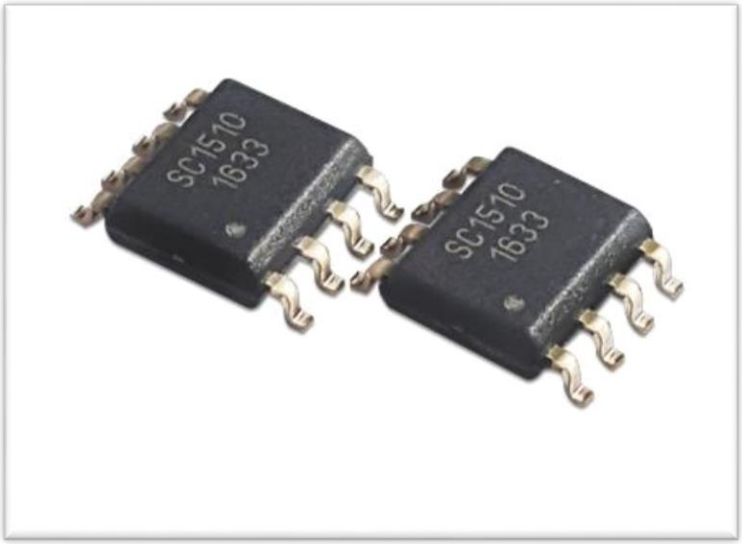
User Guide
Current to Digital converter IC (SC1510)



Current to Digital Converter (SC1510)

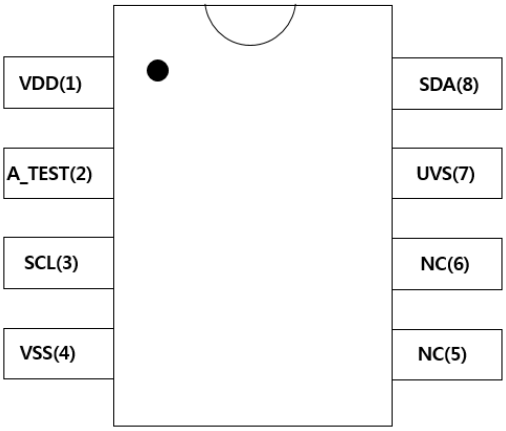
The SC1510 includes Re-Writable EEPROM. SC1510 also has an internal current control block and ADC Timing control Block which can be controlled through I2C interface by external micro controller.
It converts the measured value of the sensor current output into an ADC, and outputs the digital value through I2C communication.

- Features and uses -

- ☞ Digital value can be obtained by connecting to current sensor such as optical sensor and temperature sensor.
- ☞ The sensor current range is 0.1uA ~ 10uA, which can be adjusted by user's setting. (It may be different depending on user's circuit configuration and an environment.)
- ☞ Output signal is output through I2C communication.
- ☞ Power supply is DC 3.0 ~ 3.6V.
- ☞ Built-in EEPROM to control offset and gain of sensor
- ☞ A 10bit ADC with 1024 resolution is built in.
- ☞ When using the current output sensor, you can get the result easily.
- ☞ Package & Size: SOIC 8 pin (4.9 X 3.8 X 1.37 mm3)

Current to Digital Converter (SC1510)

Items	Specifications
Supply Voltage	DC 3V~3.6V
Current	350uA below
Sensing Sensor Type	Current type of Sensor (Photo sensor, Temp. sensor, Resistive sensor etc)
Communication	I2C(400KHz)
ADC	10bit
EEPROM	32byte(User Area 3byte)
Control Function	Offset and Gain
Size	4.9 X 3.8 X 1.37 mm3



Pin Configuration

Pin No.	Pin Name	I/O	Description
1	VDD	Power	Analog, Digital Power
2	NC	-	No connect
3	SCL	Input	I2C clock
4	VSS	Ground	Analog, Digital GND
5	NC	-	No connect
6	NC	-	No connect
7	UVS	Input	Analog, Sensor sensing
8	SDA	Input / Output	I2C data

