

8.5.5 H902PILA (Connect Power Board)

The board leads in 1 -48 V or -60 V DC power through 2 100 A OT terminals, and transfers the power to the protection circuit, then to the filter circuit, and finally to the backplane, supplying power to the other boards.

Overview

Table 8-134 Basic information about the H902PILA

Item	Details
Description	Connect Power Board
Part Number	03025KET
Model	H902PILA
Card type	Power board
Silkscreen	PILA

Appearance

Figure 8-35 Appearance of the H902PILA



Version Mapping

 **NOTE**

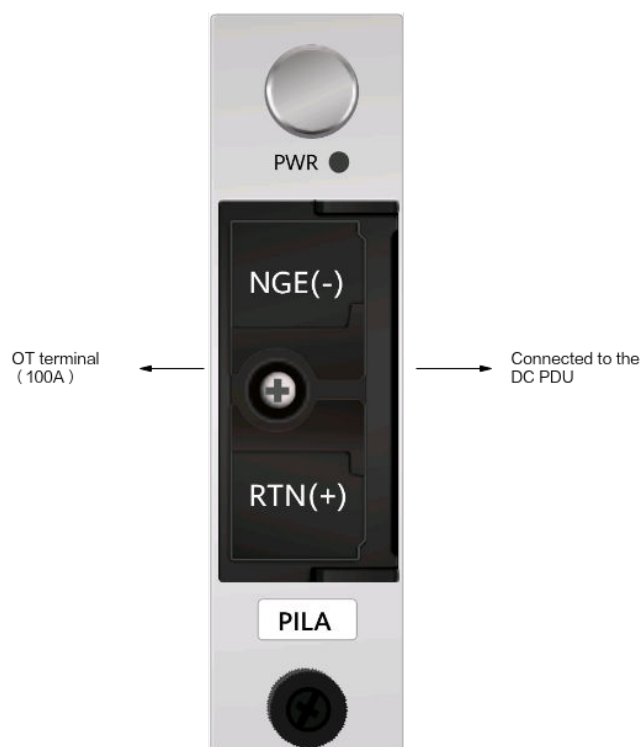
For details about the board mapping, click the [Optical Product Info-Finder Board Mapping tool](#) to view the detailed information.

Indicators

Table 8-135 Indicators on the H902PILA

Silkscreen	Name	Color	Status	Description
PWR	Running status indicator	Green	On	The input voltage and the protection fuse are normal
		Orange	On	The input voltage is normal but the protection fuse is faulty
		-	Off	There is no power input or power system is faulty

Ports



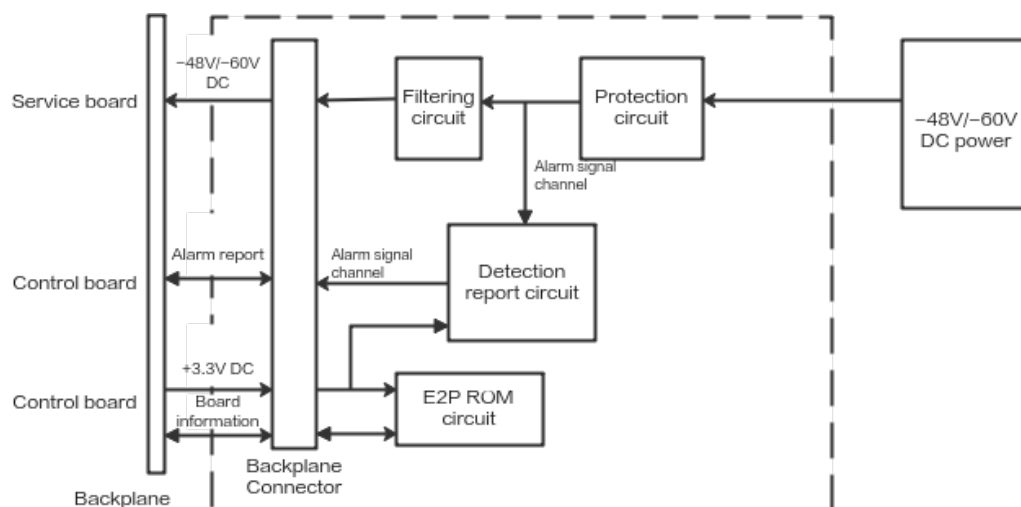
Functions and Features

Table 8-136 Functions and features of the H902PILA

Functions and Features	Description
Power input	1 -48 V or -60 V DC power input (input voltage range: -38.4 V to -72 V)
Board detection	Y
Filtering and current-limiting for the power input port	Y
Detection of protection fuse faults	Y
Protection alarm	Y
Detection of power input	Y

In the table, "Y" indicates "supported" and "N" indicates "not supported".

