

## How to connect i-7018z to get 6 channels of 4 to 20 mA input and 4 channels of Thermo-couple temperature input ? And also display the value on PC by VB 6.0 program ?

The ISaGRAF demo project name is "Demo\_72" . It can run in the i-7188EG / 7186EG. If user want to run in i-8xx7 or Wincon-8xx7, please set the "com\_port" parameter of "Bus7000b" in the IO connection window to COM3 and then re-compile the project.

"demo\_72.pia" resides at I-8000 CD-ROM:\napdos\isagraf\8000\demo\ or <ftp://ftp.icpdas.com/pub/cd/8000cd/napdos/isagraf/8000/demo/> or [www.icpdas.com](http://www.icpdas.com) – FAQ – Software – ISaGRAF – FAQ055

VB 6.0 project - "Demo\_4" resides at i-8000 CD: \napdos\isagraf\vb\_demo\demo\_4\ or <http://www.icpdas.com/faq/isagraf.htm> FAQ-055

i-7188EG 's COM2:RS-485 can connect i-7000 or i-87K/4/5/8/9 expansion base plus i-87xxx I/O boards in it. One i-7188EG can connect max. 64 pcs. of i-7000 modules (or i-87xxx I/O boards, the total amount of "i-7000 + i-87xxx" is up to 64 pcs.). To use i-8xx7's COM3:RS-485 to connect i-7000 + i-87xxx is the same as I-7188EG, the total amount is also 64 pcs. While max. 255 pcs. for using W-8xx7 's COM3:RS-485 to connect i-7000 + i-87xxx .

The more RS-485 I/O modules connected, the more I/O scan time will be . For example, if setting baud-rate as 9600 bps (Bit Per Second), one RS-485 D/I & D/O module will consume about 20 to 40 milli-second to scan its I/O channels. If connecting RS-485 A/I & A/O module, one will consume about 40 to 60 ms (The I/O scan time of the remote RS-485 I/O module depends on the module's type and function. If there are more than one I/O type in the module, the time consumed will be longer than the above value. For example, the i-7050D is a 7-Ch digital Input plus 8-ch digital output module, it will consume more than 20 to 40 ms). If connecting 20 pcs. of D/I/O modules, the appromate I/O scan time of all channels in these I/O modules will be about 0.4 to 0.8 second. If connecting 20 pcs. of A/I/O modules, the I/O scan time is about 0.8 to1.2 second. To have better (shorter) remote I/O scan time, here recommend not to connect more than 24 pcs. of I/O modules in the i-7188EG/XG and i-8xx7, while 64 pcs. in the Wincon-8xx7.

