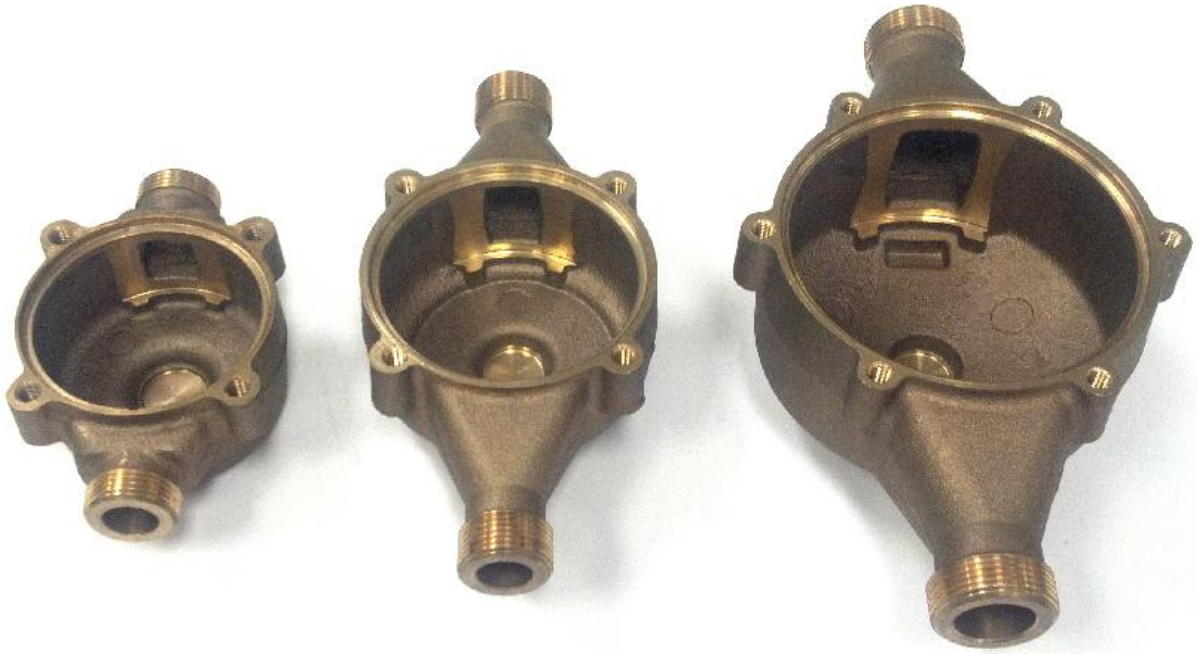
Calypso PCM Overview

Calypso with PCM (Parameter Coded Measurements) allows for “Family of Part” programming.

This means that one Calypso program can measure an entire catalog of similar parts with varying size or complexity.

Logic can be included with a basic inspection plan to load individual measurement parameters based on part geometry.

