### **DR045** Series

45W Single Output LED Driver



- Features
- Constant voltage and current output
- Universal AC input 100~305VAC
- Built-in active PFC function
- Output protections: Short circuit/Over voltage/Over load
- Fixed derating-cutoff type temperature protection
- Cooling by free air convection
- Digital, analog or DALI control dimming function
- Suitable for inside of the outdoor LED luminaries
- IP65 with Vo/Io adjusting screws, IP67 without Vo/Io adjusting screws
- Class 2 power unit
- Compliance to worldwide safety regulations for lighting
- Suitable for dry/damp/wet locations



### General functions

Output Power	45W	Input Frequency	50/60Hz
Input Voltage Range	100~305Vac	Operating Temperature	-40°C~+60°C
Storage Temperature	-45°C~+85°C	Safety & EMC	UL8750, UL1310 Class 2, IEC61347, EN55015
Turn-on Delay Time	3.0S max.	Inrush Current	40A at 230Vac, Cold start
Over Temp Protection	Fixed derating-cutoff type temperature protection	Waterproof	IP65/IP67

RoHS

### Detailed Specification

TABLE 1:

	Model	DR045-129S035X-YY	DR045-065S070X-YY	DR045-048S095X-YY	DR045-036S125X-YY	DR045-024S190X-YY		
	DC Voltage	129Vdc	65Vdc	48Vdc	36Vdc	24Vdc		
	Constant Current Operation Voltage note.5	78~129Vdc	39~65Vdc	29~48Vdc	22~36Vdc	15~24Vdc		
	Rated DC Current	350mA	700mA	950mA	1250mA	1900mA		
Input Dutput Protection Environmental	Current Range	0~350mA	0~700mA	0~950mA	0~1250mA	0~1900mA		
	Dimming Current Range	78~129Vdc         39~65Vdc         29~48Vdc         22~3           350mA         700mA         950mA         125           0~350mA         0~700mA         0~950mA         0~12           10~100% rated output current (≥50% rated output rot         0         107           10%Vo         10%Vo         10%Vo         10%           116~135Vdc         59~68Vdc         43~50Vdc         32~3           210~350mA         420~700mA         570~950mA         750~1           ±10%         ±10%         ±10%         ±1           ±3%         ±3%         ±3%         ±3           ±5%         ±5%         ±5         ±5           89%         88%         87.5%         87           0.96/230Vac         0.96/230Vac         0.96/230Vac         0.96/20Vac           0.5A/100Vac, 0.25A/230Vac          0.96/20Vac         0.96/20Vac           Constant current limiting           9.96/20Vac         0.96/20Vac           Constant current limiting           9.96/20Vac         0.96/20Vac           Constant current limiting           9.96/20Vac         0.96/20Vac           Non-dimmer type: recover automatically at hickup rep	d output voltage)					
Output	Ripple and Noise	10%Vo	10%Vo	10%Vo	36Vdc         22~36Vdc         1250mA         0~1250mA         rated output voltage)         10%Vo         32~38Vdc         750~1250mA         ±10%         ±3%         ±5%         87.5%         0.96/230Vac	10%Vo		
	Voltage ADJ. Range note.3	116~135Vdc	59~68Vdc	43~50Vdc		22~25Vdc		
	Current ADJ. Range note.3	210~350mA	420~700mA	570~950mA		1140~1900mA		
	Voltage Tolerance	±10%	±10%	±10%		±10%		
	Voltage Line Regulation	±3%	±3%	±3%		±3%		
	Voltage Load Regulation	±5%	±5%	±5%	±5%	±5%		
	Efficiency	89%	88%	87.5%	87.5%	86.5%		
Input Output Protection Environmental	Power Factor	0.96/230Vac	0.96/230Vac	0.96/230Vac	0.96/230Vac	0.96/230Vac		
Input	AC Current	0.5A/100Vac, 0.25A/23	30Vac					
	Leakage Current	<0.75mA/230Vac; <0.5	5mA/120Vac		36Vdc         c       22~36Vdc         1250mA         A       0~1250mA         50% rated output voltage)       10%Vo         c       32~38Vdc         nA       750~1250mA         ±10%       ±10%         ±10%       ±10%         ±10%       ±3%         a       ±5%         87.5%       7ac         0.96/230Vac       0.96/230Vac         be: Short-circuit power ≤10W.       0         precover       1000000000000000000000000000000000000			
