YINGJIAO®

YSDB20 SERIES 24V

yingjiao's bufer module is a supplementary device for regulated DC 24v power supplies. The bufer module utilizes maintenance-free electrolytic capacitors to store energylthuseliminates the need of periodic replacement as compared to costlier batteries which also have shorter functional life span.

Features

- Bufering with electrolytic capacitors instead of lead acid batteries
- Type bufering time of 350ms @22vdc/20A
- Bufer mode selectable by switch: ixed mode at 22vdc, Dynamic mode for vin-1vdc
- Cooling by free aur convection
- supports parallel connection to extend bufering time
- Three years warranty

BUFFER MODE

DC NORMAL OPERATINGVOLTAGE		22vdc/vin-1vdc
DC OPERATINGVOLTAGE RANGE		22-29vdc
OUTPUT CURRENT(max.)		20A
BUFFERTIME (Refer to Bufering Curve at 22Vdc)	outPut current TYP. Min.	20A 350ms 250ms
RIPPLE & NOISE (max.) Note.2		200mvp-p

CHARGING MODE

DC NORMAL OPERATINGVOLTAGE	24vdc
CHARGINGVOLTAGE	23~30vdc
CHARGING CURRENT	900mA Max.
CURRENT CONSUMPTION ATSTANDBY	100mA Max.
CHARGINGTIME	15sTYp. 25s Max.

PROTECTION

OVERVOLTAGE	31~37.5vonlYlshutdown o/p voltage
OVER LOAD	105%~125% rated output power atbufer mode protection tYpe:shutdown o/p voltageI re-power on to recover
SHORT CIRCUIT	protection tYpe:shutdown o/p voltageI re-power on to recover
TVS FOR SIGNALS (max.)	35v
REVERSE POLARITY PROTECTION	BY internal MOsFETI no damage I recovers automaticallY after fault condition removed

FUNCTION

SELECTABLE BYSWITCH	Fix 22vdc(Default)	Bufering starts if terminal Voltage falls below 22vdc	
	vin-1vdc	Bufering starts if terminal Voltage is decreased by > 1vdc	
CONTROL	Inhibit (I)	+vs -v(I) < 6vdc: Bufer moduleON;vs -v(I) 10vdc: Bufer module OFF 35vdc /4mA Max.	
SIGNALS	Ready(R)	charged ready:v(R)>+vs - 2vdc; unready:v(R)<1vdc 35vdc /10mA Max.	
	Bufering (B)	Bufering:v(B)>+vs - 2vdc; Other mode:v(B)<1vdc 35vdc /10mA Max.	
	SuPPIyvoltage(+vs)	10~35vdc /10mA(connected to +v or external Voltage)	
LED STATUS DISPLAY	ON		Ready
	OFF		Discharged
	Flashing	1Hz	charging
		10Hz	Bufering

ENvIRONMENT

WORKINGTEMP.	-25 ℃ to +75 ℃IRefer to Derating curVe
WORKING HUMIDITY	5 ~ 95% RH non-condensing
STORAGETEMP.	-25 ℃ to +80 ℃
SHOCKTEST	IEc60068-2-27I30G (300m/s) for a duration of 18msI1 time per directionI 2 times in total
TEMP. COEFFICIENT	±0.03%/ ℃(0 ~ 75 ℃)
VIBRATION	component: 10 ~ 500HzI 2G 10min./1cycleI 60min. each alongXIYIZ axes; Mounting clip: compliance to IEc60068-2-6
OPERATINGALTITUDE Note.3	5000 meters /Ovc Ⅱ

SAFETY &EMC(Note.4)

SAFETY STANDARDS		IEC62368-1IUL62368-1 approved	
wITHSTANDVOLTAGE		lp/Op-FG:2.2 kvdc; Signals-FG: 2.2 kvdc	
ISOLATION RESISTANCE		lpOp-FG Signals-FG >100M Ohms / 500vdc / 25 ℃/ 70% RH	
EMC EMISSION	parameter	Standard	Test Level / Note
	Conducted	Standard	Class B
	Radiated	BS EN/EN55032	Class B
	voltage Flicker	-	-
	Harmonic Current	-	-
EMC IMMUNITY	BS EN/EN55035I BS EN/EN61000-6-2		
	parameter	Standard	Test Level / Note
	ESD	BS EN/EN61000-4-2	Level 4I 15kv air ; Level 3I 8kv contact; criteriaA
	Radiated	BS EN/EN61000-4-3	Level 3I 10v/m ; criteriaA
	EFT / Burst	BS EN/EN61000-4-4	Level 4I 30A/m ; criteriaA
	Surge	BS EN/EN61000-4-5	Level 3I 1kv/Line-Line ;Level 3I 2kv/Line-Line-FG ;criteriaA
	Conducted	BS EN/EN61000-4-6	Level 3I 10v ; criteriaA
	Magnetic Field	BS EN/EN61000-4-8	Level 3I 2kv ; criteriaA

