Quick Guide :-

VHV5-F Code Reader

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Quick Guide: VHV5-F Code Reader

CONTENTS

This document will provide detailed instructions to new users on how to configure and run their first VHV5 program, from opening the box to decoding their first barcode.
Please pay attention to the sections marked with "*Note", as they contain important information.

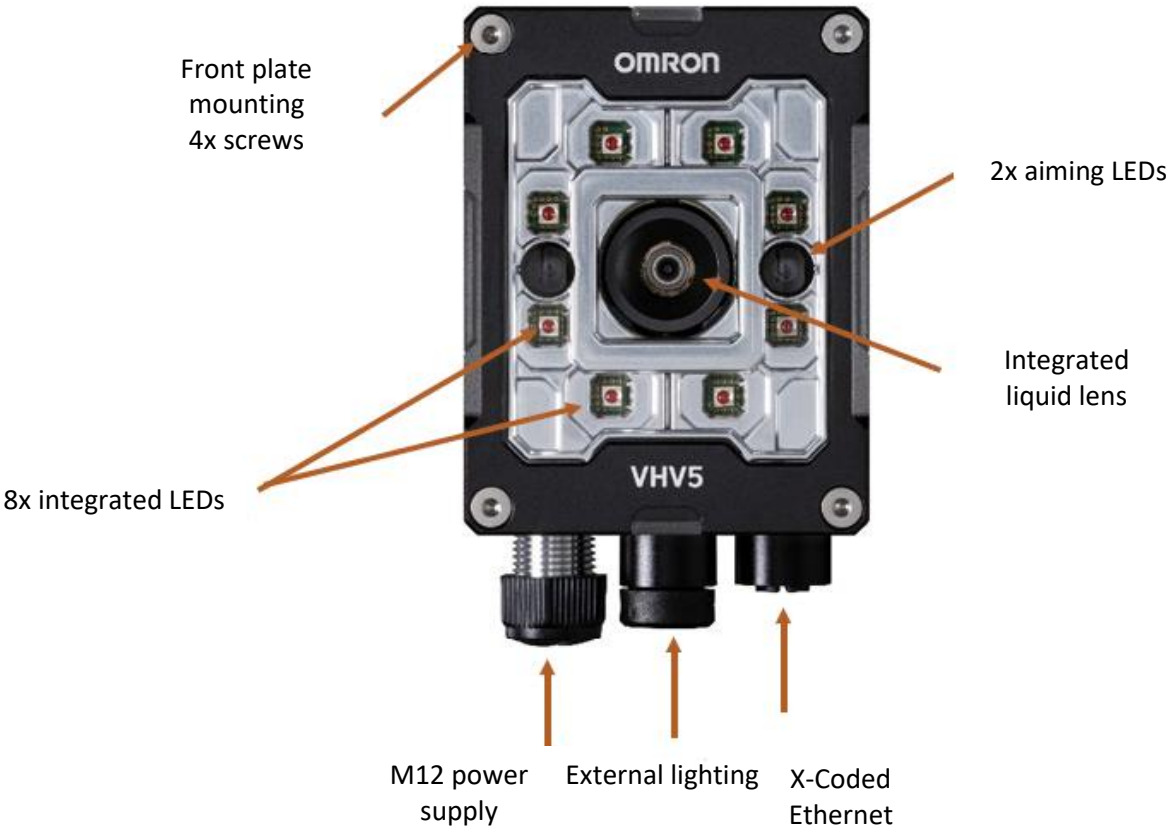
1 Introduction

1.1 Purpose of the Document

How to configure and use the VHV5 Code Reader.

For detailed information on the use and general configuration of Omron products, please refer to the relevant official manuals.

1.2 Hardware Components & Configuration



1.3 Device Wiring

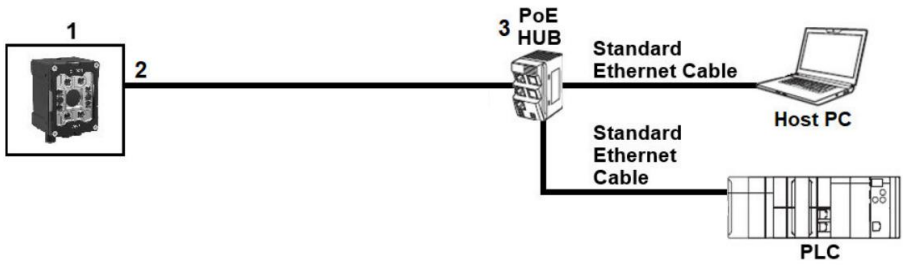
The three options for powering the unit are:

- Power over Ethernet (PoE)
- Via flying leads
- Via an OMRON transformer

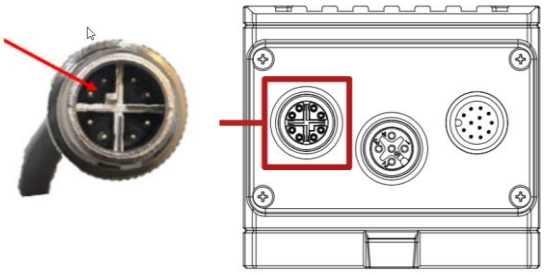
The current and voltage requirements are listed below:

Power Supply Voltage and Current Consumption	
Power Supply Voltage	Power over Ethernet (IEEE 802.3at) / 24 VDC +/– 10%
Current Consumption	PoE+: 44-57 VDC @ 0.6 A (Max.); Direct: 24 VDC @ 1.875 A (Max.); External Light Port Connector: 24 VDC @ 1.5 A (Max) (Internally Current-Limited)

1.3.1 Power Supply – POE



Connection example



Device PoE port with corresponding cable

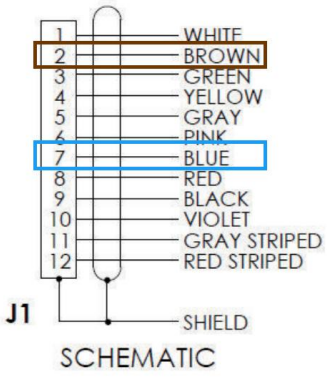
Note 1: if both the external 24 V power supply and PoE are connected at the same time, the reader will automatically use the external 24 V power input.

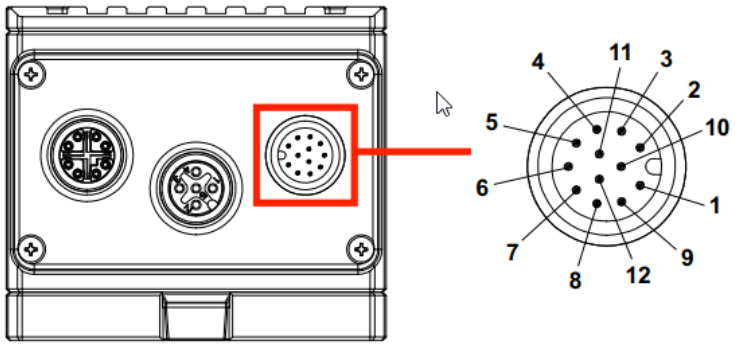
Note 2: PoE power is not suitable for using an external illuminator or the high-brightness mode for the integrated LEDs.

1.3.2 Power Supply – Flying Leads Wiring

To carry out the flying-leads wiring, refer to the following connection:

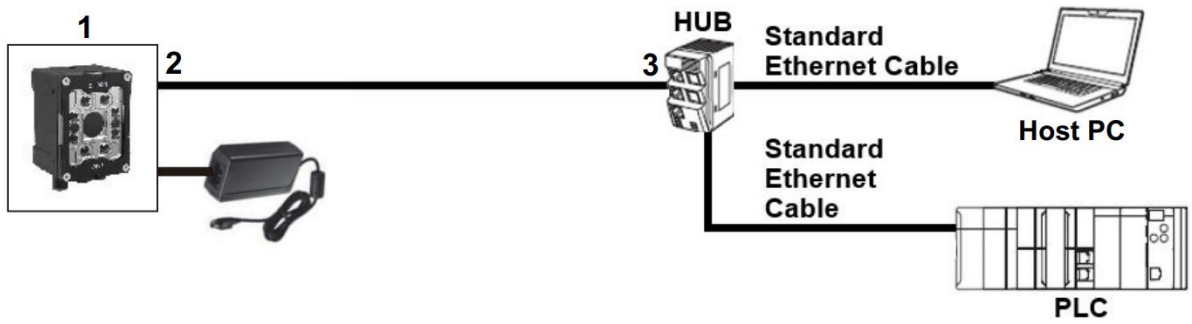
Pin	Name	Use
1	Trigger (Input 1)	Trigger
2	Power (+VIN)	24 Volts
3	Input 3	General Purpose Input
4	Input 2	General Purpose Input
5	Output 1	General Purpose Output
6	Output 3	General Purpose Output, Optional Light Control
7	Ground (-VIN)	24V Reference (GND)
8	Input Common	NPN or PNP Common for Input
9	RS-232 (Host) RxD	Serial Command Input
10	RS-232 (Host) TxD	Serial Output Data
11	Output 2	General Purpose Output
12	Output Common	NPN or PNP Common for Output