	Over Current	Constant current limiti	ing					
Output	Short Circuit	Non-dimmer type: recover automatically at hiccup; Dimmer type: Short-circuit power ≤10W.						
Protection	Over Voltage	Shut down at 140% Vo	and latch off o/p voltage	29~48Vdc       22~36Vdc         950mA       1250mA         0~950mA       0~1250mA         ated output current (≥50% rated output voltage)       10%Vo         10%Vo       10%Vo         43~50Vdc       32~38Vdc         X       570~950mA       750~1250mA         ±10%       ±10%         ±3%       ±3%         ±5%       576         87.5%       87.5%         87.5%       87.5%         0.96/230Vac       0.96/230Vac         ong X、Y、Z axes.       Vac (remove discharge tube); O/P-FG: 2.00KVac         dc/25°C/70% RH       R22) Class B         %load); EN61000-3-3       ,11; ENV50204, EN61547, EN55024         4       UL class 2/TUV/CE/FCC/RoHS/CQ         conditions per MIL-HDBK-217F         320Vac for 48 hours         put, rated load and 25°C of ambient temperature.         't wisted pair-wire terminated with a 0.1µf & 47µf paralleler ("A" type only).         age load regulation.         t voltage. This is the suitable operation region for LED relem design.         Static Characteristics for more details.         5233, GB7000.1, FCC part18.         the power supply may lead to increase of the set up tim         di no combination with final equipment. Since EMC perfor				
	Operating Humidity							
	Storage Humidity							
Environmental	Temperature Coefficient							
	Vibration	10~300Hz, 1G, Period	for 60min, each along X、	Y、Z axes.	36Vdc 22~36Vdc 1250mA 0~1250mA ed output voltage) 10%Vo 32~38Vdc 750~1250mA ±10% ±13% ±5% 87.5% 0.96/230Vac -circuit power ≤10W. r -circuit power ≤10W. r -circuit power ≤10W. r -circuit power ≤10W. r -circuit power ≤10W. r -circuit power ≤10W. r			
	Withstand Voltage	I/P-OP: 3.75KVac; IP-F	G: 1.56KVac/2.00KVac (re	move discharge tube); O	/P-FG: 2.00KVac			
	Isolation Resistance	stand Voltage I/P-OP: 3.75KVac; IP-FG: 1.56KVac/2.00KVac (remove discharge tube); O/P-FG: 2.00KVac						
Safety & EMC	EMC Interference	Compliance to EN5501	L5, EN55022 (CISPR22) C	ass B	S0mA       1250mA       1900         950mA       0~1250mA       0~190         950mA       10%Vo       109         0%Vo       10%Vo       109         >50Vdc       32~38Vdc       22~2         ~950mA       750~1250mA       1140~1         ±10%       ±10%       ±10         ±3%       ±3%       ±3         ±5%       ±5%       ±5         7.5%       87.5%       86.         //230Vac       0.96/230Vac       0.96/2         er type: Short-circuit power ≤10W.       r         r on to recover			
	EMC Emission	Compliance to EN6100	0~700mA         0~950mA         0~1250mA         0~1           10~100% rated output current (≥50% rated output voltage)         10%Vo         11           10%Vo         10%Vo         10%Vo         11           10%Vo         10%Vo         10%Vo         11           59~68Vdc         43~50Vdc         32~38Vdc         22~           420~700mA         570~950mA         750~1250mA         1140%           ±10%         ±10%         ±10%         ±         1140%           ±13%         ±3%         ±3%         5         5           ±15%         ±5%         ±5%         5         5           88%         87.5%         87.5%         8         0.96/230Vac         1.96         0.96/230Vac					
	EMC Immunity	Compliance to EN6100	)0-4-2, 3, 4, 5, 6, 8, 11; El	NV50204, EN61547, EN5	Ic 22~36Vdc 1250mA A 0~1250mA A 0~1250mA A 0~1250mA A 0~1250mA I 0%Vo ic 32~38Vdc in 4 750~1250mA I 10%Vo ic 32~38Vdc in 4 750~1250mA I 10% I 1			
