100W Quad Output with PFC Function

QP-100 series

■ Features :

- Universal AC input / Full range
- Built-in active PFC function, PF>0.95
- Protections: Short circuit / Overload / Over voltage
- Free air cooling convection
- CH4: Polarity is selectable
- Fixed switching frequency at 100KHz
- 3 years warranty

SPECIFICATION

MODEL		QP-100-3A				QP-100-3B				QP-100-3C			
OUTPUT	OUTPUT NUMBER	CH1	CH2	CH3	CH4	CH1	CH2	CH3	CH4	CH1	CH2	CH3	CH4
	DC VOLTAGE	5V	3.3V	12V	-5V	5V	3.3V	12V	-12V	5V	3.3V	15V	-15V
	RATED CURRENT	8A	8A	2.5A	0.6A	8A	8A	2.2A	0.6A	8A	8A	1.7A	0.6A
	CURRENT RANGE	2 ~ 10A	0 ~ 10A	0.3 ~ 3A	0 ~ 1A	2 ~ 10A	0 ~ 10A	0.3 ~ 3A	0 ~ 1A	2 ~ 10A	0 ~ 10A	0.3 ~ 2A	0 ~ 1A
	RATED POWER (max.)	99.4W				100W				100.9W			
	RIPPLE & NOISE (max.) Note.2	100mVp-p	100mVp-p	150mVp-p	150mVp-p	100mVp-p	100mVp-p	150mVp-p	150mVp-p	100mVp-p	100mVp-p	150mVp-p	150mVp-p
	VOLTAGE ADJ. RANGE	CH1: 4.75 ~ 5.5V		CH2: 3.14 ~ 3.63V		CH1: 4.75 ~ 5.5V		CH2: 3.14 ~ 3.63V		CH1: 4.75 ~ 5.5V		CH2: 3.14 ~ 3.63V	
	VOLTAGE TOLERANCE Note.3	3.0%	3.0%	6.0%	5.0%	3.0%	3.0%	6.0%	5.0%	3.0%	3.0%	+8,-6%	5.0%
	LINE REGULATION	1.0%	1.0%	2.0%	1.0%	1.0%	1.0%	2.0%	1.0%	1.0%	1.0%	2.0%	1.0%
	LOAD REGULATION	2.0%	2.0%	6.0%	2.0%	2.0%	2.0%	6.0%	2.0%	2.0%	2.0%	6.0%	2.0%
	SETUP, RISE TIME	800ms, 50ms/230VAC 800ms, 50ms/115VAC at full load											
	HOLD UP TIME (Typ.)	24ms/230VAC 24ms/115VAC at full load											
INPUT	VOLTAGE RANGE Note.5	90 ~ 264VAC 127 ~ 370VDC											
	FREQUENCY RANGE	47 ~ 63Hz											
	POWER FACTOR (Typ.)	PF>0.95/230VAC PF>0.98/115VAC at full load											
	EFFICIENCY (Typ.)	74%				74%				75%			
	AC CURRENT (Typ.)	1.5A/115VAC 0.75A/230VAC											
	INRUSH CURRENT (Typ.)	COLD START ≦40A/230V											
	LEAKAGE CURRENT	<3.5mA / 240VAC											
PROTECTION	OVERLOAD	105 ~ 150% rated output power											
		Protection type : Hiccup mode, recovers automatically after fault condition is removed											
	OVER VOLTAGE	CH1:5.75 ~ 6.75V CH2:3.8 ~ 4.4V											
		Protection type : Shut down o/p voltage, re-power on to recover											
	OVER TEMPERATURE(OPTION)	95℃ 5℃ (TSW1)											
		Protection type : Shut down o/p voltage, recovers automatically after temperature goes down											
ENVIRONMENT	WORKING TEMP.	-10 ~ +60℃ (Refer to output load derating curve)											
	WORKING HUMIDITY	20 ~ 90% RH non-condensing											
	STORAGE TEMP., HUMIDITY	-20 ~ +85℃, 10 ~ 95% RH											
	TEMP. COEFFICIENT	0.03%/℃ (0~50℃)											
	VIBRATION	10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes											
SAFETY & EMC (Note 4)	SAFETY STANDARDS	UL60950-1, TUV EN60950-1 approved											
	WITHSTAND VOLTAGE	I/P-O/P:3KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC											
	ISOLATION RESISTANCE	I/P-O/P, I/P-FG, O/P-FG:100M Ohms/500VDC											
	EMI CONDUCTION & RADIATION	Compliance to EN55022 (CISPR22) Class B											
	HARMONIC CURRENT	Compliance to EN61000-3-2,-3											
	EMS IMMUNITY	Compliance to EN61000-4-2,3,4,5,6,8,11; ENV50204, EN55024, light industry level, criteria A											
OTHERS	MTBF	139.9K hrs min. MIL-HDBK-217F (25℃)											
	DIMENSION	199*99*50mm (L*W*H)											
	PACKING	0.87Kg; 20pcs/18.4Kg/1.28CUFT											
NOTE	1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25℃ of ambient temperature. 2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor. 3. Tolerance : includes set up tolerance, line regulation and load regulation. 4. The power supply is considered a component which will be installed into a final equipment. The final equipment must be re-confirmed that it still meets EMC directives. 5. Derating may be needed under low input voltages. Please check the derating curve for more details.												

