

IT-ES1028-IU-4GS series

Unmanaged Industrial Ethernet switch user manual

【Summarize】

IT-ES1028-IU-4GS series is a unmanaged rack mount industrial Ethernet switch.

IT-ES1028-IU-4GS-P(100/240VAC) supports 24 ports 10Base-T/100BaseTX + 4 ports 1000Base-FX SFP;

IT-ES1028-IU-4GS-2F-P(100/240VAC) supports 22 ports 10Base-T/100BaseTX + 2 ports 100Base-FX + 4 ports 1000Base-FX SFP;

IT-ES1028-IU-4GS-4F-P(100/240VAC) supports 20 ports 10Base-T/100BaseTX + 4 ports 100Base-FX + 4 ports 1000Base-FX SFP;

IT-ES1028-IU-4GS-8F-P(100/240VAC) supports 16 ports 10Base-T/100BaseTX + 8 ports 100Base-FX + 4 ports 1000Base-FX SFP;

IT-ES1028-IU-4GS-12F-P(100/240VAC) supports 12 ports 10Base-T/100BaseTX + 12 ports 100Base-FX + 4 ports 1000Base-FX SFP;

IT-ES1028-IU-4GS-16F-P(100/240VAC) supports 8 ports 10Base-T/100BaseTX + 16 ports 100Base-FX + 4 ports 1000Base-FX SFP;

IT-ES1028-IU-4GS series adopt no fan, low consumption, industry 4 grade design, can adapt rugged industry environment; -40~85°C working temperature can satisfy some requirements of industry filed, can provide economical solution for your Ethernet connection.

【Packing list】

Please check the packaging and accessories by your first using.

- Industrial Ethernet switch (IT-ES1028-IU-4GS series) x 1
- User manual x 1
- Certificate of quality x 1
- Warranty card x 1

Please inform us or our distributor if your equipment have been damaged or lost any accessories, we will try our best to satisfy you.

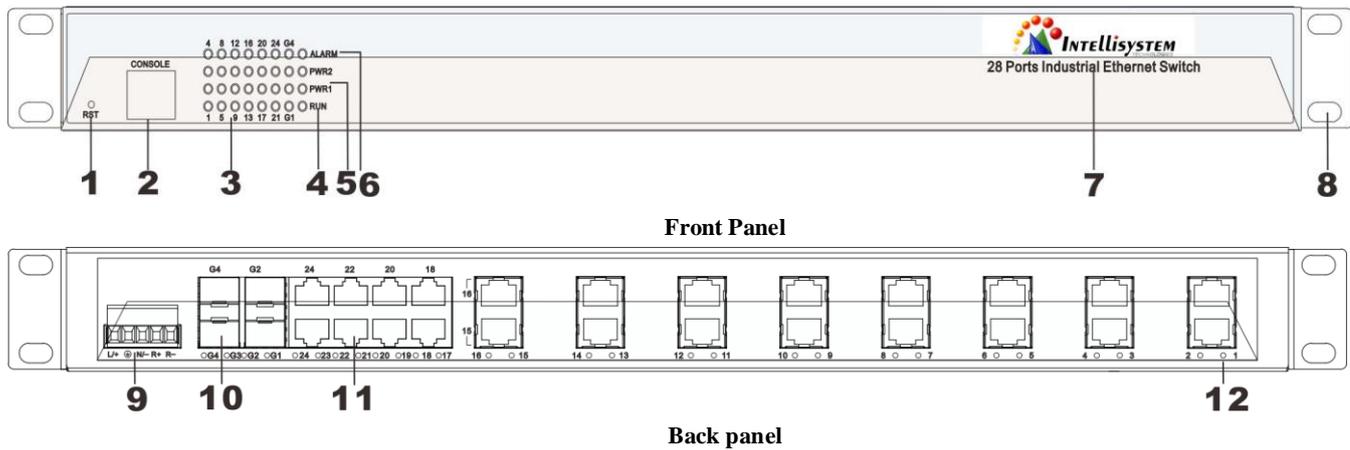
【Features】

- Support IEEE802.3/802.3u/802.3x
- Support auto-consult function
- Support MDI/MDI-X self-adaption

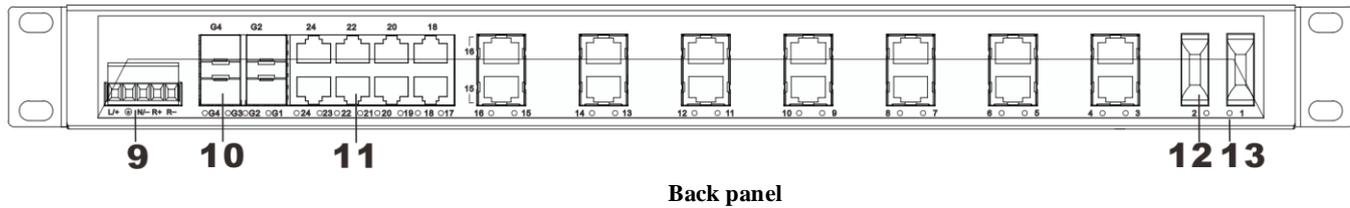
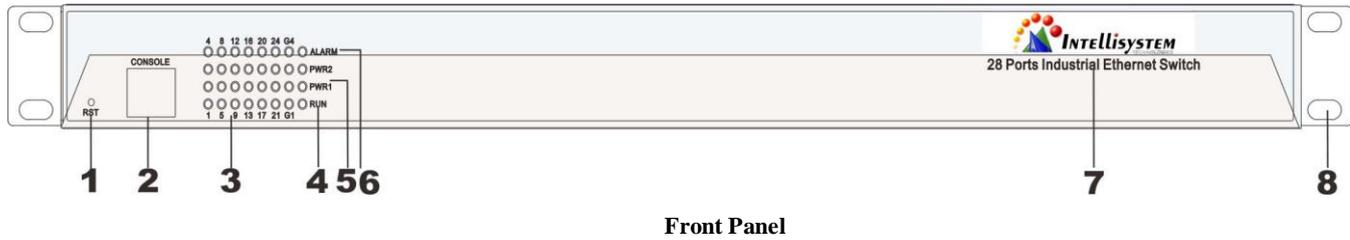
- Support 8K MAC address table
- -40~85°C working temperature
- No fan, low consumption
- IP30 protection class
- 1U 19 inch rack mount