Port with M12 connector for power supply and digital signals

1.3.3 Power Supply – With Transformer



Connection example

The OMRON transformer has code 97-000012-01 and interfaces the M12 connector to a 220 V PC-type C13 socket:

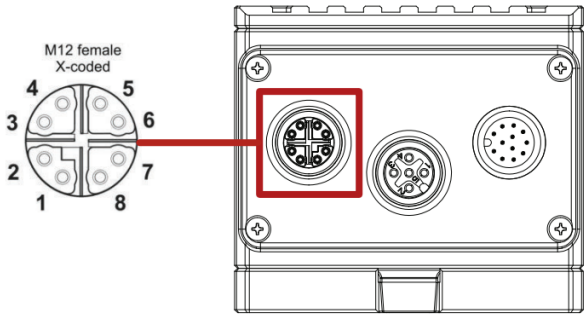
Appearance	Category	Length / Spec	Part Number
	Standard Reader 24V Power Supply (2.1 A)	1 Meter, U.S. / Euro Plug	97-000012-01
	Single Port PoE Injector, 30W, IEEE802.3at Compli-ant, 2 x RJ45 Connector, 90 to 264VAC	Power Cord NOT Included	98-9000311-01

1.4 Ethernet Port (For Communication)

The 1000BASE-T X-Code Ethernet port is a standard connection type throughout the industry, and all standard X-coded Ethernet cables should work with the product; however, the official OMRON cable is recommended.

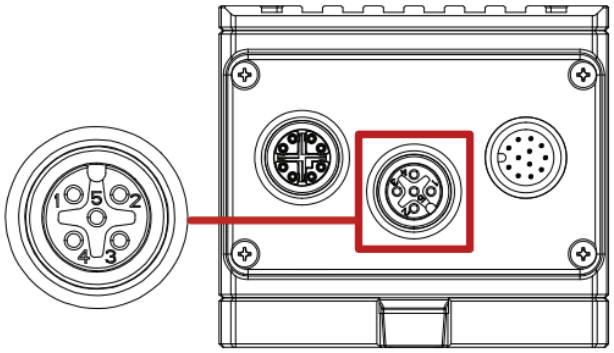
10-3-3 X-Code Ethernet Port

1000BASE-T X-Code Ethernet port. Female M12.



1.5 External Lighting

The VHV5 is a PoE-enabled reader; however, to use external lighting or the high-brightness mode for the integrated LEDs, an external power supply must be used (flying leads or transformer). If the OMRON series flying-leads cable is used, the wiring is as follows:



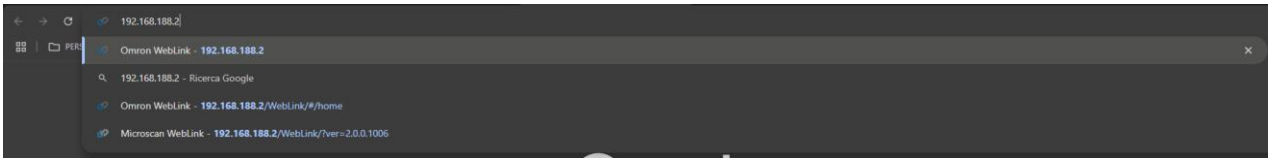
Pin	Signal	Description
1	+24 VDC	Provides up to 1.5 amps of current to light at 24V
2	Strobe Trig –	Strobe Trigger – (NPN referenced to DC Ground)
3	DC Ground	Ground
4	Strobe Trig +	Strobe Trigger + (PNP referenced to 24VDC Ground)
5	Analog Out	Selectable 0-10V analog output for intensity control

