Industrial Power Supplies

TSPC Series, 80–480 Watt

EMC LVD | IEC 60950-1 | UL 60950-1 | EN 60950-1 EN 61558-2-8 EN 60204 | UL 508 | ATEX II3G IECEx

- Rugged metal case for harsh industrial environments
- Industrial operating temperature range: –25°C to +70°C
- Overload and and overtemperature protection
- Power boost up to 120 %
- Power-Good signal
- Shock and vibration proof
- International safety approval package
- ATEX certification for hazardouse locations
- Decoupling module for redundant operation (optional)
- Wall mounting (opt.)
- 3-year product warranty



The TSPC series are high performance DIN-rail mount power supplies for harsh industrial environments. The design is based on the popular TRACOPOWER TSP series but with reduced electrical features to make these power supplies an easy to install and cost efficient but reliable solution for basic applications.
Excellent electrical specifications and high immunity against electrical disturbances makes these compact modules the best choice for reliable industrial systems and machines.
For system applications all models provide a Power-Good signal.
The TSPC series power supplies complies with the latest safety and EMC standards for industrial environments and include ATEX EN 60079 certification and IEC 60079 test report for applications in hazardous locations.

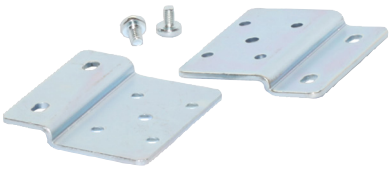
Models

Order code	Output power nominal	Output voltage nominal	Output current nominal
TSPC 080-124	80 W	24 VDC	3.3 A
TSPC 120-124	120 W		5.0 A
TSPC 240-124	240 W		10 A
TSPC 480-124	480 W		20 A

Accessories (optional)



Decoupling module for redundant operation see:
www.tracopower.com/products/tspc-dcm.pdf



Wall mounting brackets: see last page

Input Specifications

Input voltage	– nominal ranges	100 – 120 / 220 – 240 VAC by selection switch
	– effective ranges	85 – 132 / 187 – 264 VAC
	– output power derating at input <100 VAC	3.3 %/V
Input voltage frequency		47 – 63 Hz
Harmonic limits		EN 61000-3-2
Holdup time		10 ms min.
Inrush current		40 A
Recommended circuit breaker, characteristic C or fuse, slow blow type	– TSP 080/120	6.0 – 16.0 A
	– TSP 240	10.0 – 16.0 A
	– TSP 480	16.0 – 25.0 A
Efficiency		85 – 92 %

Output Specifications

Output voltage adj. range		24 – 28 VDC
	– output power derating above 24 VDC	5 %/V
Boost output current		120 % (at 24 VDC output voltage) continuouse at <+50°C ambient temperature
	– power derating above 50°C ambient	2 %/°C
	– power derating at input <115 VAC	1.3 %/V
	– power derating at input <220 VAC	0.6 %/V (at upper input voltage range)
Regulation	– Input variation	1 % max.
	– Load variation (0–100 %)	1 % max.
Ripple and Noise (20MHz bandwidth)		100 mVp-p typ. (200 mVp-p max.)
Overload protection		120 – 140 % of Iout nom., constant current
Short circuit current		90 % of Iout nom. (typ.), foldback
Output overvoltage protection		45 V
Overtemperature protection		switch off at overtemperature, automatic restart
Power back immunity		35 V (40 V for 1 sec.)
Power OK signal	– trigger threshold:	21.0 – 22.5 V
	– output signal	open collector 10 mA max.
Max. capacitive load		unlimited

