltages EN 61 000-4-5

Conducted interference voltages EN 61 000-4-6

EMC interference emission (EN 61000-6-4, EN 55 022, FCC CFR 47 Part 15)

Mechanical stability (EN 60721-3)

IEC 60068-2-6 Vibration

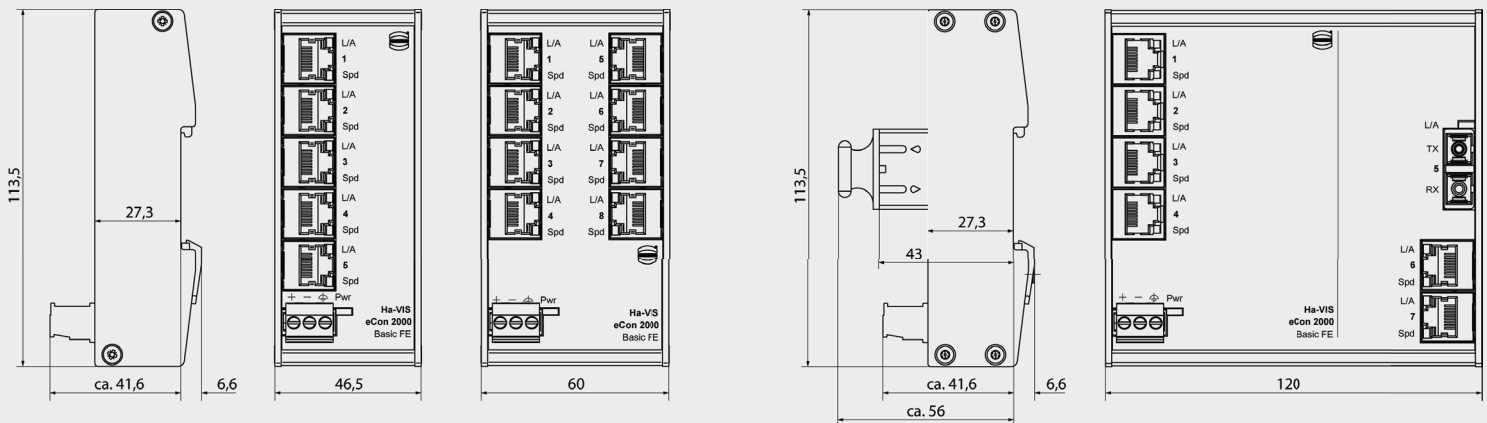
IEC 60068-2-6 Vibrationresonance search

IEC 60068-2-27 Shock test

Scope of delivery

- Pluggable screwed contact for power supply
- Installation instructions

Drawings



Specifications / order information

Ports / order information

RJ45	SFP	SC	Housing width	Power consumption @ 24 VDC	MTBF in million h	Commercial temp.: 0°C ... +55°C		Industrial temp.: -40°C ... +70°C	
						Switch	Order no.	Switch	Order no.
3	-	-	46.5 mm	30 mA	3.13	Ha-VIS eCon 2030B-A	24020030010	Ha-VIS eCon 2030BT-A	24020030000
4	-	-	46.5 mm	35 mA	2.99	Ha-VIS eCon 2040B-A	24020040010	Ha-VIS eCon 2040BT-A	24020040000
5	-	-	46.5 mm	40 mA	2.86	Ha-VIS eCon 2050B-A	24020050010	Ha-VIS eCon 2050BT-A	24020050000
6	-	1x MM (2 km)	120 mm	120 mA	1.24	Ha-VIS eCon 2061B-AD	24020061110	Ha-VIS eCon 2061BT-AD	24020061100
6	-	1x SM (15 km)	120 mm	120 mA	1.26	Ha-VIS eCon 2061B-AF	24020061210	Ha-VIS eCon 2061BT-AF	24020061200
6	-	2x MM (2 km)	120 mm	150 mA	1.20	Ha-VIS eCon 2062B-AD	24020062110	Ha-VIS eCon 2062BT-AD	24020062100
6	-	2x SM (15 km)	120 mm	150 mA	1.23	Ha-VIS eCon 2062B-AF	24020062210	Ha-VIS eCon 2062BT-AF	24020062200
8	-	-	60 mm	60 mA	2.53	Ha-VIS eCon 2080B-A	24020080010	Ha-VIS eCon 2080BT-A	24020080000