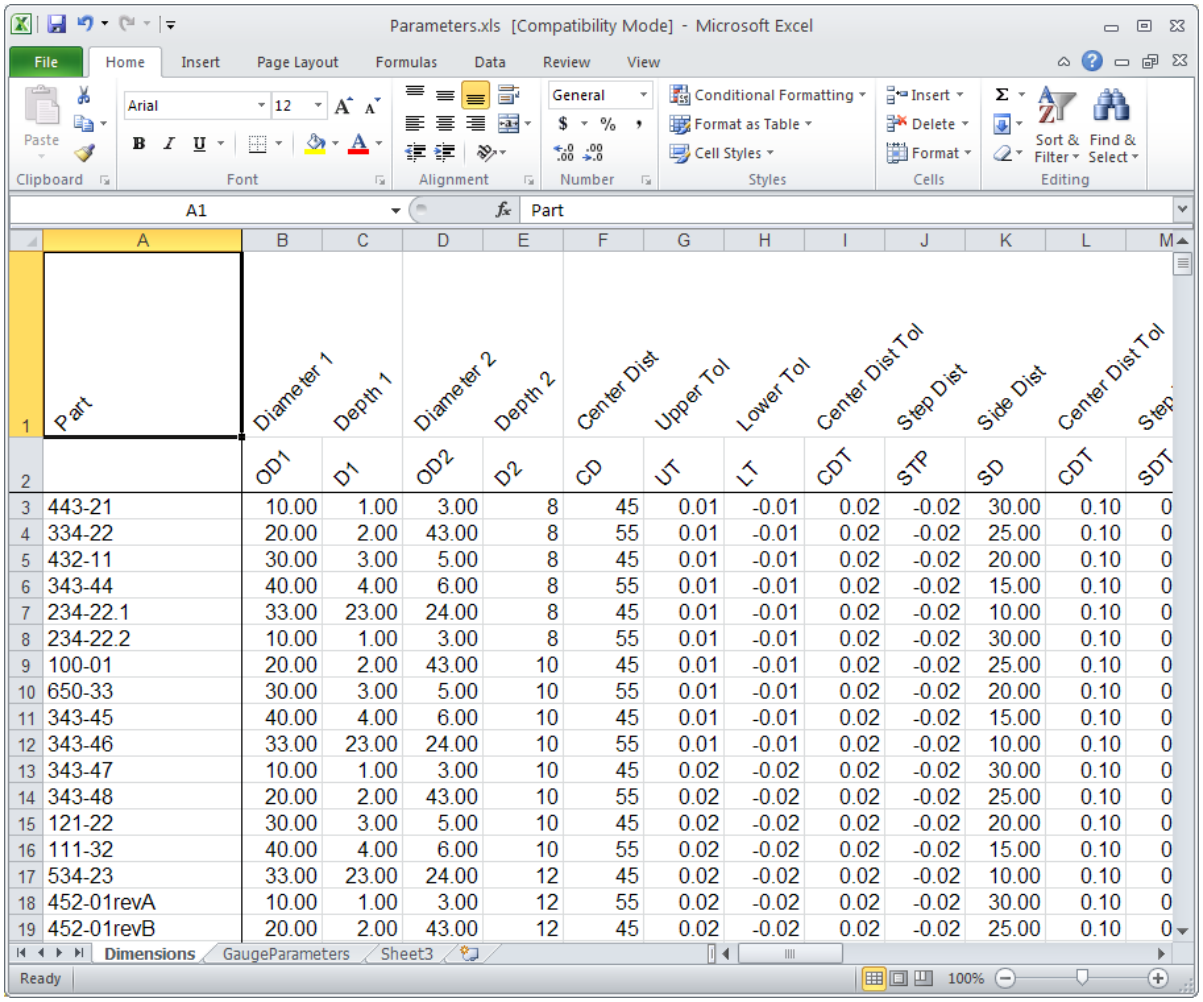


Excel Sheet containing Part Parameters

Utilizing PCM, family of part data stored in an excel sheet can be read into a Calypso Measurement Plan.

In a case like this, an operator will select the part number at the beginning of the run, and the excel sheet will be read to determine the parameters for the indicated part.

These parameters are then converted to a PCM file that is read into Calypso. The program is automatically modified to measure the part based upon the new parameter data.



	A	B	C	D	E	F	G	H	I	J	K	L	M
1	Part	Diameter 1	Depth 1	Diameter 2	Depth 2	Center Dist	Upper Tol	Lower Tol	Center Dist Tol	Step Dist	Side Dist	Center Dist Tol	Step
2		OD1	D1	OD2	D2	CD	UT	LT	CDT	STP	SD	CDT	SDT
3	443-21	10.00	1.00	3.00	8	45	0.01	-0.01	0.02	-0.02	30.00	0.10	0
4	334-22	20.00	2.00	43.00	8	55	0.01	-0.01	0.02	-0.02	25.00	0.10	0
5	432-11	30.00	3.00	5.00	8	45	0.01	-0.01	0.02	-0.02	20.00	0.10	0
6	343-44	40.00	4.00	6.00	8	55	0.01	-0.01	0.02	-0.02	15.00	0.10	0
7	234-22.1	33.00	23.00	24.00	8	45	0.01	-0.01	0.02	-0.02	10.00	0.10	0
8	234-22.2	10.00	1.00	3.00	8	55	0.01	-0.01	0.02	-0.02	30.00	0.10	0
9	100-01	20.00	2.00	43.00	10	45	0.01	-0.01	0.02	-0.02	25.00	0.10	0
10	650-33	30.00	3.00	5.00	10	55	0.01	-0.01	0.02	-0.02	20.00	0.10	0
11	343-45	40.00	4.00	6.00	10	45	0.01	-0.01	0.02	-0.02	15.00	0.10	0
12	343-46	33.00	23.00	24.00	10	55	0.01	-0.01	0.02	-0.02	10.00	0.10	0
13	343-47	10.00	1.00	3.00	10	45	0.02	-0.02	0.02	-0.02	30.00	0.10	0
14	343-48	20.00	2.00	43.00	10	55	0.02	-0.02	0.02	-0.02	25.00	0.10	0
15	121-22	30.00	3.00	5.00	10	45	0.02	-0.02	0.02	-0.02	20.00	0.10	0
16	111-32	40.00	4.00	6.00	10	55	0.02	-0.02	0.02	-0.02	15.00	0.10	0
17	534-23	33.00	23.00	24.00	12	45	0.02	-0.02	0.02	-0.02	10.00	0.10	0
18	452-01revA	10.00	1.00	3.00	12	55	0.02	-0.02	0.02	-0.02	30.00	0.10	0
19	452-01revB	20.00	2.00	43.00	12	45	0.02	-0.02	0.02	-0.02	25.00	0.10	0

