



TMS LITE SDN. BHD. (Co. No. 671971V)
LED ILLUMINATION SOLUTION PARTNER



STH-1000-D1 (CONSTANT AND TRIGGER MODE)

USER MANUAL

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Revision Notes

Rev	Date/Author	Comment
1.0	ZW	First Release
2.0	KWNG	Re-work

General Description

Introduction

The STH-1000-D1 controller provides analog intensity control of 5V LED lighting for machine vision applications. The STH-1000-D1 provides single channel output, with current output selection and selectable mode: Constant & Strobe

Front Panel



Specification of STH-1000-D1

Power	Controller Supply Voltage	24 VDC
	Lighting Output	5 VDC
	Input Current	Min 1.2A
	Output current	Max 1.0A / channel
Function	No. of Channel	1
	Intensity Control	VR Adjustable
	Intensity Range	1 ~ 10 steps
	Selectable Mode	Constant & Strobe
	Current Output Selection	100mA – 1000mA
	Trigger Input Voltage	5 VDC – 24 VDC

Specification of Adaptor 24VDC

Input Power Supply	Input Power rating	100V - 240V AC, 50/60 Hz, 2.0A
	Output Power rating	24VDC, 2.7A

Remark:

- The Intensity of light is affected by the length of the lighting cable.

Configuration

Connections

For STH-1000-D1 to operate properly, the unit terminals must be connected correctly. The terminals voltage polarity must be followed accordingly to prevent damage to the unit.

- **Power Input Terminals**

These terminals are to be connected to a 24V DC power supply with minimum 1200mA capability.

- **Light Output Terminals**

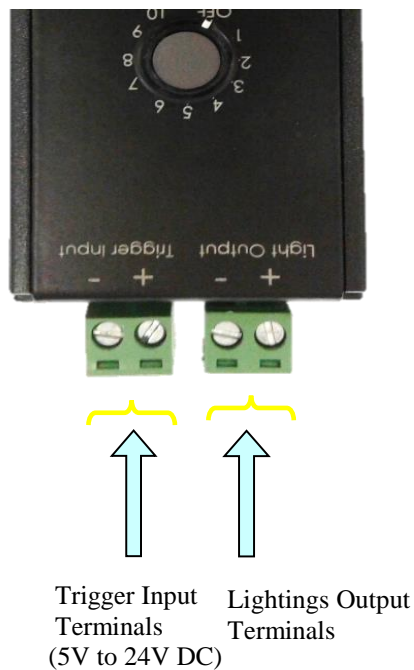
These terminals are to be connected to 5V-Lightings for a 5V DC power supply at Lightings Input Power Terminals.

- **Trigger Input Terminals**

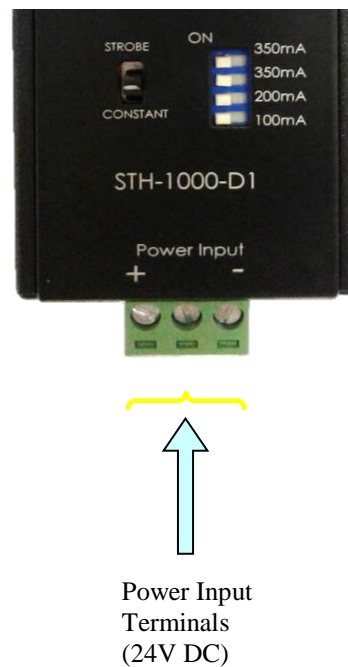
For Trigger Mode operation, these terminals are to be connected to trigger signal line from external control unit. Trigger voltage range from 5V to 24V DC.