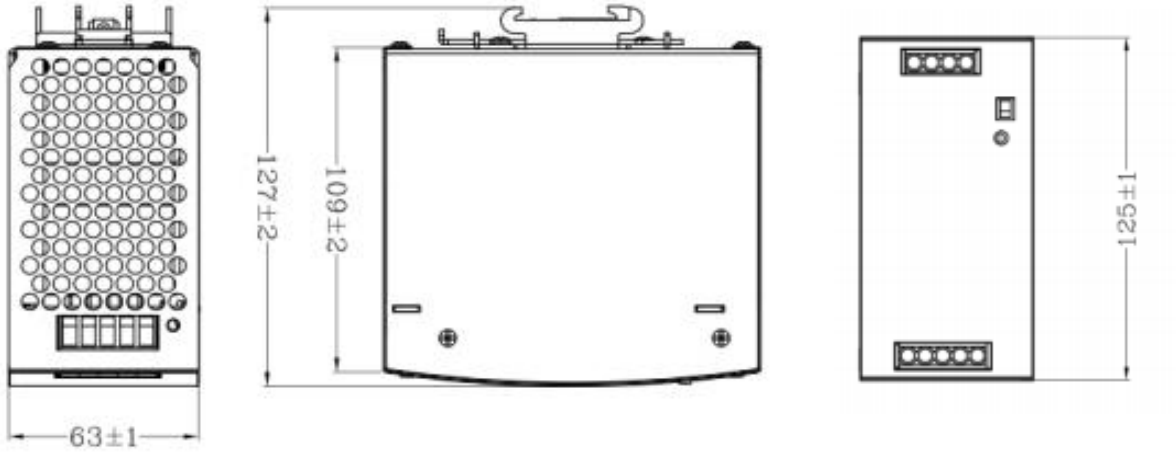
Dimensions &weight

Length	63mm / 2.48in
width	125mm / 4.92in
Height	110mm / 4.33in
weight	1.05kg

packing

Carton Size	52.5 X 33 X 17.5 CM 20.67 X12.99 X 6.9 in
Master Carton Quantities	10pcs/Carton

