

TRACO[®] POWER

DC/DC CONVERTERS

AC/DC POWER SUPPLIES



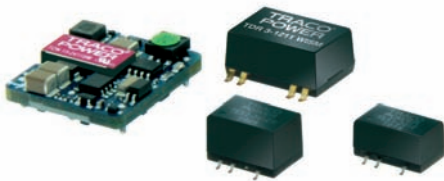
Product Portfolio 2011

www.tracopower.com

DC/DC CONVERTERS

SMD Package 1–15 Watt

- Single and dual output models
- High efficiency up to 85 %
- Min. 1500 VDC I/O-isolation
- Extended temperature range -40 up to 85°C
- High pin co-planarity
- Tape and reel package available
- Qualified for lead free reflow solder process, MSL level 2



TES-1	1 W	unregulated
TES-1V	1 W	unregulated • 3000 VDC I/O-isolation (basic)
TES-2H	2 W	unregulated
TES-2N	2 W	2:1 input • short circuit protection • input filter to meet EN55022 class A • IEC/UL60950-1 approval
TES-2M	2 W	unregulated • 4000VAC I/O-isolation • IEC/UL60950-1 and IEC/UL60601-1 medical approval (reinforced isolation)
NEW TDR-2SM/TDR-2WISM	2 W	2:1/4:1 input • compact package 18.9 x 12.8 x 8.7 mm • no minimum load required • short circuit protection • remote On/Off
NEW THL-3WISM	3 W	4:1 input • short circuit protection • input filter to meet EN55022 class A • remote On/Off
NEW TDR-3SM/TDR-3WISM	3 W	2:1/4:1 input • compact package 18.9 x 12.8 x 8.7 mm • no minimum load required • short circuit protection • remote On/Off
NEW THL-6WISM	6 W	4:1 input • short circuit protection • input filter to meet EN55022 class A • IEC/UL60950-1 approval
TON-15SM/TON-15WISM	15 W	2:1/4:1 input • open frame design • 2250 VDC I/O-isolation • adjustable single output • short circuit protection • input filter to meet EN55022 class A • IEC/UL60950-1 approval

SIP Package 1–3 Watt

- Single and dual output models
- High efficiency up to 85 %
- Extended temperature range -40 up to 85°C
- Min. 1000 VDC I/O-isolation



TMA/TME	1 W	unregulated
TMV	1 W	unregulated • 3000 VDC I/O-isolation (basic)
NEW TRA-1	1 W	semi-regulated (load)
NEW TRV-1	1 W	semi-regulated (load) • 3000 VDC I/O-isolation (basic)
TMH	2 W	unregulated
NEW TMR-2E	2 W	2:1 input • short circuit protection • remote On/Off • cost optimized • single output
TMR-2/TMR-2WI	2 W	2:1/4:1 input • short circuit protection • remote On/Off • IEC/UL60950-1 approval
NEW TMR-3E	3 W	2:1 input • short circuit protection • remote On/Off • cost optimized
TMR-3/TMR-3WI	3 W	2:1/4:1 input incl. 4.5–18 VDC • short circuit protection • remote On/Off • IEC/UL60950-1 approval

For detailed product specifications please visit our website at

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DC/DC CONVERTERS

High Performance 2–60 Watt

- Single, dual and triple output models
- I/O-isolation 1500 VDC
- IEC/UL60950-1 approval
- Input filter to meet EN55022 class A
- Excellent line/load regulation
- Short circuit protection
- Low ripple and noise
- Remote On/Off
- High efficiency 85–91 %
- Temperature range -40°C up to 85°C
- Plastic or metal package
- Optional heatsink

Miniature Package 2–3 Watt

NEW TDR 2/TDR-2WI	2 W	2:1/4:1 input • compact plastic package 18.9 x 12.8 x 8.7 mm • no minimum load required
NEW THL-3WI	3 W	4:1 input • plastic package 23.8 x 13.7 x 8.0 mm
NEW TDR 3/TDR-3WI	3 W	2:1/4:1 input • highest power density 18.9 x 12.8 x 8.7 mm • no minimum load required

DIP-24 Package 3–15 Watt

TEN-3/TEN-3WI	3 W	2:1/4:1 input
TEN-5/TEN-5WI	5 W	2:1/4:1 input
TEN-8	8 W	2:1 input
NEW TEN-8WI	8 W	4:1 input • incl. high input range 43–160 VDC • EN50155 for railway application
THD-12/THD-12WI	12 W	2:1/4:1 input
NEW THD-15N/THD-15WIN	15 W	2:1/4:1 input • highest power density • low no load current