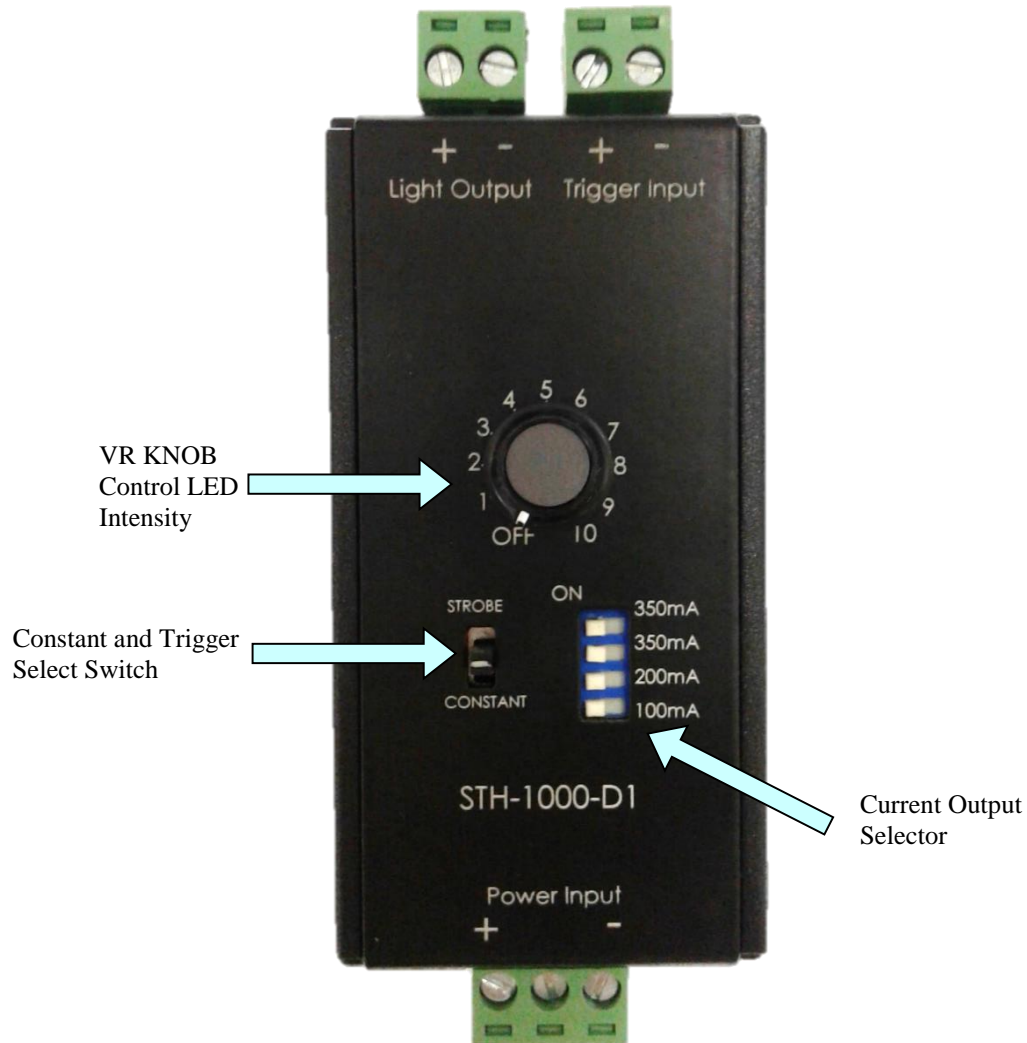
For Constant Mode operation, these terminals can be left unconnected.

LEFT VIEW:



RIGHT VIEW:



TOP VIEW

- At Top View of the STH Controller, all the Positive terminals are with '+' label and the Negative terminals are with '-' label, as shown in the above photo.

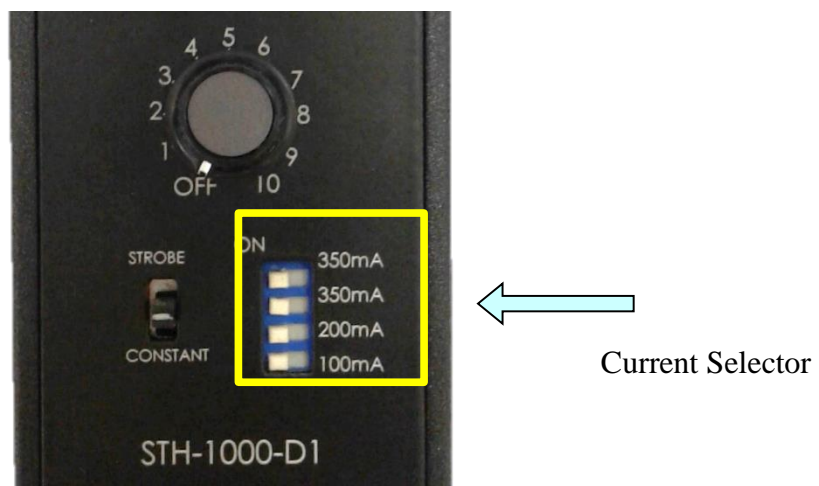
Current DIP Switch Settings

The DIP Switches is located at the lower left of the controller as shown in the photo below.

The DIP Switches sets the maximum output current to the Lighting Output for over current protection.

Factory default setting is 300mA.

