

ST Series Lighting Controller



ST-1000-D1
(CONSTANT AND TRIGGER MODE)

USER MANUAL

Rev 1.0 20 OCT 2016

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Revision Notes

Rev	Date/Author	Comment
1.0	ZW	First Release

Introduction

Features List

- 1 channel lighting controller card with VR and Selection Switch
- Voltage control for channel up to 24V DC
- Lighting output voltage 24VDC
- Current Selection 200mA, 400mA, 700mA, 700mA and up to 2A
- Default current output is 200mA (Maximum Output Current 2A)
- Trigger intensity control
- Din Rail/ Panel Mount

Applications

- Light Control for Selectable Mode (Constant and Trigger)
- General purpose light intensity control (Constant and Trigger Mode)

Hardware

Packing List

Please make sure that the following parts are in the packing list:

- **ST-1000-D1 lighting controller unit**
 - Adaptor +24V with Power Cord 110 - 240 (Optional)
 - LED Lightings (Optional)
 - Ext. Lighting Cable (Optional)
 - Rear Plate with Din Rail Clip

Front Panel



The front panel consists of VR KNOB (Constant / Trigger LED Intensity Control) and Slide Switch (Selectable Constant Mode or Trigger Mode).

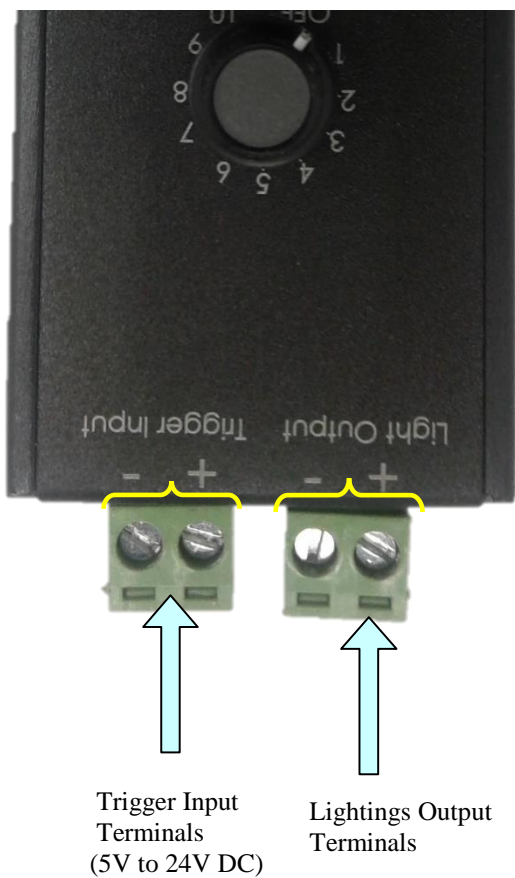
Configuration

Connections

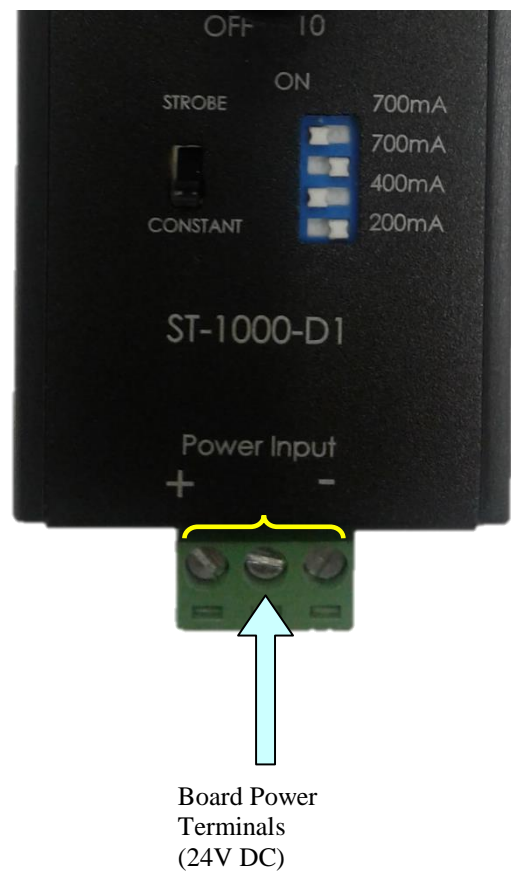
For ST-1000-D1 to operate properly, the unit terminals must be connected correctly. The terminals voltage polarity must be followed accordingly to prevent damage to the unit.

