

MCF	( <b>G</b> )	-200	W	Seri	es
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200W Outdoor Driver

#### **PRODUCT FEATURE**

- Input voltage range: 90~305 Vac;
- Constant power design, outputs programmable;
- Adjustable output current by software
- Multiple dimming capability (P types): 0/1~10Vdc / PWM / Step time dimming;
- Dim to Off
- Support DALI Dimming (L types): DALI-2 DT6
- Provide auxiliary power: 5V/ 12V/ 24V, 2.4W max:
- Surge protection: 5KV line-line, 10KV line-earth;
- Protections: SCP / OVP / OTP;
- IP67 design for indoor and outdoor applications;
- Suitable for dry / damp / wet locations;

(6

5 years warranty

Notes : MCF-200 0 is Class I type, MCG-200 is Class II type

#### APPLICATION

Street Lighting, architecture lighting, industrial lighting, flood lighting, etc.

#### MODEL ENCODING

<u>M C F - 200 - 062 X</u>

1	2	3	4	5	

Project Name:	
Type:	



#### WARRANTY

• See <u>Limited Warranty Policy</u> for more additional information

<b>Y</b> 6)	SERIAL NUMBER	ITEM	DEFINITION
9	1	Structure	<ul> <li>M: Metal case</li> <li>P: Plastic case</li> <li>O: Open frame</li> <li>(It can add module power supply, iron shell power supply, and etc.)</li> </ul>
	2	Туре	<ul> <li>C: Constant current</li> <li>V: Constant voltage</li> <li>P: Constant current &amp; constant voltage</li> <li>(Other specifications can be defined later, such as</li> <li>I: Industrial power supply,</li> <li>R: Rainproof power supply,</li> <li>S: Customized power supply, etc.)</li> </ul>
	3	Series Name	F: Class I G: Class II
	(4)	Rated Wattage	3 to 4 digits (such as 105 means 105)
	5	Output Voltage	Maximum voltage
	6	Dimming	<ul> <li>X (N: No dimming,</li> <li>P: Programmable with wire dimming and time step dimming,</li> <li>L: DALI dimming</li> <li>Y (Y=0-24v auxiliary power supply)</li> </ul>

DIMMING	FUNCTION	NOTES		
Р	Programmable with wire dimming and time step dimming			
L	Dimming capability EN62386-101(DALI-2), EN62386-102(DALI-2), EN62386-207 (DALI-2)			
P12	Programmable with wire dimming and time step dimming, 12v auxiliary power supply			
L5	Dimming capability EN62386-101(DALI-2), EN62386-102(DALI-2), EN62386-207 (DALI-2), 5V auxiliary power supply	Auxiliary power supply isolated from the		
L12 Dimming capability EN62386-101(DALI-2), EN62386-102(DALI-2), EN62386-207 (DALI-2), 12v auxiliary power supply		output		
L24	Dimming capability EN62386-101(DALI-2),EN62386-102(DALI-2), EN62386-207 (DALI-2), 24V auxiliary power supply			



# MCF(G)-200W Series

Project Name:	
Туре:	

