Power Supply Digital Series 24V

V2.2

Characteristics

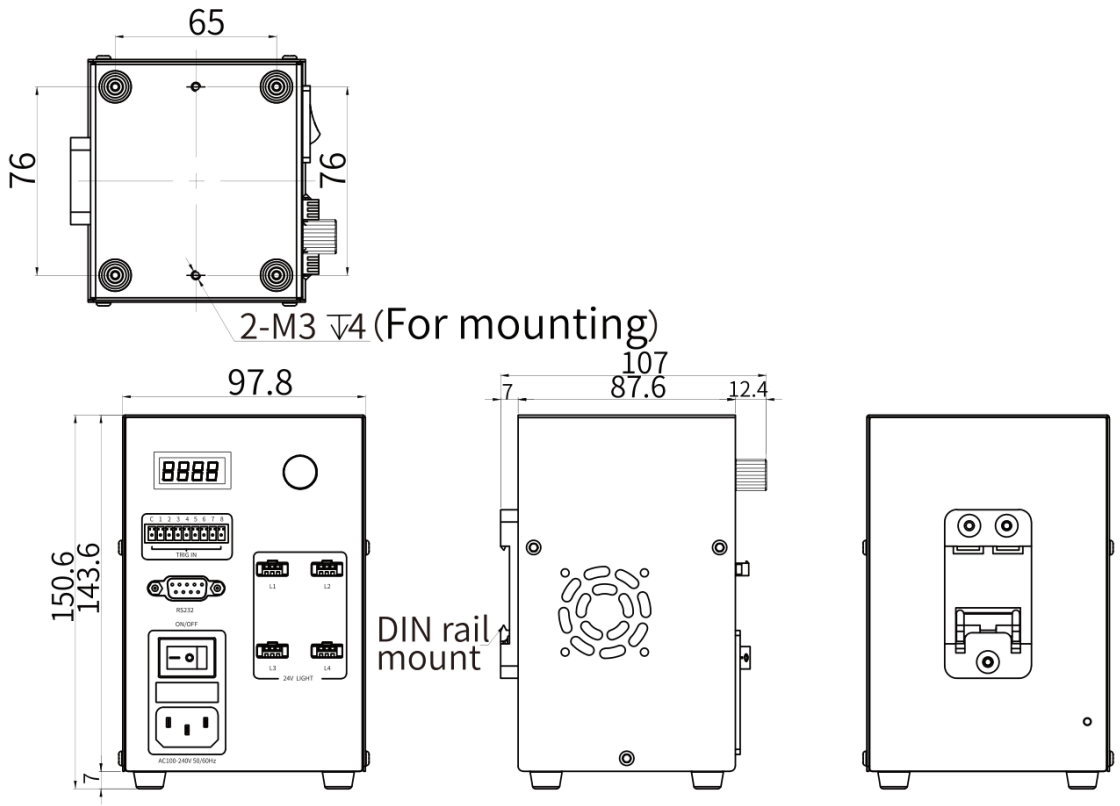
- 0 ~ 255 stepless light intensity control
- External trigger input for strobe lighting
- Mains powered
- Built in over-current protection
- DIN-rail or bottom screw mounting options
- Configurable over RS232 or Ethernet

Digital controlled Power Supply for controlling and adjusting the power of your 24V industrial machine vision light.

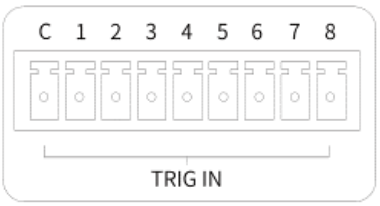
Technical specifications

	VA-PS5-D4-150W
Lighting method	Continuous / Trigged
Drive method	Constant voltage
Light control method	Variable voltage
Output voltage	24 VDC
No channels	4
Output power in total	150W
Maximum current/power in single channel	3A / 72W
Trigger function	Yes
Trigger input voltage	5 – 24 VDC
Trigger delay	< 50µs
Light Connector	JST-SMR-03V-B (FCB-3)
Input voltage	100 – 240 VAC 50/60Hz
Power Connector	IEC C13
Operating environment	Temperature -10 ~ 50 °C Humidity 20 ~ 85 %
Cooling	Fan cooled
Housing material	Painted steel
Weight	850 gram
Dimension	107x97.8x150.6mm

Technical drawing

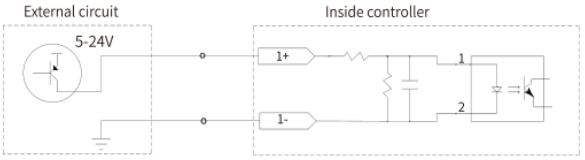


Trigger circuit

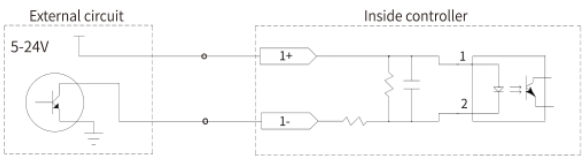


Trigger port no	Trigger definition	
C	Trigger input common	No polarity DC5-24V input
1	1ch Trigger input	
2	2ch Trigger input	
3	3ch Trigger input	
4	4ch Trigger input	

Trig H



Trig L



Product number

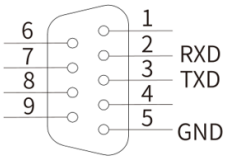
VA– PS5	-	Channels	-	Power	-	Voltage
		D4		150W		24V

Communication Settings

RS232 parameters

Protocol	Working mode	Communication speed	Transport format			
			Start bit	Data bit	Check bit	Stop bit
RS-232	Half-duplex mode	19200bps	1	8	0	1

Port Pinout



Default ethernet parameters

Communication mode	Settings
NE=2	UDP (Broadcast) mode
IP address	192.168.1.2
Subnet mask IU	255.255.255.0
Gateway address IS	192.168.1.1
Port number IL	1200
Destination (PC) IP address DP	192.168.1.3
Destination (PC) IP address DL	1200

Communication command list

1.Commands start with the start character $ and end with the end character #, between $ and # are commands and parameters.
2.Only the last one is executed when multiple commands are given , such as: $F0=0,F1=0,F2=0# $L0=0,L1=99,L2=128,L3=9#,
only $L0=0, L1=99, L2=128, L3=9#is executed.
3.For all commands and data, there should be no spaces between them, all letters are uppercase letters, and all characters are English characters.