Working Principles and Signal Flow



Protection circuit	Protects the components in the circuit.
Filtering circuit	Filters the DC power in the circuit.
Detection report circuit	Checks whether the protection fuse is faulty, whether the power supply is normal, and whether the board is in position; and reports the check results to the control board through the backplane.

E2PROM circuit	Stores the vendor information of the board.
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Technical Specifications

Table 8-137 Technical specifications of the H902PILA

Item	Specification
Dimensions without packaging (H x W x D) [mm]	97.50 mm x 25.40 mm x 253.00 mm
Weight without packaging [kg]	0.42 kg
Static power consumption [W]	0.5 W
Maximum power consumption [W]	4 W
Operating temperature [°C]	-40°C to +65°C
Maximum Frame Size of Boards (Default) [bytes]	N/A
Maximum Frame Size of Boards (jumbo frame enabled) [bytes]	N/A
Maximum split ratio	N/A

NOTE

- The power consumption of a board is calculated based on the following conditions:
 - Operating voltage: -53.5 V DC.
 - Ambient temperature: 25°C.
 - Static power consumption: All ports are idle, and no optical module is inserted to any optical port.
 - Maximum power consumption: Power consumption of the board and optical module when all ports are 100% loaded.
- The board power consumption slightly varies with the power module configured for the board and discreteness of components.
- The lowest startup temperature of a board is -25°C.
- The power consumption of access devices is generally transformed into heat consumption. Therefore, heat consumption (BTU/h) and power consumption (W) can be converted to each other using this formula: 1 BTU/h = 0.2931 W.

8.5.6 H902PISB (AC power board, power backup)

The board is an AC power board, consisting of an AC power unit and a monitoring unit. The board supplies power to the other boards and supports the lead-acid battery for power backup. The AC power unit provides overcurrent, output overvoltage, short circuit, and over-temperature protection. The monitoring unit

provides comprehensive management for the power system and storage battery, and also provides environment monitoring functions.

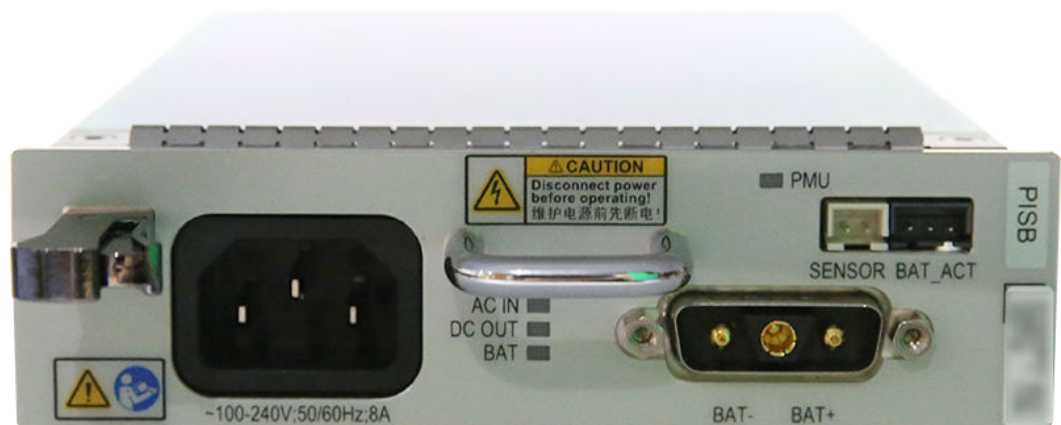
Overview

Table 8-138 Basic information about the H902PISB

Item	Details
Description	AC power board,power backup
Part Number	03033CNM
Model	H902PISB
Card type	Power board
Silkscreen	PISB

Appearance

Figure 8-36 Appearance of the H902PISB



Version Mapping

NOTE

For details about the board mapping, click the [Optical Product Info-Finder Board Mapping tool](#) to view the detailed information.

