F:AT•N

EATON ATS 30
EATS30N
EATS30H
EATS30P

Installation
and user manual

Service and support:
Call your local service representative

ATS-01_EN

SAFETY INSTRUCTIONS

SAVE THESE INSTRUCTIONS. This manual contains important instructions that should be followed during installation and maintenance of the ATS.

The EATON ATS models that are covered in this manual are intended for installation in an environment within 40°C/104°F (EATS30H, EATS30P) and 35°C/95°F (EATS30N), free of conductive contaminant.

Certification standards

- Safety: UL (US) (UL 60950) CE (EU) (IEC 60950) PSE (JP)
- EMI: CISPR 22 Class A and FCC Class A
- EMS:
  - IEC 61000-4-2
  - IEC 61000-4-3
  - IEC 61000-4-4
  - IEC 61000-4-5
  - IEC 61000-4-6
  - IEC 61000-4-8
  - IEC 61000-4-11

Important safety notes

- Only qualified personnel can service this equipment.
- Follow the following precautions when working on this unit.
  - Remove watches, rings, or other metal objects.
  - Use tools with insulated handles.
  - Examine the packing container. Notify the carrier immediately if any damage is present.
  - Do not disassemble the unit.
  - Do not operate the unit near water or in an area with excessive humidity.
  - Keep liquid and foreign objects from getting inside the unit.
  - Do not operate the unit close to gas or fire.
- Upstream circuit breaker must be added for each input. The recommended breaker is D curve 30A for EATS30H - EATS30P and D curve 32A for EATS30N.
- Verify whether the branch circuit breaker or fuse on service feed is correct.
- Verify line voltage requirements and the supplied line voltage prior to installation.
- **RTC Battery "CAUTION:** Risk of Explosion if Battery is replaced by an Incorrect Type. Dispose of Used Batteries According to the Instructions."

Electrical warnings

- When servicing this equipment, you may need to remove its protective covers and connect utility power. Please observe great caution during these procedures.
- Check that power cords, plugs, and outlets are in good condition.
- **RAL equipment:** "Equipment intended for installation in Restricted Access Location".

Contents

1. Introduction

The EATON ATS 30 is designed to guarantee the uninterrupted operation of sensitive equipment. It is powered by two independent power sources and automatically makes a rapid switch form one source to the other when the power supply used to power its connected load fails. This ATS is designed to be efficient and reliable.

Users can know power flow and the EATON ATS 30's status from the user-friendly front panel. Besides, the unit has a network interface for users to read and write parameters. The network interface can be implemented via the Ethernet protocol through an RJ45 connector. All information is available on the front panel and the LOCAL port on the front panel is available over the network through the RJ45 connector.

