



UL61010-1  
UL61010-2-201



EN62368-1



BS EN62368-1



www.bis.gov.in



## FEATURES

- Universal 320-600VAC or 450-850VDC input voltage, three-phase input (two or three phase are available)
- Operating ambient temperature range: -30°C to +70°C (60°C full load)
- High I/O isolation voltage up to 4000VAC
- Low ripple & noise, high efficiency, 5000m altitude
- DC OK function
- 130% peak load for 3 seconds
- Output short circuit, over-current, over-voltage, over-temperature protection
- OVC III (designed to meet EN62477/2000m)
- Safety according to UL/IEC62368, EN62477, EN61558

LIT240-26Bxx is Mornsun AC-DC converter series featuring a cost-effective, energy efficient green power supply solution for standard DIN-rail mounting. The products offer a high level of stability and immunity to noise for electricity industry, and other industrial equipment in a variety of harsh environments. With good EMC performance, compliant with international UL/EN/IEC/BS EN62368, UL61010, EN62477, EN61558 standards for EMC and safety.

## Selection Guide

Certification	Part No.*	Output Power (W)	Nominal Output Voltage and Current (Vo/Io)	Output Voltage Adjustable Range ADJ (V)**	Efficiency at 400VAC (%) Typ.	Capacitive Load (μF) Max.
UL/EN/BIS	LIT240-26B24	240	24V/10A	24-28	92	10000
	LIT240-26B48	240	48V/5A	48-55	92	5000

Note: \*Use suffix "QQ" for both sides conformal coating;

\*\*The actual adjustment range may extend outside the values stated, care should be exercised to ensure that the output voltage and power levels remain within the published maximum values.

## Input Specifications

Item	Operating Conditions		Min.	Typ.	Max.	Unit
Input Voltage Range (three-phase input)	AC input		320	--	600	VAC
	DC input		450	--	850	VDC
Input Frequency			47	--	63	Hz
Input Current	400VAC		--	--	0.85	A
	500VAC		--	--	0.75	
Inrush Current	400VAC	Cold start	--	50	60	
Leakage Current	480VAC		<2mA/rms			
Hot Plug			Unavailable			

## Output Specifications

Item	Operating Conditions		Min.	Typ.	Max.	Unit
Output Voltage Accuracy	All load range		--	±1.0	--	%
Line Regulation	Rated load		--	±0.5	--	
Load Regulation	400VAC		--	±1.0	--	
Ripple & Noise*	20MHz bandwidth (peak-to-peak value)	24V output	--	100	150	mV
		48V output	--	150	200	
Stand-by Power Consumption			--	--	2	W
Temperature Coefficient			--	±0.03	--	%/°C
Short Circuit Protection			Enter hiccup mode after constant current operation for 3s (typ.), continuous, self-recovery			
Over-current Protection			≥130% Io, enter hiccup mode after constant current operation for 3s (typ.), self-recovery			

# AC/DC 240W DIN-Rail Power Supply

LIT240-26Bxx Series

MORNSUN®

Over-voltage Protection	24V output	≤36V	Output voltage hiccup, self-recovery		
	48V output	≤65V			
Over-temperature Protection	Over-temperature protection start	--	--	85	°C
	Over-temperature protection release	50	--	--	
Minimum Load		0	--	--	%
Start-up Time		--	--	1.5	s
DC OK Signal**	Resistive load	30VDC/1A Max.			
Hold-up Time	400VAC	10	20	--	ms
	500VAC	30	40	--	
<p>Note: *The "Tip and barrel method" is used for ripple and noise test: Ripple &amp; noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf &amp; 47uf parallel capacitor, please refer to Enclosed Switching Power Supply Application Notes for specific information;                  **DC OK Signal: When the output voltage is normal, the relay is connected. When the output voltage is abnormal (&lt;90%Vo), the relay is disconnected.</p>					