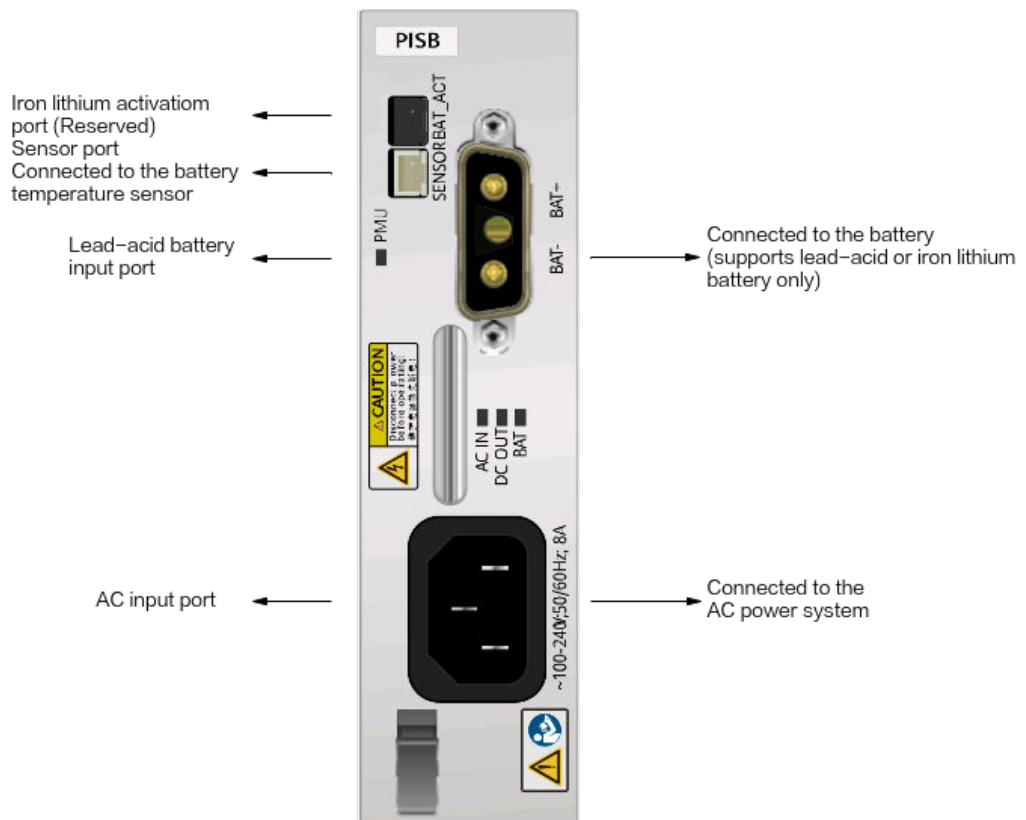
Indicators

Table 8-139 Indicators on the H902PISB

Silkscreen	Name	Color	Status	Description
AC IN	AC input indicator	Green	On	Indicates that the AC input power is normal
		-	Off	Indicates that the AC input power is abnormal
DC OUT	DC output indicator	Green	On	Indicates that the DC output power is normal
		-	Off	Indicates that the DC output power is abnormal
BAT	Power board battery connection indicator	Green	On	Indicates that battery connection is normal
		-	Off	Indicates that battery connection is abnormal
PMU	Monitoring board running status indicator	Green	Blinking quickly (on for 0.25 s and off for 0.25 s repeatedly)	Indicates that program loading is in progress (in this process, board insertion or removal is prohibited)
		Green	Blinking slowly (on for 1 s and off for 1 s repeatedly)	Indicates that the board runs normally

Silkscreen	Name	Color	Status	Description
		Red	Blinking	Indicating that the board is starting up
		Red	On	Indicates that a critical alarm is reported
		Orange	Blinking	Indicates that a minor alarm (such as the high temperature alarm) is reported

