

# IN-200-IP series

200W Constant Voltage Switching Power Supply



## ■ Features:

- Constant voltage design
- European AC input range
- Protections: Short circuit / Over current / Over voltage / Over Temperature
- Cooling by free air convection
- Isolation class II
- Fully encapsulated with IP67 level [5]

ta: 50°C  
tc: 80°C

CONSTANT VOLTAGE **SELV**



## ◎ ELECTRICAL SPECIFICATION

MODEL	IN-200-12-IP			IP-200-24-IP		
OUTPUT						
RATED VOLTAGE	12V			24V		
RATED CURRENT	16A			8.3A		
CURRENT RANGE	0 ÷ 16A			0 ÷ 8.3A		
RATED POWER	192W			199.2W		
LINE REGULATION	± 1%					
LOAD REGULATION	± 2%					
TOLERANCE [3]	± 5%					
RIPPLE & NOISE (max.) [2]	500mV <sub>p-p</sub>					
SETUP, RISE TIME [4]	1000ms, 50ms / 230VAC at full load					
HOLD UP TIME (typ.)	40ms / 230VAC at full load					
INPUT						
VOLTAGE RANGE	200 ÷ 264VAC					
FREQUENCY RANGE	47 ÷ 63Hz					
EFFICIENCY (typ.)	87%			90%		
AC CURRENT (typ.)	2.6A / 230VAC					
INRUSH CURRENT (typ.)	30A / 230VAC; T <sub>WIDTH</sub> (czas do półszczytu) = 1800μs					
Max. No. of PSU on Circuit Breaker	B10	B16	C10	C16	D10	D16
	1	1	1	2	1	2
LEAKAGE CURRENT (max.)	0.25mA / 240VAC					

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## PROTECTIONS

OVER CURRENT	Range: 110% ÷ 150% rated current	
	Type: hiccup mode, auto-recovery.	Type: constant current limiting to 60% rated voltage next fold forward mode (current rises, voltage drops) next hiccup mode. Recovers automatically after fault condition is removed.
SHORT CIRCUIT	Type: hiccup mode, auto-recovery.	
OVER VOLTAGE	Type: hiccup mode, auto-recovery.	
OVER TEMPERATURE	140°C±10°C(detect on main control IC)	
	Type: shut-off, auto-recovery.	

## WORKING ENVIRONMENT

WORKING TEMPERATURE	-30°C ÷ 70°C (Refer to Derating Curve), ta: 50°C; tc: 80°C
WORKING HUMIDITY	20 ÷ 95% RH non-condensing
STORAGE TEMPERATURE AND HUMIDITY	-40°C ÷ 80°C, 10 ÷ 95% RH non-condensing
TEMPERATURE COEFFICIENT	± 0.03% / °C (0°C ÷ 50°C)
VIBRATION	10 ÷ 500Hz, 5G, 12min / cycle, period for 72min. each along X, Y, Z axes

## SAFETY AND EMC REGULATIONS

SAFETY STANDARDS	Compliance TUV EN 61347-1, TUV EN 61347-2-13, IP67
WITHSTAND VOLTAGE	I-P/O-P: 3kVAC
ISOLATION RESISTANCE	I-P/O-P: 100MΩ/500VDC/25°C/70%
EMC EMISSION	Compliance to EN55015
EMC IMMUNITY	Compliance to EN61547; EN61000-4-2, -3, -4, -5, -6, -8, -11
HARMONIC CURRENT	Compliance to EN61000-3-3; EN61000-3-2

## OTHERS

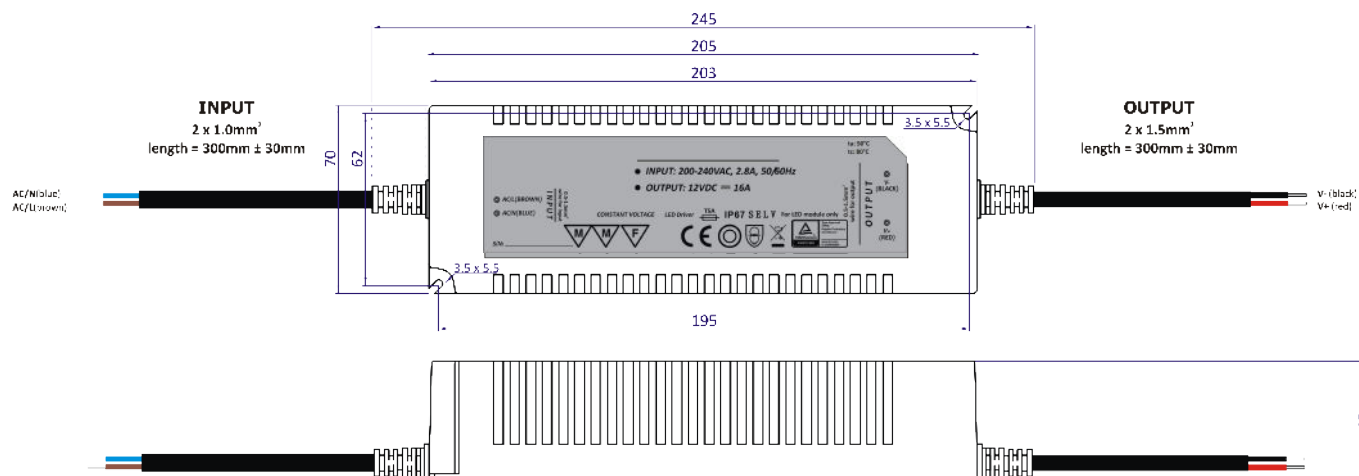
DIMENSIONS	205 x 70 x 45mm (L x W x H)	
WEIGHT AND PACKING	1.2kg; 15pcs./ctn; ctn weight and dimensions: 18.5kg; 45.5 x 29.5 x 19cm	
EAN Code		

