

# Signet 9950 Relay Module Instruction Sheet



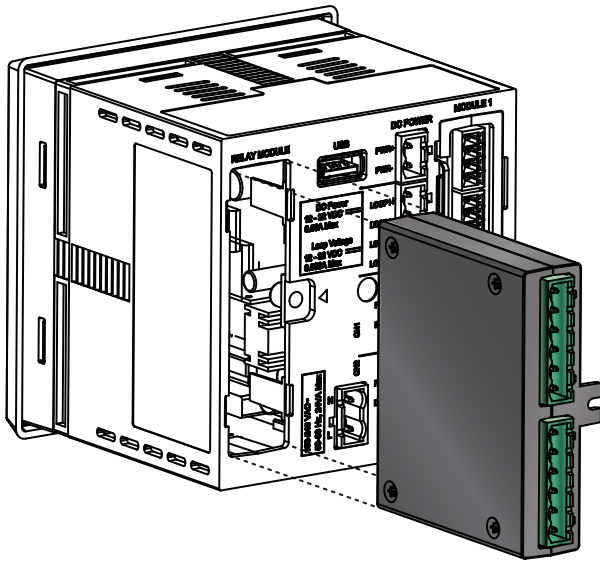
3-9950.091 Rev. 2 12/18 English



## Instruction Sheet

### Description

The 9950 offers three types of relay module options. 3-9950.393-1 contains four mechanical relays. 3-9950.393-2 contains two mechanical relays and two solid state relays. 3-9950.393-3 contains two mechanical relays and four binary inputs.



The plug-in Relay Module may be installed either before or after the base unit is installed in the customer's application. Always disconnect power from the 9950 Before adding or Removing any modules.

### Relay Module Installation

The Relay Module plugs in and attaches with one screw.

1. It may be helpful to use a standard screwdriver to gently pry removable terminals away from the receptacle on the module.
2. Remove terminals from the module receptacle prior to installation.

### Relay Module Removal

Note: Ensure power is disconnected from the 9950 and the Relay Module.

1. Remove the retaining screw from the relay module and set aside.
2. Insert the pluggable terminal blocks into the relay modules.
3. Grasp the pluggable terminal blocks and pull straight back from the 9950 until the module clears the 9950 base unit.

**CAUTION:**

Exercise care when installing or removing module. Do not bend connecting pins. Align pins and connectors then push module firmly into place, then attach with screw.

**Avoid Electrostatic Discharge (ESD):**

- Minimize handling of module to reduce the possibility of damage due to ESD.
- Handle module by the edges. Never touch any exposed circuitry or contacts.
- Wear an anti-static wristband or stand on an anti-static mat, or keep one hand touching a properly grounded pipe or other properly grounded piece of metal when handling module.



**CAUTION:** Switching active loads (most commonly inductive) can cause contact arcing sufficient to damage the relays. The RC Filter Kit or "snubber" (part number 3-8050.396) is available as an accessory to reduce or eliminate these damaging effects.

## Relay Module Wiring

- Terminals accept 12 to 24 AWG wire.
- Strip 10 to 12 mm (0.4 to 0.5 in.) of insulation from wire tips and tin bare ends to eliminate fraying.
- Insert wire tip or ferrule completely into the terminal and secure with the screw.
- Do not allow any AC leads that may be connected to the internal relays to come in contact with low voltage wiring.

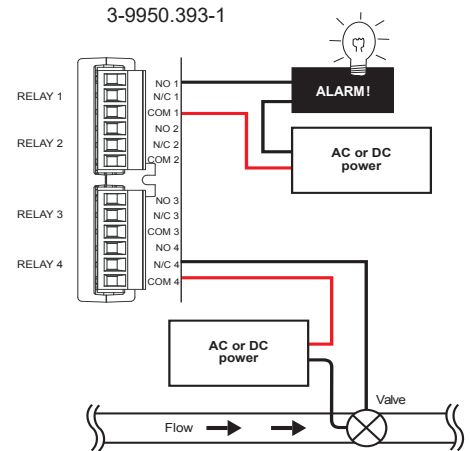
### 3-9950.393-1 and 3-9950.393-2

Relay 1: The alarm is OFF during normal operation, and will go ON when relay energizes according to 9950 Relay settings.

Relay 4: The valve is ON during normal operation, and will go OFF when relay energizes according to 9950 Relay settings.

NO = normally open (closes when energized)  
NC = normally closed (opens when energized)

Mechanical Relays Rating: 5A 250 VAC, 5A 30 VDC  
Solid State Relays Rating: 50 mA 30V AC/DC  
(for 309950.393-2 relay 1 &2)



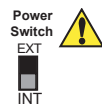
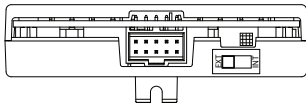
### 3-9950.393-3

The alarm is OFF during normal operation, and will go ON when the relay energizes according to 9950 Relay settings.

Binary input 4 will be ON when the tank level is above the level switch, Binary Input 4 will be OFF when the tank level is below the level switch.

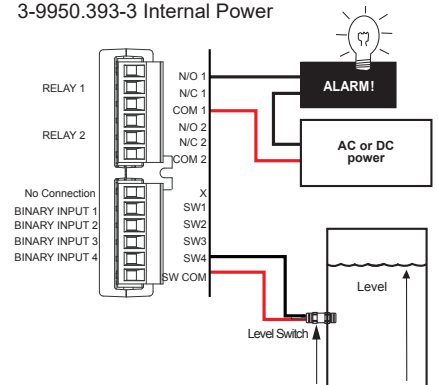
#### Binary Input Ratings

Maximum input voltage (without damage)	30 VDC
Minimum input voltage (without damage)	-5 VDC (no operation below 0 VDC)
Maximum input voltage for signal "Off" (low or "0")	1.5 VDC
Minimum input voltage for signal "On" (high or "1")	3.0 VDC
Maximum current draw for signal "0" (low)	≤500 μADC
Minimum current draw for signal "1" (high)	500 μA
Typical current draw for signal "1" (high)	6.0 mA at 30 VDC, 4.8 mA at 24 VDC, 2.4 mA at 12 VDC, 1.0 mA at 5 VDC

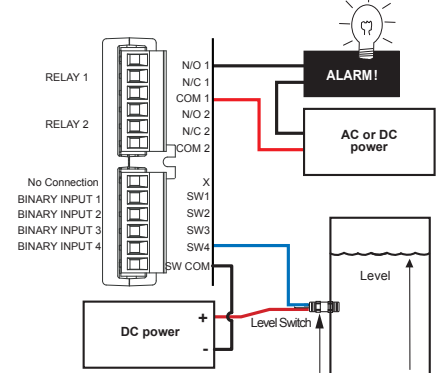


If an externally powered sensor is connected with the 3-9950.393-3 module, set the power switch to the EXT position. The module can power external sensors by switching the power switch to the INT position. Maximum power that can be drawn from the module is 6mA at 30 VDC.

#### 3-9950.393-3 Internal Power



#### 3-9950.393-3 External Power



## Ordering Information

Mfr. Part No.	Code	Description
3-9950.393-1	159 310 268	Relay Module with 4 Mechanical Relays
3-9950.393-2	159 310 269	Relay Module with 2 Mechanical Relays and 2 Solid State Relays
3-9950.393-3	159 310 270	Relay Module with 2 Mechanical Relays and 4 Binary Inputs



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