Ports



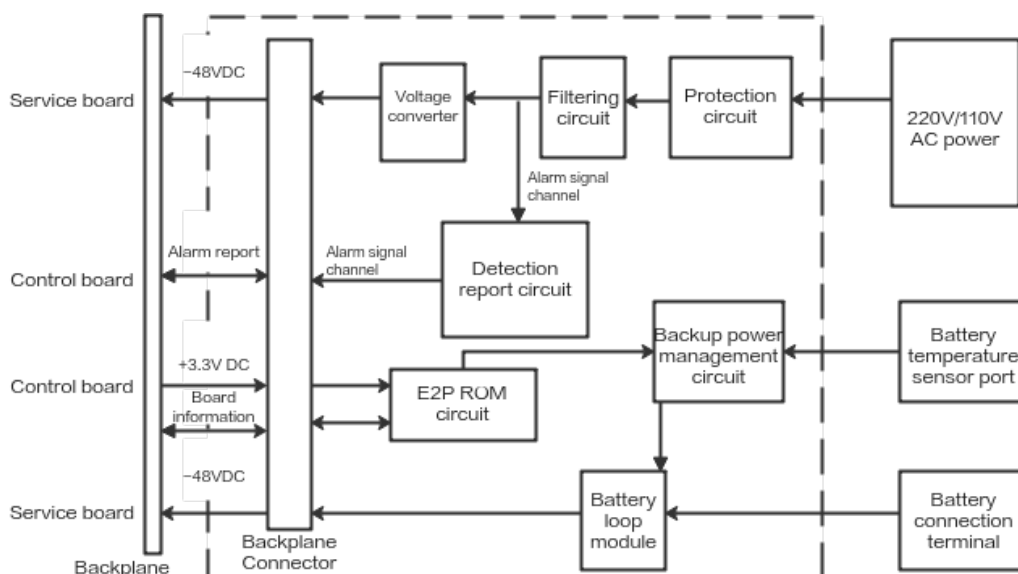
Functions and Features

Table 8-140 Functions and features of the H902PISB

Functions and Features	Description
Power input	1 channel of 220 V AC or 110 V AC input
Rated output power	600 W
Input power monitoring	Y
Input overcurrent protection	Y
Temperature query and high-temperature alarm	Y
Battery for backup power	Y

In the table, "Y" indicates "supported" and "N" indicates "not supported".

Working Principles and Signal Flow



Protection circuit	Protects the components in the circuit.
Filtering circuit	Filters the AC power in the circuit.
Detection report circuit	Checks whether the protection fuse is faulty or whether the power input or board is detected, and reports the results to the control board through the backplane.

E2PROM circuit	Stores the vendor information of the board.
Battery loop module	Detects battery current.
Voltage converter	Converts high-voltage AC current to 48 V DC current.
Backup power management circuit	Manages battery charge and discharge.

Technical Specifications

Table 8-141 Technical specifications of the H902PISB

Item	Specification
Dimensions without packaging (H x W x D) [mm]	130.00 mm x 35.28 mm x 253.00 mm
Weight without packaging [kg]	1.15 kg
Static power consumption [W]	5 W
Maximum power consumption [W]	45 W
Operating temperature [°C]	-40°C to +65°C
Maximum Frame Size of Boards (Default) [bytes]	N/A
Maximum Frame Size of Boards (jumbo frame enabled) [bytes]	N/A
Maximum split ratio	N/A

NOTE

- The power consumption of a board is calculated based on the following conditions:
 - Operating voltage: -53.5 V DC.
 - Ambient temperature: 25°C.
 - Static power consumption: All ports are idle, and no optical module is inserted to any optical port.
 - Maximum power consumption: Power consumption of the board and optical module when all ports are 100% loaded.
- The board power consumption slightly varies with the power module configured for the board and discreteness of components.
- The lowest startup temperature of a board is -25°C.
- The power consumption of access devices is generally transformed into heat consumption. Therefore, heat consumption (BTU/h) and power consumption (W) can be converted to each other using this formula: 1 BTU/h = 0.2931 W.

8.5.7 H903PILA (Power Transfer Board)

The board leads in 1 -48 V or -60 V DC power through 2 100 A OT terminals, and transfers the power to the protection circuit, then to the filter circuit, and finally to the backplane, supplying power to the other boards.

