



3 to 10 Ethernet ports RJ45 and SC

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

Commercial temp.: 0°C ... +55°C / Industrial temp.: -40°C ... +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
- Optimised DIN rail bracket

Target markets

Machinery & Robotics	Automation	Industrial network infrastructures
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 10 Fast Ethernet ports and allow for cost-efficient and quick expansion and/or reconstruction of network infrastructures. The slender design of the switches enables an extremely high packing density on the DIN rail. 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	25 mm	38 mm
Number of ports	3, 5, 6, 7, 8	9, 10
Switching technology	Store and Forward	
Supported standards	IEEE 802.3	
Frame size	1522 bytes	1632 bytes
MAC table size	1k entries	2k entries
Packet buffer size	448 kbit	1 Mbit
Non-blocking	Yes	
Quality of Service	Yes	
Energy Efficient Ethernet	Yes	
PROFINET compatible	Yes	
EthernetIP compatible	Yes	

Power supply

Nominal voltage	24 VDC	48 VDC
Permissible voltage range	9 VDC ... 60 VDC	
Surge protection	Yes	
Reverse polarity proof	Yes	
Starting current	1.6 A	3.2 A
Overcurrent protection at input	Yes (12 A)	Yes (2 A)
Max. power consumption @ 24 VDC	1.73 W ... 6.72 W	
Conductor cross-section	0.08 mm² ... 2.5 mm² (28 AWG ... 12 AWG)	
Type of connection	3-pole, pluggable screwed contact	
Pinout	+ / - / Φ	
Supply circuit (according to 60950)	SELV (circuit breaker 10 A)	

Ethernet ports 10BASE-T_e / 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	-20 dBm ... -14 dBm	-15 dBm ... -8 dBm
Input sensitivity	≤ -30 dBm	≤ -32 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	25 mm	38 mm
Dimensions H x W x D (without pluggable screwed contact and holding bracket)	142 mm x 25 mm x 107.5 mm	142 mm x 38 mm x 107.5 mm
Weight	430 g ... 531 g	
Type of installation	35 mm DIN rail acc. to EN 60 715	
Material hoods/housings	Anodised aluminium / powder-coated steel sheet	
Protection class (with plugged screwed contact)	IP 30	
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, cUL 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

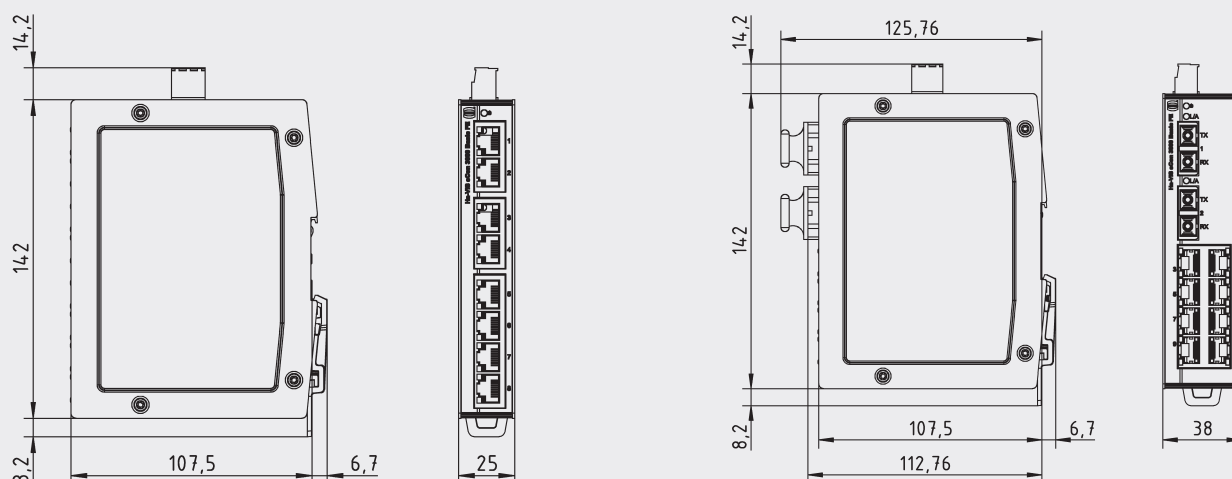
IEC 60068-2-6 Resonance search

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.
2	-	1x MM (2 km)	25 mm	90 mA	2.52	Ha-VIS eCon 3021B-AD	24030021110	Ha-VIS eCon 3021BT-AD	24030021100
2	-	1x SM (15 km)	25 mm	90 mA	2.52	Ha-VIS eCon 3021B-AF	24030021210	Ha-VIS eCon 3021BT-AF	24030021200
4	-	1x MM (2 km)	25 mm	105 mA	2.36	Ha-VIS eCon 3041B-AD	24030041110	Ha-VIS eCon 3041BT-AD	24030041100
4	-	1x SM (15 km)	25 mm	105 mA	2.36	Ha-VIS eCon 3041B-AF	24030041210	Ha-VIS eCon 3041BT-AF	24030041200
4	-	2x MM (2 km)	25 mm	125 mA	2.28	Ha-VIS eCon 3042B-AD	24030042110	Ha-VIS eCon 3042BT-AD	24030042100
4	-	2x SM (15 km)	25 mm	125 mA	2.28	Ha-VIS eCon 3042B-AF	24030042210	Ha-VIS eCon 3042BT-AF	24030042200
6	-	-	25 mm	75 mA	2.30	Ha-VIS eCon 3060B-A	24030060010	Ha-VIS eCon 3060BT-A	24030060000
6	-	1x MM (2 km)	25 mm	115 mA	2.22	Ha-VIS eCon 3061B-AD	24030061110	Ha-VIS eCon 3061BT-AD	24030061100
6	-	1x SM (15 km)	25 mm	115 mA	2.22	Ha-VIS eCon 3061B-AF	24030061210	Ha-VIS eCon 3061BT-AF	24030061200
8	-	-	25 mm	85 mA	2.17	Ha-VIS eCon 3080B-A	24030080010	Ha-VIS eCon 3080BT-A	24030080000
8	-	1x MM (2 km)	38 mm	220 mA	0.95	Ha-VIS eCon 3081B-AD	24030081110	Ha-VIS eCon 3081BT-AD	24030081100
8	-	1x SM (15 km)	38 mm	220 mA	0.95	Ha-VIS eCon 3081B-AF	24030081210	Ha-VIS eCon 3081BT-AF	24030081200
8	-	2x MM (2 km)	38 mm	280 mA	0.93	Ha-VIS eCon 3082B-AD	24030082110	Ha-VIS eCon 3082BT-AD	24030082100
8	-	2x SM (15 km)	38 mm	280 mA	0.93	Ha-VIS eCon 3082B-AF	24030082210	Ha-VIS eCon 3082BT-AF	24030082200
10	-	-	38 mm	200 mA	0.92	Ha-VIS eCon 3100B-A	24030100010	Ha-VIS eCon 3100BT-A	24030100000