

Synergy Series

Relay Option Card Installation

The Synergy Series, relay option card kit (PN 211709) provides four dry contact outputs for switching up to a maximum of 120-250VAC / 30VDC at 3 Amps. The relay option card attaches to the J22 and J23 option slot connectors on the indicator's CPU board.



Manuals and additional resources are available from Rice Lake Weighing Systems at www.ricelake.com/manuals

Warranty information can be found on the website at www.ricelake.com/warranties



WARNING Always disconnect power before opening the enclosure. Option card is not hot swappable.



CAUTION A grounding wrist strap must be worn to protect components from electrostatic discharge (ESD) when working inside the indicator's enclosure.



CAUTION Installation of the relay card involving mains voltage shall be completed by an electrically trained technician. The mains voltage must be kept separate from any secondary circuitry and shall be brought into the enclosure through its own cable gland.

Parts Breakdown

Figure 1 and Table 1 show the parts provided in the relay option card kit:

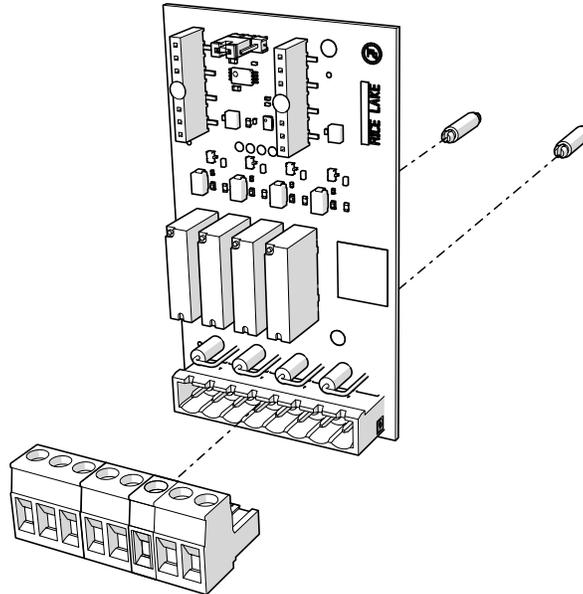


Figure 1. Relay Option Card Kit

Part No.	Description	Qty
191314	Relay Output Option Card	1
194529	Standoff, Snap-Lock 5/8	2
152381	Connector, 8 Position Screw Terminal Pluggable 5.08 mm	1
53075	Clamp, Ground Cable Shield, Radius 0.078 in	1
194488	Screw, Mach M4 x 0.7 x 6 Phillips with External Tooth Washer SEMS	1
15631	Cable Tie, 3" Nylon	1

Table 1. Relay Option Card Kit Parts List

Installation

Follow the procedure below to install the relay option card:

1. Disconnect power to the indicator.
2. Open the enclosure as instructed in the technical manual of the indicator (PN 204533).
3. Connect the two standoffs to the option card board as shown in [Figure 1 on page 1](#).
4. Connect the option card to the J22 and J23 option slot connectors on the indicator's CPU board, ensuring the two standoffs also connect to the CPU board.
5. Route cable through the cord grip and make the connection to the J1 connector of the option card board.

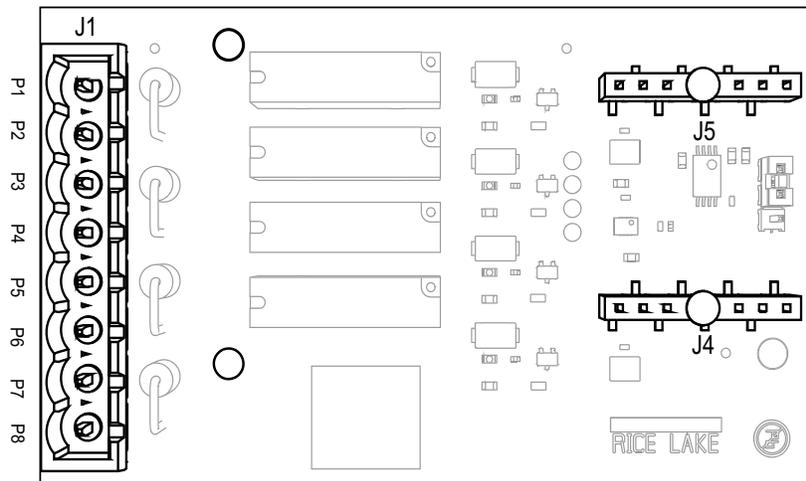


Figure 2. Relay Option Card (top view)

