

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-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	-19 dBm ... -14 dBm	-15 dBm ... -8 dBm
Input sensitivity	≤ -32 dBm	≤ -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)



HARTING Technologiegruppe
P.O.Box 1473, D-32325 Espelkamp
Wilhelm-Harting-Straße 1, D-32325 Espelkamp, Germany

Service hotline: +49 5772 47-97100, Fax: +49 5772 47-495
Electric@HARTING.com, www.HARTING.com

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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

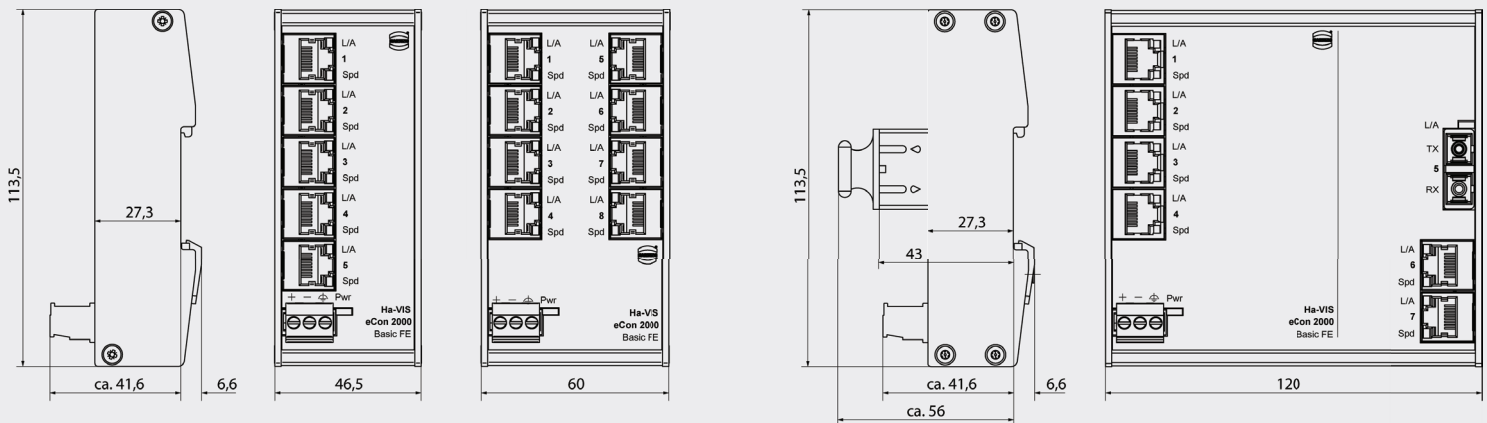
IEC 60068-2-6 Vibrationresonance search

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



5 to 8 Ethernet ports RJ45, FOC, and PoE / PoE+

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

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



- Energy supply of up to 4 terminal devices via PoE+ (137 watts) in accordance with IEEE 802.3at
- Fast Ethernet Non-Blocking Switch architecture in accordance with IEEE 802.3
- Variants with industrial temperature range of -40°C ... +70°C
- Surge protection and reverse polarity protection
- Minimum energy consumption due to energy-efficient Ethernet

Target markets

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



General Description

The Ha-VIS eCon 2000 Fast Ethernet PoE 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. The switches work as power sourcing equipment (PSE) and are capable of simultaneously providing the full PoE output of 34.2 watts on up to four ports. 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 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	120 mm
Number of ports	5, 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 ☐☐☐	48 VDC ☐☐☐	54 VDC ☐☐☐
Permissible voltage range	9 VDC ... 60 VDC ☐☐☐		
Surge protection	Yes		
Reverse polarity proof	Yes		
Starting current	3.20 A	6.40 A	7.20 A
Overcurrent protection at input	Yes (4 A)		
Max. power consumption @ 24 VDC	2.40 W ... 3.84 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	+ / - / ⚡		
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	-19 dBm ... -14 dBm	-15 dBm ... -8 dBm
Input sensitivity	≤ -32 dBm	≤ -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% (not-condensing)
Relative humidity (storage and transport)	0% ... 95% (not-condensing)
Air pressure	2000 m (795 hPa)



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Electric@HARTING.com, www.HARTING.com

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PoE

Number of PoE ports	4	
Standard	IEEE 802.3af / IEEE 802.3at	
PoE type	PSE	
Supported mode	Alternative A	
Power supply PSE	48 VDC \equiv	54 VDC \equiv
Maximum Power consumption	375 mA	638 mA
Maximum output power PSE	15.4 W per port 61.6 W total	34.2 W per port 136.8 W total
Supported cabling	See 802.3at, section 33.1.4	
PoE pinout	Alternative A, MDI-X (1/2 = V-, 3/6 = V+)	

