

DBUF40-24 Series

24V/40A Din Rail Type Buffer Module



Case:
63 x 125.2 x 114.9mm

Features

- Buffering with electrolytic capacitors instead of lead acid batteries
- Type buffering time of 250ms @22Vdc/40A
- Buffer mode selectable by switch:
Fixed mode at 22Vdc / Dynamic mode for Vin-1Vdc
- LED indicator for signal status
- Supports parallel connection to extend buffering time
- Cooling by free air convection
- -25 ~ +75°C wide operating temperature
- 3 years warranty



Specification

	MODEL No.	DBUF40-24
	DC Normal Operating Voltage	24VDC
CHARGING MODE	Charging Voltage	23 ~ 30Vdc
	Charging Current	900mA Max.
	Current Consumption at Standby	100mA Max.
	Charging Time	25s Typ. 35s Max.
BUFFER MODE	DC Normal Operating Voltage	22Vdc/Vin-1Vdc
	DC Operating Voltage Range	22 ~ 29Vdc
	Output Current (Max.)	40A
	BUFFER TIME	40A 20A 0.1A
	Output Current	Typ. 250ms 500ms 62s Min. 160ms 320ms 42s
	R&N	350mVp-p
PROTECTION	Over Voltage	31 ~ 37.5V only, shut down o/p voltage
	Over Load	105%~125% rated output power at buffer mode
	Short Circuit	Protection type: Shut down o/p voltage, re-power on to recover
	TVS for Signals	35V
	Reverse Polarity Protection	By internal MOSFET, no damage, recovers automatically after fault condition removed
		Selectable by Switch
FUNCTION	Control	Inhibit (I) +Vs -V (I) < 6Vdc: Buffer module ON; +Vs -V (I) >10Vdc: Buffer module OFF 35Vdc /4mA Max.
		Ready (R) Charged ready: V(R)>+Vs - 2Vdc; Unready: V(R)<1Vdc 35Vdc /10mA Max.
	Signals	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 5)
ENVIRONMENT	Working Temperature	-25~+75°C (Refer to "Derating Curve")
	Working Humidity	5 ~ 95% RH non-condensing
	Storage Temperature	-25 ~ +80°C
	Shock Test	IEC60068-2-27,30G (300m/S ²) for a duration of 18ms,1 time per direction,2 times in total
	Temp Coefficient	±0.03%/°C (0 ~ 75°C)
	Vibration	Component: 10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes; Mounting: Compliance to IEC60068-2-6
	Operating Altitude	5000 metres / OVC II
SAFETY & EMC	Safety Standards	IEC62368-1,UL62368-1 approved
	Withstand Voltage	IP/OP-FG:2.2KVdc; Signals-FG:2.2KVdc
	Isolation Resistance	IP/OP-FG, Signals-FG: >100M Ohms / 500Vdc / 25°C/ 70% RH
	EMC Emission	Compliance to EN55032, Class B
	EMC Immunity	Compliance to EN55024, EN61000-6-2, EN61000-4-2,3,4,5,6,8, Level 4, 15KV air; Level 3, 8KV contact; criteria A
OTHERS	M.T.B.F.	162.61K hrs min. MIL-HDBK-217F (25°C) ; 482.34K hrs min. Telcordia TR/SR-332 (Bellcore) (25°C) 106.13K hrs min. MIL-HDBK-217F (40°C) ; 239.63K hrs min. Telcordia TR/SR-332 (Bellcore) (40°C)
	Packing	1.062Kg; 12pcs/12.8Kg/0.74CUFT

1. All parameters NOT specially mentioned are measured at 24VDC input, rated load and 25°C of ambient temperature.
2. Ripple and Noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with 0.1uF & 47uF parallel capacitor.
3. The ambient temperature derating of 3.5°C/1000m with fanless models and of 5°C/1000m with fan models is needed for operating altitude greater 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 EMC directives.
For guidance on how to perform these EMC tests, please refer to 'EMI testing of component power supplies.'

