KEYENCE

Keyence KV-8000 EtherNet(TCP Slave)(Free Tag Names)

Directory

❖ 1 Introduction to Drive

Driver protocol	Keyence KV-8000 EtherNet(TCP Slave)(Free Tag Names)
PLC Model number	KV-8000
website	https://www.keyence.com.cn/
communication mode	Ethernet
PLC interface	Ethernet
PLC port number	8500
Online simulation	nonsupport

Hardware wiring method:If PLC communicates directly with HMI without HUB or SWITCH, crossover cable is used;If the network communicates with the HMI through the HUB or SWITCH, use either a direct connection or a crossover cable.

A.Crossover cable wiring diagram

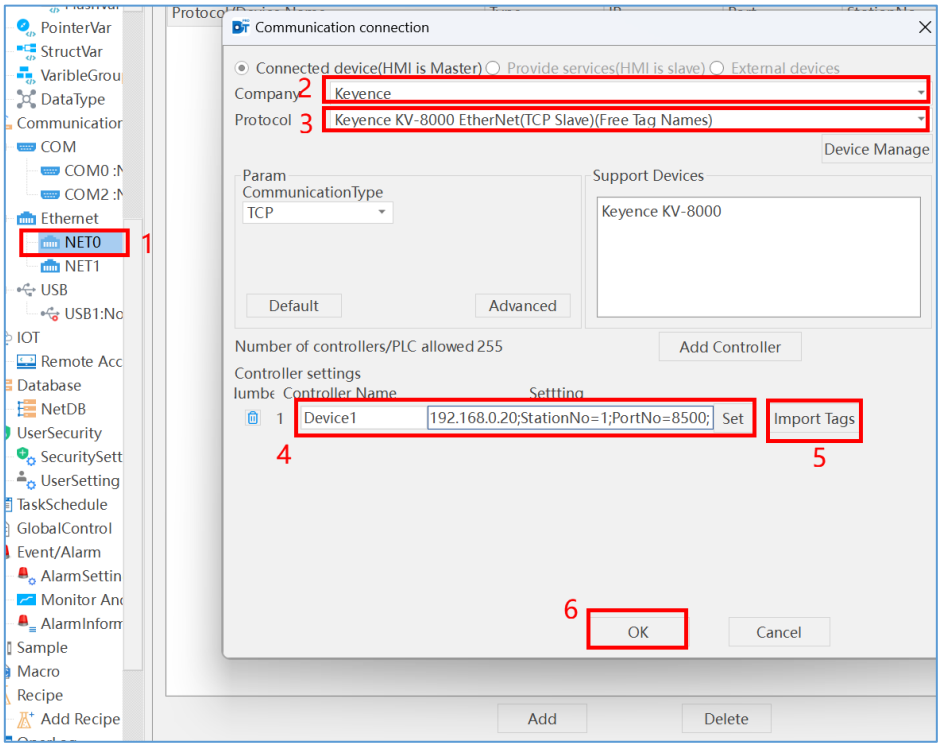
HMI Ethernet terminal RJ45		Controller terminal RJ45	
	1TX+ (Orange and white)	3RX+ (Green white)	
	2TX- (Orange)	6RX- (Green)	
	3RX+ (Green white)	1TX+ (Orange and white)	
	4BD4+ (Blue)	4BD4+ (Blue)	
	5BD4- (Blue and white)	5BD4- (Blue and white)	
	6RX- (Green)	2TX- (Orange)	
	7BD3+ (Brown white)	7BD3+ (Brown white)	
	8BD3- (Brown)	8BD3- (Brown)	

B.Wiring diagram of the direct cable

HMI Ethernet terminal RJ45		Ethernet HUB or Switch RJ45	
	1TX+ (Orange and white)	1RX+ (Orange and white)	
	2TX- (Orange)	2RX- (Orange)	
	3RX+ (Green white)	3TX+(Green white)	
	4BD4+ (Blue)	4BD4+ (Blue)	
	5BD4- (Blue and white)	5BD4-(Blue and white)	
	6RX- (Green)	6TX- (Green)	
	7BD3+ (Brown white)	7BD3+ (Brown white)	
	8BD3- (Brown)	8BD3- (Brown)	

❖ 2 HMI configure

➢ Adding driver protocols



(1) Project - Communication connections - Ethernet - NET0: click on the "Add" button;

(2) The input field after "Company" is to select the manufacturer; the input field after "Protocol" is to select the corresponding communication protocol. Here, select the external controller brand Keyence (if there is no corresponding controller manufacturer, please refer to the manual

<<Device Manage>> for configuration);