- **Board Power Terminals**
These terminals are to be connected to a 24V DC power supply with minimum 500mA capability.
- **Lightings Output Terminals**
These terminals are to be connected to 24V-Lightings for a 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.

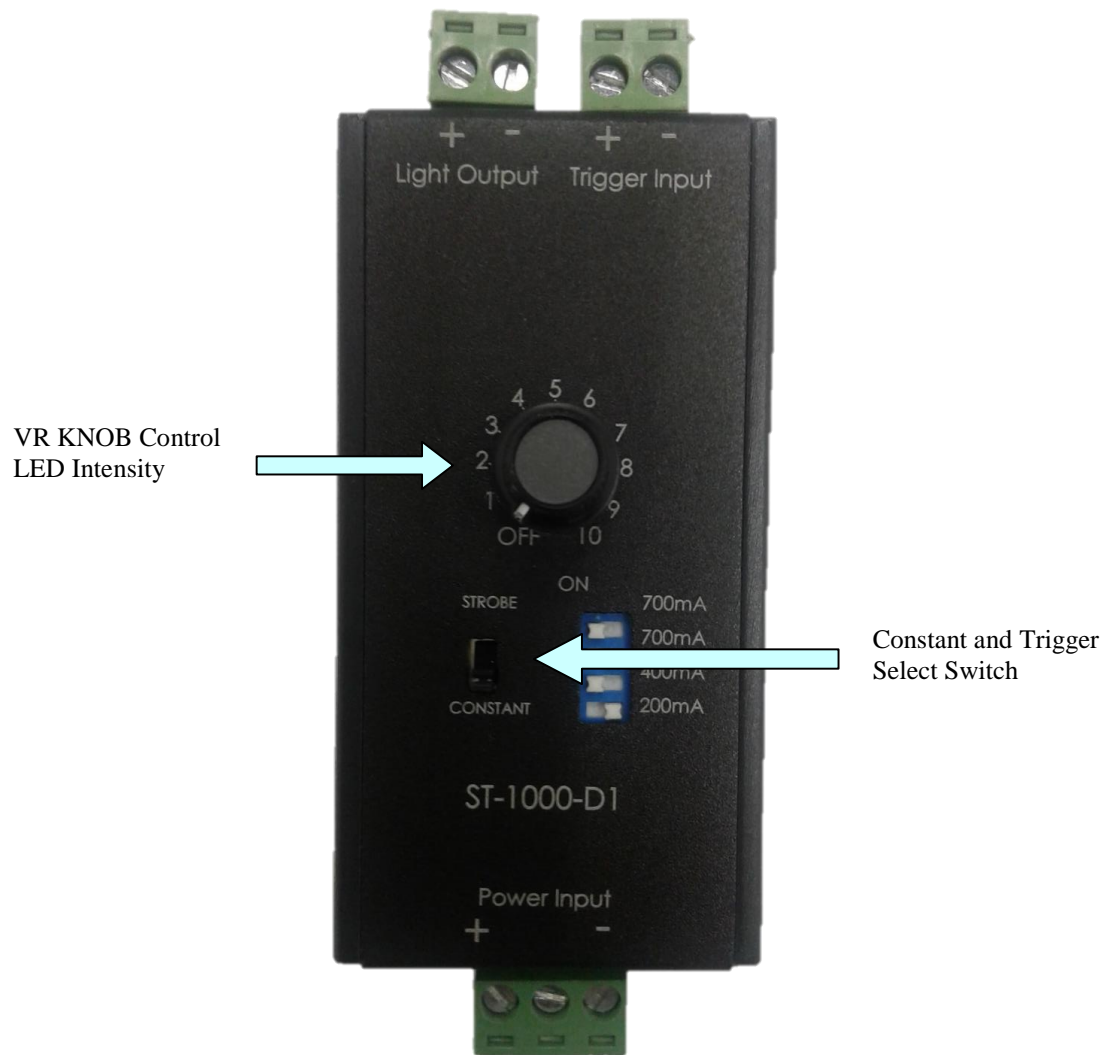
LEFT VIEW:



RIGHT VIEW:



TOP VIEW



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

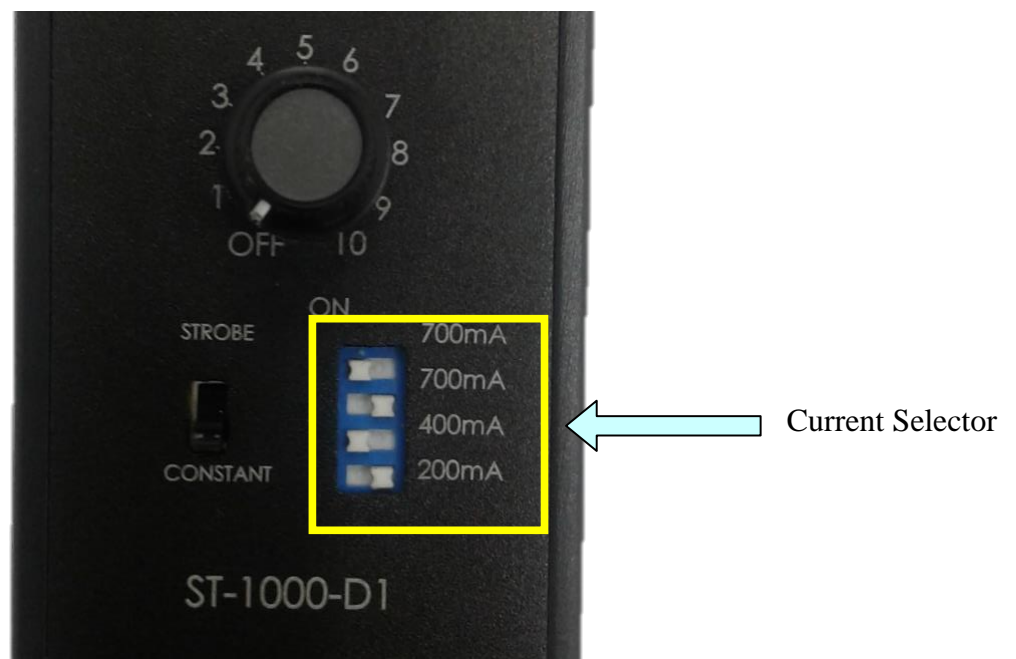
Current DIP Switch Settings

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 **700mA**.

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 700mA. 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 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 0 to 10 (Analog). Set the slide switch at “CONSTANT” position.

The Lightings intensity is set by manually adjust the position of VR Knob (label 0-10) on the casing.

When VR Knob position at '0', 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 0 – 10 (Analog). Set the Toggle switch at “STROBE” position.

The Lightings intensity is set by manually adjust the position of VR Knob (label 0-10) on the casing.

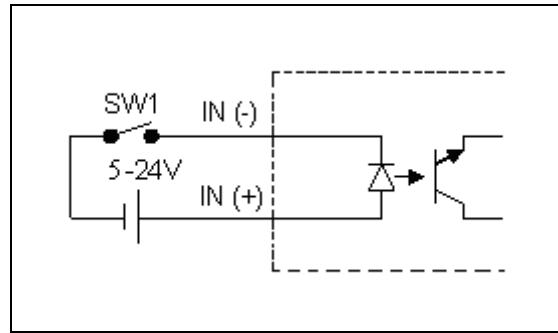
When VR Knob position at '0', it sets the lightings intensity at minimum.

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

ST-1000-D1 Specification

CONTROL:

VR	Manual Control (Adjustable)
----	-----------------------------

General:

Dimension	78mm x 40.50 x 53.4mm
Power Input	+24 VDC
Board Max Power Consumption	50mA±10% @ 24V
Board Voltage	24 VDC

Channels:

1 Channels	Channel Control	Independent
	Output Mode	Constant / Trigger
	Output Current	700mA (Default), 200mA, 400mA, 700mA, 900mA, 1100mA, 1400mA, 1800 & up to 2000mA
	Lighting Input and Output Voltage	24VDC