100W Quad Output with PFC Function

QP-100 series

■ Features :

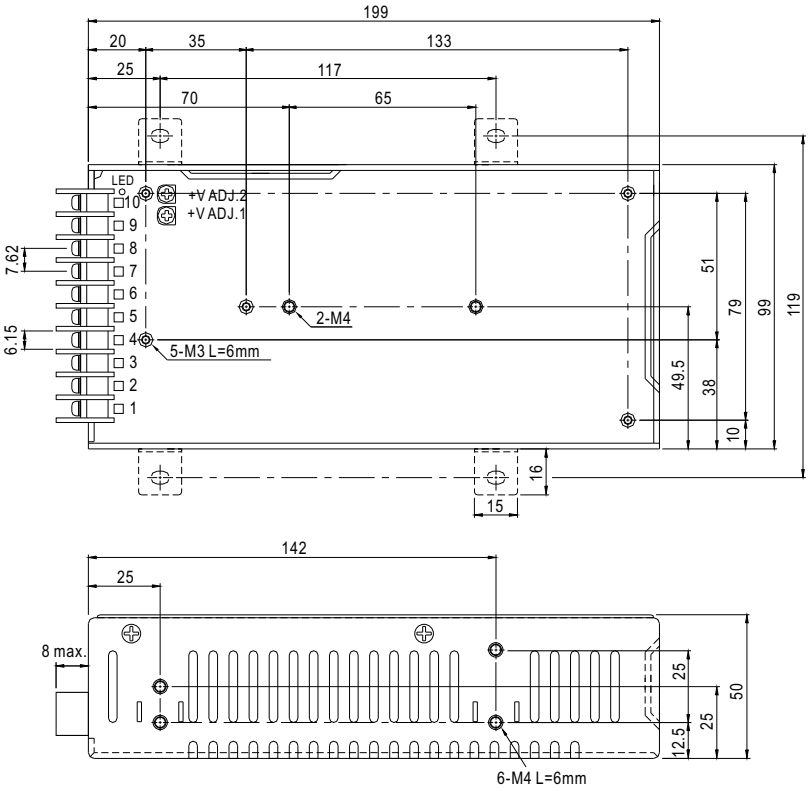
- Universal AC input / Full range
- Built-in active PFC function, PF>0.95
- Protections:Short circuit/Over load/Over voltage
- Free air cooling convection
- CH4: Polarity is selectable
- Fixed switching frequency at 100KHz
- 3 years warranty