Output Voitage Range (V)         20         41         38         62         48         96         70         143         96         191         143         282           Rated Current (A)         4.88         -6.67         3.23         -5.00         1.40         -2.10         1.05         -1.50         0.7         -1.05           Output Current Setting Range/ Dimming Range (A)         0.67         -6.67         0.50         -5.00         0.30         -2.10         1.05         -1.50         0.10         -1.0           Corrent (Typ.)         Silv or Ion max. (IPK.AV) /AV) with LED loading mode and full load.)         -			SPECIFICATIO	N				
MCFGP: 200-XXX         Image: Second Sec		MODEL	041	062	006	140	101	296
Valtage Range (V)         90 - 305Vac, or 127 - 430Vdc           INPUT         Interest Valtage (V)         100 - 277Vac           INPUT         Frequency Range (H2)         47 - 63           Power Factor         PF = 0.971/20Vac, PF = 0.957/277Vac, at full load           THD         THD 1000 Wine output loading 350% at 120VaC (230VAC Inf Valtage Softw.r777Vac, at full load           AC Current (Max)         2.23 MAX at 120Vac, 1.24 MAX at 230VaC, Per NEMAND (Take refer to 110 Vs. Load Curve for detable)           MAX. No. of PSU on 165 Circuit Breaker         3 units (circuit breaker of type 0) at 230VAC, Per NEMAND (Take refer to 110 vs. Load Curve for detable)           MAX. No. of PSU on 165 Circuit Breaker         3 units (circuit breaker of type 0) at 230VAC, Standby Power Consumption         30 - 41         40 - 62         67 - 65         95 - 143         133 - 191         191 - 266           MAX. No. of PSU on 165 Circuit Breaker         3 units (circuit breaker of type 0) at 230VAC         133 - 191         191 - 266           Rated Output Vottage Range (V)         20 - 41         38 - 62         133 - 191         191 - 266           Output Vottage Range (A)         488 - 657         323 - 5,00         2,10         1,05 - 1,50         0,10 - 1,0           Output Vottage Range (A)         488 - 657         3,23 - 5,00         2,10         0,57 - 1,50         0,70 - 1,0           Rate		041	062	096	145	191	280	
Rated Voltage (V)         100 - 2771/a: Frequency Rage (Ik)           INPUT         Rated Voltage (V)         107 - 63           INPUT         ThD         ThD= 0.57/ 120 Vac, PE - 0.52/ 270		Efficiency (230Vac) Typ.		I	92	.%	I	
Rated Voltage (V)         100 - 2771/a: Frequency Rage (Ik)           INPUT         Rated Voltage (V)         107 - 63           INPUT         ThD         ThD= 0.57/ 120 Vac, PE - 0.52/ 270		Voltage Range (V)			90 – 305Vac, o	r 127 – 430Vdc		
Prequency Range (Hz)         47 - 63           Power Factor         PF > 0.97/120Xac, PF > 0.97/27Xac, at fulload           INPUT         THD         THD-10% When output loading ≥ 50% o.27/27Xac, at fulload           AC Current (Max)         CALD 15% when output loading ≥ 50% of 127XAC, T30VAC         THD AC Current (Max)           Inrush Current (Max)         COLD START 100A (width=39% measured at 50% load), a 250VAC, Per NEMA110         Leakage Current (Max)           Issue (Critical breaker of type (B) / 6 units (circuit breaker of type (B) / 6 units (circuit breaker of type (C) at 230VAC.         Standby Power Consumption           Standby Power Consumption         Standby Power Consumption 0.5W         Standby Power Consumption 0.5W           Rated Current (A)         48 = 6.67         323 - 50         2.10 - 3.00         0.21 - 2.10         0.15 - 1.50         0.7 - 1.02           Output Current Setting Range (A)         4.88 - 6.67         5.23 - 5.00         2.10 - 3.00         1.40 - 2.10         1.65 - 1.50         0.7 - 1.02           Current Tolerance         Current Tolerance         5% of 1.0 max (C)KAVAN (AV) with LED loading mode and full load.         1.00 - 1.00         1.05 - 1.50         0.70 - 1.02           Current Tolerance         5% of 1.0 max (C)KAVAN (AV) with LED loading mode and full load.         1.00 - 1.00         1.05 - 1.50         0.70 - 1.02           Dim to Off         21V Max <th></th> <th></th> <th colspan="6"></th>								
Power Factor         PF > 0.97/120Vac, PF > 0.92/27/Vac at full load           INPUT         THD								
INPUT         THD         THD<			P	= > 0 97/ 120Vac			277Vac at full lo	he
Inrush Current (Max)         COLD START 100A (twidth=39µs measured at 50% ipeak) at 230VAC, Per NEMA410           Leakage Current (Max)         0.757mA at 277Vac/60Hz           MAX. No. of PSUs on 165 Circuit Breaker         3 units (circuit breaker of type 0) / 6 units (circuit breaker of type 0) at 230VAC           Standby Power Consumption         Standby Power Consumption <0.5W           Rated Output Voltage Range (V)         30 - 41         40 - 62         67 - 96         55 - 143         133 - 191         191 - 286           Output Voltage Range (V)         20 - 41         38 - 62         67 - 96         55 - 143         183 - 191         191 - 286           Rated Current (A)         488 - 6.67         3.23 - 5.00         2.10 - 3.00         1.40 - 2.10         0.15 - 1.50         0.10 - 1.0           Constant Power (W)         0.67 - 6.67         0.50 - 5.00         0.30 - 3.00         0.21 - 2.10         0.15 - 1.50         0.70 - 1.0           Current Tolerance         -5%         -5%         0.70 - 1.0         1.05 - 1.50         0.70 - 1.0           Current Tolerance         -5%         -5%         0.70 - 1.0         1.05 - 1.50         0.70 - 1.0           Current Tolerance         -5%         0.70 - 1.0         1.05 - 1.50         0.70 - 1.0           Setup Time         -5% - 1.0         30V Max	INPUT		THD<10% when output loading $\ge$ 50% at 120VAC/ 230VAC THD<15% when output loading $\ge$ 50% at 277VAC					
Leakage Current (Max)         0.75mA at 277Vac/60H2           MAX. No. of FSUs on 16S Circuit Breaker         3 units (circuit breaker of type B) vanits (circu		AC Current (Max)		2.3A	MAX at 120Vac,	1.2A MAX at 23	0Vac	
MAX. No. of PSUs on 165 Circuit Breaker         3 units (circuit breaker of type B) / 6 units (circuit breaker of type C) at 230VAC           Standby Power Consumption         Standby Power Consumption -0.5W         Standby Power Consumption -0.5W           Rated Output Voltage Range (V)         20 - 41         38 - 62         48 - 96         70 - 143         96 - 191         143 - 286           Rated Current (A)         4.88 - 6.67         3.23 - 5.00         2.10 - 3.00         1.40 - 2.10         1.05 - 1.50         0.7 - 1.05           Rated Current (A)         4.88 - 6.67         3.23 - 5.00         2.10 - 3.00         1.40 - 2.10         0.55 - 1.50         0.70 - 1.05           Constant Power (W)         0.67 - 6.67         0.50 - 5.00         3.30 - 3.00         0.21 - 2.10         0.15 - 1.50         0.70 - 1.05           Current Tolerance		Inrush Current (Max)	COLD STA	RT 100A (twidth	i=39µs measure	d at 50% Ipeak)	at 230VAC, Per	NEMA410
Standby Power Consumption         Standby Power Consumption <0.5W		Leakage Current (Max)			0.75mA at 2	77Vac/60Hz		
Standby Power Consumption         Standby Power Consumption <0.5W		MAX. No. of PSUs on 16S Circuit Breaker	3 units	circuit breaker	of type B) / 6 un	its (circuit breal	(er of type C) at	230VAC
Rated Output Voltage (V)         30 - 41         40 - 62         67 - 96         95 - 143         133 - 191         191 - 191 - 282           Output Voltage Range (V)         20 - 41         38 - 62         48 - 96         70 - 143         96 - 191         143 - 286           Rated Current (A)         4.88 - 6.67         32 - 5.00         2.10 - 3.00         1.40 - 2.10         0.15 - 1.50         0.17 - 1.05           Rated Power (W)         200         200         200         0.17 - 1.05         0.15 - 1.50         0.10 - 1.0           Output Current Setting Range/         0.67 - 6.67         0.50 - 5.00         0.30 - 3.00         0.21 - 2.10         0.15 - 1.50         0.70 - 1.0           Ripple Current Tipp)         5% of 10_max. (IPK-AU/AV) AVI with LED loading mode and full load.)         -25%         -210 - 3.00         1.40 - 210         1.05 - 1.50         0.70 - 1.0           Ripple Current Tipp.         5% of 10_max. (IPK-AV/AV) AVI with LED loading mode and full load.)         -3%         -3%         -3%         -300         1.40 - 210         1.05 - 1.50         0.70 - 1.0           Start Event         5% of 10_max. (IPK-AV/AVI AVI with LED loading mode and full load.)         -3%         -3%         -3%         -300         -300         -210 - 210         1.05 - 1.50         -300 Max         Mor Max         8		Standby Power Consumption						