2. Presentation
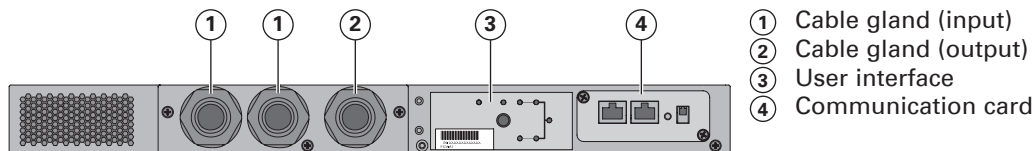
2.1 Weights and dimensions

Rack installation
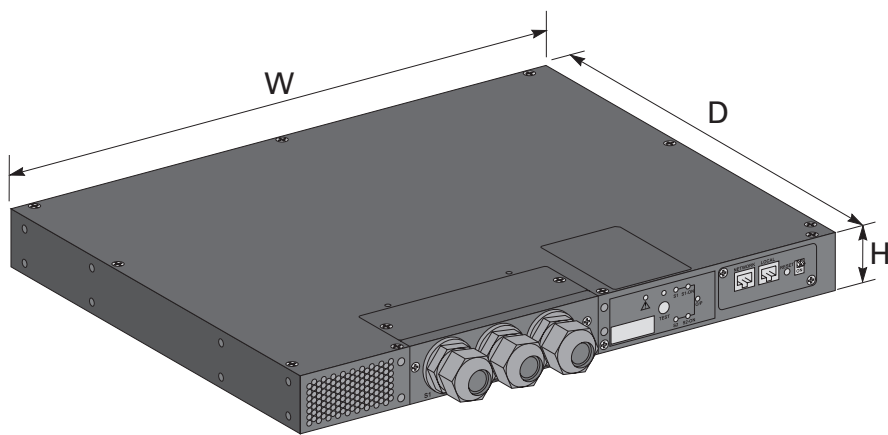
Description	Weights (lb/kg)	Dimensions H x W x D (inch/mm)
EATS30N - EATS30H	10.6 / 4.8	1.7 x 17.4 x 15.4 / 43 x 440 x 390
EATS30P	17 / 7.7	1.7 x 17.4 x 15.4 / 43 x 440 x 390

2.2 Front panel layout

There are two models. Please see the following pictures.

EATS30N - EATS30H (EU)

1. Cable gland (input)
2. Cable gland (output)
3. User interface
4. Communication card

EATS30P (US)

1. L6-30P
2. L6-30R
3. User interface
4. Communication card
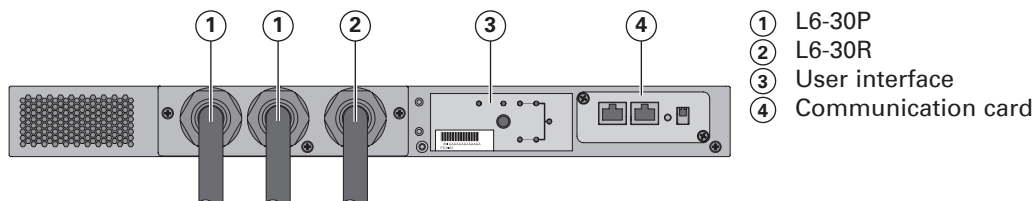
3. Installation for ATS

3.1   Checking the accessory kit

• Verify that the following additional items are included with the ATS:

EATS30N - EATS30H

1. User manual
2. Safety instructions
3. Warranty sheet (EATS30H)
4. ATS module
5. Rack mounting bracket

EATS30P

1. User manual
2. Safety instructions
3. Warranty sheet (EATS30H)
4. ATS module
5. Rack mounting bracket
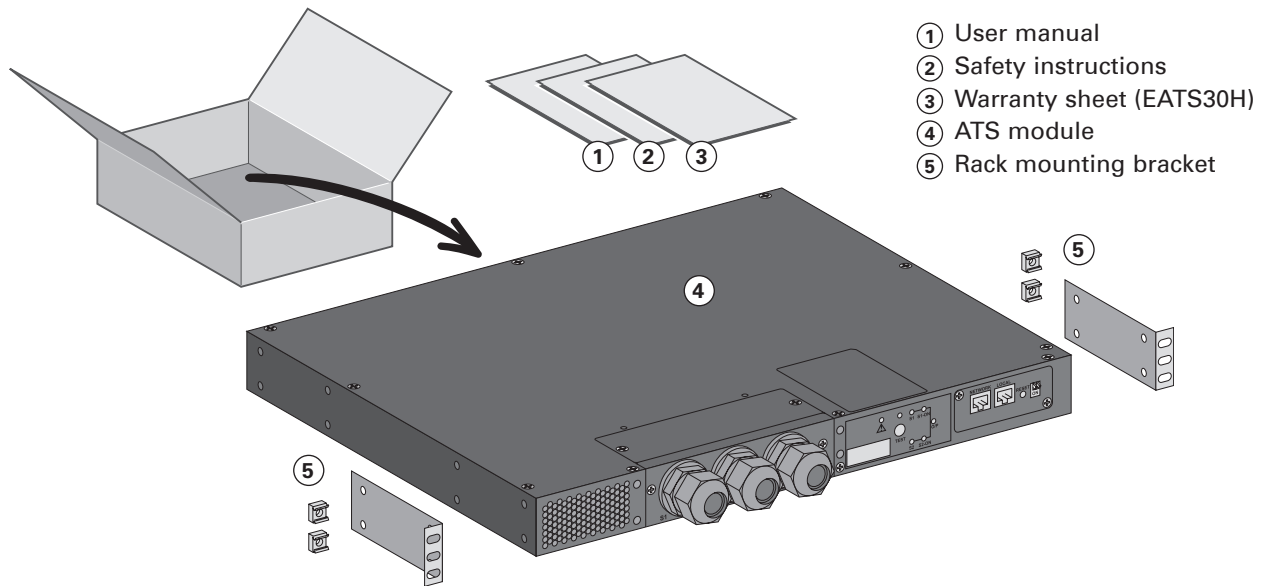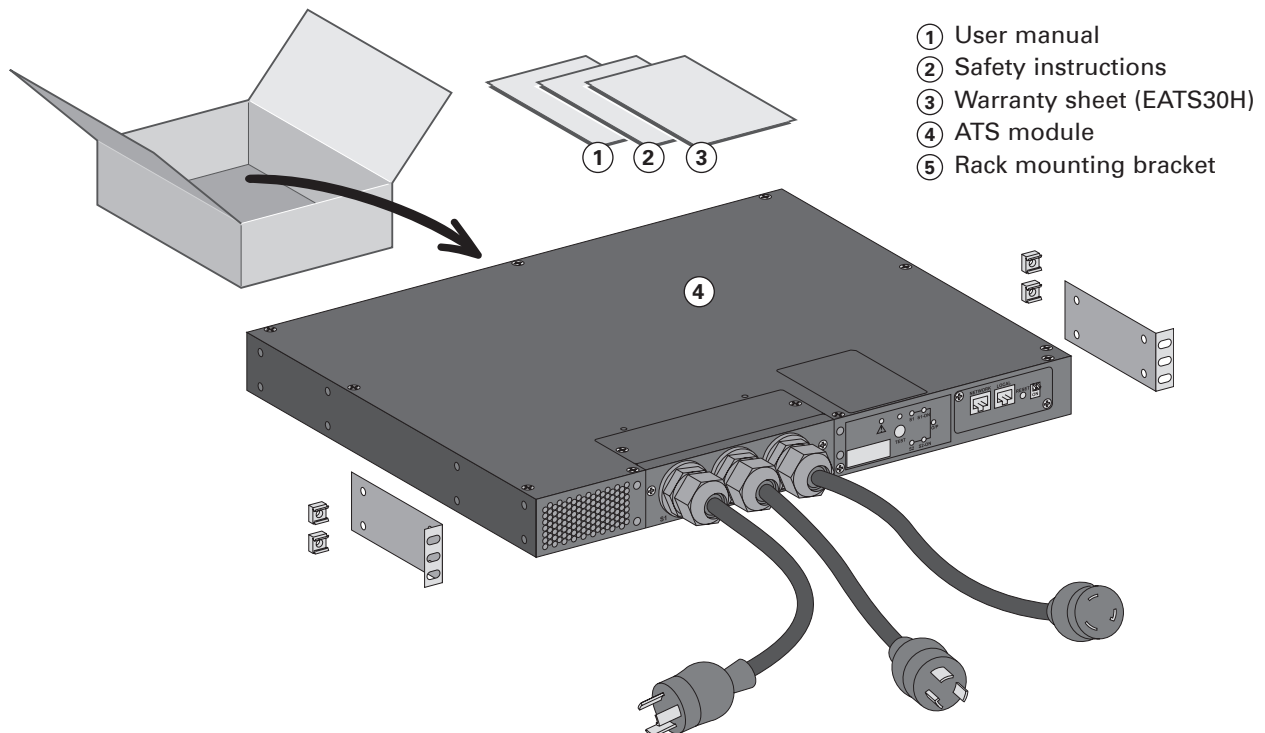
3.2   Storage

• Please store the ATS in its original package and in a dry place.
  Keep the storage temperature between -15°C and +50°C (5 to 122°F).