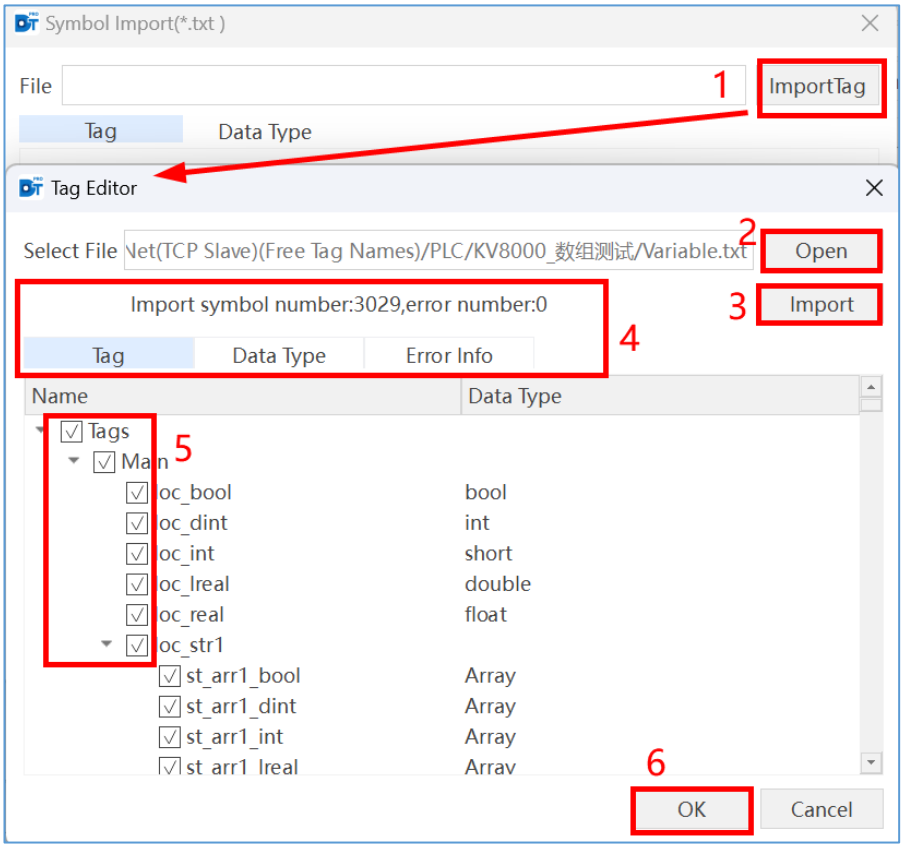
(3) Selection of Keyence KV-8000 EtherNet (TCP Slave) (Free Tag Names) protocol for the communication protocol;

(4) Setting the controller IP/station number/port number (the default port number is 8500, please do not modify it, if you modify it yourself it may lead to unsuccessful communication);

(5) Importing labels;

(6) Click OK to configure the communication connection. If you do not see the OK button in the communication connection window, please scroll down the screen with your mouse.

➢ Importing tag variables



(1) Click the "Import Tags" button to bring up the tag editor;

(2) Click "Open" and select the txt file generated by the export in KV STUDIO software, i.e. the label file;

(3) Click on "Import" to import the labels;

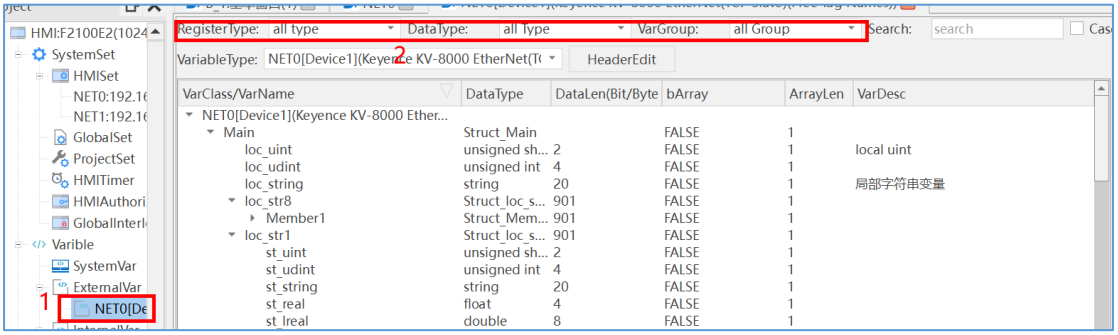
(4) Tags where you can view information about completed tags, data type information, and specific error messages for failed imports;

(5) Tag name column for optional import of tags;

(6) Click the "OK" button to finish importing the labels.

