

# 150 W PFC Power Supply PACC150BxxS3-Series



PHI-CON

- 85 ... 305 V<sub>AC</sub> / 120...430 V<sub>DC</sub> universal input range
- Metal case
- Continuously short circuit protected via constant current limiting
- Over-temperature protection
- Output overvoltage protection
- ON/OFF Remote control with isolated input
- Input - output isolation voltage 4 kV<sub>AC</sub>
- Safety standard EN-, IEC-, UL 62368-1 Class I
- EN 55032 Class B
- Active power factor correction



## Model guide

Type	Output Voltage			Current [A] max.	Output		Efficiency at full load & V <sub>in</sub> 230 V <sub>AC</sub> [%] typ.	Capacitive load [µF] max.
	Nomina l [V <sub>DC</sub> ]	Tolerance [%]	trim range [V <sub>DC</sub> ]		Power [W] max.	Ripple & noise (BW 20 MHz) [mVp-p] typ.		
PACC150B12S3	12.0	± 2	10.2...13.8	12,5	150	100	85.5	5000
PACC150B15S3	15.0	± 2	13.5...18.0	10	150	100	86.0	5000
PACC150B24S3	24.0	± 1	21.6...28.8	6.3	151.2	150	87.0	5000
PACC150B48S3	48.0	± 1	45.6...55.2	3.2	153.6	250	88	3000

## Specifications

Input	
Voltage range	85...305 V <sub>AC</sub> or 120...430 V <sub>DC</sub> Power derating see diagramm
Line frequency range	47...63 Hz
Full load input current	2.5 A at 85 V <sub>AC</sub> , 2 A at 115 V <sub>AC</sub> , 1 A at 230 V <sub>AC</sub>
Inrush current at cold start Ta 25°C	30 A, typ. @ 115 V <sub>AC</sub> 45 A, typ. @ 230 V <sub>AC</sub>
Power factor at full load	0.99 typ. @ 115 V <sub>AC</sub> 0.98 typ. @ 230 V <sub>AC</sub>
Hot Plug	Not available
Remote control input (see Figure 1)	Power ON ≤ 0.8 V <sub>DC</sub> Power OFF 4...10 V <sub>DC</sub>
Isolation voltage	
Input to output	≥ 4 kV <sub>AC</sub> , 1 Min, leakage < 10 mA
Input to protection GND	≥ 2 kV <sub>AC</sub> , 1 Min, leakage < 10 mA
Output to protection GND	≥ 500 V <sub>AC</sub> , 1 Min, leakage < 5 mA
Isolation resistance	
Input to output	100 MΩ at 500 V <sub>DC</sub> , 25±5°C
Input to protection GND	100 MΩ ≤ RH 95 %, non condensing
Output to protection GND	100 MΩ
Leakage current at 240 V <sub>AC</sub>	< 2 mA
Output	
Line regulation at full load	± 0.5 %, typ.
Load regulation over full load range	± 0.5 %, typ.
Temperature coefficient	± 0.05 % / °C, typ.
Minimum load	Not required
Short circuit protection	Constant current, continuous, recovery time < 3 s after short circuit
Over current protection	≥ 105...150 % of rated current
Over voltage protection, (Output voltage turn off, re-power after recovery)	PACC150B12S3: ≤ 16.8 V PACC150B15S3: ≤ 24.5 V PACC150B24S3: ≤ 33.6 V PACC150B48S3: ≤ 60 V
General	
Hold up time at V <sub>in</sub> 230 V <sub>AC</sub>	≥ 16 ms
Reliability calculated MTBF (MIL-HDBK-217F@25°C)	> 300 000 h

EMC compliance		
CE	EN 55032, CISPR32	Class B (see note 3)
RE	EN 55032, CISPR32	Class B (see note 3)
Harmonic current	EN-, IEC 61000-3-2	Class A and Class D
Voltage flicker	EN-, IEC 61000-3-3	
ESD	EN-, IEC 61000-4-2	Contact ± 6 kV, perf. crit. A Air ± 8 kV, perf. crit. A
RS	EN-, IEC 61000-4-3	10 V/m perf. crit. B
EFT	EN-, IEC 61000-4-4	± 2 kV perf. crit. A
Surge	EN-, IEC 61000-4-5	± 1 kV line to line perf. crit. A ± 2 kV line to GND perf. crit. A
CS	EN-, IEC 61000-4-6	10 Vrms perf. crit. A
Voltage dips, short interruptions and voltage variations immunity	EN-, IEC 61000-4-11	0...70 % perf. crit. B
Safety Standard		EN 62368-1
Designed to meet Safety Standard		EN 60335-1, EN 61558-1, IEC-, UL 62368-1
Safety Class		Class I
Environmental		
Operating ambient temperature		-30...70 °C (see derating diagramm)
Over temperature protection only at full load		Activation at Ta ≤ 85 °C Deactivation at Ta ≥ 50 °C
Storage temperature		-40...85 °C, non condensing
Storage humidity		10...95 %, non condensing
Cooling		Free air convection, ≥ 35 LFM
Altitude		≤ 5000 m
Power derating		
Ta: -30...-20 °C		4 % / °C, see diagram
Ta: +50...70 °C		2 % / °C, see diagram
V <sub>in</sub> : 85...100 V <sub>AC</sub>		1.3 % / V <sub>AC</sub> , see diagram
Altitude: 2000 m...5000 m		5 % / km, see diagram
Physical		
Dimensions		99 x 179 x 30 mm
Weight		500 g, typ.
Case material		Aluminium (AL1100, SGCC)

## Ordering information

Brand	Converter type	Mounting	Output power	Series	Output voltage	Output configuration	Input voltage range	Additional options			
P	PHI-CON	AC/DC	C	Chassis	150   150 W	B	12   12 V <sub>DC</sub> 15   15 V <sub>DC</sub> 24   24 V <sub>DC</sub> 48   48 V <sub>DC</sub>	S   single	3   85-305V <sub>AC</sub>	Blank	Standard
										C	Terminal protection cover
										Q	Conformal coating
Example: PACC150B24S3C			Pout: 150 W, Vout: 24V, Vin: 85 VAC...305 VAC, Terminal protection Cover								

## Note:

1. All specifications measured at Ta 25 °C, humidity <75 %, 230 V<sub>AC</sub> input voltage and rated output load unless otherwise specified.
2. The case must be connected to protection earth by using
3. One magnetic bead (nickel-zinc ferrite) should be coupled with the output load line during CE/RE (EN 55032) testing.

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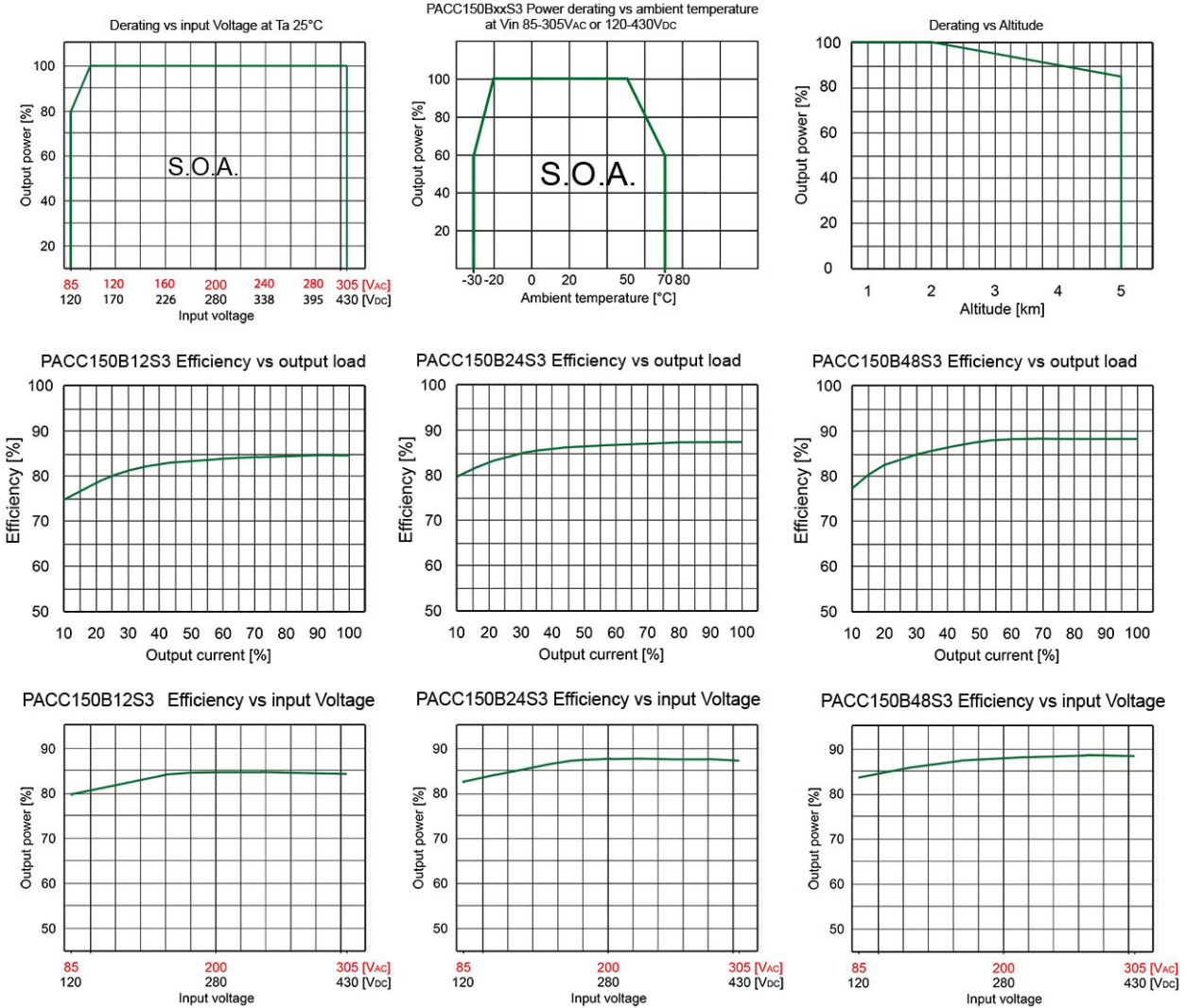
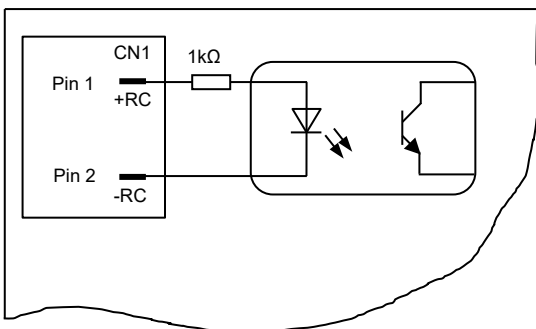


Figure 1 Remote control input, internal circuit, "OFF" State at 4...10 V<sub>DC</sub> control voltage



