


# SCM-38I

## Serial Converter Module(RS232C↔RS485 convertable)

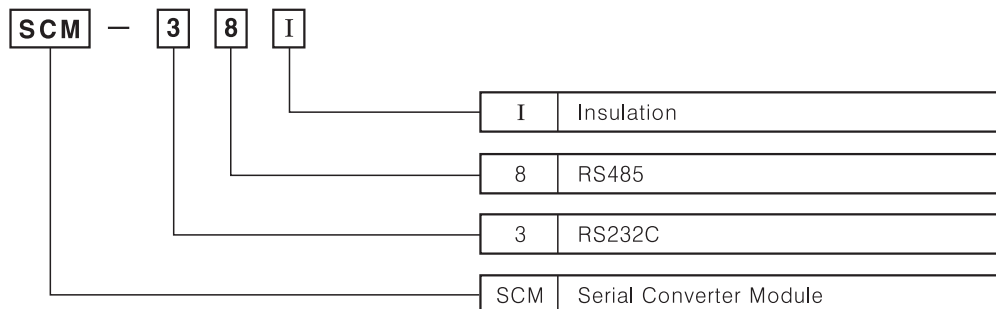
### ■ Features

- Includes the circuit of surge protection.
- The insulation type of signal line(Insulating 232C and 485)
- Create Tx-Enable signal automatically


 Please read "Caution for your safety" in operation manual before using.



### ■ Ordering information



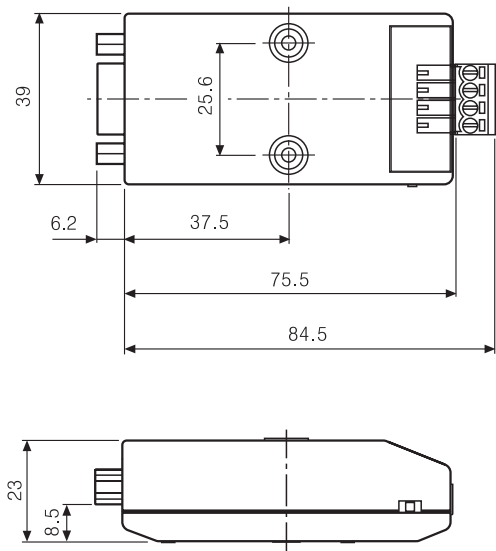
### ■ Specifications

Model		SCM-38I
Power supply		12~24VDC
Allowable voltage range		90 ~ 110% of rated voltage
Power consumption		Approx. 1.7W
Maximum communication speed		1200 ~ 115200bps(1200/2400/4800/9600/12800/25600/56700/115200)
Communication type		Half Duplex type
Available communication distance		Max. 800m
Multi-Drop		Max. 32 Multi-Drop
(Note) Data type	Data Bit	5 ~ 8 Data Bits
	Stop Bit	1 or 2 Stop Bits
	Parity Bit	No/Odd/Even Parity Bit
Connection type	RS232	D-Sub 9Pin
	RS485	4-wire Screw terminal(2wire communication type)
Insulation resistance		Min. 100MΩ (at 500VDC)
Dielectric strength		2500Vrms
Noise strength		±500V the square wave noise(pulse width:1μs) by the noise simulator
Vibration	Mechanical	0.75mm amplitude at frequency of 10 ~ 55Hz in each of X, Y, Z directions for 1 hour
	Malfunction	0.5mm amplitude at frequency of 10 ~ 55Hz in each of X, Y, Z directions for 10 minutes
Shock	Mechanical	300m/s <sup>2</sup> (Approx. 30G) 3 times at X, Y, Z direction
	Malfunction	100m/s <sup>2</sup> (Approx. 10G) 3 times at X, Y, Z direction
Ambient temperature		-10 ~ +55℃ (at non-freezing status)
Storage temperature		-20 ~ +60℃ (at non-freezing status)□
Ambient humidity		35 ~ 85%RH
Approval		
Unit weight		Approx. 46g

※ (Note) Data type is set by program.

