

## Overview



**PS48VDC-10A** is an economical 480W Din rail power supply installed on TS-35/7.5 or TS-35/15 mounting rails. The body is 85.5mm in width, which allows space saving inside the cabinets. It supports input voltage from 100VAC to 240VAC and conforms to BS EN/EN61000-3-2.

PS48VDC-10A is designed with metal housing that enhances the unit's power dissipation. With working efficiency up to 90%, the entire series can operate at the ambient temperature between -20°C and 70°C under air convection. It is equipped with constant current mode for over-load protection, fitting various inductive or capacitive applications. The complete protection functions and relevant certificates for industrial control apparatus (UL508, TUV BS EN/EN 62368-1, etc.) make PS48VDC-10A a very competitive power supply solution for industrial applications.

## Features

- ✓ Universal AC input / Full range
- ✓ Built in active PFC function
- ✓ Protections: Short circuit / Overload / Over Voltage / Over temperature
- ✓ Cooling by free air convection
- ✓ Can be installed on DIN rail TS-35/7.5 or 15
- ✓ UL 508 (industrial control equipment) approved
- ✓ BS EN/EN61000-6-2(BS EN/EN50082-2) industrial immunity level
- ✓ 100% full load burn-in test
- ✓ 3 years warranty

## Applications

- ✓ PoE industrial switch and appliances
- ✓ Industrial control system
- ✓ Semi conductor fabrication equipment
- ✓ Factory automation
- ✓ Electro-mechanical

## Specifications

OUTPUT	
DC VOLTAGE	48V
RATED CURRENT	10A
CURRENT RANGE	0 - 5A
RATED POWER	480W
RIPPLE & NOISE {max.} Note.2	150mVp-p
VOLTAGE ADJ. RANGE	48 - 55V
VOLTAGE TOLERANCE Note.3	±1.0%
LINE REGULATION	±0.5%
LOAD REGULATION	±1.0%
SETUP, RISE TIME	1500ms, 100ms/230VAC 3000ms, 100ms/115VAC at full load
HOLD UP TIME (Typ.)	16ms/230VAC, 16ms/115VAC at full load

INPUT	
VOLTAGE RANGE Note.4	100 - 240VAC
FREQUENCY RANGE	50/60Hz
POWER FACTOR (Typ.)	PF>0.98/115VAC, PF>0.94/230VAC at full load
EFFICIENCY (Typ.)	92.5%
AC CURRENT (Typ.)	4.8A/115VAC, 2.4A/230VAC
INRUSH CURRENT (Typ.)	20A/115VAC, 35A/230VAC
LEAKAGE CURRENT	<2m A / 240VAC

PROTECTION	
OVERLOAD	105 ~ 130% rated output power Protection type: Constant current limiting, recovers automatically after fault condition is removed
OVER VOLTAGE	56~ 65V Protection type: Shut down o/p voltage, re-power on to recover
OVER TEMPERATURE	Shut down o/p voltage, recovers automatically after temperature goes down

ENVIRONMENT	
WORKING TEMP.	-20 - +70°C {Refer to 'Derating Curve'}
WORKING HUMIDITY	20 - 95% RH non-condensing
STORAGE TEMP, HUMIDITY	-40 - +85°C, 10~95%RH
TEMP. COEFFICIENT	± 0.03%/°C (0 -50°C)
VIBRATION	10 - 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes; Mounting: Compliance to IEC60068-2-6

SAFETY & EMC (NOTE 4)	
<b>SAFETY STANDARDS</b>	UL508, TUV BS EN/EN62368-1, EAC TP TC 004, BSMI CNS14336-1, BIS IS13252(Part1): 2010nEC 60950-1:2005(NOTE 8 ), KC K60950-1 (for 48V only) approved; (meet BS EN/EN60204-1)
<b>WITHSTAND VOLTAGE</b>	VP-O/P:3KVAC, I/P-FG:2KVAC, O/P-FG:0.SKVAC
<b>ISOLATION RESISTANCE</b>	VP-O/P, VP-FG, O/P-FG:>1 100Ohms/ 500VDC / 25°C/ 70% RH
<b>EMC EMISSION</b>	Compliance to BS EN/EN55032 (CISPR32), BS EN/ENS 1204-3 Class B, BS EN/ENS 1000-3-2,-3, EAC TP TC 020, CNS13438, KSC 9832(for 48V only)
<b>EMC IMMUNITY</b>	Compliance to BS EN/EN61000-4-2,3,4,5,6,8,11, BS EN/EN55035, BS EN/EN61000-6-2 (BS EN/EN5008 2-2), BS EN/EN61204-3, heavy industry level, EAC TP TC 020, KSC 9835 (br 48V only)