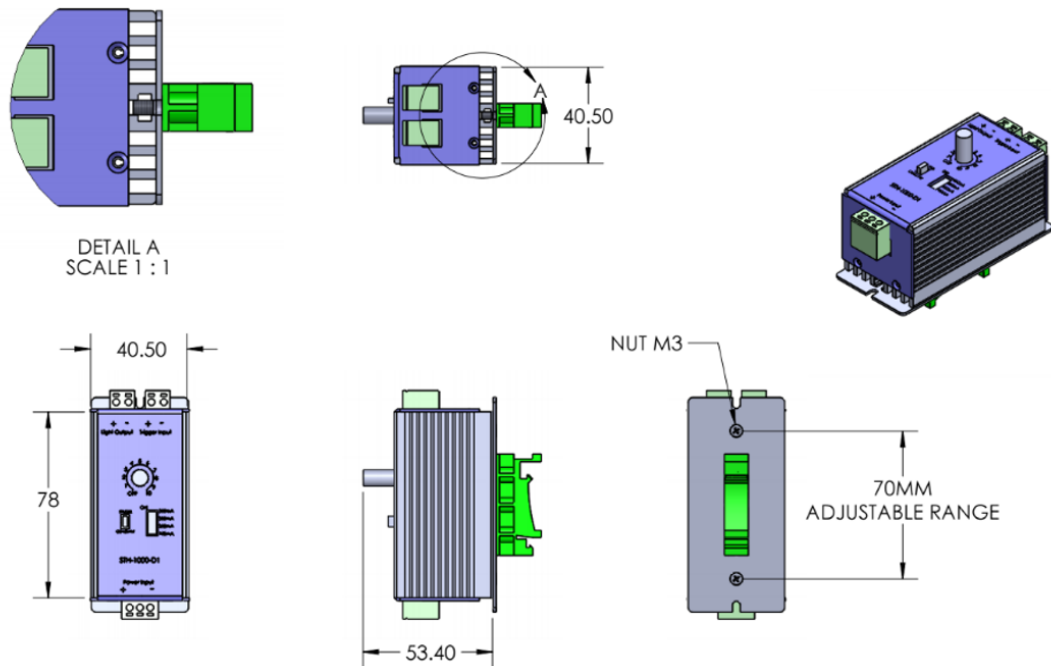
Functions:

Constant	Lighting Intensity	VR Adjustable
	Intensity Range	0 ~ 10 steps
Trigger	Lighting Intensity	VR Adjustable
	Intensity Range	0 ~ 10 steps
	Timing Delay	0 ~ 100 ns

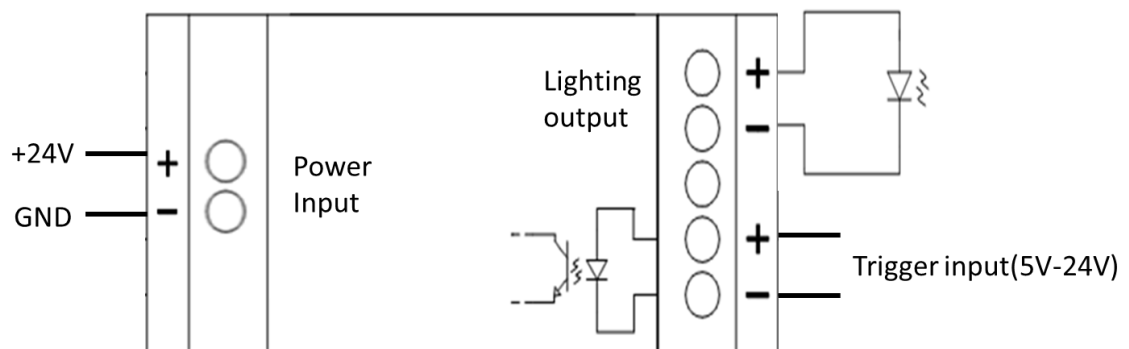
External I/O:

Input	Input Voltage	5~24 VDC	
	Input Current	5 VDC	1.4 mA (typical)
		12 VDC	4.5 mA (typical)
		24 VDC	10 mA (typical)
	Protection	2500 VDC Opto-coupler Isolation	

