MEAN WELL

24V/20A DIN Rail Type Buffer Module

DBUF20-24

User's Manual

Video

【 DC 버퍼 모듈 】

UL62368-1 IEC62368-1

Automate Industrial Security Network Telecom

■ 특징

- 축전지 대신에 캐패시터를 이용한 DC 버퍼링 장치
- 충전시 돌입전류 제한회로 작동과 충분한 충전시간으로 SMPS에 나쁜 영향 없음
- 역극성 접속 방지 회로 내장
- 220V/20A 350msec 에서 신속한 방전 버퍼링 완료
- 버퍼 모드 스위칭 선택 가능
  - 22V dc 고정 스위치 모드
  - 입력전압
- Vin-1V를 위한 다이내믹 모드
- 진행 상황별 LED 표시 기능
- 버퍼링 시간 증가를 위해서는 병렬로 추가설치 가능
- 자연 공랭식 방식
- 동작온도 범위 : -25 ~ +75 ℃
- 3년 보장 (무보수 프리타입)

■ 산업응용분야

- 산업 제어분야
- 반도체 제조 장비
- 공장자동화 설비
- 전자기계 장비

■ GTIN CODE

MW Search: https://www.meanwell.com/serviceGTIN.aspx

■ DC Buffer 모듈이란?

- 현재 생산설비의 SMPS는 주로 24V DC를 출력으로 해서 자동화 설비의 AC-DC 전원공급기로 사용되고 있음.
- AC 전원에 순간전압강하가 발생했을 경우에 출력 DC 전압이 떨어져서 자동화 설비가 정지되는 문제를 가지고 있는데, 이때 AC 입력에 AC 순간정전 또는 순간전압강하 보상장치를 사용하지 않고 DC전원공급장치인 SMPS 출력에 DC Buffer 모듈만 추가하여 새그 발생시에도 생산설비가 연속적으로 운전할 수 있도록 하는 DC 전압 새그 보상 모듈로서 매우 안전하면서 추가 공사비 절감등 경제적인 대책임.

■ 모델 코드 부여 방법

DBUF 20 - 24

- 24 → Operational Voltage
- 20 → Output Current (20A)
- DBUF → DIN rail Buffer Module

JSI (주)재신정보

■ 세부 규격

MODEL			DBUF20-24		
CHARGING MODE	DC NORMAL OPERATING VOLTAGE		24Vdc		
	CHARGING VOLTAGE		23~30Vdc		
	CHARGING CURRENT		900mA Max.		
	CURRENT CONSUMPTION AT STANDBY		100mA Max.		
	CHARGING TIME		15s Typ.		
			25s Max.		
BUFFER MODE	DC NORMAL OPERATING VOLTAGE		22Vdc/Vin-1Vdc		
	DC OPERATING VOLTAGE RANGE		22-29Vdc		
	OUTPUT CURRENT(max.)		20A		
	BUFFER TIME (Refer to Buffering Curve at 22Vdc)	Output current	20A	10A	0.1A
		Typ.	350ms	700ms	45s
		Min.	250ms	500ms	30s
	RIPPLE & NOISE (max.) Note.2		200mVp-p		
PROTECTION	OVER VOLTAGE		31~37.5V only,shut down o/p voltage		
	OVER LOAD		105%~125% rated output power at buffer mode		
			Protection type:Shut down o/p voltage , re-power on to recover		
	SHORT CIRCUIT		Protection type:Shut down o/p voltage , re-power on to recover		
	TVS FOR SIGNALS (max.)		35V		
	REVERSE POLARITY PROTECTION		By internal MOSFET, no damage , recovers automatically after fault condition removed		
FUNCTION	SELECTABLE BY SWITCH	Fix 22Vdc(Default)	Buffering starts if terminal voltage falls below 22Vdc		
		Vin-1Vdc	Buffering starts if terminal voltage is decreased by > 1Vdc		
	CONTROL	Inhibit (I)	+Vs - V(I) < 6Vdc: Buffer module ON; +Vs - V(I) >10Vdc: Buffer module OFF		
			35Vdc /4mA Max.		
	SIGNALS	Ready(R)	Charged ready: V(R)>+Vs - 2Vdc; Unready: V(R)<1Vdc		
			35Vdc /10mA Max.		
		Buffering (B)	Buffering: V(B)>+Vs - 2Vdc; Other mode: V(B)<1Vdc		
			35Vdc /10mA Max.		
		Supply Voltage(+Vs)	10~35Vdc /10mA(Connected to +V or external voltage)		
	LED STATUS DISPLAY		ON		Ready
			OFF		Discharged
			Flashing	1Hz	Charging
				10Hz	Buffering
	PARALLEL CONNECTION		Refer to Typical Application Notes(Page 6)		

