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

ST-1000-D1
(CONSTANT AND TRIGGER MODE)

USER MANUAL

Rev 2.1

Contents

General Description 1
Specification of ST-1000-D1 1
Specification of Adaptor 1
Configuration 2
Connections 2
Current DIP Switch Settings 4
Power ON 5
Operation Mode 5
Constant Mode 5
Trigger Mode 5
Dimension Layout 6
Schematic ST-1000-D1 6
Accessories 7
Power Cord Information 9

Revision Notes

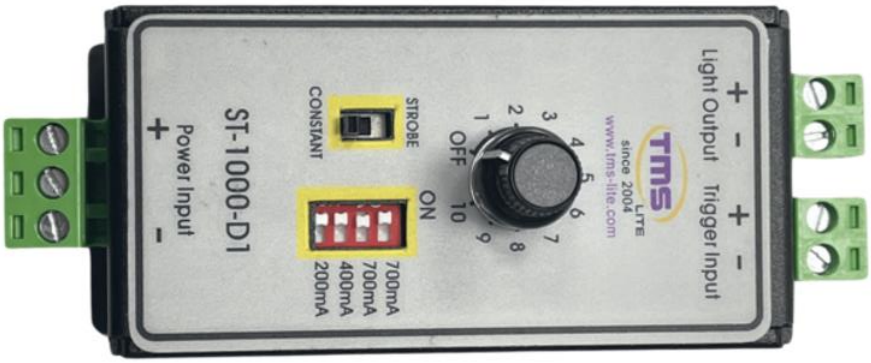
Rev	Date/Author	Comment
1.0	ZW	First Release
2.0	KWNG	Updates Information
2.1	KWNG	Updates Photo & Drawing Layout

General Description

Introduction

The ST-1000-D1controller provides analog intensity control of LED lighting for machine vision applications. The ST-1000-D1 provides single channel output, with current output selection and selectable mode: Constant & Strobe

Front Panel



Specification of ST-1000-D1

Power	Controller Supply Voltage	12V/24V DC
	Lighting Output	12V/24V DC
	Input Current	Min 2.2A
	Output current	Max 2.0A / channel
Function	No. of Channel	1
	Intensity Control	VR Adjustable
	Intensity Range	1 ~ 10 steps
	Selectable Mode	Constant & Strobe
	Current Output Selection	200mA – 2000mA
	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, 2.5A

12VDC

Input Power Supply	Input Power rating	100V - 240V AC, 50/60 Hz, 2.0A
	Output Power rating	12VDC, 3.33A

Remark:

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

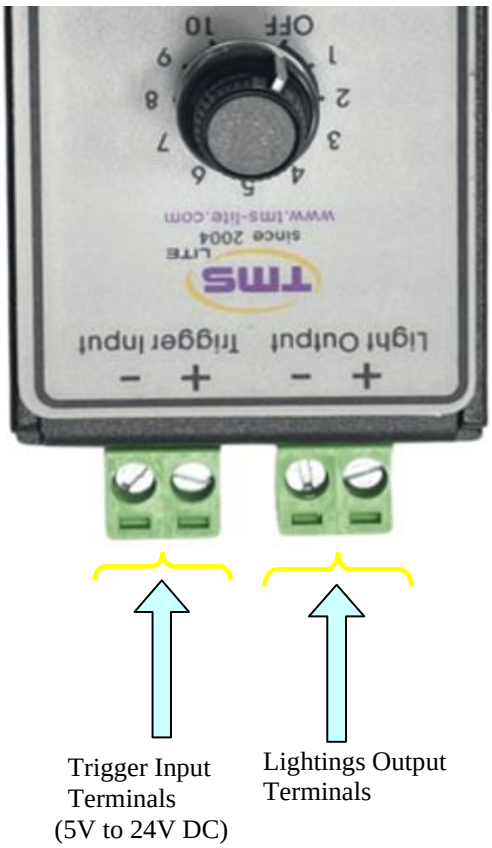
Configuration

Connections

For ST-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 12V / 24V DC power supply with minimum 2200mA capability.
- **Light Output Terminals**
  These terminals are to be connected to 12V / 24V-Lightings for a 12V / 24V 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.