	Authentication	UL /TUV/CE/FCC/	/RoHS/CQC/REACH	UL class	2/TUV/CE/FCC/RoHS/CC	QC/REACH		
	MTBF	324k Hrs at full load ar	nd 30°C ambient conditi	±10%±10%±10%±3%±3%±3%±5%±5%±5%±5%88%87.5%88%87.5%0.96/230Vac0.96/230Vac20Vacutomatically at hiccup; Dimmer type: Short-circuit power ≤10W.atch off o/p voltage, re-power on to recoversint of o/p voltag				
	Input Over-voltage	Can survive input over	-voltage stress of 320Vac	for 48 hours	48Vdc       36Vdc         29~48Vdc       22~36Vdc         950mA       0~1250mA         0~950mA       0~1250mA         10%Vo       10%Vo         10%Vo       10%Vo         43~50Vdc       32~38Vdc         70~950mA       750~1250mA         ±10%       ±10%         ±3%       ±3%         ±5%       ±5%         96/230Vac       0.96/230Vac         0.96/230Vac       0.96/230Vac         0.96/230Vac       0.96/230Vac         0.96/230Vac       0.96/230Vac         10       1         xes.       1         ischarge tube); O/P-FG: 2.00KVac       2         ML-HDBK-217F       1         hours       1         and 25°C of ambient temperature.       1         wire terminated with a 0.1µf & 47µf parallel cap         nly).       ation.         is the suitable operation region for LED related         eristics for more details.       1         1, FCC part18.       2         pply may lead to increase of the set up time.         ion with final equipment. Since EMC performant			
Others	Dimensions (mm)	169×42×34						
	Max. Case Temp.	Tc max=80°C		950mA       1250mA       0°         0°950mA       0°1250mA       0°1         ed output current (250% rated output voltage)       0°       10%         10%Vo       10%Vo       11%         43~50Vdc       32~38Vdc       22°         570~950mA       750~1250mA       1140°         ±10%       ±10%       ±1         ±13%       ±3%       :         ±15%       ±5%       :         87.5%       87.5%       8         0.96/230Vac       0.96/230Vac       0.96         stage, re-power on to recover				
	Net Weight	0.43Kg/pcs			A 1250mA A 0~1250mA $\geq 50\%$ rated output voltage) o 10%Vo (dc 32~38Vdc )mA 750~1250mA 1: $\Rightarrow \pm 10\%$ $\pm 10\%$ $\pm 3\%$ $\pm 5\%$ 6 87.5% )Vac 0.96/230Vac $\downarrow$ $\downarrow$ $\downarrow$ $\downarrow$ $\downarrow$ $\downarrow$ $\downarrow$ $\downarrow$ $\downarrow$ $\downarrow$ $\downarrow$			
	1. All parameters NOT specia		ured at 230Vac input, rat	ed load and 25°C of am	pient temperature.			
	2. Ripple & noise are measured: at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1µf & 47µf parallel capacitor.							
	3. Output voltage and current can be adjusted by internal potentiometer ("A" type only).							
	4. Tolerance: includes set up tolerance, voltage line regulation and voltage load regulation.							
	5. Constant current operation region is within 60% ~100% rated output voltage. This is the suitable operation region for LED related applications, but							
NI-+-	please reconfirm special electrical requirements for some specific system design.							
Note	6. Derating may be needed u	inder low input voltages	. Please check the Static	Characteristics for more	details.			
	7. Safety and EMC design refer to EN60598-1, subject 8750 (UL), CNS15233, GB7000.1, FCC part18.							
	8. Length of set up time is measured at cold first start. Turning ON/OFF the power supply may lead to increase of the set up time.							
	9. The power supply is considered as a component that will be operated in combination with final equipment. Since EMC performance will be affecte by the complete installation, the final equipment manufacturers must re-qualify EMC Directive on the complete installation again.							
	10. Canada (output voltage: 42-60V) : suitable for class 2 wiring method.							

