Synergy Series

Dual Serial Option Card Installation

The Synergy Series, dual serial option card kit (PN 211710) provides two additional serial ports to the 682 that can connect with either RS-232 or RS-485. The dual serial option card attaches to 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.***

Parts Breakdown

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

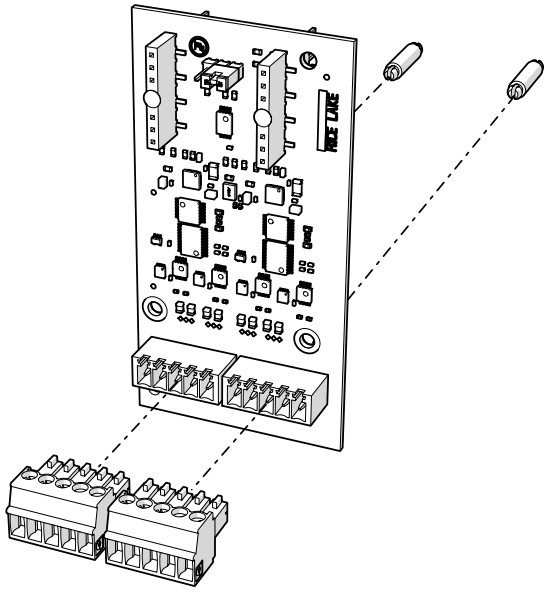

Figure 1. Dual Serial Option Card Kit

Part No.	Description	Qty
191873	Dual Serial Option Card	1
194529	Standoff, Snap-Lock 5/8	2
153882	Connector, 5 Position Screw Terminal Pluggable 3.50 mm black	2
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 in Nylon	1

Table 1. Dual Serial Option Card Kit Parts List

Installation

Follow the procedure below to install the dual serial 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 J6 and J7 connectors of the option card board.

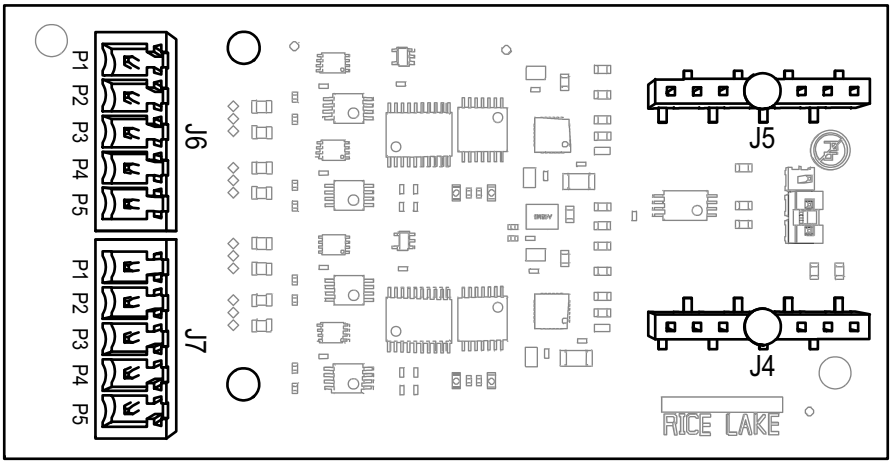

Figure 2. Dual Serial Option Card (top view)

J6	Port (x1)
Pin 1	GND
Pin 2	RX/B
Pin 3	TX/A
Pin 4	CTS/Z
Pin 5	RTS/Y

J7	Port (x2)
Pin 1	GND
Pin 2	RX/B
Pin 3	TX/A
Pin 4	CTS/Z
Pin 5	RTS/Y

Table 2. J6 and J7 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

See below for the Serial Port menu structure, the default parameters settings and the setup instructions. The indicator must be in setup mode to access Serial Port menu.