General Specifications

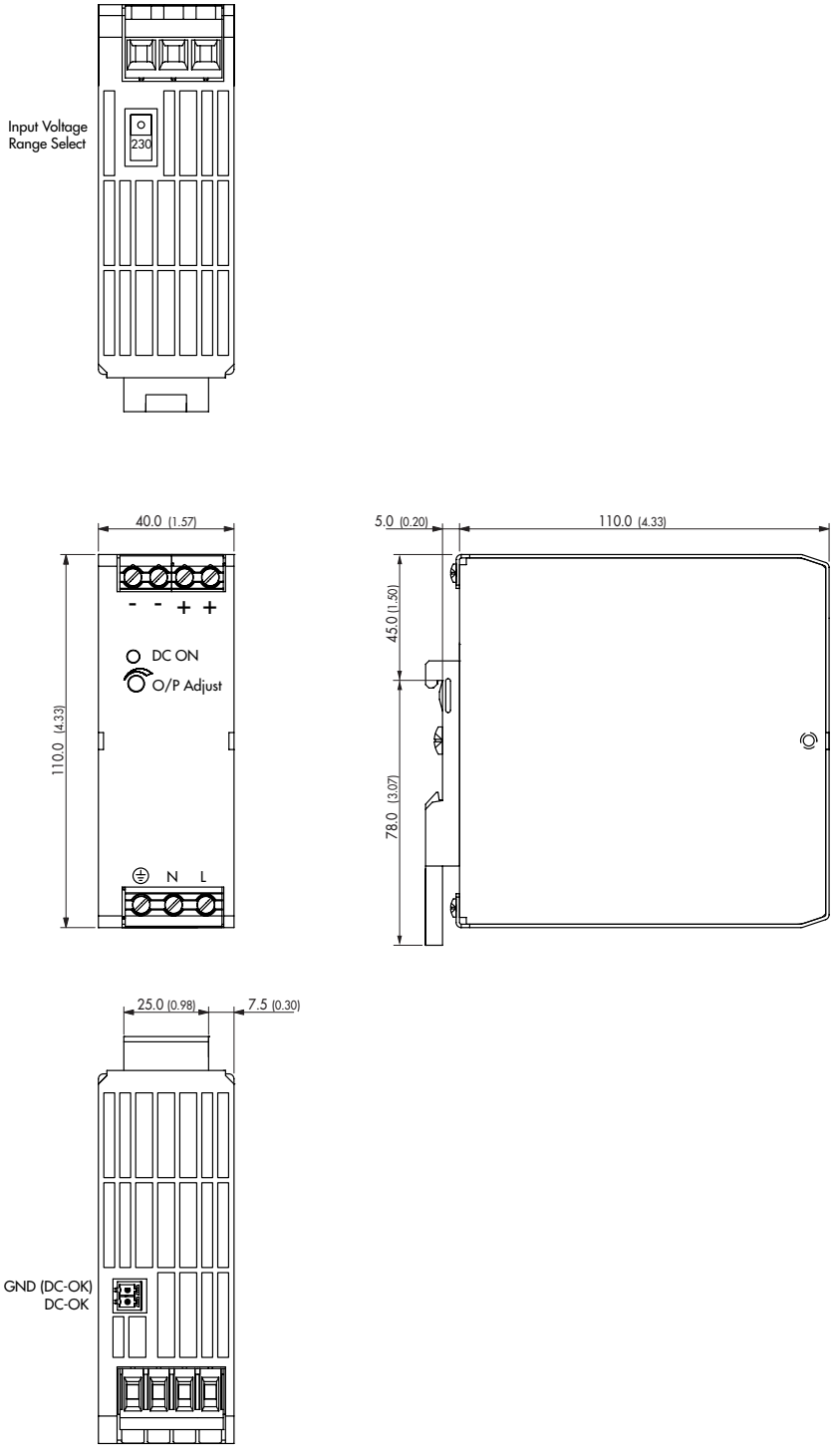
Temperature range	– Operating	–25°C to +70°C max.
	– output current derating above 60°C ambient	2.5 %/°C
	– Storage	–40°C to +85°C
Cooling		convection cooling, no internal fan
Humidity (non condensing)		95 % rel. H max.
Pollution degree		2
Temperature coefficient		0.02 %/K
Reliability, calculated MTBF at +25°C acc. to IEC 61709 www.tracopower.com/products/tspc-mtbf.pdf	– TSP 080	2.4 Mio. h
	– TSP 120	2.5 Mio. h
	– TSP 240	1.7 Mio. h
	– TSP 480	1.4 Mio. h