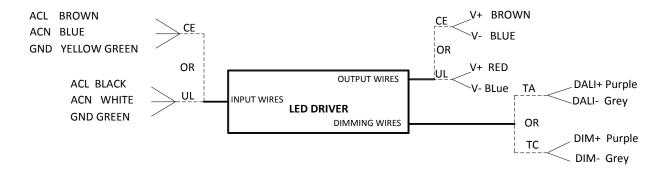
#### TABLE 2:

	Model	DR045-027S175X-YY	DR045-020S230X-YY	DR045-015S300X-YY	DR045-012S380X-YY			
	DC Voltage	27Vdc	20Vdc	15Vdc	12Vdc			
	Constant Current Operation Voltage note.5	17~27Vdc	12~20Vdc	9~15Vdc	8~12Vdc			
	Rated DC Current	1750mA	2300mA	3000mA	3800mA			
	Current Range	0~1750mA	0~2300mA	0~3000mA	0~3800mA			
	Dimming Current Range	10~100% rated output current (≥50% rated output voltage)						
Output	Ripple and Noise	10%Vo	10%Vo	10%Vo	10%Vo			
	Voltage ADJ. Range note.3	24~28Vdc	18~21Vdc	12~20Vdc         9~15Vdc         8~12Vdc           2300mA         3000mA         3800mA           ~2300mA         0~3000mA         0~3800mA           ~2300mA         0~3000mA         0~3800mA           ~100% rated output current (≥50% rated output voltage)         10%Vo           10%Vo         10%Vo         10%Vo           8~21Vdc         14~16Vdc         11~13Vdc           3072300mA         1800~3000mA         2280~3800mA           ±10%         ±10%         ±10%           ±3%         ±3%         ±3%           15%         15%         85           86.5%         85%         83.5%           96/230Vac         0.96/230Vac         0.96/230Vac           vac				
	Current ADJ. Range note.3	1050~1750mA	1380~2300mA					
	Voltage Tolerance	±10%	±10%					
	Voltage Load Regulation	±5%	±5%	15Vdc12Vdc9~15Vdc8~12Vdc3000mA3800mA0~3000mA0~3800mAput current (≥50% rate=output voltage)10%Vo10%Vo14~16Vdc11~13Vdc1800~3000mA2280~3800mA±10%±10%±3%±3%±5%83.5%0.96/230Vac0.96/230Vaccup; Dimmer type: Short-circuit power ≤100pre-power on to recovercup; Dimmer type: Short-circuit power ≤100pre-power on to recovery< z axes.	±5%			
	Efficiency	86.5%	86.5%	85%	83.5%			
	Power Factor	0.96/230Vac	0.96/230Vac	0.96/230Vac	0.96/230Vac			
Input	AC Current	0.5A/100Vac, 0.25A/23	30Vac	12~20Vdc $9^{-15Vdc}$ $8^{-12Vdc}$ 2300mA3000mA3800mA0~2300mA0~3000mA0~3800mA10^{-100% rated output current (>250% rated output voltage)10%Vo10%Vo10%Vo10%Vo18~21Vdc14~16Vdc11~13Vdc1380~2300mA1800~3000mA2280~3800mA±10%±10%±10%±3%±3%±3%±5%±5%±5%86.5%85%83.5%0.96/230Vac0.96/230Vac0.96/230Vac0.96/230Vac0.96/230Vac0.96/230Vacac	L			
	Leakage Current	<0.75mA/230Vac; <0.5	imA/120Vac		15Vdc12Vdc9~15Vdc8~12Vdc3000mA3800mA0~3000mA0~3800mAcurrent (≥50% rate ∪ utput voltage)10%Vo10%Vo14~16Vdc11~13Vdc1800~3000mA2280~3800mA±10%±10%±3%±3%±5%83.5%0.96/230Vac0.96/230Vac0.96/230Vac0.96/230Vac0.96/230Vac0.96/230Vac0.96/230Vac0.96/230Vac0.96/230Vac0.96/230Vac2 axes.0.96/230Vacre discharge tube); O/P-FG: 2.00KVac½% RH3361000-3-3204, EN61547, EN55024/REACH1per MIL-HDBK-217F48 hoursada and 25°C of ambient temperature.air-wire terminated with a 0.1µf & 47µf pare only).gulation.his is the suitable operation region for LEDaccteristics for more details.100.1, FCC part18.supply may lead to increase of the set up			
	Over Current	Constant current limiti	ng					
Output								
Protection	Over Voltage	Shut down at 140% Vo	10%Vo       10%Vo         18~21Vdc       14~16Vdc         1380~2300mA       1800~3000mA         2280~3800mA       1380         ±10%       ±10%         ±10%       ±10%         ±3%       ±3%         ±5%       ±5%         ±5%       ±5%         86.5%       85%         0.96/230Vac       0.96/230Vac         0.96/230Vac       0.96/230Vac         230Vac       0.96/230Vac         .5mA/120Vac       10mmer type: Short-circuit power ≤10W.         0 and latch off o/p voltage, re-power on to recover         densing         If or 60min, each along X、Y、Z axes.         FG: 1.56KVac/2.00KVac (remove discharge tube); O/P-FG: 2.00KVac         100M Ohms/500Vdc/25°C/70% RH         D15, EN55022 (CISPR22) Class B         000-3-2 Class C (≥50%load); EN61000-3-3         000-4-2, 3, 4, 5, 6, 8, 11; ENV50204, EN61547, EN55024         TUV/CE/RoHS/REACH         and 30°C ambient conditions per MIL-HDBK-217F         rt-voltage stress of 320Vac for 48 hours         sured at 230Vac input, rated load and 25°C of ambient temperature.         vidth by using a 12″ twisted pair-wire terminated with a 0.1µf & 47µf parallel capacitor.         terral potentiometer ("A" type only).   <					
	Operating Humidity							
	Storage Humidity							
Environmental	Temperature Coefficient	t ±0.03%/°C (0~50°C)						