Output Voitage Range (V)         20 - 41         38 - 62         48 - 96         70 - 143         96 - 191         143 - 285           Rated Current (A)         4.88 - 6.67         3.23 - 5.00         1.40 - 2.10         1.05 - 1.50         0.7 - 1.05           Rated Power (W)			30 – 41	1	-		1	191 – 286
Rated Current (A)         4.88 - 6.67         3.23 - 5.00         2.10 - 3.00         1.40 - 2.10         1.05 - 1.50         0.7 - 1.05           Rated Power (W)         0         7         0         7         7         7           Output Current Setting Range/ Dimming Range (A)         0.67 - 6.67         0.50 - 5.00         0.30 - 3.00         0.14 - 2.10         0.15 - 1.50         0.70 - 1.00           Ripple Current (Typ.)         5% of lo.max. ((PK-AV) /AV) with LED loading mode and full load.)         0.70 - 1.00         1.05 - 1.50         0.70 - 1.00           Current Tolerance         -5%         5% of lo.max. ((PK-AV) /AV) with LED loading mode and full load.)         0.70 - 1.00           Current Tolerance         -5%         -3%         -3%         -5%         -5%           Load Regulation         -5%         -5%         -3%         -5%								143 - 286
Output Current Setting Range (A)         0.67 - 6.67         0.50 - 5.00         0.30 - 3.00         0.21 - 2.10         0.15 - 1.50         0.10 - 1.0           Constant Power Setting Range (A)         4.88 - 6.67         3.23 - 5.00         2.10 - 3.00         1.40 - 2.10         1.05 - 1.50         0.70 - 1.0           Ripple Current (Typ.)         5% of lo_max. ((PK-AV) /AV) with LED loading mode and full load.)         -								0.7 – 1.05
Dimming Range (A)         0.57 - 5.07         0.50 - 5.00         0.50 - 5.00         0.10 - 1.00         0.10 - 1.00           Constant Power Setting Range (A)         4.88 - 6.67         3.23 - 5.00         2.10 - 3.00         1.40 - 2.10         0.10 - 1.00           Ripple Current (Typ.)         S% of Io_max. (IRK-AV) (AV) with LED loading mode full load)         -		Rated Power (W)			20	00	r	
Ripple Current (Typ.)         Sw of lo_max. ((PK-AV) /AV) with LED loading mode and full load.)           OUTPUT         Current Tolerance         <\$% of lo_max. ((PK-AV) /AV) with LED loading mode and full load.)           OUTPUT         Line Regulation         <3%           Load Regulation         <3%           Setup Time         <1s, at 120Vac; <0.5s, at 230Vac           DC AUX Power (P12 Type)         Max Output Current: 200mA; Output Voltage Tolerance: ±10%; Max Output Current: 2.4W           Dim to Off         21V Max         25V Max         30V Max         40V Max         80V Max           PROTECTION         DiM+ Short/Source Current         150uA-350uA         80V Max         80V Max           Vorking Temperature Protect (SCP)         Hiccup mode, recover automatically with short circuit removed.         MAX. output voltage.           Over Voltage Protect (OVP)         Voltage limiting. Output current, is decreased if the required loading voltage is higher tha MAX. output voltage.           Morking Temperature Protect (OTP)         Decrease the output current, but not less than 20% of rated output current, recover automatically with short short ACUL voltage.           Vibration         10-500Hz, SG 12min/cycle, period for 72min each along X, Y, 2 axes           SafeETY         Safety Standard         UL8750, CSA C22.2 No. 250.3121; ENCE KO13471, EN61347-2-13 independent, EN62384; GB19510.1, GB19510.14           Witstand Voltage		Dimming Range (A)						0.10 - 1.05
Current Tolerance         <5%								
OUTPUT         Line Regulation         -3%           Load Regulation         -3%           Setup Time         -3%           Setup Time         -3%           DC AUX Power (P12 Type)         -3%           DIm to Off         21V Max         30V Max         40V Max           DIm to Off         21V Max         25V Max         30V Max         60V Max         80V Max           DIM to Off         21V Max         25V Max         30V Max         60V Max         80V Max           Short Circuit Protect (SCP)         Hiccup mode, recover automatically with short circuit removed.         Voltage limiting. Output Current is decreased if the required loading voltage is higher tha MAX. output voltage.           Over Voltage Protect (OVP)         Voltage limiting. Output current is decreased if the required loading voltage is higher tha MAX. output voltage.           Working Temperature Protect (OTP)         Decrease the output current, but not less than 20% of rated output current, recover automatically once the fault condition is removed.           Working Temperature (Tc)         -00-95%RH           Storage Temp., Humidity         -00-95%RH           Vibration         10-500Hz, 5G 12min/cycle, period for 72min each along X, Y, Z axes           Safety Standard         IUR>50, CSA C22.2 No. 250.312; ENEC EN61347-1; EN61347-2-13           Bolation Resistance         I/P-O/P,			5	% of Io_max. ((P			oading mode and full load.)	l.)
Load Regulation         <3%           Setup Time         <15, at 120Vac; <0.5s, at 230Vac;           Setup Time         SV12V/2V Selectable;           DC AUX Power (P12 Type)         Max Output Current: 200mA;           Output Voltage Tolerance: ±10%;         Max Output Power: 2.4W           Dim to Off         21V Max         25V Max         30V Max         40V Max         60V Max         80V Max           PROTECTION         Dim to Off         21V Max         25V Max         30V Max         40V Max         60V Max         80V Max           Short Circuit Protect (SCP)         Hiccup mode, recover automatically with short circuit removed.          80V Max         40V Max         60V Max         80V Max           Over Voltage Protect (OVP)         Voltage limiting. Output current is decreased if the required loading voltage is higher tha MAX. output voltage.             Morking Temperature Protect (OTP)         Decrease the output current, but not less than 20% of rated output current, recover automatically once the fault condition is removed.            Morking Temperature (Tc)         90°C max             Vibration         10-500Hz, 5612min/cycle, period for 72min each along X, Y, Z axes            Safety Standard         UL8750, CSA C22.2 No. 250.31-12; ENEC EN61347-1; EN61347-2-13	OUTPUT							
Setup Time         <1s, at 120Vac; <0.5s, at 230Vac           SATURE CAUX Power (P12 Type)         5V/12V/24V Selectable; Max Output Current; 200mA; Output Voltage Tolerance; ±10%; Max Output Power: 2.4W           Dim to Off         21V Max         25V Max         30V Max         40V Max         60V Max         80V Max           DIM to Off         21V Max         25V Max         30V Max         40V Max         60V Max         80V Max           Short Circuit Protect (SCP)         Hiccup mode, recover automatically with short circuit removed.         150uA-350uA           Over Voltage Protect (OVP)         Voltage limiting. Output current is decreased if the required loading voltage is higher tha MAX. output voltage.           Over Temperature Protect (OTP)         Decrease the output current, but not less than 20% of rated output current, recover automatically once the fault condition is removed.           Max. Case Temperature (Tc)         90°C max           Working Humidity         20-95%RH           Storage Temp. Humidity         20-95%RH           Vibration         10-500Hz, 5G 12min/cycle, period for 72min each along X, Y, Z axes           Mith Stand Voltage         IP-O/P, I/P-FG:165VaG, O/P-FG: 16VA           Biolation Resistance         I/P-O/P, I/P-FG:165VaG, O/P-FG: 1000 Along; (Surge'C) 70% RH)           EMC Emission         FCC PN-73, 55VaG, (IP-FG:154V, Curre); 10KV)           MTBF	001101				-	-		
