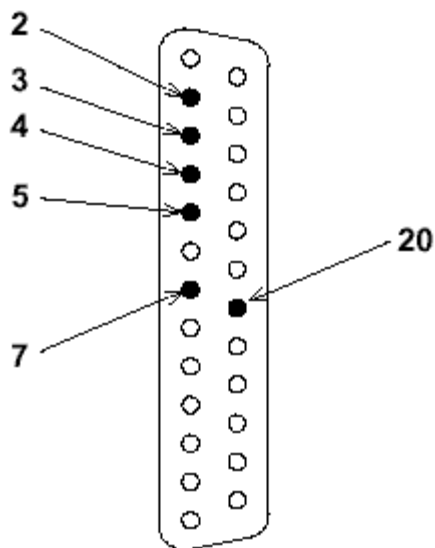


Technical Note

Yokogawa Darwin Serial Cable Diagrams

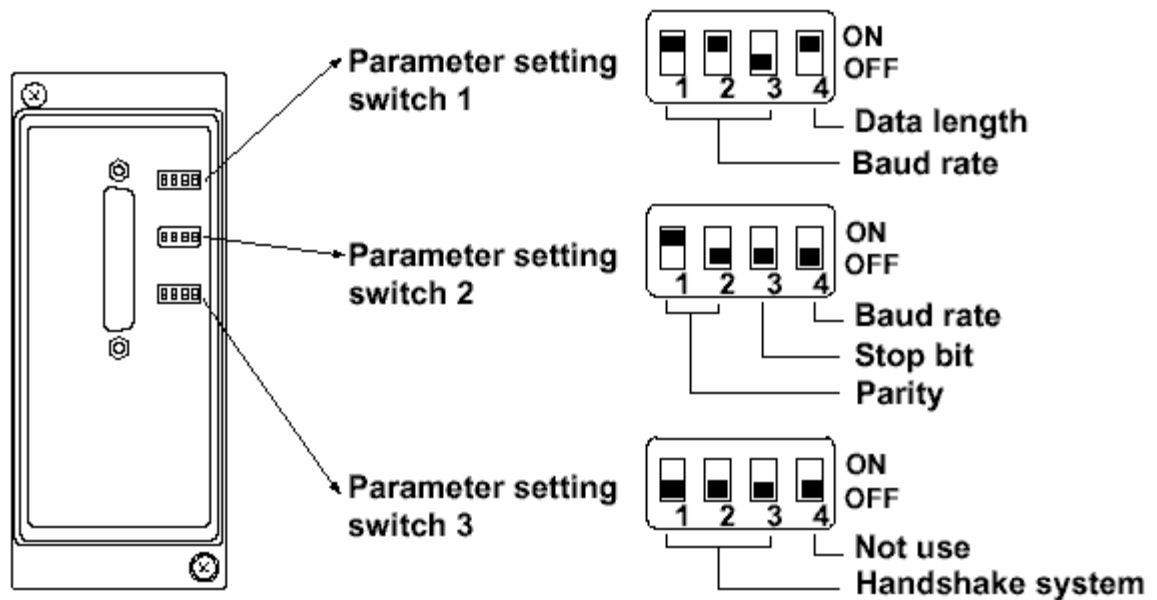
1. RS-232 Connector and Signal Names



| | |
|----|--|
| 2 | TXD (Send Data): Data transmitted to the host computer |
| 3 | RXD (Received Data): Data received from the host computer |
| 4 | RTS (Request to Send): Handshake signal for data reception from the host computer |
| 5 | CTS (Clear to Send): Handshake signal for data transmission to the host computer |
| 7 | GND (Signal Ground): Signal ground connection |
| 20 | DTR (Equipment Ready): Handshake signal for data reception from the host computer |

● **Note:** Pin numbers 1, 6 and 8 to 19 **and 21 to 25** are not used.

2. RS-232 Communications Module Settings



Baud Rate (No.1 to 3 of Setting Switch 1 and No.4 of Setting Switch 2)

Default settings are indicated in bold.

| Baud Rate | No.1 | No.2 | No.3 | No.4 (Sw2) |
|-------------|-----------|-----------|------------|------------|
| 150 | OFF | OFF | OFF | OFF |
| 300 | OFF | OFF | ON | OFF |
| 600 | OFF | ON | OFF | OFF |
| 1200 | OFF | ON | ON | OFF |
| 2400 | ON | OFF | OFF | OFF |
| 4800 | ON | OFF | ON | OFF |
| 9600 | ON | ON | OFF | OFF |
| 19200 | ON | ON | ON | OFF |
| 38400 | OFF | OFF | OFF | ON |