Status and diagnostic displays

Power ("Pwr") \odot 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
PoE status off	PoE is inactive / low voltage
PoE status illuminated green	Voltage in PoE range
PoE status illuminated blue	Voltage in PoE+ range
PoE status illuminated red	Fault

Housing

Housing width	120 mm
Dimensions H x W x D (without pluggable screwed contact and holding bracket)	113.5 mm x 120 mm x 27.3 mm
Weight	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

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)

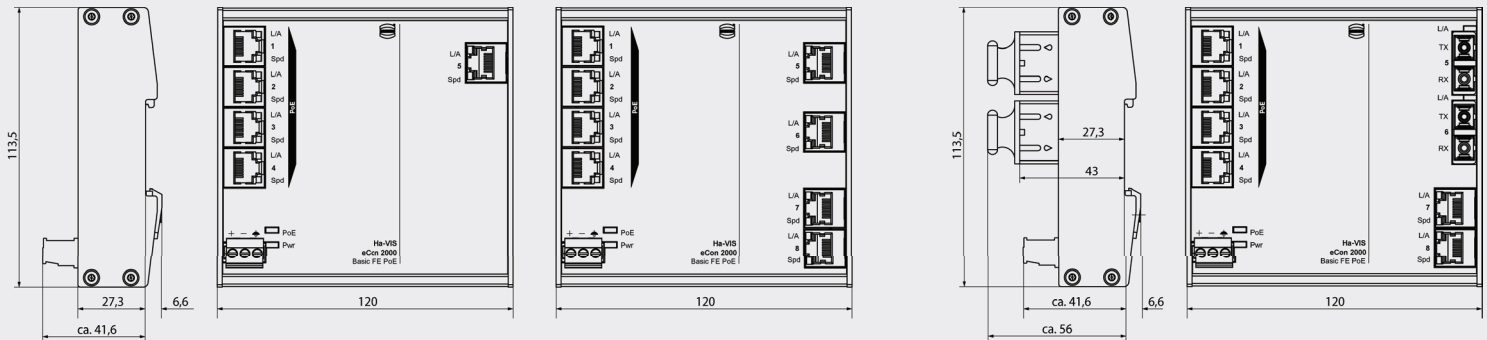
Mechanical stability (EN 60721-3)

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 without PoE	MTBF in million h	Commercial temp.: 0°C ... +55°C		Industrial temp.: -40°C ... +70°C	
						switch	Order no.	switch	Order no.
5	-	-	120 mm	100 mA	0.84	Ha-VIS eCon 2050B-A-P	24020050030	Ha-VIS eCon 2050BT-A-P	24020050020
6	-	1x MM (2 km)	120 mm	130 mA	0.78	Ha-VIS eCon 2061B-AD-P	24020061130	Ha-VIS eCon 2061BT-AD-P	24020061120
6	-	1x SM (15 km)	120 mm	130 mA	0.79	Ha-VIS eCon 2061B-AF-P	24020061230	Ha-VIS eCon 2061BT-AF-P	24020061220
6	-	2x MM (2 km)	120 mm	160 mA	0.76	Ha-VIS eCon 2062B-AD-P	24020062130	Ha-VIS eCon 2062BT-AD-P	24020062120
6	-	2x SM (15 km)	120 mm	160 mA	0.78	Ha-VIS eCon 2062B-AF-P	24020062230	Ha-VIS eCon 2062BT-AF-P	24020062220
8	-	-	120 mm	100 mA	0.73	Ha-VIS eCon 2080B-A-P	24020080030	Ha-VIS eCon 2080BT-A-P	24020080020



4 to 7 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°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
- Surge protection and reverse polarity protection
- Minimum energy consumption due to energy-efficient Ethernet

Target markets

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



General Description

The Ha-VIS eCon 2000 Full Gigabit family of unmanaged Ethernet switches is equipped with up to 7 gigabit Ethernet ports and allow 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). 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

	60 mm	120 mm
Housing width	60 mm	120 mm
Number of ports	5	7
Switching technology	Store and Forward	
Supported standards	IEEE 802.3	
Frame size	10 kBytes	
MAC table size	8k entries	
Paket 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 (4 A)	
Max. power consumption @ 24 VDC	3.00 W ... 5.16 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	+ / - /	
Supply circuit (according to 60950)	SELV (circuit breaker 10 A)	

Ethernet ports 10BASE-T_e / 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

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% (not-condensing)
Relative humidity (storage and transport)	0% ... 95% (not-condensing)
Air pressure (operation)	2000 m (795 hPa)