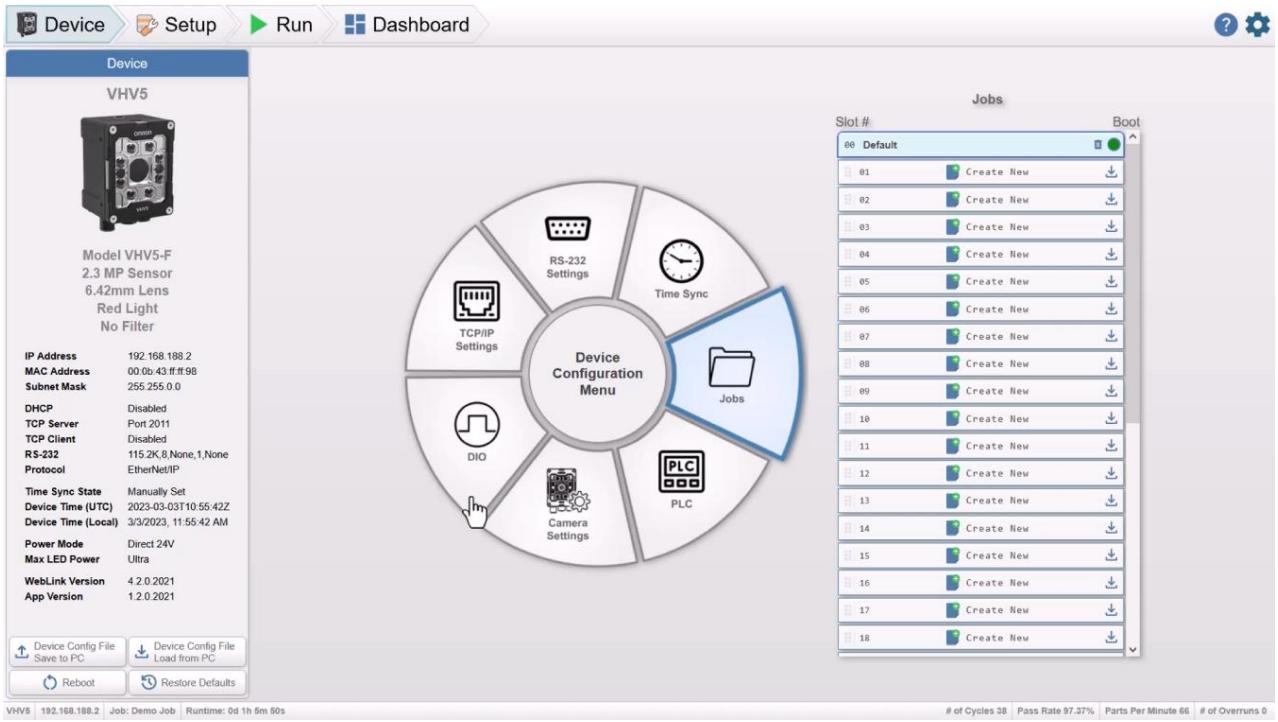
2 Operating Procedure

2.1 Connecting to the Device Via Ethernet

A browser is used for device configuration.

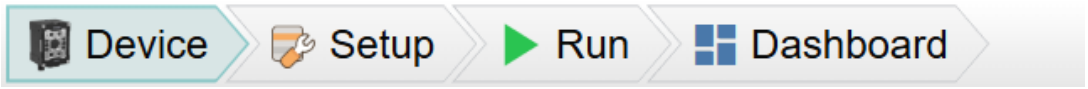
You can connect to the VHV5 by directly entering the reader's IP address (default setting: **192.168.188.2**) in the URL address bar.





Main screen - Weblink

2.2 Software Sections



Device: this tab is used to set the reader parameters at the hardware level, regardless of the loaded recipe (job).

Setup: the job to be loaded and/or modified is selected here.

Run/Dashboard: both the Run and Dashboard tabs set the reader to operating mode and show how the reader will work after programming. Both views provide an operational view of the image acquisition and decoding process.

2.3 Configuring The First Program

Initially, the VHV5 will have autofocus and auto exposure enabled, together with a decoding tool that scans the entire image window in continuous operation mode.

In this default mode, the VHV5 will automatically adjust both focus and exposure time to read any code placed within its imaging window.

If you want to optimize the VHV5 image acquisition settings, you can use the functions described below.

2.4 Trigger Mode

In this quick guide, as an example, the “Triggered” reading mode will be set, which allows both initial tests with manual acquisition and reading via digital input or Ethernet communication.