## General Specifications

Item	Operating Conditions		Min.	Typ.	Max.	Unit
Isolation	Input - output	Electric Strength Test for 1min., leakage current < 10mA	4000	--	--	VAC
	Input - ⊕	Electric Strength Test for 1min., leakage current < 15mA	2500	--	--	
	Output - ⊕		500	--	--	
	Output - DC OK		500	--	--	
Insulation Resistance	Input - output	500VDC	100	--	--	MΩ
	Input - ⊕					
	Output - ⊕					
Operating Temperature		-30	--	+70	°C	
Storage Temperature		-40	--	+85		
Storage Humidity		--	--	95	%RH	
Altitude		--	--	5000	m	
Power Derating	+60°C to +70°C		3.0	--	--	% / °C
	320VAC - 340VAC	Three-phase input	1.0	--	--	
			550VAC - 600VAC	0.4	--	
	320VAC - 340VAC	Two-phase input (80%Io)	1.0	--	--	
			550VAC - 600VAC	0.4	--	
Safety Standard	LIT240-26Bxx	UL61010-1, UL61010-2-201, IS13252 (Part1) safety approved & EN62368-1, BS EN62368-1 (Report); Design refer to UL/IEC62368-1 & EN61558-1, EN62477				
	LIT240-26Bxx-QQ	UL61010-1, UL61010-2-201 safety approved & EN62368-1, BS EN62368-1 (Report); Design refer to UL/IEC62368-1 & EN61558-1, EN62477				
Safety Class		CLASS I				
MTBF	MIL-HDBK-217F@25°C	> 300,000 h				

## Mechanical Specifications

Case Material	Metal (AL1100, SGCC)
Package Dimensions	124.00 x 54.00 x 110.00 mm
Weight	750g (Typ.)
Cooling Method	Free air convection

## Electromagnetic Compatibility (EMC)

Emissions	CE	CISPR32 EN55032	CLASS B
	RE	CISPR32 EN55032	CLASS B
	Harmonic current	IEC/EN61000-3-2	CLASS A
	Voltage flicker	IEC/EN61000-3-3	

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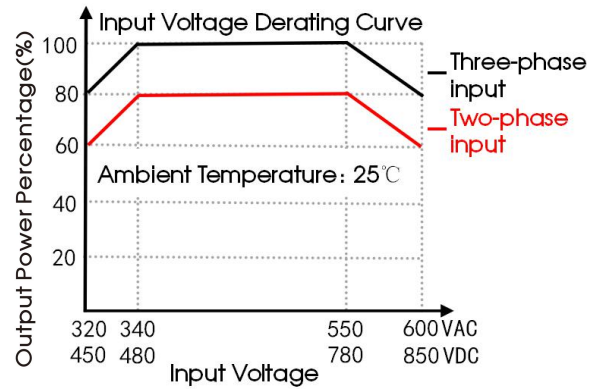
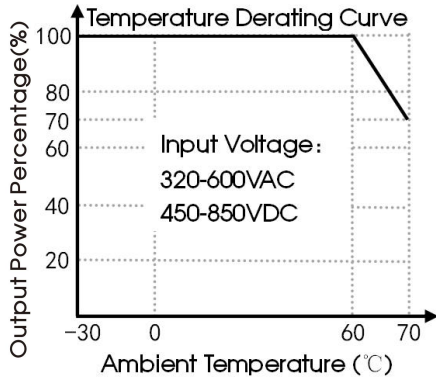
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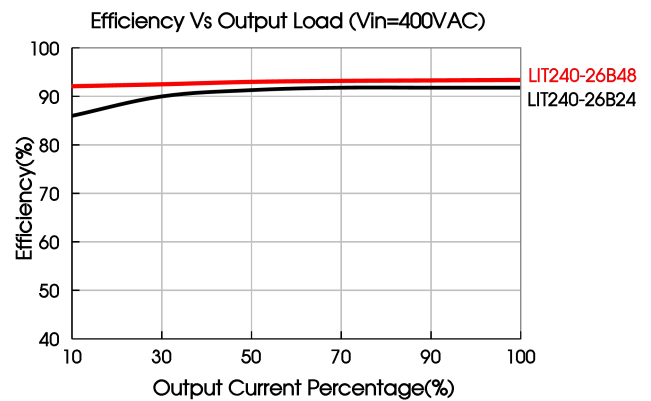
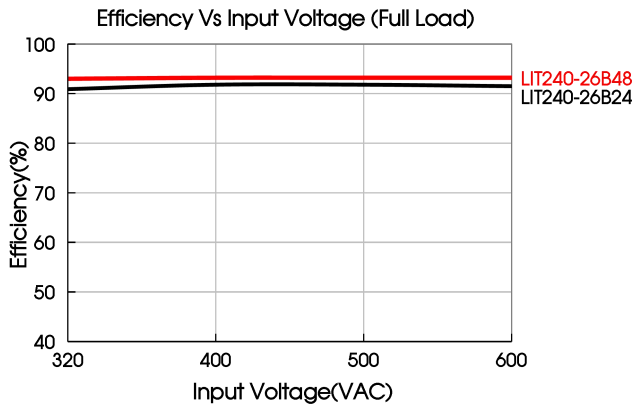
Immunity	ESD	IEC/EN61000-4-2	Contact $\pm 8KV$ /Air $\pm 15KV$	Perf. Criteria A
	RS	IEC/EN61000-4-3	10V/m	Perf. Criteria A
	EFT	IEC/EN61000-4-4	$\pm 2KV$	Perf. Criteria A
	Surge	IEC/EN61000-4-5	Line to line $\pm 2KV$ /line to ground $\pm 4KV$	Perf. Criteria A
	CS	IEC/EN61000-4-6	10Vr.m.s	Perf. Criteria A
	PFMF	IEC/EN61000-4-8	30A/m	Perf. Criteria B
	Voltage dips, short interruptions and voltage variations immunity	IEC/EN61000-4-11	100% dip 1 periods, 30% dip 25 periods, 100% interruptions 250 periods	Perf. Criteria B