【Panel Layout】

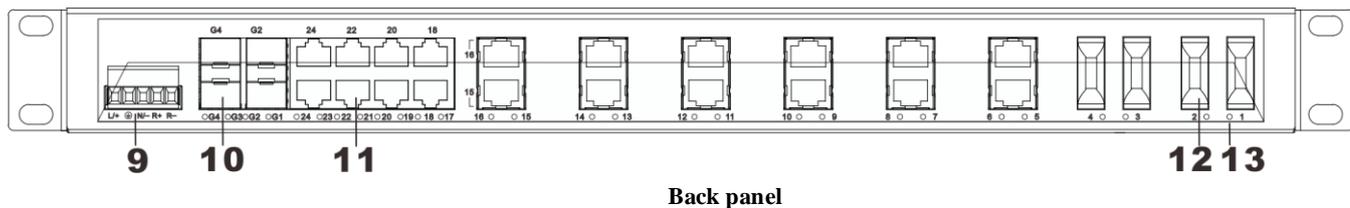
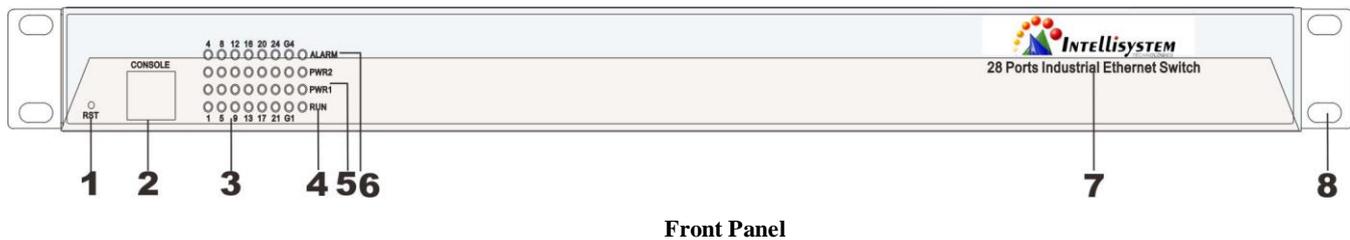
IT-ES1028-IU-4GS-P(100/240VAC)



- 1.Factory default
- 2.Console port
- 3.Link/ACT indicator
- 4.System running indicator
- 5.Power indicator (PWR1, PWR2)
- 6.Relay alarm indicator
- 7.Company Logo
- 8.Ear Hanging
- 9.Power input, relay output terminal block
- 10.Gigabit SFP port
- 11.100M Ethernet port (RJ45)
- 12.Back panel interface indicator

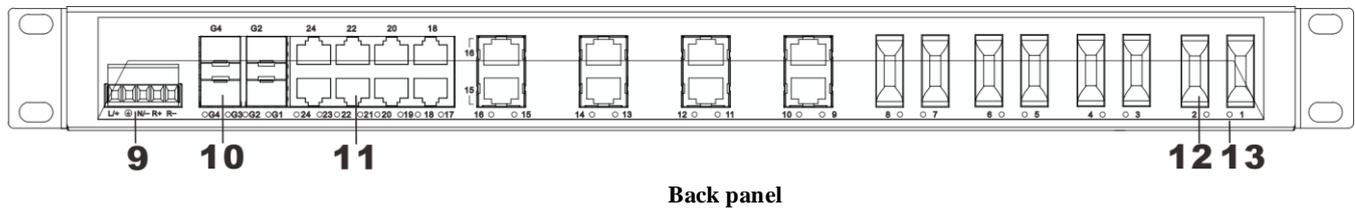
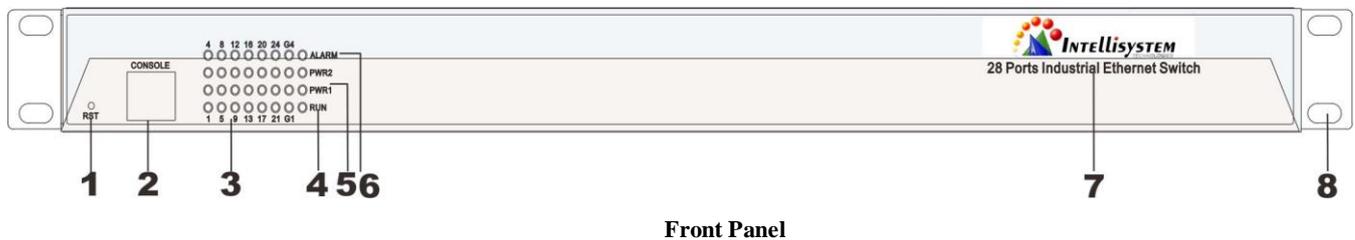
IT-ES1028-IU-4GS-2F-P(100/240VAC)


- 1.Factory default
- 2.Console port
- 3.Link/ACT indicator
- 4.System running indicator
- 5.Power indicator (PWR1, PWR2)
- 6.Relay alarm indicator
- 7.Company Logo
- 8.Ear Hanging
- 9.Power input, relay output terminal block
- 10.Gigabit SFP port
- 11.100M Ethernet port (RJ45)
- 12.Back panel interface indicator
- 13.100M optic port

IT-ES1028-IU-4GS-4F-P(100/240VAC)