Changing the reading cycle

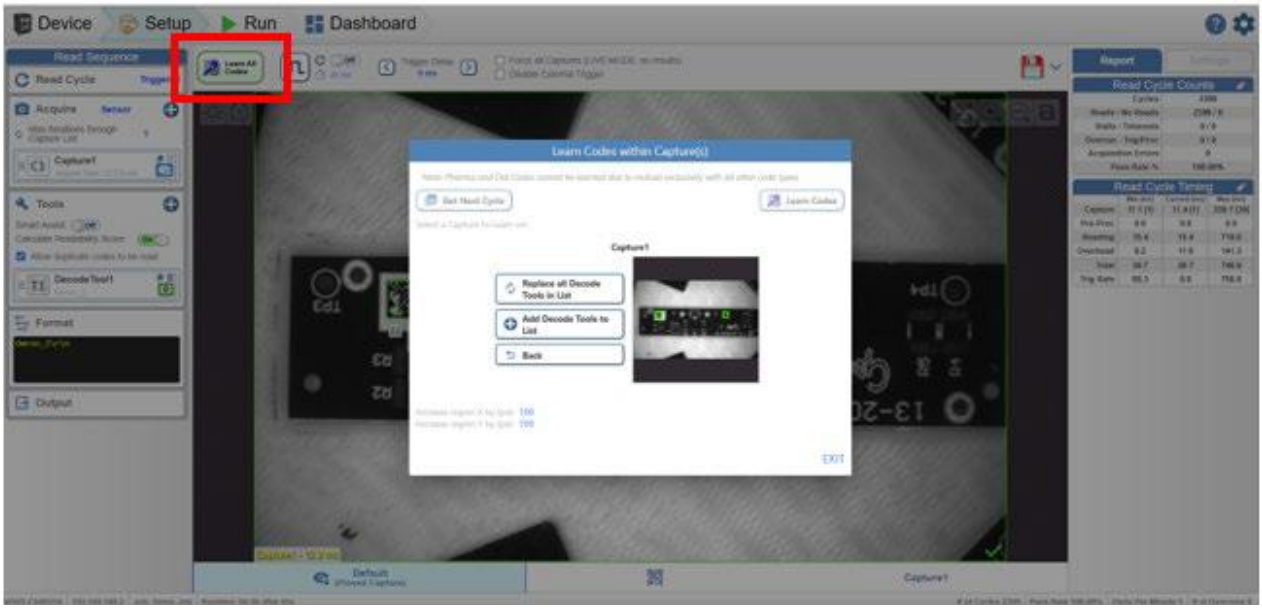
2.5 Auto Photometry

Select the two highlighted icons (related to Auto Photometry: the first icon [**1**] is dedicated to automatic exposure and the second [**2**] to focus) to activate the ROI (region of interest) tool; then create an area surrounding the code; in most cases extreme precision is not necessary, a reasonably sized ROI is sufficient.

2.6 Learn All Codes

With the Learn All Codes function, the codes can be identified automatically and inserted into the Decode Tool List.

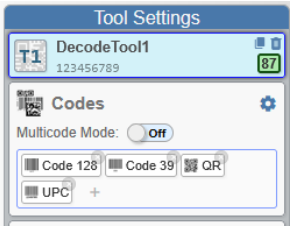
Press the “Learn all codes” button and the wizard will be displayed. You can acquire the current image using “Get New Cycle”; then select “Learn all codes” at the top right.
Replacing all codes is the recommended option, as it will replace any pre-existing decoding tool, making the program more compact.



Note 1: with this function, you can later set specific parameters for each code.

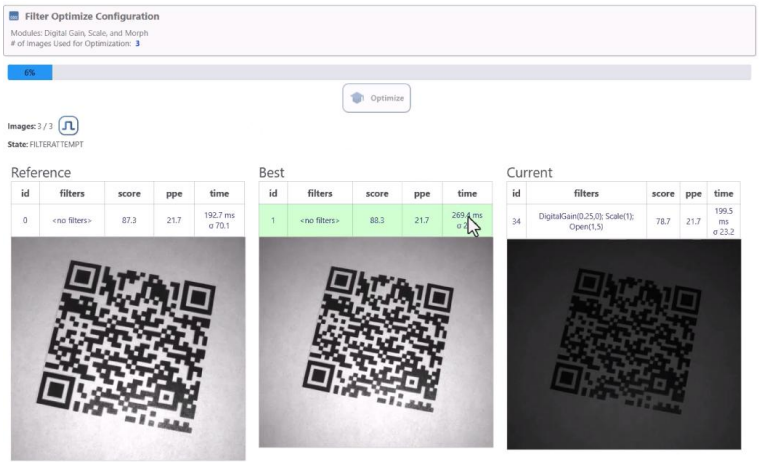
Note 2: the region preset by this tool is suitable for all codes with a fixed position; for variable code positions, the size must be adapted.

