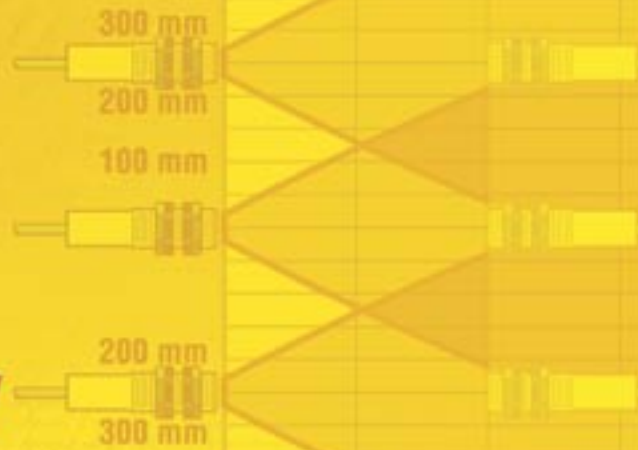




Vision Sensor Software Training



Setting Up a P4 GEO Measurement Inspection



100

Dome



Backlight



Ring



Low-angle



Direction

10

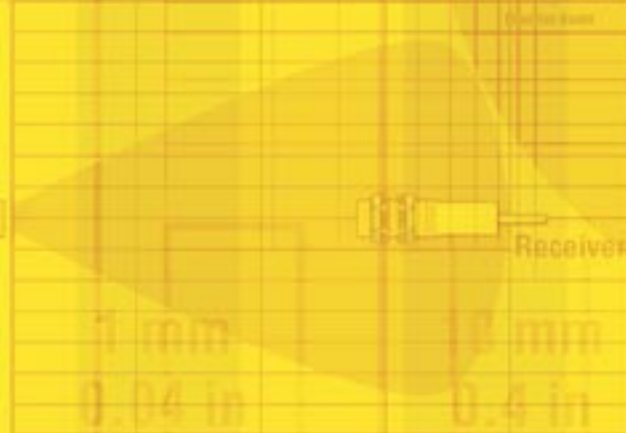


Receiver

Sensor Head

Adjustable Focus and Field of View

Adjustable Base



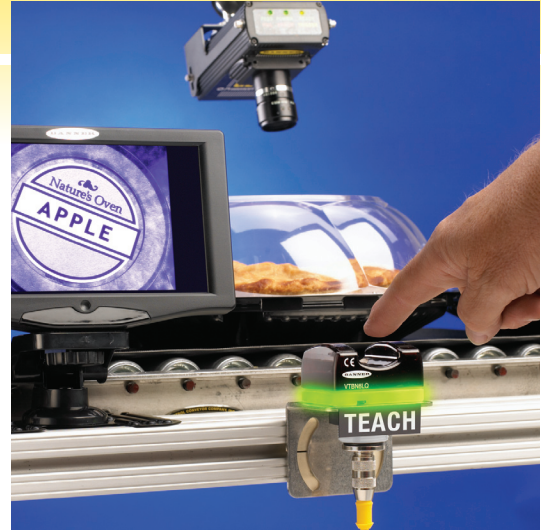
0 0.6 m 1.2 m 1.8 m 2.4 m 3.0 m
2 ft 4 ft 6 ft 8 ft 10 ft



more sensors, more solutions

PresencePLUS[®] P4 GEO

Setting Up a P4 GEO Measurement Inspection



Purpose:

The P4 GEO can find, measure, and communicate the location of and the distance between patterns in a field of view. The following steps guide the user through a measurement inspection, exporting the value via the Communication Tool, and viewing the measurement text strings on a PC with the HyperTerminal program.

Overview: Inspection Process using P4 Software

Before You Start:

- Install Software
- Confirm PC & Sensor are Communicating
- Fixture Sensor & Target
- Setup the Reference Image



HyperTerminal

Use HyperTerminal to view the communicated text strings

TOOLS >> GEO COUNT

Add a Geometric Count Tool

SCREEN	USER ACTION	NOTES
	<p>In this example, we will measure the distance between two patterns that are the same. After creating a reference image in the Setup screen, go to the Tools screen:</p> <ol style="list-style-type: none"> 1 Click Geometric Count (not shown) 2 Draw ROI around object 3 Click Apply 4 Click Next 	<ul style="list-style-type: none"> • Only set the rotation to $\pm 180^\circ$ if the part can rotate 360°. Minimizing rotation will increase the inspection speed. • Default rotation is $\pm 45^\circ$; if less rotation tolerance is required, reduce this value to increase the inspection speed. • For the pictured inspection, two patterns were found.