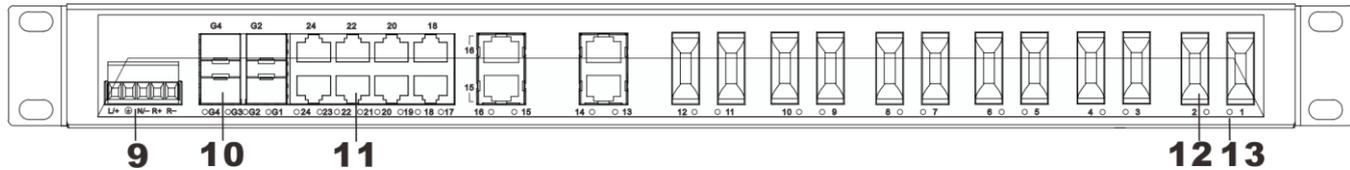
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- 5.Power indicator (PWR1, PWR2)
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- 7.Company Logo
- 8.Ear Hanging
- 9.Power input, relay output terminal block
- 10.Gigabit SFP port
- 11.100M Ethernet port (RJ45)
- 12.Back panel interface indicator
- 13.100M optic port

IT-ES1028-IU-4GS-8F-P(100/240VAC)

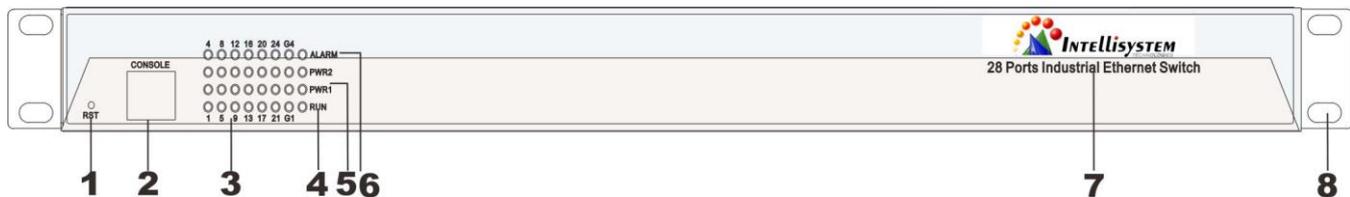
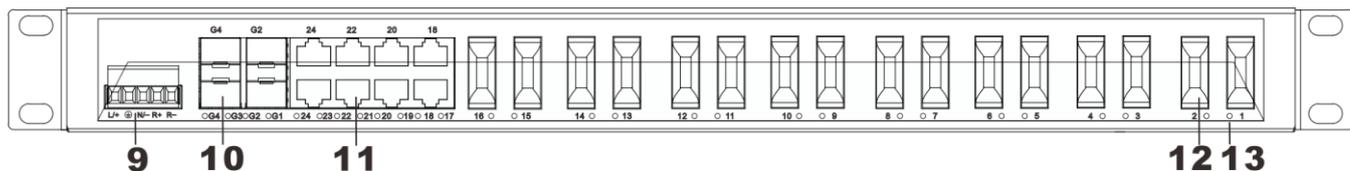


- 1.Factory default
- 2.Console port
- 3.Link/ACT indicator
- 4.System running indicator
- 5.Power indicator (PWR1, PWR2)
- 6.Relay alarm indicator
- 7.Company Logo
- 8.Ear Hanging
- 9.Power input, relay output terminal block
- 10.Gigabit SFP port
- 11.100M Ethernet port (RJ45)
- 12.Back panel interface indicator
- 13.100M optic port

IT-ES1028-IU-4GS-12-P(100/240VAC)

Front Panel

Back panel

- 1.Factory default
- 2.Console port
- 3.Link/ACT indicator
- 4.System running indicator
- 5.Power indicator (PWR1, PWR2)
- 6.Relay alarm indicator
- 7.Company Logo
- 8.Ear Hanging
- 9.Power input, relay output terminal block
- 10.Gigabit SFP port
- 11.100M Ethernet port (RJ45)
- 12.Back panel interface indicator
- 13.100M optic port

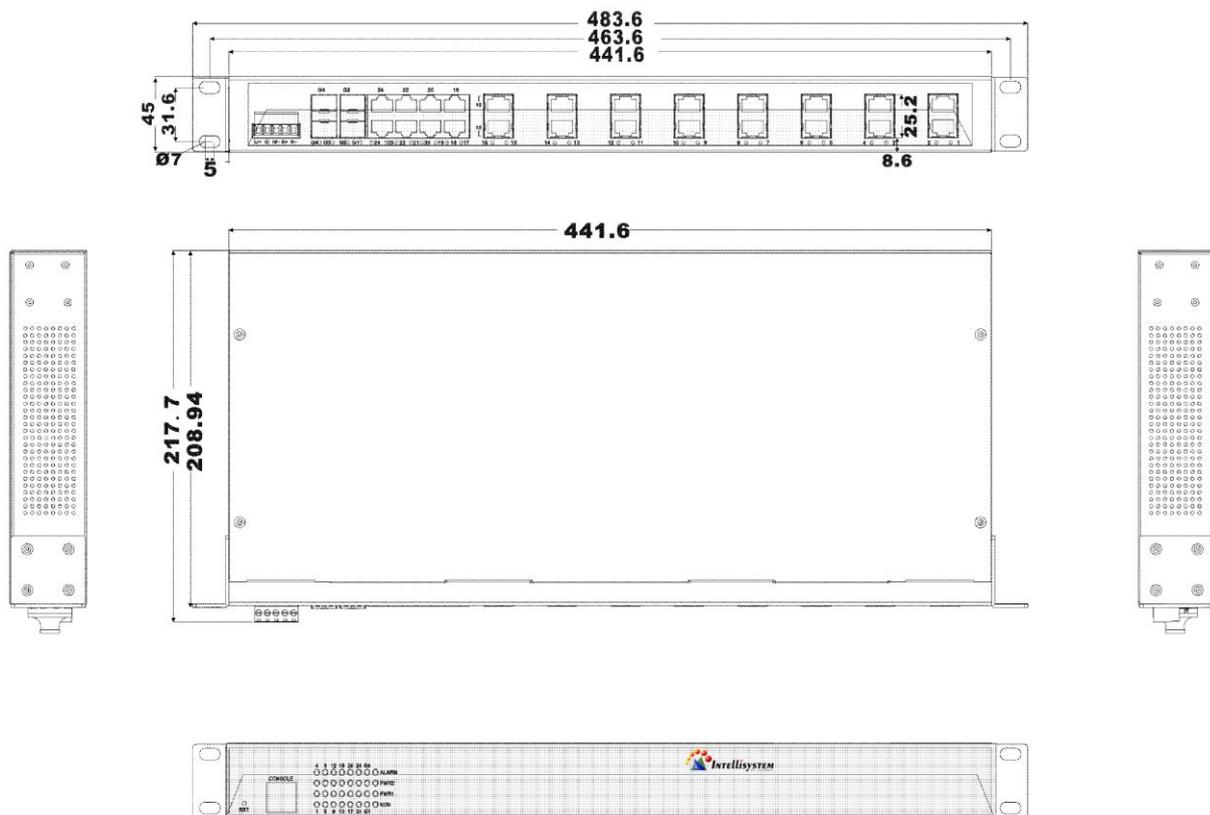
IT-ES1028-IU-4GS-16F-P(100/240VAC)