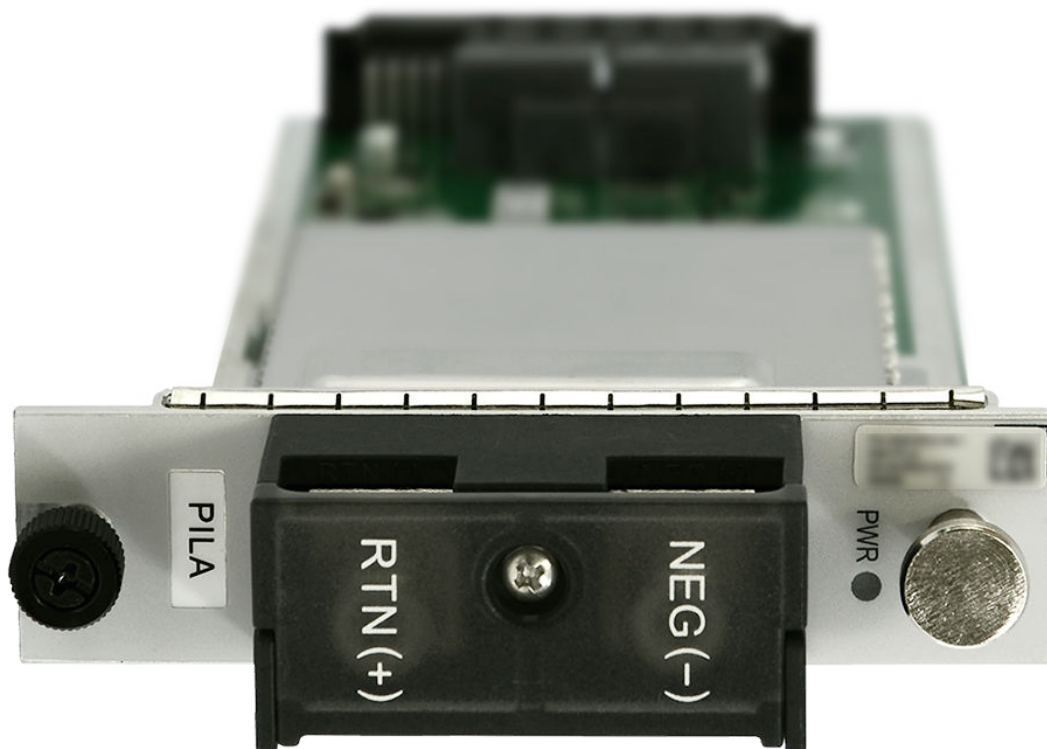
Overview

Table 8-142 Basic information about the H903PILA

Item	Details
Description	Power Transfer Board
Part Number	03028XTL
Model	H903PILA
Card type	Power board
Silkscreen	PILA

Appearance

Figure 8-37 Appearance of the H903PILA



Version Mapping

NOTE

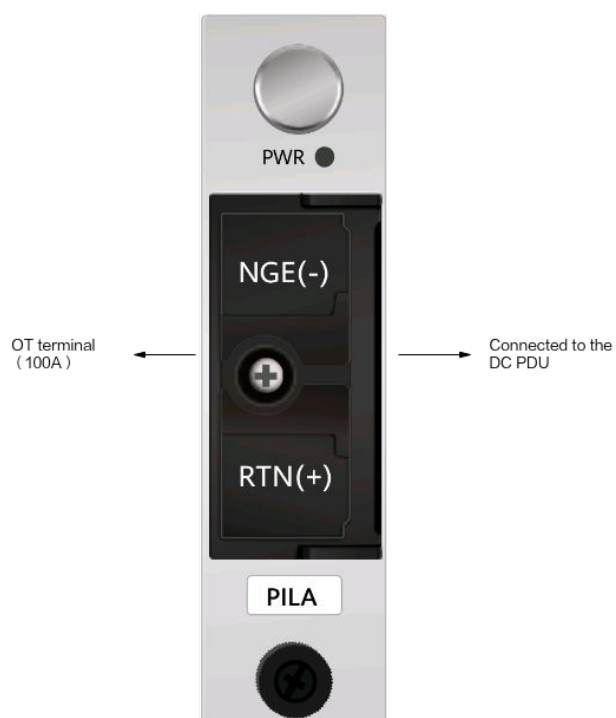
For details about the board mapping, click the [Optical Product Info-Finder Board Mapping tool](#) to view the detailed information.

