

OPTIONAL HARDWARE



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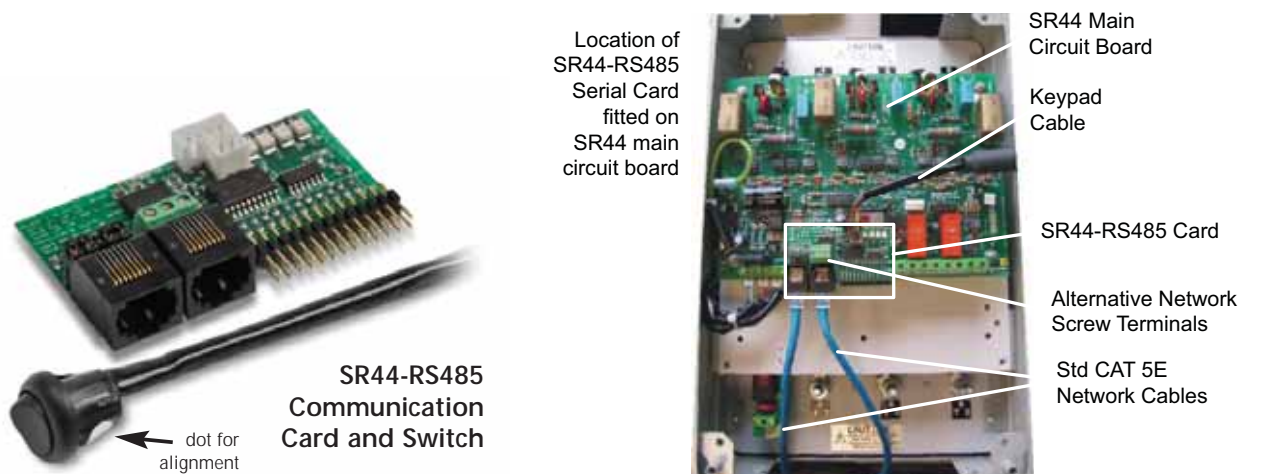
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7.1 – SR44-RS485 Communication Card

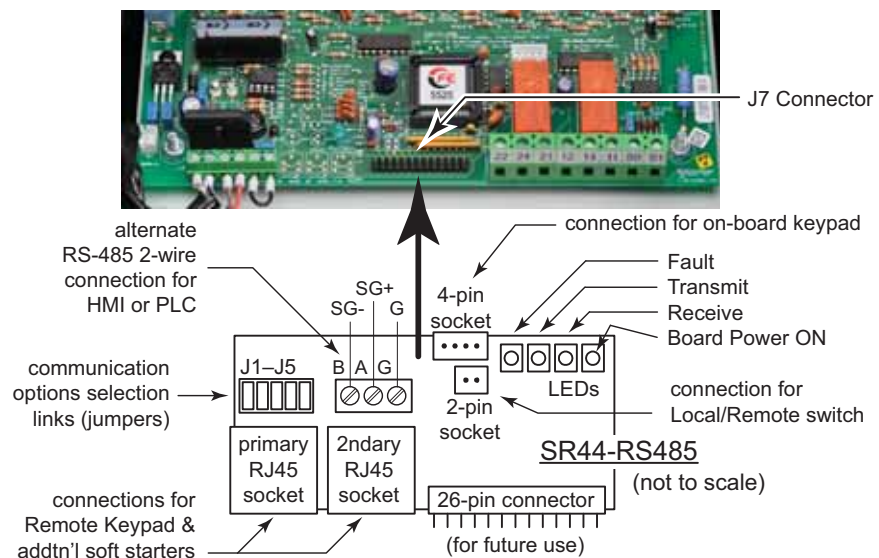
7.1.1 – Communication Card General Information

An optional RS-485 communication adapter card is available for use with SR44 Soft Starters.