NO	Command&Function Description	Command Code	Specification
1	Set ID	$ ID = 0, IW = 99 #	Set ID from 0 to 99, the range is 0-99
2	Set the channel ON/OFF	$F0=0#	F0: Set channel 1 ON/OFF function, range: F0-F5 0: OFF; 1: ON
3	Set trigger method	$TR=0#	0: Triggered by external-follow low level 1: Triggered by external-follow high level 2: Triggered by external falling edge 3: Triggered by external rising edge 4: Triggered by internal-follow low level 5: Triggered by internal-follow high level 6: Triggered by internal falling edge 7: Triggered by internal rising edge 15: Constantly-on mode
4	Set brightness of the channel	$L0=100#	L0: Set the brightness level of channel 1, range: L0-L5 100: The set brightness of channel 1, range: 0~255
5	Set lighting time of the channel	$T0=100#	T0：Set the lighting time of channel 1, range: T0-T5 100:The set lighting time of channel 1, range: 1~999us
6	Set lighting time delay of the channel	$D0=100#	D0: Set the lighting time delay of channel 1, range: D0- D5 100: The set lighting time delay of channel 1, range: 0 ~999us
7	Set trigger output time of the channel	$P0=100#	P0: Set the trigger output time of channel 1, range: P0-P5 100: The set trigger output time of channel 1, range: 1~999us
8	Set trigger output time delay of the channel	$S0=100#	S0: Set the trigger output time delay of channel 1, range: S0-S5 100: The set trigger output time delay of channel 1, range: 0 ~500us
9	Set internal trigger frequency	$FQ=2#	Internal trigger frequency range: 1~20Hz
10	Set PWM frequency	$PW=0#	PWM frequency range: 0~3 (0--62.5KHz, 1-- 125KHz, 2--250KHz, 3--500KHz)
11	Set trigger-output level method	$GR=0#	Default output state: 00: Default high level, output low when there is a trigger signal (ie low trigger camera) 01：Default low level, output high when there is a trigger signal (ie high trigger camera)
12	Set trigger filter detection time	$FI=5#	Trigger filter detection time (range 0~19): 0 =0.5 us，1 =1.0 us，2 =1.5 us，3 =2.0 us 4 =2.5 us，5 =3.0 us，6 =3.5 us，7 =4.0 us 8 =4.5 us，9 =5.0 us，10=5.5 us，11=6.0 us 12=6.5 us，13=7.0 us，14=7.5 us，15=8.0 us 16=8.5 us，17=9.0 us，18=9.5 us，19=10.0 us
13	Set IP address	$NE=2, IP=192.168.1.2, IU=255.255.255.0, IS=192.168.1.1, IL=1200, DP=192.168.1.3, DL=1200#	NE=0：TCP server mode，1：TCP client mode，2：UDP (broadcast) mode IP=controller IP address IU=controller subnet mask IS=controller gateway address IL=controller port number DP=target (PC) IP address DL=Destination (PC) port number
14	Combined the same function	$L0=0, L1=10#	To set the same function of multiple channels at the same time, one can use ',' to separate and input commands of different channels
15	Combined commands for multiple functions	$L1=10, T0=999, TR=1, LC=1#	To set different functions at the same time, one can use ',' to separate and input different channel commands
16	Combined commands with read command	$L0=10, TR=1, RD=0#	For combined commands with a read command, use ',' to separate and input commands of different channels. There can only be one read command, and the read command must be the last command of the combined commands; Example 1: $L0=10, RD=0, TR=1#, description: RD=0 does not execute Example 2: $L0=10, RD=1, RD=2, RD=0#, description: RD=1 and RD=2 do not execute
17	Read all parameters of the channel	$RD=9999#	RD=0：read the parameters of channel 1, channel range: RD=0~5 RD=9999：read all parameters of the controller Explanation: The current parameter setting value of the controller equals to the return value of each command code if：ID=0, the current value of controller ID is 0 L0=20: the current brightness of channel 1 is 20 T0=100: the current lighting time of channel 1 is 100us
18	Set interface lock/unlock	$LC=0#	0: Unlocked; 1: Locked
19	Data storage	$SA=1#	0: Do not execute; 1: Save data
20	Reset	$RS=1#	Restore all parameters to defaults
21	The controller responds to the command	Return to read information	
		+OK: Reply code of correct communication	
		E1: Reply code of wrong command format	
		E2: Reply code of wrong data format	
		E3: Reply code of wrong command name format	
		E4: Reply code of wrong channel name format	
		E5: Reply code of wrong command name length format	
		E6：Reply code of wrong data length format	
		E7: Reply code of wrong channel length format	
		Er: Other reply codes of wrong command	

Explanation：
①All controllers (except logical controllers) use same command code, and the channel number is based on the actual object, with a range of 0- (n-1), n is the actual number of channels. For example, L1 channel is 0 channel
②The triggering method, PWM frequency, and other commands are based on the actual mode of each controller, with the same code but different ranges
③The range of commands such as brightness level, lighting time, lighting time delay , trigger filter detection time, etc. shall be subject to the instruction manual