分類/Classification	☐ tDS ☐ tGW ☐ PETL/tET/tPET ☐ DS/PDS/PPDS ☐ tM-752N ☑ I/O Card ☐ VXC Card ☐ VxComm ☐ Other				
作者/Author	Albert	日期/Date	2015-04-02	編號/No.	FAQ-023

Q: How to control a single channel when performing DI/DO data transmission?

A: The general functions that are used to control a port are a minimum of 8 Bits for each input and output. However, if there is no need to control so many channels, and only a single channel needs to be controlled, the Ixud_ReadDIBit and Ixud_WriteDOBit functions are provided to allow data to be read/written from/to a single input/output channel.

Pros: The value of a particular channel can be processed without any need to convert the value.

Cons: More instructions will be required when controlling multiple channels. This method reduces processing efficiency.

Note: These functions are only supported by the UniDAQ driver, and are not supported by the Classic driver.

- **Ixud_WriteDOBit:**
  This function is used to write Digital Output bit data to the specified Digital I/O port.

Syntax:

```
WORD Ixud_WriteDOBit (
WORD wBoardNo,
WORD wPortNo,
WORD wBitNo,
WORD wDOVal
);
```

Parameters:

wBoardNo: [Input] The user-assigned board number, where wBoardNo =0 is the first board, wBoardNo=1 is the second board, and so on.

wPortNo: [Input] The user-assigned Digital Output port number. For detailed information related to port mapping, refer to the UniDAQ User Manual.

wBitNo: [Input] The user-assigned channel number, where wBitNo =0 is the first channel, wBitNo=1 is the second channel, and so on.

wDOVal: [Input] Sets the status of the Digital Output channel, where 1 is Logic 1 (High), and 0 is Logic 0 (Low).

Example: Ixud_WriteDOBit (wBoardNo, wPortNo, wBitNo, wDoVal)

Ixud_WriteDOBit (0 ,1 ,0 ,1) => selects the first board, the first port, the first channel, with an output value of 1.
Ixud_WriteDOBit (0 ,1 ,0 ,0) => selects the first board, the first port, the first channel, with an output value of 0.

- **Ixud_ReadDIBit:**
  This function is used to return the bit state of the Digital Input from a specified Digital I/O port.

Syntax:

```
WORD Ixud_ReadDIBit(
WORD wBoardNo,
WORD wPortNo,
WORD wBitNo,
WORD *wDIVal
);
```

Parameters:

wBoardNo: [Input] The user-assigned board number, where wBoardNo =0 is the first board, wBoardNo=1 is the second board, and so on.

wPortNo: [Input] The user-assigned port number. For detailed port mapping information, please refer to UniDAQ User Manual.

wBitNo: [Input] The user-assigned channel number, where wBitNo =0 is the first channel, wBitNo=1 is the second channel, and so on.

wDIVal: [Output] The bit data read from the specified port. A value of 1 = Logic 1 (High), a value of 0 = Logic 0 (Low).

Example: Ixud_ReadDIBit (wBoardNo, wPortNo, wBitNo, *wDIVal)

Ixud_ReadDIBit (0 ,1 ,0 ,wDIVal) => selects the first board, the first port, the first channel, where wDIVal=0 means that the DI value is Logic 0 , and wDIVal=1 means that the DI value is Logic 1.