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DBUF20-24

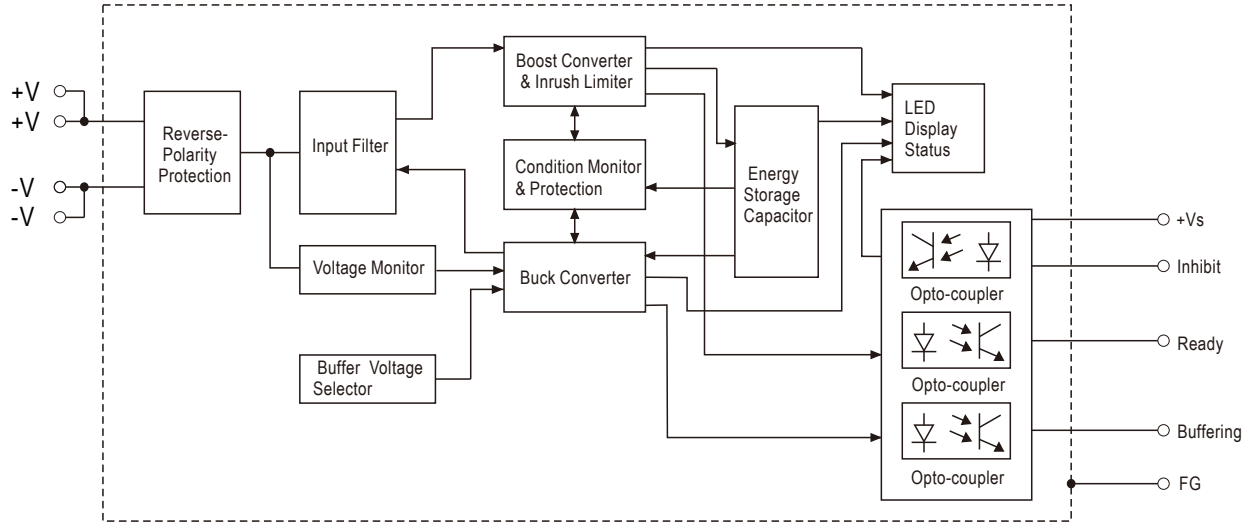
ENVIRONMENT	WORKING TEMP.	-25~+75℃(Refer to"Derating Curve")		
	WORKING HUMIDITY	5 ~ 95% RH non-condensing		
	STORAGE TEMP.	-25~+80℃		
	SHOCK TEST	IEC60068-2-27,30G (300m/S²) for a duration of 18ms,1 time per direction,2 times in total		
	TEMP. COEFFICIENT	±0.03%/℃ (0 ~ 75℃)		
	VIBRATION	Component: 10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes; Mounting clip: Compliance to IEC60068-2-6		
	OPERATING ALTITUDE Note.3	5000 meters /OVC II		
SAFETY & EMC (Note.4)	SAFETY STANDARDS	IEC62368-1,UL62368-1 approved		
	WITHSTAND VOLTAGE	I/P-O/P-FG:2.2KVdc; I/P-Signals-FG:2.2KVdc		
	ISOLATION RESISTANCE	I/P-O/P-FG, I/P-Signals-FG: >100M Ohms / 500Vdc / 25℃/ 70% RH		
	EMC EMISSION	**Parameter**	**Standard**	**Test Level / Note**
		Conducted	BS EN/EN55032	Class B
		Radiated	BS EN/EN55032	Class B
		Voltage Flicker	-----	-----
		Harmonic Current	-----	-----
	EMC IMMUNITY	BS EN/EN55035, BS EN/EN61000-6-2		
		Parameter	**Standard**	**Test Level / Note**
		ESD	BS EN/EN61000-4-2	Level 4, 15KV air ; Level 3, 8KV contact; criteria A
		Radiated	BS EN/EN61000-4-3	Level 3, 10V/m ; criteria A
		EFT / Burst	BS EN/EN61000-4-4	Level 3, 2KV ; criteria A
		Surge	BS EN/EN61000-4-5	Level 3, 1KV/Line-Line ;Level 3, 2KV/Line-Line-FG ;criteria A
		Conducted	BS EN/EN61000-4-6	Level 3, 10V ; criteria A
		Magnetic Field	BS EN/EN61000-4-8	Level 4, 30A/m ; criteria A
OTHERS	MTBF	164.8K hrs min. MIL-HDBK-217F (25℃) ; 1510.0K hrs min. Telcordia TR/SR-332 (Bellcore) (25℃)		
		108.6K hrs min. MIL-HDBK-217F (40℃) ; 765.8K hrs min. Telcordia TR/SR-332 (Bellcore) (40℃)		
	DIMENSION	63*125.2*114.9mm (W*H*D)		
	PACKING	1.062Kg; 12pcs/12.8Kg/0.74CUFT		