Data Length (Switch No.4 of Property Setting Switch 1)

| Data Length | No.4 |
|-------------|-----------|
| 7 | OFF |
| 8 | ON |

Parity (Switch No.1 and 2 of Property Setting Switch 2)

| Parity | No.1 | No.2 |
|--------|------|------|
| NONE | OFF | OFF |
| ODD | OFF | ON |
| EVEN | ON | OFF |

Stop Bit (Switch No.3 of Property Setting Switch 2)

| Stop Bit | No.4 |
|----------|------|
| 1 | OFF |
| 2 | ON |

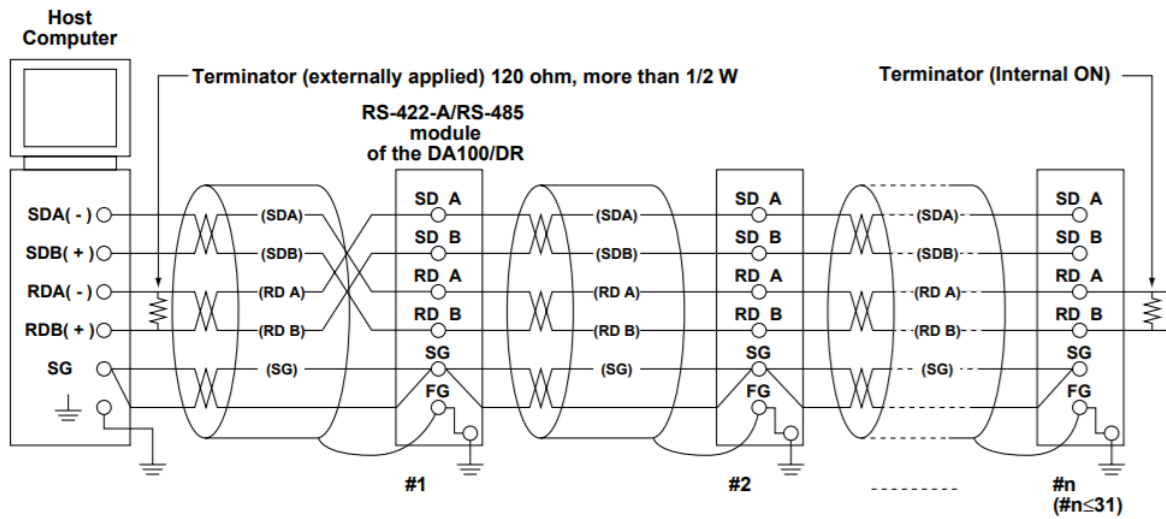
Handshake System (Switch No.1 to 3 of Property Setting Switch 3)

| Handshake System | No.1 | No.2 | No.3 |
|---------------------|------------|------------|------------|
| No Handshake | OFF | OFF | OFF |
| XON-ER* | OFF | OFF | ON |
| XON-RS* | OFF | ON | OFF |
| CS-ER | OFF | ON | ON |
| CS-RS | ON | OFF | OFF |

*When the baud rate is set to 38400, there is no handshaking.

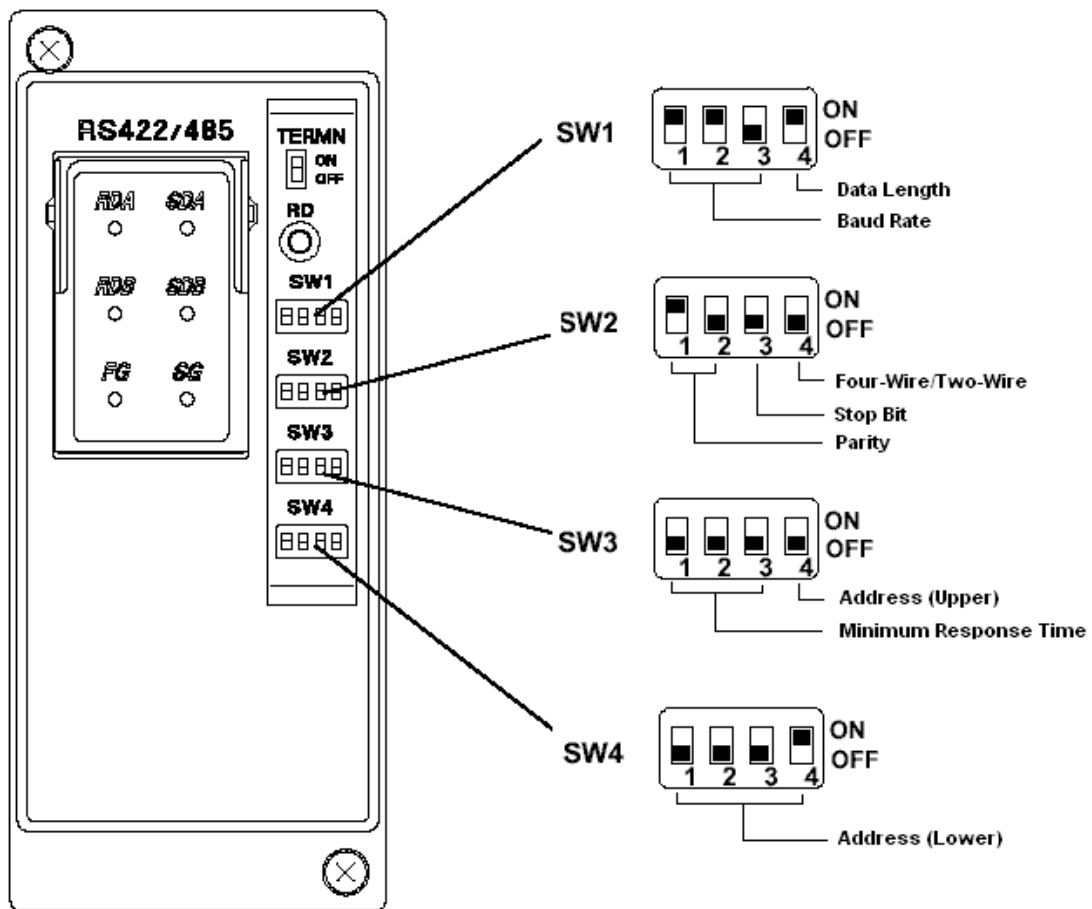
🔴 Handshaking must be set to **No Handshake** at all times.