Dimension Layout



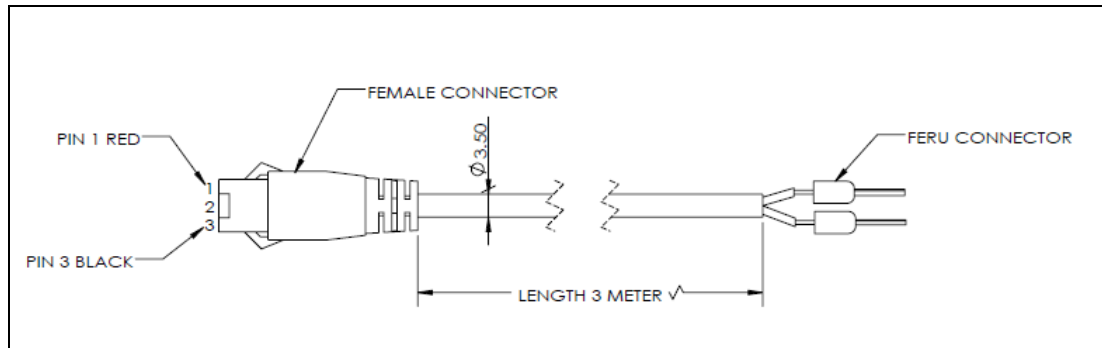
Simple Connection ST-1000-D1



Cable Information

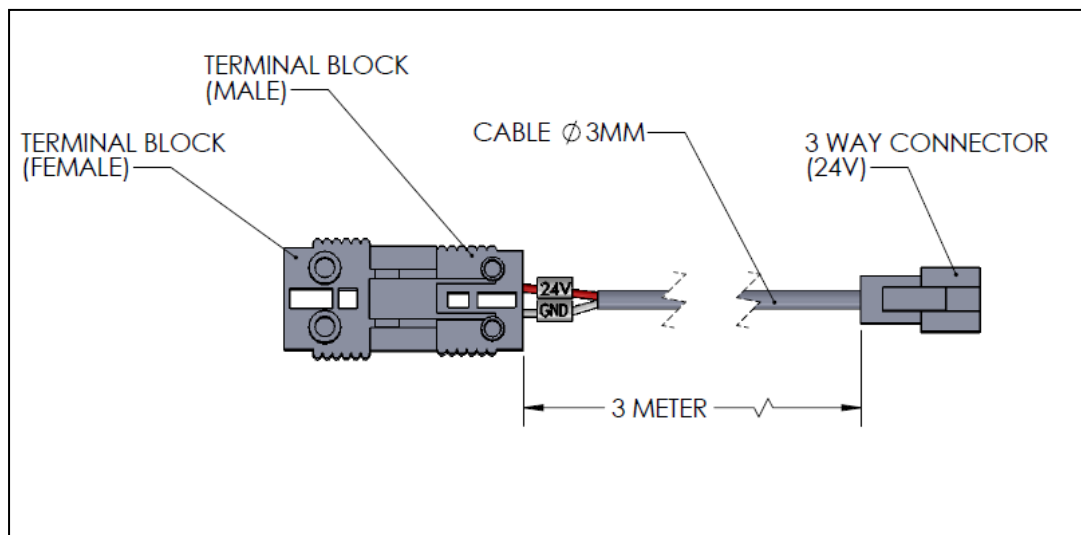
i) EXT-24V-F-3M

Extension Cable of 3 Meter with SM connector



ii) EXT-24V-F-3M-TB

Extension Cable of 3 Meter with Terminal Block connector



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)

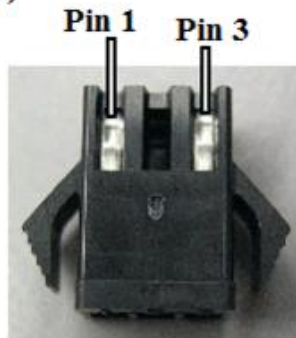


Lighting Connector of SM

+ve (red wire) -ve (white wire)



Pin 1 -- Red wire (+ve)



Pin 3 -- White wire (-ve)

24V Connector
Pin 1 -- +ve (red wire)
Pin 3 -- -ve (white wire)



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Natascha Overhof



Christian Cromptoets



VISION CONSULTANCY

Robert Schumann domein 2
6229 ES Maastricht
The Netherlands

+31 (0) 438 522 651

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

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