DC AUX Power (P12 Type)       Max Output Current: 20mA; Output Voltage Tolerance: ±10%; Max Output Power 2.4W         Dim to Off       21V Max       25V Max       30V Max       40V Max       60V Max       80V Max         DIM: Short/Source Current       21V Max       25V Max       30V Max       40V Max       60V Max       80V Max         PROTECTION       DIM: Short/Source Current       150uA-350uA       60V Max       80V Max       60V Max       80V Max         PROTECTION       Over Voltage Protect (GVP)       Hiccup mode, recover automatically with short circuit removed.       Max Output current, but not less than 20% of rated output current, recover automatically once the fault condition is removed.         Morking Temperature Protect (OTP)       Decrease the output current, but not less than 20% of rated output current, recover automatically once the fault condition is removed.         Morking Temperature (TC)       90°C max         Morking Temperature (TC)       90°C max         Morking Humidity       400-40% Cl22.2 No. 250.13-12; ENE CIN147-1; EN61347-2-13         Max Case Temperature (TC)       90°C max         Morking Temperature       90°C max         Storage Temp, Humidity       400-40% Cl22.2 No. 250.13-12; ENE CIN147-1; EN61347.2 Taxes         Max Case Temperature (TC)       90°C max         Storage Temp, Humidity       105-50/Hz, S51 12mi/r/yCle, period for 72min e		V						
Dim to Off         Yes, but need to take refer to the above turn-off voltage           DIM+ Short/Source Current         150uA-350uA           Short Circuit Protect (SCP)         Hiccup mode, recover automatically with short circuit removed.           Over Voltage Protect (OVP)         Voltage limiting. Output current is decreased if the required loading voltage is higher tha MAX, output voltage.           Over Temperature Protect (OTP)         Decrease the output current, but not less than 20% of rated output current, recover automatically once the fault condition is removed.           Working Temperature         -40~+60°C(Refer to 'Derating Curve')           Max. Case Temperature (TC)         90°C max           Working Humidity         20~95%RH           Storage Temp., Humidity         -40~+85°C, 10-95%RH           Vibration         10-500Hz, 5G 12min/cycle, period for 72min each along X, Y, Z axes           SAFETY & Safety Standard         UL8750, CSA C22.2 No. 250.13-12; ENEC EN61347-1; EN61347-2-13 independent, EN62384; GB19510.1,GB19510.14           Withstand Voltage         I/P-O/P; 3.75KVac; //P-FG: 1.05KVac; O/P-FG: 1.5KVac           & EMC         ISolation Resistance         I/P-O/P; 0/P; I/P-FG; 100M Ohms (500VDC / 25°C/ 70% RH)           EMC Emission         FCC Part 15 Class B/ EN55015, EN61000-3-2 Class C, EN61000-3-3           EMC Immunity         EN61000-4-2,3,4,5,6,8,11, EN61547 (Surge: L-N: ±5kV, L,N-FG: ±10kV)           MTBF         2000		DC AUX Power (P12 Type)	Max Output Current:200mA; Output Voltage Tolerance: ±10%;					
Short Circuit Protect (SCP)         Hiccup mode, recover automatically with short circuit removed.           Over Voltage Protect (OVP)         Voltage limiting. Output current is decreased if the required loading voltage is higher tha MAX, output voltage.           Over Temperature Protect (OTP)         Decrease the output current, but not less than 20% of rated output current, recover automatically once the fault condition is removed.           Max. Case Temperature (Tc)         Decrease the output current, but not less than 20% of rated output current, recover automatically once the fault condition is removed.           Working Temperature (Tc)         90°C max           Working Humidity         20-95%RH           Storage Temp., Humidity         -40-+85°C, 10-95%RH           Vibration         10-500Hz, 5G 12min/cycle, period for 72min each along X, Y, Z axes           Safety Standard         UL8750, CSA C22.2 No. 250.13-12; ENEC EN61347-1, EN61347-2-13 in independent, EN62384; GB19510.1, GB19510.14           %         Withstand Voltage         I/P-0/P; J/P-FG, 0/P-FG: 100M Ohms (500VDC / 25°C/ 70% RH)           EMC Emission         FCC Part 15 Class B/ EN55015, EN61000-3-2 Class C, EN61000-3-3           EMC Immunity         EN61000-4-2,3,4,5,6,8,11, EN61547 (Surge: L-N: ±5KV, L,N-FG: ±10KV)           MTBF         200000Hrs @25°C±10°C ambient temperature (Refer to 'Lifetime Curve')           Dimension         204 x 66.2 x 38.5 (L x W x H)           Weight (Typ.)         1050 ± 100g		Dim to Off						80V Max
PROTECTION         Over Voltage Protect (OVP)         Voltage limiting. Output current is decreased if the required loading voltage is higher tha MAX. output voltage.           Over Temperature Protect (OTP)         Decrease the output current, but not less than 20% of rated output current, recover automatically once the fault condition is removed.           Morking Temperature         -40~+60°C(Refer to 'Derating Curve')           Max. Case Temperature (TC)         90°C max           Working Humidity         20-95%RH           Storage Temp., Humidity         -40~+85°C, 10-95%RH           Vibration         10-500Hz, 5G 12min/cycle, period for 72min each along X, Y, Z axes           Vibration         UU8750, CSA C22.2 No. 250.13-12; ENEC EN61347-1, EN61347-2-13 independent, EN62384; GB19510.1, GB19510.1, 4           Withstand Voltage         I/P-O/P: 3.75kVac, I/P-FG:1.5kVac           & Isolation Resistance         I/P-O/P; 3.75kVac, I/P-FG:1.5kVac           EMC         EMC Emission         FCC Part 15 Class B/ EN55015, EN61000-3-2 Class C, EN61000-3-3           EMC Immunity         EN61000-4-2.3,4,5,6,8,11, EN61547 (Surge: L-N: ±5KV, LN-FG: ±10KV)           MTBF         200000Hrs @25°c±10°C ambient temperature, 230Vac,80% load (MIL-HDBK-217F)           Lifetime         50000Hrs @25°c±10°C ambient temperature (Efer to 'Lifetime Curve')           Dimension         204 × 66.2 x 38.5 (L × W × H)           Weight (Typ.)         1050 ± 100g <th></th> <th>DIM+ Short/Source Current</th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th>		DIM+ Short/Source Current						
PROTECTION         Over Voitage Protect (OVP)         Decrease the output current, but not less than 20% of rated output current, recover automatically once the fault condition is removed.           Over Temperature Protect (OTP)         Decrease the output current, but not less than 20% of rated output current, recover automatically once the fault condition is removed.           Max. Case Temperature         -40~+60°C(Refer to 'Derating Curve')           Max. Case Temperature (Tc)         90°C max           Working Humidity         -40~+65°C, 10-95%RH           Storage Temp., Humidity         -40~+65°C, 10-95%RH           Vibration         10-500Hz, 5G 12min/cycle, period for 72min each along X, Y, Z axes           SAFETY         Safety Standard         UL8750, CSA C22.2 No. 250.13-12; ENEC EN61347-1, EN61347-2-13 independent, EN62384; GB19510.1, GB19510.14           Withstand Voltage         I/P-O/P; I/P-FG; O/P-FG: 100M Ohms (500VDC / 25°C/70% RH)         EMC           EMC         EMC Emission         FCC Part 15 Class B / EN55015, EN61000-3-3         EMC Inmunity         EN61000-4-2,3,4,5,6,8,11, EN61547 (Surge: L-N: ±5kV, L,N-FG: ±10kV)           MTBF         200000Hrs @25°C±10°C ambient temperature, Refer to 'Lifetime Curve')         Dimension         204 x 66.2 x 38.5 (L x W x H)           Dimension         204 x 66.2 x 38.5 (L x W x H)         Weight (Typ.)         1050 ± 100g		Short Circuit Protect (SCP)		Hiccup mode, re	cover automati	cally with short	circuit removed	
Over remperature Protect (OFP)automatically once the fault condition is removed.automatically once the fault condition is removed.automatically once the fault condition is removed.Max. Case Temperature (Tc)-40~+60°C( Refer to 'Derating Curve')Max. Case Temperature (Tc)90°C maxWorking Humidity20~95%RHStorage Temp., Humidity-40~+85°C, 10-95%RHVibration10-500Hz, 5G 12min/cycle, period for 72min each along X, Y, Z axesSAFETYSafety Standard& & & & EMCStorage Temp., HumidityVibrationUL8750, CSA C22.2 No. 250.13-12; ENEC EN61347-1, EN61347-2-13 independent, EN62384; GB19510.1, GB19510.14Withstand VoltageI/P-O/P: 3.75kVac, I/P-FG:1.65kVac, O/P-FG:1.5kVac& & & EMCIsolation ResistanceIsolation ResistanceI/P-O/P, I/P-FG, O/P-FG: 100M Ohms (500VDC / 25°C / 70% RH)EMC EmissionFCC Part 15 Class B/ EN55015, EN61000-3-2 Class C, EN61000-3-3EMC ImmunityEN61000-4-2,3,4,5,6,8,11, EN61547 (Surge: L-N: ±5kV, L,N-FG: ±10kV)OTHERSLifetimeWight (Typ.)20000Hrs @25°C±10°C canbient temperature, 230Vac,80% load (MIL-HDBK-217F)Dimension204 x 66.2 x 38.5 (L x W x H)Weight (Typ.)1050 ± 100g	PROTECTION	Over Voltage Protect (OVP)			MAX. outp	ut voltage.		0