3. Installation for ATS

3.3 Front installation for rack mounting

Follow steps 1 to 3 for module mounting on the rails.

3.4 Rear installation for rack mounting

Follow steps 1 to 3 for module mounting on the rails.
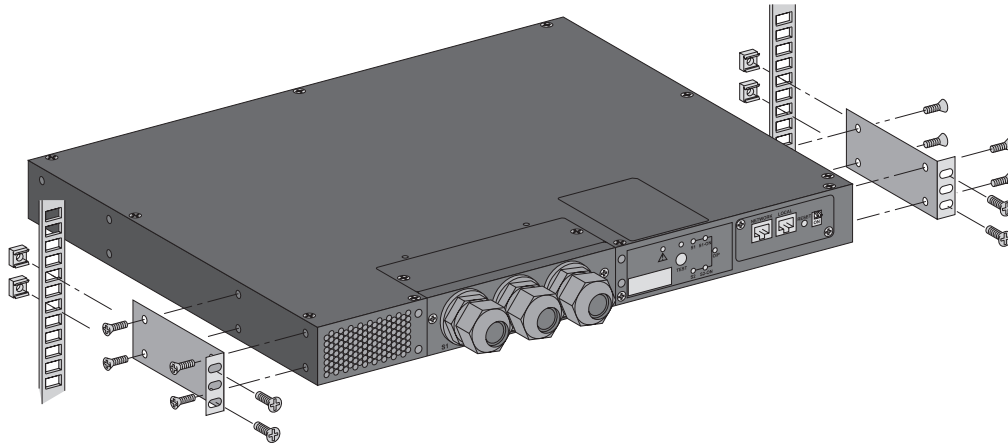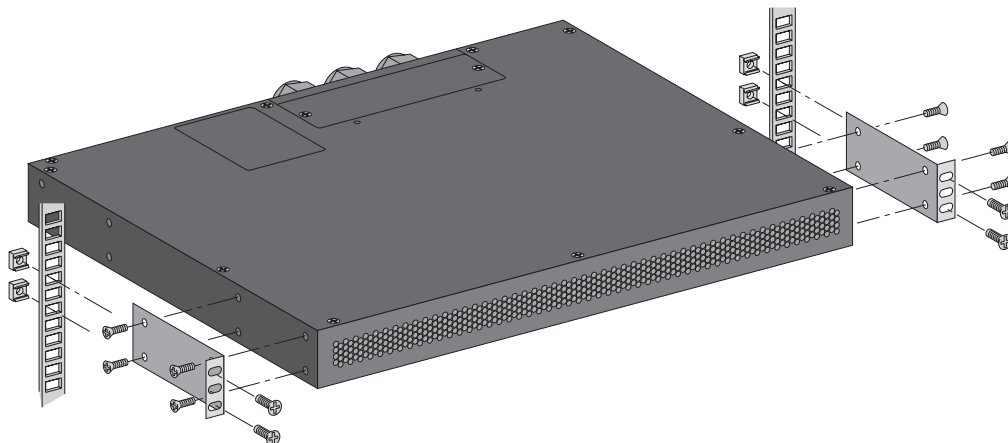

3.5 Instructions

1. Elevated Operating Ambient - If installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack environment may be greater than room ambient. Therefore, consideration should be given to installing the equipment in an environment compatible with the maximum ambient temperature (Tma) specified by the manufacturer.

2. Reduced Air Flow - Installation of the equipment in a rack should be such that the amount of air flow required for safe operation of the equipment is not compromised.

3. Mechanical Loading - Mounting of the equipment in the rack should be such that a hazardous condition is not achieved due to uneven mechanical loading.