- Communication Adapter Part Number: SR44-RS485
- Allows control to be switched between an integral Keypad or alternately through an external isolated network based on the Modbus standard
- Provides the ability to set up, control, and monitor single or multiple SR44 Soft Starters
- Provides an RS-485 interface with 50V isolation for demanding industrial applications
- Suitable for connection to a Remote Keypad or RS-485 serial network at 9600 baud 8, N, 1
- Allows maximum network lengths: 25 meters [82 ft] for RJ45 connections;
1200m [3937 ft] for RS-485 screw-terminal connections
- Allows connection via RJ45 connectors, or through screw terminals (2-wire)



SR44 Main PCB (not to scale)



Serial Communication and the soft starter's integral Local Keypad are mutually exclusive. Only one function can control the starter at a time. Switching to "Local" will always disable remote control of the starter.

7.1.2 – Connecting the Communication Card

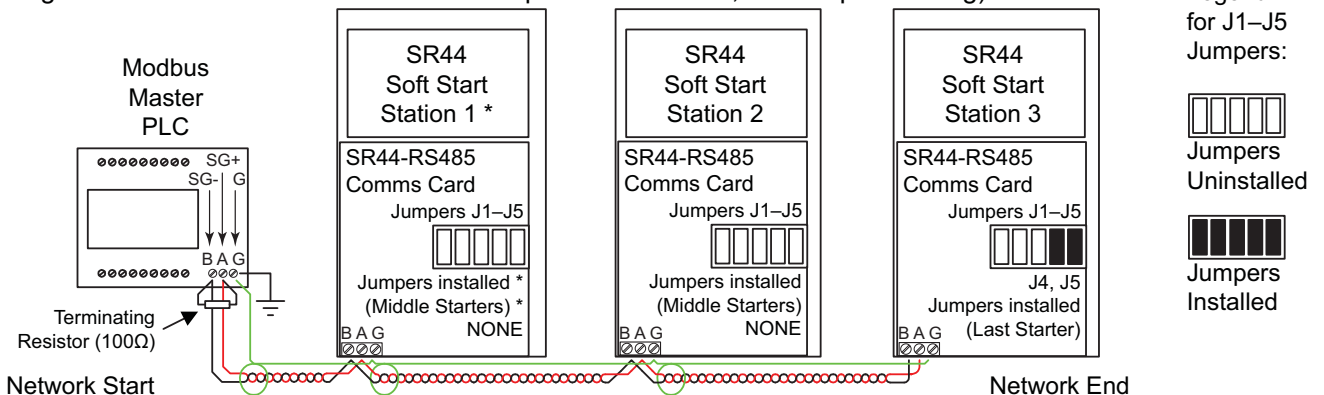
- 1) Isolate the SR44 from all electrical power sources.
- 2) Remove the front cover.
- 3) For size-2 soft starters (174A & higher), insert the Local/Remote extension cable through the starter and out the plugged hole in the bottom of the unit. Then connect the Local/Remote switch to the extension cable.
For size-1 soft starters (146A & below), discard the extension cable.
- 4) Install the “Local/Remote” label and switch/cable assembly (supplied with SR44-RS485) in the plugged hole in the bottom left corner of the starter. Orient the switch so that the white dot faces the “Remote” side of the label.
- 5) Install the SR44-RS485 communication card onto the J7 26-pin header (lower middle of main PCB), and then connect the cover keypad cable from the main PCB board to the 4-pin socket on the SR44-RS485 communication card.
- 6) Install the “Local/Remote” cable onto the SR44-RS485 board in the 2-pin socket.
- 7) Set Communication Card jumpers J1–J5 as shown in Network Connections drawing.

The starter can now communicate via serial communications when the “Local/Remote” switch is placed in “Remote”. This setting disables the integral keypad on the cover of the starter.

Switching to “Local” will disable serial communication, and enable the integral keypad.

One PLC Controlling Multiple SR44 Soft Starters via Serial Protocol

(using screw terminals and Belden 9841 or equivalent shielded, twisted-pair cabling)



* The ‘Network Start’ terminating resistor is installed at the PLC, and Station 1 is jumpered as a ‘Middle Starter’.