NOTE

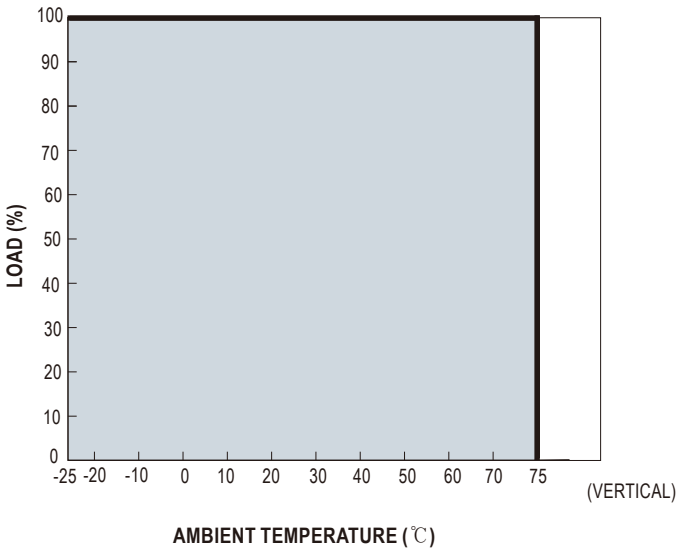
1. All parameters NOT specially mentioned are measured at normal input, rated load and 25℃ of ambient temperature.
2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1 μf & 47 μf parallel capacitor.
3. The ambient temperature derating of 3.5℃/1000m with fanless models and of 5℃/1000m with fan models for operating altitude higher than 2000m(6500ft).
4. The power supply is considered as an independent unit, but the final equipment still need to re-confirm that the whole system complies with the EMC directives. For guidance on how to perform these EMC tests, please refer to "EMI testing of component power supplies." (as available on http://www.meanwell.com)

※ Product Liability Disclaimer : For detailed information, please refer to https://www.meanwell.com/serviceDisclaimer.aspx

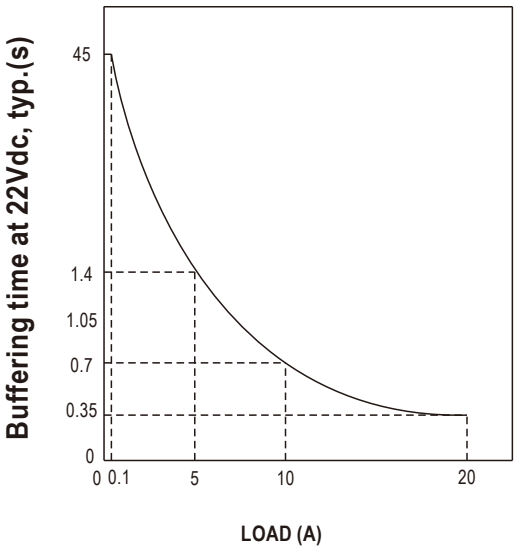
■ 블록 다이아그램



■ 온도특성 곡선

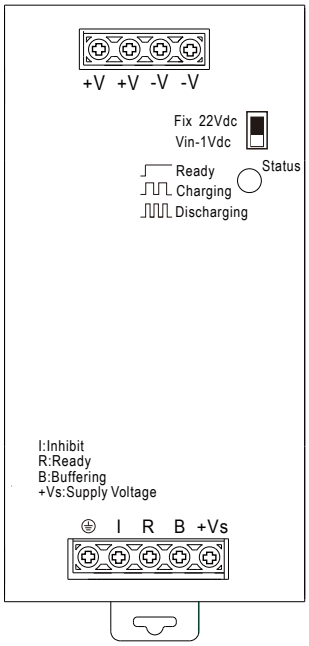


■ 버터링 곡선



■ 기능 설명

1. User Elements



Back-up Threshold Voltage Selectable by Switch:

Option 1: Fixed mode (Switch in Fix 22Vdc)
The unit switches to buffer mode as soon as the voltage falls below 22Vdc.
Option 2: Dynamic mode (Switch in Vin-1Vdc)
Unit switches to buffer mode when input voltage decreases by 1Vdc.
Note: Factory setting is fixed mode.

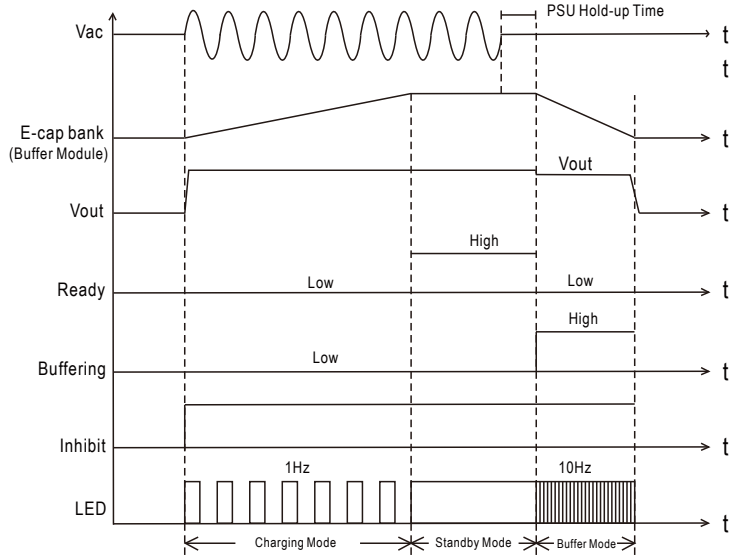
LED Indicator Status:

LED OFF: Capacitors are discharged.
LED ON: Capacitors are fully charged.
LED Flashing slowly (1Hz): Capacitors are getting charged.
LED Flashing quickly (10Hz): Capacitors are getting discharged.

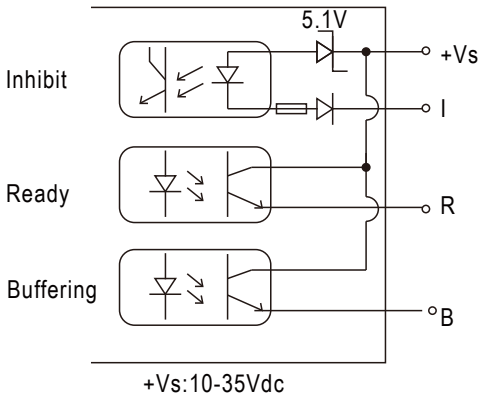
Signal Connector:

- Inhibit,+Vs - V(I)<6Vdc: Buffer module ON; +Vs - V(I)>10Vdc: Buffer module OFF.
- Ready,Charged ready: V(R)>+Vs - 2Vdc; Unready: V(R)<1Vdc.
- Buffering, Buffering: V(B)>+Vs - 2Vdc; Other mode: V(B)<1Vdc.

