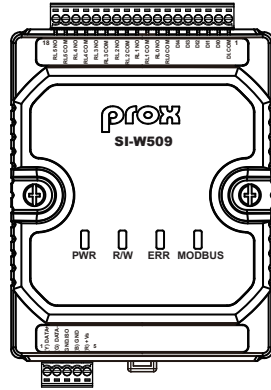


# Specifications

## SI-W509

## Quick Reference Guide



Ver. Q1

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### System

Communication Interface	RS-485
Baud Rate	9,600 bps ~ 115,200 bps (Max.)
Communication Protocol	Modbus / RTU
Intra-module Isolation	3000V
Installation	DIN-Rail, Wall Mount
LED Indicator	Power LED, Green / R/W LED, Orange / Error LED, Red / Modbus LED, Green
I2C Interface	Temperature/ Humidity Sensor Module
Power Supply	9 ~ 50V DC In from terminal block
System Weight and Dimensions	220g / 113.9 x 90 x 40mm (WxHxD)
Certificate	FCC/CE

### 5-Channel Digital Input / Counter

Type	Wet Contact, Sink/ Source
On Voltage Level	Wet Contact, +3.5 ~ +50 V DC
Off Voltage Level	Wet Contact, +1V DC Max
Input Impedance	10KΩ, 0.5W
5-Channel Counter	Max. Count: 32-bits (0 ~ 4, 294, 967, 285) Max. Input Frequency : 50 Hz Min. Pulse Width: 10 ms

Overvoltage Protection 70V DC

Power-on Value Yes

### 4-Channel Power Relay Output (Form A)

Contact Rating	6A @ 35V DC / 6A @ 240V AC
Min. Contact Load	100mA @ >= 12V
Contact Material	AgNi 90/10
Operation / Release Time	5 ms (typical) / 1 ms (typical)
Electrical Endurance	1 x 10 <sup>5</sup> ops
Power-on Value	Yes

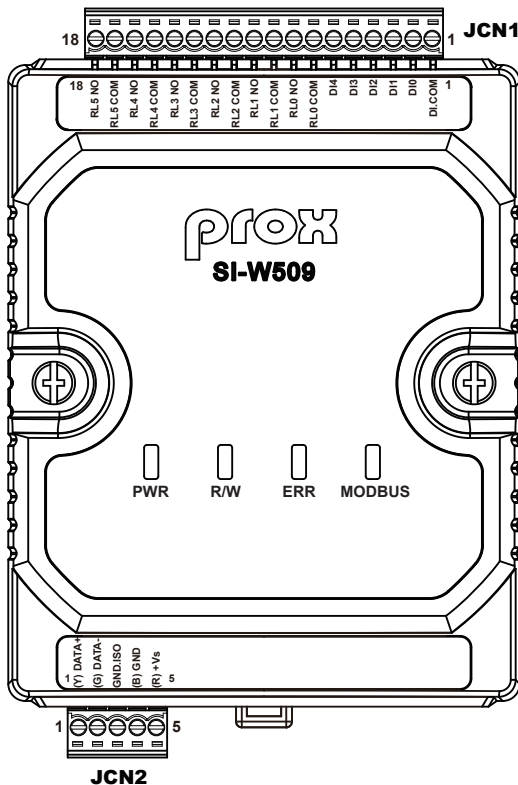
### 2-Channel Signal Relay Output (Form A)

Contact Rating	2A @30V DC/0.24A @220V DC/0.25A @250V AC
Min. Contact Load	10mA @ 20 mV
Contact Material	AgNi, Gold-covered
Operation Time	3 ms (typical)
Release Time	4 ms (typical)
Mechanical Endurance	10 <sup>8</sup> ops
Electrical Endurance	2 x 10 <sup>5</sup> ops

### Environment

Operating Temp. (with airflow)	-25°C ~ 75 °C (-13 °F ~ 167°F)
Storage Temp.	-40°C ~ 85°C (-40°F ~ 185°F)
Humidity	20% ~ 90%

## Pin Assignment



### I/O Channel Connector (JCN1)

Pin No.	Signal
1	DI.COM
2	DI0
3	DI1
4	DI2
5	DI3
6	DI4
7	RL0 COM
8	RL0 NO
9	RL1 COM
10	RL1 NO
11	RL2 COM
12	RL2 NO
13	RL3 COM
14	RL3 NO
15	RL4 COM
16	RL4 NO
17	RL5 COM
18	RL5 NO

### RS-485 and Power Connector(JCN2)

Pin No.	Signal
1	(Y)DATA+
2	(G)DATA-
3	GND.ISO
4	(B)GND
5	(R)+Vs

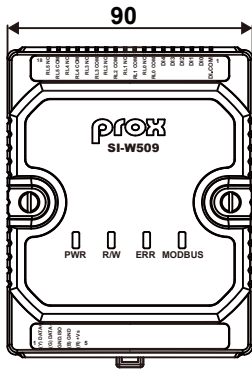
# SI-W509

## 5 Channels Digital Input and 6 Channels Relay Output Remote I/O Module

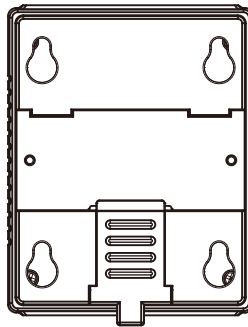
### Overview

(Unit: mm)