Front Panel

Back panel

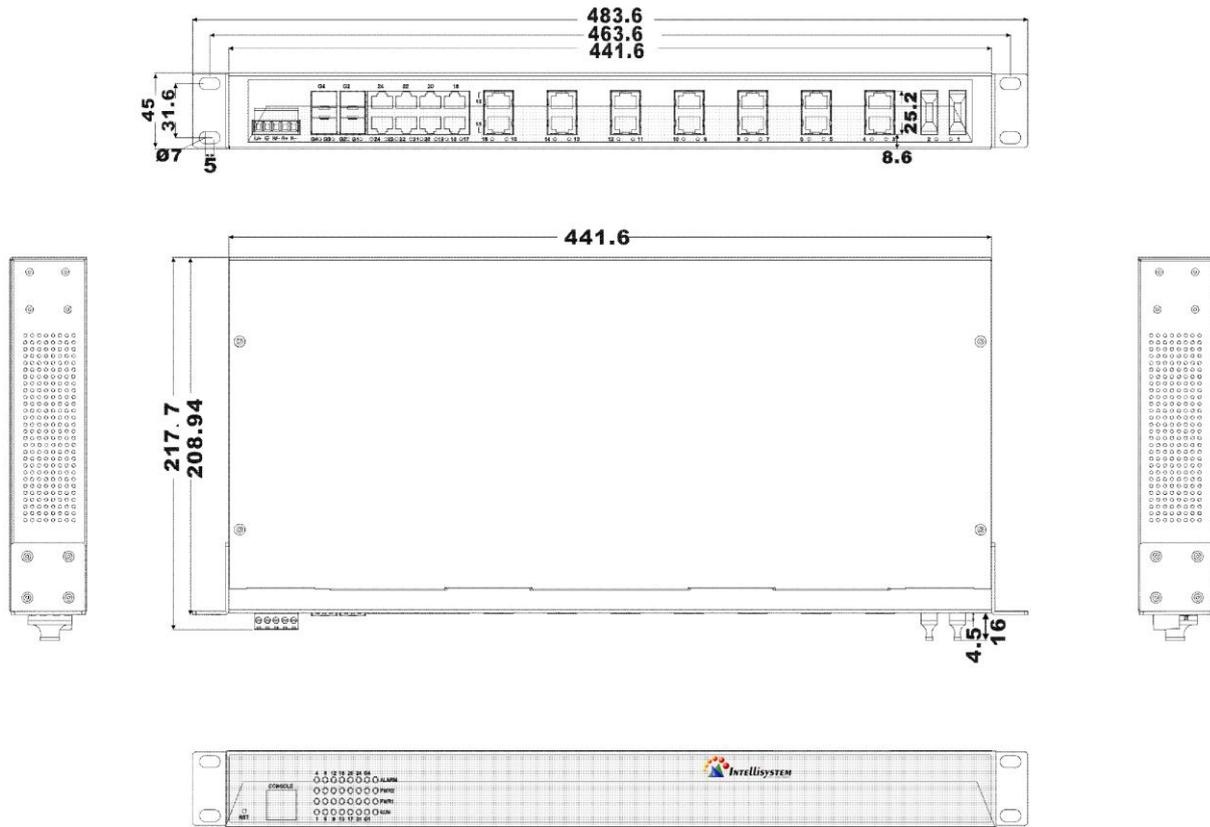
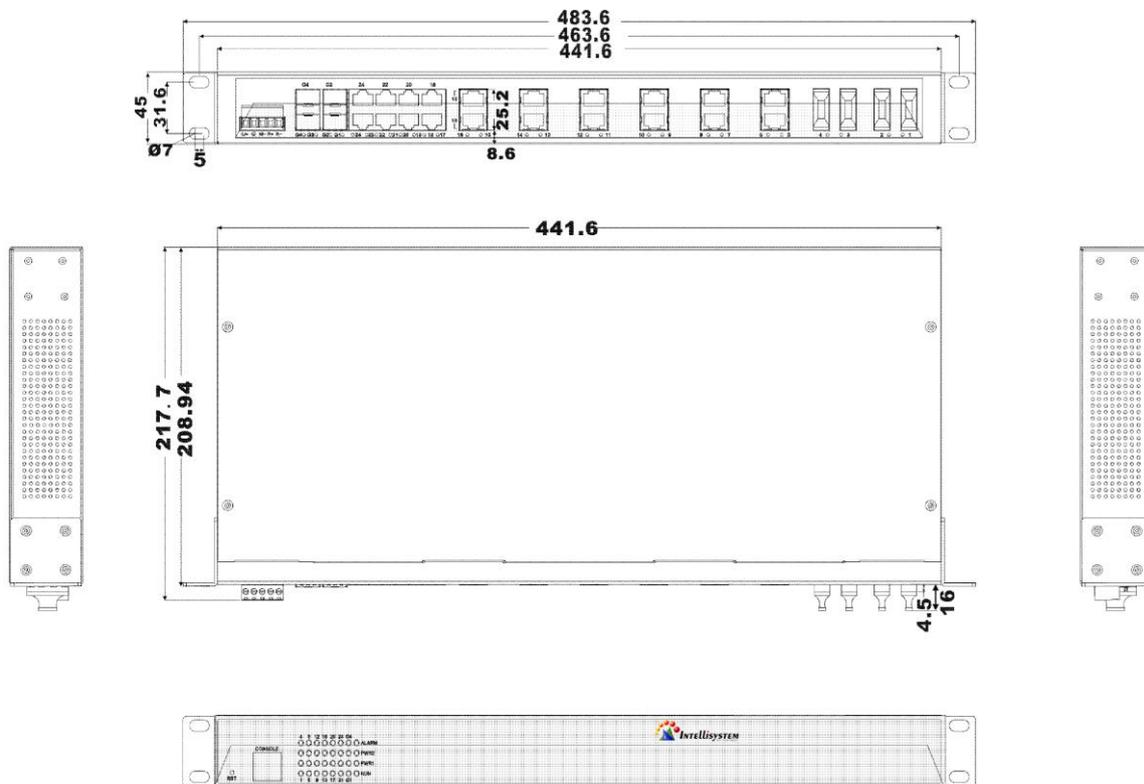
- 1.Factory default
- 2.Console port
- 3.Link/ACT indicator