General Specifications

Isolation		according to IEC/EN 60950-1, UL 60950-1, UL 508
Safety standards	– Information technology equipment	IEC/EN 60950-1, UL 60950-1, CSA 22.2 No 60950-1-07
	– Industrial control equipment	UL 508, CSA-C22.2 No.107
	– Electrical equipment for machines	EN 60204-1
	– Electronic equipment for power installation	EN 50178
	– Safety transformers for SMPS	EN 61558-2-4
	– Control equipment for hazardous location	IEC/EN 60079-15 Ⓔx II3G EX nA IIC T4
Safety approvals and certifications	– CB scheme (IEC/EN 60950-1)	www.tracopower.com/products/tspc-cb.pdf
	– UL approvals	UL 60950-1, CSA 22.2 No. 60950-1-07 www.tracopower.com/products/tspc-ul60950.pdf UL 508C listed File: e210002 www.tracopower.com/products/tspc-ul508.pdf
	– ATEX (for IP 54 enclosure)	certificate no. EPS 10 ATEX 1 269 X www.tracopower.com/products/tspc-atex.pdf
	– IECEx certificate (IEC 60079-0, IEC 60079-15)	www.tracopower.com/products/tspc-iecex.pdf
	– BG certificate (IEC/EN 60950-1)	www.tracopower.com/products/tspc-bg.pdf
Class of protection		safety class I (IEC 536)
Degree of protection		IP 20 (IEC/EN 60529)
Electromagnetic compatibility (EMC), Emissions		EN 61000-6-3, EN 61204-3
	– Conducted RI suppression on input	EN 55011 class B, EN 55022 class B,
	– Radiated RI suppression	EN 55011 class B, EN 55022 class B,
Electromagnetic compatibility (EMC), Immunity		EN 61000-6-2, EN 61204-3
	– Electrostatic discharge (ESD)	IEC/EN 61000-4-2 4 kV / 8 kV criteria B
	– Radiated RF field immunity	IEC/EN 61000-4-3 10 V / m criteria A
	– Electrical fast transient / burst immunity	IEC/EN 61000-4-4 2 kV criteria B
	– Surge immunity	IEC/EN 61000-4-5 1 kV / 2 kV criteria B
	– Immunity to conducted RF disturbances	IEC/EN 61000-4-6 10 V criteria A
	– Power frequency field immunity	IEC/EN 61000-4-8 30 A / m criteria A
	– Mains voltage dips and interruptions	IEC/EN 61000-4-11 criteria B/C
Environment	– Vibration acc. IEC 68-2-6;	3 axis, sine sweep, 10 – 55 Hz, 1 g, 1 oct/min
	– Shock acc. IEC 60068-2-27	3 axis, 15 g half sine, 11 ms
Enclosure material		aluminium (chassis) / stainless steel (cover)
Mounting	– DIN-rail mounting	for DIN-rails as per EN 50022-35x15/7.5 (snap-on with self-locking spring)
	– Wall mounting (option)	with wall mounting bracket - see page 12
Environmental compliance	– Reach	www.tracopower.com/products/tspc-reach.pdf
	– RoHS	RoHS directive 2011/65/EU
Power Good signal		21.0 – 22.5 V, open collector 10 mA
Connection	– Input / Output	screw terminals
	– Power Good signal (mating connector)	Phoenix contact MC 1,5/2-ST-3,5 (not included)
Installation instructions		www.tracopower.com/products/tspc-inst.pdf