※ ①If you import tags multiple times, the later imported tags will overwrite the already existing tag file and only the variables of the currently imported tag file will be displayed, the previous tag variables will be deleted automatically, the tag variables already associated with the component will not change, but the red exclamation mark will be displayed in the component properties panel, and the direct compilation will report an error (the newly imported tag file does not have the duplicated variables of the previous tag file).

➢ View Variables



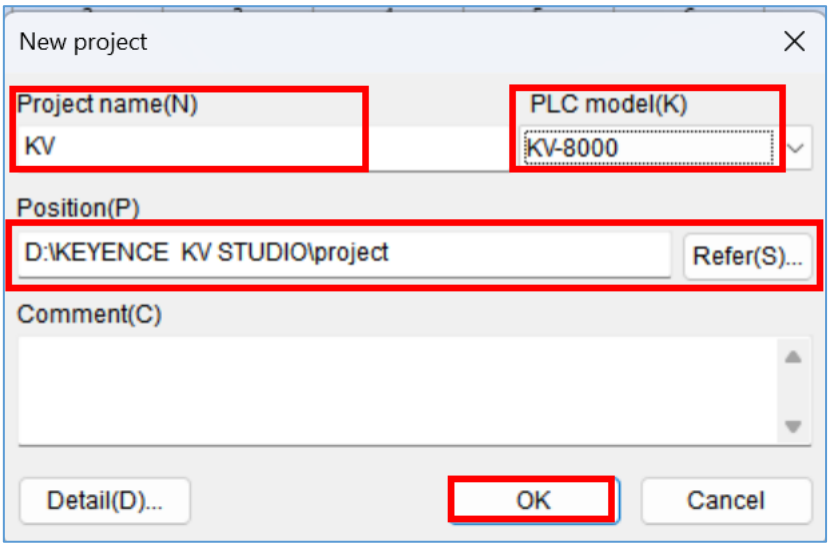
(1) Variables - external variables, where you can view the PLC's variables;

(2) Information such as register type, data type, etc. can be filtered to view the PLC variable addresses;

❖ 3 External controller configuration

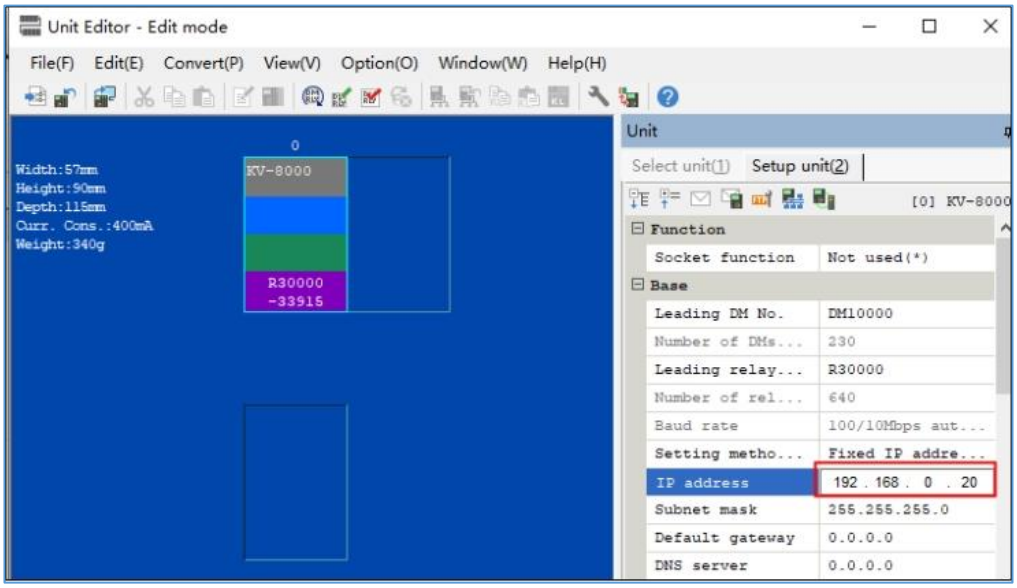
The version of KV STUDIO software used in this manual is V11.04, and the PLC model is KV-8000.

1.New Project Wizard. Open KV STUDIO software, click New Project, the following is the New Project Wizard:

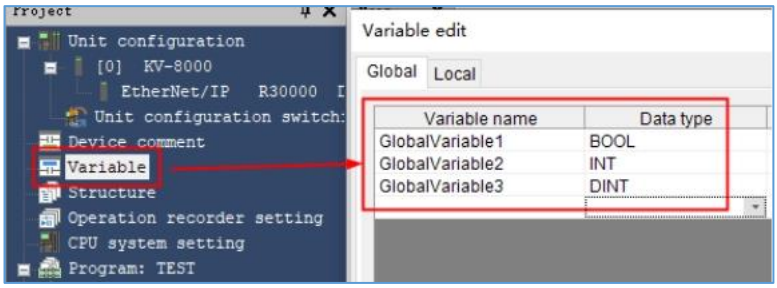


Set the project name, select the model KV-8000, and click "ok".