2. Operating Diagram



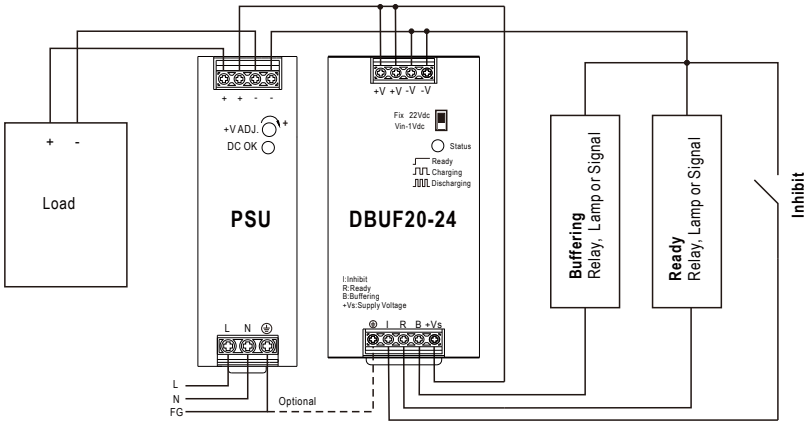
3. Signal Schematics



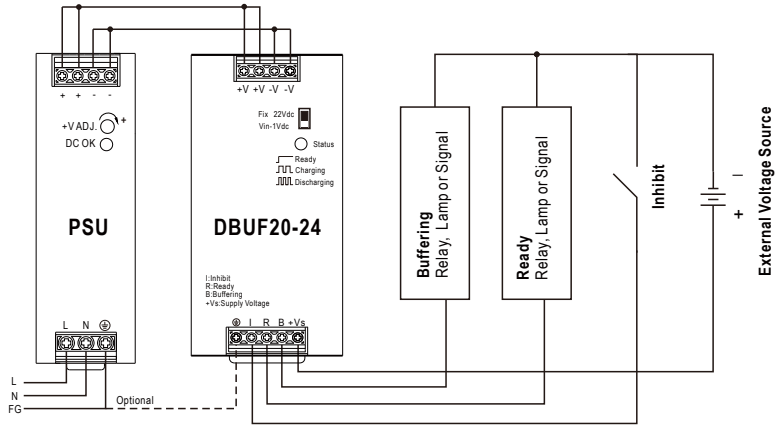
(+Vs can connected to DBUF20 "+V" or external voltage source,Please refer to "Typical Application Notes")