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Housing

Housing width	60 mm	120 mm
Dimensions H x W x D (without pluggable screwed contact and holding bracket)	113.5 mm x 60 mm x 27.3 mm	113.5 mm x 120 mm x 27.3 mm
Weight	205 g	378 g ... 393 g
Type of installation	35 mm DIN rail acc. to EN 60 715	
Housing material	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
Link speed ("Spd") illuminated green	1000 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)

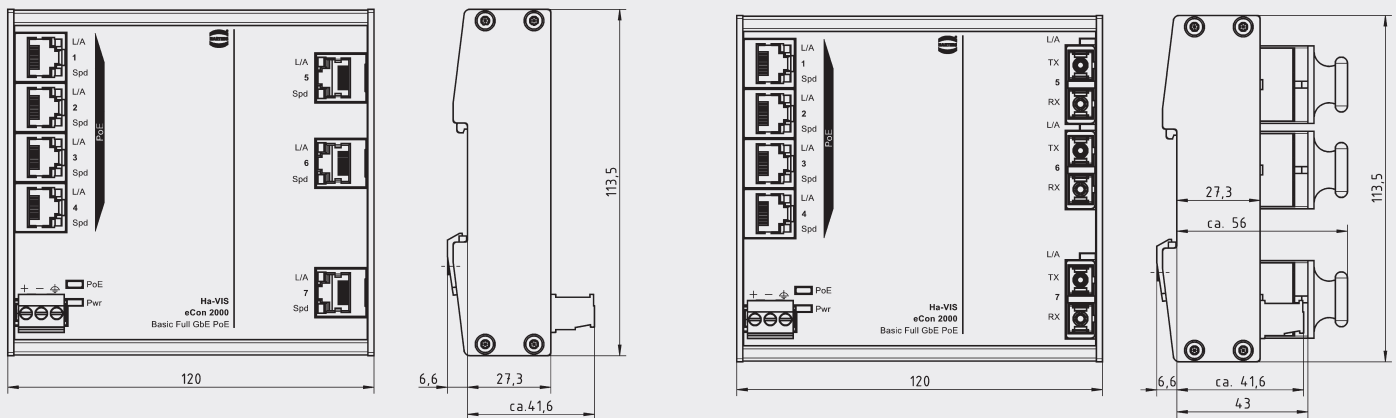
Mechanical stability (EN 60721-3)

- 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

Dimensioned 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.
4	-	3x MM (0.55 km)	120 mm	175 mA	S. eCatalogue	Ha-VIS eCon 2043GB-AD	24024043110	Ha-VIS eCon 2043GBT-AD	24024043100
4	-	3x SM (10 km)	120 mm	215 mA	S. eCatalogue	Ha-VIS eCon 2043GB-AF	24024043210	Ha-VIS eCon 2043GBT-AF	24024043200
5	-	-	60 mm	125 mA	S. eCatalogue	Ha-VIS eCon 2050GB-A	24024050010	Ha-VIS eCon 2050GBT-A	24024050000
5	-	2x MM (0.55 km)	120 mm	185 mA	S. eCatalogue	Ha-VIS eCon 2052GB-AD	24024052110	Ha-VIS eCon 2052GBT-AD	24024052100
5	-	2x SM (10 km)	120 mm	205 mA	S. eCatalogue	Ha-VIS eCon 2052GB-AF	24024052210	Ha-VIS eCon 2052GBT-AF	24024052200
6	-	1x MM (0.55 km)	120 mm	195 mA	S. eCatalogue	Ha-VIS eCon 2061GB-AD	24024061110	Ha-VIS eCon 2061GBT-AD	24024061100
6	-	1x SM (10 km)	120 mm	209 mA	S. eCatalogue	Ha-VIS eCon 2061GB-AF	24024061210	Ha-VIS eCon 2161GBT-AF	24024061200
7	-	-	120 mm	190 mA	S. eCatalogue	Ha-VIS eCon 2070GB-A	24024070010	Ha-VIS eCon 2070GBT-A	24024070000



4 to 7 Ethernet ports RJ45, FOC, and PoE / PoE+

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



- Energy supply of up to 4 terminal devices via PoE+ (137 watts) in accordance with IEEE 802.3at
- 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

Target markets

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



General Description

The Ha-VIS eCon 2000 Full Gigabit family of unmanaged Ethernet switches is equipped with up to 7 gigabit Ethernet ports and allow for cost-efficient and quick expansion and/or reconstruction of network infrastructures with high bandwidth requirements. In this, all variants support extra-long Ethernet frames (jumbo frames). The switches work as power sourcing equipment (PSE) and are capable of simultaneously providing the full PoE output of 34.2 watts on up to four ports. 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	120 mm
Number of interfaces	5, 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 \equiv	48 VDC \equiv	54 VDC \equiv
Permissible voltage range	9 VDC ... 60 VDC \equiv		
Surge protection	Yes		
Reverse polarity proof	Yes		
Starting current	3.2 A	6.40 A	7.20 A
Overcurrent protection at input	Yes (4 A)		
Max. power consumption @ 24 VDC	3.60 W ... 5.28 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-T / 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	\leq -17 dBm	\leq -21 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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PoE

