

TS0718N30-60 Series

IBE Power Supply System | 8 built-in independent modules



- 8 channels integrated: Modular rack-mount design with a unified DB15 communication interface.
- Includes filament power supply (Fila), arc discharge power supply (Arc), extraction power supply (Ext), and puller power supply (Puller).
- Output ripple: ultra-low ripple at mV level.
- Long-term stability: 0.01% per hour (after 0.5-hour warm-up).
- External accelerator power supply (Accel), suppressor power supply (Supp), deflection power supply (Ski), and other protection devices.

Product Introduction:

Teslaman TS0718N30-60 is a high-performance integrated power supply system specifically designed for Ion Beam Etching (IBE) equipment, developed based on the Kaufman ion source principle. The system integrates eight independent high-voltage power supply modules: Fila (filament), Arc (arc discharge), Ele-Ext (extraction electrode), Ion-Rep (ion reflector), Bias (substrate bias), Ele-Rep (electron reflector), and Pul1/Pul2 (puller), comprehensively covering the three major functional stages of plasma generation, ion extraction and acceleration, and precise process control. The system features ultra-low ripple at the mV level and ultra-high stability of 0.01%, with a modular architecture that supports simultaneous multi-channel high-voltage output and fast dynamic response. Customization is available upon request.

Typical Applications

Ion Beam Etching (IBE), Reactive Ion Beam Etching (RIE), Focused Ion Beam (FIB), semiconductor failure analysis, and micro/nano optics.

TS0718N30 - 60 Specifications:

No.	Type	Model	Output Parameters
1	Fila	TM0910P5-1000	200A@5V
2	Arc	TM0900P40-200	40V@5A
3	Ele-Ext	TM0902P500-50	500V@100mA
4	Ion-Rep	TM0902P500-50	500V@100mA
5	Bias	TM0902N500-200	-500V@400mA
6	Ele-Rep	TM6012N1-10	-1kV@10mA
7	Pul1	TM6014N30-60	-30kV@2.00mA
8	Pul2	TM6014N30-60	-30kV@2.00mA
9	Supp Active Arc Assy	TA0114PN60-180	Single unit rated 15 kV, 5 units in series packaged together
10	Active load	TA0110PN30-60	2 M Ω , withstand voltage 40 kV

Signals and Electrical Interfaces:

No.	Interface Name	Interface Parameters	Interface Description
1	J25 (Connector model: HX41406-4A, mating connector: HX41405-4P)	±24V	Safety interlock – 3 relays: RL Y1 – disconnects the 208 VAC supply for the filament power supply; RL Y2 – disconnects the AC supply for the "208 VAC rectified to 360 VDC" circuit; RL Y3 – provides feedback on the interlock signal status.
2	J24 (Connector model: HX41406-6A, mating connector: HX41405-6P)	DC 24V	Powers two cooling fans.
3	J13 (Connector model: HX41406-9A, mating connector: HX41405-9P)	±15V	Supplies power to the external signal isolation PCB.
4	J518 (Connector model: 19092047, mating connector: 19091046)	Ion- Rep, Ele- Rep, Ele- Extra	Outputs for Ion- Rep, Ele- Rep, and Ele- Extra.
5	J519 (Connector model: 15311066, mating connector: 19091066)	Ion Bias Arch	Outputs for Ion Bias and Arch.
6	J5 (Connector model: 19092047, mating connector: 19091046)	208VAC	208 VAC input for the filament.
7	J1 (Connector model: 15311046, mating connector: 19091046)	208VAC	208 VAC output for the filament.
8	J2 (Connector model: 15311046, mating connector: 19091046)	208VAC	Power supply for the leakage protector K1.
9	J3 (Socket model: 5EGTV_7.62_03P_14_00; mating terminal block model: 5EGTK_7.62_03P_14_00)	AC Input	Connects to CB1 (circuit breaker).
10	J12 (Connector model: HX41406-4A, mating connector: HX41405-4P)	Spare	Not used.