OTHERS	
<b>MTBF</b>	1041.6K hrs min., Telcordia SR-332 (Bellcore); 148.6K hrs min., MIL-HDBK-217F (25°C)
<b>DIMENSION</b>	125.2 x 85.5 x 128.5mm (4.9 x 3.4 x 5.1 in) (HxWxD)
<b>WEIGHT</b>	1Kg (35 oz)

## Ordering Information

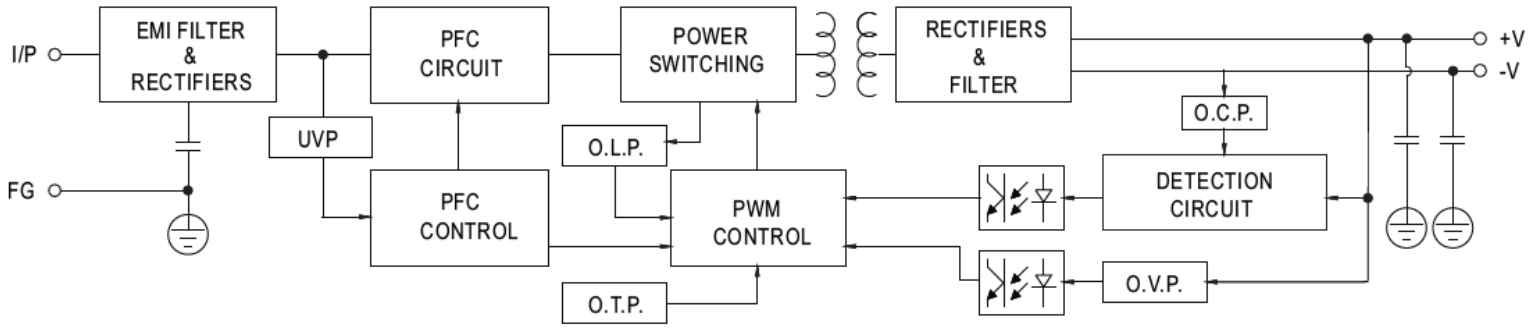
<b>Part Number</b>	PS48VDC-10A
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## Notes

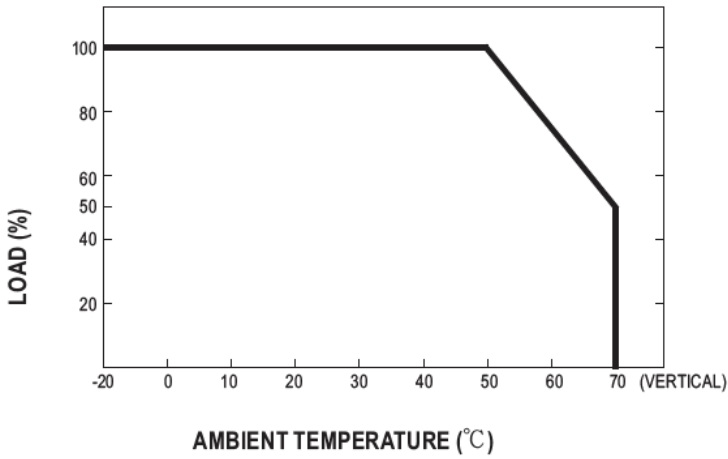
1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature.
2. Ripple & noise are measured at 20MHz of bandwidth by using a 12” twisted pair-wire terminated with a 0.1  $\mu$  F & 47  $\mu$  F parallel capacitor.
3. Tolerance: Includes setup tolerance, line regulation and bad regulation.
4. Derating may be needed under low input voltage. Please check the derating curve for more details.
5. Installation clearances: 40mm on top, 20mm on the bottom, 5mm on the left and right side are recommended when loaded permanently with full power.
6. In case the adjacent device is a heat source, 15mm clearance is recommended.
7. The ambient temperature derating of 3.5°C/1000m with fanless models and of 5°C /1000m with fan models for operating altitude higher than 2000m).
8. Some model may not have the BIS logo, please contact sales for more information.