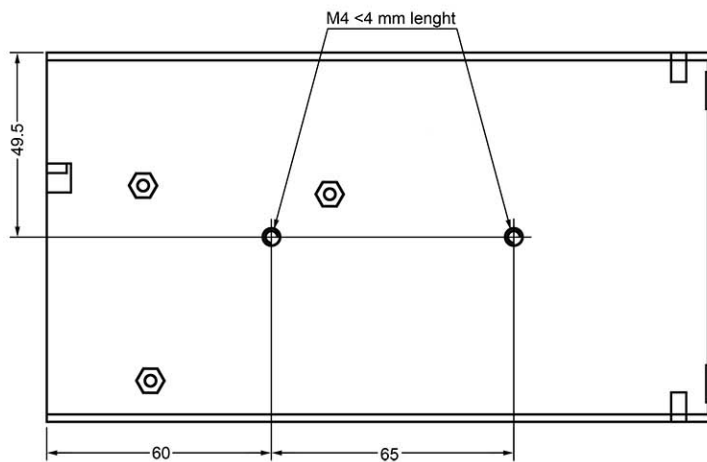
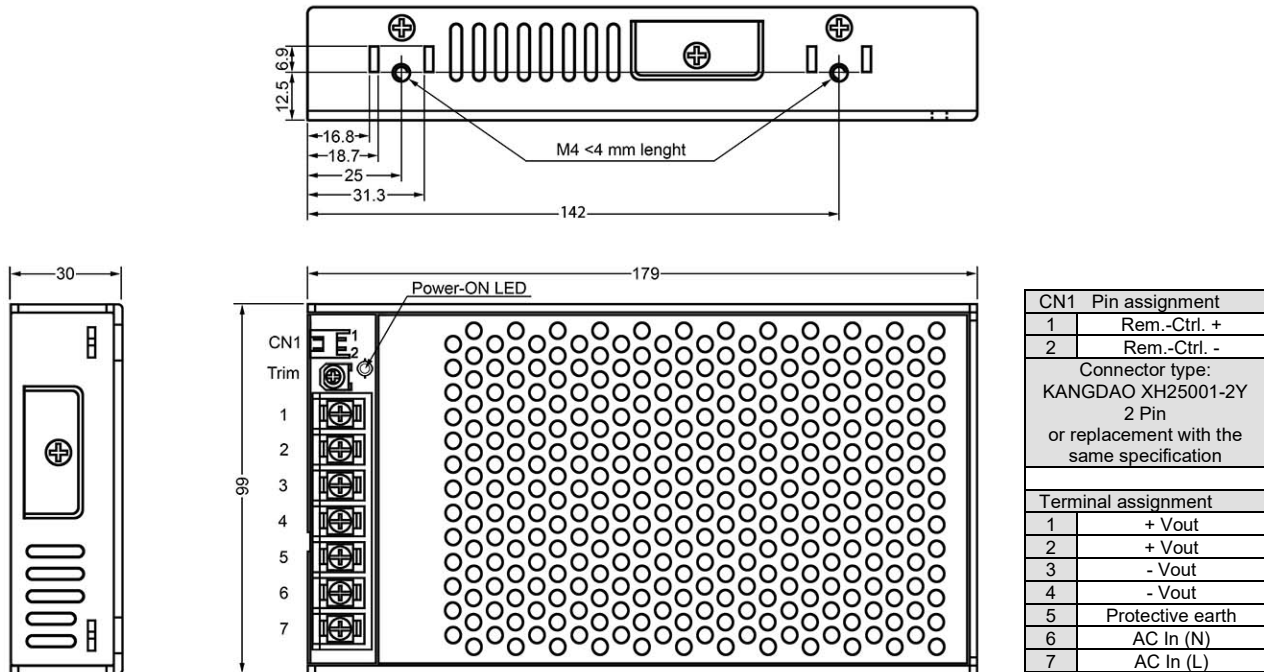
Control voltages above 10 V can be realized with an additional series resistor. The current should be in a range of 2.5 to 8.5 mA.

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## Mechanical dimensions



### Note:

- Unit: mm
- Terminal wire range: 22..14 AWG
- General tolerances:  $\pm 1$  mm
- Tightening torque M4 thread:  $< 1.2$  Nm
- Any M4 thread must be connected to protection earth

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Rev: 20220601 n