Outline Dimensions

TSPC 080-124

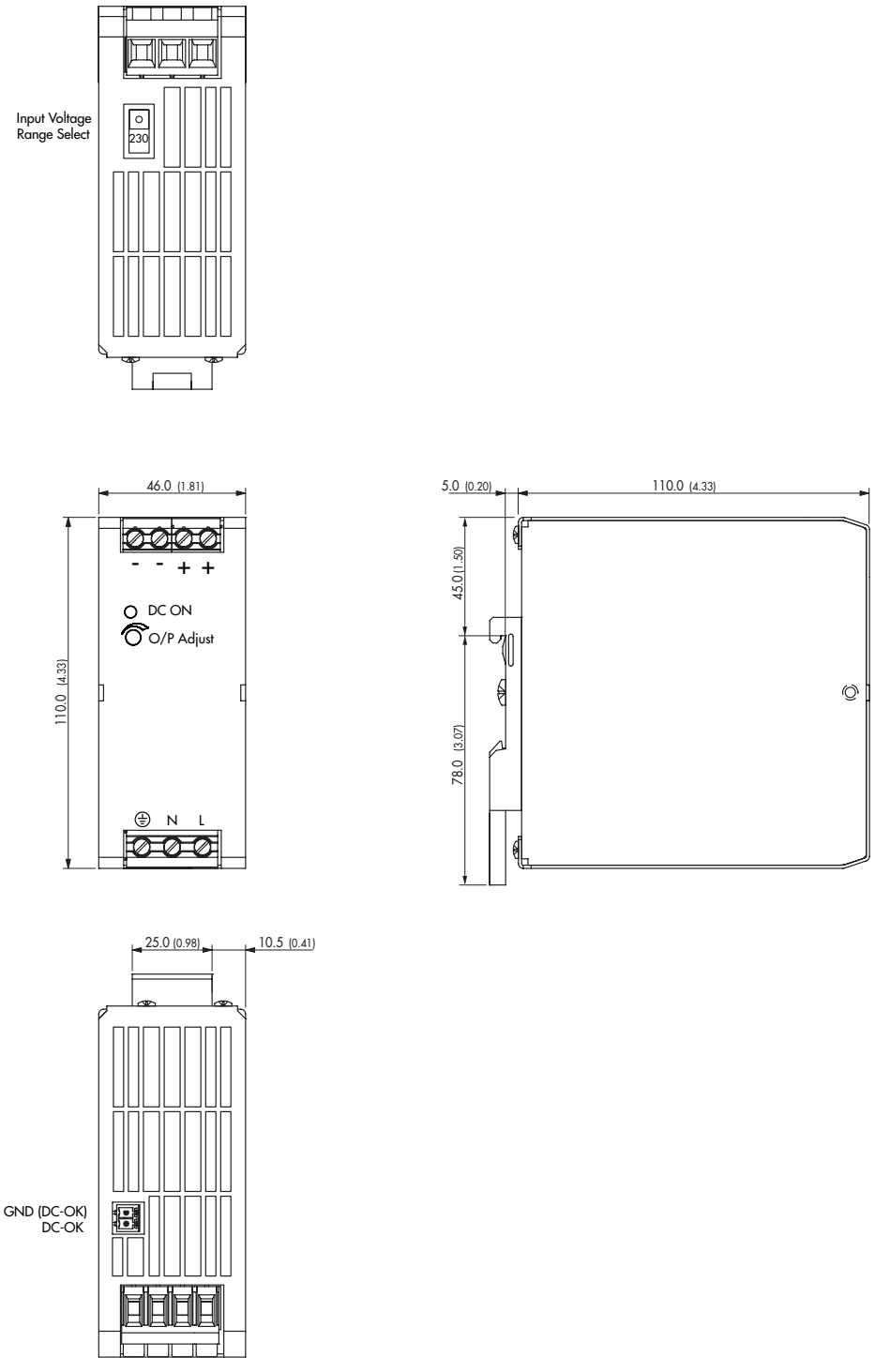


Weight: 400 g (14.1 oz)