4. Circuit Overloading - Consideration should be given to the connection of the equipment to the supply circuit and the effect that overloading of the circuits might have on overcurrent protection and supply wiring. Appropriate consideration of equipment nameplate ratings should be used when addressing this concern.

5. Reliable Earthing - Reliable earthing of rack-mounted equipment should be maintained. Particular attention should be given to supply connections other than direct connections to the branch circuit (e.g. use of power strips).

4. Power cables connection

4.1   Installation requirements

Recommended protective devices

Recommended protection
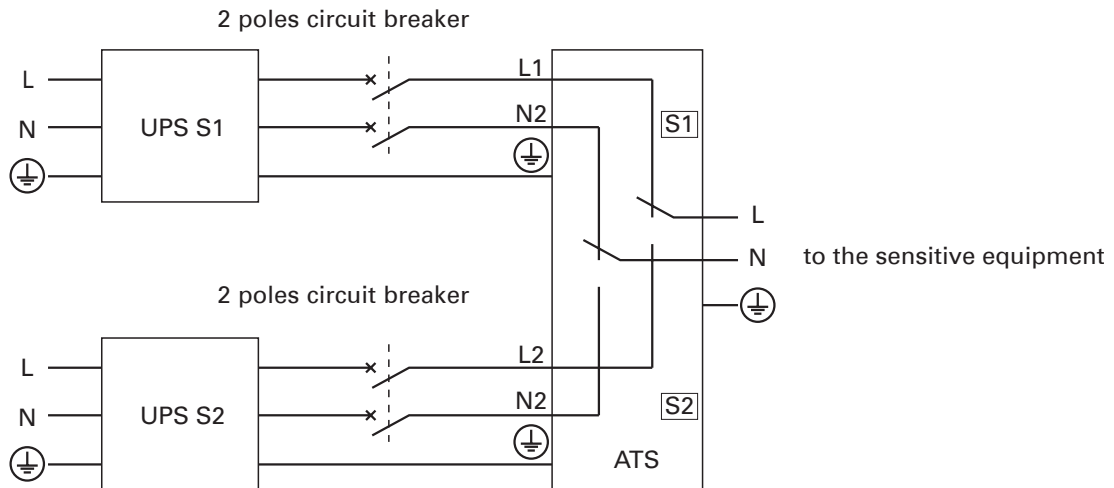
After power connection, the Eaton ATS will automatically perform power-on self-test. After the test, the Eaton ATS will start supplying power to its connected equipment. You can also press the 'Test Button' to force the Eaton ATS to execute self-test.

Recommended Input and Output cord for EATS30H

Input power supply cord:
*   UL Listed
*   Non-detachable type
*   Max. 4.5m (14.76 ft.)
*   Min. 1.5 m (4.92 ft.)
*   Type SJT
*   SVT or SPT-2
*   300 V min.
*   No. 10 AWG/3C.
One end terminates in NEMA L6-30P.

Output power supply cord:
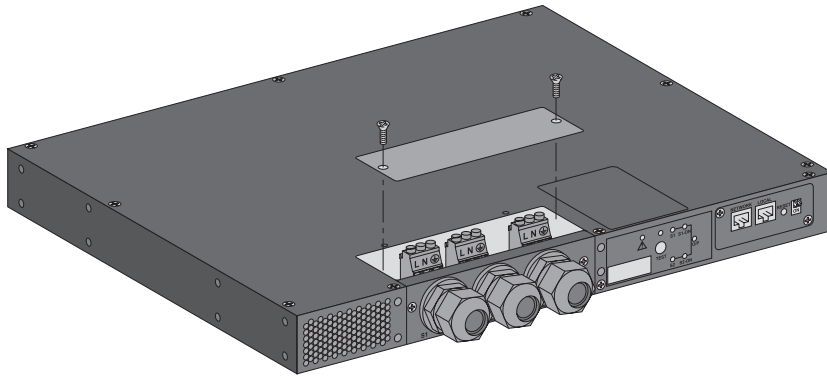*   UL Listed
*   Non-detachable type
*   Max. 4.5m (14.76 ft.)
*   Min. 1.5 m (4.92 ft.)
*   Type SJT
*   SVT or SPT-2
*   300 V min.
*   No. 10 AWG/3C.
One end terminates in NEMA L6-30R.