1"x1" Package 10–20 Watt

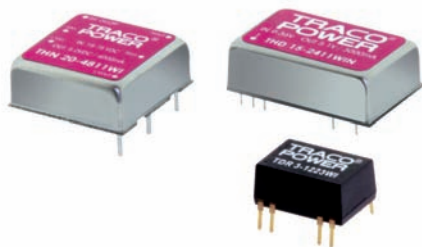
NEW THL-10WI	10 W	4:1 input
THN-15/THN-15WI	15 W	2:1/4:1 input • adjustable output
NEW THL-20WI	20 W	4:1 input • smallest encapsulated 20 W converter • adjustable output
NEW THN-20/THN-20WI	20 W	2:1/4:1 input • smallest encapsulated 20 W converter • adjustable output • low no load current

2"x1" Package 15–40 Watt

TEN-15/TEN-15WI	15 W	2:1/4:1 input
TEN-20/TEN-20WIN	20 W	2:1/4:1 input • adjustable output
NEW TEN-20WIR	20 W	4:1 input • incl. high input range 43–160 VDC • EN50155 for railway application
TEN-30	30 W	2:1 input • output voltages 1.5–15 VDC • adjustable output
TEN-30WIN	30 W	4:1 input • output voltages 1.5–15 VDC • adjustable output • single dual and triple output
NEW TEN-40N	40 W	2:1 input • smallest encapsulated 40 W converter • adjustable output

2"x1.6" / 2" x 2" Package 25–60 Watt

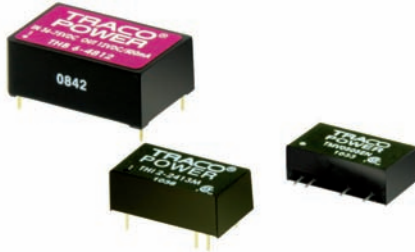
TEN-25/TEN-25WI	25 W	2:1/4:1 input • 2" x 1.6" • adjustable output
TEN-40	40 W	2:1 input • 2" x 2" • thermal protection • remote sense • floating dual and triple output models • adjustable output
TEN-40WI	40 W	4:1 input • 2" x 2" • thermal protection • remote sense • adjustable output
TEN-60	60 W	2:1 input • 2" x 2" • remote sense • adjustable output • undervoltage/overvoltage lockout • thermal protection



DC/DC CONVERTERS

Medical Safety / Reinforced Insulation 1 – 6 Watt

- Dual and single output models
- I/O-isolation 2500–4000 VAC
- 6000 V I/O-isolation test voltage
- Rated working voltage up to 300 VAC
- Temperature range -40°C up to 85°C



TMV-EN	1 W	unregulated • 3000 VDC I/O-isolation (reinforced) • IEC/UL60950-1
THI-2	2 W	regulated $\pm 10\%$ input • 2500 VDC I/O-isolation (reinforced) • short circuit protection
THI-2M	2 W	unregulated • 4000 VAC I/O-isolation (reinforced) • IEC/UL60950-1 and IEC/UL60601-1 medical approval
THB-3	3 W	2:1 input • 4000 VAC I/O-isolation (reinforced) • Input filter to meet EN55022 class A • short circuit protection • IEC/UL60950-1 and IEC/UL60601-1 medical approval
THP-3	3 W	9–40, 18–80, 36–160 VDC input ranges • 4000 VAC I/O-isolation (reinforced) • Input filter to meet EN55022 class A • short circuit protection • IEC/UL60950-1 and IEC/UL60601-1 medical approval
THB-6	6 W	2:1 input • 4000 VAC I/O-isolation (reinforced) • input filter to meet EN55022 class A • short circuit protection • IEC/UL60950-1 and IEC/UL60601-1 medical approval

High Power Modules 75 – 255 Watt

- High power density in half brick size
- Highest efficiency up to 93 %
- Thermal protection
- Optional heatsink
- No external components required
- Excellent thermal management
- Soft start
- I/O-isolation 2250 VDC
- Optional EMI Filter
- Short circuit protection
- Adjustable output voltage
- Sense line and remote on/off
- Chassis, PCB or DIN-rail mount
- IEC/UL60950-1 approval
- Reverse input protection



TEP-75WI	75 W	4:1 input • output voltages 3.3, 5.0, 12, 15, 24, 28, 48 VDC
TEP-100	100 W	2:1 input • output voltages 3.3, 5.0, 12, 15, 24, 28, 48 VDC
TEP-150WI	150 W	4:1 input • chassis mount • internal EMI filter to meet EN55022 class A (optional class B) • CV/CC-characteristics for battery charging • EN50155 for railway application • output voltages 12, 15, 24, 28, 48 VDC
NEW TEP-160	132–196 W	2:1 input • output voltages 3.3, 5.0, 12, 15, 24, 28, 48, 53 VDC
NEW TEP-160WIR	132–156 W	4:1 input • output voltages 3.3, 5.0, 12, 15, 24, 28, 48 VDC • EN50155 for railway application
NEW TEP-200	165–255 W	2:1 input • output voltages 3.3, 5.0, 12, 15, 24, 28, 48, 53 VDC
NEW TEP-200WIR	165–216 W	4:1 input • output voltages 3.3, 5.0, 12, 15, 24, 28, 48 VDC • EN50155 for railway application