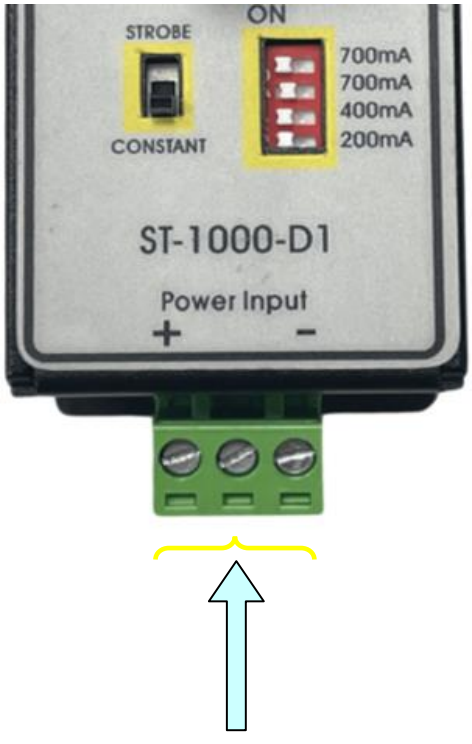
LEFT VIEW:



Trigger Input Terminals (5V to 24V DC)

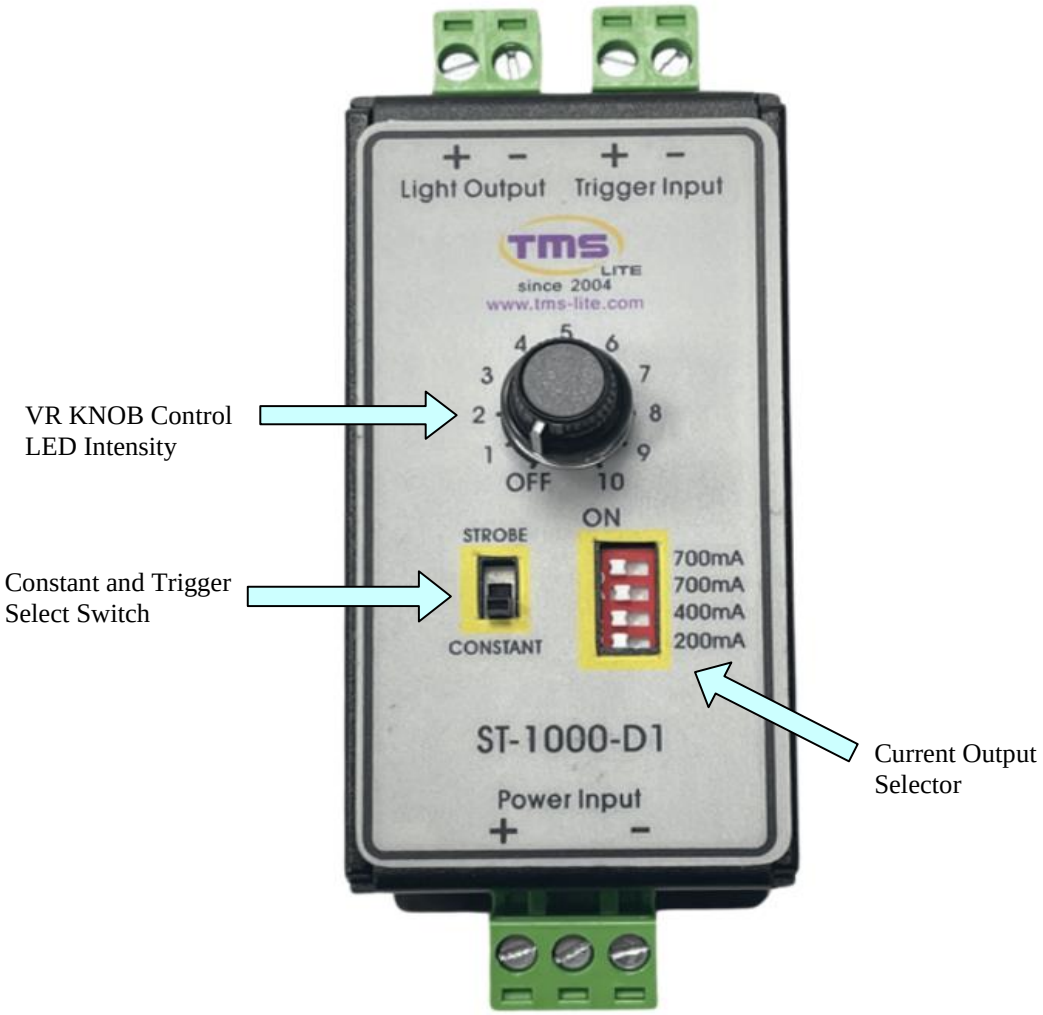
Lightings Output Terminals

RIGHT VIEW:



Power Input Terminals (12V / 24V DC)