Number of PoE ports	4	
Standard	IEEE 802.3af / IEEE 802.3at	
PoE type	PSE	
Supported mode	Alternative A	
Power supply PSE	48 VDC $\overline{\text{---}}$	54 VDC $\overline{\text{---}}$
Maximum Power consumption	375 mA	638 mA
Maximum output power PSE	15.4 W per port 61.6 W total	34.2 W per port 136.8 W total
Supported cabling	See 802.3at, section 33.1.4	
PoE pinout	Alternative A, MDI-X (1/2 = V-, 3/6 = V+)	

Status and diagnostic displays

Power ("Pwr") \odot 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
PoE status off	PoE is inactive / low voltage
PoE status illuminated green	Voltage in PoE range
PoE status illuminated blue	Voltage in PoE+ range
PoE status illuminated red	Fault

Housing

Housing width	120 mm
Dimensions H x W x D (without pluggable screwed contact and holding bracket)	113.5 mm x 120 mm x 27.3 mm
Weight	410 g ... 442 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

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)

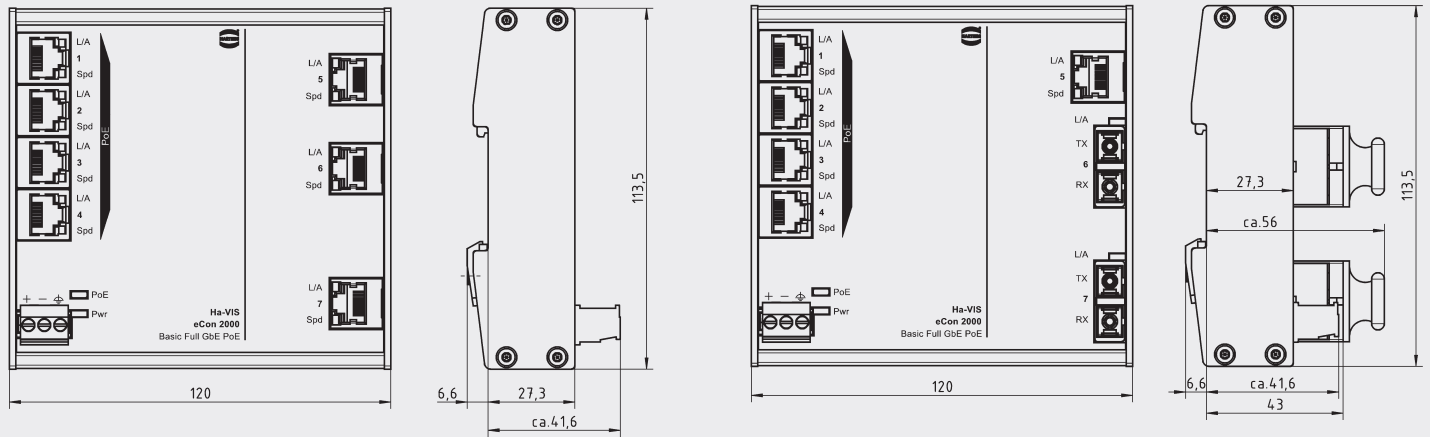
Mechanical stability (EN 60721-3)

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 without PoE	MTBF in million h	Commercial temp.: 0°C ... +55°C		Industrial temp.: -40°C ... +70°C	
						Switch	Order no.	Switch	Order no.
4	-	3x MM (0.55 km)	120 mm	190 mA	S. eCatalogue	Ha-VIS eCon 2043GB-AD-P	24024043130	Ha-VIS eCon 2043GBT-AD-P	24024043120
4	-	3x SM (10 km)	120 mm	220 mA	S. eCatalogue	Ha-VIS eCon 2043GB-AF-P	24024043230	Ha-VIS eCon 2043GBT-AF-P	24024043220
5	-	-	120 mm	150 mA	S. eCatalogue	Ha-VIS eCon 2050GB-A-P	24024050030	Ha-VIS eCon 2050GBT-A-P	24024050020
5	-	2x MM (0.55 km)	120 mm	220 mA	S. eCatalogue	Ha-VIS eCon 2052GB-AD-P	24024052130	Ha-VIS eCon 2052GBT-AD-P	24024052120
5	-	2x SM (10 km)	120 mm	220 mA	S. eCatalogue	Ha-VIS eCon 2052GB-AF-P	24024052230	Ha-VIS eCon 2052GBT-AF-P	24024052220
6	-	1x MM (0.55 km)	120 mm	200 mA	S. eCatalogue	Ha-VIS eCon 2061GB-AD-P	24024061130	Ha-VIS eCon 2061GBT-AD-P	24024061120
6	-	1x SM (10 km)	120 mm	200 mA	S. eCatalogue	Ha-VIS eCon 2061GB-AF-P	24024061230	Ha-VIS eCon 2061GBT-AF-P	24024061220
7	-	-	120 mm	190 mA	S. eCatalogue	Ha-VIS eCon 2070GB-A-P	24024070030	Ha-VIS eCon 2070GBT-A-P	24024070020