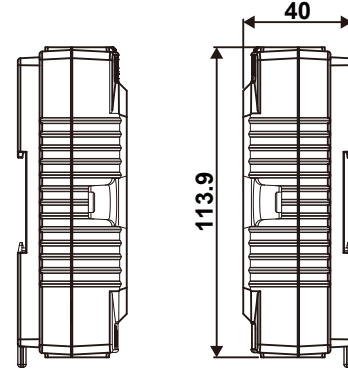
#### Front View



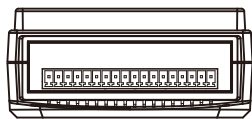
#### Rear View



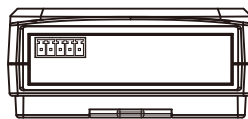
#### Side View



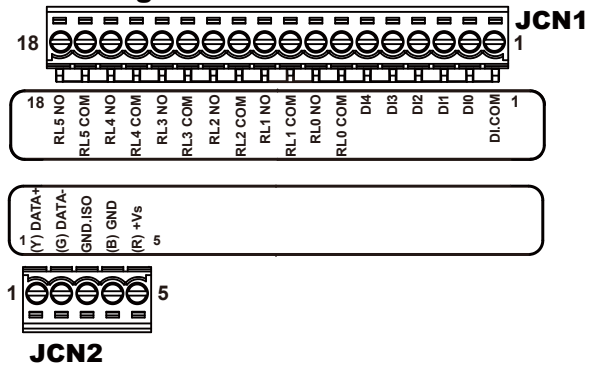
#### Top View



#### Bottom View

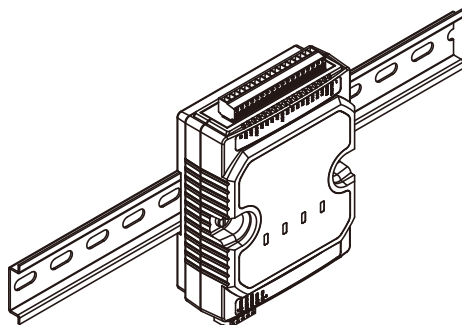


#### Pin Assignment



### Quick Setup

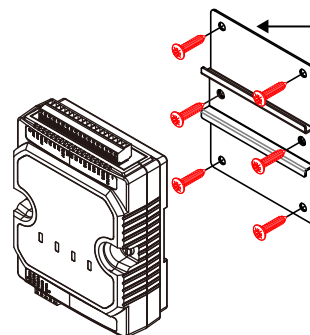
#### Installing DIN-RAIL Mount



#### Installing Wall Mount

**Step 1.** Prepare and fasten the 2 or 4 self-tapping T5 screws to tighten the wall mount kit onto the wall.

**Step 2.** Attach the SI-Wx09 onto the wall mount kit installed on the wall to complete.



Wall Mount Kit

#### Wall Mount Accessories

##### Screw

Self-Tapping Screw T5 x 4 (1/2)

##### Wall Mount Kit



Wall Mount Kit x 1

### Safety Precaution

The following messages are reminders for safety on how to protect SI-W509 from damages and extend a long life for SI-W509.

#### 1. Check the Cable Voltage

- The range of operating voltage should be DC 9~50V. Otherwise, the SI-W509 module could be damaged.

#### 2. Environmental Conditions

- Place your SI-W509 on a sturdy, level surface. Be sure to allow enough space to have easy access around SI-W509.
- Avoid extremely hot or cold place to install the SI-W509.
- Avoid exposure to sunlight for a long period of time or in an airtight space.
- Avoid SI-W509 from any heating device or using SI-W509 when it's been left outdoors in a cold winter day.
- Avoid moving SI-W509 rapidly from a hot place to a cold place and vice versa because condensation may come from inside of SI-W509.
- Don't place SI-W509 close to any radio-active device in case of signal interference.

#### 3. Handling

- Avoid putting heavy objects on top of SI-W509.

- Do not turn SI-W509 upside down.

#### 4. Good Care

- When the outside of the case is stained, remove the stain with a neutral washing agent with a dry cloth.
- Never use strong agents such as benzene and thinner to clean SI-W509.
- If heavy stains are present, moisten a cloth with diluted neutral washing agent or with alcohol and then wipe thoroughly with a dry cloth.
- If dust has been accumulated on the outside, remove it by using a special vacuum cleaner for computers.

**WARNING!** Some internal parts of SI-W509 may have high electrical voltage. And therefore we strongly recommended that qualified engineers can open and disassemble SI-W509.