


Communication Converter

Communication converter(RS232C to RS485 converter)

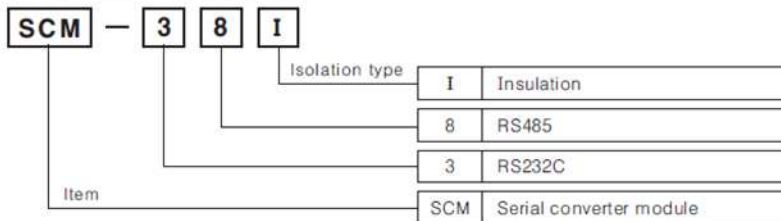
■ Features

- Includes the circuit of surge protection.
- The insulation type of signal line
(Insulating RS232C and RS485)
- 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 to 110% of rated voltage	
Power consumption	Max. 1.7W	
Communication speed	(※1)	1,200 to 115,200bps (Recommended : 9,600bps)
Communication type	Half duplex type	
Available communication distance	Max. 1.2km	
Multi-Drop	Max. 31 multi-drop	
(※1) Protocol	Data Bit	5 to 8 data bits
	Stop Bit	1 or 2 stop bits
	Parity Bit	No/Odd/Even parity bit
Connection type	RS232C	D-sub 9pin
	RS485	4 wire screw terminal (2 wire communication type)
Insulation resistance	Min. 100MΩ (at 500VDC megger)	
Dielectric strength	Between terminals and case : 2000VAC 50/60Hz for 1 min. Between RS232C and RS485 : 2500VAC 50/60Hz for 1 min.	
Noise strength	± 500V the square wave noise (pulse width : 1μs) by the noise simulator	
Vibration	Mechanical	0.75mm amplitude at frequency of 10 to 55Hz (for 1 min.) in each of X, Y, Z directions for 1 hour
	Malfunction	0.5mm amplitude at frequency of 10 to 55Hz (for 1 min.) in each of X, Y, Z directions for 10 minutes
Shock	Mechanical	300m/s ² (Approx. 30G) 3 times at X, Y, Z direction
	Malfunction	100m/s ² (Approx. 10G) 3 times at X, Y, Z direction
Ambient temperature	-10 to 55°C (at non-freezing status)	
Storage temperature	-20 to 60°C (at non-freezing status)	
Ambient humidity	35 to 85%RH	
Approval	CE KC	
Unit weight	Approx. 46g	

(※1) Protocol and communication speed are set by Hyper terminal, DAQMaster, ParaSet, Modbus Poll.

When communicating with Autonics products, set communication speed to 9,600bps.

※ There might be some differences in the specification above depending on PC environment.

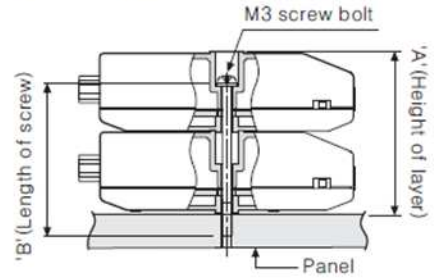
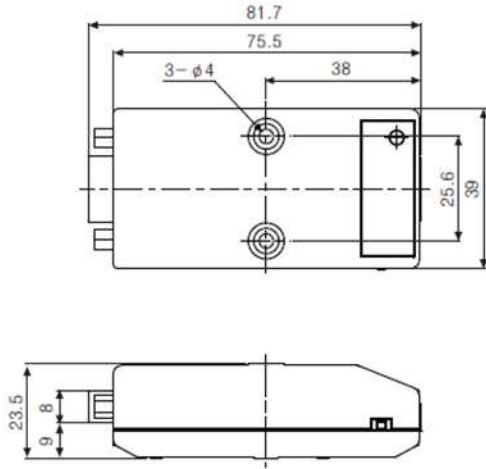
(A)	Photo electric sensor
(B)	Fiber optic sensor
(C)	Door/Area sensor
(D)	Proximity sensor
(E)	Pressure sensor
(F)	Rotary encoder
(G)	Connector/Socket
(H)	Temp. controller
(I)	SSR/Power controller
(J)	Counter
(K)	Timer
(L)	Panel meter
(M)	Tacho/Speed/Pulse meter
(N)	Display unit
(O)	Sensor controller
(P)	Switching power supply
(Q)	Stepping motor & Driver & Controller
(R)	Graphic/Logic panel
(S)	Field network device
(T)	Production stoppage models & replacement