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 mm ² ... 2.5 mm ² (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_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)



HARTING Technologiegruppe
P.O.Box 1473, D-32325 Espelkamp
Wilhelm-Harting-Straße 1, D-32325 Espelkamp, Germany

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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

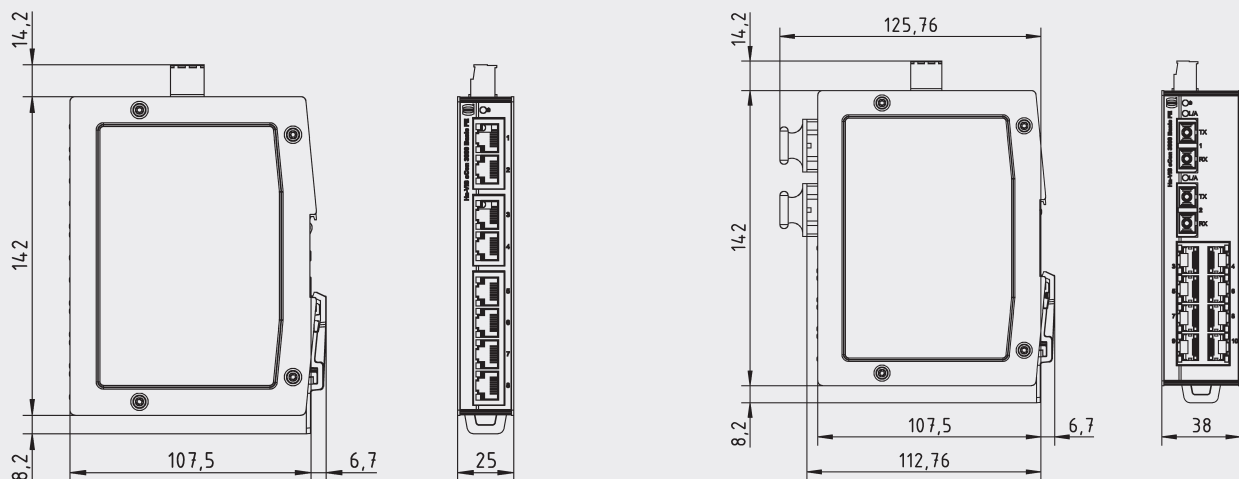
IEC 60068-2-6 Resonance search

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



5 to 8 Ethernet ports RJ45, FOC, and PoE / PoE+

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

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



- Energy supply of up to 4 terminal devices via PoE+ (137 watts) in accordance with IEEE 802.3at
- Fast Ethernet Non-Blocking Switch architecture in accordance with IEEE 802.3
- Variants with industrial temperature range of -40°C ... +70°C
- 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 Fast Ethernet PoE 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. The switches work as power sourcing equipment (PSE) and are capable of simultaneously providing the full PoE output of 34.2 watts on up to four ports. 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
Number of ports	5, 6, 7, 8
Switching technology	Store and Forward
Supported standards	IEEE 802.3
Frame size	1522 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 ☐☐☐	48 VDC ☐☐☐	54 VDC ☐☐☐
Permissible voltage range	9 VDC ... 60 VDC ☐☐☐		
Surge protection	Yes		
Reverse polarity proof	Yes		
Starting current	3.20 A	6.40 A	7.20 A
Overcurrent protection at input	Yes (12 A)		
Max. power consumption @ 24 VDC	1.92 W ... 3.12 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	+ / - / ⚡		
Supply circuit (according to 60950)	SELV (circuit breaker 10 A)		

Ethernet ports 10BASE-T_e / 100BASE-TX

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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PoE

Number of PoE ports	4	
Standard	IEEE 802.3af / IEEE 802.3at	
PoE type	PSE	
Supported mode	Alternative A	
Power supply PSE	48 VDC ---	54 VDC ---
Maximum power consumption PSE	1380 mA	2380 mA
Maximum current (PoE / PoE+)	375 mA	638 mA
Maximum output power PSE	15.4 W per port 61.6 W total	34.2 W per port 136.8 W total
Supported cabling	See 802.3at, section 33.1.4	
PoE pinout	Alternative A, MDI-X (1/2 = V-, 3/6 = V+)	