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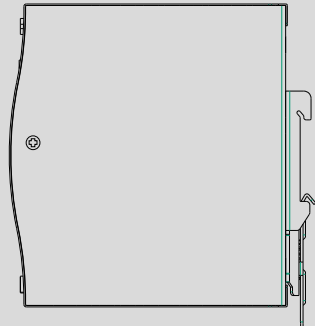
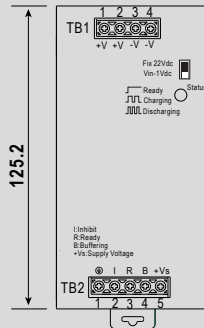
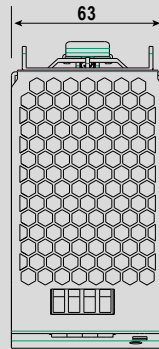
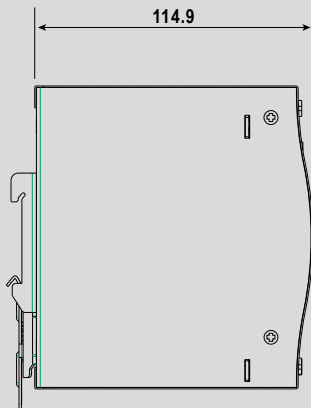
24V/40A Din Rail Type Buffer Module



Mechanical Diagram

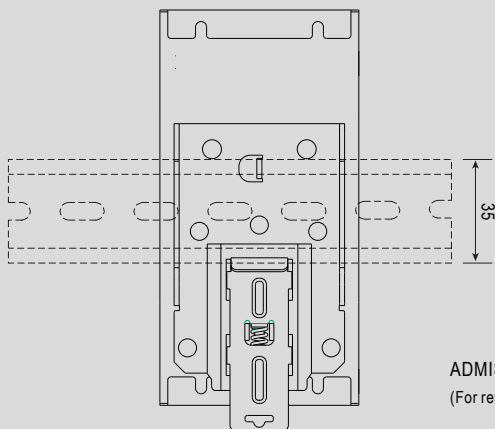
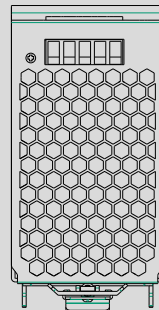
Terminal Pin No. Assignment (TB1)

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)



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

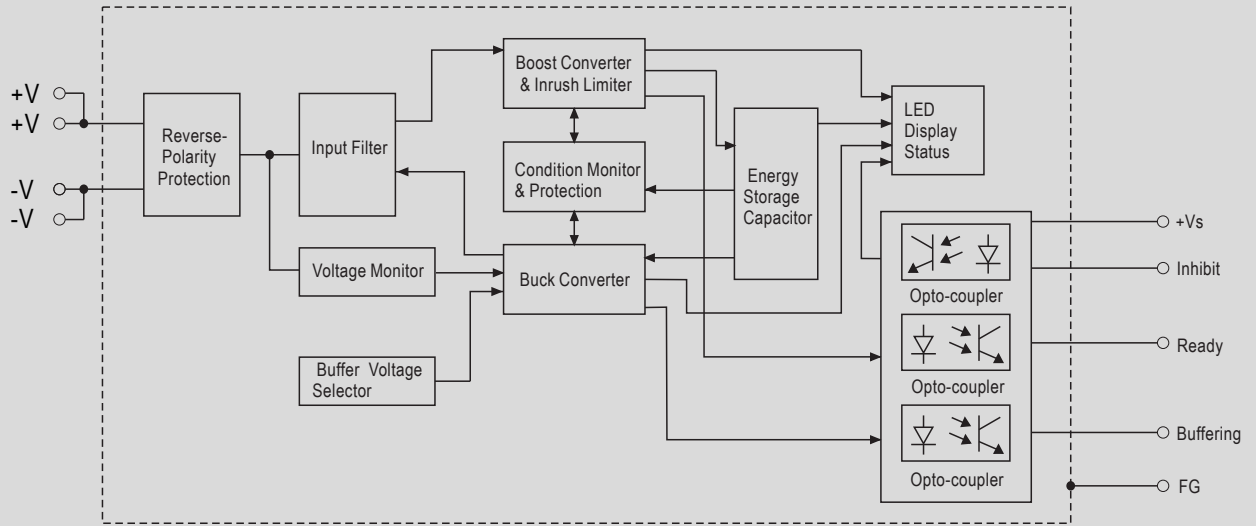
ADMISSIBLE DIN-RAIL: TS35/7.5 or TS35/15
(For reference only. Not included with unit.)

