

MLR150-□F Series



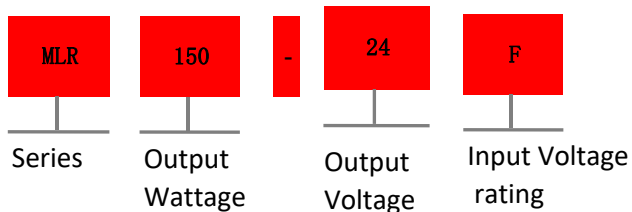
▲ Features

- Ultra slim design with 105mm(6SU) width
- Over voltage class III
- No load power consumption < 0.3W
- DIN rail TS-35/7.5 or 15 mountable
- Full range AC input 85~264VAC(277VAC operational)
- DC output voltage adjustable
- Isolation Class II
- Cooling by free air convection(Operation Temp. : -30~+70°C)
- LED indicator for power ON
- Protections : Short circuit/Over load/Over voltage
- 3 years warranty

▲ Applications

- Building automation
- Household control system
- Industrial control system
- Factory automation
- Electro-mechanical equipment

▲ Model encoding



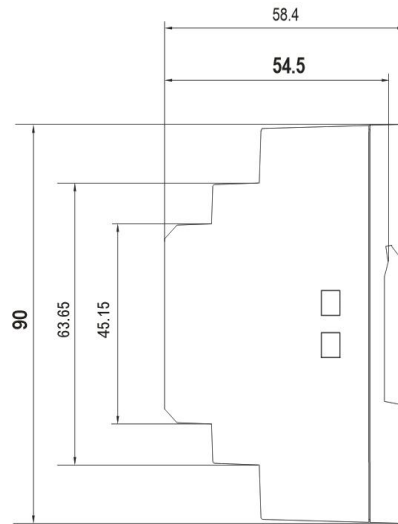
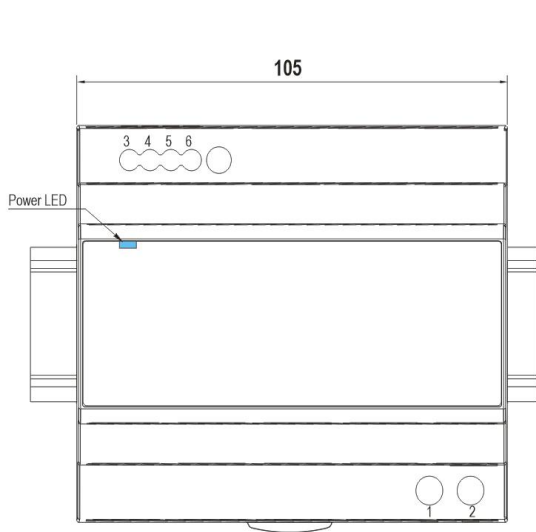


Specification

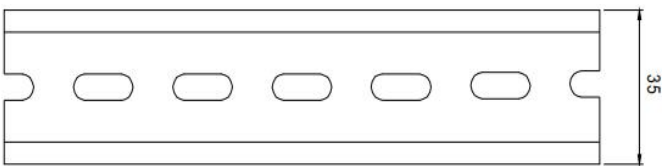
Input				
Input voltage range	85 ~ 264VAC (277VAC Operational) 120 ~ 370VDC (390VDC Operational)			
Frequency range	47 ~ 63Hz			
AC current(Typ.)	3A/115VAC 1.6A/230VAC			
Inrush current (Typ.)	Cold start 35A/115VAC 70A/230VAC			
Output				
Model	MLR150-12F	MLR150-15F	MLR150-24F	MLR150-48F
Output Voltage	12V	15V	24V	48V
Efficiency(Typ.)	89%	89.5%	90.5%	90.5%
Voltage ADJ range	10.8 ~ 13.8V	13.5 ~ 18V	21.6 ~ 29V	43.2 ~ 55.2V
Rated current	115VAC	10.2A	8.55A	5.31A
	230VAC	11.3A	9.5A	6.25A
Rated power	115VAC	122.4W	128.3W	127.4W
	230VAC	135.6W	142.5W	150W
Ripple & Noise(Max)*2	100mVp-p	120mVp-p	150mVp-p	200mVp-p
Voltage tolerance *3	±2.0%	±1.0%	±1.0%	±1.0%
Line Regulation	±1.0%	±1.0%	±1.0%	±1.0%
Load Regulation	±1.0%	±1.0%	±1.0%	±1.0%
Setup, Rise time	500ms,60ms/230VAC 500ms,60ms/115VAC (@Full load)			
Holdup time (Typ.)	30ms/230VAC 12ms/115VAC (@Full load)			
Indicator	Green LED			
Protection				
Over Load	105 ~ 135% of rated output power			
	Hiccup mode when output voltage < 50%, recovers automatically after fault condition is removed			
	Constant current limiting when output voltage between 50% ~ 100%, recovers automatically after fault condition is removed			
Over Voltage	14.2 ~ 16.2V	18.8 ~ 22.5V	30 ~ 36V	56.5 ~ 64.8V
	Shut down output voltage, re-power on to recover			
Safety & EMC				
Withstand Voltage	I/P-O/P:4KVAC			
Isolation resistance	I/P-O/P:100M Ohms/500VDC/25°C/70% RH			
Safety standards	Design refer to EN IEC 62368-1、GB4943.1			
EMC Emission	Parameter	Standard	Test Level/Note	
	Conducted	EN 55032	Class B	
	Radiated	EN 55032	Class B	
	Voltage Flicker	EN 61000-3-3	设计参考Class A	
	Harmonic Current	EN IEC 61000-3-2	设计参考Class A	
EMC Immunity	Parameter	Standard	Test Level/Note	
	ESD	EN61000-4-2	Level 3 8KV air;criteria A	
	Radiated Susceptibility	EN61000-4-3	Level 2 3V/m;criteria A	
	EFT/Burest	EN61000-4-4	Level 3 2KV;criteria A	
	Surge	EN61000-4-5	Level 3 2KV/L-N;criteria A	
	Conducted	EN61000-4-6	Level 2 3V/m;criteria A	
	Magnetic Field	EN61000-4-8	Level 2 3A/m;criteria A	
Voltage Dips and interruptions	EN 61000-4-11	> 95% dip 0.5 periods, 30% dip 25 periods, > 95% interruptions 250 periods		