* For RS-485 connection to only one SR44, install jumpers 4, 5.

Functions of SR44-RS485 Jumpers J1–J5

- J1: This jumper is for use only with the SR44-KPD Remote Keypad, and only the starter closest to the keypad should have this jumper installed. It passes 12V through to the RJ45 connectors to supply power to the remote keypad.
- J2: This jumper is for use only with the SR44-KPD Remote Keypad, and only the starter closest to the keypad should have this jumper installed. It shorts out the 1k Ω grounding resistor.
- J3: This jumper connects the serial comms isolated ground to the local unit ground. If multiple SR44s (with SR44-RS485) are connected, one of them must have this jumper shorted.
- J4: This jumper is for use only with RS-485 networks. It connects a 100 Ω terminating resistor between the A and B RS485 lines on both the RJ45 and screw terminal connections. Only the nodes at each physical end of the RS-485 network should have terminating resistors.
- J5: This jumper connects a 1k Ω resistor between screw terminal G and local ground. Normally only the last starter in the network should have this jumper installed.

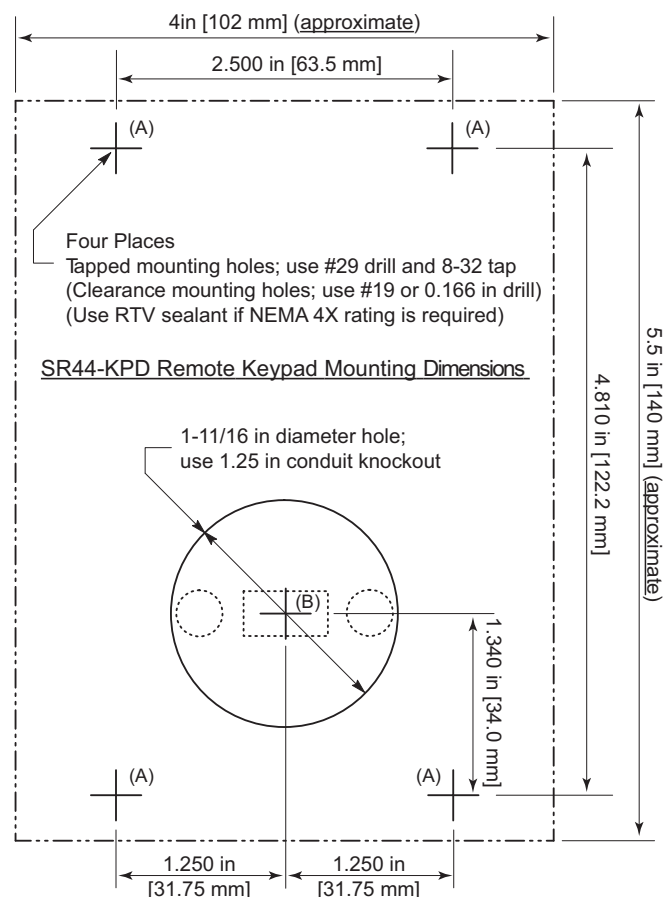
7.2 – SR44-KPD Remote Keypad

7.2.1 – Remote Keypad General Information

An optional Remote Keypad is available for use with SR44 Soft Starters.

- Remote Keypad Part Number: SR44-KPD
- Remote Keypad requires installation of an SR44-RS485 communication card
- Can be used with all SR44 series soft starters
- Connects with standard CAT5 RJ45 terminated Ethernet patch cable (use ferrites if EMC compliance is required)
- Includes 3-meter (10 ft) RJ45 twisted-pair CAT5 Ethernet patch cable with ferrites
- Can be mounted up to 10 meters (33 ft) from the SR44 Soft Starter.
- Can be used on a one to one basis, or one Remote Keypad can control several soft starters *one at a time* (multiple soft-starter control requires optional SR44-RS485 communication cards for each SR44 Soft Starter)
- Seven buttons with individual Start and Stop
- Display via a 2-line, 32-character LCD
- Eliminates panel mounted Start and Stop pushbuttons, ammeters, and pilot lights
- Gives continuous display of motor phase current and control status: Starting, Stopping, Full Volts, Optimizing, Current Limitation, Overload, and Fault Indication for one soft starter.
- “Local/Remote” switch (supplied with SR44-RS485) on the side of each SR44 Soft Starter can quickly swap starter control from remote keypad to integral keypad.