Operator interface to choose a part at beginning of program run

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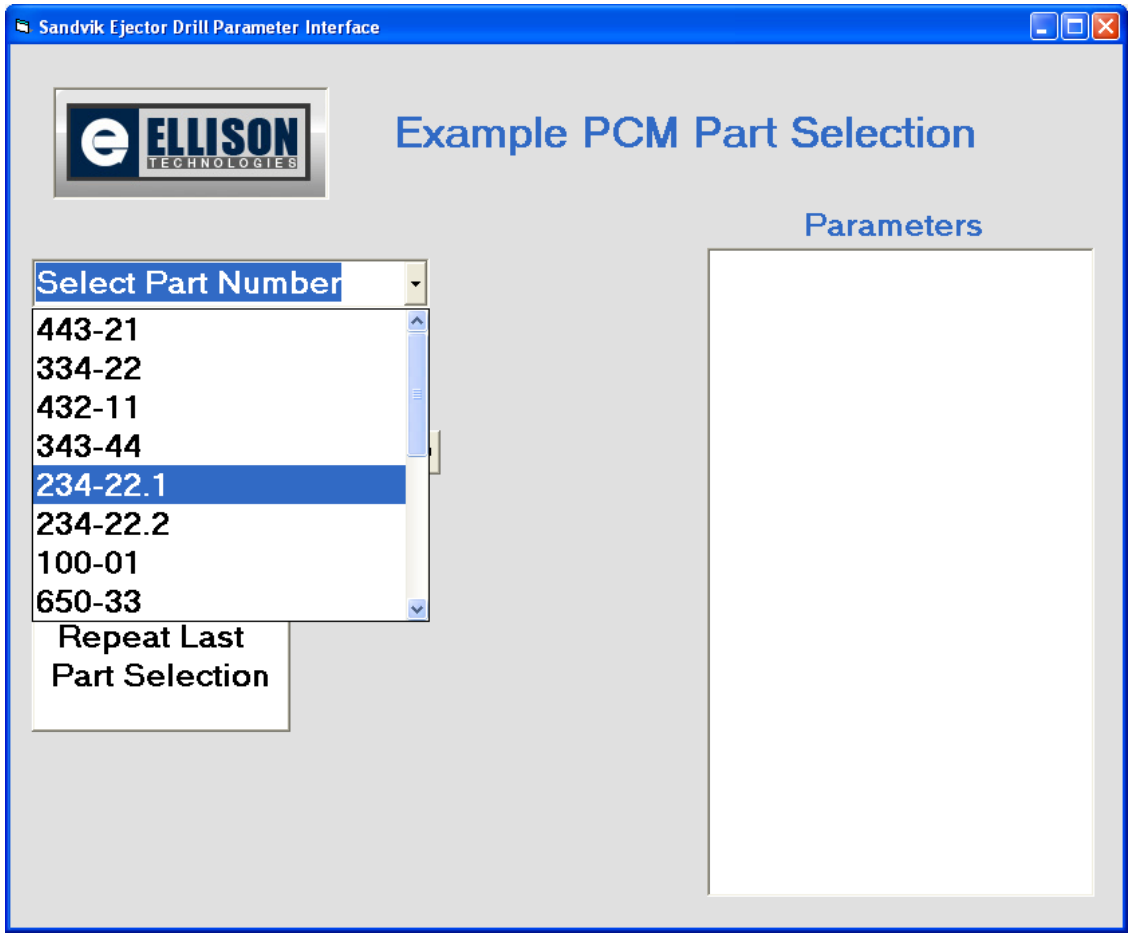