Caution: Make sure the selected maximum current output is suitable for the lightings to prevent damage to both the lightings and the ST lighting controller unit.



Switch				Output Current (mA)
1 (100mA)	2 (200mA)	3 (350mA)	4 (350mA)	
OFF	OFF	OFF	OFF	INVALID
ON	OFF	OFF	OFF	100
OFF	ON	OFF	OFF	200
OFF	OFF	ON	OFF	350
ON	OFF	ON	OFF	450
OFF	ON	ON	OFF	550
OFF	OFF	ON	ON	700
OFF	ON	ON	ON	900
ON	ON	ON	ON	1000

DIP Switch Settings for Maximum Lighting Output Current

Power ON

The default current setting for the STH controller is 300mA. If other current settings are desired, please refer to the previous section before power on the unit.

Connect the lighting connectors to the lighting connection terminals.

Connect a voltage supply from 24V DC to the Board Power Terminals. The POWER LED will lit when power is supplied.

Operation Mode

There are two functional modes for STH-1000-D1:

- Constant Mode
- Trigger Mode

Constant Mode

The unit will operate in Constant Mode when the slide switch is set at “CONSTANT” position (Label CONSTANT). The unit has constant mode intensity from 1 to 10 (Analog). Set the slide switch at “CONSTANT” position.

The Lightings intensity is set by manually adjust the position of VR Knob (label 1-10) on the casing.

When VR Knob position at '1', it sets the lightings intensity at minimum.

When VR Knob position at '10', it sets the lightings intensity at maximum.

Trigger Mode

The unit will operate in Trigger mode when the Toggle switch is set at “STROBE” position (Label STROBE). The unit has trigger mode intensity from 1 – 10 (Analog). Set the Toggle switch at “STROBE” position.

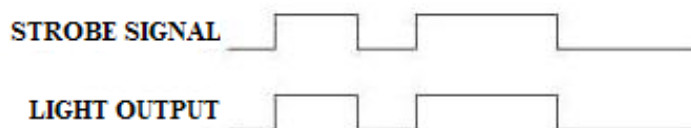
The Lightings intensity is set by manually adjust the position of VR Knob (label 1-10) on the casing.

When VR Knob position at '1', it sets the lightings intensity at minimum.

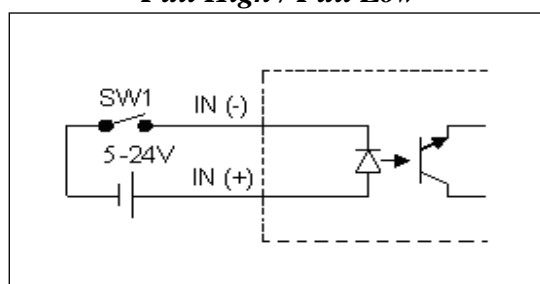
When VR Knob position at '10', it sets the lightings intensity at maximum.

The “STROBE SIGNAL” input and “LIGHT OUTPUT” output timing diagram is shown as below:

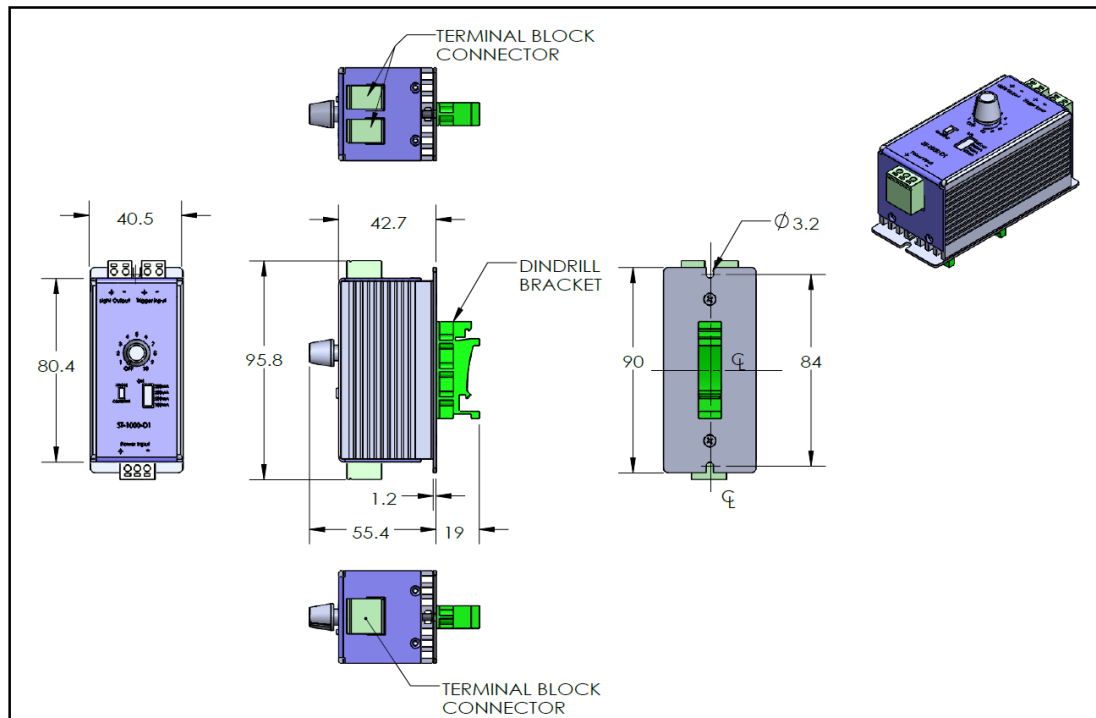
Triggered Mode Timing



Pull High / Pull Low

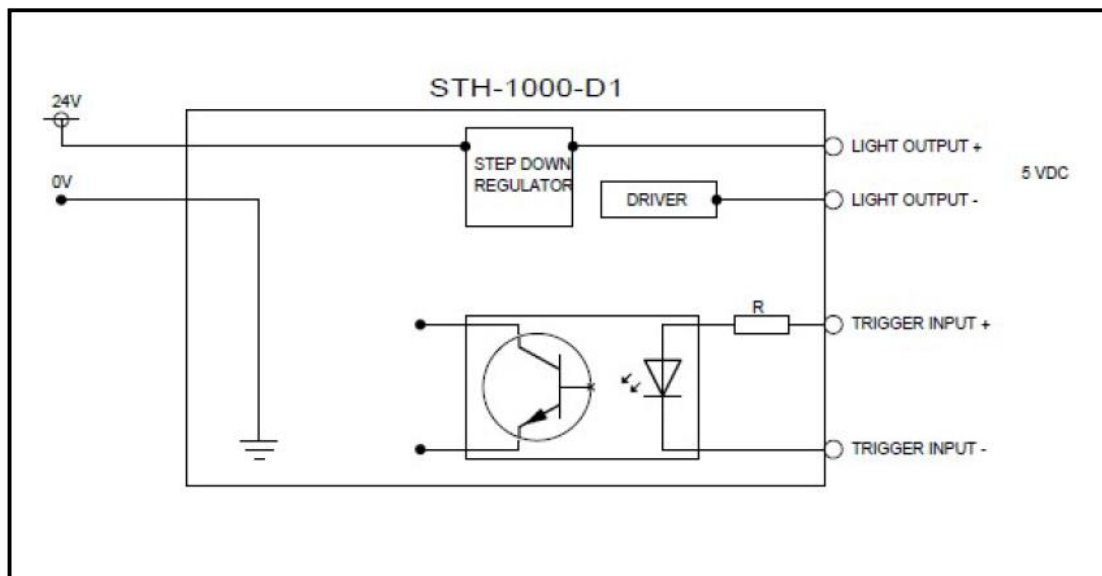


Dimension Layout



Unit = mm


Schematic STH-1000-D1



Accessories

Additional accessories that can be used with STH-1000-D1 controllers.

- 24V Adaptor power supply
- Choose one Power Cord UK, US or EU

MODEL	SPECIFICATIONS
 <p>24V ADAPTOR POWER SUPPLY WITH POWER CORD</p>	<ul style="list-style-type: none"> • ST-1000-D1-PS2.7A-UK (CONTROLLER WITH 24V ADAPTOR AND UK POWER CORD) • ST-1000-D1-PS2.7A-US (CONTROLLER WITH 24V ADAPTOR AND US POWER CORD) • ST-1000-D1-PS2.7A-EU (CONTROLLER WITH 24V ADAPTOR AND EU POWER CORD)

Power Cord Information

The cable length is 1.8 Meter length of power cord.

240VAC Power Cord (UK)



220VAC Power Cord (EU)



110VAC Power Cord (US)





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Natascha Overhof



Christian Cromptoets



VISION CONSULTANCY

Robert Schumandomein 2
6229 ES Maastricht
The Netherlands

+31 (0) 438 522 651

sales@vision-consultancy.nl
www.machine-vision-shop.com

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