### Product Characteristic Curve

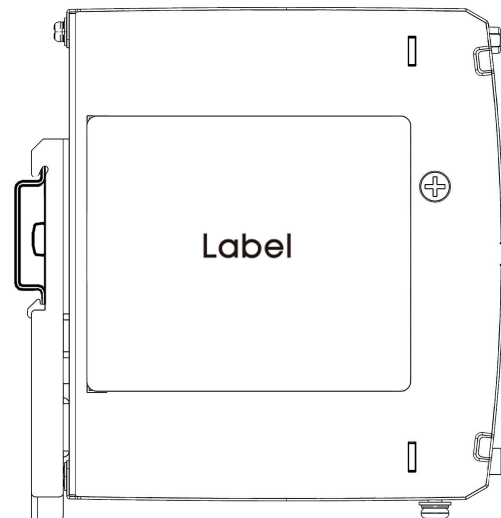
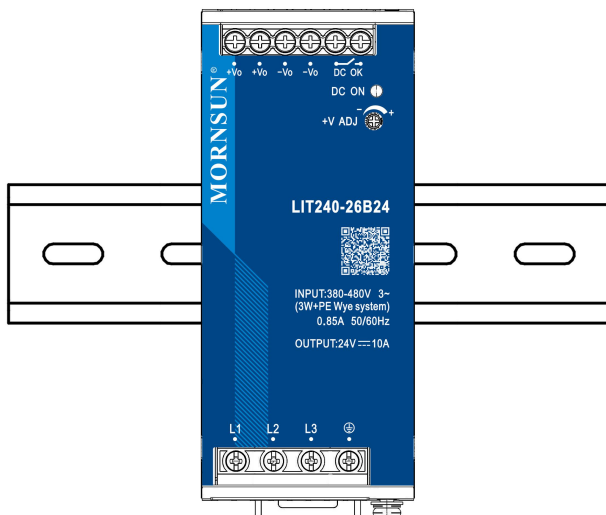


Note: ① With an AC input between 320-340VAC/550-600VAC and a DC input between 450-480VDC/780-850VDC, the output power must be derated as per temperature derating curves;

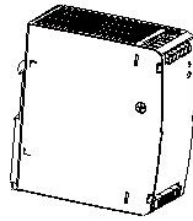
② This product is suitable for applications using natural air cooling; for applications in closed environment please consult Mornsun FAE.



