

Power Supplies of THF75-ADJ Series on DIN Rail with Output Power up to 75W with Adjustable Output Voltage



- Nominal Output Voltage 12, 24 and 48V
- Wide Range Output Voltage Adjustment
- Small Dimensions and Weight
- High Efficiency
- Overcurrent, Overvoltage & Overtemperature Protection



Specification (All parameters measured at 230VAC input, rated load and +25°C ambient temperature, until said otherwise)

Input Input Voltage Input Frequency Range Input Current (for 230VAC) Inrush Current Leakage Current (for 240VAC)	85-264VAC or 120-370VDC 47-63 Hz (for AC input) 0.8A for THF75 60A max <1mA	General Efficiency Isolation Switching Frequency Dimensions (w x h x d) Weight Reliability (MTBF) (MIL-HDBK-217F, +25 °C)	see TABLE Input / Output: 3000VAC Input / Earth: 1500VAC Output / Earth: 500VAC 50kHz 55.5x125.2x100 mm 0.55kg 123100 hours
Output Output Voltage Output Voltage Tolerance Output Voltage Adjustment Range Line Regulation Load Regulation Ripple & Noise Output Voltage Temperature Coefficient Hold-Up Time (at 230VAC input voltage)	see TABLE ±2% max see TABLE ±0.5% ±0.5% see TABLE ±0.03%/°C 50 ms	Environmental Operating Temperature Range and Power Derating Storage Temperature Range Relative Humidity Vibration	see Fig. 1 (convection cooled without forced air cooling) -20 °C to +85 °C 20-90% RH max, non-condens. 10-500Hz, 2G, 10 min/cycle, 60 mins each axis
Protections Overcurrent Protection Overvoltage Protection Overtemperature Protection	 105-150% of rated current, constant current limitation 115-135% of nominal voltage, switch off (switch off/switch on input line for the recovery) switch off, recovery after temperature decrease	EMC & Safety EMC – conducted and radiated emissions ESD Susceptibility Radiated Susceptibility Fast Transients / Burst Surge Conducted Susceptibility Radiated Magnetics Line Harmonics Safety Approvals (LVD) Safety Marks	EN55022/55011, Class B, conducted & radiated EN61000-4-2, Level 3, Perf. Criteria B EN61000-4-3, 10V/m, Perf. Criteria B EN61000-4-4, Level 3, Perf. Criteria B EN61000-4-5, Level 3, Perf. Criteria B EN61000-4-6, 10V rms, Perf. Criteria B EN61000-4-8, 30A/m, Perf. Criteria B EN61000-3-2, -3 EN60950, UL508 CE, CB, TUV, cULus

TABLE: THF75-ADJ Series of Power Supplies Overview

Max. Output Power	Type	Nominal Output Voltage	Output Voltage Adjustment Range	Nominal Maximum Output Current	Output Ripple p-p (max)	Efficiency (typ.)
76W	THF75US12-ADJ	12V	4.8-14.0V	6.3A	100mV	76%
77W	THF75US24-ADJ	24V	9.6-28.0V	3.2A	150mV	80%
77W	THF75US48-ADJ	48V	19.2-53.0V	1.6A	240mV	81%

Application Notes to THF75-ADJ Series Power Supplies (PS):

- PS are Safety Extra Low Voltage (SELV) power supplies in accordance with EN60950.
- PS are Class I appliances (three wire connection with safety earth wire).
- PS are for building-in within other equipment and must not be operated as a stand alone product.
- PS are equipped with a protective safety cover, cover grade IP20.
- Output voltage is adjustable in the range said in the above **TABLE** (maximum output power and nominal maximum output current must be observed) with a built-in trimmer, which is accessible without dismantle of the PS.
- Output voltage ripple&noise are measured at 20MHz of bandwidth oscilloscope by using a twisted pair-wire terminated with a 0.1uF & a 47 uF parallel capacitors.
- PS are equipped with overcurrent, overvoltage and overtemperature protections.
- PS there is possible to feed from a DC voltage in the range from 120-370VDC too. For a proper function there is necessary to connect the positive pole on N terminal (AC Neutral) and negative pole on L terminal (AC Line).
- PS are equipped with a screw input and output terminals (see **Fig. 2** and **Fig. 3**)
- PS are equipped with a mechanisms for fitting on DIN Rail type of TS-35 wide 35 mm.
- PS operate with natural convection cooling (without forced air cooling) in ambient temperature range according to the derating curves – see **Fig. 1**.

Fig. 1 Operating Temperature Range and Derating Curve
(convection cooled without forced air cooling)

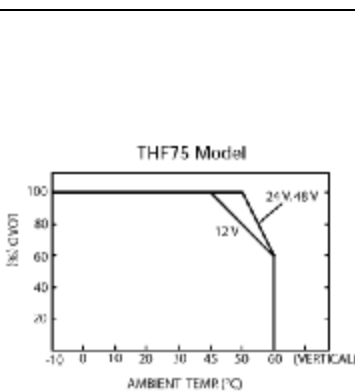


Fig. 2 Mechanical Specification
(all dimensions in mm)

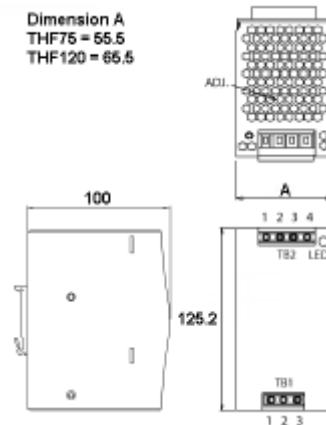


Fig.3 Terminals
(screw terminals, wire cross-section 0.5-4 mm²)

Pin No.	Symbol
TB1 / 1	
TB1 / 2	N
TB1 / 3	L
TB2 / 1	+V
TB2 / 2	+V
TB2 / 3	-V
TB2 / 4	-V

LEGEND:

L = AC Line, N = AC neutral, = safety earth, +V = + (positive) output, -V = - (negative) output, LED = green LED function indication, ADJ = output voltage adjustment