SPECIFICATION

MODEL		QP-100-3D				QP-100D				QP-100F			
OUTPUT	OUTPUT NUMBER	CH1	CH2	CH3	CH4	CH1	CH2	CH3	CH4	CH1	CH2	CH3	CH4
	DC VOLTAGE	5V	3.3V	24V	-12V	5V	12V	24V	-12V	5V	15V	24V	-15V
	RATED CURRENT	8A	8A	1.3A	0.6A	8A	2.4A	1A	0.6A	8A	2A	1A	0.6A
	CURRENT RANGE	2 ~ 10A	0 ~ 10A	0.3 ~ 2A	0 ~ 1A	2 ~ 10A	0 ~ 3A	0.3 ~ 2A	0 ~ 1A	2 ~ 10A	0 ~ 3A	0.3 ~ 2A	0 ~ 1A
	RATED POWER (max.)	104.8W				100W				103W			
	RIPPLE & NOISE (max.) Note.2	100mVp-p	100mVp-p	150mVp-p	150mVp-p	120mVp-p	150mVp-p	200mVp-p	150mVp-p	120mVp-p	180mVp-p	200mVp-p	150mVp-p
	VOLTAGE ADJ. RANGE	CH1: 4.75 ~ 5.5V		CH2: 3.14 ~ 3.63V		CH1: 4.75 ~ 5.5V		CH2: 11.4 ~ 13.2V		CH1: 4.75 ~ 5.5V		CH2: 14.3 ~ 16.5V	
	VOLTAGE TOLERANCE Note.3	3.0%	3.0%	6.0%	5.0%	3.0%	3.0%	6.0%	5.0%	3.0%	3.0%	6.0%	5.0%
	LINE REGULATION	1.0%	1.0%	2.0%	1.0%	1.0%	1.0%	2.0%	1.0%	1.0%	1.0%	2.0%	1.0%
	LOAD REGULATION	2.0%	2.0%	6.0%	2.0%	2.0%	2.0%	6.0%	2.0%	2.0%	2.0%	6.0%	2.0%
	SETUP, RISE TIME	800ms, 50ms/230VAC 800ms, 50ms/115VAC at full load											
	HOLD TIME (Typ.)	24ms/230VAC 24ms/115VAC at full load											
INPUT	VOLTAGE RANGE Note.5	90 ~ 264VAC 127 ~ 370VDC											
	FREQUENCY RANGE	47 ~ 63Hz											
	POWER FACTOR (Typ.)	PF>0.95/230VAC PF>0.98/115VAC at full load											
	EFFICIENCY (Typ.)	75%				78%				78%			
	AC CURRENT (Typ.)	1.5A/115VAC 0.75A/230VAC											
	INRUSH CURRENT (Typ.)	COLD START ≦40A/230V											
	LEAKAGE CURRENT	<3.5mA / 240VAC											
PROTECTION	OVER LOAD	105 ~ 150% rated output power											
		Protection type : Hiccup mode, recovers automatically after fault condition is removed											
	OVER VOLTAGE	CH1:5.75 ~ 6.75V CH2:3.8 ~ 4.4V				CH1:5.75 ~ 6.75V CH2:13.8 ~ 16.2V				CH1:5.75 ~ 6.75V CH2:17.25 ~ 20.25V			
		Protection type : Shut down o/p voltage, re-power on to recover											
	OVER TEMPERATURE(OPTION)	95℃ 5℃ (TSW1)											
		Protection type : Shut down o/p voltage, recovers automatically after temperature goes down											
ENVIRONMENT	WORKING TEMP.	-10 ~ +60℃ (Refer to output load derating curve)											
	WORKING HUMIDITY	20 ~ 90% RH non-condensing											
	STORAGE TEMP., HUMIDITY	-20 ~ +85℃, 10 ~ 95% RH											
	TEMP. COEFFICIENT	0.03%/℃ (0~50℃)											
	VIBRATION	10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes											
SAFETY & EMC (Note 4)	SAFETY STANDARDS	UL60950-1, TUV EN60950-1 approved											
	WITHSTAND VOLTAGE	I/P-O/P:3KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC											
	ISOLATION RESISTANCE	I/P-O/P, I/P-FG, O/P-FG:100M Ohms/500VDC											
	EMI CONDUCTION & RADIATION	Compliance to EN55022 (CISPR22) Class B											
	HARMONIC CURRENT	Compliance to EN61000-3-2,-3											
	EMS IMMUNITY	Compliance to EN61000-4-2,3,4,5,6,8,11; ENV50204, EN55024, light industry level, criteria A											
OTHERS	MTBF	139.9K hrs min. MIL-HDBK-217F (25℃)											
	DIMENSION	199*99*50mm (L*W*H)											
	PACKING	0.87Kg; 20pcs/18.4Kg/1.28CUFT											
NOTE	1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25℃ of ambient temperature. 2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor. 3. Tolerance : includes set up tolerance, line regulation and load regulation. 4. The power supply is considered a component which will be installed into a final equipment. The final equipment must be re-confirmed that it still meets EMC directives. 5. Derating may be needed under low input voltages. Please check the derating curve for more details.												