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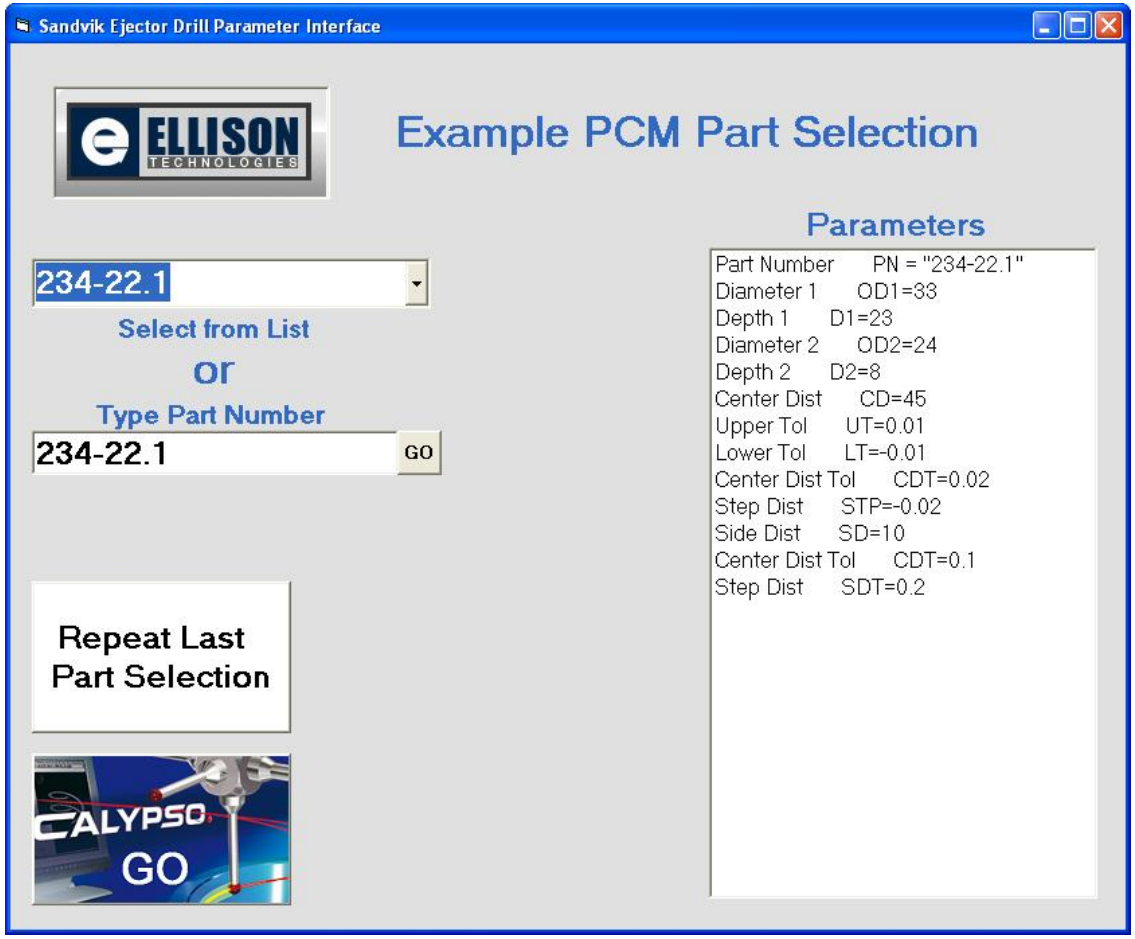