MechanicalSpecificatiOn



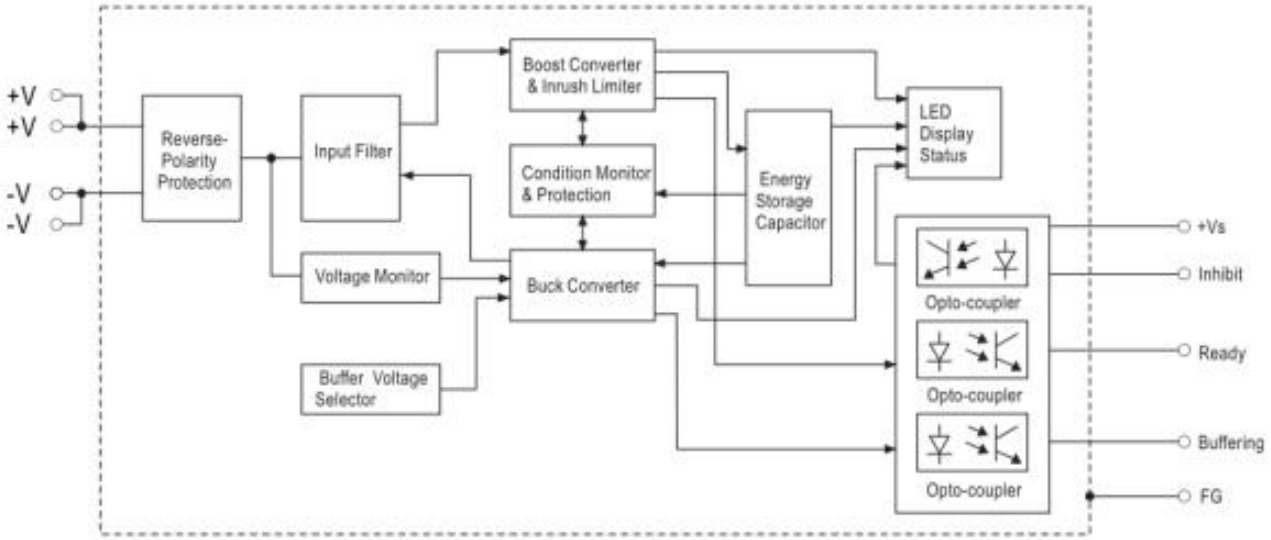
output

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

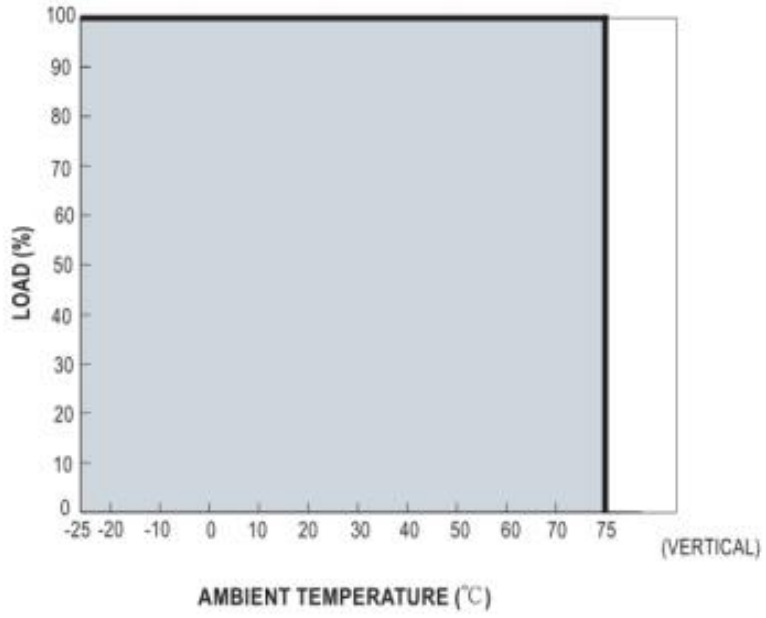
Input

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

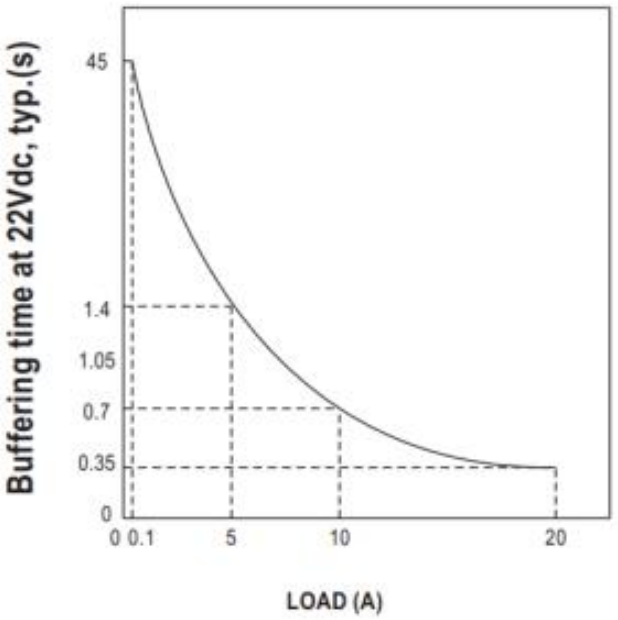
BIOcK Diagram



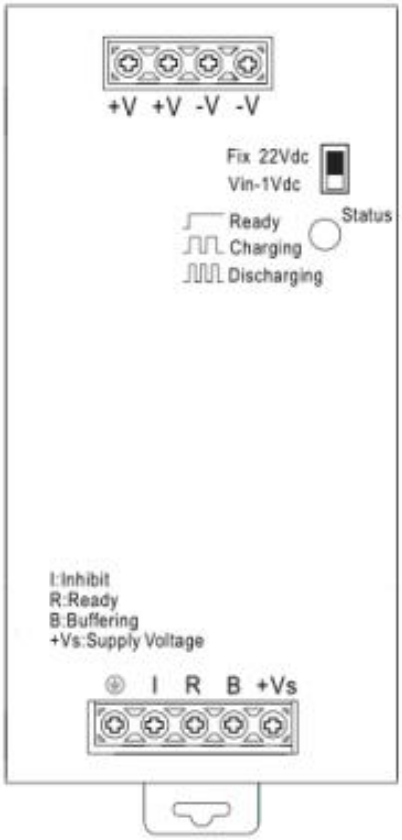
Derating curve And Temperature



Bufering curve



1. user Elements



Back-upThresholdvoltage selectable by switch:

Option 1: Fixed mode (in switch Fix 22vdc)

The unitswitches to bufer mode as soon as the Voltage falls below 22vdc.

Option 2: mode (in - Dynamic switchv n 1vdci)

unitswitches to bufer 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.

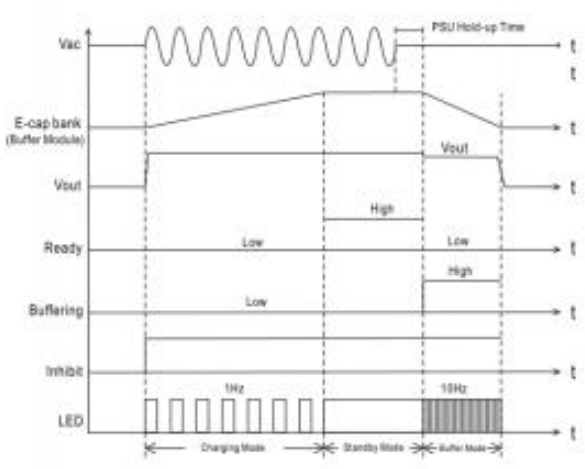
signal Connector:

-InhibitI+vs -v(I)<6vdc: Bufer moduleON; +vs -v(I)>10vdc: Bufer module OFF.