Dimensions in [mm], ( ) = Inch
Tolerances: ±0.5 mm (±0.02)

Outline Dimensions

TSPC 120-124

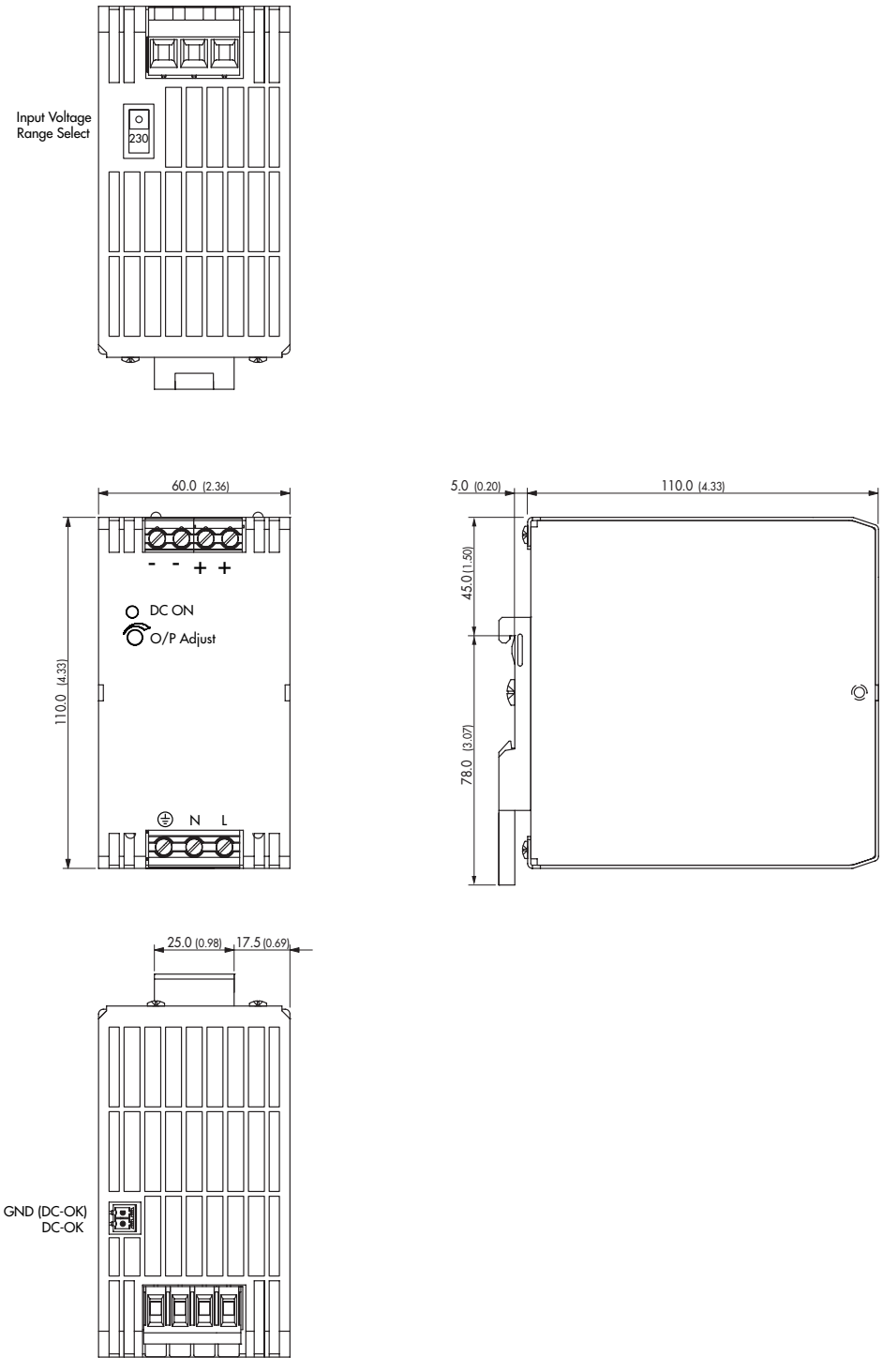


Weight: 500 g (17.7 oz)