TOP VIEW



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

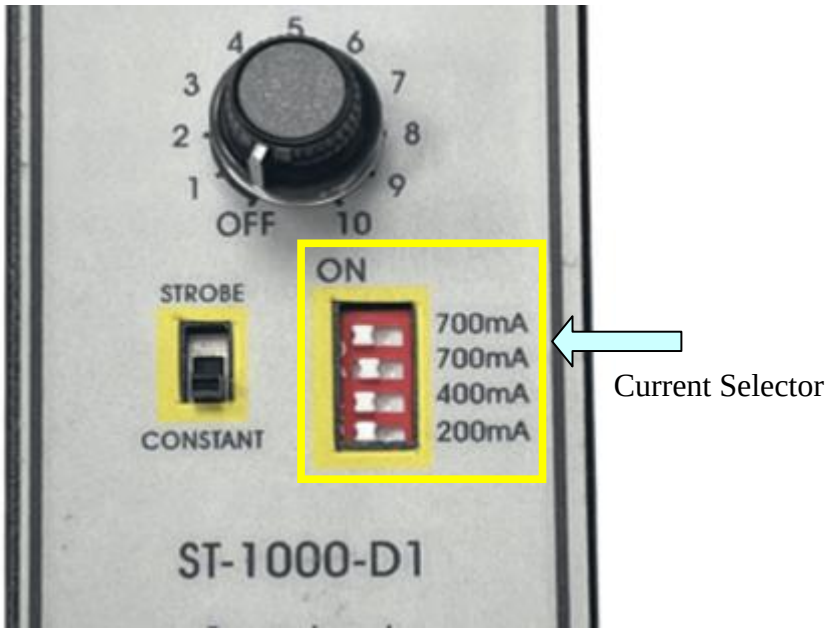
Current DIP Switch Settings

The DIP Switches is located at the lower right 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 600mA.

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 (200mA)	2 (400mA)	3 (700mA)	4 (700mA)	
OFF	OFF	OFF	OFF	INVALID
ON	OFF	OFF	OFF	200
OFF	ON	OFF	OFF	400
OFF	OFF	ON	OFF	700
ON	OFF	ON	OFF	900
OFF	ON	ON	OFF	1100
OFF	OFF	ON	ON	1400
OFF	ON	ON	ON	1800
ON	ON	ON	ON	2000

DIP Switch Settings for Maximum Lighting Output Current

Power ON

The default current setting for the ST controller is 600mA. 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 12V / 24V DC to the Board Power Terminals. The POWER LED will lit when power is supplied.

Operation Mode

There are two functional modes for ST-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.

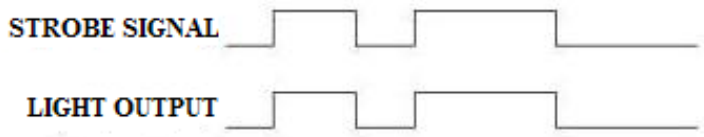
The Lightings intensity is set by manually adjust the position of VR Knob (label 1-10) on the casing.
When VR Knob position at '1', it sets the lightings intensity at minimum.
When VR Knob position at '10', it sets the lightings intensity at maximum.

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.

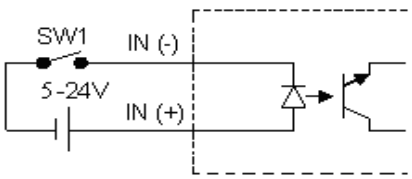
The Lightings intensity is set by manually adjust the position of VR Knob (label 1-10) on the casing.
When VR Knob position at '1', it sets the lightings intensity at minimum.
When VR Knob position at '10', it sets the lightings intensity at maximum.