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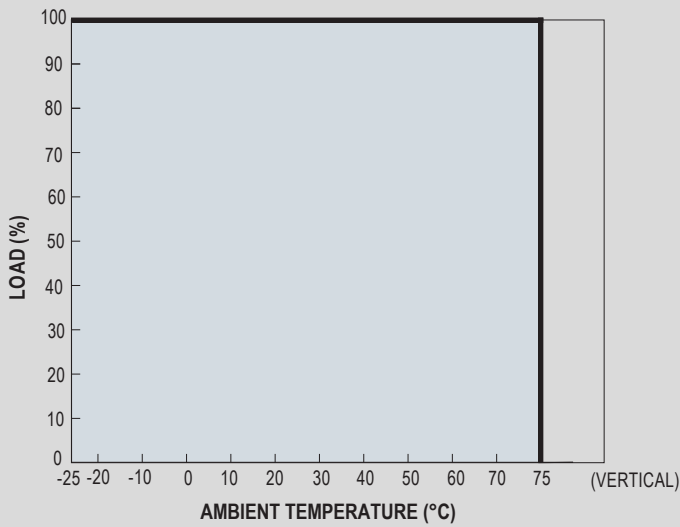
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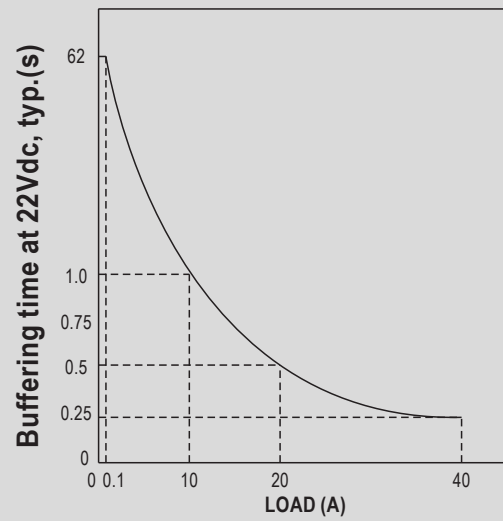
Block Diagram



Derating Curve

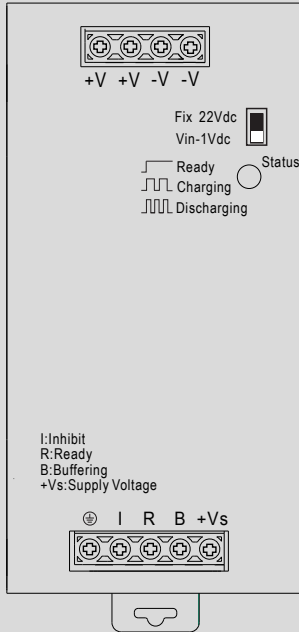


Buffering Curve



Function Manual

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 22V dc.

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.

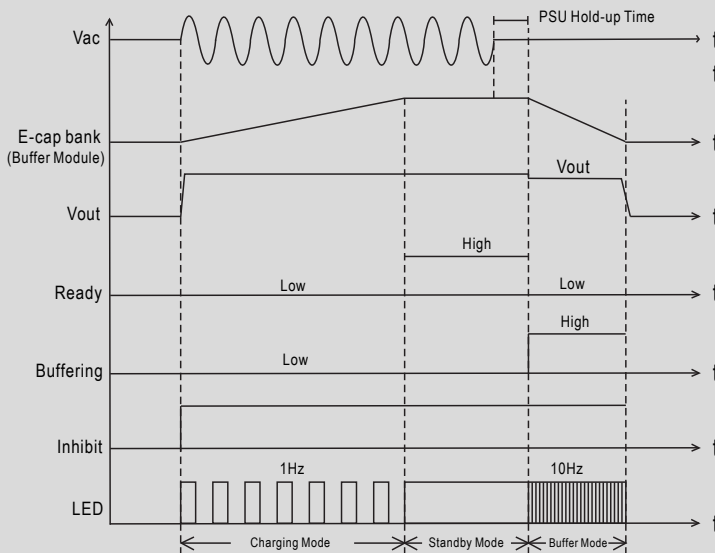
Signal Connector:

-Inhibit, +Vs - V(I) < 6Vdc: Buffer module ON; +Vs - V(I) > 10Vdc: Buffer module OFF.

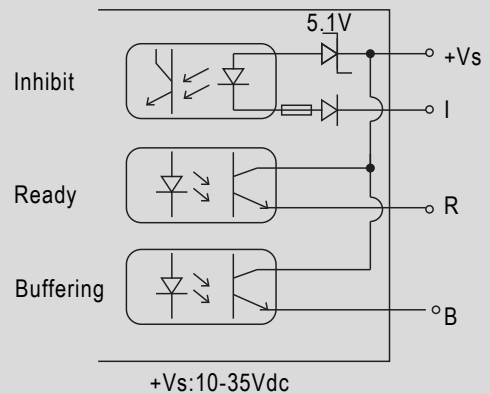
-Ready, Charged ready: V(R) > +Vs - 2Vdc; Unready: V(R) < 1Vdc.

-Buffering, Buffering: V(B) > +Vs - 2Vdc; Other mode: V(B) < 1Vdc.

2. Operating Diagram



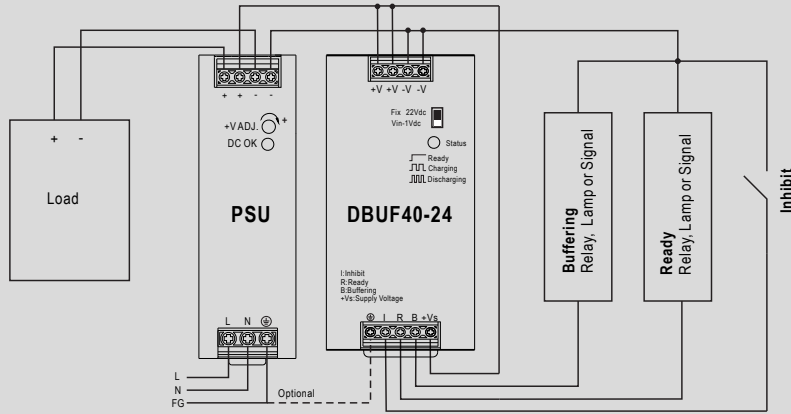
3. Signal Schematics



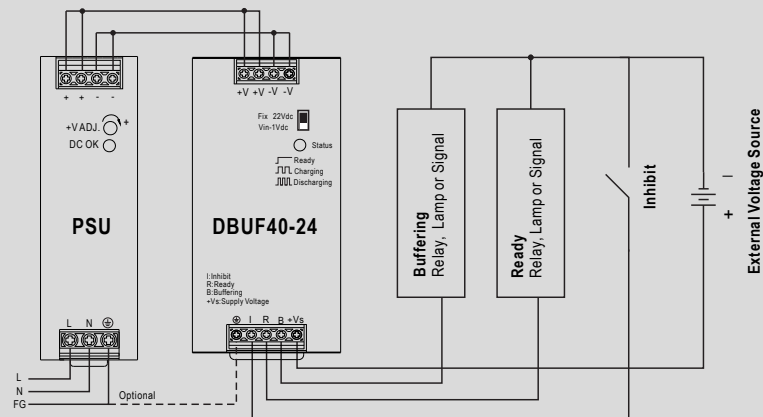
(+Vs can be connected to DBUF40 "+V" or external voltage source, Please refer to "Typical Application Notes")

Typical Application Notes

1. General wiring diagram



2. Signals supplied from an external voltage



3. Paralleling of buffer units