Serial Port Menu

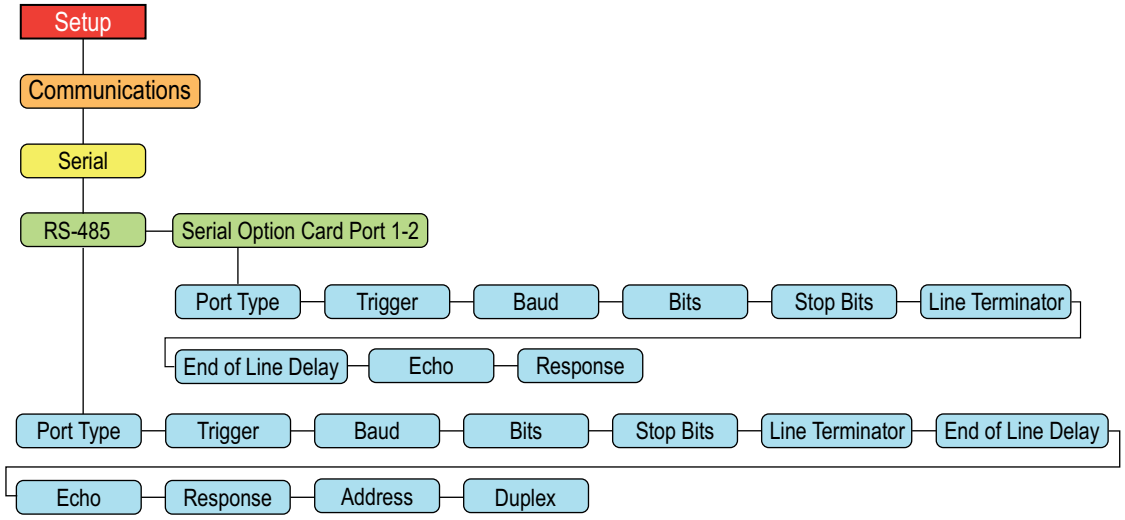

Figure 3. RS-485 and Serial Port Menu

Parameter	Description
Port Type	Configures the type of serial port *as* **RS-232** or **RS-485**.
Trigger	Sets the input trigger type; *Settings:* ***Command*** *(default) – Command: allows operation of EDP commands and printing* ***Stream Industrial*** *– Stream Industrial Scale Data: data is updated up to the configured sample rate; allows operation of EDP commands and printing* ***Stream Legal For trade*** *– Stream Legal for Trade Data: data is updated at the configured display update rate; allows operation of EDP commands and printing* ***Remote*** *– Configures the port to operate as a serial scale input* ***Fieldbus*** *– Configures the port to operate for Fieldbus; Automatically configures all port parameters for Fieldbus and hides the port parameters in the menu* ***NOTE: When in STRIND, STRLFT and REMOTE, if the COMM port is set to RS485, the port does not stream data***
Baud	Sets the transmission speed for the port; *Settings: 1200, 2400, 4800,* ***9600*** *(default), 19200, 28800, 38400, 57600, 115200*
Bits	Sets number of data bits transmitted or received by the port and specifies the parity bit to odd, even or none; *Settings:* ***8NONE*** *(default), 7EVEN, 7ODD, 8EVEN, 8ODD*
Stop Bits	Sets the number of stop bits transmitted or received by the port; *Settings:* ***1*** *(default), 2*
Line Termination	Sets the termination character for data sent from the port; *Settings:* ***CR/LF*** *(default), CR*
End of Line Delay	Sets the delay period from when a formatted line is terminated to the beginning of the next formatted serial output (0.1 second intervals); *Enter value: 0–255,* ***0*** *(default)*
Echo	Specifies if characters received by the port are echoed back to the sending unit; *Settings:* ***On*** *(default), Off*
Response	Specifies if the port transmits replies to serial commands; *Settings:* ***On*** *(default), Off*
Address	(RS-485 only) Specifies address used to connect to the port; Enter value: 0–255, **0** (default)
Duplex	(RS-485 only) Specifies FULL (4-wire) or HALF (2-wire) duplex used to connect to the port (RS-485 only); Settings: **FULL** (default), HALF

Table 3. RS-485 and Serial Port Menu Parameters

Dual Serial Port Option Card Setup

1. Access the Setup menu of the indicator, so Configuration displays. Indicator must be in setup mode to access the Setup menu.
2. Press PRINT to scroll until ***Communications*** displays.
3. Press GROSS NET B/N. ***Serial*** displays.
4. Press GROSS NET B/N. ***RS-232 Port 1*** displays.
5. Press UNITS or PRINT to scroll to the desired serial number port, Serial Option Card Port 1 or Serial Option Card Port 2.
6. Press GROSS NET B/N. ***Port Type*** displays.
7. Press UNITS or PRINT to set as RS-232 or RS-485.
8. Press ZERO →0← to return ***Port Type***.
9. Use indicator buttons to configure parameters for each serial port needed to communicate with external equipment.

Note ***Serial port parameter configuration will vary depending on external equipment. For more information about serial port parameter values, see Table 3 on page 3.***

10. As an example, to configure Trigger for a printer:
    - Press UNITS or PRINT until ***Trigger*** displays.
    - Press GROSS NET B/N. Configured value displays.
    - Press UNITS or PRINT until the desired value appears, in this case ***Command***.
    - Press ZERO →0← to return to ***Trigger***.

Specifications

Serial Ports	Two
Serial Types Supported	RS-232, RS-422 and RS-485
Baud Rates	1200, 2400, 4800, 9600, 19200, 28800, 38400, 57600, 115200
Input Protection	Short circuit protection, 300W transient voltage suppression protection for ESD, EFT (600W transient voltage suppression), tertiary lightning, and system-generated transients per IEC 60001-4-2, 60001-4-4, and 60001-4-5; European Standards EN50082 and EN61000-4

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