

8-PORT ETHERNET SWITCH

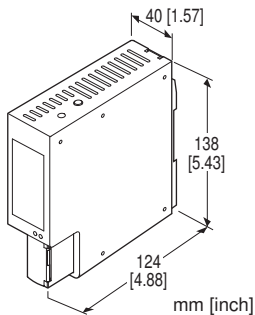
(with surge protector)

Functions & Features

- Surge protector function for each port
- Protects Ethernet devices from surges entering through LAN cables
- Surge protector life monitor function with LED and contact output alarm
- Data transfer rate can be fixed

Typical Applications

- Risk managed system



MODEL: SHSP-1-[1][2]

ORDERING INFORMATION

- Code number: SHSP-1-[1][2]

Specify a code from below for each of [1] and [2].

- (e.g. SHSP-1-R/CE/Q)
- Specify the specification for option code /Q (e.g. /C01/SET)

SURGE PROTECTOR

1: With

[1] POWER INPUT

AC Power

M2: 100 - 240V AC (Operational voltage range 85 - 264 V, 47 - 66 Hz)

(Select '/N' for 'Standards & Approvals' code.)

DC Power

R: 24 V DC

(Operational voltage range 24 V \pm 10 %, ripple 10 %p-p max.)

(Select '/CE' for 'Standards & Approvals' code.)

[2] OPTIONS (multiple selections)

Standards & Approvals (must be specified)

/N: Without CE

/CE: CE marking

Other Options

blank: none

/Q: Option other than the above (specify the specification)

SPECIFICATIONS OF OPTION: Q (multiple selections)

COATING (For the detail, refer to our web site.)

/C01: Silicone coating

/C02: Polyurethane coating

/C03: Rubber coating

EX-FACTORY SETTING

/SET: Preset according to the Ordering Information Sheet (No. ESU-9308)

RELATED PRODUCTS

- PC Configurator cable (model: MCN-CON or COP-US)
- PC configurator software (model: SHSPCFG)

Downloadable at our web site.

GENERAL SPECIFICATIONS

Surge protection: All ports

Connection

Ethernet: RJ-45 connector

Power input, grounding, alarm contact output:

M3 separable screw terminal (torque 0.8 N·m)

PC configurator: Miniature jack

Screw terminal: Nickel-plated steel

Housing material: Steel, melamine baking finish (black)

Monitor LED

Status: Green/Red bicolor LED;

Green light turns on in normal conditions;

Red turns on in an abnormality.

(Amber light turns on for approx. 1 second while the internal processor is initialized at the startup.)

Surge Protector: Green/Amber/Red tricolor LED indicating the surge protector life.

OFF while no surge has been detected;

Green when the first surge has been detected;

Amber when the protector is close to the end of life;

Red at the end of life.

(Amber light turns on for approx. 1 second while the internal processor is initialized at the startup.)

LINK LED: Green LED indicating port link status.

ON with a link established; Flashes during communication.

100M LED: Amber LED indicating data transfer rate;

ON at 100 Mbps;

OFF at 10 Mbps.

PC configuration: PC Configurator Software is used to program;

- LAN port operating mode (Default setting: Auto negotiation)

- User password

■ ALARM CONTACT OUTPUT

Turns on when the surge protector life ends,
when the power supply is lost,
or when an internal error is detected.

Rated load:

250 V AC @ 1.5 A ($\cos \theta = 1$)(applicable only to AC powered model.)

30 V DC @ 1.5 A (resistive load)

Minimum load: 5 V DC @ 10 mA

Mechanical life: 1×10^7 cycles (rate 180/min.)

LAN PORT

Standards: IEEE 802.3, IEEE 802.3u, IEEE 802.3x

Number of ports: 8; All ports support AUTO-MDIX (Automatically sensing cable type, straight-through or cross-over)

Data transfer rate: 10 Mbps (10BASE-T), 100 Mbps (100BASE-TX); Supports Auto-Negotiation

Cable: 10BASE-T (STP cable, category 5)

100BASE-TX (STP cable, category 5e)

Maximum segment length: 100 meters

Switching: Store & Forward

Flow control

Full duplex: PAUSE Frames

Half duplex: Back pressure

Buffer: 64 KB

MAC address table: 1024

INSTALLATION

•AC: Approx. 8 VA @ 100 V

Approx. 10 VA @ 200 V

Approx. 11 VA @ 264 V

•DC: Approx. 5.5 W

Operating temperature: -5 to +60°C (23 to 140°F)

Operating humidity: 30 to 95 %RH (non-condensing)

Mounting: DIN rail

Weight

•AC powered: 650 g (1.4 lb)

•DC powered: 600 g (1.3 lb)

PERFORMANCE

Compliant standard: EN 61000-4-5 level X

Between ports: 1kV (combination waveform)

RJ-45 connector contact is out of the scope of this protection. Using twisted-pair (STP) LAN cable is effective to reduce risk of fusing contact.

Port to G: 10kV (combination waveform)

FG (shield) to G: 15kV (combination waveform) with the shortcircuit bar

Voltage protection level

Port to FG or G: 160 V min.

Between each port: 160 V min.