Environment					
Operating Temp.	-30 ~ +70°C(Refer to "Derating Curve")				
Operating Humidity	20 ~ 90% RH,non-condensing				
Storage Temp. & Humidity	-40 ~ +85°C,10 ~ 95% RH,non-condensing				
Temp. coefficient	±0.03%/°C (0 ~ 50°C)				
Vibration	10 ~ 500Hz, 2G 10min/1 cycle, period for 60 min. each along X, Y, Z axes;Mounting: Compliance to IEC60068-2-6				
Operating Altitude	2000m(Note.4)				
Over Voltage Category	III;According to EN62368,EN61558,EN50178,EN60664-1,EN62477-1;Altitude up to 2000m				
Others					
MTBF	≥535.9K hrs,MIL-HDBK-217F(25°C)				
Weight	0.31Kg				
Dimension	105*90*54.5mm(W*H*D)				
Ordering	Model	Output power	Output Voltage/current	Efficiency	Max. Capacitive Load
	MLR150-12F	135.6W	12V/11.3A	89%	6000uF
	MLR150-15F	142.5W	15V/9.5A	89.5%	5400uF
	MLR150-24F	150W	24V/6.25A	90.5%	2200uF
	MLR150-48F	153.6W	48V/3.2A	90.5%	1800uF
Accessory	Parameter	Model			

Installation instruction



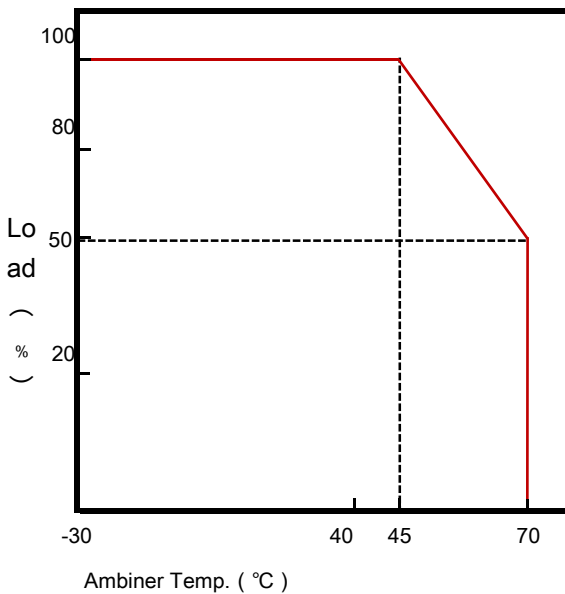
ADMISSIBLE DIN-RAIL: TS35/7.5 OR TS35/15



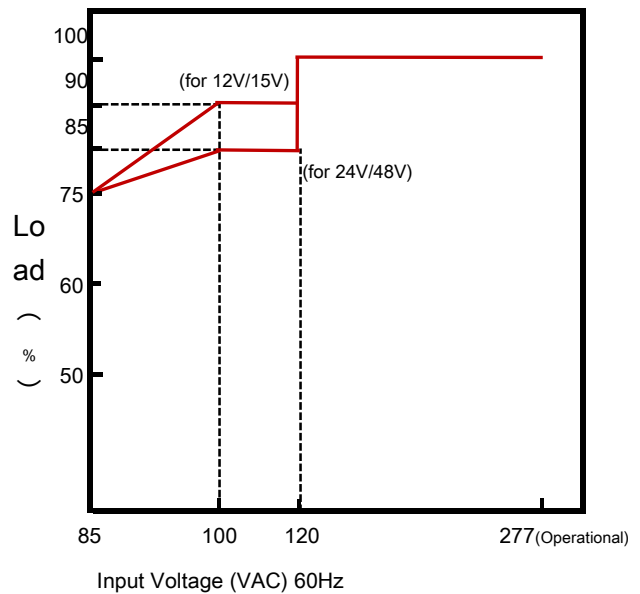
Terminal Pin No. assignment

Pin No.	Assignment	Pin No.	Assignment
1	AC/N	3,4	-V
2	AC/L	5,6	+V

Derating Curve



Output Derating VS Input Voltage



- Note:**
- 1: All parameters are measured at 230VAC input, rated load at 25°C of ambient temp. if not special mentioned
 - 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: Tolerance: includes set up tolerance, line regulation and load regulation
 - 4: The ambient temperature derating of 3.5°C/1000m with fanless models and of 5°C/1000m with fan models for operating altitude higher than 2000m(6500ft.)
 - 5: EMI class B at input voltage 230VAC, EMI class A at input voltage 110VAC
 - 6: The harmony current is measured at 70% of rated load