3. RS-422 Cable Diagram



- No terminators are inserted between #1 through #n-1 (internal OFF).

4. RS-422 Communications Module Settings



Baud Rate (No.1 to 3 of SW1)

| Baud Rate | No.1 | No.2 | No.3 |
|-------------|-----------|-----------|------------|
| 300 | OFF | OFF | ON |
| 600 | OFF | ON | OFF |
| 1200 | OFF | ON | ON |
| 2400 | ON | OFF | OFF |
| 4800 | ON | OFF | ON |
| 9600 | ON | ON | OFF |
| 19200 | ON | ON | ON |
| 38400 | OFF | OFF | OFF |

Data Length (No.4 of SW1)

| Data Length | No.4 |
|-------------|-----------|
| 7 | OFF |
| 8 | ON |

Parity (No.1 to 2 of SW2)

| Parity | No.1 | No.2 |
|-------------|-----------|------------|
| NONE | OFF | OFF |
| ODD | OFF | ON |
| EVEN | ON | OFF |

Stop Bit (No.3 of SW2)

| Stop Bit | No.3 |
|----------|------------|
| 1 | OFF |
| 2 | ON |

Switch between Four-Wire/Two-Wire Systems (No.4 of SW2)

| | |
|---------------------------|-------------|
| Four-Wire/Two-Wire | No.4 |
| Four-Wire | OFF |
| Two-Wire | ON |

Minimum Response Time (No.1 to 3 of SW3)

| Minimum Response Time | No.1 | No.2 | No.3 |
|------------------------------|-------------|-------------|-------------|
| 0ms | OFF | OFF | OFF |
| 10ms | OFF | OFF | ON |
| 20ms | OFF | ON | OFF |
| 50ms | OFF | ON | ON |
| 100ms | ON | OFF | OFF |

Address (No.4 of SW3 and No.1 to 4 of SW4)

| Address | No.4 (SW3) | No.1 (SW4) | No.2 (SW4) | No.3 (SW4) | No.4 (SW4) |
|----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 1 | OFF | OFF | OFF | OFF | ON |
| 2 | OFF | OFF | OFF | ON | OFF |
| 3 | OFF | OFF | OFF | ON | ON |
| 4 | OFF | OFF | ON | OFF | OFF |
| 5 | OFF | OFF | ON | OFF | ON |
| 6 | OFF | OFF | ON | ON | OFF |
| 7 | OFF | OFF | ON | ON | ON |
| 8 | OFF | ON | OFF | OFF | OFF |
| 9 | OFF | ON | OFF | OFF | ON |
| 10 | OFF | ON | OFF | ON | OFF |
| 11 | OFF | ON | OFF | ON | ON |
| 12 | OFF | ON | ON | OFF | OFF |
| 13 | OFF | ON | ON | OFF | ON |
| 14 | OFF | ON | ON | ON | OFF |
| 15 | OFF | ON | ON | ON | ON |
| 16 | ON | OFF | OFF | OFF | OFF |

| Address | No.4 (SW3) | No.1 (SW4) | No.2 (SW4) | No.3 (SW4) | No.4 (SW4) |
|----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 17 | ON | OFF | OFF | OFF | ON |
| 18 | ON | OFF | OFF | ON | OFF |
| 19 | ON | OFF | OFF | ON | ON |
| 20 | ON | OFF | ON | OFF | OFF |
| 21 | ON | OFF | ON | OFF | ON |
| 22 | ON | OFF | ON | ON | OFF |
| 23 | ON | OFF | ON | ON | ON |
| 24 | ON | ON | OFF | OFF | OFF |
| 25 | ON | ON | OFF | OFF | ON |
| 26 | ON | ON | OFF | ON | OFF |
| 27 | ON | ON | OFF | ON | ON |
| 28 | ON | ON | ON | OFF | OFF |
| 29 | ON | ON | ON | OFF | ON |
| 30 | ON | ON | ON | ON | OFF |
| 31 | ON | ON | ON | ON | ON |