Dimensions in [mm], ( ) = Inch
Tolerances: ±0.5 mm (±0.02)

Outline Dimensions

TSPC 240-124

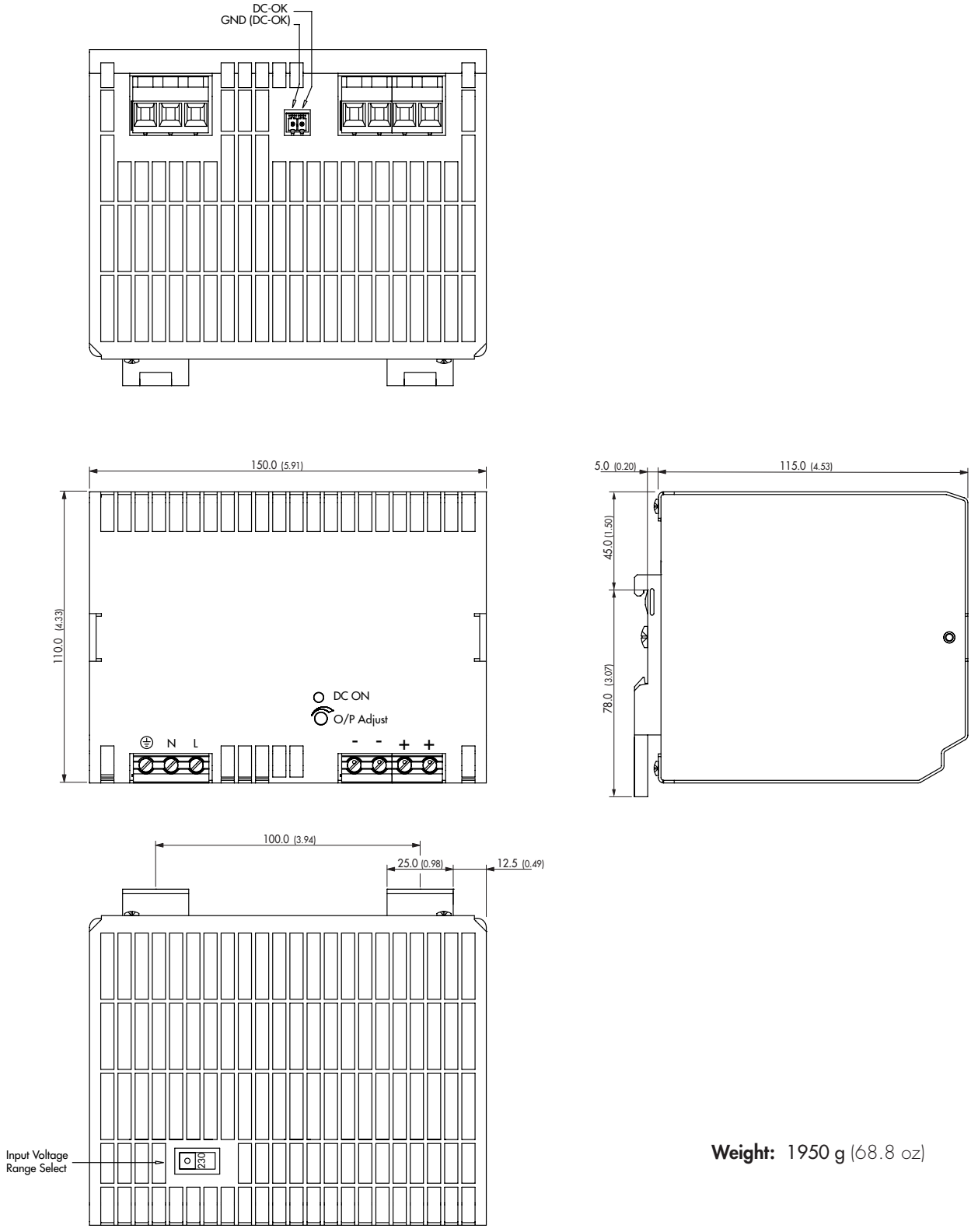


Weight: 750 g (26.5 oz)