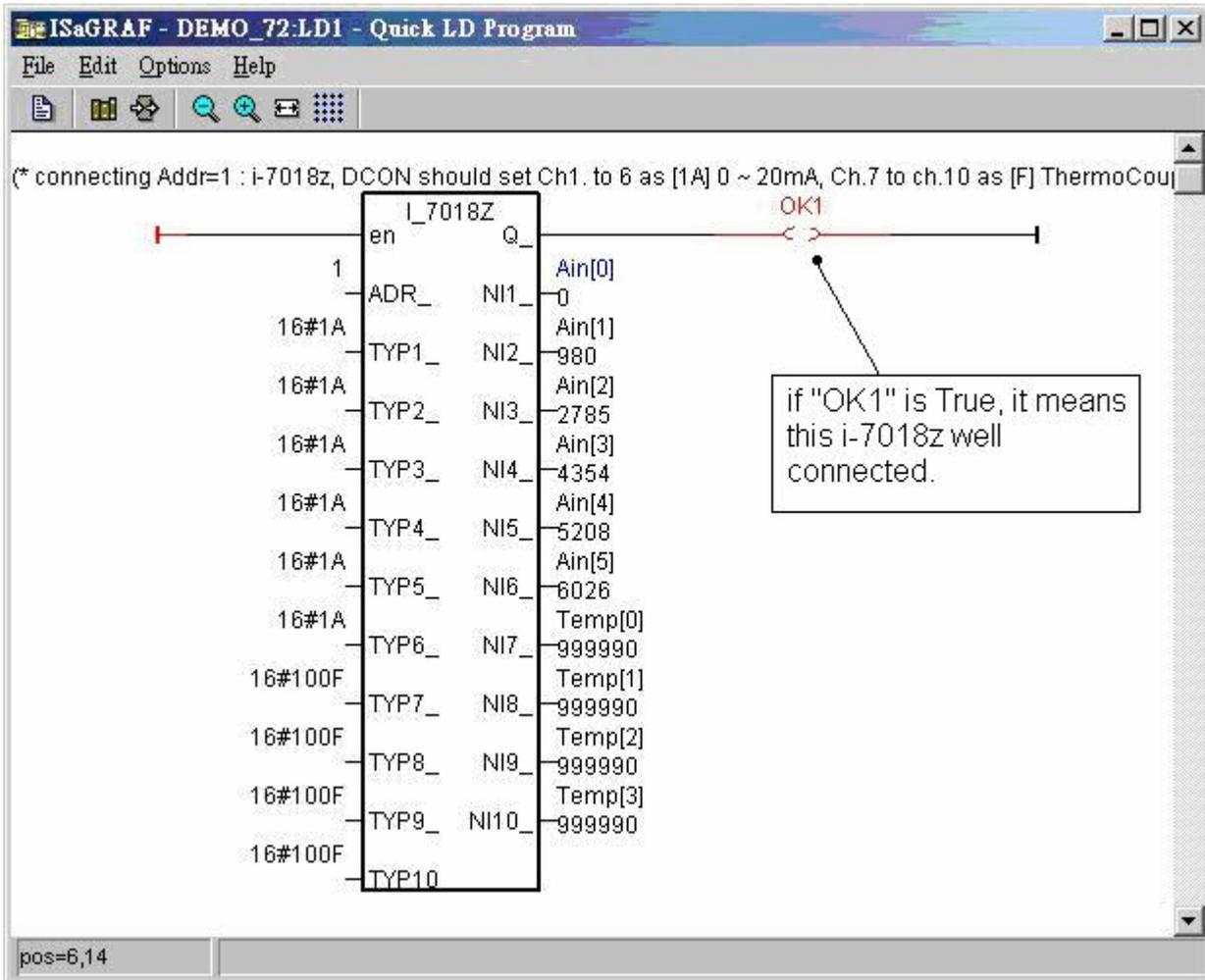
### How to test this demo ?

1. To configure i-7018z and i-87018z, please install **DCON utility (Version should be 4.4.3 or later version)** in your PC. The new released DCON utility can be found in the i-8000 CD-ROM or at [ftp://ftp.icpdas.com/pub/cd/8000cd/napdos/driver/dcon\\_utility/](ftp://ftp.icpdas.com/pub/cd/8000cd/napdos/driver/dcon_utility/) "setup" folder .

2. Please do initial configuration in i-7018z, (please refer to step (1) to (4) in chapter 6.1). Set i-7018z 's Address as 1, baud rate as 9600, Format as "2's compliment" , Checksum disable. And also set Ch.1 to Ch.6 type as "[1A] : 0 ~ 20 mA", while Ch.7 to Ch.10 type as "[0F] : T/C K-Type" . If initial setting is finished, please switch the "Dip Switch" on the back of i-7018z to "Normal" and recycle its power.

3. Please set the i-7188EG 's IP as 192.168.1.3 (refer to Appendix B), NET-ID as 1. Then power OFF the i-7188EG, connecting its COM2 to the i-7018z. Then power up i-7188EG and i-7018z. (To connect this i-7188EG well in the local network, PC 's IP should be in the same domain as 192.168.1.x. For example, setting PC 's IP as 192.168.1.2 , Mask=255.255.255.0)

4. PC run ISaGRAF to download "demo\_72" project to the i-7188EG via ethernet. Then open the Ladder program window in the ISaGRAF to check if i-7018z is well connected.



