Classification:
Product Functionality for I-7000/M-7000 series

Question

What is the maximum scan rates in the RS-485 network?

Answer

The scan rate depend on the BAUD RATE of RS-232 COM port, Checksum status, module numbers, channels, command to send, result string that received and system performance.

For those environment to test:
7012 module: x 1
Channel: x 1
Baud Rate: 115200 bps
Command: #AA (cr)(null) ==> 5 Chars
Result: >SDDDDDD (cr) ==> 9 Chars

1 Char: 1 Start bit + 8 Data bits + 1 Stop bit = 10 bits
Every communications: Command string + Result string
= 14 Chars = 140 bits
140 (bits/communication) / 115200 (bits/sec)
= 0.00122 (sec/communication)
Hardware delays (every communications): 1 mSec
Scan rate: 1/ (0.00122 + 0.001) = 450 (communication/sec)

Estimated scan rate:
450 times/sec maximum.

Tested value of scan rate:
440 times/sec maximum without system message processing.
360 times/sec maximum with system message processing.

Note: System message processing is meant let the OS to process other tasks, this may reduce the performance of this program.

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