Dimensions in [mm], ( ) = Inch
Tolerances: ±0.5 mm (±0.02)

Outline Dimensions

TSPC 480-124



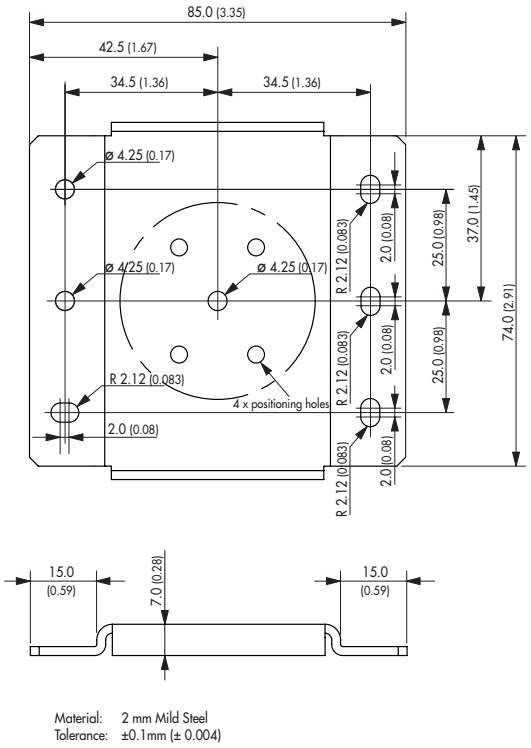
Weight: 1950 g (68.8 oz)

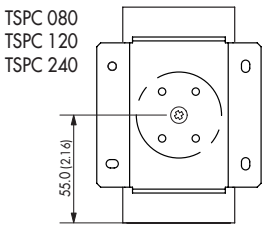
Dimensions in [mm], ( ) = Inch
Tolerances: ±0.5 mm (±0.02)

TSP–WMK Wall Mounting Bracket

order code	for models	content of kit
TSP-WMK03	TSPC 080, TSPC 120, TSPC 240, TSP-DCM600	1 bracket
TSP-WMK02	TSPC 480	2 brackets

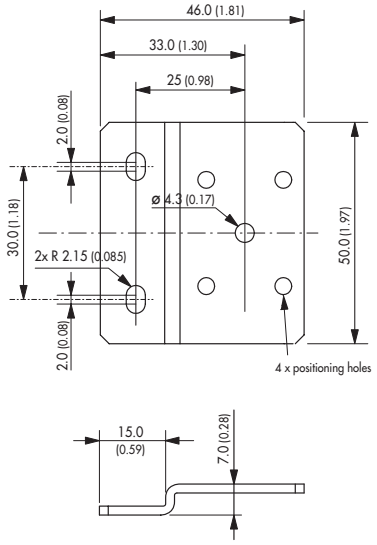
TSP-WMK03

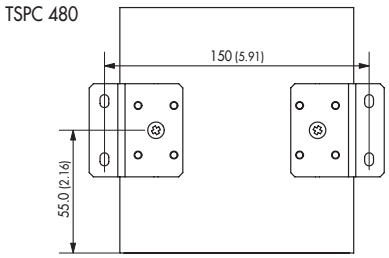




Material: 2 mm Mild Steel
Tolerance: ±0.1mm (± 0.004)

TSP-WMK02





Material: 2 mm Mild Steel
Tolerance: ±0.1mm (± 0.004)

Dimensions: [mm] ( ) = Inch

Dimensions in [mm], ( ) = Inch
Tolerances: ±0.5 mm (±0.02)