A PCM file that is read into Calypso developed from the Excel Spreadsheet

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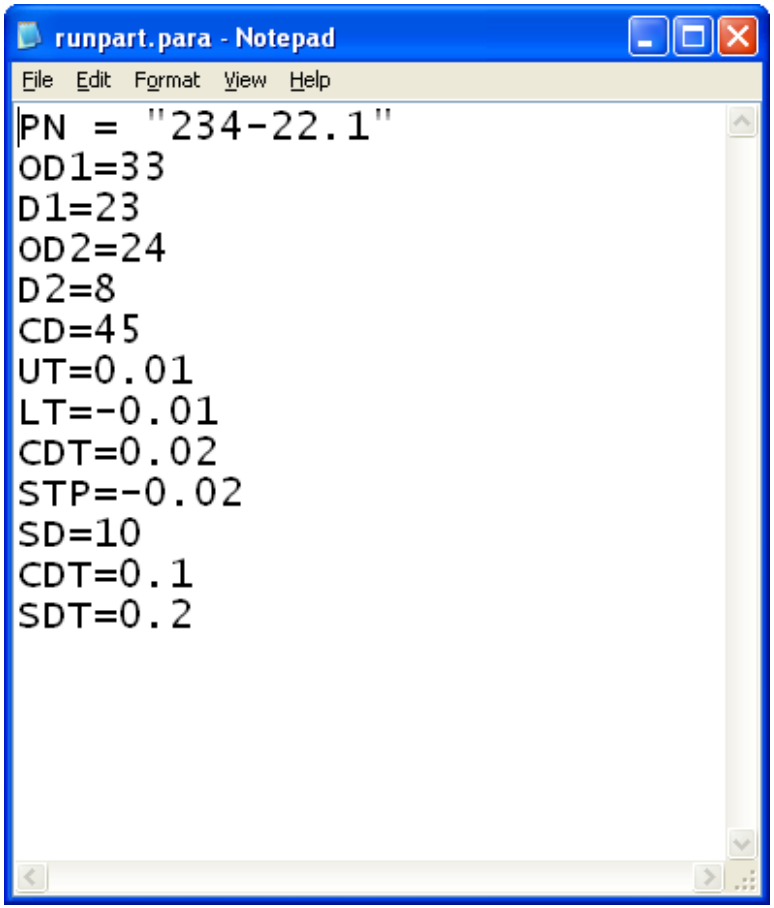
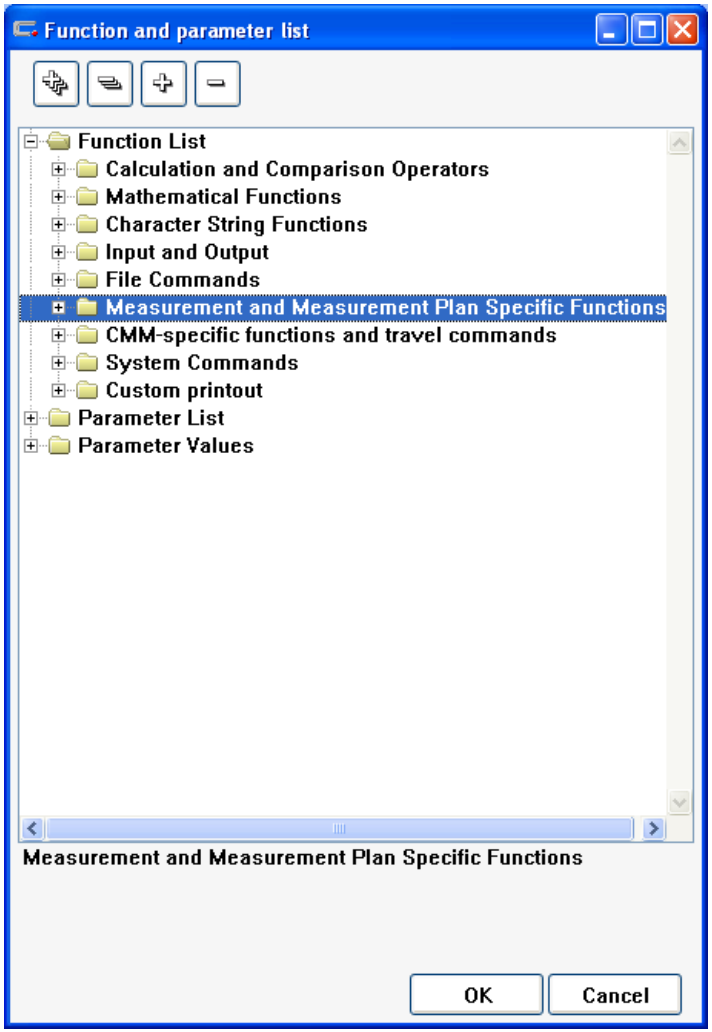


With PCM, although developed primarily for “Families of Parts”, the functionality is nearly endless, allowing for complete customization of your Calypso Program.

A total of over 150 PCM commands are available for use including:

- Mathematical Functions including comparison operators and full trigonometry calculations
- Character String Functions including functionality to parse long input strings
- Input/Output commands to display messages to operators and many different options to inquire input from operators at runtime
- File Commands to read from and write to external files