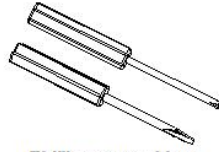
### Installation Diagram



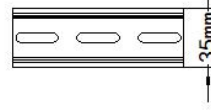
Bill Of Material		
1	Product	1 PCS
2	Phillips screwdriver Slotted screwdriver	1 PCS
3	TS35/7.5 or TS35/15	1 PCS
4	24-10AWG wires	/ PCS
	All above is only for reference, the actual wiring diameter and locking torque refer to the appearance size diagram	



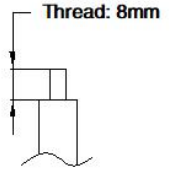
Product



Phillips screwdriver  
Slotted screwdriver  
Diameter of the cutting tools: 3mm



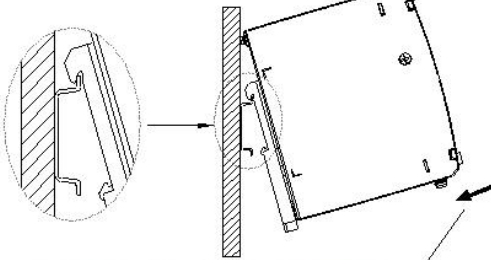
TS35/7.5 or TS35/15



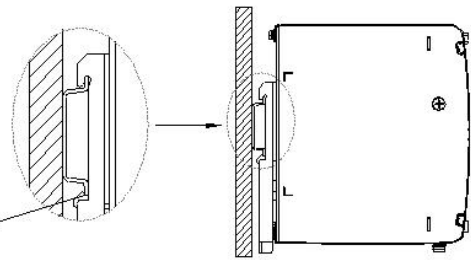
24-10AWG wires

### Installation steps ①-②

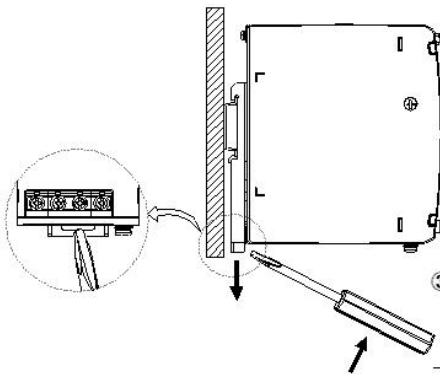
① Put the product buckle down into the TS35 rail.



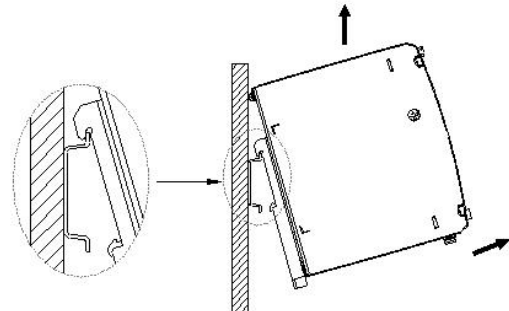
② Push the product perpendicular to the TS35 rail until hear the sound of the clip snapping into the rail.



### Disassembly steps ③-④

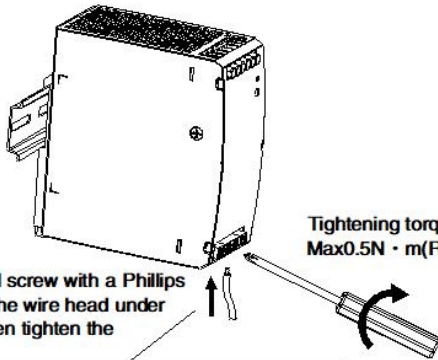


③ After inserting a Slotted screwdriver into the square groove at the bottom of the buckle, push the sliding part of the buckle downward according to the direction shown.



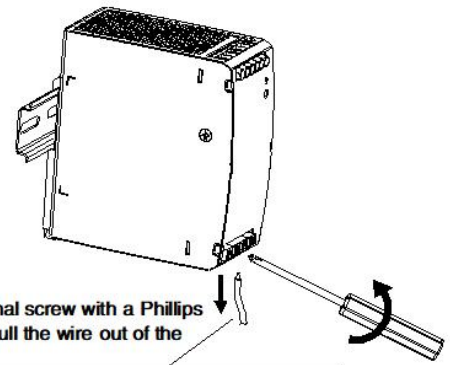
④ Push the bottom of the product outwards and take it out upwards.