4. Power cables connection

4.2   Access to terminal blocks EATS30N - EATS30H

4.3   Hardwired Input/Output connection (EU) EATS30N - EATS30H
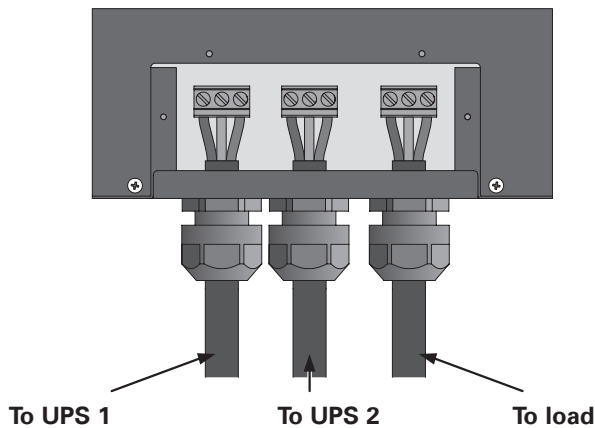
1. Connect input power cables to two UPSs (UPS1 (S1) is the preferred source).

2. Connect output power cable to load.

To UPS 1   **To UPS 2**   **To load**

Cable cross sections

Terminal position	Wire function	Terminal wire size rating	Minimum input wire size	Tightening torque
L1 / L2	Phase	32A	10 AWG	14Kgf-cm
N1 / N2	Neutral			
⏚	Ground			

4.4   Input/Output connection (US) EATS30P

To load

To UPS 2

To UPS 1

5. Operation
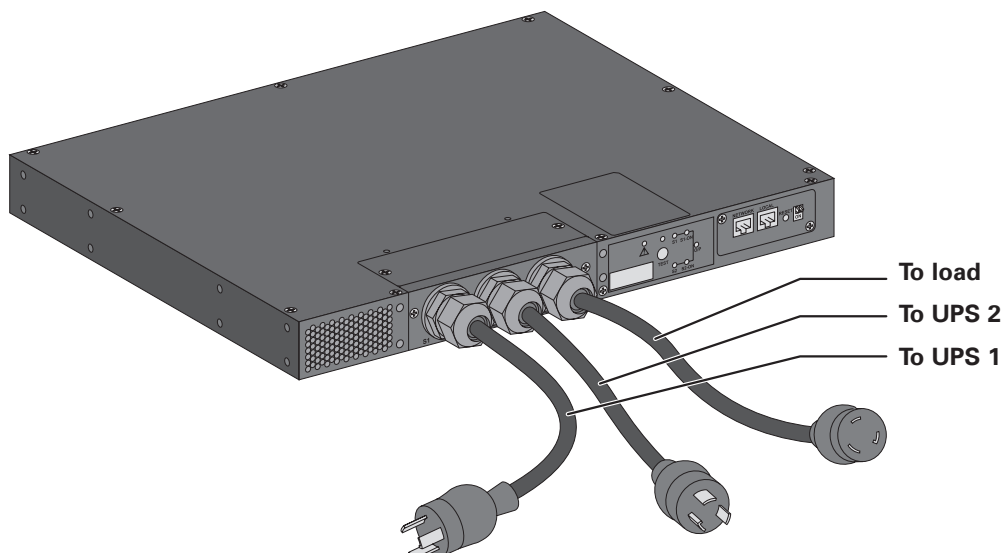
5.1 User interface
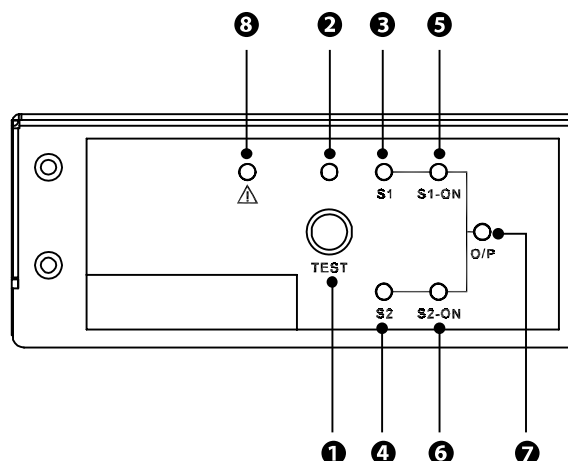
The following table shows the indicator status and description:

N°	Indicator	Status	Description
①	Test button	-	Use this button to test the Eaton ATS. Press this button, the Eaton ATS will transfer to the 2nd source for 1 minute and then transfer back to original preferred source.
②	Test LED	Green	If you press the test button, the Eaton ATS will be under test conditions and the Test LED will flash (on: 0.5s; off: 0.5s). In normal operation, this LED will be off.
③	S1 LED	Green	This LED indicates the condition of input source 1. If the input source 1 is within acceptable range, this LED will light up as green. If the input source 1 is out of acceptable range, this LED will be off.
④	S2 LED	Green	This LED indicates the condition of input source 2. If the input source 2 is within acceptable range, this LED will light up as green. If the input source 2 is out of acceptable range, this LED will be off.
⑤	S1_ON LED	Green	If the Eaton ATS uses input source 1 to supply power to the output, this LED will light up as green. If not, this LED will be off.
⑥	S2_ON LED	Green	If the Eaton ATS uses input source 2 to supply power to the output, this LED will light up as green. If not, this LED will be off.
⑦	O/P LED	Green	This LED indicates the output condition (voltage is > 60Vac). If there is output, this LED will light up as green. If not, this LED will be off.
⑧	Fault LED	Red	If the Eaton ATS has any internal fault, this LED will light up as red. If the Eaton ATS has any environmental fault, this LED will flash (ON: 0.5s; OFF: 0.5s). Via the "NETWORK" port, fault messages will be sent to a connected PC. From the PC, you can see error codes as follows in the troubleshooting in page 11 .

5. Operation

5.2 Communication card
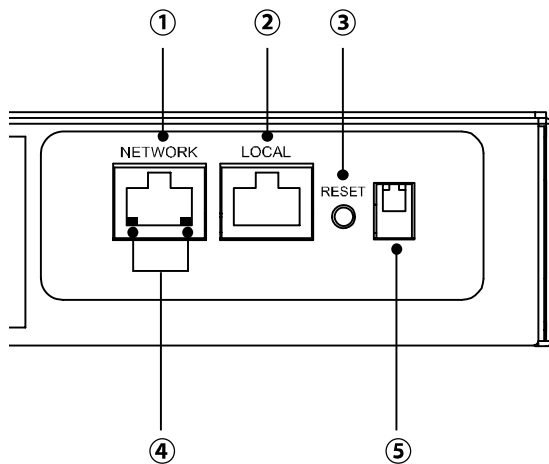
N°	Indicator	Description
①	NETWORK port	Connects to the Ethernet Network
②	LOCAL port	Connects to a workstation with an RJ45 to DB9 cable to configure the system.
③	RESET button	Resets InsightPower SNMP IPv6 for ATS (hereafter referred to as SNMP IPv6). This does not affect the operation of the ATS
④	LED indicators	NET LED (green) indicates network communication status
		ATS LED (yellow) indicates the ATS's communication status.
⑤	DIP switch	Sets up operation mode

LED indicators

LED	Condition	Meaning	
NET LED	OFF	Ethernet is unlinked.	
NET LED	Green	Ethernet is linked.	
ATS LED	OFF	**1.** Initialization **2.** SNMP IPv6 abnormality	
ATS LED	Amber	SNMP IPv6 abnormality	
ATS LED	Blinking	Every second	Poor connection between the ATS and the SNMP IPv6
		Every 50 ms	Normal connection between the ATS and the SNMP IPv6