■ 전형적인 활용방법

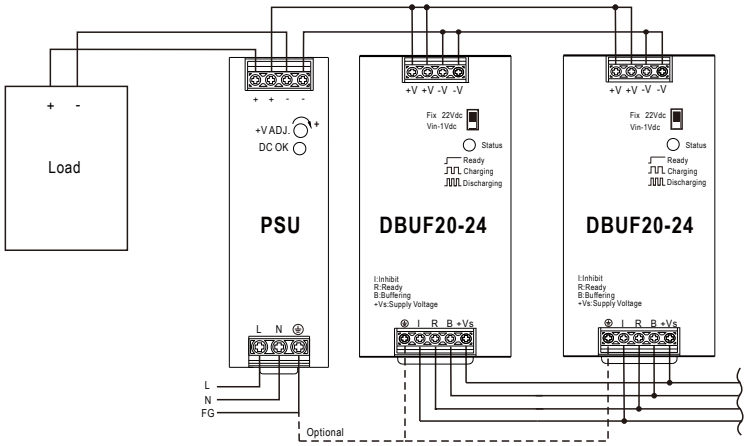
1. General wiring diagram



2. Signals supplied from an external voltage



3. Paralleling of buffer units

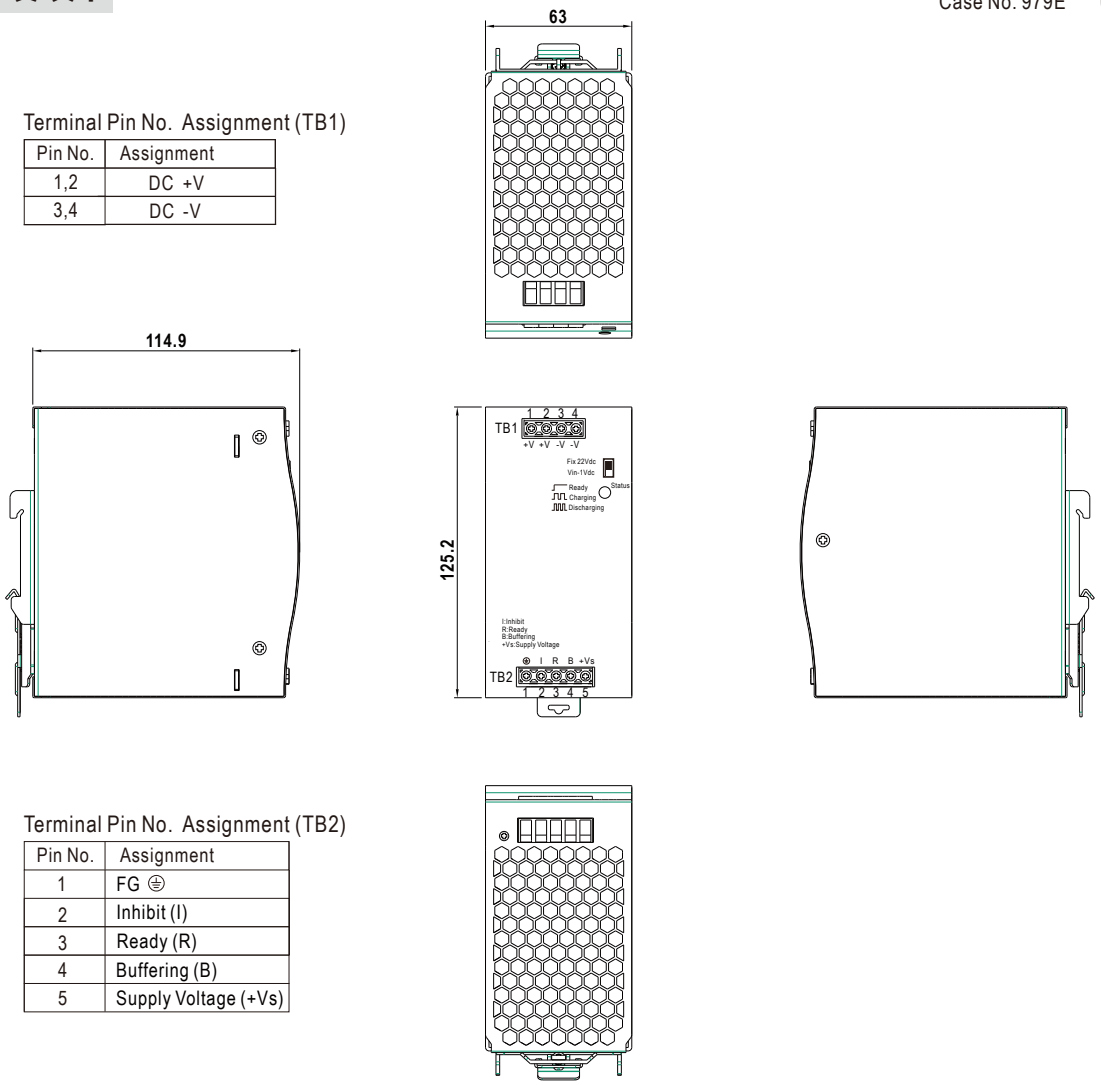


DBUF20-24

24V/20A DIN Rail Type Buffer Module

■ 크기 및 칫수

Case No. 979E Unit:mm



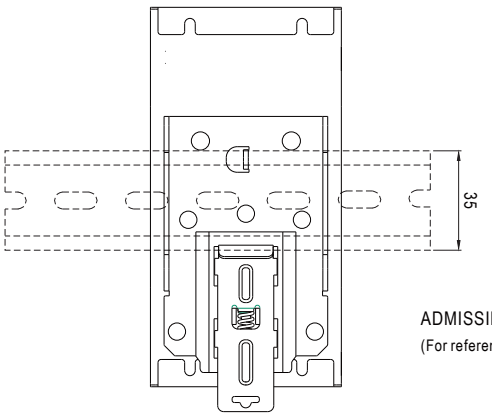
Terminal Pin No. Assignment (TB1)

Pin No.	Assignment
1,2	DC +V
3,4	DC -V

Terminal Pin No. Assignment (TB2)

Pin No.	Assignment
1	FG ⏚
2	Inhibit (I)
3	Ready (R)
4	Buffering (B)
5	Supply Voltage (+Vs)

■ 설치 방법



This series fits DIN rail TS35/7.5 or TS35/15.
For installation details, please refer to the Instruction manual.

ADMISSIBLE DIN-RAIL:TS35/7.5 or TS35/15
(For reference only. Not included with unit.)

■ 설치 메뉴얼

Please refer to : http://www.meanwell.com/manual.html

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