### Connecting/Disconnecting Steps ⑤-⑥



⑤ Loosen the terminal screw with a Phillips screwdriver, insert the wire head under the terminal, and then tighten the terminal screw.

Tightening torque:  
Max0.5N · m(Reference);

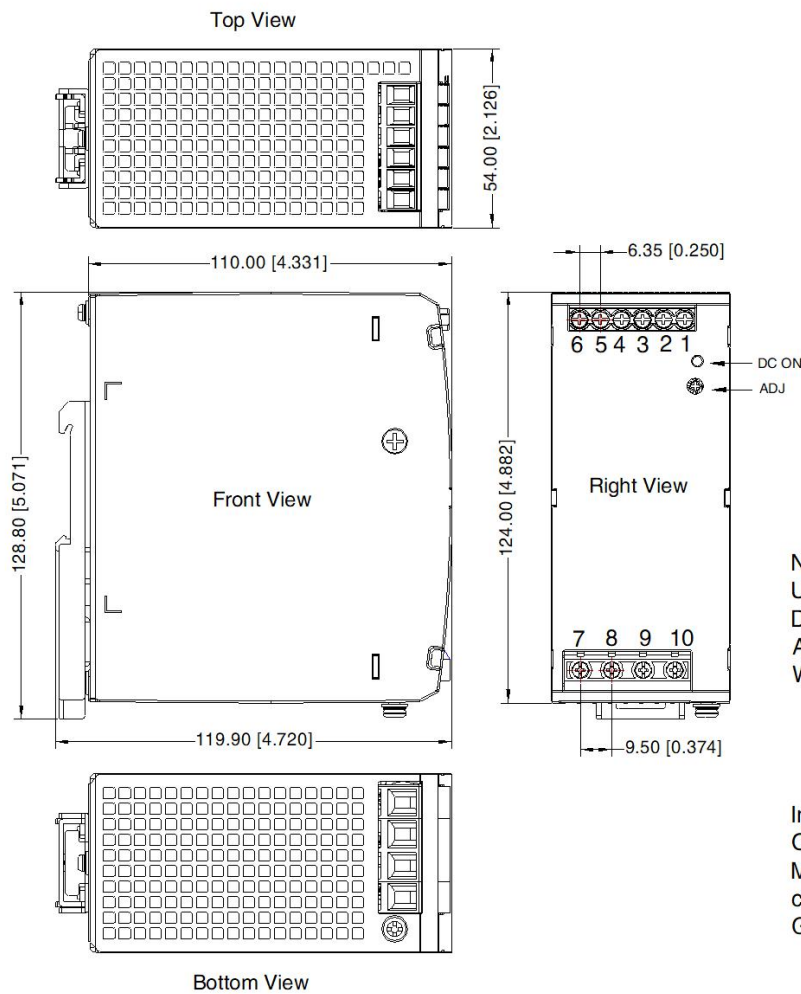



⑥ Loosen the terminal screw with a Phillips screwdriver and pull the wire out of the terminal hole.

Note: Keep the following installation clearances: 20mm on the top, 20mm on the bottom, 5mm on the left and right sides are recommended when the device is loaded permanently with more than 50% of the rated power. Increase this clearance to 15mm in case the adjacent device is a heat source (e.g. another power supply).

### Dimensions and Recommended Layout

THIRD ANGLE PROJECTION 



Pin-Out	
Pin	Mark
1	DC OK
2	
3	-Vo
4	
5	+Vo
6	
7	AC(L1) or DC+
8	AC(L2) or DC-
9	AC(L3)
10	

**Note:**

Unit: mm[inch]

DC ON: Output status indicator LED

ADJ: Output adjustable resistor

Wire range: Input: 24-10 AWG

(12-10AWG for pin10)

