Instructions of CAN Communication

Application Examples of TXD/RXD Macro Parameter

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CATALOG

I. CAN Communication between PLC and HMI................................................................. 3
   Note 1: Connection ........................................................................................................ 3
   Note 2: PLC parameter settings .................................................................................. 3
   1. PLC settings ........................................................................................................... 3
   2. HMI parameter settings ......................................................................................... 4
   3. Macro settings of HMI ........................................................................................... 5
   RXD (A1, A2) ............................................................................................................. 6
   4. Examples ................................................................................................................ 7
   5. Examples: Set RXD parameter A2 as K .................................................................. 10

II. CAN Communication among HMIs ............................................................................. 10
   Note 1: Connection .................................................................................................... 10
   Note 2: PLC parameter settings ............................................................................... 10

III. HMI communicates with PLC by RS485 ................................................................. 11
I. CAN Communication between PLC and HMI

Note 1: Connection
The PLC CAN interface H and L connects to the HMI CAN interface H and L respectively.

Note 2: PLC parameter settings
PLC special parameter settings please refer to the CAN parameter settings in the PLC programming manual.

1. PLC settings

a. The PLC program settings in this instructions are as follows:
b. Program settings of PLC sending data are as follows.

![Program settings diagram]

2. HMI parameter settings

Set the HMI ID as 0.

![HMI parameter settings screenshot]
3. Macro settings of HMI

Explanation of macro demand.
TXD: Macro demand of data sent. RXD: Macro demand of data receiving.
TXD (A1, A2)
A1 is the starting address, which is LW register.
A2 is the byte of data sent.
Note: Send by word (Word) while sending data. (1 Word = 2 bytes) The word here can be understood as 1 LW register.
Settings of data sent are as below.

Click “Send CAN Data”, (send 12 bytes, where the first two registers occupy the ID number, and the next four registers with total 8 bytes of data are transferred to PLC). The specific results are shown as below.
RXD (A1, A2)

A1 indicates that the received data goes to the starting address specified by A1, which refers to LW register.

When A2 is set as K, it means that K bytes are read.

When A2 is set as LW, it means all bytes of the buffer are read.

The value of A2 >= A1+255

The number of bytes read in the A2 address.

The data format is stored in the A2+1 address.

Set A2+1=0: The received data is arranged in bytes.

Set A2+1=1: The received data is arranged in words, with the high byte first.

Set A2+1=2: The received data is arranged in words, with low byte first.
4. Examples

The following settings are based on RXD (LW1500, LW1755) for data return.

4.1 When LW1756 is set as 0, the received data is arranged in bytes.

Click the "Receive CAN Data" button, the program interface is as follows:

The PLC ID (4 registers) and D600-D607 (8 registers) are total 12 bytes and received and stored in the register LW1500 to LW1511.

Note: The ID number is 15, which occupies 4 registers. The data of D600-D607 in PLC is: 11 12 11 12 11 12 11 12.
4.2 Set LW1757 as 1.

Click the “Receive CAN Data” button and the data will be received as shown below.

The first two registers display as the ID number.
The next four registers show the data of D600~D607 in the PLC.
Data display mode: decimal
Data display contents: 1 LW register displays data of 2 D registers, with the high byte first.

Note: The data of D600~D607 in PLC is
   Decimal: 11 12 11 12 11 12 11 12
   Hexadecimal: 0B 0C 0B 0C 0B 0C 0B 0C
The low bit is stored in the 4 registers of the LW before the previous high bit.
   LW hexadecimal: B0C B0C B0C B0C
   Converted to decimal as 2828 2828 2828 2828
4.3 Set LW1757 as 2

Click the “Receive CAN Data” button and the data will be received as shown below.

The first two registers display as the ID number.

The next four registers show the data of D600~D607 in the PLC.

Data display mode: decimal

Data display contents: 1 LW register shows the data of 2 D registers, with the low byte first.

Note: The data of D600~D607 in PLC is

Decimal: 11 12 11 12 11 12 11 12
Hexadecimal: 0B 0C 0B 0C 0B 0C 0B 0C

The low bit is stored in the 4 registers of the LW before the previous high bit.

The LW hexadecimal: C0B C0B C0B C0B

Converted to decimal as 3083 3083 3083 3083.
5. Examples: Set RXD parameter A2 as K

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>11</td>
<td>#</td>
</tr>
<tr>
<td>12</td>
<td>#</td>
</tr>
<tr>
<td>13</td>
<td>LABEL 2</td>
</tr>
<tr>
<td>14</td>
<td>CLR B LW100.1</td>
</tr>
<tr>
<td>15</td>
<td>RXD parameter A2 set as L, A2 &gt;= (A1 + 255)</td>
</tr>
<tr>
<td>16</td>
<td>If receive data more than 255 byte,</td>
</tr>
<tr>
<td>17</td>
<td>last 255 byte will be reserved</td>
</tr>
<tr>
<td>18</td>
<td>RXD(LW1500, 24)</td>
</tr>
<tr>
<td>19</td>
<td>END</td>
</tr>
<tr>
<td>20</td>
<td>Set as 24 means only receive 24-byte data</td>
</tr>
</tbody>
</table>

Click the “Receive CAN Data” button and the data will be received as shown below.

![Image of CAN Communication interface](image-url)

II. CAN Communication among HMIs

**Note 1: Connection**

The CAN interface of “HMI 1” H and L connects to the “HMI 2” CAN interface H and L respectively.

**Note 2: PLC parameter settings**
HMI settings and macro programming, please refer to “I. CAN Communication between PLC and HMI”.

III. HMI communicates with PLC by RS485

The PLC RS485 interfaces A and B are respectively connected to the RS485 interfaces A and B of the screen. The parameter settings in the screen are as follows:

If successful communication, the data in PLC or HMI will change as other devices change.