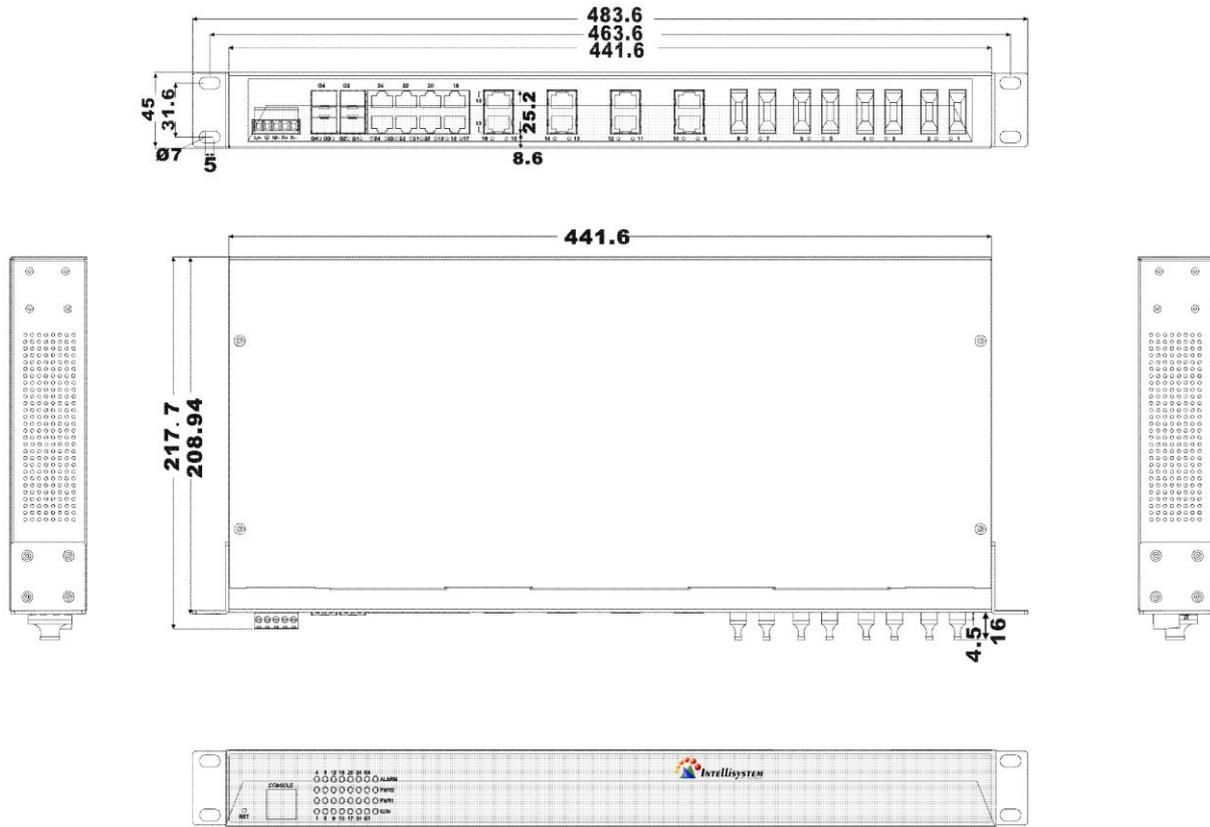
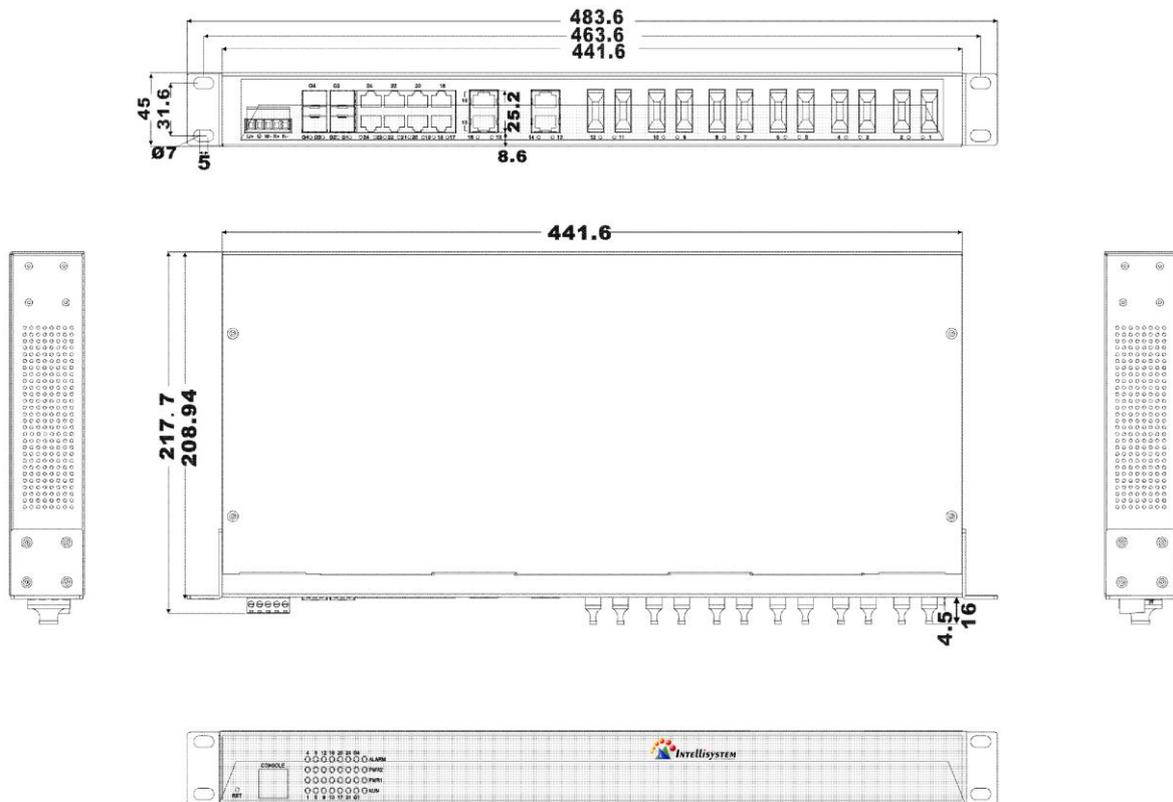
4. System running indicator
5. Power indicator (PWR1, PWR2)
6. Relay alarm indicator
7. Company Logo
8. Ear Hanging
9. Power input, relay output terminal block
10. Gigabit SFP port
11. 100M Ethernet port (RJ45)
12. Back panel interface indicator
13. 100M optic port