Max. Case Temperature (Tc)90°C maxENVIRONMENTALWorking Humidity20-95%RHStorage Temp., Humidity-40-+85°C, 10-95%RHVibration10-500Hz, 5G 12min/cycle, period for 72min each along X, Y, Z axesSAFETY & & EMCSafety StandardUL8750, CSA C22.2 No. 250.13-12; ENEC EN61347-1, EN61347-2-13 independent, EN62384; GB19510.1,GB19510.14Withstand VoltageI/P-O/P: 3.75kVac, I/P-FG:1.65kVac, O/P-FG:1.5kVacIsolation ResistanceI/P-O/P, I/P-FG, O/P-FG: 100M Ohms (500VDC / 25°C/ 70% RH)EMC EmissionFCC Part 15 Class B/ EN55015, EN61000-3-2EMC ImmunityEN61000-4-2,3,4,5,6,8,11, EN61547 (Surge: L-N: ±5kV, L,N-FG: ±10kV)MTBF200000Hrs @25°C±10°C ambient temperature, 230Vac,80% load (MIL-HDBK-217F)Lifetime50000Hrs@80°C case temperature (Refer to 'Lifetime Curve')Dimension204 x 66.2 x 38.5 (L x W x H)Weight (Typ.)1050 ± 100g			Decrease t	automati	cally once the fa	ult condition is	removed.	nt, recover
ENVIRONMENTALWorking Humidity20~95%RHStorage Temp., Humidity-40~+85°C, 10-95%RHVibration10-500Hz, 5G 12min/cycle, period for 72min each along X, Y, Z axesSAFETY & & EMCSafety StandardUL8750, CSA C22.2 No. 250.13-12; ENEC EN61347-1, EN61347-2-13 independent, EN62384; GB19510.1,GB19510.14Withstand VoltageI/P-O/P: 3.75kVac, I/P-FG:1.65kVac, O/P-FG:1.5kVacBalaction ResistanceI/P-O/P, I/P-FG, O/P-FG: 100M Ohms (500VDC / 25°C/ 70% RH)EMC EmissionFCC Part 15 Class B/ EN55015, EN61000-3-2 Class C, EN61000-3-3EMC ImmunityEN61000-4-2,3,4,5,6,8,11, EN61547 (Surge: L-N: ±5kV, L,N-FG: ±10kV)MTBF200000Hrs @25°C±10°C ambient temperature, 230Vac,80% load (MIL-HDBK-217F)Lifetime50000Hrs@80°C case temperature (Refer to 'Lifetime Curve')Dimension204 x 66.2 x 38.5 (L x W x H)Weight (Typ.)1050 ± 100g		• ·		-40		or 127 - 430Vdc 277Vac 7 - 63 0Vac, PF > 0.92/277Vac at full load ding $\geq$ 50% at 120VAC/230VAC t loading $\geq$ 50% at 277VAC s. Load Curve for details) c, 1.2A MAX at 230Vac red at 50% lpeak) at 230VAC, Per NEMA410 277Vac/60Hz inits (circuit breaker of type C) at 230VAC Consumption <0.5W 95 - 143 133 - 191 191 - 286 70 - 143 96 - 191 143 - 286 70 - 143 96 - 191 143 - 286 70 - 143 96 - 191 143 - 286 70 - 1.05 0.70 - 1.05 0.70 - 1.05 0.70 - 1.05 1.40 - 2.10 1.05 - 1.50 0.70 - 1.05 1.40 - 2.10 1.05 - 1.50 0.70 - 1.05 1.40 - 2.10 1.05 - 1.50 0.70 - 1.05 At 230Vac V Selectable; 200 V Selectable; 207 V Selectable; 207 V Selectable; 208 V Selectable; 209 40V Max 60V Max 80V Max 10 the above turn-off voltage A-350UA tically with short circuit removed. di f the required loading voltage is higher tha 200 40V Max 0 f rated output current, recover fault condition is removed. to 'Derating Curve') C max 95%RH 2, 10-95%RH d for 72min each along X, Y, Z axes 2; ENEC EN61347-1, EN61347-2-13 4; GB19510.1,GB19510.14 3:1.65KVac, O/P-FG:1.5KVac I Ohms (500VDC / 25°C/ 70% RH) EN61000-3-2 Class C, EN61000-3-3 47 (Surge: L-N: ±5KV, L,N-FG: ±10kV) erature, 230Vac,80% load (MIL+HDBK-217F) rature (Refer to 'Lifetime Curve') 38.5 (L x W x H) 0 ± 100g		
Storage Temp., Humidity-40~+85°C, 10-95%RHVibration10-500Hz, 5G 12min/cycle, period for 72min each along X, Y, Z axesSafety StandardUL8750, CSA C22.2 No. 250.13-12; ENEC EN61347-1, EN61347-2-13 independent, EN62384; GB19510.1,GB19510.14Withstand VoltageI/P-O/P: 3.75kVac, I/P-FG:1.65kVac, O/P-FG:1.5kVacIsolation ResistanceI/P-O/P, I/P-FG, O/P-FG: 100M Ohms (500VDC / 25°C/ 70% RH)EMCEMC EmissionFCC Part 15 Class B/ EN55015, EN61000-3-2 Class C, EN61000-3-3EMC ImmunityEN61000-4-2,3,4,5,6,8,11, EN61547 (Surge: L-N: ±5kV, L,N-FG: ±10kV)MTBF200000Hrs @25°C±10°C ambient temperature, 230Vac,80% load (MIL-HDBK-217F)Lifetime50000Hrs@80°C case temperature (Refer to 'Lifetime Curve')Dimension204 x 66.2 x 38.5 (L x W x H)Weight (Typ.)1050 ± 100g								
Vibration10-500Hz, 5G 12min/cycle, period for 72min each along X, Y, Z axesSAFETY & EMCSafety StandardUL8750, CSA C22.2 No. 250.13-12; ENEC EN61347-1, EN61347-2-13 independent, EN62384; GB19510.1,GB19510.14Withstand VoltageI/P-O/P: 3.75kVac, I/P-FG:1.65kVac, O/P-FG:1.5kVacEMCIsolation ResistanceI/P-O/P, I/P-FG, O/P-FG: 100M Ohms (500VDC / 25°C/ 70% RH)EMC EmissionFCC Part 15 Class B/ EN55015, EN61000-3-2 Class C, EN61000-3-3EMC ImmunityEN61000-4-2,3,4,5,6,8,11, EN61547 (Surge: L-N: ±5kV, L,N-FG: ±10kV)OTHERSMTBF200000Hrs @25°C±10°C ambient temperature, 230Vac,80% load (MIL-HDBK-217F)Dimension204 x 66.2 x 38.5 (L x W x H)Weight (Typ.)1050 ± 100g		<b>`</b>						
SAFETY & EMCSafety StandardUL8750, CSA C22.2 No. 250.13-12; ENEC EN61347-1, EN61347-2-13 independent, EN62384; GB19510.1,GB19510.14Withstand VoltageI/P-O/P: 3.75kVac, I/P-FG:1.65kVac, O/P-FG:1.5kVacIsolation ResistanceI/P-O/P, I/P-FG, O/P-FG: 100M Ohms (500VDC / 25°C/ 70% RH)EMC EmissionFCC Part 15 Class B/ EN55015, EN61000-3-2 Class C, EN61000-3-3EMC ImmunityEN61000-4-2,3,4,5,6,8,11, EN61547 (Surge: L-N: ±5kV, L,N-FG: ±10kV)MTBF200000Hrs @25°C±10°C ambient temperature, 230Vac,80% load (MIL-HDBK-217F)Lifetime50000Hrs@80°C case temperature (Refer to 'Lifetime Curve')Dimension204 x 66.2 x 38.5 (L x W x H)Weight (Typ.)1050 ± 100g			10-	500Hz, 5G 12mi	,		along X、Y、Z a	xes
&         Withstand Voltage         I/P-O/P. 3/3KVal, I/P-FG.1.05kVal, O/P-FG.1.05kVal, O/P-FG.1.5kVal           EMC         Isolation Resistance         I/P-O/P, I/P-FG, O/P-FG.100M Ohms (500VDC / 25°C/70% RH)           EMC Emission         FCC Part 15 Class B/ EN55015, EN61000-3-2 Class C, EN61000-3-3           EMC Immunity         EN61000-4-2,3,4,5,6,8,11, EN61547 (Surge: L-N: ±5kV, L,N-FG: ±10kV)           MTBF         200000Hrs @25°C±10°C ambient temperature, 230Vac,80% load (MIL-HDBK-217F)           Lifetime         50000Hrs@80°C case temperature (Refer to 'Lifetime Curve')           Dimension         204 x 66.2 x 38.5 (L x W x H)           Weight (Typ.)         1050 ± 100g		UL8750, CSA C22.2 No. 250.13-12; ENEC EN61347-1, EN61347-2-13						
EMC         Isolation Resistance         I/P-O/P, I/P-FG, O/P-FG: 100M Ohms (500VDC / 25°C/ /0% RH)           EMC Emission         FCC Part 15 Class B/ EN55015, EN61000-3-2 Class C, EN61000-3-3           EMC Immunity         EN61000-4-2,3,4,5,6,8,11, EN61547 (Surge: L-N: ±5kV, L,N-FG: ±10kV)           MTBF         200000Hrs @25°C±10°C ambient temperature, 230Vac,80% load (MIL-HDBK-217F)           Lifetime         50000Hrs@80°C case temperature (Refer to 'Lifetime Curve')           Dimension         204 x 66.2 x 38.5 (L x W x H)           Weight (Typ.)         1050 ± 100g		Withstand Voltage		I/P-O/P: 3	.75kVac, I/P-FG:	1.65kVac, O/P-F	G:1.5kVac	
EMC Immunity         EN61000-4-2,3,4,5,6,8,11, EN61547 (Surge: L-N: ±5kV, L,N-FG: ±10kV)           MTBF         200000Hrs @25°C±10°C ambient temperature, 230Vac,80% load (MIL-HDBK-217F)           Lifetime         50000Hrs@80°C case temperature (Refer to 'Lifetime Curve')           Dimension         204 x 66.2 x 38.5 (L x W x H)           Weight (Typ.)         1050 ± 100g				I/P-O/P, I/P-FG, O/P-FG: 100M Ohms (500VDC / 25°C/ 70% RH)				
MTBF         200000Hrs @25°C±10°C ambient temperature, 230Vac,80% load (MIL-HDBK-217F)           Lifetime         50000Hrs@80°C case temperature (Refer to 'Lifetime Curve')           Dimension         204 x 66.2 x 38.5 (L x W x H)           Weight (Typ.)         1050 ± 100g								
Lifetime         50000Hrs@80°C case temperature (Refer to 'Lifetime Curve')           Dimension         204 x 66.2 x 38.5 (L x W x H)           Weight (Typ.)         1050 ± 100g						-		
Dimension         204 x 66.2 x 38.5 (L x W x H)           Weight (Typ.)         1050 ± 100g			20000H					ער-2ו/ד)
Weight (Typ.)         1050 ± 100g	OTHERS			55000113@80		-		
	RELIABILITY	Screen test <sup>(1)</sup>	33	6Hrs aging test	@95°C & full loa	d without temp	erature protect	ion