Connector J1		
Pin	Signal	
1	K1	Common
2	K1	Normally Open
3	K2	Common
4	K2	Normally Open
5	K3	Common
6	K3	Normally Open
7	K4	Common
8	K4	Normally Open

Table 2. J1 Pin Assignments

6. Ensure no excess cable is left inside the enclosure.
7. Use the provided cable tie to secure loose cable inside the enclosure as needed.
8. Shield ground the cable using the grounding bracket on the bottom of the enclosure with the provided cable clamp and screw. See the technical manual of the indicator for additional instructions on grounding if needed.
9. Torque the cord grip dome nut around the cable to 22 in-lb (2.5 N-m).
10. Reseal the enclosure and reconnect power to the indicator.
11. Proceed to ["Indicator Configuration" on page 3](#).

Indicator Configuration

The indicator automatically detects the option card. See below for the Setpoint menu structure, the default parameters settings and the setup instructions. The indicator must be in setup mode to access the Setpoint menu.

Setpoint Menu

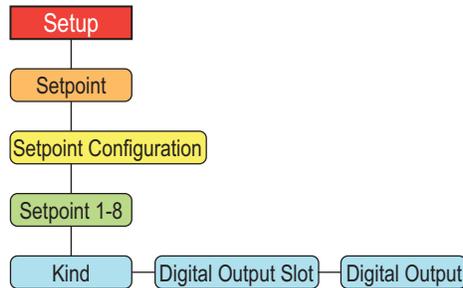


Figure 3. Setpoint Menu

Parameter	Description
Digital Output Slot	Lists all available digital I/O slots; this parameter specifies the slot number of the digital I/O card referenced by the Digital Output parameter; <i>Settings: NONE (default), 0, 1</i>
Digital Output	Lists all digital output bit numbers available for the specified digital output slot; this parameter is used to specify the digital output bit associated with this setpoint; use the Digital Output menu to assign bit function to OUTPUT; <i>Enter value: 1–4, 1 (default)</i> NOTE: For continuous setpoints, the digital output becomes active (relay contact closed) when the condition is met; for batch setpoints, the digital output is active until the setpoint condition is met

Table 3. 682 Setpoint Menu Parameters

To setup setpoint to for relay option card output:

1. Access the Setup menu of the indicator, so Configuration displays. Indicator must be in setup mode to access the Setup menu.
2. Press to scroll until **Setpoint** displays.
3. Press . **Setpoint Configuration** displays.
4. Press . **Setpoint 1** displays.
5. Press . **Kind** displays.
6. Press . Kind parameters display.
7. Press until desired value displays.



Note For more information about Kind configuration, see indicator technical manual (PN 204533).

8. Press . **Kind** displays.
9. Press to scroll until **Digital Output Slot** displays.
10. Press . Current slot value displays.
11. Press until value changes to 1.
12. Press . **Digital Output Slot** displays.
13. Press to scroll until **Digital Output** displays.

14. Press . Current digital out value displays.
15. Press  to scroll until desired value displays.
16. Press  until **Setpoint 1** displays.
17. Press  to change to next setpoint that requires configuration.
18. Repeat steps 5 through 17 for remaining setpoints.

Specifications

Relay Contacts	Four Normally Open Dry Contact Relays 120-250 VAC @ 3A 30 VDC @ 3A
Relay Protection	The use of external fusing to limit current is recommended. Relay COM-NO are transient protected to 400V @ 600W
Connector Specifications	5 in-lb (0.5-0.6 N-m) 12-24 AWG 221°F (105°C) 300V 15A



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230 W. Coleman St. • Rice Lake, WI 54868 • USA
U.S. 800-472-6703 • Canada/Mexico 800-321-6703 • International 715-234-9171 • Europe +31 (0)26 472 1319