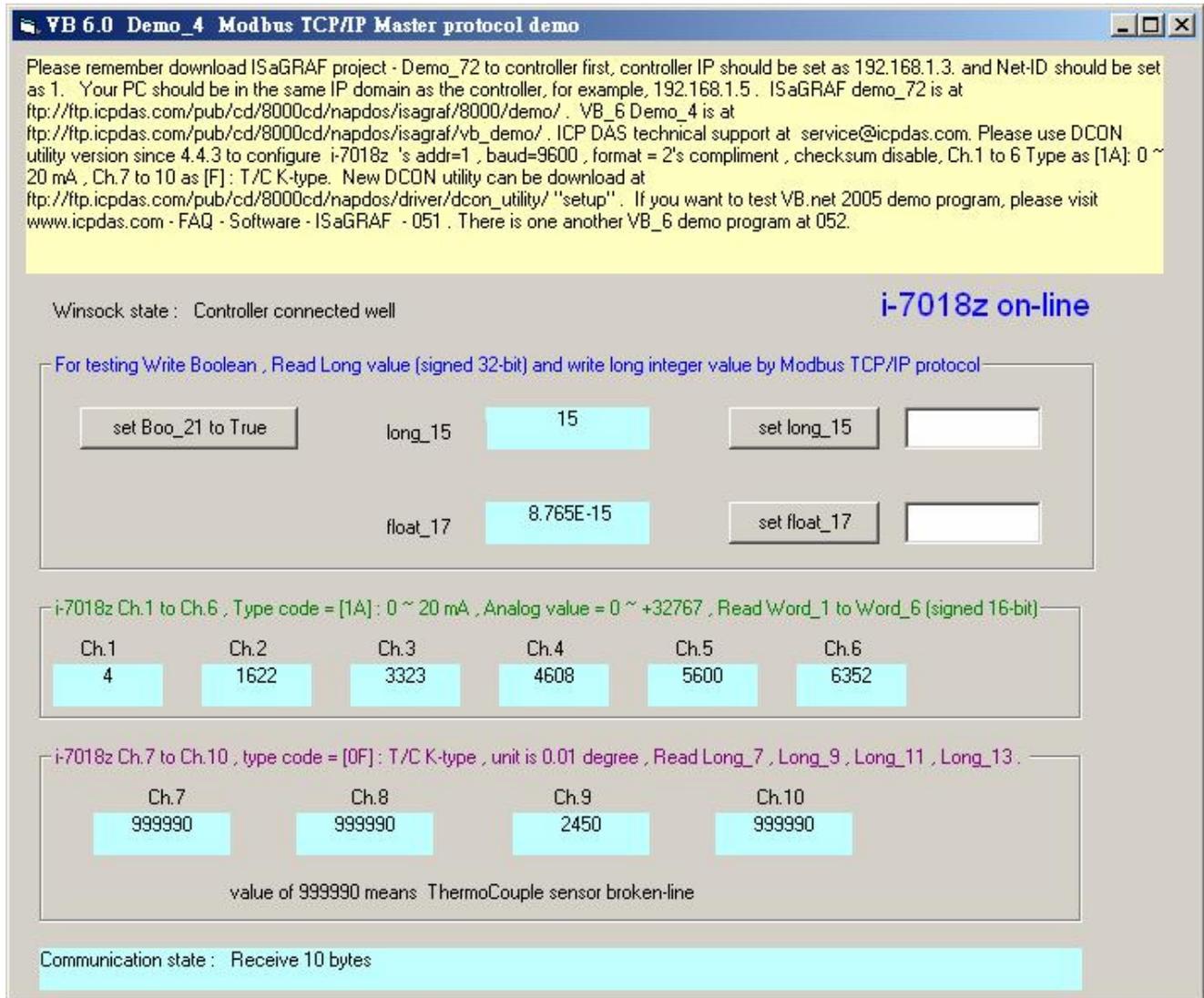
5. Then please run VB 6.0 – "Demo\_4.exe" in your PC. It resides at i-8000 CD: \napdos\isagraf\vb\_demo\demo\_4\demo\_4.exe or <http://www.icpdas.com/faq/isagraf.htm> FAQ-055

(As the figure in the nex page)