	Vibration	10~300Hz, 1G, Period	for 60min, each along X、	3000mA       3800mA         0~3000mA       0~3800mA         put current (≥50% rated output voltage)         10%Vo       10%Vo         14~16Vdc       11~13Vdc         1800~3000mA       2280~3800mA         ±10%       ±10%         ±10%       ±10%         ±10%       ±10%         ±5%       ±5%         ±5%       ±5%         85%       83.5%         0.96/230Vac       0.96/230Vac         up; Dimmer type: Short-circuit power ≤10W.         , re-power on to recover         "Y、Z axes.         move discharge tube); O/P-FG: 2.00KVac         ?/70% RH         sss B         E N61000-3-3         VV50204, EN61547, EN55024         OHS/REACH         ohs per MIL-HDBK-217F         for 48 hours         ed load and 25 °C of ambient temperature.         d pair-wire terminated with a 0.1µf & 47µf parallel         type only).         d regulation.         e. This is the suitable operation region for LED relat         gn.         Characteristics for more details.         B7000.1, FCC part18.         wer supply may lead to increase of the set up time				
	Withstand Voltage	I/P-OP: 3.75KVac; IP-F	G: 1.56KVac/2.00KVac (re	move discharge tube); O	discharge tube); O/P-FG: 2.00KVac			
	Isolation Resistance							
Safety & EMC	EMC Interference							
	EMC Emission							
	EMC Immunity	Compliance to EN6100	0-4-2, 3, 4, 5, 6, 8, 11; El	3000mA3800mA $0^{\sim}3000mA$ $0^{\sim}3800mA$ utput current ( $\geq$ 50% rated output voltage)10% Vo10% Vo14~16Vdc11~13Vdc1800~3000mA2280~3800mA $\pm 10\%$ $\pm 10\%$ $\pm 10\%$ $\pm 10\%$ $\pm 5\%$ $\pm 5\%$ $\pm 5\%$ $\pm 5\%$ $\pm 5\%$ $\pm 5\%$ $0.96/230Vac$ $0.96/230Vac$ 0.96/230Vac $0.96/230Vac$ $0.7070\% RH$				
	Authentication		TUV/CE/R	oHS/REACH				
	MTBF	324k Hrs at full load ar	1380~2300mA         1800~3000mA         2280~3800mA           ±10%         ±10%         ±10%           ±3%         ±3%         ±3%           ±5%         ±5%         ±5%           86.5%         85%         83.5%           0.96/230Vac         0.96/230Vac         0.96/230Vac           0.96/230Vac         0.96/230Vac         0.96/230Vac           0.5mA/120Vac         0.96/230Vac         0.96/230Vac           0.5mA/120Vac         0.96/230Vac         0.96/230Vac           0.5mA/120Vac         0.96/230Vac         0.96/230Vac           0.5mA/120Vac         0.96/230Vac         0.96/230Vac           void latch off o/p voltage, re-power on to recover         not sing           0         and latch off o/p voltage, re-power on to recover         not sing           0         bd for 60min, each along X. Y. Z axes.         2.00KVac           2:5100M Ohms/500Vdc/25°C/70% RH         3000-4-2, 3, 4, 5, 6, 8, 11; ENV50204, EN61547, EN55024         3.000-4-2, 3, 4, 5, 6, 8, 11; ENV50204, EN61547, EN55024           1000-4-2, 3, 4, 5, 6, 8, 11; ENV50204, EN61547, EN55024         1.00V/CE/RoHS/REACH         30°C           and 30°C ambient conditions per MIL-HDBK-217F         2.00Vac input, rated load and 25°C of ambient temperature.           saured at 230Vac input, rated load and 25°C of ambien	I				
	Input Over-voltage	Can survive input over	-voltage stress of 320Vac	12~20Vdc         9~15Vdc         8~12Vdc           2300mA         3000mA         3800mA           0~2300mA         0~3000mA         0~3800mA           10~100% rated output current (>250% rated output voltage)         10%Vo         11%Vo           10%Vo         10%Vo         10%Vo         11%13Vdc           13%21Vdc         14~16Vdc         11~13Vdc         1380~2300mA           110%         ±10%         ±10%         ±10%           ±3%         ±3%         ±3%         ±3%           ±5%         ±5%         ±5%         ±5%           86.5%         85%         83.5%         0.96/230Vac           0.96/230Vac         0.96/230Vac         0.96/230Vac         0.96/230Vac           /120Vac				
Others	Dimensions (mm)	169×42×34						
	Max. Case Temp.	Tc max=80°C						
	Net Weight	0.43Kg/pcs						
	2. Ripple & noise are measured: at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1µf & 47µf parallel capacitor.							
	5. Constant current operation region is within 60% ~100% rated output voltage. This is the suitable operation region for LED related applications, but please reconfirm special electrical requirements for some specific system design.							
Note								
	8. Length of set up time is measured at cold first start. Turning ON/OFF the power supply may lead to increase of the set up time.							
	9. The power supply is considered as a component that will be operated in combination with final equipment. Since EMC performance will be affected							
	by the complete installation, the final equipment manufacturers must re-qualify EMC Directive on the complete installation again.							
	10. Canada (output voltage: 42-60V) : suitable for class 2 wiring method.							