Notes:

1. The test results are based on 14 samples with OTP moved

2. All the data are measured under room temperature if not specified.

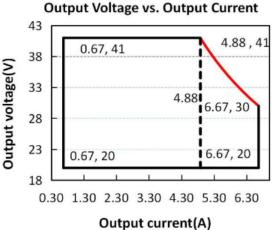
MAGTECH INDUSTRIES CORP. Reserves the right to change specifications, drawings, dimensions without prior notice. 5625 Arville St. Suite A Las Vegas NV, 89129 | Tel 702-364-9998 | csupport@magtechind.com | www.magtechind.com



200W Outdoor Driver

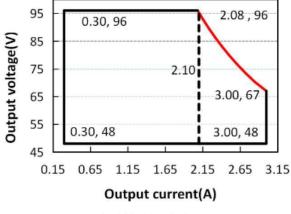
#### **OPERATING AREA I-V**

#### MCF(G)-200-041XY

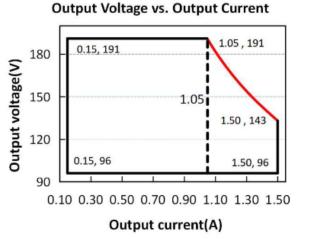


MCF(G)-200-096XY

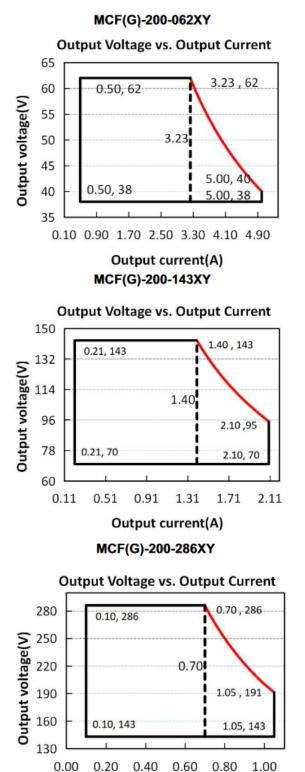
**Output Voltage vs. Output Current** 



# MCF(G)-200-191XY



Project Name:	
Туре:	

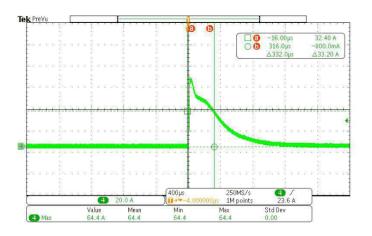


Output current(A)

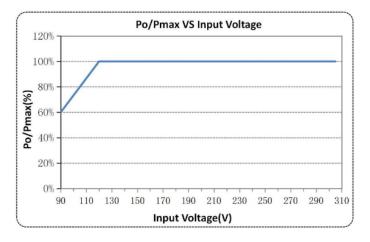
Notes: X=N is suitable for the right area of the dotted line; X=P is suitable for the solid line contain area.