Indicators

Table 8-143 Indicators on the H903PILA

Silkscreen	Name	Color	Status	Description
PWR	Running status indicator	Green	On	The input voltage and the protection fuse are normal
		Orange	On	The input voltage is normal but the protection fuse is faulty
		-	Off	There is no power input or power system is faulty

Ports



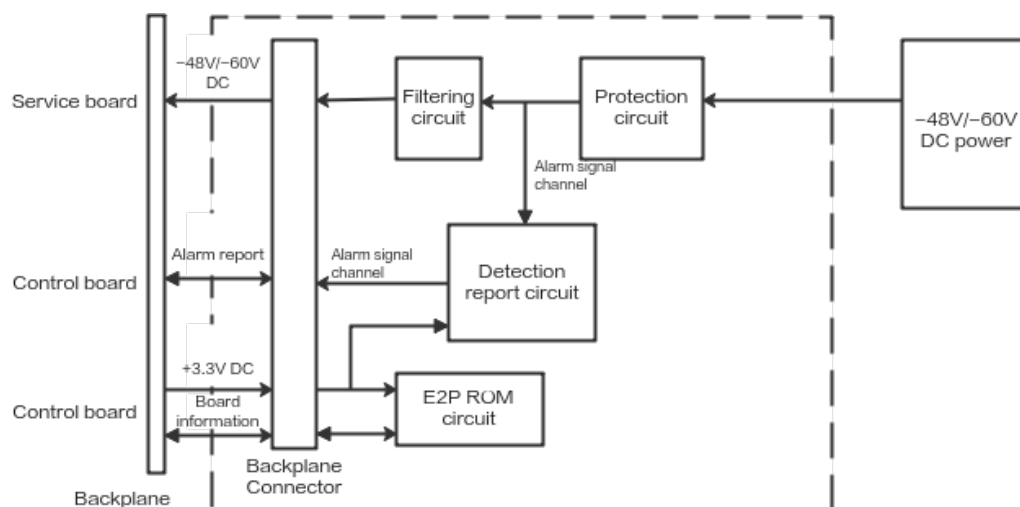
Functions and Features

Table 8-144 Functions and features of the H903PILA

Functions and Features	Description
Power input	1 -48 V or -60 V DC power input (input voltage range: -38.4 V to -72 V)
Board detection	Y
Filtering and current-limiting for the power input port	Y
Detection of protection fuse faults	Y
Protection alarm	Y
Detection of power input	Y

In the table, "Y" indicates "supported" and "N" indicates "not supported".

Working Principles and Signal Flow



Protection circuit	Protects the components in the circuit.
Filtering circuit	Filters the DC power in the circuit.
Detection report circuit	Checks whether the protection fuse is faulty, whether the power supply is normal, and whether the board is in position; and reports the check results to the control board through the backplane.

E2PROM circuit	Stores the vendor information of the board.
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Technical Specifications

Table 8-145 Technical specifications of the H903PILA

Item	Specification
Dimensions without packaging (H x W x D) [mm]	97.50 mm x 25.40 mm x 253.00 mm
Weight without packaging [kg]	0.43 kg
Static power consumption [W]	0.7 W
Maximum power consumption [W]	5.5 W
Operating temperature [°C]	-40°C to +65°C
Maximum Frame Size of Boards (Default) [bytes]	N/A
Maximum Frame Size of Boards (jumbo frame enabled) [bytes]	N/A
Maximum split ratio	N/A

NOTE

- The power consumption of a board is calculated based on the following conditions:
 - Operating voltage: -53.5 V DC.
 - Ambient temperature: 25°C.
 - Static power consumption: All ports are idle, and no optical module is inserted to any optical port.
 - Maximum power consumption: Power consumption of the board and optical module when all ports are 100% loaded.
- The board power consumption slightly varies with the power module configured for the board and discreteness of components.
- The lowest startup temperature of a board is -25°C.
- The power consumption of access devices is generally transformed into heat consumption. Therefore, heat consumption (BTU/h) and power consumption (W) can be converted to each other using this formula: 1 BTU/h = 0.2931 W.

8.5.8 H903PILA0 (Power Transfer Board)

The board leads in 1 -48 V or -60 V DC power through 2 100 A OT terminals, and transfers the power to the protection circuit, then to the filter circuit, and finally to the backplane, supplying power to the other boards.