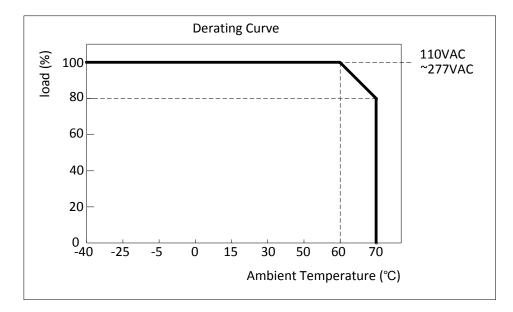
#### ImPow Part number code R 045 -024 S 190 A TΑ D \_ Optional mode: two letters Default: no additional features Lighting products TA: DALI dimming function, isolated output TC: 3 in 1 dimming function (PWM, resistance, voltage) TE: Customized timeshare dimming E: Economic LED driver Optional mode: one letter R: High performance LED driver Default: no additional features H: High efficiency LED driver A: output voltage and current can be adjusted Output current(×10mA): three numbers Filled 0 in front of it when less than 3; Output power(W): three numbers four numbers are available if needed. Filled 0 in front of it when less than 3. For example: 190 means 1900mA, 035 means 350mA Output channel: one letter Output voltage(V): three numbers S: Single channel output D: Double channel output Filled 0 in front of it when less than 3. Q: Quadruple channel output T: Triple channel output For example: 143 means 143V, 024 means 24V F: Quintuple channel output H: sextuple channel output