2. IP Settings

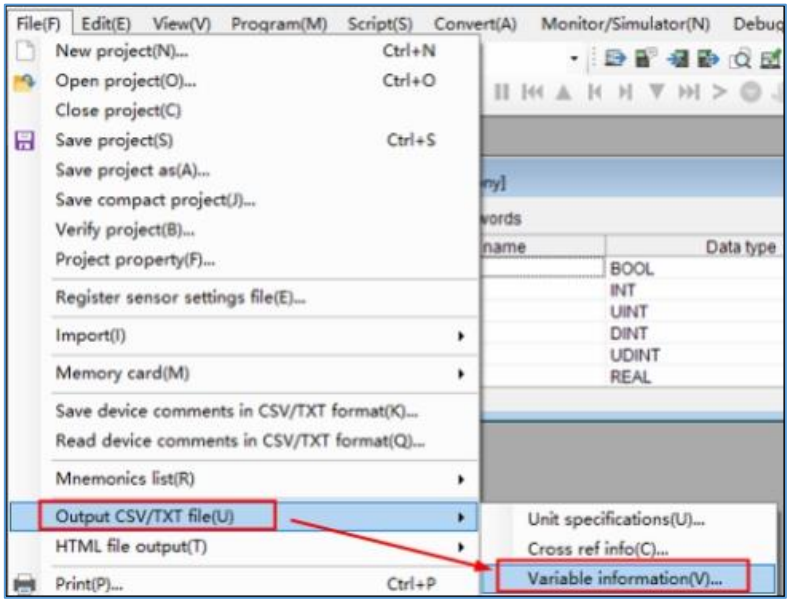


3.Create label variables. Global variables, local variables, and structures can be added. Here is an example of creating a global variable.



(1)Double-click on "Variable";
(2)Adding global variables by clicking on Global within the variable edit dialog;

4.Export variable file, [File]->[output CSV/TXT file]->[Variable information], generate txt file



❖ 4 Supported register type

Data Type		Data Format	Remarks
BOOL	Single	bit	
	One-dimensional arrays		
	Two-dimensional arrays		
INT UINT	Single	16-bit	
	One-dimensional arrays		
	Two-dimensional arrays		
DINT UDINT	Single	32-bit	
	One-dimensional arrays		
	Two-dimensional arrays		
REAL	Single	32-bit floating point	
	One-dimensional arrays		
	Two-dimensional arrays		
LREAL	Single	64-bit floating point	
	One-dimensional arrays		
	Two-dimensional arrays		
STRING	Single	ASCLL string	Character Elements
STRUCT	Single	Structures	
	One-dimensional arrays		
	Two-dimensional arrays		

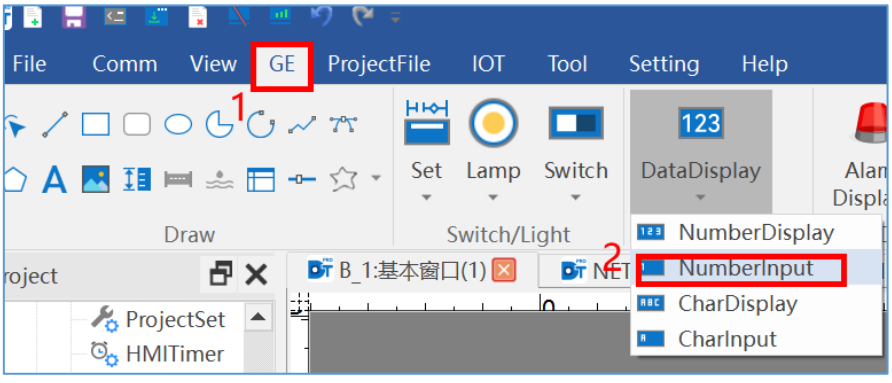
❖ 5 Advanced parameters and error messages

Reference Manual - Communication Advanced Parameters and Error Information Table

❖ 6 Software Configuration

The following steps use global variables as an example:

1.Create a new numeric input element.



2.Numeric input components are associated with global variables.
(1)Click on the read/write input box;
(2)Enter the corresponding variable name directly or, in the variable selection box, check the external variable "NET0";
(3)Selecting global variables, such as "gobal_uint";
(5)Click "OK" to complete the operation of the selected variable, or double-click the variable to achieve the "OK" effect.
(6)Click "OK" on the component property page to complete the procedure for entering the associated variables of the component.