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
PoE status off	PoE is inactive / low voltage
PoE status illuminated green	Voltage in PoE range
PoE status illuminated blue	Voltage in PoE+ range
PoE status illuminated red	Fault

Housing

Housing width	25 mm
Dimensions H x W x D (without pluggable screwed contact and holding bracket)	142 mm x 25 mm x 107.5 mm
Weight	480 g ... 508 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)	IP30
Protection class	III

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)

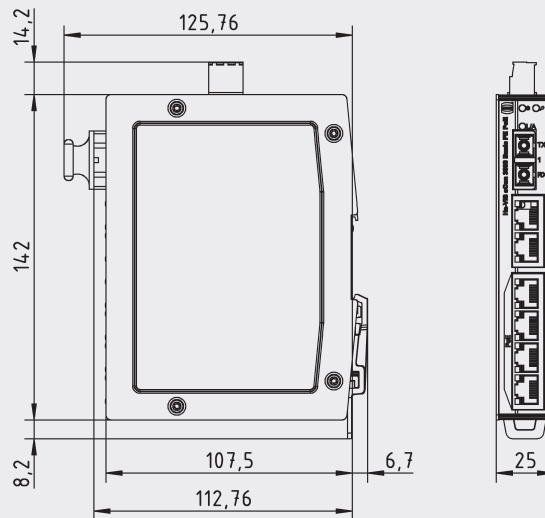
Mechanical stability (EN 60721-3)

IEC 60068-2-6 Vibration
 IEC 60068-2-6 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 without PoE	MTBF in million h	Commercial temp.: 0°C ... +55°C		Industrial temp.: -40°C ... +70°C	
						Switch	Order no.	Switch	Order no.
4	-	1x MM (2 km)	25 mm	110 mA	1.19	Ha-VIS eCon 3041B-AD-P	24030041130	Ha-VIS eCon 3041BT-AD-P	24030041120
4	-	1x SM (15 km)	25 mm	110 mA	1.19	Ha-VIS eCon 3041B-AF-P	24030041230	Ha-VIS eCon 3041BT-AF-P	24030041220
4	-	2x MM (2 km)	25 mm	130 mA	1.17	Ha-VIS eCon 3042B-AD-P	24030042130	Ha-VIS eCon 3042BT-AD-P	24030042120
4	-	2x SM (15 km)	25 mm	130 mA	1.17	Ha-VIS eCon 3042B-AF-P	24030042230	Ha-VIS eCon 3042BT-AF-P	24030042220
6	-	-	25 mm	80 mA	1.18	Ha-VIS eCon 3060B-A-P	24030060030	Ha-VIS eCon 3060BT-A-P	24030060020
6	-	1x MM (2 km)	25 mm	120 mA	1.15	Ha-VIS eCon 3061B-AD-P	24030061130	Ha-VIS eCon 3061BT-AD-P	24030061120
6	-	1x SM (15 km)	25 mm	120 mA	1.15	Ha-VIS eCon 3061B-AF-P	24030061230	Ha-VIS eCon 3061BT-AF-P	24030061220
8	-	-	25 mm	90 mA	1.14	Ha-VIS eCon 3080B-A-P	24030080030	Ha-VIS eCon 3080BT-A-P	24030080020

Ha-VIS eCon 3000 Full Gigabit Ethernet Basic



English



2 to 7 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°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 & play. All variants are available with the temperature ranges "Industrial" and "Commercial".

Specification

Switch Features

Housing 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 (10 A)	
Max. power consumption @ 24 VDC	See eCatalogue	
Conductor cross-section	0.08 mm ² ... 2.5 mm ² (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_e / 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



HARTING Technologiegruppe
P.O.Box 1473, D-32325 Espelkamp
Wilhelm-Harting-Straße 1, D-32325 Espelkamp, Germany

Service hotline: +49 5772 47-97100, Fax: +49 5772 47-495
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Housing

Housing width	25 mm
Dimensions H x W x D (without pluggable screwed contact and holding bracket)	142 mm x 25 mm x 107.5 mm
Weight	See eCatalogue
Type of installation	35 mm DIN acc. to EN 60 715
Material hoods/housings	Anodised aluminium / powder-coated steel sheet
Protection class (with plugged screwed contact)	IP30
Protection class	III

Status and diagnostic displays

Power ("Pwr") ϕ 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 (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 voltage EN 61 000-4-6

