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Socket Communication in ControlLogix, CompactLogix and MicroLogix Controllers

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Summary

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Content

Question

What devices support Socket communication in ControlLogix and CompactLogix systems?

Environment

- 1756-EN2T, 1756-EN2F, 1756-EN2TR, 1756-EN3TR ControlLogix® EtherNet/IP communication modules, firmware revision 5.007 or later
- 1756-EN2TP ControlLogix EtherNet/IP communication module
- 1756-EWEB ControlLogix EtherNet/IP web server module, firmware revision 4.006 or later
- 1768-EWEB CompactLogix EtherNet/IP web server module, firmware revision 1.002 or later
- 5370 CompactLogix 1769-L3y Controllers : 1769-L30ER(M)(S), 1769-L30ER-NSE, 1769-L33ER(M)(S), 1769-L36ERM(S), 1769-L37ERM(S), 1769-L38ERM(S)
- 5370 CompactLogix 1769-L2y Controllers : 1769-L24ER-QB1B, 1769-L24ER-QBFC1B, 1769-L27ERM-QBFC1B
- 5370 CompactLogix 1769-L1y Controllers : 1769-L16ER, 1769-L18ER(M), 1769-L19ER
- 5380 CompactLogix 5069-L3z : 5069-L306ER(M)(S2), 5069-L310ER(M)(S2), 5069-L310ER-NSE, 5069-320ER(M)(S2), 5069-330ER(M)(S2), 5069-340ER(M)(S2), 5069-350ER(M)(S2),5069-380ER(M)(S2), 5069-3100ER(M)(S2)
- 5580 ControlLogix Controllers : 1756-L81E(S), 1756-L82E(S), 1756-L83E(S), 1756-L84E(S), 1756-L85E

Note: MicroLogix™ 1400 controllers (all series) also support socket capability, but the information in this document does not apply to those products. For details on those products, see the MicroLogix 1400 Programmable Controllers Reference Manual, Publication 1766-RM001.

Answer

The socket interface lets a RSLogix 5000 controller communicate via an EtherNet/IP module with Ethernet devices, such as barcode scanners, RFID readers, or other standard Ethernet devices, that do not support the EtherNet/IP application protocol.

Note: Socket Services in the above Ethernet modules can be used with any Logix Controllers rev 15 or higher.

For more information on socket functionality and implementation, see EtherNet/IP Socket Interface Application Technique, publication ENET-AT002 as well as technotes QA5190 - Summary of Logix Socket Information and/or IN10748 - Open Socket limitations

Note: The 1756-EWEB module was the first module to support sockets for many years. As such, there are many technotes and other references that discuss sockets that might only specify the EWEB module.
Those tech notes can also be used with any of the modules above unless otherwise noted.

Message Paths

- 5570 and 5560 controllers
  - It will be 1,[Slot of ethernet module] if typed manually, or '`$01$xx`' if loaded programmatically to the .PATH field where xx is the HEX equivalent of decimal value of the slot. (ex. Slot 12 in HEX would be 0C)
- 5370 controllers
  - It will be 1,0 if typed manually, or '`$01$00`' if loaded programmatically to the .PATH field.
- 5380 controllers
  - Linear/ DLR mode
    - `1,0` is the preferred recommended path to self, or '`$01$00`' if loaded programmatically the .PATH field.
  - Dual IP mode
    - If the controller is in dual IP mode the message path will be the same as above however the source of the CREATE MESSAGE needs to have the IP of the port that the socket will communicate
    - Reference QA48896 - 5380 Ethernet Socket Errors and Path Information to specify the correct port the message should sent out for dual IP

Note: `'THIS'` will not work as the path for the 5380 controllers because of the dual IP capabilities use the path provided above

- 5580 controllers
  - When doing a message to self the message path should either be '1,<slot of controller>' or `THIS`. `THIS` is the preferred recommended path to self, or '`$1F$00$00$00`';if loaded programmatically the .PATH field.

5380 & 5580 controllers also support large 4k messages by default, and do not use the Connected or Large Connection checkboxes when doing a message to self. If the message to self is set to Connected, a '16#0008 - Unsupported service request' message error will be generated.