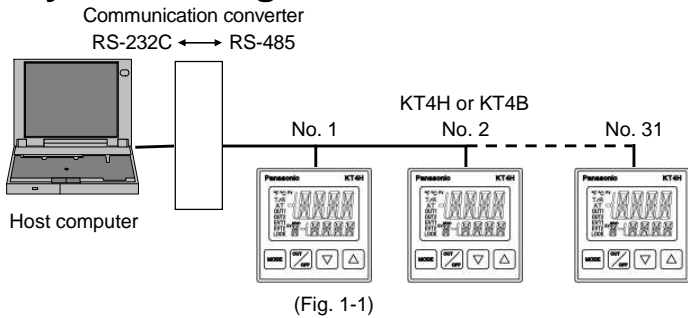


No. KT4HCE6 2013.05

These instructions are for communication functions. For detailed operating instructions, please refer to User's Manual for the KT4H/B. Please download User's Manual from our website.

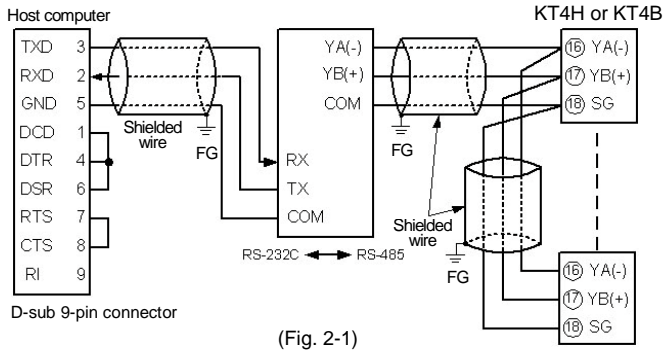
Serial communication and Tool port communication cannot be used together. When performing Serial communication, remove the tool cable (AKT4H820) from the USB port of the PC and tool connector of the KT4H/B. When performing Tool port communication, it is not required to remove the Serial communication cables. However, do not send a command from the master side.

1. System configuration

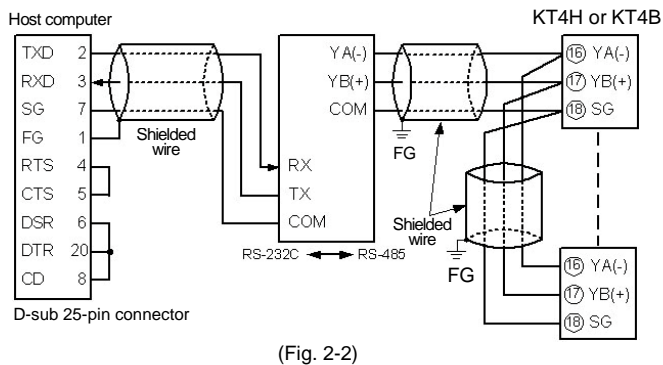


2. Wiring

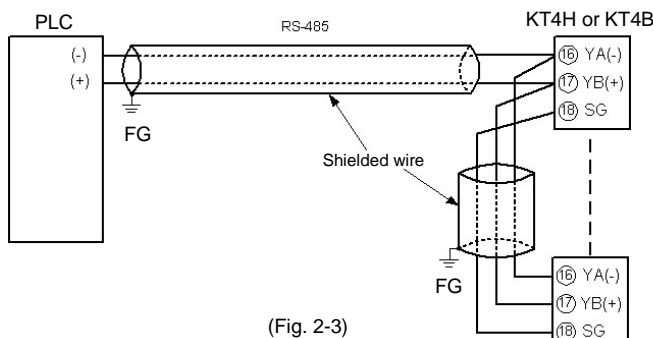
Wiring example using a communication converter
 Using a D-sub 9-pin Connector



Using a D-sub 25-pin Connector



When connecting to a PLC (RS-485)



