TMI6101 Series

Modular Power Supply

300V-1.5kV, 9.75W

Teslaman TMI6101 is a well-regulated, high performance DC-DC converter featuring a floating 1.5kV @ 6.5mA output, it has an operational range 300V-1500V.
The output is isolated; this allows connection to loads of +Ve, -Ve or switchable polarity and for pulse currents to be contained within prescribed paths, reducing noise and interference signatures. The MI1.5PN24 low output ripple specification makes it ideal for use with pulsers in Mass Spectrometry applications. This module is packaged in a shielded metal enclosure and the high voltage output is provided via two captive cables. The MI1.5PN24 has a large, high quality capacitance and rugged output net work, this allows high energy pulsed loads to powered continuously without significant voltage drop or damage to the unit circuitry. The unit has remote 0-10Vdc = 0-100% rated voltage programming and voltage monitor. A TTL compliant Enable signal provides simple control of the high voltage output.

- Floating
- Programmable 1.5kV Output
- Low Ripple
- Compact Design

Typical applications:

Mass spec pulsers
Pulse load requirements

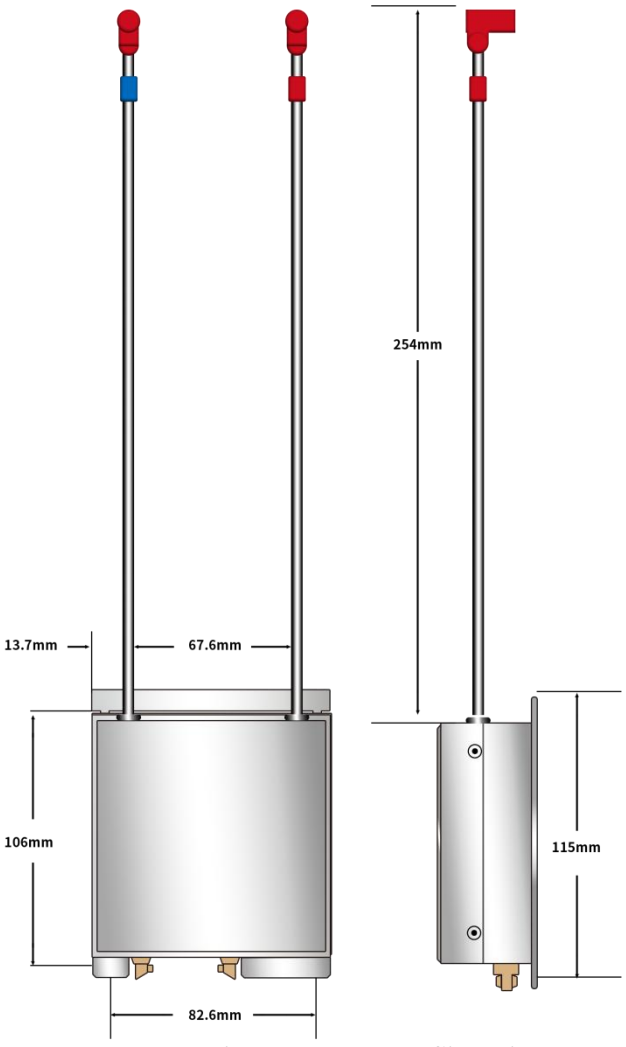
Specifications:

Input voltage: +24Vdc, ±10%. Protected against reverse connection
Input Current:
725mA maximum at 1500V @ 6.5mA
Output Voltage:
300V to 1.5kV, continuously variable over entire output range
Polarity:
Positive or negative, isolated to 1.5kV
Load Current:
6.5mA, maximum
Power:
9.75 watts, maximum
Regulation:
Line:
<0.5% for line change of ±10%
Load: <0.1% for zero to full load
Stability:
Better than 300ppm/hour after 1 hour warm up. 100ppm/hour after 2 hour warm up at constant operating conditions. Typi cally, 50ppm/hour after 1 hour and 15ppm/hour after 2 hours.
Temperature Coefficient:
<100ppm/°C, typically 25ppm/°C
Ripple:
<75mV peak to peak at full load when either end is grounded.
Output Current Limit:
The module will have an output current limit of 9mA. The module is capable of withstanding an indefinite short circuit or overload on its output and will recover automatically once the short circuit is removed.
Supply Voltage Dynamic Rejection:
< than 20mV for an input step of 1 volt
(within the range of +24Vdc, +10%/-2%)
Settling Time:
500 milliseconds maximum under all conditions.
Output Capacitance:
>400nF – Connected directly between POSITIVE to NEGATIVE output nodes
Environmental:
Temperature Range:
Operating: +15°C to +50°C
Storage: -40°C to 70°C
Humidity: 5% to 95% RH @ 40°C non-condensing
Cooling:
Convection cooled
Interface Connector:
20 pin IDC male connector
Dimensions:
115mm X 95mm X 39.2mm
Weight:
0.3kg

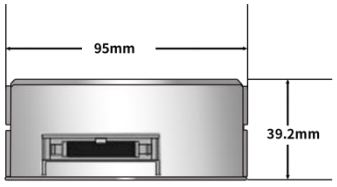
TMI6101 Interface Connector – 20 Pin IDC Male Connector

Pin	Signal	Signal Parameters
1	Voltage Control Return	Analog Ground
2	Voltage Control	0Vdc to +10Vdc = 0 to 1.5kV (differential Input) Zin = 100kΩ. Protected against inputs of <11 volts and reverse voltages.
3	Voltage Control Return	Analog Ground
4	N/C	No Connection
5	Voltage Control Return	Analog Ground
6	N/C	No Connection
7	Voltage Control Return	Analog Connection
8	N/C	No Connection
9	Voltage Control Return	Analog Ground
10	Voltage Monitor	+2Vdc to +10Vdc = 300 volts to 1.5kV, ±1%, Zout = 1kΩ
11	N/C	No Connection
12	Enable	TTL: Low = HV ON. Referenced to +24Vdc Return.
13	N/C	No Connection
14	N/C	No Connection
15	N/C	No Connection
16	N/C	No Connection
17	+24Vdc Return	Power Return (Power Ground)
18	+24Vdc Power	+24Vdc @ 725mA
19	+24Vdc Return	Power Return (Power Ground)
20	+24Vdc Power	+24Vdc@ 725mA

Dimensions：mm



Top View　　Side View



Front View