DB15 Communication Interface Definitions:

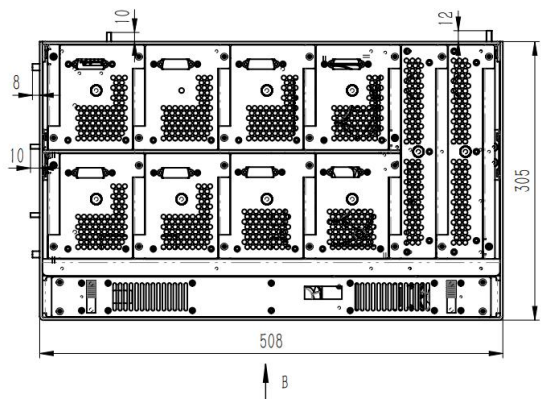
Figure 1:

PIN	PIN Definitions	PIN	PIN Definitions
1	Disable	9	COM
2	I PROG	10	COM
3	Over Temp	11	COM
4	N/C	12	N/C
5	N/C	13	HV ON DO
6	Fault	14	COM
7	IMON	15	COM
8	V MON		

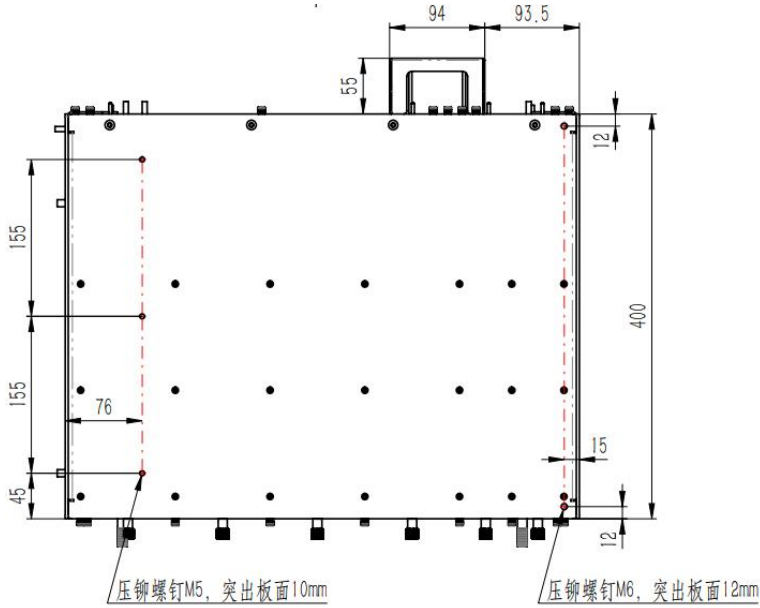
Figure 2:

PIN	PIN Definitions	PIN	PIN Definitions
1	Disable	9	COM
2	I PROG Write	10	COM
3	Over Temp	11	COM
4	N/C	12	N/C
5	V Prog Write	13	HV ON DO
6	Fault	14	COM
7	I MON Read	15	COM
8	V MON Read		

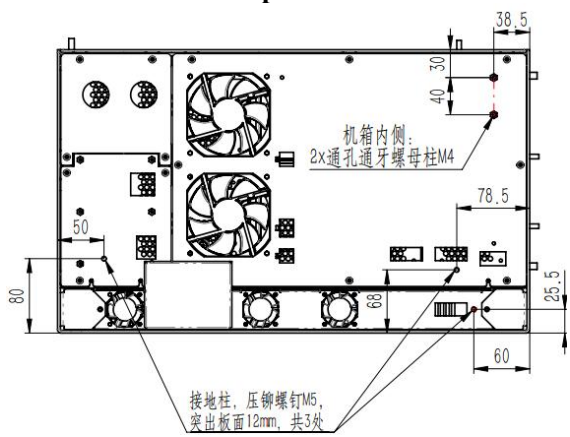
Dimensions:mm



Front View



Top View



Rear View