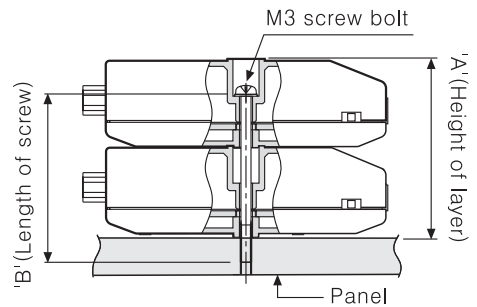
# Converter Module

## ■ Dimensions



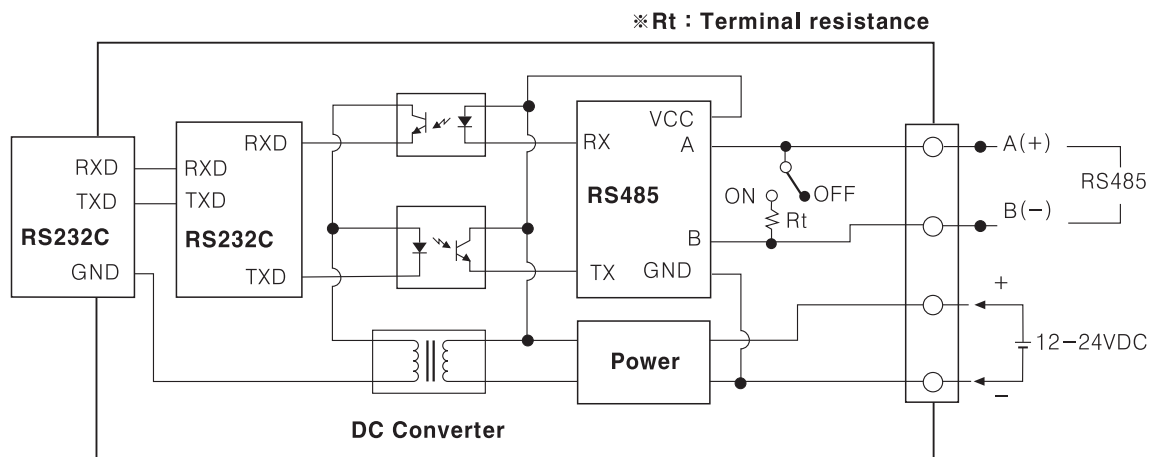
(Unit:mm)

## ※ Side view of the multilayer

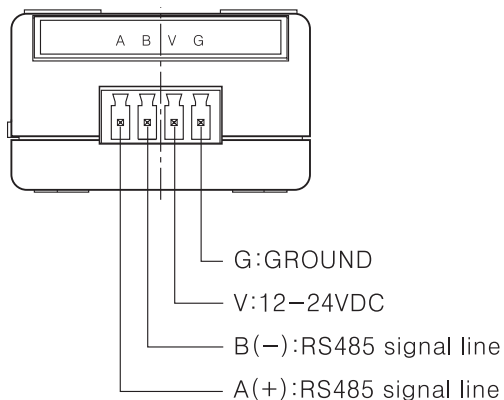


Number of layers (N)	"A" Size (23.3N+1.2)	B" Size (23.3N-3.3)
1	24.5mm	20mm
2	47.5mm	43.3mm
3	71.1mm	66.6mm
4	94.4mm	89.9mm