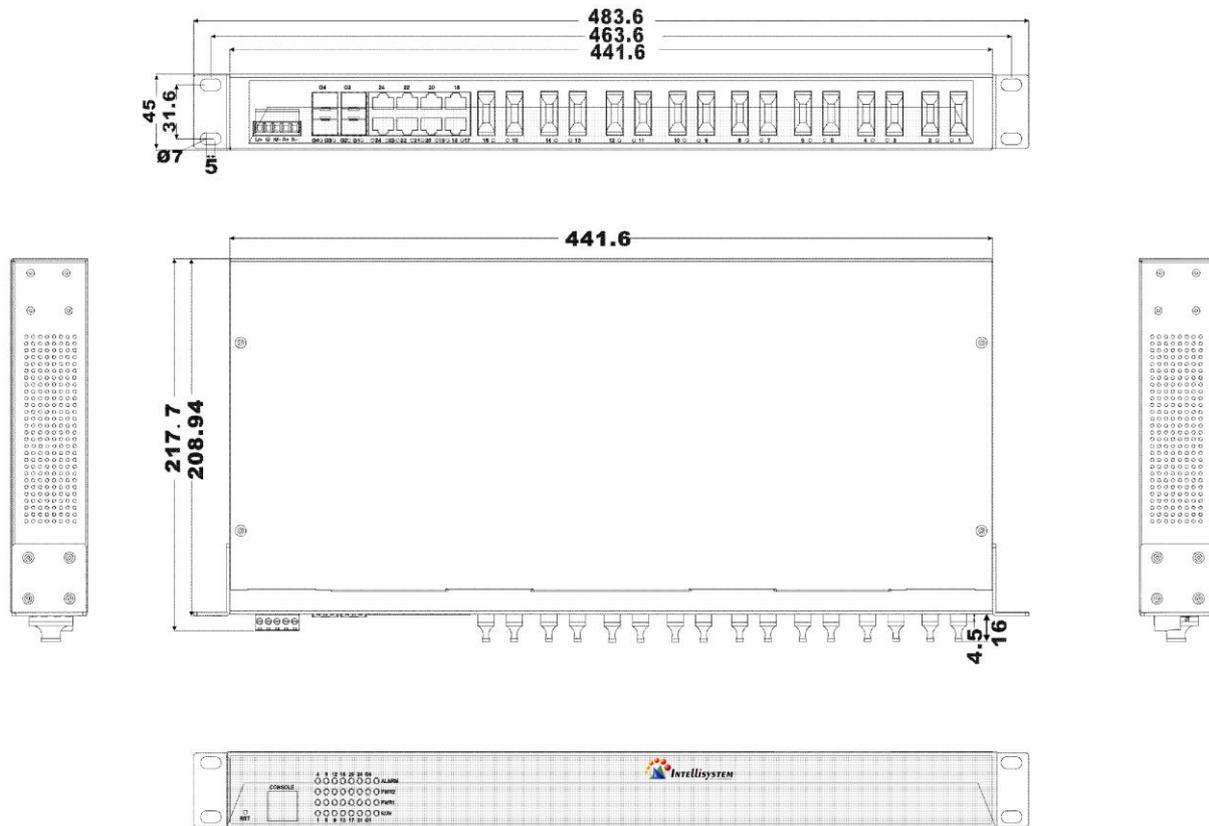
【Appearance and dimensions】

IT-ES1028-IU-4GS-P(100/240VAC)

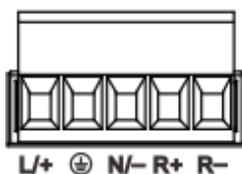


IT-ES1028-IU-4GS-2F-P(100/240VAC)

IT-ES1028-IU-4GS-4F-P(100/240VAC)


IT-ES1028-IU-4GS-8F-P(100/240VAC)

IT-ES1028-IU-4GS-12F-P(100/240VAC)


IT-ES1028-IU-4GS-16F-P(100/240VAC)