For example: DR045-024S190A-TA means: high performance LED driver; output power 45W; output voltage 24Vdc; output current 1900mA; single output; output voltage and current can be adjusted; with DALI dimming function and isolated output.

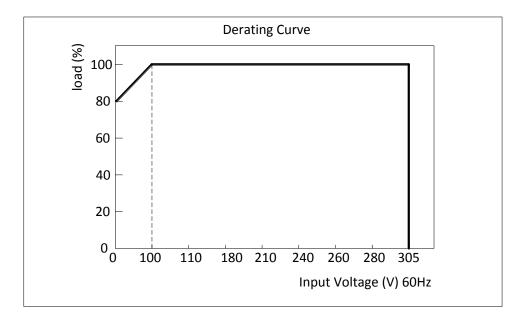
### wiring diagram



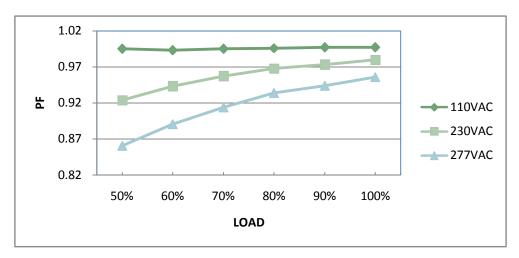
### Derating Curve



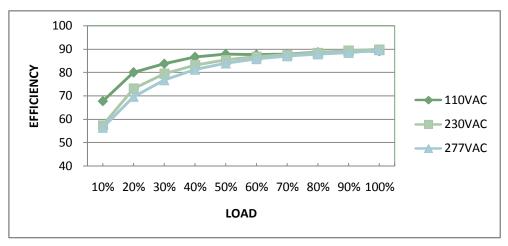
#### Static Characteristics



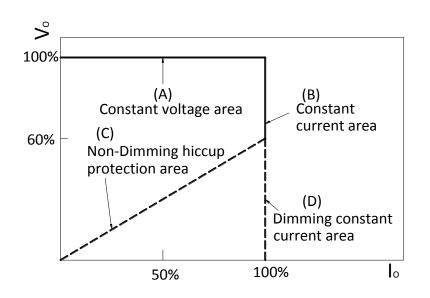
■ Power Factor Characteristic (DR045-033S140)



