

Chapter 1 Introduction

TCMM6520 Series

High Voltage Module Power Supply | 1kV~20kV,8W,1~6 Output Terminals



- Initial accelerate setting
- High stability
- Dedicate for IML application
- Compact model, sturdy
- Led indicator on both sides

Product Introduction:

The Teslaman TCMM6520 series is a compact electrostatic generator specifically designed for IML (In-Mold Labeling) applications, combining efficiency and convenience. This power unit features a fully integrated high-voltage component that only requires a 24V DC power supply to operate, significantly simplifying the installation and configuration process. Its modular design is compact, small in size, and lightweight, making it ideal for mounting on the end of arms in IML pick-and-place systems, ensuring flexible operation without compromising the stability of the overall equipment. The TCMM6520 series boasts excellent performance, easily handling the high-gravity challenges common in IML processes and ensuring stable label performance in high-speed, high-precision production environments. Notably, this series of power units is equipped with a unique "Cycle OK" function, which enhances both production efficiency and safety. Once the label has accumulated sufficient static charge, the "Cycle OK" signal is activated, clearly indicating that the charging process is complete. The machine interface can use this signal to determine when to stop charging, preventing energy waste. In the second phase, the "Cycle OK" signal indicates that the charge on the core has dropped below a safe level, allowing the core to be removed from the mold. This innovative feature eliminates the guesswork and experimental setup required for each individual IML application and product or label changes, bringing unprecedented convenience and efficiency improvements to users.

Typical Applications:

IML application

Electrostatic adhesion; electrostatic fiber separation; electrostatic spraying; electrostatic printing; electrostatic dust removal, and other electrostatic applications.

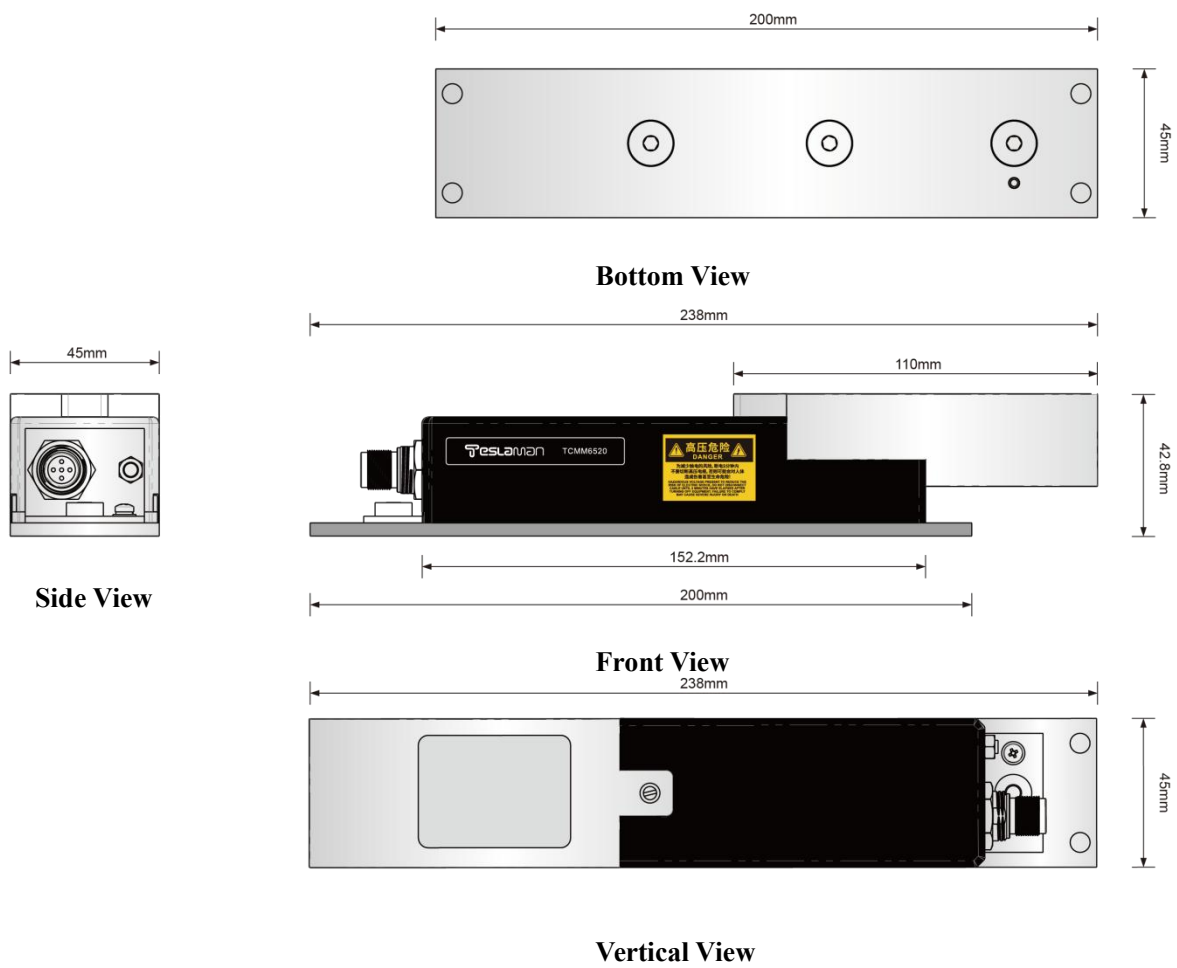
Specification Description:

Input Voltage	+24VDC,±3VDC.
Input Current	Maximum 0.9A.
Output Voltage	1kV to 20kV.
Output Polarity	Mono-polarity, notify when ordering.
Output Power	Maximum 8W.
Output Channel	1 to 6 options are available.
Voltage regulation	Line regulation: Better than 100ppm at rated output under rated input voltage rang. Load regulation: Better than 100ppm load change from 0-100% under rated output voltage.
Ripple	Better than 0.1%rms under rated output.
Stability	Less than 0.1% every 8 hours after half hour warm-up.
Protection	Over-voltage, Over-current, arc and short-circuit protection.
Temperature Coefficient	Better than 100ppm/°C.
Environmental	Operational:0°C to 55°C. Storage:-20°C to 80°C.
Humidity	10% to 90% non-condensing.
Cooling	Convection cooling.
Water resistance	IP54.
Dimensions	W45mmxH43mmxD200mm.
Remote switch	10-30V.
Shock resistance	≤ 6 G,≤ 7 m/s.
Weight	About 480g.
Connector	M12, 5 pins.
Output connection	1 meter long fixed high voltage with shield.

TCMM6520 pin definition:

Pin	Signal	Description
1	24V	Input voltage
2	Remote control switch	Off when connect to 24VDC
3	Ground	Signal ground
4	循环正常	Indicator
5	Current control	4-20mA current control

Dimensions: mm



In mold labeling (IML) process

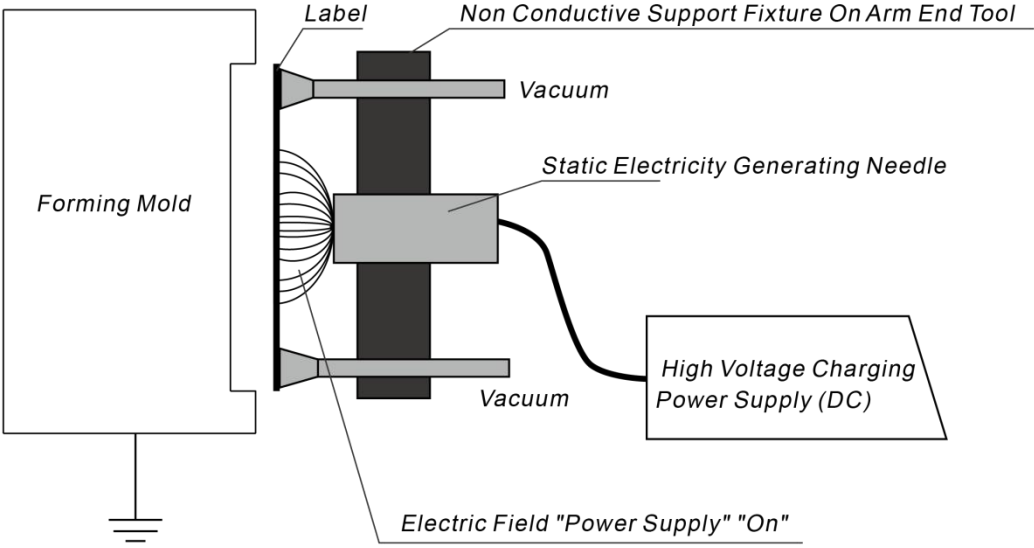


Figure 1. Conventional method, static electricity generating needle on the arm end tool.