Note 3: each region is preset to read a single code; to use a single region to read multiple codes, use the Multicode function:



2.7 Reading Optimization

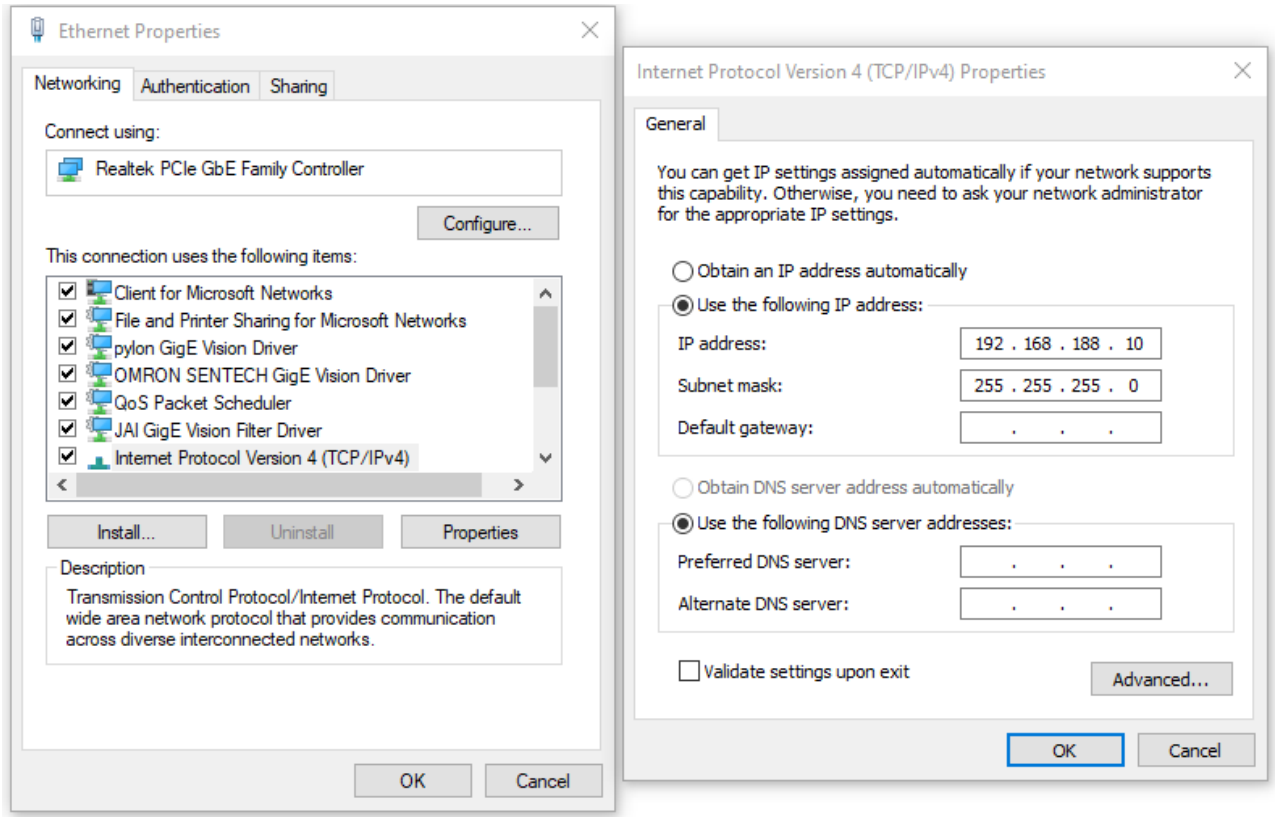
This function is used to optimize the reading time of the desired code; the “Optimize” function searches for the optimal filtering conditions in order to reduce the reading time as much as possible.



3 Appendix

3.1 Setting The PC Network Card

Set the PC network card address to static, with a consistent IP address but different from 2, for example:



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