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

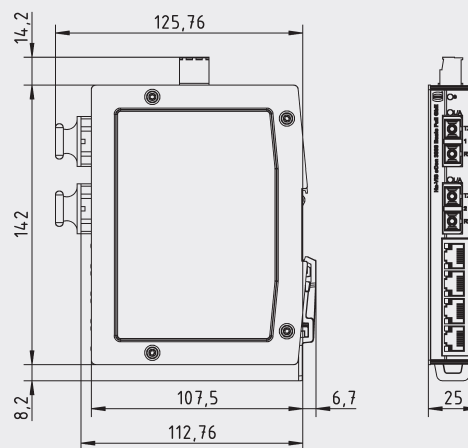
Mechanical stability (EN 60721-3)

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.
1	-	1x MM (0.55 km)	25 mm	80 mA	S. eCatalogue	Ha-VIS eCon 3011GB-AD	24034011110	Ha-VIS eCon 3011GBT-AD	24034011100
1	-	1x SM (10 km)	25 mm	80 mA	S. eCatalogue	Ha-VIS eCon 3011GB-AF	24034011210	Ha-VIS eCon 3011GBT-AF	24034011200
1	1	-	25 mm	100 mA	S. eCatalogue	Ha-VIS eCon 3011GB-AC	24034011310	Ha-VIS eCon 3011GBT-AC	24034011300
4	-	1x MM (0.55 km)	25 mm	135 mA	S. eCatalogue	Ha-VIS eCon 3041GB-AD	24034041110	Ha-VIS eCon 3041GBT-AD	24034041100
4	-	1x SM (10 km)	25 mm	138 mA	S. eCatalogue	Ha-VIS eCon 3041GB-AF	24034041210	Ha-VIS eCon 3041GBT-AF	24034041200
4	-	2x MM (0.55 km)	25 mm	155 mA	S. eCatalogue	Ha-VIS eCon 3042GB-AD	24034042110	Ha-VIS eCon 3042GBT-AD	24034042100
4	-	2x SM (10 km)	25 mm	157 mA	S. eCatalogue	Ha-VIS eCon 3042GB-AF	24034042210	Ha-VIS eCon 3042GBT-AF	24034042200
4	3	-	25 mm	205 mA	S. eCatalogue	Ha-VIS eCon 3043GB-AC	24034043310	Ha-VIS eCon 3043GBT-AC	24034043300
5	-	-	25 mm	140 mA	S. eCatalogue	Ha-VIS eCon 3050GB-A	24034050010	Ha-VIS eCon 3050GBT-A	24034050000
5	-	1x MM (0.55 km)	25 mm	155 mA	S. eCatalogue	Ha-VIS eCon 3051GB-AD	24034051110	Ha-VIS eCon 3051GBT-AD	24034051100
5	-	1x SM (10 km)	25 mm	158 mA	S. eCatalogue	Ha-VIS eCon 3051GB-AF	24034051210	Ha-VIS eCon 3051GBT-AF	24034051200
5	2	-	25 mm	190 mA	S. eCatalogue	Ha-VIS eCon 3052GB-AC	24034052310	Ha-VIS eCon 3052GBT-AC	24034052300
6	-	-	25 mm	160 mA	S. eCatalogue	Ha-VIS eCon 3060GB-A	24030060010	Ha-VIS eCon 3060GBT-A	24030060000
6	1	-	25 mm	180 mA	S. eCatalogue	Ha-VIS eCon 3061GB-AC	24034061310	Ha-VIS eCon 3061GBT-AC	24034061300
7	-	-	25 mm	185 mA	S. eCatalogue	Ha-VIS eCon 3070GB-A	24034070010	Ha-VIS eCon 3070GBT-A	24034070000



5 to 7 Ethernet ports RJ45, FOC, and PoE / PoE+

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

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



- Energy supply of up to 4 terminal devices via PoE+ (137 watts) in accordance with IEEE 802.3at
- 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
- 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 variants support extra-long Ethernet frames (jumbo frames). The switches work as power sourcing equipment (PSE) and are capable of simultaneously providing the full PoE output of 34.2 watts on up to

four ports. 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 & play. All variants are available with the temperature ranges "Industrial" and "Commercial".

