

# SG-785 Hardware User Guide *Ver. 1.0*

*Last Modified 10/26/2009*

## ***Introduction***

The SG-785 is an optional module that is used to improve the communication of RS-485 network. It provides switch selectable pull-high and pull-low resistors on RS-485 network. It also has 15-step switch selectable termination resistor such that the user can select a proper termination resistor to be connected to the RS-485 network easily.

## ***Specifications***

<b><i>General</i></b>	
Interface	RS-485
Pull-high/pull-low Resistance	1k $\Omega$
Termination Resistance	15 steps, 65 ~ 560 $\Omega$
LED Display	1 red LED as power indicator 1 green LED as termination indicator
<b><i>Power</i></b>	
Input Range	10 ~ 30 V <sub>DC</sub>
Power Consumption	0.5W, 24 V <sub>DC</sub>
<b><i>Environment</i></b>	
Operating Temperature	-25 $^{\circ}\text{C}$ ~ +75 $^{\circ}\text{C}$
Storage Temperature	-40 $^{\circ}\text{C}$ ~ +80 $^{\circ}\text{C}$
Humidity	5 ~ 95 % RH, non-condensing

# SG-785 Pin Assignment



<b>LED Display</b>	
PWR	Power LED, Red
TR	Termination Resistor LED, Green
<b>Switches</b>	
TR	Termination Resistor Setting
SW	Termination Resistance and Pull-high/Pull-low Setting
<b>Terminal Block</b>	
(Y)DATA+, (G)DATA-	RS-485 Data Line
(R)+Vs, (B)GND	Power Line
F. G.	Frame Ground

## **SG-785 Switch Setting**

### RS-485 Termination Resistance Setting

SW1	SW2	SW3	SW4	Termination Resistance (ohm)
ON	ON	ON	ON	65
ON	ON	ON	OFF	74
ON	ON	OFF	ON	76
ON	OFF	ON	ON	81
ON	OFF	OFF	ON	99
ON	OFF	ON	OFF	96
ON	ON	OFF	OFF	88
ON	OFF	OFF	OFF	120
OFF	ON	ON	ON	144
OFF	ON	ON	OFF	193
OFF	ON	OFF	ON	207
OFF	ON	OFF	OFF	330
OFF	OFF	ON	ON	256
OFF	OFF	ON	OFF	470
OFF	OFF	OFF	ON	560

### RS-485 pull-high and pull-low setting

SW5	SW6	RS-485 Data Line Status
OFF	OFF	No pull-high/pull-low to RS-485 data line
ON	OFF	Add a pull high resistor to DATA+ line
OFF	ON	Add a pull low resistor to DATA- line
ON	ON	Add a pull high resistor to DATA+ line and add a pull low resistor to DATA- line