



## 2 to 7 Ethernet ports RJ45 and FOC

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

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



- Full Gigabit Ethernet non-blocking switch architecture according to IEEE 802.3
- Support of jumbo frames (10 kB)
- 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 3000 Full Gigabit family of unmanaged Ethernet switches is equipped with up to 7 gigabit Ethernet ports and allows for cost-efficient and quick expansion and/or reconstruction of network infrastructures with high bandwidth requirements. In this, all switches support extra-long Ethernet frames (jumbo frames). 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 cables. 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 and play. All variants are available with the temperature ranges "Industrial" and "Commercial".

## Technical characteristics

### Switch Features

Enclosure width	25 mm
Number of ports	2, 5, 6, 7
Switching technology	Store and Forward
Supported standards	IEEE 802.3
Frame Size	10 kBytes
MAC table size	8k entries
Packet buffer size	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	1.60 A	3.20 A
Overcurrent protection at input	Yes (12 A)	
Max. power consumption @ 24 VDC	2.21 W ... 4.73 W	
Conductor cross-section	0.08 mm <sup>2</sup> ... 2.5 mm <sup>2</sup> (28 AWG ... 12 AWG)	
Type of connection	3-pole, pluggable screwed contact	
Pinout	+ / - /	
Supply circuit (according to 60950)	SELV (circuit breaker 10 A)	

### Ethernet ports 10BASE-T<sub>e</sub> / 100BASE-TX EEE / 1000BASE-TX EEE

Type of connection	RJ45
Auto-negotiation	Yes
Auto-polarity	Yes
Auto-MDI(X)	Yes
Transfer conditions	Twisted pair
Transfer speed	10 / 100 / 1000 Mbit/s
Transfer length	100 m (Twisted Pair, Cat 5)

### Ethernet ports 1000BASE-SX / 1000BASE-LX

Type of fibre	Multi-mode (MM)	Single-mode (SM)
Type of connection	SC Duplex	
Transfer conditions	FOC	
Wavelength	850 nm	1310 nm
Transfer speed	1000 Mbit/s	
Transfer length	0.55 km	10 km
Output power	-9.5 dBm ... -4 dBm	-9.5 dBm ... -3 dBm
Input sensitivity	≤ -17 dBm	≤ -21 dBm

### SFP ports

Transfer standard	Depending on used SFP
Type of connection	Depending on used SFP, RJ45 or LC
Transfer conditions	Depending on used SFP, TP or FOC
Transfer speed	Depending on used SFP, 100 or 1000 Mbit/s
Transfer length	Depending on used SFP



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### Enclosures

Enclosure width	25 mm
Dimensions H x W x D (without pluggable screw type terminal block and holding bracket)	142 mm x 25 mm x 107.5 mm
Weight	428 g ... 490 g
Type of installation	35 mm DIN acc. to EN 60 715
Material enclosures	Anodised aluminium / powder-coated steel sheet
Protection class (with pluggable screw type terminal block)	IP30
Protection class	III

### Status and diagnostic displays

Power ("Pwr") $\phi$ 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
Link speed ("Spd") illuminated green	1000 Mbit/s

### 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)

### Approvals

CE, FCC CFR 47 Part 15, cUL US 508 listed, DNV, GL, ABS, NK, ABB IIT

### 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)

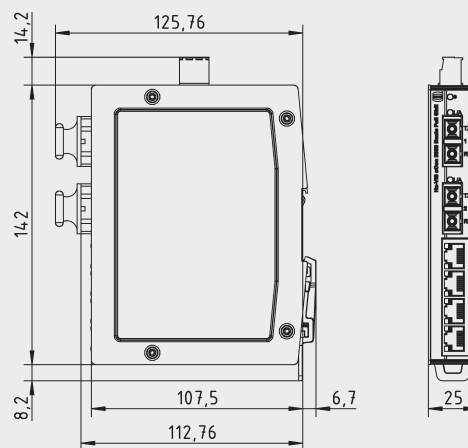
#### Mechanical stability (EN 60721-3)

IEC 60068-2-6 Vibration  
 IEC 60068-2-6 Resonance search  
 IEC 60068-2-27 Shock test

### Included in delivery

- Pluggable screw type terminal block for power supply
- Installation instructions

## Drawings



## Technical characteristics / order information

### Ports / order information

RJ45	SFP	SC	Enclosure width	Power consumption @ 24 VDC	MTBF in million h	Commercial temp.: 0 °C ... +55 °C		Industrial temp.: -40 °C ... +70 °C	
						Switch	Part no.	Switch	Part no.
1	-	1x MM (0.55 km)	25 mm	92 mA	2.13	Ha-VIS eCon 3011GB-AD	24 03 401 1110	Ha-VIS eCon 3011GBT-AD	24 03 401 1100
1	-	1x SM (10 km)	25 mm	92 mA	2.13	Ha-VIS eCon 3011GB-AF	24 03 401 1210	Ha-VIS eCon 3011GBT-AF	24 03 401 1200
1	1	-	25 mm	90 mA	0.95	Ha-VIS eCon 3011GB-AC	24 03 401 1310	Ha-VIS eCon 3011GBT-AC	24 03 401 1300
4	-	1x MM (0.55 km)	25 mm	155 mA	2.15	Ha-VIS eCon 3041GB-AD	24 03 404 1110	Ha-VIS eCon 3041GBT-AD	24 03 404 1100
4	-	1x SM (10 km)	25 mm	155 mA	2.15	Ha-VIS eCon 3041GB-AF	24 03 404 1210	Ha-VIS eCon 3041GBT-AF	24 03 404 1200
4	-	2x MM (0.55 km)	25 mm	182 mA	2.08	Ha-VIS eCon 3042GB-AD	24 03 404 2110	Ha-VIS eCon 3042GBT-AD	24 03 404 2100
4	-	2x SM (10 km)	25 mm	182 mA	2.08	Ha-VIS eCon 3042GB-AF	24 03 404 2210	Ha-VIS eCon 3042GBT-AF	24 03 404 2200
4	3	-	25 mm	172 mA	0.99	Ha-VIS eCon 3043GB-AC	24 03 404 3310	Ha-VIS eCon 3043GBT-AC	24 03 404 3300
5	-	-	25 mm	149 mA	1.97	Ha-VIS eCon 3050GB-A	24 03 405 0010	Ha-VIS eCon 3050GBT-A	24 03 405 0000
5	-	1x MM (0.55 km)	25 mm	177 mA	1.91	Ha-VIS eCon 3051GB-AD	24 03 405 1110	Ha-VIS eCon 3051GBT-AD	24 03 405 1100
5	-	1x SM (10 km)	25 mm	177 mA	1.91	Ha-VIS eCon 3051GB-AF	24 03 405 1210	Ha-VIS eCon 3051GBT-AF	24 03 405 1200
5	2	-	25 mm	175 mA	0.94	Ha-VIS eCon 3052GB-AC	24 03 405 2310	Ha-VIS eCon 3052GBT-AC	24 03 405 2300
6	-	-	25 mm	172 mA	1.76	Ha-VIS eCon 3060GB-A	24 03 006 0010	Ha-VIS eCon 3060GBT-A	24 03 006 0000
6	1	-	25 mm	178 mA	0.89	Ha-VIS eCon 3061GB-AC	24 03 406 1310	Ha-VIS eCon 3061GBT-AC	24 03 406 1300
7	-	-	25 mm	182 mA	0.85	Ha-VIS eCon 3070GB-A	24 03 407 0010	Ha-VIS eCon 3070GBT-A	24 03 407 0000

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