Specification

Switch Features

Housing width	25 mm
Number of ports	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
Ethernet/IP-compatible	Yes

Power supply

Nominal voltage	24 VDC	48 VDC	54 VDC
Permissible voltage range	9 VDC ... 60 VDC		
Surge protection	Yes		
Reverse polarity proof	Yes		
Starting current	3.20 A	6.40 A	7.20 A
Overcurrent protection at input	Yes (10 A)		
Max. power consumption @ 24 VDC	See eCatalogue		
Conductor cross-section	0.08 mm ² ... 2.5 mm ² (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_e / 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 100BASE-SX / 100BASE-FX

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 ... -3 dBm	-9,5 dBm ... -4 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



HARTING Technologiegruppe
P.O.Box 1473, D-32325 Espelkamp
Wilhelm-Harting-Straße 1, D-32325 Espelkamp, Germany

Service hotline: +49 5772 47-97100, Fax: +49 5772 47-495
Electric@HARTING.com, www.HARTING.com

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PoE

Number of PoE ports	4	
Standard	IEEE 802.3af / IEEE 802.3at	
PoE type	PSE	
Supported mode	Alternative A	
Power supply PSE	48 VDC ---	54 VDC ---
Maximum power consumption PSE	1380 mA	2380 mA
Maximum current (PoE / PoE+)	375 mA	638 mA
Maximum output power PSE	15.4 W per port 61.6 W total	34.2 W per port 136.8 W total
Supported cabling	See 802.3at, section 33.1.4	
PoE pinout	Alternative A, MDI-X (1/2 = V-, 3/6 = V+)	

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
Link speed ("Spd") illuminated green	1000 Mbit/s
PoE status off	PoE is inactive / low voltage
PoE status illuminated green	Voltage in PoE range
PoE status illuminated blue	Voltage in PoE+ range
PoE status illuminated red	Fault

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)

Housing

Housing width	25 mm
Dimensions H x W x D (without pluggable screwed contact and holding bracket)	142 mm x 25 mm x 107.5 mm
Weight	See eCatalogue
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)	IP30
Protection class	III

Approvals (in preparation)

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

EMC and environmental conditions

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- Electromagnetic field EN 61 000-4-3
- Rapid transients (burst) EN 61 000-4-4
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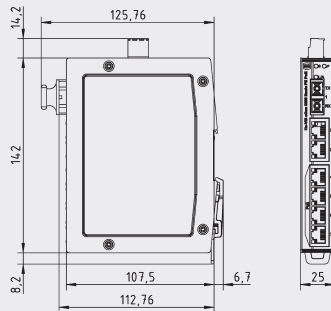
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- IEC 60068-2-6 Vibration
- IEC 60068-2-6 Resonance search
- IEC 60068-2-27 Shock test

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						Switch	Order no.	Switch	Order no.
4	-	1x MM (0.55 km)	25 mm	140 mA	S. eCatalogue	Ha-VIS eCon 3041GB-AD-P	24034041130	Ha-VIS eCon 3041GBT-AD-P	24034041120
4	-	1x SM (10 km)	25 mm	140 mA	S. eCatalogue	Ha-VIS eCon 3041GB-AF-P	24034041230	Ha-VIS eCon 3041GBT-AF-P	24034041220
4	-	2x MM (0.55 km)	25 mm	160 mA	S. eCatalogue	Ha-VIS eCon 3042GB-AD-P	24034042130	Ha-VIS eCon 3042GBT-AD-P	24034042120
4	-	2x SM (10 km)	25 mm	160 mA	S. eCatalogue	Ha-VIS eCon 3042GB-AF-P	24034042230	Ha-VIS eCon 3042GBT-AF-P	24034042220
4	3	-	25 mm	200 mA	S. eCatalogue	Ha-VIS eCon 3043GB-AC-P	24034043330	Ha-VIS eCon 3043GBT-AC-P	24034043320
5	-	-	25 mm	140 mA	S. eCatalogue	Ha-VIS eCon 3050GB-A-P	24034050030	Ha-VIS eCon 3050GBT-A-P	24034050020
5	-	1x MM (0.55 km)	25 mm	155 mA	S. eCatalogue	Ha-VIS eCon 3051GB-AD-P	24034051130	Ha-VIS eCon 3051GBT-AD-P	24034051120
5	-	1x SM (10 km)	25 mm	158 mA	S. eCatalogue	Ha-VIS eCon 3051GB-AF-P	24034051230	Ha-VIS eCon 3051GBT-AF-P	24034051220
5	2	-	25 mm	190 mA	S. eCatalogue	Ha-VIS eCon 3052GB-AC-P	24034052330	Ha-VIS eCon 3052GBT-AC-P	24034052320
6	-	-	25 mm	160 mA	S. eCatalogue	Ha-VIS eCon 3060GB-A-P	24034060030	Ha-VIS eCon 3060GBT-A-P	24034060020
6	1	-	25 mm	90 mA	S. eCatalogue	Ha-VIS eCon 3061GB-AC-P	24034061330	Ha-VIS eCon 3061GBT-AC-P	24034061320
7	-	-	25 mm	190 mA	S. eCatalogue	Ha-VIS eCon 3070GB-A-P	24034070030	Ha-VIS eCon 3070GBT-A-P	24034070020