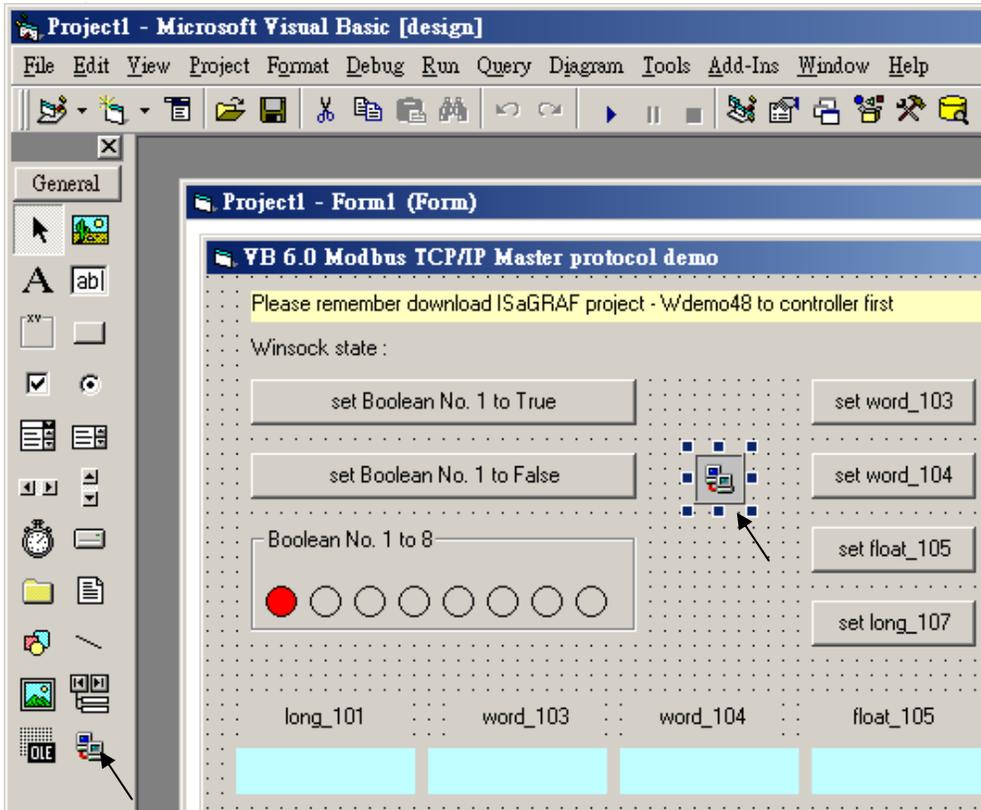
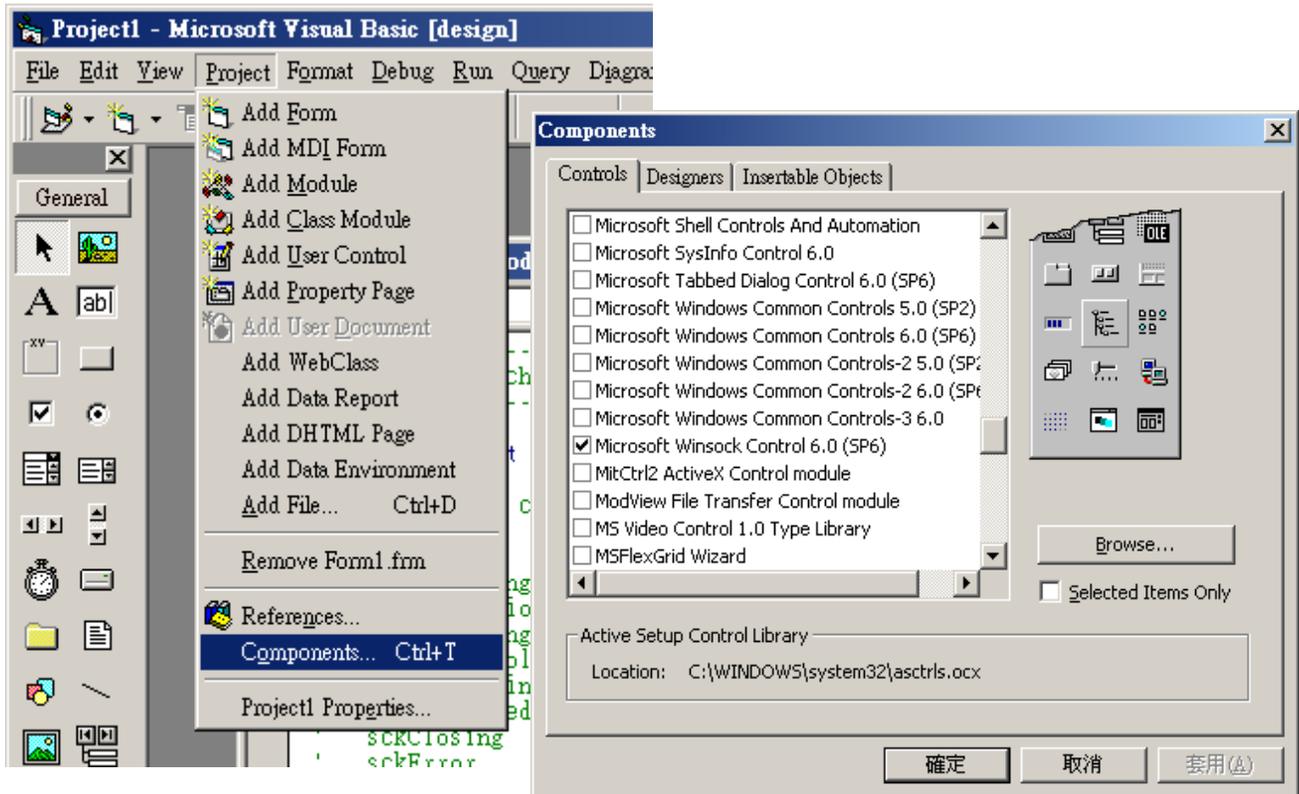
Ther is one another VB.net 2005 demo project can be study. Please visit <http://www.icpdas.com/faq/isagraf.htm> FAQ-051 or [www.icpdas.com](http://www.icpdas.com) – FAQ – Software – ISaGRAF – 051