DIP switch

DIP 1	DIP 2	Operation mode	Description
OFF	OFF	Normal mode	The built-in SNMP IPv6 provides the ATS's status information and parameters through a network system.
OFF	ON	Pass through mode	The built-in SNMP IPv6 stops polling the ATS but transfers the communication data between the "LOCAL" port and the ATS.
ON	OFF	-	Invalid state
ON	ON	Configuration mode	In this mode, users can login through the "LOCAL" port and configure the built-in SNMP IPv6's settings.

Problem	Possible cause	Action
All LEDs on the front panel are off	The power sources, S1 and S2, are both absent	1. Check the output (overload/short-circuit) 2. Check both power sources, S1 and S2 3. Reset the upstream circuit breakers
S1 or S2 LED is off	The corresponding power source is absent or out of range	1. Check the corresponding power source 2. Reset the corresponding upstream circuit breaker
Fault LED flashes	Output overload	Reduce the connected load
	Over temperature	Check the environment temperature
Fault LED lights up	Internal component damage	Please contact service personnel
Can not communicate with the ATS	Wrong setting or malfunction	Refer to the user manual of "SNMP IPv6 for ATS"

Fault LED

Environmental fault	
E01	Output overload
E02	Over temperature (due to detection of ambient temperature)
E03	Over temperature warning (due to detection of S1 heat-sink temperature)
E04	Over temperature warning (due to detection of S2 heat-sink temperature)
Internal fault	
E11	Over temperature (due to detection of S1 heat-sink temperature)
E12	Over temperature (due to detection of S2 heat-sink temperature)
E13	Auxiliary power 1 circuit is fail
E14	Auxiliary power 2 circuit is fail
E21	Input relay of S1 is open
E22	Input relay of S1 is short
E23	Input relay of S2 is open
E24	Input relay of S2 is short
E25	Input SCR of S1 is open
E27	Input SCR of S2 is open
E29	Firmware upgrade is fail

7. Specifications

Table 1. Model list

Model	Operating voltage	Current rating	Operating frequency
EATS30N	180V to 264V	30A for CE	45Hz to 65Hz
EATS30H		24A for UL	
EATS30P		24A for UL	

Table 2. Weights and dimensions

Model	Dimensions H x W x D (inch/mm)	Weight (lb/kg)
EATS30N	1.7 x 17.4 x 15.4 / 43 x 440 x 390	10.6 / 4.8
EATS30H	1.7 x 17.4 x 15.4 / 43 x 440 x 390	10.6 / 4.8
EATS30P	1.7 x 17.4 x 15.4 / 43 x 440 x 390	17 / 7.7

Table 3. Electrical input connections

Model	Input connection
EATS30N - EATS30H	Hardwired
EATS30P	L6-30P

Table 4. Electrical output connections

Model	Output connection
EATS30N - EATS30H	Hardwired
EATS30P	L6-30R

Table 5. Environmental and safety

Safety	UL (US) (UL 60950) (EATS30H - EATS30P) CE (EU) (IEC 60950) PSE (JP)
EMI	CISPR22 Class A and FCC Class A
EMS	IEC 61000-4-2 IEC 61000-4-3 IEC 61000-4-4 IEC 61000-4-5 IEC 61000-4-6 IEC 61000-4-8 IEC 61000-4-11
Operating temperature	0 to 35°C (32°F to 95°F) @30A input (EATS30N only) 0 to 40°C (32°F to 104°F) @25.6A input
Storage temperature	-15 to 50°C / 5 to 122°F
Relative humidity	5 to 95% RH (no condensing)
Operating altitude	0 to 2000 meters (0 to 6252 ft)
Audible noise	< 45 dBA measured at a distance of 1 meter in front of the ATS under full-load condition