■ Mechanical Specification

Case No. 916A Unit:mm

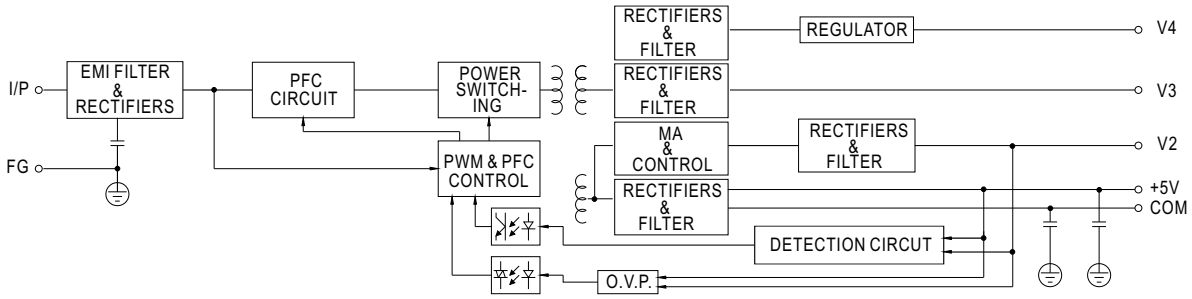


Terminal Pin No. Assignment :

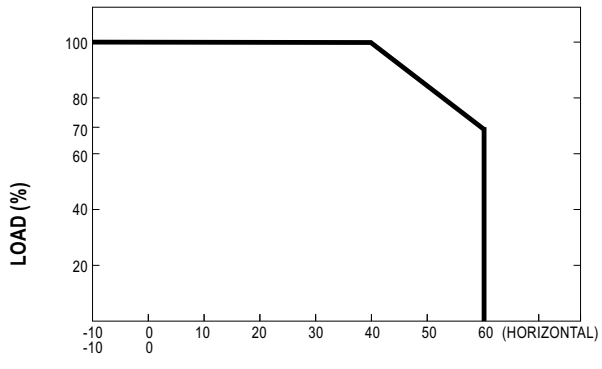
Pin No.	Assignment	Pin No.	Assignment
1	AC/L	5	DC OUTPUT V3
2	AC/N	6,7	DC OUTPUT V1
3	FG ⏚	8,9	DC OUTPUT COM
4	DC OUTPUT V4	10	DC OUTPUT V2

■ Block Diagram

fosc : 100KHz

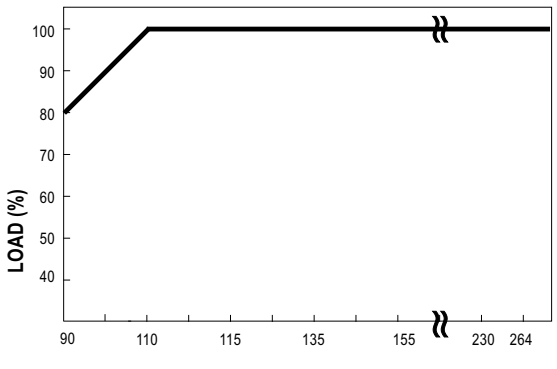


■ Derating Curve



AMBIENT TEMPERATURE (℃)

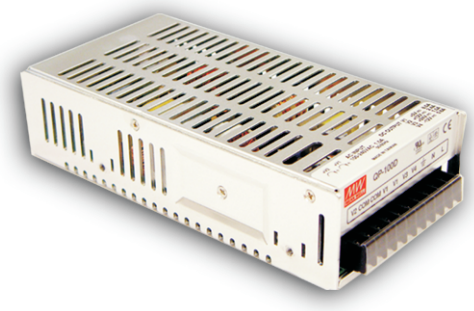
■ Output Derating VS Input Voltage



INPUT VOLTAGE (VAC) 60Hz

100W Quad Output with PFC Function

QP-100B,C series



■ Features :

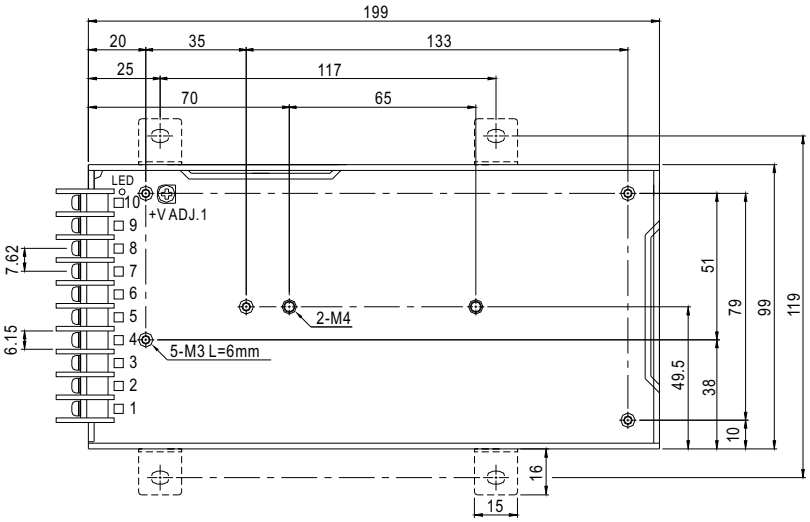
- Universal AC input / Full range
- Built-in active PFC function, PF>0.95
- Protections: Short circuit / Overload / Over voltage
- Free air cooling convection
- Fixed switching frequency at 100KHz
- 3 years warranty