If PC can not link the i-7188EG well, the “Communication state” at the bottom will display the related error message. If the i-7188EG can not connect i-7018z well, there will be a “i-7018z not on-line” message displayed in red color.

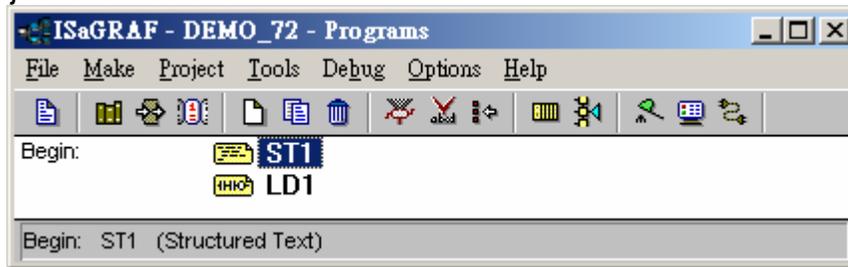
You may click on “set Boo\_21 to True” button. One click will increase the “long\_15” value by 1. You may also enter a value to “set long\_15” column, then click on “set long\_15”



At designing time of the VB 6.0 program, please add "Winsock control" to your VB 6.0 project as below. Then ethernet operation will be possible in the project.



ISaGRAF Project architecture:



We use “Variable array” in this demo project. Please refer to Chapter 2.6 or FAQ-039 for more information about “Variable array” .

Variables :

Name	Type	Attribute	Description
INIT	Boolean	<b>Internal</b>	Set initial value as True
OK1	Boolean	<b>Internal</b>	Communication state of i-7018z, <b>addr as 31</b> (Hex. is 1F)
M1	Boolean	<b>Internal</b>	For testing by VB 6.0 , <b>addr as 21</b> (Hex. is 15)
TMP	Boolean	<b>Internal</b>	Internal using
Ain[0..5]	Integer	<b>Internal</b>	Variable array, Dim as 6, <b>addr as 1</b> To get the input value of i-7018z 's Ch.1 to Ch.6
Temp[0..3]	Integer	<b>Internal</b>	Variable array, Dim as 4, <b>addr as 7</b> To get the temperature input of i-7018z 's Ch.7 to Ch.10
CNT1	Integer	<b>Internal</b>	For testing by VB 6.0, <b>addr as 15</b> (Hex. is F)
Float_17	Integer	<b>REAL</b>	For testing by VB 6.0, <b>addr as 17</b> (Hex. is 11) Set initial value as 1.02345