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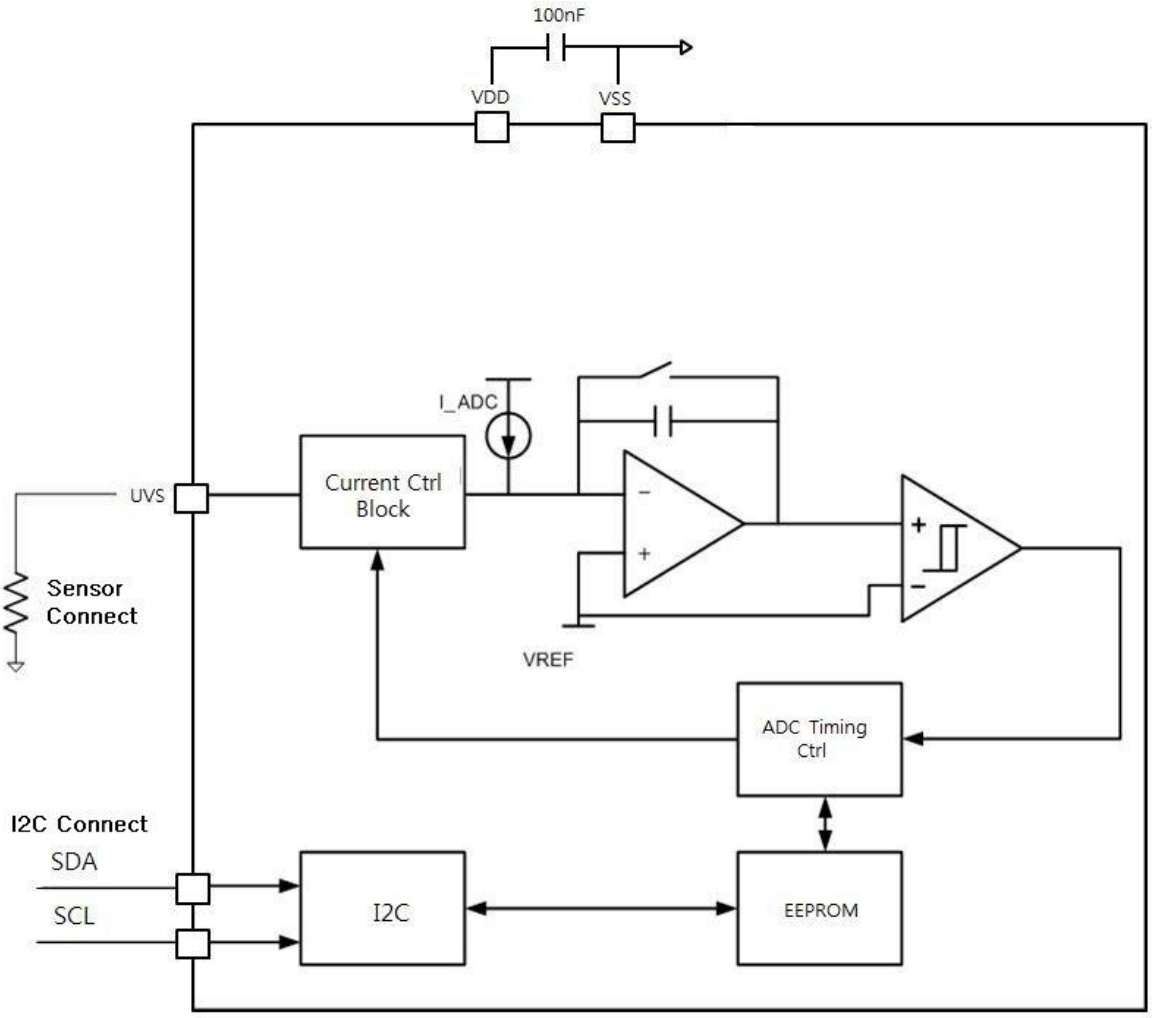
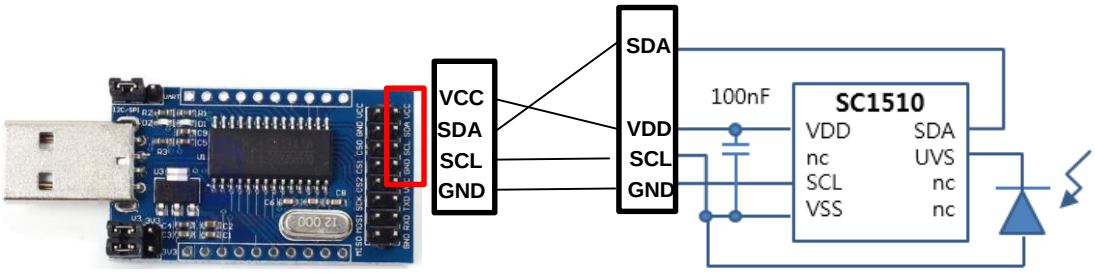


Current to Digital Converter (SC1510)

- Need to use interface board (sold separately) for evaluation on PC. Programs for PC are provided free of charge
- When connecting the SC1510 IC to the MCU, the SDA and SCL I2C output terminals on the SC1510 are used. Connect to I/O pins directly for use.
- If you do not use a separate MCU and want to use this IC to obtain sensor output results, It can be operated by CH341A-USB2I2C module which is sold separately.



CH341A-USB2I2C
(Sold separately)

Connection Schematics of SC1510 IC with CH341A-USB2I2C

◇ Operation explanation

Connect an optical sensor or thermistor to the sensor input of the SC1510 IC and read the data using the I2C communication line. When there is no external optical signal or temperature signal, the output value is changed to "0" by changing the offset register to the offset value.

Related Driver Program

◇ **CH341A Dricer Download Link to**

http://snaic.co.kr/?module=Board&action=SiteBoard&sMode=VIEW_FORM&iBrdNo=3&iBrdContNo=31&sBrdContRe=0&sSearchField=&sSearchValue=&CurrentPage=1

◇ **SC1510 GUI Program link to**

http://www.snaic.co.kr/?module=Board&action=SiteBoard&sMode=VIEW_FORM&iBrdNo=3&iBrdContNo=32&sBrdContRe=0&sSearchField=&sSearchValue=&CurrentPage=1

◇ **If more questions and support required, Please access below and request.**

http://www.snaic.co.kr/?module=Inquiry&action=SiteInquiry&sMode=INSERT_FORM&iInquiryNo=1

***** Precautions and Notes *****

1. In order to prevent personal injury or fire arising from failure, please take safety measures such as complying with the derating characteristics, implementing redundant and fire prevention designs, and utilizing backups and fail-safe procedures.

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