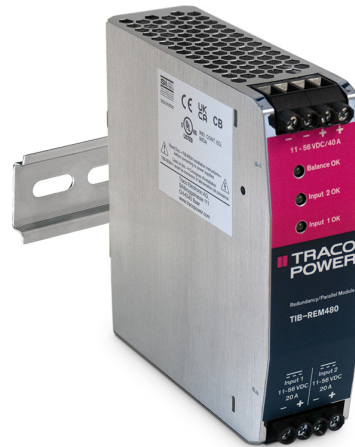


Redundancy Module

TIB-REM Series

- **Compact 118.6mm x 36mm x 124.2mm metal enclosure**
- **DIN-rail mounting bracket**
- **60 A boost current**
- **>99% efficiency**
- **Active current sharing**
- **«Input OK» and «Balance OK» indicators**
- **Low standby power**
- **Convection cooled**
- **UL/IEC/EN 61010-1 approvals**
- **Fits Traco Power's TIB line**



The TIB-REM480 is a compact, DIN-rail mountable redundancy module for fail-over operation of AC/DC power supplies. The redundancy function is available for nominal currents of up to 20 A over a wide input voltage range of 11-56 V. Boost currents of up to 60 A are permitted for up to 4 seconds. The TIB-REM480 uses active sharing technology to minimize the power losses during normal operation and in failover mode. The TIB-REM480 can operate at ambient temperatures between -20°C and +60°C without derating and without the need for active cooling. The TIB-REM480 is specifically designed, tested, and approved for operation with Traco Power's TIB line of DIN-rail mountable power supplies.

Models				
Order code	Input voltage range	Output Current Redundandy Operation	Output Current Parallel Operation	Output Current Boost
TIB-REM480	11 - 56 VDC	20 A	40 A	60 A / 4 s

Input Specifications

Input Voltage	- Parallel Operation	±0.20 V max.
Compensation Range		
Standby Power	12 Vin	0.12 W typ.
	24 Vin	0.3 W typ.
	48 Vin	0.9 W typ.
	56 Vin	1.2 W typ.

Output Specifications

Boost Power	Output Current boost: 60 A max. Boost power time: 4 s max. Off Time: 10 s typ. (The off time switch off must be provided by the connected input power supplies)
Capacitive Load	Infinite
Short Circuit Protection	Specified by input power supply No internal protection

Safety Specifications

Safety Standards	- Measurement, Control & Lab.	EN 61010-1 IEC 61010-1 UL 61010-1
	- Certification Documents	www.tracopower.com/overview/tib-rem
Protection Class		Class III
Pollution Degree		PD 2
Over Voltage Category		OVC II

EMC Specifications

EMI Emissions		EN 61000-6-3 (Generic Residential) (ready)
	- Conducted Emissions	EN 55032 class B (internal filter) (ready)
	- Radiated Emissions	EN 55032 class B (internal filter) (ready)
EMS Immunity	- Electrostatic Discharge	Air: EN 61000-4-2, ±8 kV, perf. criteria A Contact: EN 61000-4-2, ±4 kV, perf. criteria A
	- RF Electromagnetic Field	80 - 1000 MHz: EN 61000-4-3, 10 V/m, perf. criteria A 1400 - 6000 MHz: EN 61000-4-3, 3 V/m, perf. criteria A
	- EFT (Burst)	EN 61000-4-4, ±1 kV, perf. criteria A
	- Conducted RF Disturbances	EN 61000-4-6, 10 Vrms, perf. criteria A
	- PF Magnetic Field	Continuous: EN 61000-4-8, 30 A/m, perf. criteria A

All specifications valid at nominal input voltage, full load and +25°C after warm-up time unless otherwise stated.