FG to G: 160 V min. (with the shortcircuit bar removed)

Insulation resistance: $\geq 100 \text{ M}\Omega$ with 100 V DC (port or FG or G to alarm contact to power)

Dielectric strength: 2000 V AC @ 1 minute (port or FG or G or power to alarm contact)

1500 V AC @ 1 minute

(port or FG or G to power)

STANDARDS & APPROVALS

The following standards are applied only to DC powered model.

EU conformity:

EMC Directive

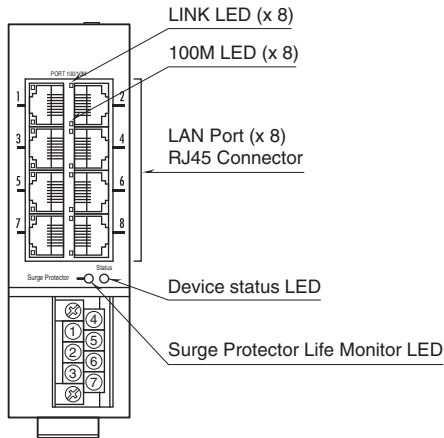
EN 55032 Class A (EMI)

EN 55035 (EMS)

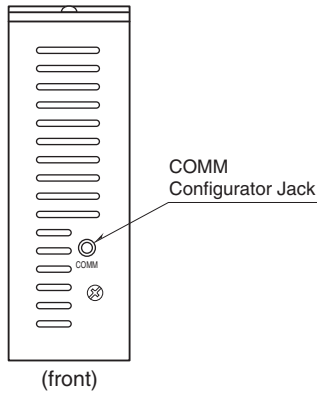
RoHS Directive

EXTERNAL VIEW

FRONT VIEW

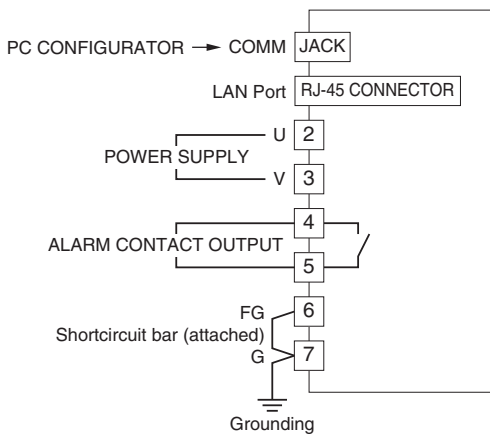


TOP VIEW

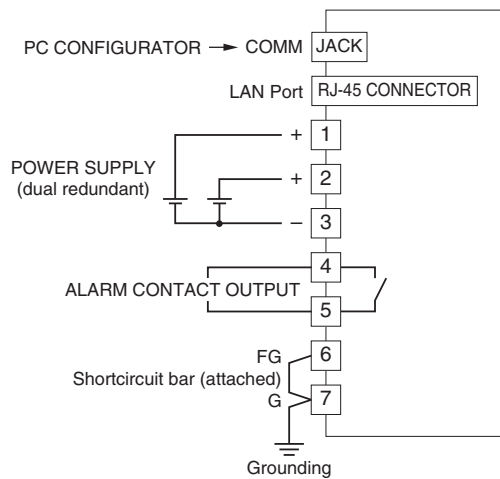


CONNECTION DIAGRAM

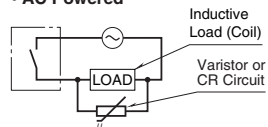
AC POWERED



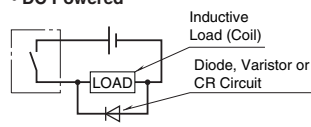
DC POWERED



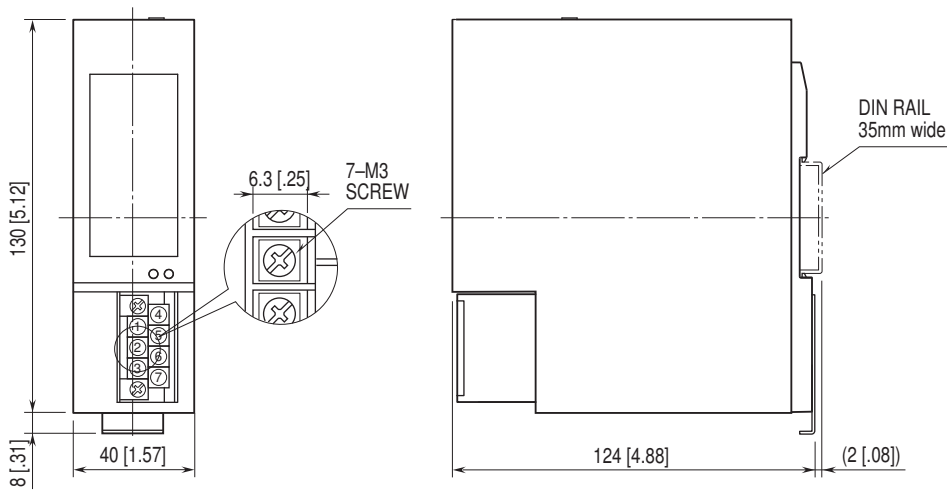
Relay Protection



DC Powered



EXTERNAL DIMENSIONS & TERMINAL ASSIGNMENTS unit: mm [inch]



Specifications are subject to change without notice.