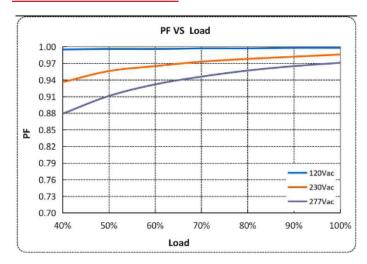
# INRUSH CURRENT WAVEFORM



# **OUTPUT POWER VS INPUT VOLTAGE**

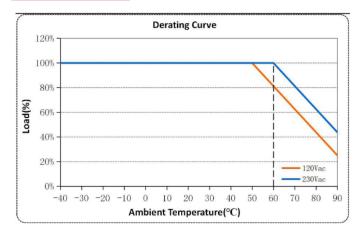


### POWER FACTOR VS LOAD

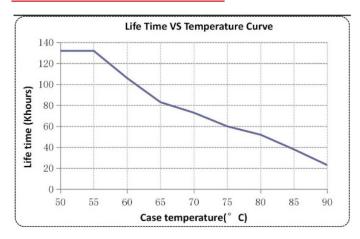


Project Name:	
Туре:	

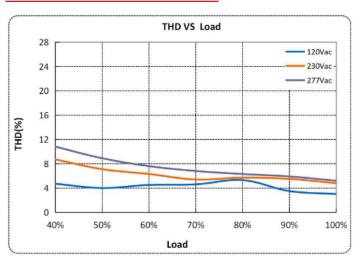
# **DERATING CURVE**



#### LIFETIME VS CASE TEMPERATURE

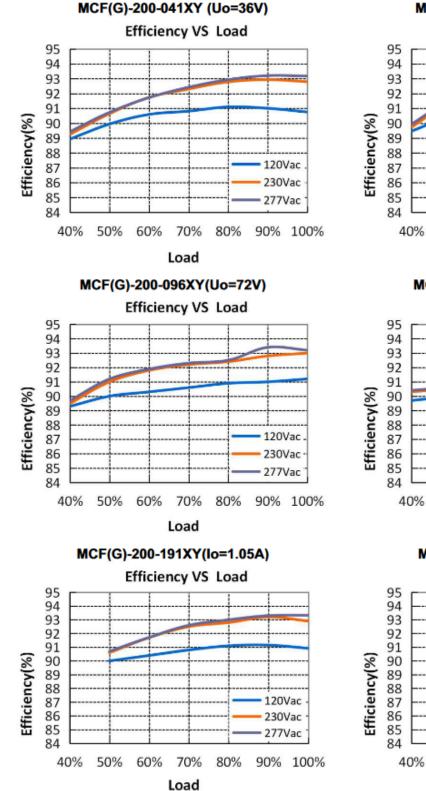


### TOTAL HARMONIC DISTORTION

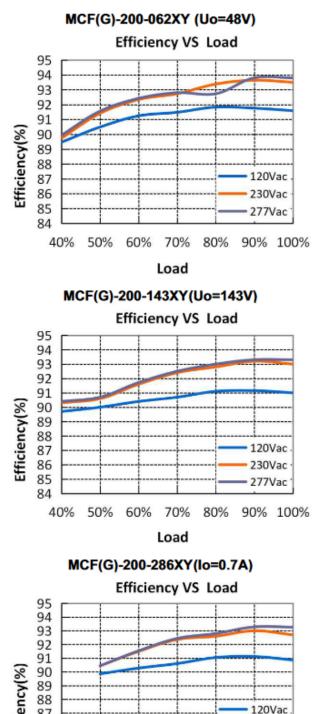




# **EFFICIENCY VS LOAD**



Project Name:	
Туре:	



50%

60%

70%

Load

80%

230Vac

277Vac

90% 100%

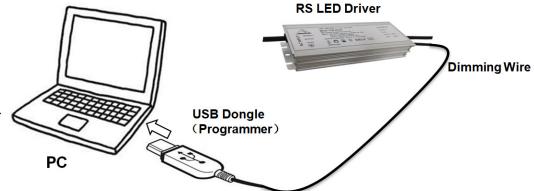


Project Name:	
Туре:	

### INSTRUCTION

1. Field Programmable Topology.

The programmable driver can be programmed by using special PC software and the programmer module.



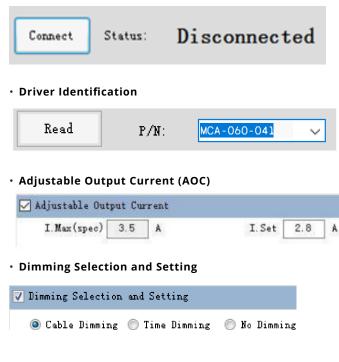
#### **Dimming Interface Description**

#### Pin description

PIN	NAME	VALUE	DESCRIPTION	COLOR
1	VAUX 5V/ 12V/ 24V	4.5V – 5.5V 10.8V – 13.2V 21.6V – 26.4V	Auxiliary DC power supply	Brown
2	VAUX GND	0V	Auxiliary DC power ground	Blue
3	Dim+/ Prog+	0 – 10V	Dimming/ Programming input	White
4	Dim-/ Com	0V	Common terminal of Dim/ Prog./ Aux	Black

#### 3. Dimming Software Function Instruction

• Communication Setup



Click "Connect" to set up the link between the computer and the USB dongle.

 $\mbox{Click}$  "Read" to identify the driver, then fill in the part number and max current automatically.

Click ON " $\mathbf{M}$ " to activate the output current configuration, I. Max(Spec) is filled in automatically during identify driver, I. Set can be filled in any value lower than I. Max(spec).

Click ON " $\mathbf{\square}$ " to activate the dimming selection and setting, or else no update during current setting. Choose one of the control method listed below to go with, then the related setting interface will appear.