General Specifications

Relative Humidity		95% max. (non condensing)
Temperature Ranges	- Operating Temperature - Storage Temperature	-20°C to +70°C -25°C to +80°C
Power Derating	- High Temperature	2 %/K above 60°C
Cooling System		Natural convection (20 LFM)
Altitude During Operation		2'000 m max.
Internal Voltage Drop	- Parallel Operation	0 to 0.2 V typ.
Isolation Test Voltage	- Input to Case, 10s - Output to Case, 10s	500 VDC 500 VDC
Power Loss	- 40 A load	6W max.
Reliability	- Calculated MTBF	2'000'000 h (IEC 61709)
Environment	- Vibration - Mechanical Shock	IEC 60068-2-6-3 2 g, 3 axis, sine sweep, 10-55Hz, 11 oct/min IEC 60068-2-27 25 g, 3 axis, half sine, 11 ms
Housing Material		Aluminium (Chassis) Stainless Steel (Cover)
Housing Type		Metal Case
Mounting Type		DIN-Rail Mount (EN 60715 - 35×7.5mm/35×15mm)
Connection Type		Screw Terminal
Weight		250 g
Environmental Compliance	- REACH Declaration - RoHS Declaration - SCIP Reference Number	www.tracopower.com/info/reach-declaration.pdf REACH SVHC list compliant REACH Annex XVII compliant www.tracopower.com/info/rohs-declaration.pdf Exemptions: 7a (RoHS exemptions refer to the component concentration only, not to the overall concentration in the product (O5A rule).) 2a0637a2-2dbc-4e1c-b2fd-a88f06fdd3ea

Supporting Documents

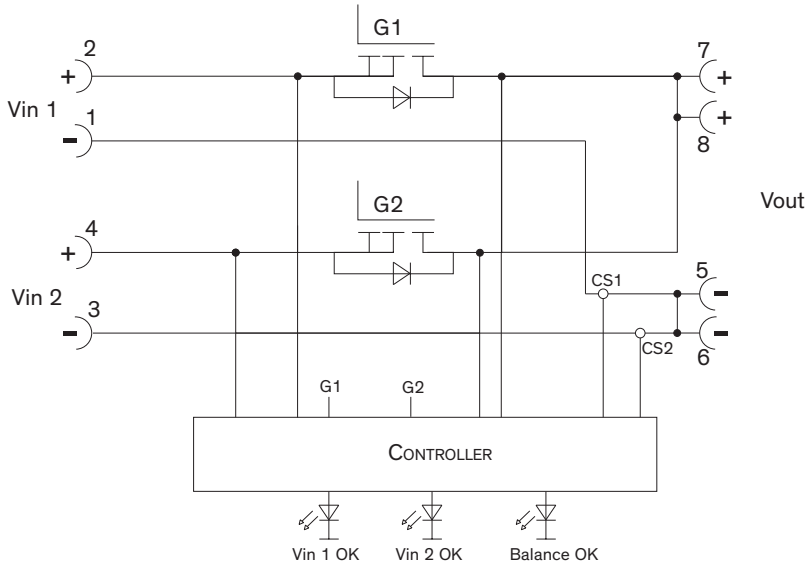
Overview Link (for additional Documents)

www.tracopower.com/overview/tib-rem

All specifications valid at nominal input voltage, full load and +25°C after warm-up time unless otherwise stated.