Output: 24V: 16-10AWG

48V: 18-10AWG

DC OK: 24-16AWG

Input Tightening torque: Max 1.0 N-m

Output Tightening torque: Max 0.5 N-m

Mounting rail: TS35, rail needs to


connect safety ground

General tolerances:  $\pm 1.00[\pm 0.039]$



**WARNING** Risk of electrical shock, fire, personal injury or death:

**AVERTISSEMENT** AVERTISSEMENT Risque de choc électrique, d'incendie, de blessures corporelles ou de décès :

1. Do not use the power supply without proper grounding (Protective Earth). Use the terminal on the input block for earth connection and not one of the screws on the housing;  
N'utilisez pas l'alimentation électrique sans mise à la terre appropriée (Terre protectrice). Utilisez le terminal sur le bloc d'entrée pour la connexion terrestre et non pas une des vis sur le boîtier;
2. Turn power off before working on the device, protect against inadvertent re-powering;  
Éteignez l'alimentation avant de travailler sur l'appareil, protégez-vous contre la réénergisation accidentelle;
3. Make sure that the wiring is correct by following all local and national codes;  
Assurez-vous que le câblage est correct en suivant tous les codes locaux et nationaux;
4. Do not modify or repair the unit;  
Ne modifiez pas ou ne réparez pas l'appareil;
5. Do not open the unit as high voltages are present inside;  
Ne modifiez pas ou ne réparez pas l'appareil;
6. Use caution to prevent any foreign objects from entering the housing;  
Faire preuve de prudence pour empêcher les objets étrangers d'entrer dans le logement;
7. Do not use in wet locations or in areas where moisture or condensation can be expected;  
Faire preuve de prudence pour empêcher les objets étrangers d'entrer dans le logement;
8. Do not touch during power-on, and immediately after power-off, hot surfaces may cause burns;   
Ne touchez pas pendant l'alimentation et, immédiatement après l'alimentation, les surfaces chaudes peuvent causer des brûlures.
9. For ambient temperature  $\leq 60^{\circ}\text{C}$ , use  $\geq 90^{\circ}\text{C}$  - copper wire only; for ambient temperature  $>60^{\circ}\text{C}$  to  $85^{\circ}\text{C}$ , use  $\geq 105^{\circ}\text{C}$  - copper wire only; use only wires with a minimum dielectric strength of 300V (input) and 60V (output);  
Température ambiante  $\leq 60^{\circ}\text{C}$ , utiliser  $\geq 90^{\circ}\text{C}$  - seulement fils de cuivre; Température ambiante  $>60^{\circ}\text{C}$  et  $85^{\circ}\text{C}$ , utiliser  $\geq 105^{\circ}\text{C}$  - seulement fils de cuivre; Uniquement pour l'utilisation de fils de cuivre d'une résistance d'isolation minimale de 300V (d'entrée) et 60V (de sortie).

Note:

1. For additional information on Product Packaging please refer to [www.mornsun-power.com](http://www.mornsun-power.com). Packaging bag number: 58220231;
2. Unless otherwise specified, parameters in this datasheet were measured under the conditions of  $T_a=25^{\circ}\text{C}$ , humidity $<75\%RH$  with nominal input voltage and rated output load;
3. The room temperature derating of  $3.5^{\circ}\text{C}/1000\text{m}$  is needed for operating altitude greater than 2000m;
4. All index testing methods in this datasheet are based on our company corporate standards;
5. In order to improve the efficiency at high input voltage, there will be audible noise generated, but it does not affect product performance and reliability;
6. We can provide product customization service, please contact our technicians directly for specific information;
7. Products are related to laws and regulations: see "Features" and "EMC";
8. The out case needs to be connected to PE ( $\perp$ ) of system when the terminal equipment in operating;
9. Our products shall be classified according to ISO14001 and related environmental laws and regulations, and shall be handled by qualified units.

## Mornsun Guangzhou Science & Technology Co., Ltd.

Address: No. 5, Kehui St. 1, Kehui Development Center, Science Ave., Guangzhou Science City, Huangpu District, Guangzhou, P. R. China  
Tel: 86-20-38601850 Fax: 86-20-38601272 E-mail: [info@mornsun.cn](mailto:info@mornsun.cn) [www.mornsun-power.com](http://www.mornsun-power.com)