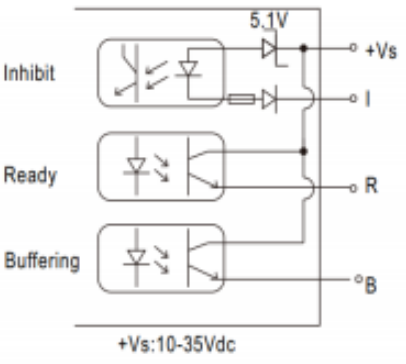
-ReadyICharged ready:v(R)>+vs - 2vdc; unready:v(R)<1vdc.

--BuferingI Bufering:v(B)>+vs - 2vdc; Other mode:v(B)<1vdc.

2.operating Diagram



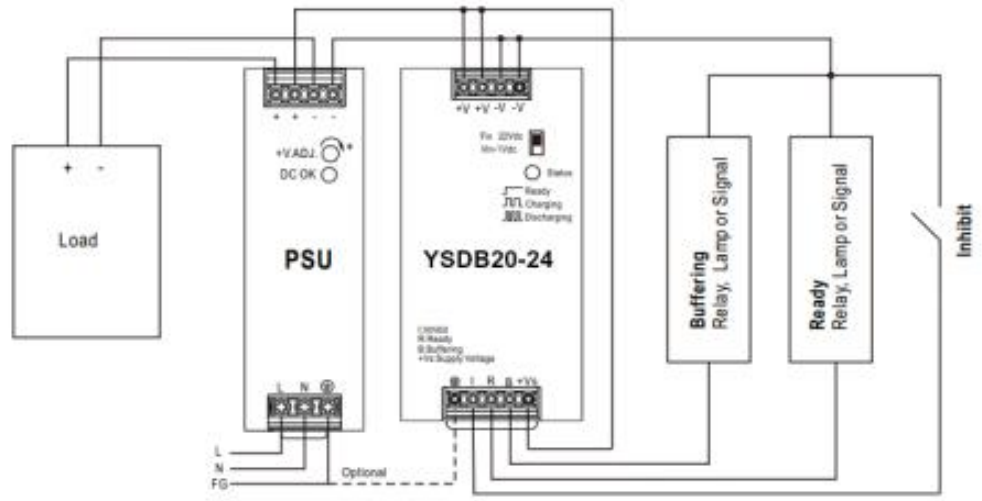
3. Signal Schematics



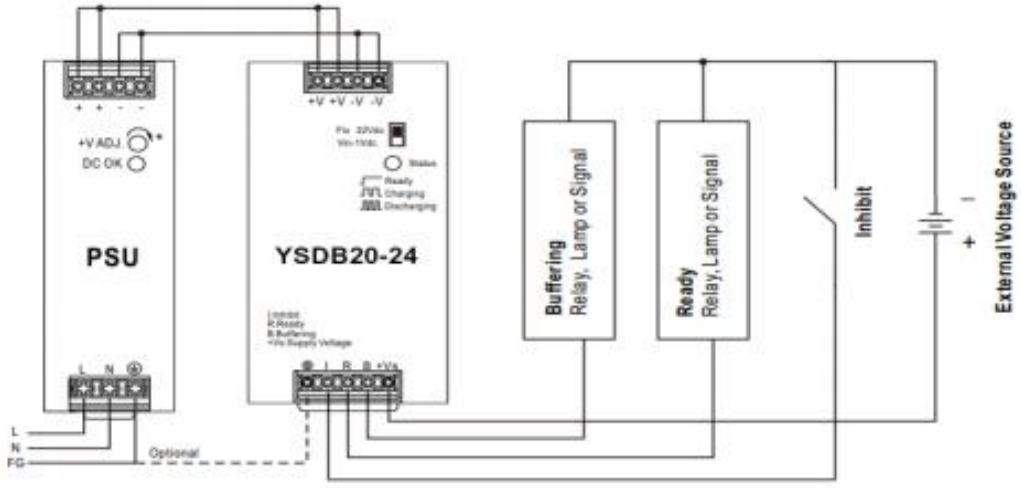
(+Vs can connected to YSDB20 "+V" or external voltage source,Please refer to "Typical Application Notes")

TyPical APPlication Notes

1. General Wiring diagram



2. signals suPPlied from an external Voltage



3. paralleling of bufer units