The Power To Drive Innovations MCF(G)-200W Series 200W Outdoor Driver	Project Name: Type:	
<ul> <li>Turn-Off signal setting</li> <li>Turn-off Setting</li> <li>Enable O Disable</li> <li>Off Signal Level 5 %</li> <li>On Signal Level 7 %</li> </ul>	Click ON "☑" to active the turn-off function configuration. Choose "enable" or "disable", and set the turn on and off dimming signal when "enable" selected. In turn off status, the driver will output minimum output voltage, please make sure the LED lamp can be turned off when applied with this level voltage.	
<ul> <li>Dimming Logic</li> <li>Dimming Logic</li> <li>Positive</li> <li>Negative</li> </ul>	Click ON " 🗹 " to activate the dimming logic configuration, default setting is "Positive" logic, it means the output current will increase with the dimming signal level up; and "Negative" logic will decrease the output current with dimming signal level up.	
<ul> <li>Set Minimum Dimming Level</li> <li>Set Min. Dimming Level</li> <li>Min. Dimming Level</li> <li>10 %</li> </ul>	Set the minimum dimming output current, default setting is 10%	
• Dimming Signal Configuration Configure Dimming Signal Signal Voltage setting: 0-10V Compliant with analog and	Click ON " 2" to activate dimming signal configuration, the dimming signal can be analog or PWM signal, here to set the value of the high level of these two signals, the setting can be: 0-3.3V, 0-5V, 0-9V, 0-10V	
Compliant with analog and PWM signal: 1) Analog: 0-10V 2) PWM: Low level-0V, High Level-10V Dimming Signal	<ul> <li>For example, if 0-10V is selected, the dimming signal will be:</li> <li>1.) Analog: 0-10V.</li> <li>2.) PWM: Low level-0V, High Level-10V.</li> <li>This graph presents how the output current will react to the dimming signal, including analog and PWM dimming signal.</li> </ul>	

### • Configure Time Step Dimming (TSD)

#### 📝 Configure Time Step Dimming



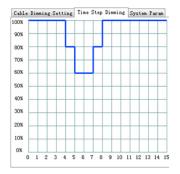
Click ON "☑" to activate Time Step Dimming configuration

Step(0): Setting the fading time of soft start, maximum value can be 10 seconds.

Step (1)-(7): Maximum time step number is 7, and the output current can be set according to the customer requirements to save energy.



Project Name:	
Туре:	



🗸 Configure NTC Protection

🔿 Enabel 💿 Disable

90

°C

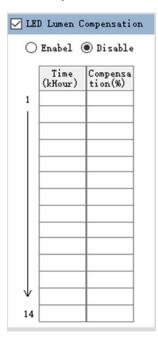
The graph presents how the output current will react to the setting of time step dimming.

Click ON " 🗹 " to activate NTC configuration Choose "enable" or "disable", and set NTC value when "enable" selected.

• LED Lumen Compensation (LLC)

Configure NTC Protection

NTC Value:



#### • Program

Program

Click ON " $\square$ " to activate NTC configuration Choose "enable" or "disable", and set Time VS Compensation value when "enable" selected.

The compensation can be set for maximum 14 periods, "Time" Column define the working hours for the defined "Compensation" ratio. For example, if "compensation" is set to 1%, and the corresponding "Time" is set to 10, that means the output current will be set to 101% of rated current for 10K hours at this interval.

Click "Program" button to burn the setting into drivers.

Page **8/11** Rev. **10/17/2022** 



Project Name:	
Туре:	

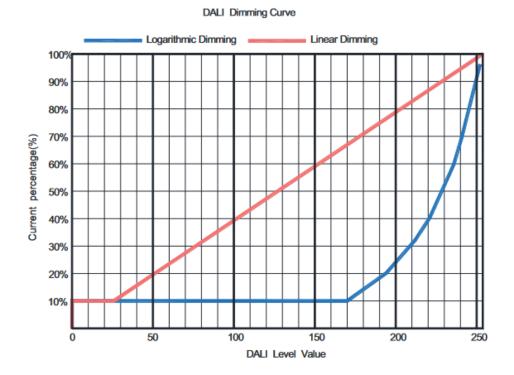
**INSTRUCTION (L type)** 

1. Dimming Interface Description

Pin Description

PIN	NAME	VALUE	DESCRIPTION	COLOR
1	VAUX 5V/ 12V/ 24V	4.5V – 5.5V 10.8V – 13.2V 21.6V – 26.4V	Auxiliary DC power supply	Brown
2	VAUX GND	OV	Auxiliary DC power ground	Blue
3	DA		Dimming input	White
4	DA		Dimming input	Black

# 2. DALI Interface





# **MCF(G)-200W Series** 200W Outdoor Driver

300±20

35±

AC INPUT

-300±20

AC INPUT

MECHANICAL	OUTLINE
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**MCF-200W** 



Gren

10±2-

-35±5 -350±20

Purple

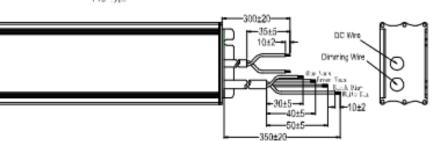
Dimming Wire

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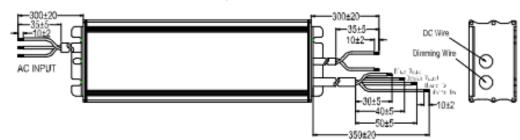


Project Name:

Type:

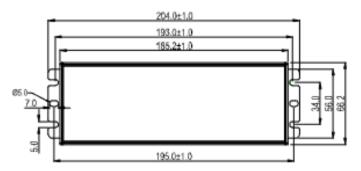


L05/L12/L24 Type



WIRE	SPECIFICATION	NOTE	
INPUT	CCC+VDC H05RN-F 3*1.0mm <sup>2</sup> L=300mm	For CE	
	18AWG*3C SJOW L=300mm	For UL	
OUTPUT	CCC+VDE H05RN-F 2*1.0mm <sup>2</sup> L=300mm	For CE	
	18AWG*2C SJOW L=300mm	For UL	
DIMMING	22AWG*4C UL2733 L=350mm Dim+ (Purple) Dim- (Grey) 22AWG*4C UL2517 L=350mm	For P, for L	
	Vaux+ (Brown Vaux- (Blue) Dim+ (White) Dim- (Black) 22AWG*4C UL2517 L=350mm	For P12	
	Vaux+ (Brown) Vaux- (Blue) DA (White) DA (Black)	For PL05, for L12	



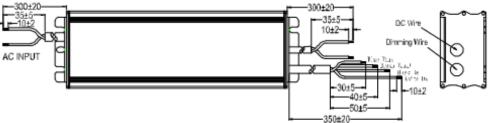




# MCF(G)-200W Series

Project Name:	
Туре:	

P Type 300±20 300±20 35±5 -10±2 35±5 DC Wire 10±2 AC INPUT her 6 Purple 10±2-Dimming Wire -35±5--350±20 P12 Cype 300±20 300±20-35±3 35±5 DC Wire 10±2-Dim AC INPUT  $\overline{\mathbb{O}}$ 30±5--10±2 40±5--50±5 350±20-L05/L12/L24 Type 300±20 300±20-



WIRE	SPECIFICATION	NOTE
INPUT	CCC+VDC H05RN-F 2*1.0mm <sup>2</sup> L=300mm	For CE
OUTPUT	18AWG*2C SJOW L=300mm	For CE
	22AWG*4C UL2733 L=350mm Dim+ (Purple) Dim- (Grey)	For P, for L
DIMMING	22AWG*4C UL2517 L=350mm Vaux+ (Brown Vaux- (Blue) Dim+ (White) Dim- (Black)	For P12
	22AWG*4C UL2517 L=350mm Vaux+ (Brown) Vaux- (Blue) DA (White) DA (Black)	For L05, L12, L24