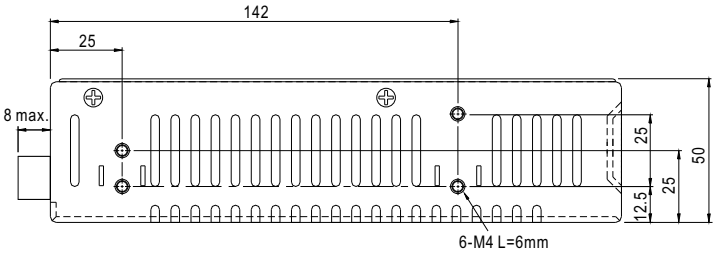
SPECIFICATION

MODEL		QP-100B				QP-100C			
OUTPUT	OUTPUT NUMBER	CH1	CH2	CH3	CH4	CH1	CH2	CH3	CH4
	DC VOLTAGE	5V	12V	-12V	-5V	5V	15V	-15V	-5V
	RATED CURRENT	10A	3A	1A	0.6A	10A	2.2A	1A	0.6A
	CURRENT RANGE	2 ~ 10A	0.3 ~ 4A	0.15 ~ 1A	0 ~ 1A	2 ~ 10A	0.3 ~ 3A	0.15 ~ 1A	0 ~ 1A
	RATED POWER (max.)	101W				101W			
	RIPPLE & NOISE (max.) Note.2	100mVp-p	150mVp-p	150mVp-p	100mVp-p	100mVp-p	150mVp-p	150mVp-p	100mVp-p
	VOLTAGE ADJ. RANGE	CH1:4.75 ~ 5.5V				CH1:4.75 ~ 5.5V			
	VOLTAGE TOLERANCE Note.3	3.0%	6.0%	+10,-6%	5.0%	3.0%	+6,-10%	8.0%	5.0%
	LINE REGULATION	1.0%	2.0%	2.0%	1.0%	1.0%	2.0%	2.0%	1.0%
	LOAD REGULATION	2.0%	6.0%	6.0%	2.0%	2.0%	2.0%	6.0%	2.0%
	SETUP, RISE TIME	1000ms, 50ms at full load							
	HOLD UP TIME (Typ.)	24ms at full load							
INPUT	VOLTAGE RANGE Note.5	90 ~ 264VAC 127 ~ 370VDC							
	FREQUENCY RANGE	47 ~ 63Hz							
	POWER FACTOR (Typ.)	PF>0.95/230VAC PF>0.98/115VAC at full load							
	EFFICIENCY (Typ.)	76%				77%			
	AC CURRENT (Typ.)	1.5A/115VAC 0.75A/230VAC							
	INRUSH CURRENT (Typ.)	COLD START 40A							
	LEAKAGE CURRENT	<3.5mA / 240VAC							
PROTECTION	OVERLOAD	105 ~ 135% rated output power							
		Protection type : Hiccup mode, recovers automatically after fault condition is removed							
	OVER VOLTAGE	CH1:5.75 ~ 6.75V							
		Protection type : Shut down o/p voltage, re-power on to recover							
	OVER TEMPERATURE(OPTION)	95℃ 5℃ (TSW1)							
		Protection type : Shut down o/p voltage, recovers automatically after temperature goes down							
ENVIRONMENT	WORKING TEMP.	-10 ~ +60℃ (Refer to output load derating curve)							
	WORKING HUMIDITY	20 ~ 90% RH non-condensing							
	STORAGE TEMP., HUMIDITY	-20 ~ +85℃, 10 ~ 95% RH							
	TEMP. COEFFICIENT	0.03%/℃ (0~50℃)							
	VIBRATION	10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes							
SAFETY & EMC (Note 4)	SAFETY STANDARDS	UL60950-1, TUV EN60950-1 approved							
	WITHSTAND VOLTAGE	I/P-O/P:3KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC							
	ISOLATION RESISTANCE	I/P-O/P, I/P-FG, O/P-FG:100M Ohms/500VDC							
	EMI CONDUCTION & RADIATION	Compliance to EN55022 (CISPR22) Class B							
	HARMONIC CURRENT	Compliance to EN61000-3-2,-3							
	EMS IMMUNITY	Compliance to EN61000-4-2,3,4,5,6,8,11; ENV50204, EN55024, light industry level, criteria A							
OTHERS	MTBF	139.9K hrs min. MIL-HDBK-217F (25℃)							
	DIMENSION	199*99*50mm (L*W*H)							
	PACKING	1.1Kg; 20pcs/22Kg/1.28CUFT							
NOTE	1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25℃ of ambient temperature. 2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor. 3. Tolerance : includes set up tolerance, line regulation and load regulation. 4. The power supply is considered a component which will be installed into a final equipment. The final equipment must be re-confirmed that it still meets EMC directives. 5. Derating may be needed under low input voltages. Please check the derating curve for more details.								