SCM-38I

Dimensions

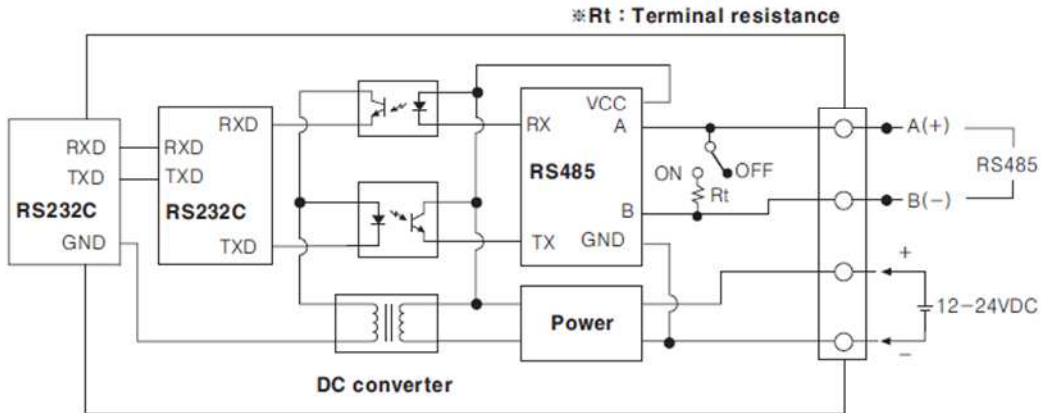
(Unit:mm)

Side view of the multilayer

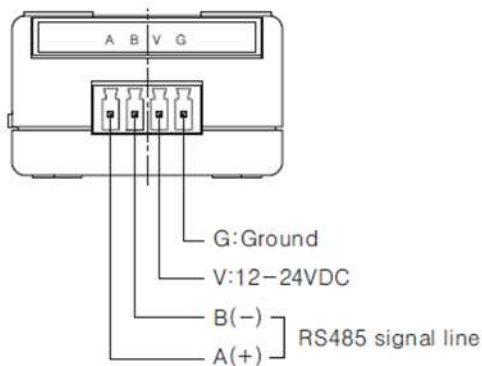


Number of layers(N)	"A" size (23N+0.5)	"B" size (23N-3)
1	23.5mm	20mm
2	46.5mm	43mm
3	69.5mm	66mm
4	92.5mm	89mm

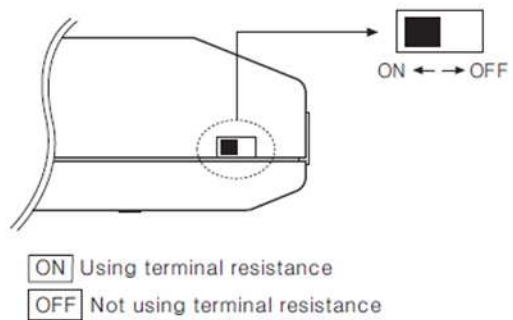
Functional block diagram



Connections



Terminal resistance selection

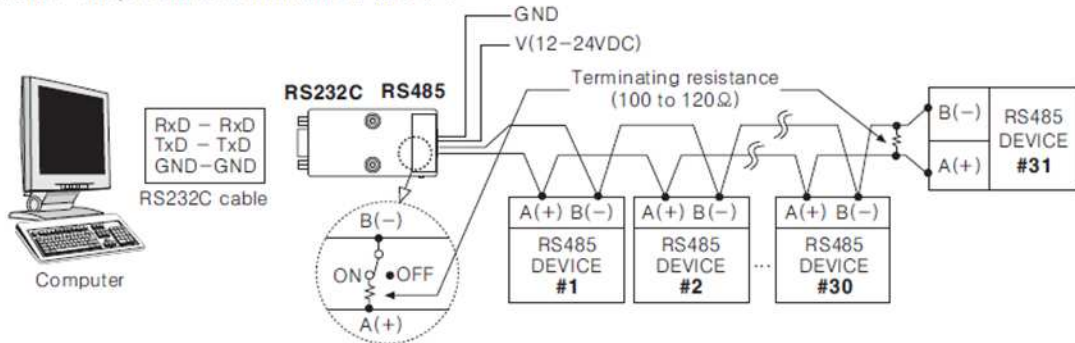


Autonics

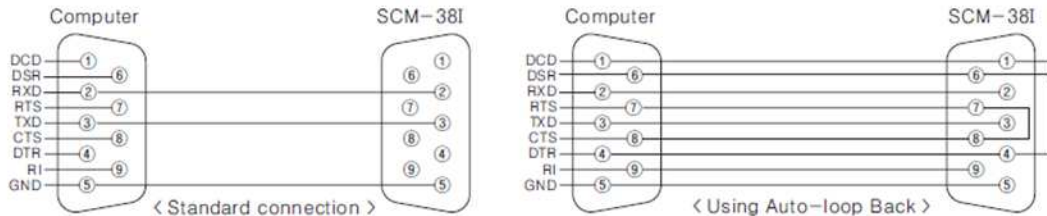
Communication Converter

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 (AWG 24), 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 to 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 to 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 to 60°C and the relative humidity less than 35 to 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

(A)	Photo electric sensor
(B)	Fiber optic sensor
(C)	Door/Area sensor
(D)	Proximity sensor
(E)	Pressure sensor
(F)	Rotary encoder
(G)	Connector/Socket
(H)	Temp. controller
(I)	SSR/Power controller
(J)	Counter
(K)	Timer
(L)	Panel meter
(M)	Tacho/Speed/Pulse meter
(N)	Display unit
(O)	Sensor controller
(P)	Switching power supply
(Q)	Stepping motor & Driver & Controller
(R)	Graphic/Logic panel
(S)	Field network device
(T)	Production stoppage models & replacement