STprogram – ST1

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**if INIT then**

**INIT := False ;**

(\* Configure Ain[0..5] 's network addr as 1, 2, 3, 4, 5, 6, the initial addr. 1 should be assigned when doing variable declaration in the ISaGRAF dictionary window \*)

**TMP := S\_MB\_ADR( 1 , 6 , 0 ) ;** (\* the 3rd parameter 0 means setting as continuous addr. \*)

(\*Configure Temp[0..3] 's network addr as 7, 9, 11, 13, the initial addr. 7 should be assigned when doing variable declaration in the ISaGRAF dictionary window \*)

**TMP := S\_MB\_ADR( 7 , 4 , 1 ) ;** (\*the 3rd parameter 1 means setting as jummping addr. \*)

**end\_if ;**

**if M1 then**

**M1 := False ;**

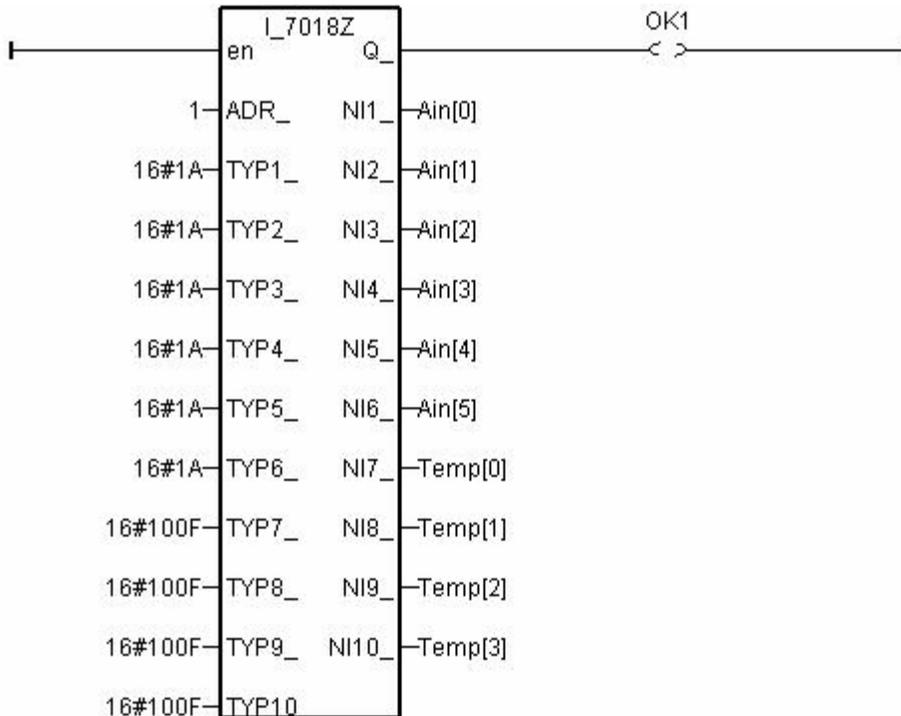
**CNT1 := CNT1 + 1 ;** (\* if M1 is set as TRUE by VB 6.0 program, increase CNT1 by 1 \*)

**end\_if ;**  
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## LD program – LD1

The “TYP1\_” to “TYP6\_” parameter of the i-7018z block should be set as the same type code value in the DCON utility (Here we use [1A] 0 ~ 20 mA in this demo). And “TYP7\_” to “TYP10\_” set as 16#100F (This demo set [0F] T/C K-Type in the DCON utility) . Because we want to convert the temperature value to Celsius degree, so we use 16#100F here (unit is 0.01 degree). (If applying as Degree Fahrenheit, please set as 16#200F). If any converted value of the Temp[0] to Temp[3] returns 999990, it means the related channel’s temperature input sensor is break.

If the i-7018z is connected well, OK1 will be True.



IO connection:

