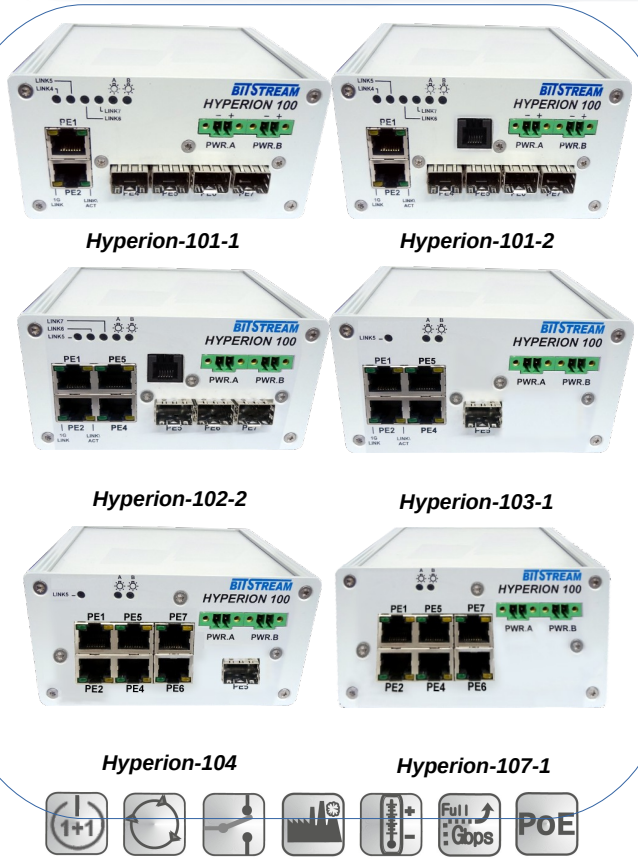
HYPERION-10x



6/5/4 Ports - Managed Industrial Ethernet Switch 10/100/1000 Mbps with RJ45 i SFP + PoE

- Industrial switch with 2/4/6x ***RJ45 10/100/1000 Mbps,*** 1/3/4x ***SFP 100/1000 Mbps*** and additional interfaces measurement and control
- ***PoE*** (oprtional) support up to ***15W***
- Ethernet ring support, up to ***50ms*** protection and recovery switching
- Energy Efficient Ethernet *(**EEE**)* support
  Control and measurement functions: ***1-Wire*** *(T/H), 1x* ***digital input****, 1x* ***relay outputs***
- ***PROFINET Conformance Class A***
- ***Security:*** WWW, Telnet, SNMPv1, SMTP i NTP management
- ***-40 to +70°C*** operating temperature
- ***IP-30 DIN*** mounted metal enclosure
- ***Redundant power supply*** 10 ÷ 60V DC – for PoE 24÷60V DC

Description of the device

Characteristic

Hyperion-10x is Managed Industrial Ethernet Switch equipped with eight 10/100/1000Mbps RJ45 (with PoE support) and 100M/1Gbps SFP ports and additional interfaces measurement and control. It is dedicated to provide the transmission of applications, supervision and operation of power stations, CCTV and other applications for the industry.

Network resiliency

The first is support for ring topology. Each Ethernet port of the device can operate in ring topology allowing its use in anything from the simplest to the most advanced, multi-ring applications. By employing our original ring support protocol we are able to ensure very short connection reconfiguration times under ***50ms***.

Energy Efficient Ethernet

The second important feature of the solution is the support for ***EEE*** Energy Efficient Ethernet technology, which is particularly important in networks where energy conservation is necessary.

QoS / VLAN QinQ

Another important functionality is the support for ***VLAN***, ***QinQ*** and ***QoS*** technologies, which offers nearly unlimited possibilities in creating networks based on traffic segregation between users and as well as applications.

Environmental limits

As a line of industrial solutions, Hyperion-100 switches can withstand a wide range of operating temperatures and are supplied with a mounting bracket for a DIN ***TH35*** bus as well as, in some models, with support for the ***PoE*** technology.

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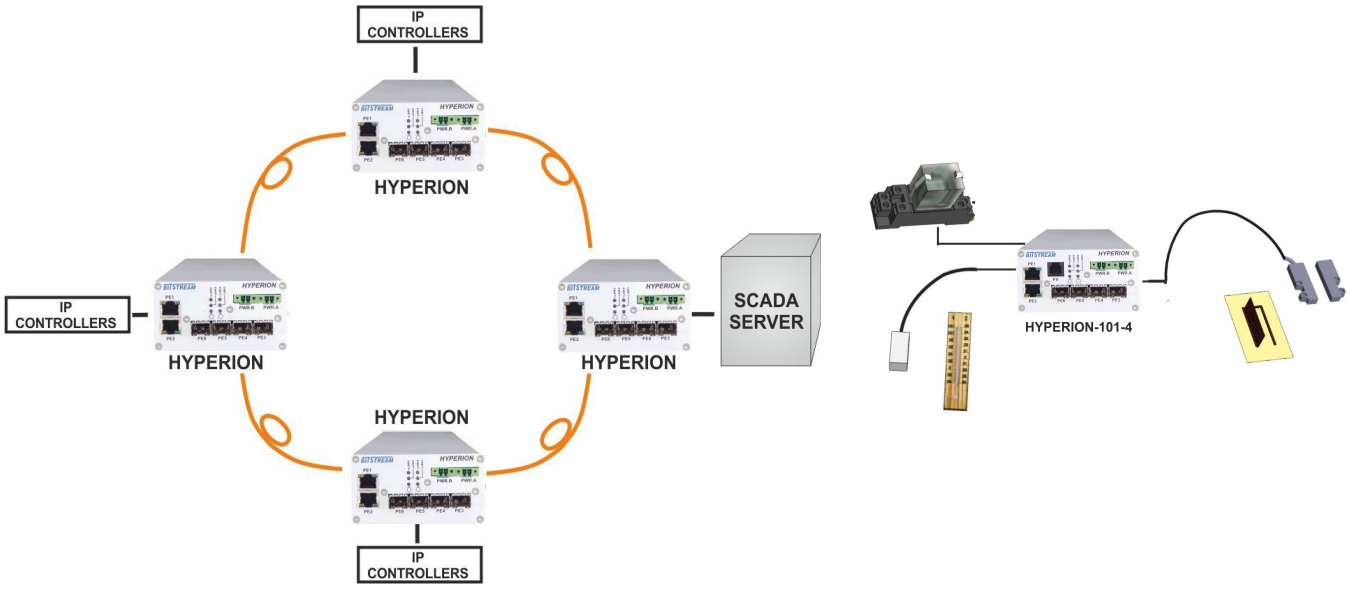


The sample application, illustrating the connection of peripheral systems to measure the detectors or measuring environmental parameters in power stations unattended

Management

The incorporation of a ***HTTP*** server and ***SNMP*** agent allows easy configuration of operating parameters via a standard WWW browser and continuous monitoring of defects via any management platform supporting the SNMP protocol. The additional support for the ***SMTP*** protocol allows user notification by e-mail in the event of system failure.

Technical specifications

Supported transmission standards

- IEEE 802.3 10Base-T Ethernet
- IEEE 802.3u 100Base-TX Fast Ethernet
- IEEE 802.3u 100Base-FX Fast Ethernet Fiber
- IEEE 802.3ab 1000Base-T
- IEEE 802.3z Gigabit Fiber
- IEEE 802.3x Flow Control and Back-pressure
- IEEE 802.1p Class of Service (CoS)
- IEEE 802.1Q VLAN
- IEEE 802.1ad QinQ
- **IEEE 802.3az EEE**
- **IEEE 802.3af PoE**

Supported protocols

- DHCP Client
- NTP, SMTP
- HTTP, Telnet, Syslog
- MIB-II
- PROFINET Conformance Class A

Supported standards, recommendations and directives EMC Security*

- PN-EN 55011:2012
- PN-EN 55024:2011/A1:2015-08
- PN-EN 60950-1:2007/A2:2014-05
- EMC 2004/108/WE
- LVD 2006/95/WE
- PN-EN 60825-1:2014-11
- IEC 61000-4-2 Electromagnetic compatibility (EMC)- Part 4-2: Testing and measurement techniques – Electrostatic discharge immunity test
- IEC 61000-4-3 Electromagnetic compatibility (EMC)- Part 4-3: Testing and measurement techniques – Radiated, radio-frequency, electromagnetic field immunity test
- IEC 61000-4-4 Electromagnetic compatibility (EMC) – Part 4-4: Testing and measurement techniques – Electrical fast transient/burst immunity test
- IEC 61000-4-5 Electromagnetic compatibility (EMC) – Part 4-5: Testing and measurement techniques – Surge immunity test
- IEC 61000-4-6 Electromagnetic compatibility (EMC) – Part 4-6: Testing and measurement techniques – Immunity to conducted disturbances, induced by radio-frequency fields
- IEC 61000-4-8 Electromagnetic compatibility (EMC) – Part 4-8: Testing and measurement techniques – Power frequency magnetic field immunity test
- IEC 61000-4-11 Electromagnetic compatibility (EMC) – Part 4-11: Testing and measurement techniques – Voltage dips, short interruptions and voltage variations immunity tests
- IEC 61000-4-12 Electromagnetic compatibility (EMC) – Part 4-12: Testing and measurement techniques – Ring wave immunity test
- IEC 61000-4-29 Electromagnetic compatibility (EMC) – Part 4-29: Testing and measurement techniques – Voltage dips, short interruptions and voltage variations on d.c. input power port immunity tests

list of supported standards may vary with the development of the device

Optic Ethernet ports

- HYPERION-10(5)1(C): 4x SFP module
- HYPERION-10(5)2: 3x FO (1x combo) or 2xFO for 4xPoE
- HYPERION-10(5)3: 1x SC/PC or SFP module
- HYPERION-10(5)4: 1x SC/PC or SFP module
- Bit rate (SC/PC): 1000Mbps
- Bit rate (SFP): 100/1000Mbps or 1000Mbps
- Ring topology operation with reconfiguration time <50ms

Electrical Etehrnet ports

- HYPERION-10(5)1(C): 2x RJ-45
- HYPERION-10(5)2: 4x RJ-45
- HYPERION-10(5)3: 4x RJ-45
- HYPERION-10(5)4: 6x RJ-45
- Bit rate 10/100/1000 Mbps
- Support for **VLAN** - 64 positions, 802.1Q, 802.1QinQ (VID 0-4095)
- Optional support for **PoE** on two or four (Hyperion-104) electrical ports
- **IEEE 802.3az:** Energy Efficient Ethernet
- **MAC** address table: 1024 positions
- **QoS**: 4 physical queue, algorithm Weighted Round Robin and Strict Priority. Support for priority: port, tag IEE802.1p, TOS i DS for IPv4, Traffic Class IPv6, 802.1Q VID, the source or destination MAC.

1-wire interface (optional, not in the 104 model)

- Bit rate 0 ÷ 16,3 kbps
- Range ≤ 100m
- Port: RJ-12, maximum of 4x T sensors

Relay output (optional, not in the 104 model)

- 1x output RJ-12 with a possibility to directly control the external contactor
- Maximum operating voltage – 250V AC/ 30V DC
- Maximum switch current – 1A DC

Digital input (optional, not in the 104 model)

- Input type – short circuit, opening detection
- Input isolated galvanically
- Złącze: RJ-12
- Port: RJ-12

HYPERION-10x

Power over Ethernet (optional)

- Range of power supply voltages 24-57V DC – the same value of the power is transferred to the PoE
- Maximum power on the RJ45 port – 15.4W

Management

- SNMPv1
- The HTTP protocol - management via web browser
- SD - card socket for recording configuration

Power supply

- Range of power supply voltages 10 ÷ 60V DC - for PoE 24÷60V
- External 230V AC / 48V DC power unit included

Casing

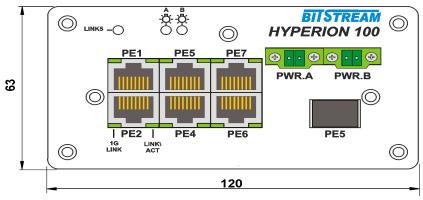
- Dimensions 120x63x114mm
- Weight up to 1kg
- Tightness IP30
- Mounted on a DIN TH35 bus

Environmental requirements

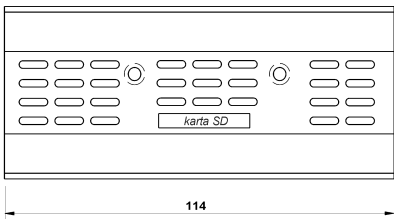
- Industrial version: Operating temperatures: -40 ÷ +80°C (for PoE Tmax=70°C)
- Humidity 5 ÷ 90 % at 40°C

- Redundant power supply
- 2 screw connections per lead max. 1.5mm^2

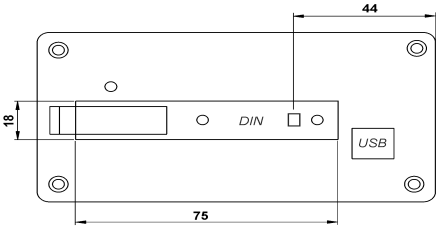
Mechanical drawing



view - front



view - aside



view - back

HYPERION-10x

Code

HYPERION-1AB-C-S-(X)-(Z)

Management:
0 – managed switch
5* – unmanaged switch
* - Option not available for 101C model

Power over Ethernet* (option):
S2 – 2x PoE PSE
S4 – 4x PoE PSE (only for 102)
* - Option not available for 101C model
NOTE - necessary for PoE power supply 48V

Device version:
1C – 4xFO(1G SFP), 2x RJ45
1 – 4xFO(SFP), 2xRJ45
2 – 4xRJ45, 3xFO (1x combo)
or 4xRJ45, 2xFO device version: PoE
3 – 4xRJ45, 1xFO (1x combo)
4 – 6xRJ45, 1xFO (1x combo)
7 – 6xRJ45 (without PoE and 1-wire)

Optional field, only if WDM is chosen in the preceding field*:
1 – 1310/1550 nm for version WS/WM/WL or 1550/1570 nm for version WLL
2 – 1550/1310 nm for version WS/WM/WL or 1570/1550 nm for version WLL
* - Option not available for 101C model

Additional interfaces:
1 – none
2* – 1x digital I/O, 1-wire
* - Option not available for 101C model

Interface types:
- **SFP** - interface via the SFP module
- Built only a single interface speeds of 100 Mbps with SC/PC*:
  S – 1310 nm SM/MM – range 15/5 km
  M – 1310 nm SM – range 50 km
  L – 1550 nm SM – range 100 km
- Interface WDM* (necessary additional field (x) in an assay for the transceiver)
  WS – 1310/1550 and 1550/1310 nm SM/MM – range 20/2 km
  WM – 1310/1550 and 1550/1310nm SM – range 40 km
  WL – 1310/1550 and 1550/1310 nm SM – range 60 km
  WLL – 1550/1570 and 1570/1550nm SM – range 100 km

* - Option not available for 101C model

NOTE - The given ranges are indicative dependent on the actual parameters of fiber

Examples of code:

HYPERION-101-1-SFP-S2	Hyperion-101 managed switch 4xFO(SFP); 2xRJ45; 2x PoE
HYPERION-103-2-WS-1-S2	Hyperion-101 4xRJ45; 1xFO (1x combo); 1x digital I/O, 1-wire; built only a single interface SC, 1310/1550 nm SM/MM – range 20/2 km; 2x PoE

ORDERING:

- **BTP-8524-S5TD** 1.25G, 850nm, MM, 550m, SFP, LC, -40~85^{O}C, (support100M)
- **BTP-3124-L2TD** 1.25G, 1310nm, MM/SM, 2/20km, SFP, LC, -40~85^{O}C, (support100M)
- **BTP-3124-L4TD** 1.25G, 1310nm, SM, 40km, SFP, LC, -40~85^{O}C, (support100M)
- **BTP-5524-L4TD** 1.25G, 1550nm, SM, 40km, SFP, LC, -40~85^{O}C, (support100M)
- **BTP-5524-L8TD** 1.25G, 1550nm, SM, 80km, SFP, LC, -40~85^{O}C, (support100M)
- **BTP-5524-12TD** 1.25G, 1550nm, SM, 120km, SFP, LC, -40~85^{O}C, (support100M)

- **BTPB-3524L-L2TD** 1.25G, 1310/1550nm, SM, 20km, SFP, WDM, LC, -40~85^{O}C, (support100M)
- **BTPB-5324L-L2TD** 1.25G, 1550/1310nm, SM, 20km, SFP, WDM, LC, -40~85^{O}C, (support100M)
- **BTPB-3524S-L2TD** 1.25G, 1310/1550nm, SM, 20km, SFP, WDM, SC, -40~85^{O}C, (support100M)
- **BTPB-5324S-L2TD** 1.25G, 1550/1310nm, SM, 20km, SFP, WDM, SC, -40~85^{O}C, (support100M)

- **BTPB-3524L-L4TD** 1.25G, 1310/1550nm, SM, 40km, SFP, WDM, LC, -40~85^{O}C, (support100M)
- **BTPB-5324L-L4TD** 1.25G, 1550/1310nm, SM, 40km, SFP, WDM, LC, -40~85^{O}C, (support100M)
- **BTPB-3524S-L4TD** 1.25G, 1310/1550nm, SM, 40km, SFP, WDM, SC, -40~85^{O}C, (support100M)
- **BTPB-5324S-L4TD** 1.25G, 1550/1310nm, SM, 40km, SFP, WDM, SC, -40~85^{O}C, (support100M)

- **BTP-8503-02TD** 155M, 850nm, MM, 2km, SFP, LC, -40~85^{O}C
- **BTP-3103-L2TD** 155M, 1310nm, MM/SM, 2/20km, SFP, LC, -40~85^{O}C
- **BTP-3103-L4TD** 155M, 1310nm, SM, 40km, SFP, LC, -40~85^{O}C
- **BTP-5503-L8TD** 155M, 1310nm, SM, 80km, SFP, LC, -40~85^{O}C
- **BTP-5503-12TD** 155M, 1310nm, SM, 120km, SFP, LC, -40~85^{O}C

- **BTPB-3503L-L2TD** 155M, 1310/1550nm, SM, 20km, SFP, WDM, LC, -40~85^{O}C
- **BTPB-5303L-L2TD** 155M, 1550/1310nm, SM, 20km, SFP, WDM, LC, -40~85^{O}C
- **BTPB-3503S-L2TD** 155M, 1310/1550nm, SM, 20km, SFP, WDM, SC, -40~85^{O}C
- **BTPB-5303S-L2TD** 155M, 1550/1310nm, SM, 20km, SFP, WDM, SC, -40~85^{O}C

- **BTPB-3503L-L4TD** 155M, 1310/1550nm, SM, 40km, SFP, WDM, LC, -40~85^{O}C
- **BTPB-5303L-L4TD** 155M, 1550/1310nm, SM, 40km, SFP, WDM, LC, -40~85^{O}C
- **BTPB-3503S-L4TD** 155M, 1310/1550nm, SM, 40km, SFP, WDM, SC, -40~85^{O}C
- **BTPB-5303S-L4TD** 155M, 1550/1310nm, SM, 40km, SFP, WDM, SC, -40~85^{O}C

- **BTE-GB-P1RT** 10/100/1000M, 100m(UTP-5), Copper SFP, RJ-45, -40~85^{O}C
- **BTE-GB-P3RT** 1000M, 100m(UTP-5), Copper SFP, RJ-45, -40~85^{O}C

- **ZAS-ANYMUX-01** Power supply plug 230V AC(DC) / 48V DC 0,5A, 0+50^{O}C
- **ZAS-ANYMUX-03** Power supply 85÷264VAC, 120÷370VDC / 48-56VDC; 40W for -25+60C, 24W for-60+70C, 2x PoE; DIN rail mounting, 0.5kg.; 40*90*100mm (WxSxG)
- **ZAS-ANYMUX-09.1-48V** Power supply 88÷264VAC, 124÷370VDC / 48-55VDC; 240W for -25+60C, 180W for -60+75C, 11x PoE, 5x PoE+, 1x PoE++ DIN rail mounting, 1kg. 63*125.2*113.5mm (WxSxG)
- **ZAS-ANYMUX-09** Power supply 85÷264VAC, 120÷370VDC / 48-53VDC; 240W for -10+55C, 144W for +55+70C, 9x PoE, DIN rail mounting, 1.2kg. 125.5*125.2*100mm (WxSxG)

- **LT-19-03** Rack 19 "/ 4U positioning DIN rail for devices 7x Hyperion-105 (vertical installation)

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