SR44-KPD Remote Keypad



7.2.2 – Connecting the Remote Keypad



Remote Keypad requires installation of an SR44-RS485 communication card.

- 1) The RJ45 cable that is supplied with the remote keypad has two ferrites installed on it to ensure EMC compliance. Plug the end with the thinner ferrite into the Communication Card primary RJ45 socket.
- 2) Secure the ferrite to the starter using a cable tie.
- 3) Set Communication Card jumpers J1–J5 as shown in Network Connections drawing below.
- 4) Mount the Keypad using the screws provided and plug the other end of the cable, with the larger ferrite, into the SR44-KPD Remote Keypad. (SR44-KPD mounting dimensions are shown on the reverse side of this page.) (Use RTV sealant at mounting holes “A” if NEMA 4X rating is required.) (Remote keypad is NEMA 4X; soft starter is not.)

The starter can now be controlled by the Remote Keypad when the “Local/Remote” switch is placed in “Remote”. This setting disables the integral keypad on the cover of the starter.

Switching to “Local” disables the Remote Keypad and enables the integral Local Keypad.



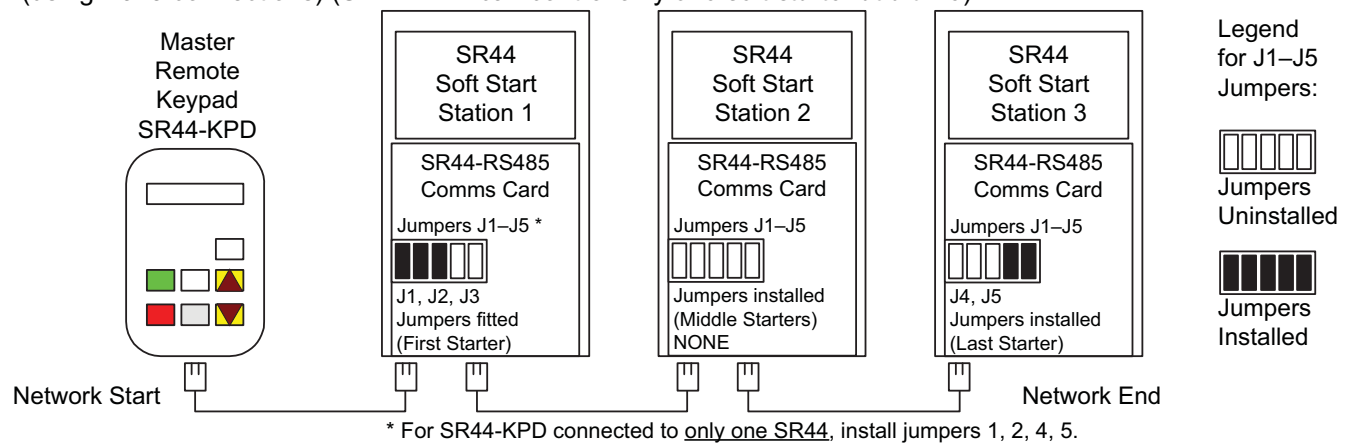
The Remote Keypad and the soft starter’s integral Local Keypad are mutually exclusive.

Only one function can control the starter at a time.

Switching to “Local” will always disable remote control of the starter.

One SR44-KPD Remote Keypad Controlling Multiple SR44 Soft Starters

(using RJ45 connections) (SR44-KPD can control only *one* soft starter at a time)



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