#### ■ EFFICIENCY vs LOAD (DR045-033S140)

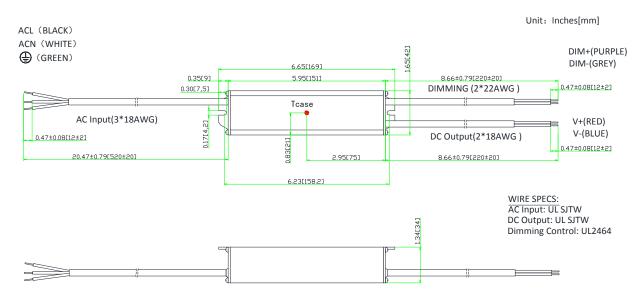


■ Typical LED power supply I-V curve





#### Mechanical Outline



%Tcase: Max. Case Temperature

%Power's internal temperature is 10  $^\circ$ C warmer than case temperature. %No dimming control wire if without dimming function.

#### ■ "A" option

- a. Output voltage and current can be adjusted by internal potentiometer.
- b. IP65.
- c. These products shall be enclosed in the end product, when the unit provided with voltage and current adjustable holes.

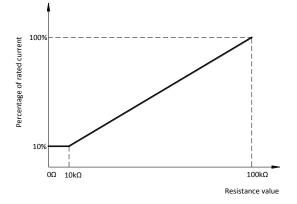
#### • "-TA" option: DALI dimming

- a. DALI Testing Software: Please refer to <u>www.impowercorp.com</u> for downloading.
- b. Percentage of rated current: 10%~100%.
- c. "TA" version LED driver shall work with a DALI Master and DALI Master control software.

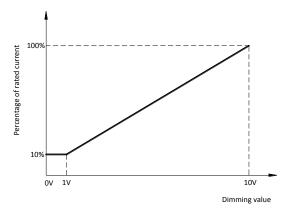


### ■ "-TC" option: 0-10V, resistance & PWM dimming

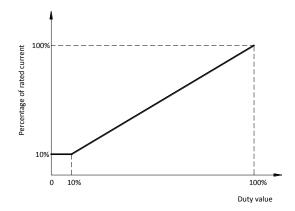
a. Reference resistance value for output current adjustment (Typical)



#### b. 0-10V dimming function for output current adjustment (Typical)



c. 10V PWM signal for output current adjustment (Typical): Frequency range: 200Hz~1.5KHz





Dimming control details:

	Parameters	Minimum	Typical	Maximum
Dimming Type	Resistance	0kΩ	0-100kΩ	∞
	Voltage	-2V	0-10V	15V
	PWM(10%~100% f=200Hz~1.5KHz)	-2V	0-10V	15V
Dimming Current		-0.5mA	-	0.5mA

#### ■ "-TE" option: Customized timeshare dimming.

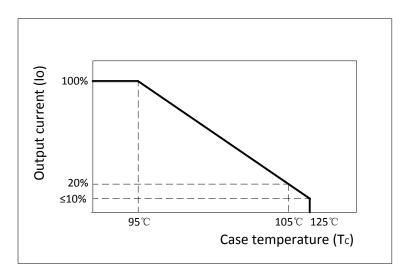
a. Different output current (10% - 100% rate output current) can be set for different time periods.

- b. Maximum 4 sections is available. The minimum length is 0 to maximum 12 hours for each section.
- c. The parameter can't be changed after shipping.

#### Input and output Dielectric strength

Isolation	Input Wires	Output Wires	Isolated Dimming Control Wires	Chassis
Input Wires	NA	3750	2000	1560/2000(remove discharge tube)
Output Wires	3750	NA	2000	2000
Isolated Dimming Control Wires	2000	2000	NA	2000
Chassis	1560/2000(remove discharge tube)	2000	2000	NA

#### ■ Fixed derating-cutoff type temperature protection



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