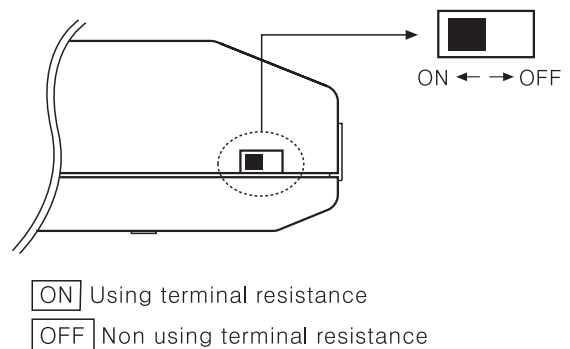
## ■ Functional block diagram



## ■ Connections



## ■ Selection of terminal resistance



(A) Counter

(B) Timer

(C) Temp. controller

(D) Power controller

(E) Panel meter

(F) Tacho/ Speed/ Pulse meter

(G) Display unit

(H) Sensor controller

(I) Switching power supply

(J) Proximity sensor

(K) Photo electric sensor

(L) Pressure sensor

(M) Rotary encoder

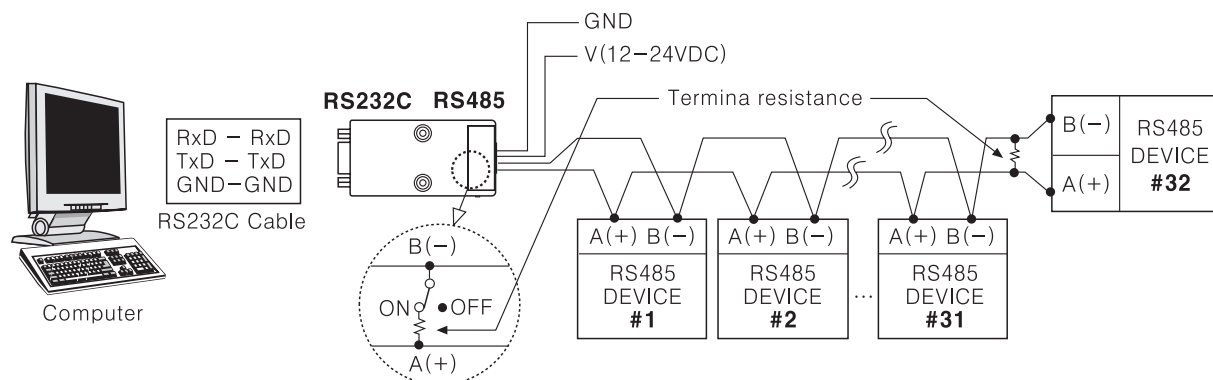
(N) Stepping motor & Driver & Controller

(O) Graphic panel

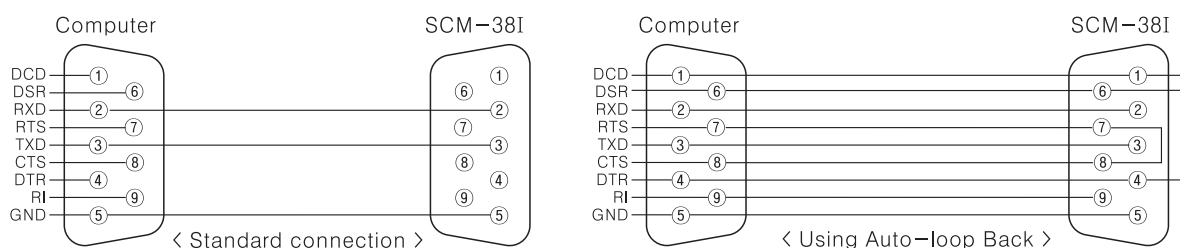
(P) Production stoppage models & replacement

## ■ System organization

### ◎ Multi-Drop connection method with PC



### ◎ RS232C cable connection



※ When the software of the communication driver uses Auto-loop Back, please connect as the above.

## ■ Proper usage

### ● Tx\_Enable signal (RTS signal) :

Tx\_Enable signal (RTS signal) is automatically generated according to protocol.

### ● Auto-loop Back : When Auto-loop Back is required, please use as 'RS232C cable connections'.

### ● Setting of protocol rule (Start bit, Stop bit, Parity bit, Data bit, Baud rate) can be set by software without external input or internal setting.

### ● Using the Twist pair cable (24-AWG), which is suitable to RS485 communication is recommended. If the twist pair cable is not used, be sure preserving the length of A(+) and B(-) cables.

### ● The extension of communication cable is maximum 1.2km, and the number of available connecting communication product is 32 items.

### ● After connecting the communication cable between SCM-38I and lower system, be sure to attach the terminal resistance (100~120Ω). (The terminal resistance of SCM-38I is set by external switch)

### ● For the connection be sure that protocol is consisted with each communication product when programming the software program by connecting to other communication products.

### ● Terminal resistance : RS485 communication have a rapid transmission speed and long communication distance, if the communication line and impedance between Driver, Receiver of RS485 are not matched, it causes a reflective wave.

It can make an error for using, please use the terminal resistance at the tip of the network.

(Terminal resistance : 100~200Ω)

### ● To avoid inductive noise, separate the wires from high voltage cable and power cable.

### ● Do not this unit as following place

- A place where vibration, shock is occurred.
- A place where strong alkali or acid material is used.
- A place where the direct ray of light is occurred.
- A place where strong magnetic force or electric noise is occurred.

### ● Storage

To preserve for long term, please avoid direct ray of light and keep it under the temperature from  $-20^{\circ}\text{C}$  ~  $60^{\circ}\text{C}$  and the relative humidity less than 35~85%RH. Wrap same as shipping for optimum storage.

### ● Installation environment

- It shall be used indoor
- Altitude Max. 2000m
- Pollution Degree 2
- Installation Category I