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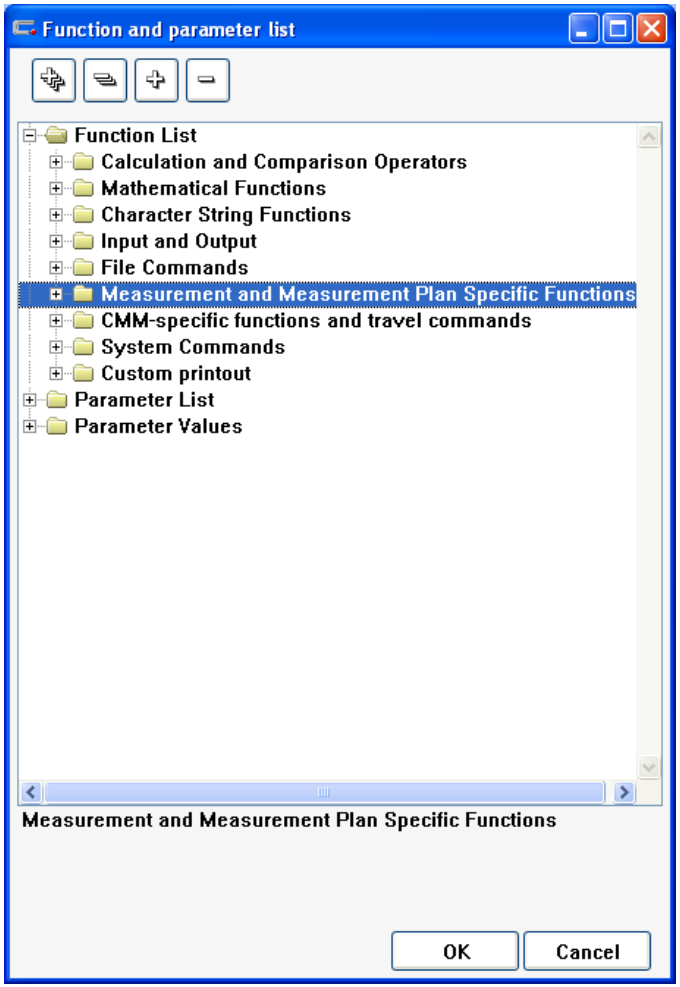
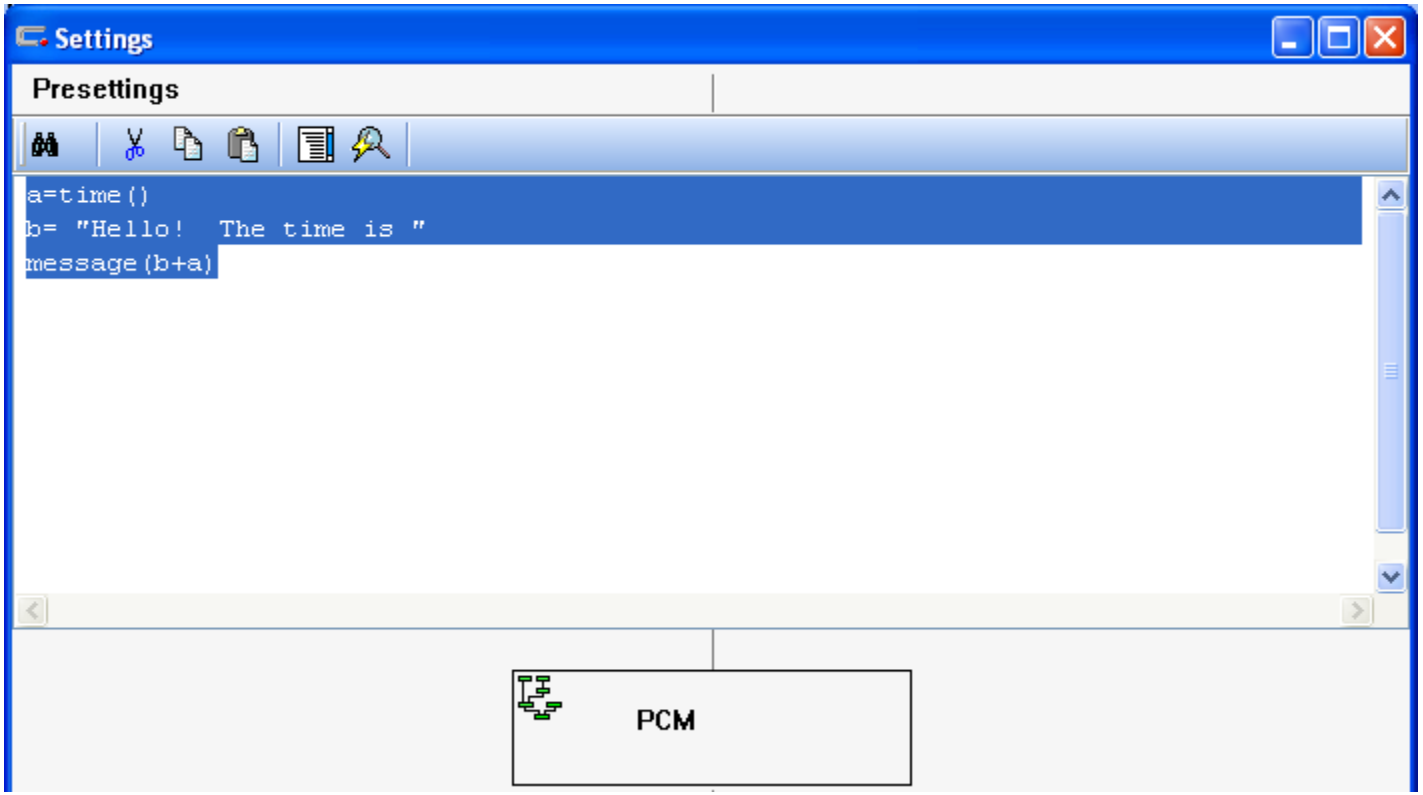