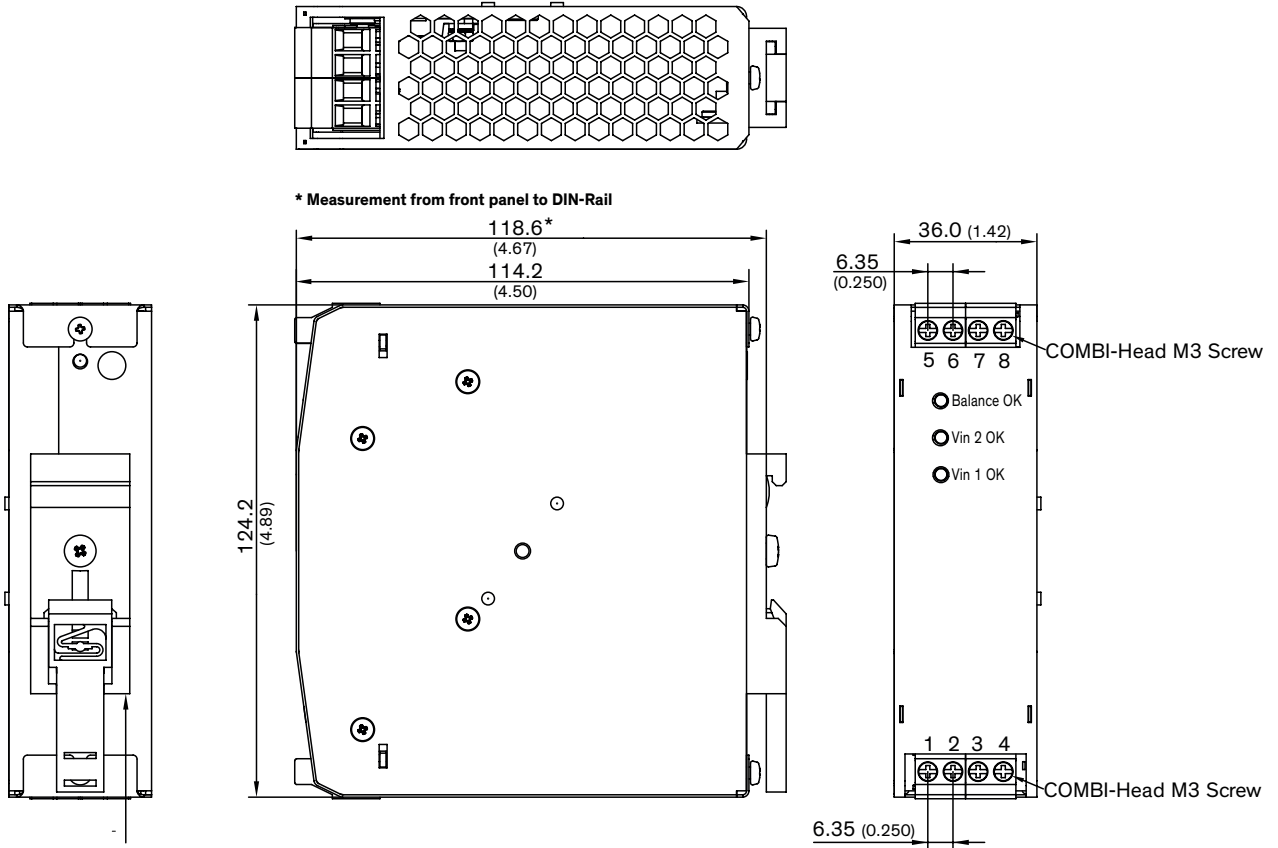
Function Specification

Block Diagram:



Balance OK LED (Green)		
Behaviour		Meaning
On		Input voltages are balanced to each other. Accuracy of current sharing is very high (Condition: $V_{in 1} = V_{in 2} (\pm 0.2 \text{ VDC})$)
Off		Input voltages are not balanced to each other. Accuracy of current sharing will be inaccurate (Condition: $V_{in 1} \neq V_{in 2} (\pm 0.2 \text{ VDC})$)
Input Status LEDs Vin1 OK (Green) & Vin2 OK (Green)		
Behaviour		Meaning
Vin 1 OK	Vin 2 OK	
Off	Off	- Voltage not present or out of Input Voltage Range
Off	On	- Voltage on Vin 2 OK - Voltage on Vin 1 not present - Voltage on Vin 1 out of Input Voltage Range (Condition: Voltage on Vin 1 < Vin 2 - 2 VDC)
On	Off	- Voltage on Vin 1 OK - Voltage on Vin 2 not present - Voltage on Vin 2 out of Input Voltage Range (Condition: Voltage on Vin 2 < Vin 1 - 2 VDC)
On	On	Voltage on Vin 1 and Vin 2 OK Input voltages are balanced to each other. (Condition: $V_{in 1} = V_{in 2} (\pm 2.0 \text{ VDC})$)

Outline Dimensions



Dimensions in mm (inch)
Tolerances: x.x ±1.0 (x.xx ±0.04)
x.xx ±0.2 (x.xxx ±0.008)

Screw Terminal			
Input		Output	
Pin	Function	Pin	Function
1	-Vin 1	5	-Vout
2	+Vin 1	6	-Vout
3	-Vin 2	7	+Vout
4	+Vin 2	8	+Vout

Input: 4-port Screw Terminal
Stranded & Solid
Torque: 0.6 Nm
Wire dimension range: 16 - 10 AWG
1.5 - 4.0 mm²

Output: 4-port Screw Terminal
Stranded & Solid
Torque: 0.6 Nm
Wire dimension range: 16 - 10 AWG
1.5 - 4.0 mm²