【Power supply input】

IT-ES1028-IU-4GS series back panel provided 5 bits terminal block, it used for 100-240VAC power supply input.. Dual power support redundancy function. Provided P1 and P2 two pairs input terminal block, can use for single, can connect 2 separately power supply system too, f one of the power system broke, the device can work un-interruptible. The diagram is as follows:


【Relay connection】

The input terminal of relay block located in the back panel of the device, the other side is the part of power input, in the middle, R+ and R- is the part of relay alarm output. When have now alarm, it is open status, if have alarm, it is closed status. IT-ES1028-IU-4GS series support 1 channel relay alarm output, can connect alarm light or alarm buzzer, it can also connect other I/O device, It is convenience to note operator once alarm.(single power supply device did not support power alarm)

【Communication Connector】

IT-ES1028-IU-4GS-P(100/240VAC) support 24 port 10Base-T/100BaseTX + 4 port 1000Base-FX SFP;

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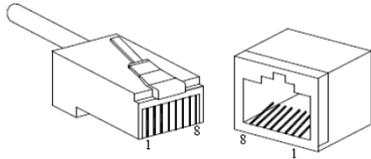
IT-ES1028-IU-4GS-4F-P(100/240VAC) support 20 port 10Base-T/100BaseTX + 4port 100Base-FX + 4 port 1000Base-FX SFP;

IT-ES1028-IU-4GS-8F-P(100/240VAC) support 16 port 10Base-T/100BaseTX + 8port 100Base-FX + 4 port 1000Base-FX SFP;

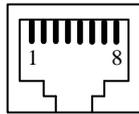
IT-ES1028-IU-4GS-12F-P(100/240VAC) support 12 port 10Base-T /100BaseTX + 12 port 100Base-FX + 4 port 1000Base-FX SFP;

IT-ES1028-IU-4GS-16F-P(100/240VAC) support 8 port 10Base-T/100BaseTX + 16 port 100Base-FX + 4 port 1000Base-FX SFP;

The PIN define of RJ45 port display as below, connect by UTP or STP. The connect distance is no more than 100m. 100Mbps is used 100 Ω of UTP 5 , 10Mbps is used 100 Ω of UTP 3,4,5.



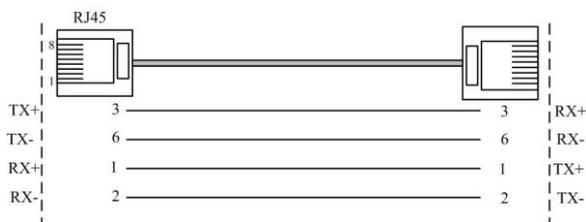
RJ 45 port support automatic MDI/MDI-X operation. can connect the PC, Server, Converter and HUB .Pin 1,2,3,6 Corresponding connection in MDI. 1→3,2→6,3→1,6→2 are used as cross wiring in the MDI-X port of Converter and HUB. 10Base-T/100Base-TX are used in MDI/MDI-X, the define of Pin in the table as below.



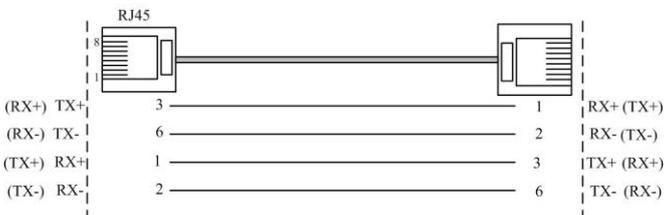
NO.	MDI signal	MDI-X signal
1	TX+	RX+
2	TX-	RX-
3	RX+	TX+
6	RX-	TX-
4, 5, 7, 8	—	—

Note: “TX±” Transmit Data±, “RX±” Receive Data±, “—” Not Use.

MDI (straight-through cable)



MDI-X (Cross-over cable)



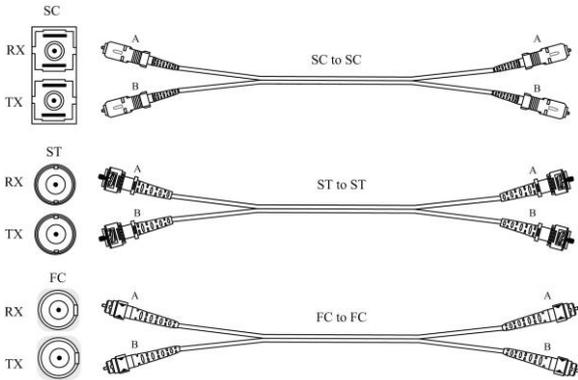
MDI/MDI-X auto connection makes IES3020-4GS series easy to use for customers without considering the type of network cable.

100Base-FX Fiber port

100Base-FX full-duplex SM or MM port, SC/ST type .The fiber port must be used in pair, TX (transmit) port connect remote switch’s RX(receive) port; RX(receive) port connect remote switch’s TX(transmit) port.

The optical fiber connection supports the line to instruct enhance the reliability of network effectively.

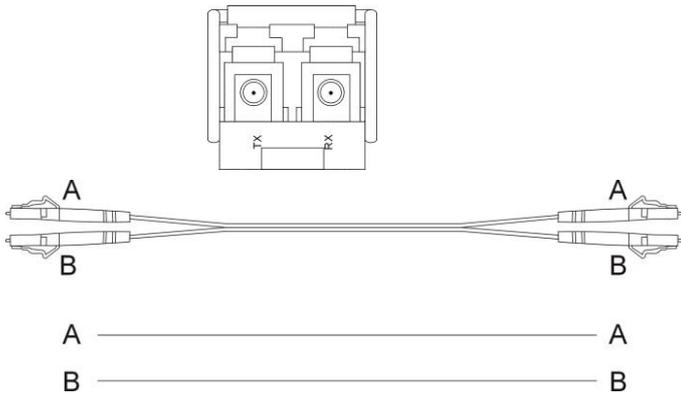
Suppose: If you make your own cable, we suggest labeling the two sides of the same line with the same letter (A-to-A and B-to-B, shown as below, or A1-to-A2 and B1-to-B2).