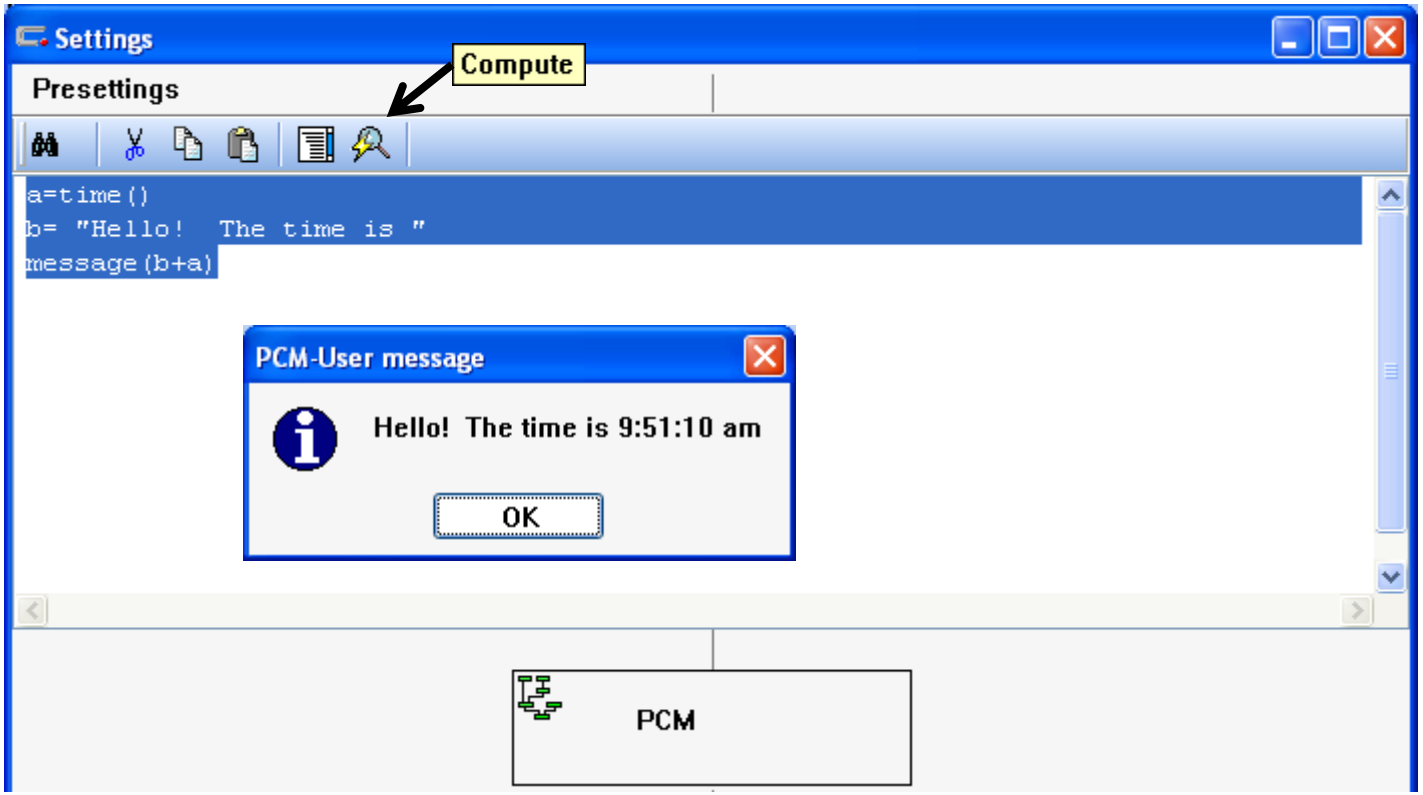
- Measurement Specific Functions which provide access to individual properties of measured features, stylus systems, and alignments
- CMM-Specific Functions including the ability to terminate an inspection or position the CMM at given coordinates
- System Commands that give access to items like time and time and date, as well as the ability to run external programs (.bat and .exe files)
- Custom Printout commands give access to the printout and allows for setting and testing report header information

PCM code is very similar to many mainstream programming languages.

For Example, someone familiar with Macro programming in Excel will be able to easily apply their knowledge to PCM.