■ Mechanical Specification

Case No. 916A Unit:mm



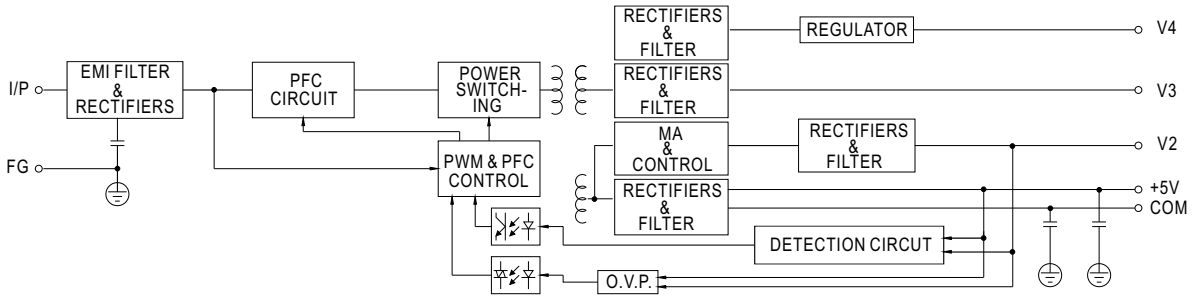


Terminal Pin No. Assignment :

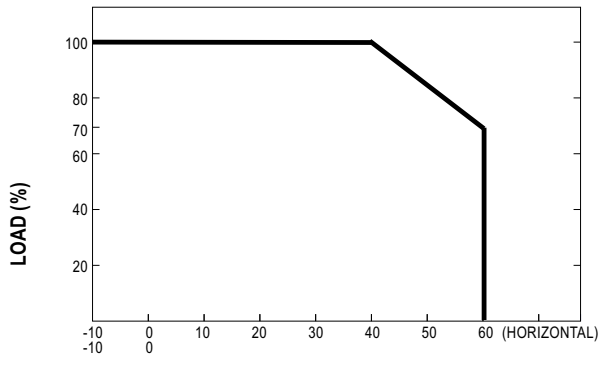
Pin No.	Assignment	Pin No.	Assignment
1	AC/L	5	DC OUTPUT V3
2	AC/N	6,7	DC OUTPUT V1
3	FG ⏚	8,9	DC OUTPUT COM
4	DC OUTPUT V4	10	DC OUTPUT V2

■ Block Diagram

fosc : 100KHz

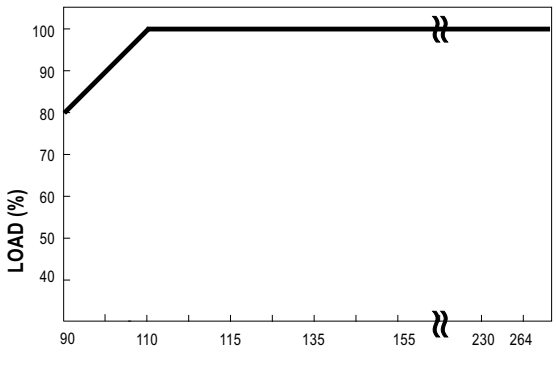


■ Derating Curve



AMBIENT TEMPERATURE (℃)

■ Output Derating VS Input Voltage



INPUT VOLTAGE (VAC) 60Hz