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 0.1μF i 47μF parallel capacitor.
3. Tolerance includes set up tolerance, line regulation and load regulation.
4. Setup and rise time is measured from 0 to 90% rated output voltage.
5. Suitable for indoor or outdoor use. Please avoid direct exposure to sunlight and immersion in water for over 30 minutes.
6. Power supply is considered as component not indented to apply by end-user. Power supply meets safety and EMC standards however the final equipment with power supply must be re-quality to comply with EMC Directives.

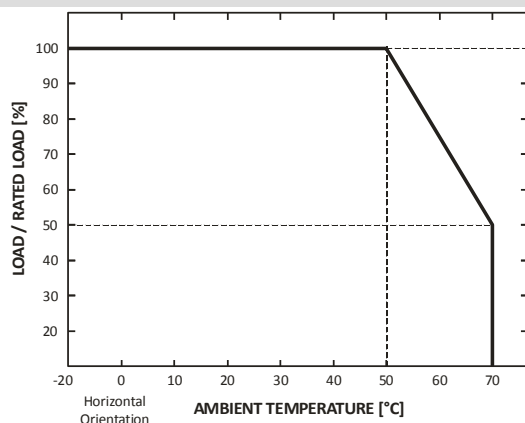
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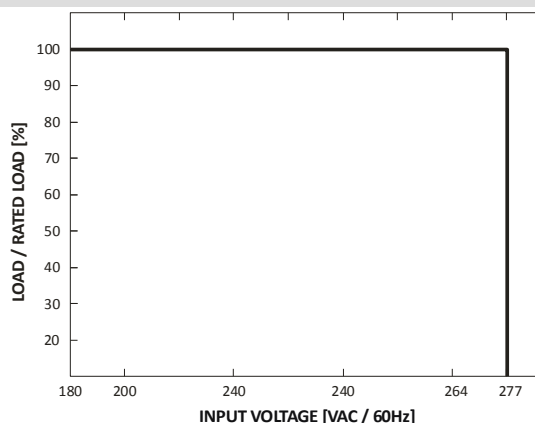
## © MECHANICAL SPECIFICATION



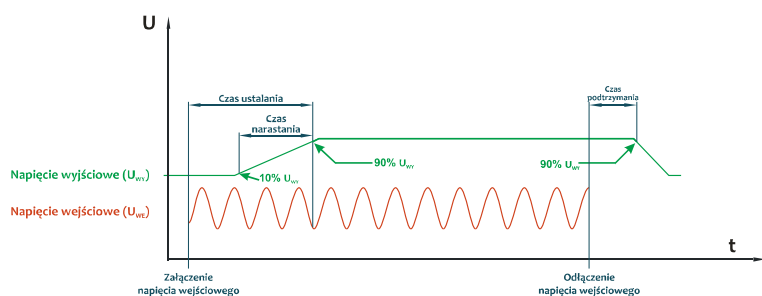
## © DERATING CURVE



## © STATIC CHARACTERISTIC



## © Setup, Rise and Holdup time

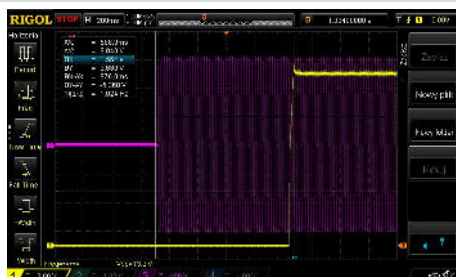


**Setup time** – time required for the output voltage to reach 90% of its set value measured after AC input voltage is powered on.

**Rise time** – time required for the output voltage to change from 10% to 90% of its set value.

**Holdup time** – time required for the output voltage to reach 90% of its set value measured after AC input voltage is powered off.

Setup time



Rise time



Holdup time