1000SFP fiber port (mini-GBIC)

1000BaseSFP fiber port adopts gigabit mini-GBIC transmission, can choice different SFP module according to different transfer distance. Fiber interface must use for pair, TX port is transmit side, must connect to RX (receive side). The fiber interface support loss line indicator.

Suppose: If you make your own cable, we suggest labeling the two sides of the same line with the same letter (A-to-A and B-to-B, shown as below, or A1-to-A2 and B1-to-B2).



【LED indicators】

IT-ES1028-IU-4GS series LED indicator light on the front panel .the function of each LED is described in the table as below:

System status LED		
LED	Indicator	Description
PWR1	ON	P1 connection regularly
	OFF	P1 Power supply have no connection or unwonted
PWR2	ON	P2 connection regularly
	OFF	P2 Power supply have no connection or unwonted
Alarm	ON	Power, port have alarm
	OFF	Power, port have no alarm
Run	ON/OFF	Device unwonted
	Blinking	Device working steadily, Blinking per second
Link1~24 G1-G4	ON	Port Established effective network connection
	Blinking	Port Network in activity status
	OFF	Port did not establish effective network connection

【Installation】

Before installation, confirm that the work environment meet the installation require, including the power needs and abundant space. Whether it is close to the connection equipment and other equipment are prepared or not.

1. Avoid in the sunshine, keep away from the heat fountainhead or the area where in intense EMI.
2. Examine the cables and plugs that installation requirements.
3. Examine whether the cables be seemly or not (less than 100m) according to reasonable scheme.
4. Screw, nut, tool provide by yourself.
5. Power: redundant 100-240VAC power input
6. Environment: working temperature -40~85°C
Relative humidity 5%~95%

Wiring Requirements

Cable laying need to meet the following requirements,

1. It is needed to check whether the type, quantity and specification of cable match the requirement before cable laying;
2. It is needed to check the cable is damaged or not, factory records and quality assurance booklet before cable laying;
3. The required cable specification, quantity, direction and laying position need to match construction requirements, and cable length depends on actual position;
4. All the cable cannot have break-down and terminal in the middle;
5. Cables should be straight in the hallways and turning;
6. Cable should be straight in the groove, and cannot beyond the groove in case of holding back the inlet and outlet holes. Cables should be banded

and fixed when they are out of the groove;

7. User cable should be separated from the power lines. Cables, power lines and grounding lines cannot be overlapped and mixed when they are in the same groove road. When cable is too long, it cannot hold down other cable, but structure in the middle of alignment rack;

8. Pigtail cannot be tied and swerved as less as possible. Swerving radius cannot be too small (small swerving causes terrible loss of link). Its banding should be moderate, not too tight, and should be separated from other cables;

9. It should have corresponding simple signal at both sides of the cable for maintaining.

【Specifications】

Technology:

Standard: IEEE802.3, IEEE802.3u, IEEE802.3x

Flow control: IEEE802.3x, back pressure

Interfaces

Electric port: 10Base-T/100Base-TX auto speed control, Half/full duplex and MDI/MDI-X auto detection

100M fiber port: 100Base-FX, SC/ST optional

1000M fiber port: 1000BaseSX/LX/LHX/ZX

Alarm port: 1 channel relay alarm output

Current loading ability: 5A@250V AC

Console port: keep

Transfer distance:

Twisted cable: 100M (standard CAT5/CAT5e cable)

Multi-mode fiber: 1310nm, 2Km

Single mode fiber: 1310nm, 20/40/60Km

1550nm, 60/80/100/120Km

LED indicators:

Power (PWR), RUN (System), ALARM (alarm), and port status indicator

Exchange attributes:

100M forward speed: 148810pps

1000M forward speed: 1488100pps

100M maximum filter speed: 148810pps

1000M maximum filter speed: 1488100pps

Transmit mode: store and forward

MAC address table: 8K

Memory: 3Mbits

Power supply

Input voltage: 100-240VAC

Input mode: 5 bits terminal block

Over-current protection: 1.2A

Consumption

➤ IT-ES1028-IU-4GS-P(100/240VAC)

No-load consumption: 5.1W

Full-load consumption: 10.3W

➤ IT-ES1028-IU-4GS-2F-P(100/240VAC)

No-load consumption: 5.5W

Full-load consumption: 11.3W

➤ IT-ES1028-IU-4GS-4F-P(100/240VAC)

No-load consumption: 6.3W

Full-load consumption: 11.8W

➤ IT-ES1028-IU-4GS-8F-P(100/240VAC)

No-load consumption: 10.9W

Full-load consumption: 15.4W

➤ IT-ES1028-IU-4GS-12F-P(100/240VAC)

No-load consumption: 13.0W

Full-load consumption: 17.2W

➤ IT-ES1028-IU-4GS-16F-P(100/240VAC)

No-load consumption: 13.4W

Full-load consumption: 19.2W

Working environment:

Working temperature: -40~85°C

Storage temperature:-40~85°C

Relative Humidity: 5%~95% (no condensation)

Mechanical Structure:

Shell: IP30 protect grade, metal shell

Installation: 1U 19 inch rack mount

Size (W×H×D): 441.6mm×208.9mm×43mm

Certifications

FCC, CE, UL508 (pending)

EMI: FCC Part 15, CISPR (EN55022) class A

EMS: EN61000-4-2 (ESD), Level 4

EN61000-4-3 (RS), Level 3

EN61000-4-4 (EFT), Level 4

EN61000-4-5 (Surge), Level 4

EN61000-4-6 (CS), Level 3

EN61000-4-8, Level 5

Shock: IEC 60068-2-27

Free fall: IEC 60068-2-32

Shake: IEC 60068-2-6

Warranty

Warranty time: 5 years



: When power ON, cannot touch the 3 bit terminal block, dangerous!



: When install power cable, please install power cable at first and then power ON



: If power cable touch no good, must power off to check at first, after confirm, then power ON!