Shielded wire

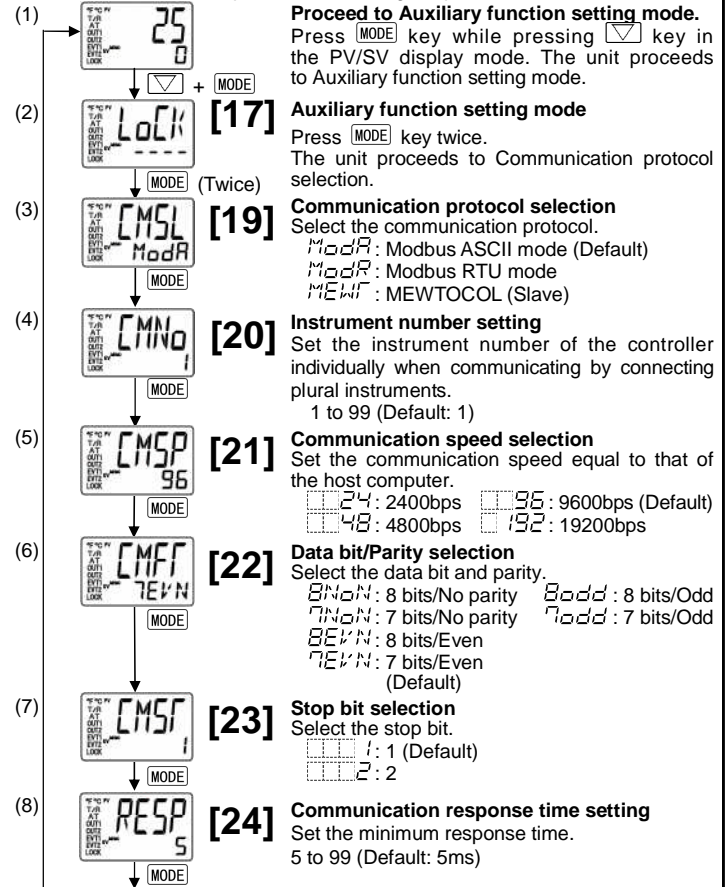
Connect only one side of the shielded wire to the FG terminal so that current cannot flow to the shielded wire. If both sides of the shielded wire are connected to the FG terminal, the circuit will be closed between the shielded wire and the ground. As a result, current will run through the shielded wire and this may cause noise. Be sure to ground the FG terminal.

Terminator (Terminal resistor)

Do not connect terminator with the communication line because each KT4H/B has built-in pull-up and pull-down resistors instead of a terminator. If there is a large distance between the PLC and the KT4H/B, connect the terminator on the PLC side. (Connect a terminator of 120Ω or more resistance.)

3. Communication parameter setting

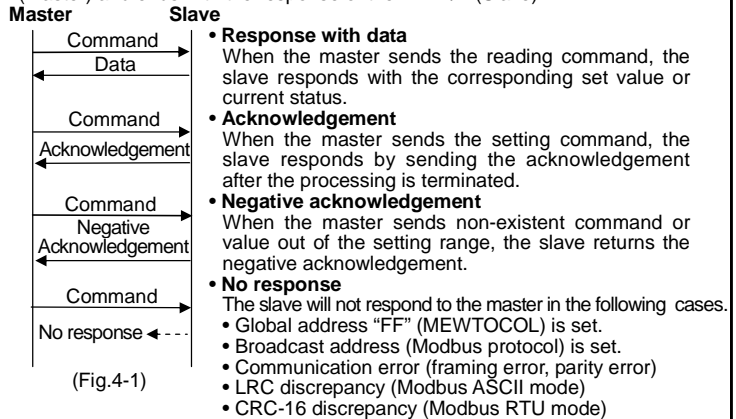
Set each communication parameter following the procedures below.



Numbers such as [17], [19], etc. are setting item numbers. Refer to the User's Manual for the KT4H/B.

4. Communication procedures

Communication starts with command transmission from the host computer (Master) and ends with the response of the KT4H/B (Slave).



RS-485 communication timing

Master side (Notice on programming)

Set the program so that the master can disconnect the transmitter from the communication line within a 1 character transmission period after sending the command in preparation for reception of the response from the slave. To avoid the collision of transmissions between the master and the slave, send the next command after carefully checking that the master received the response.

Slave side

When the slave starts transmission through the communication line, the slave is arranged so as to provide an idle status (mark status) transmission period of 5ms or more (communication response time from 5 to 99ms settable) before sending the response to ensure the synchronization on the receiving side. The slave is arranged so as to disconnect the transmitter from the communication line within a 1 character transmission period after sending the response.

5. Specifications

Communication system: Half duplex
 Cable length: 1,000m (Max.), cable resistance 50Ω or less
 (Terminator: None or 120Ω or more on PLC side)
 Communication line: EIA RS-485
 Communication speed: 9600bps (2400, 4800, 9600, 19200bps) Selectable by key
 Synchronous system: Start-stop synchronous
 Code: ASCII (Modbus ASCII, MEWTOCOL), Binary (Modbus RTU)
 Error correction: Command request repeat system

For the detailed usage and User's Manual, please contact us at the address below.

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Pursuant to the directive 2004/108/EC, article 9(2)

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