For detailed product specifications please visit our website at

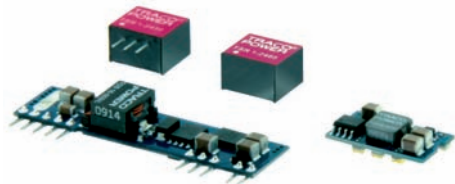
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DC/DC CONVERTERS

Non-Isolated POL Converters 1 – 30 Ampère

• High performance switching regulators • SIP or SMD versions	• No heatsink required • Short circuit protection	• Highest efficiency up to 96 %
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TSR-1	1 A	drop in replacement for LM78 series • wide input range 4.6–36 VDC • output voltages 1.5, 1.8, 2.5, 3.3, 5.0, 6.5, 9.0, 12, 15 VDC • (negative output and SMD version under design)
NEW TSR-3	3 A	3:1 input • output voltage adjustable 0.6–6.0 and 5.0–15 VDC • remote On/Off
TOS	6–30 A	2:1 input • output voltage adjustable 0.75–5.0 VDC • thermal protection • remote On/Off



Specialities

• Exceptional form factors	• Exceptional power	• Exceptional output voltages
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TCL-DC	DIN-Rail DC/DC-converter • 24–60 W • input ranges 9.5–18 VDC or 18–75 VDC • output voltages 5, 12, 24 VDC
TSC	industrial converters for 19" racks or sub-racks, chassis mount or DIN-rail mount • DC input ranges from 10–800 VDC or AC input • output voltages 4.5–400 VDC • power 50 W to 22 kW (restriction by input/output specification)
MHV/PHV	high voltage DC/DC converter • input 12 VDC • output voltages 180–2000 VDC • 5 W max.



TRACO ELECTRONIC AG – dedicated to design and produce state-of-art AC/DC and DC/DC power conversion products of high industrial quality.

Our mission is to provide customers for their specific application an optimal power supply solution in terms of performance, quality and cost.

Our commitment to quality is supported by a **3 Year Product Warranty** for all products.

TRACOPOWER is the registered trademark under which we are marketing our products worldwide.

AC/DC POWER SUPPLIES

Open Frame Design 60–200 Watt

- High power density
- High efficiency up to 90 %
- Temperature range -25 °C to +70 °C
- Excellent thermal management
- Low leakage current
- Protection class I or II operation
- Input filter to meet EN55022 class B
- Compliance with EN61000-3-2
- IEC/UL60950-1 safety approval



TOP-60	60 W	2" x 4" • universal input 90–264 VAC • single, dual and triple output
TOP-100	100 W	2" x 4" • 115/230 autorange input • adjustable single output
TOP-200	200 W	3" x 5" • universal input 85–264 VAC • single output
TOF	10–150 W	optional chassis & cover • universal input 85–264 VAC • screw terminal or Molex connection • adjustable single output

Encapsulated Modules 4–60 Watt

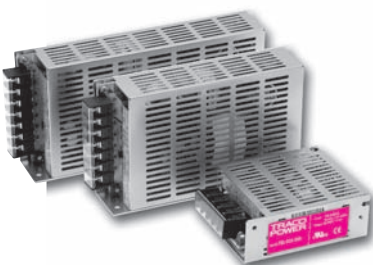
- Compact fully encapsulated plastic casing
- Universal input 85–264 VAC
- DC-input voltage range
- Protection class I or II operation
- Input filter to meet EN55022 class B
- For PCB, chassis or DIN-rail mount
- International safety approval package



TMLM	4–20 W	ultra compact design for PCB mount • single and dual output • IEC/UL60950-1 approval
TML	5–40 W	single, dual and triple output • IEC/UL60950-1 approval
TMS	6–25 W	single and dual output • with solder pins, screw terminal or FASTON tabs • IEC/UL60950-1 approval
TMP/TMPM	4–60 W	single, dual and triple output • IEC/UL60950-1 approval • UL508 for chassis mount single output models
TMT	10–50 W	single, dual and triple output • IEC/UL60601-1 medical approval • IEC/UL60950-1 approval • UL508 for chassis mount models
TIW	4–12 W	Dust and waterproof to IP67 with flying wires • easy installation into standard flush boxes • IEC/EN60950-1, EN50178, EN60335-1 for industry, domestic appliance, power installation

Metal Enclosure 15–1000 Watt

- Metal case with screw terminal block
- Universal input
- Output voltage adjustable
- Short circuit protection
- No internal fan up to 240 W
- Safety approvals to IEC/UL60950-1
- Compliance with EN61000-3-2
- Industrial quality standard



TXH	120–480 W	very high efficiency up to 93 % • single output 12, 24, 48 VDC
TXL	15–1000 W	single, dual and triple output • output voltages 3.3 to 48 VDC • multi output models with isolated outputs

AC/DC POWER SUPPLIES

DIN-Rail Mount 15–960 Watt		
• International safety approval package • Adjustable output voltage	• Remote On/Off • Power good signal	• Immunity for industrial environment EN 61000-6-2

Compact Casing for Building and industrial Automation		
TBL	15–150 W	low profile plastic case fits into flat control panels • universal input 85–264 VAC • temperature range -25–75 °C • output voltages 5, 12, 24 VDC
NEW TBL-BC	60 W	12/24 VDC uninterruptible power supply • battery capacity and temperature supervision • EN50131 for alarm equipments
TCL	24–240 W	slim plastic case • universal input 85–264 VAC, 85–375 VDC • output voltages 5, 12, 24, 48 VDC • detachable screw terminals or spring clamp

Rugged Metal Casing for harsh industrial Environment		
NEW TSPC	80–480 W	115/230 VAC selectable input • 24 VDC output • cost optimized design • ATEX certification • overload and thermal protection • power boost
TSP	72–600 W	115/230 VAC autorange input • output voltages 12, 24, 36, 48 VDC • compact design • add-on function modules • ATEX certification • overload and thermal protection • selectable for parallel operation or battery charging
TIS	50–600 W	115/230 VAC selectable input • output voltages 12, 24, 48, 72 VDC • low profile case • optional built in function modules (redundancy, signal board, battery controller)
TSP-WR	180–600 W	ultra wide input ranges from 100–500 VAC (2-phase operation on 3-phase network) • 24 VDC output • add-on function modules • overload and thermal protection • selectable for parallel operation or battery charging
NEW TSP-3P	240–960 W	low cost-weight-size alternative to 3-phase transformers • input 3 AC 320–440 V or 400–550 V • 24 VDC output • 200 % peak current for 5 sec. • remote On/Off • overload and thermal protection

Add-on Function Modules		
TCL-REM	redundancy module 240 W • 2 inputs 5–60 VDC • suitable for any DC sources	
TSP-REM	redundancy module 360 and 600 W • 2 inputs 24 VDC • active current sharing • for TSP and TSP-WR power supplies	
TSP-BCM	battery controller modules • for 24 VDC UPS systems with TSP and TSP-WR power supplies	
TSP-BFM	buffer module • 24 to 28 VDC, 600 W max • buffers short time black outs or voltage dips • 25 A for 200 ms to 1.2 A for 4s (capacitive system) • suitable for any DC sources	
TSP-BAT	24 VDC battery packs • 3.4 to 12 Ah	



AC/DC POWER SUPPLIES

Outdoor Power Supply 120 Watt

Designed for operation in extreme environments, all weather proof



TEX

- sealed, rugged diecast aluminium case
- shock & vibration proof construction
- water, salt water, ice, oil and dust resistant
- enclosure IP67 & NEMA 4X rated
- easy connection via waterproof plugs
- operating temperature range -40°C to +85°C
- universal input 90–264 VAC, 85–375 VDC
- regulated output 12 VDC/8 A and 24 VDC/5 A
- output characteristics for battery charging
- UL508 listed (outdoor application), IEC/UL60950-1
- IECEx and ATEX certification for HazLoc applications (class I, zone 2)

POWER SYSTEMS

Semi-Customized Solutions 50 Watt – 30 kWatt

- | | | |
|---|--|---|
| <ul style="list-style-type: none">• DC/AC inverters• AC/AC frequency converters• Static switches• Industrial battery charger | <ul style="list-style-type: none">• High power DC/DC-converters• High power AC/DC power supplies• 19" rack or sub-rack modules• Wall mount or DIN-rail mount option | <ul style="list-style-type: none">• Custom signal and control concept• Rugged and protective design against electrical, mechanical and thermal impacts |
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TSC

industrial converters • DC input ranges from 10–800 VDC or AC input • output voltages 4.5–400 VDC • output characteristics for redundancy or battery load • power 50 W to 22 kW (restriction by input/output specification)

TSD

true sine wave industrial inverters / frequency converter • DC input ranges from 10–800 VDC or any common 1 to 3-phase AC input • any common 1 to 3-phase output • power 200 VA to 30 kVA (restriction by input/output specification)

TSD-SS

Static-Switch • 115 or 230 VAC input/output • 0.8–10 kVA • fast transfer time

TRACO[®] POWER

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