TOOLS >> Measurement

Add a Measurement Tool to determine the distance between the patterns

SCREEN	USER ACTION	NOTES
	<p>In the Tools screen:</p> <ol style="list-style-type: none"> 1 Click Measurement (not shown) 2 Click the second GC_1 tab 3 Click up-arrow to select Pattern Number 2 4 Click Back to the Input tab 5 Click Next (not shown) 	<ul style="list-style-type: none"> • In addition to absolute distance, the horizontal (X) and the vertical (Y) distance between the objects are calculated. • To find the position of one pattern, set the first tool as the "Origin".

TOOLS >> Communication

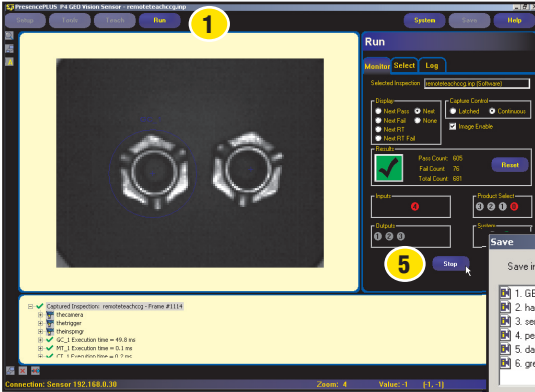
Add a Communication Tool to export the data

SCREEN	USER ACTION	NOTES
	<p>In the Tools screen:</p> <ol style="list-style-type: none"> 1 Click Communication (not shown) 2 Click Select drop-down arrow 3 Select MT_1 4 Click MT_1 tab 5 Select Distance 6 Click Back 7 Click Format Delimiter drop-down arrow 8 Select <cr-lf> 9 Click Next 	<ul style="list-style-type: none"> • In the Select box, choose the tool with the information you want the sensor to export. • After selecting a tool from the Select box, go to the tab that was just created to select each piece of data that you want to export. • In the Connection(s) box, choose the Ethernet and/or serial port to which you wish to send the data. • In the Format box, choose how you would like to package this data.

RUN

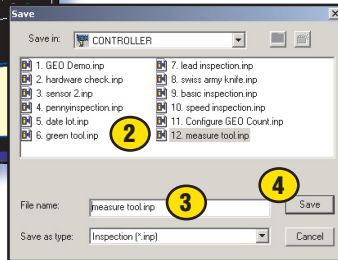
Run the Measurement Inspection

SCREEN	USER ACTION	NOTES
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- 1 Click Main Menu **Run**
- 2 Select **Inspection Location**
- 3 Type **Inspection Name**
- 4 Click **Save**
- 5 Click **Start**

- 3rd party PC utilities can be used to dynamically export data from an Ethernet port directly into a database or spreadsheet.
- To Run, the sensor needs to be triggered externally.



HyperTerminal

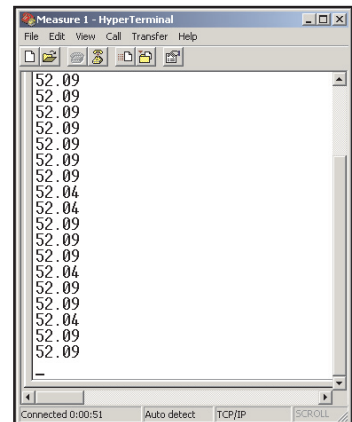
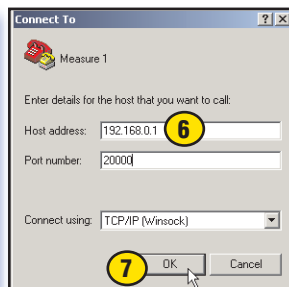
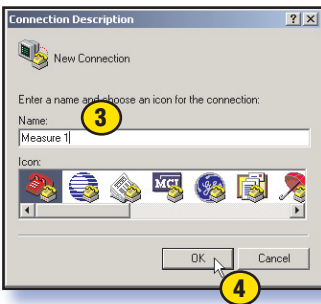
View the data exported from the P4 GEO Sensor

SCREEN	USER ACTION	NOTES
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- 1 Go to Windows **Start** Icon
- 2 Select **Programs, Accessories, Communication, HyperTerminal**
- 3 Name the connection **Measure 1**
- 4 Click **OK**
- 5 Click the **Connect Using** drop-down arrow
Select **TCP/IP (Winsock)**
- 6 Host Address: **192.168.0.1**
Port Number: **20000**
- 7 Click **OK**

- HyperTerminal is a standard utility included in Microsoft Windows®.
- Telnet is a DOS-run utility that can also be used to view the exported Data.
- The host address is the IP address of the P4 GEO.



Exported Data