# Block Diagram

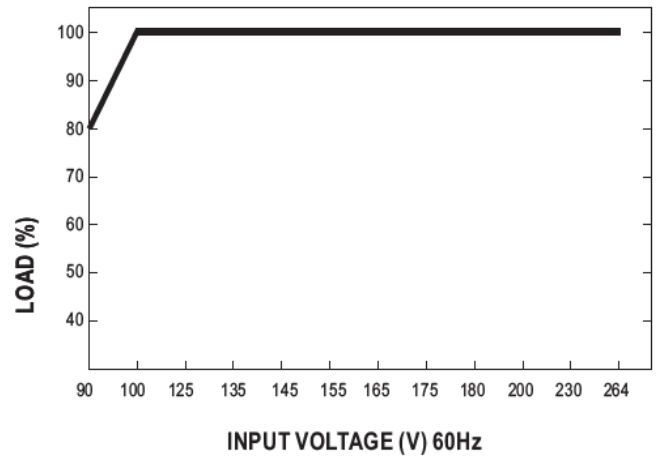
PFC fosc : 85KHz  
 PWM fosc : 65KHz



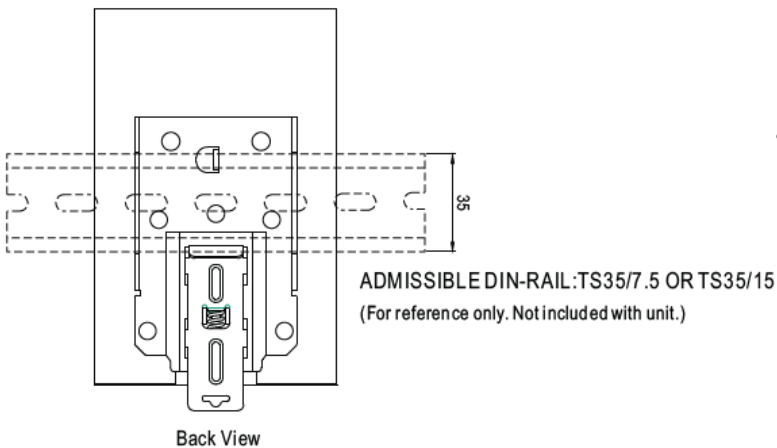
# Derating Curve



# Output derating VS input voltage

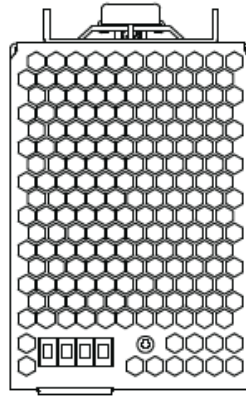


# Installation Instruction

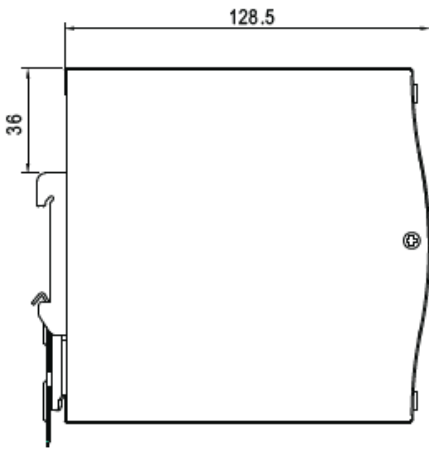


This series fits DIN rail TS35/7.5 or TS35/15.  
 For installation details, please refer to the Instruction manual.

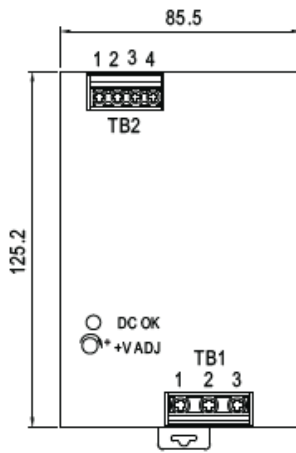
Case No.984D Unit:mm



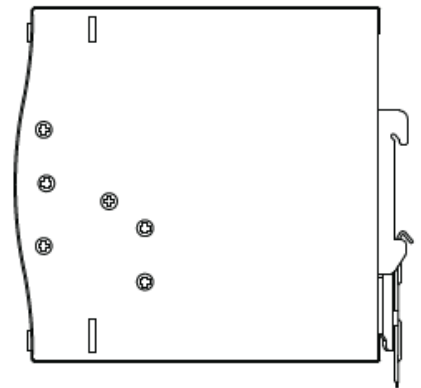
Top View



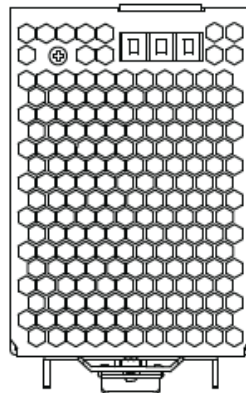
Side View



Front View



Side View



Bottom View

Terminal Pin No. Assignment (TB1)

Pin No.	Assignment
1	FG ⊕
2	AC/N or DC -
3	AC/L or DC +

Terminal Pin No. Assignment (TB2)

Pin No.	Assignment
1,2	DC OUTPUT +V
3,4	DC OUTPUT-V