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

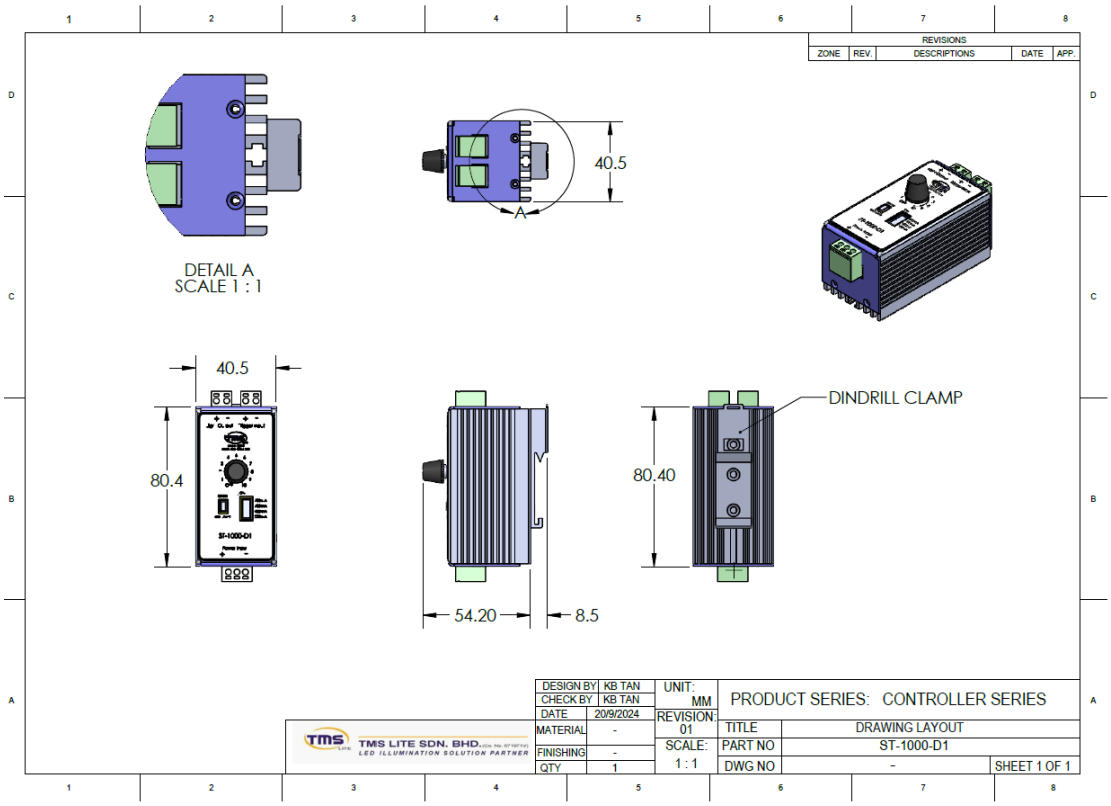
Triggered Mode Timing



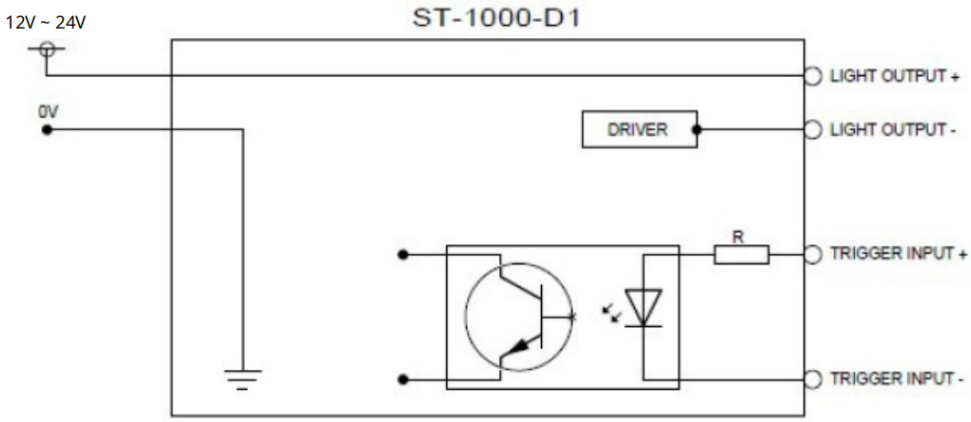
Pull High / Pull Low



Dimension Layout



Schematic ST-1000-D1



Accessories

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

Selection Power Supply

24V

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

MODEL	SPECIFICATIONS
24V ADAPTOR POWER SUPPLY WITH POWER CORD	• ST-1000-D1-PS2.5A-UK (CONTROLLER WITH 24V ADAPTOR AND UK POWER CORD) • ST-1000-D1-PS2.5A-US (CONTROLLER WITH 24V ADAPTOR AND US POWER CORD) • ST-1000-D1-PS2.5A-EU (CONTROLLER WITH 24V ADAPTOR AND EU POWER CORD)

12V

- 12V Adaptor power supply
- Choose one Power Cord UK, US or EU

MODEL	SPECIFICATIONS
12V ADAPTOR POWER SUPPLY WITH POWER CORD	• ST-1000-D1-PS12V-UK (CONTROLLER WITH 12V ADAPTOR AND UK POWER CORD) • ST-1000-D1-PS12V-US (CONTROLLER WITH 12V ADAPTOR AND US POWER CORD) • ST-1000-D1-PS12V-EU (CONTROLLER WITH 12V 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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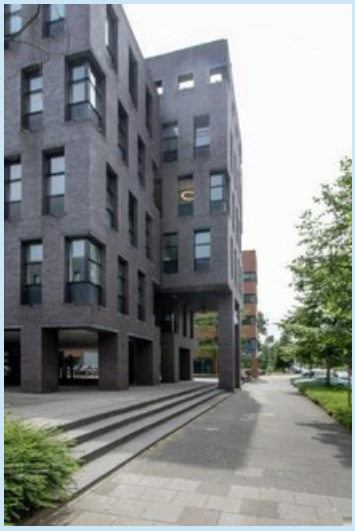
Natascha Overhof

Christian Crompvoets



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