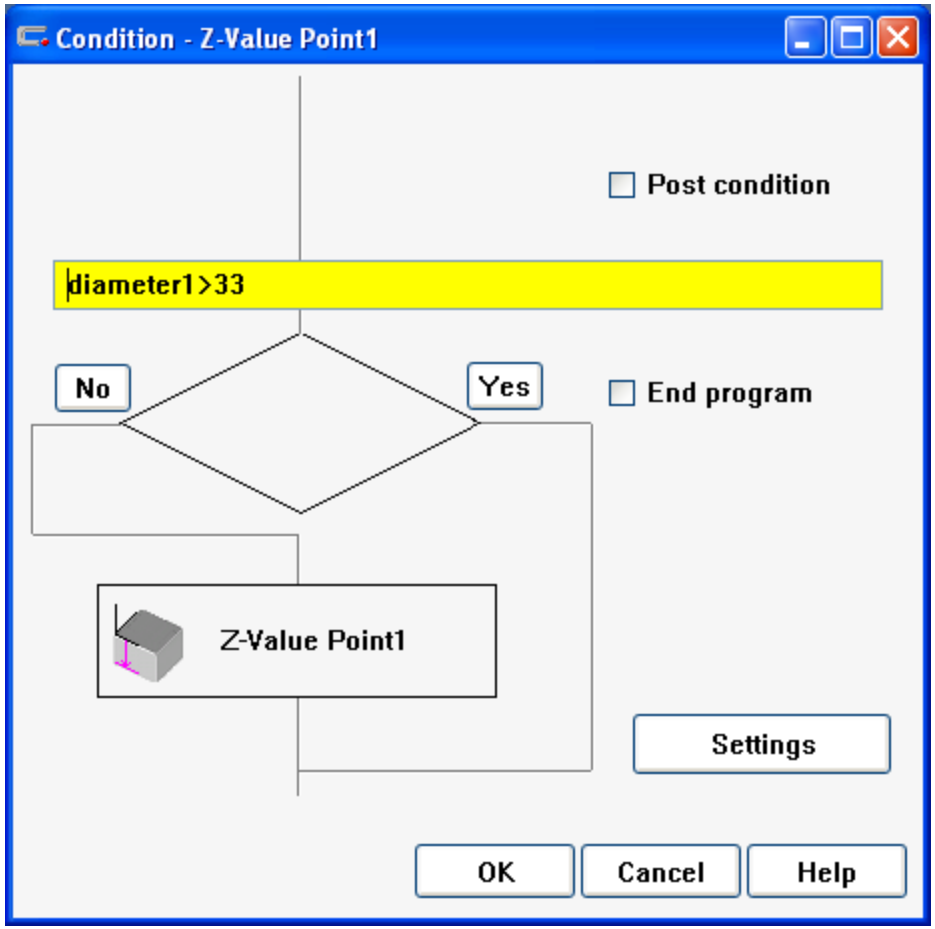
Code can be tested anytime with the “COMPUTE” function.



PCM can be used in “CONDITIONAL BRANCHING” to skip over portions of a program.

In this example, the Z-Value of Point1 will NOT be executed if “diameter1” is greater than 33.

The visual interface of conditional branching makes logic testing easy to understand.

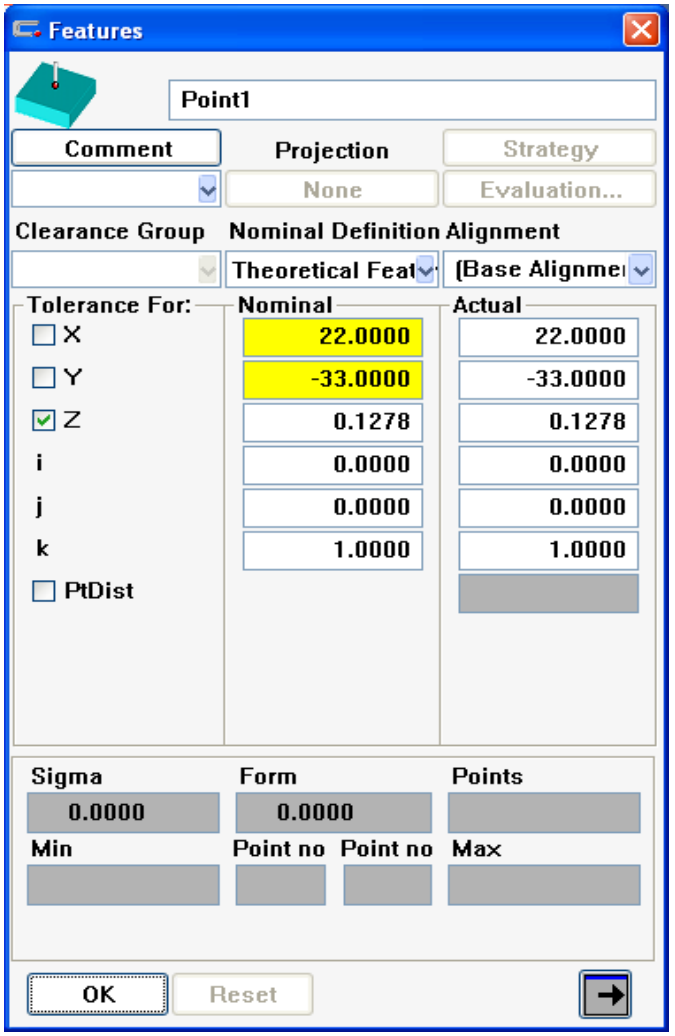


Inside of features, ANY number can be set to be a variable.

This includes, XYZ values, Scanning Speed, Number of Points, Diameters, anything!

It is easy to see what values have parameters – they are highlighted yellow.

Hovering the mouse over a yellow field will show what PCM variables are used.



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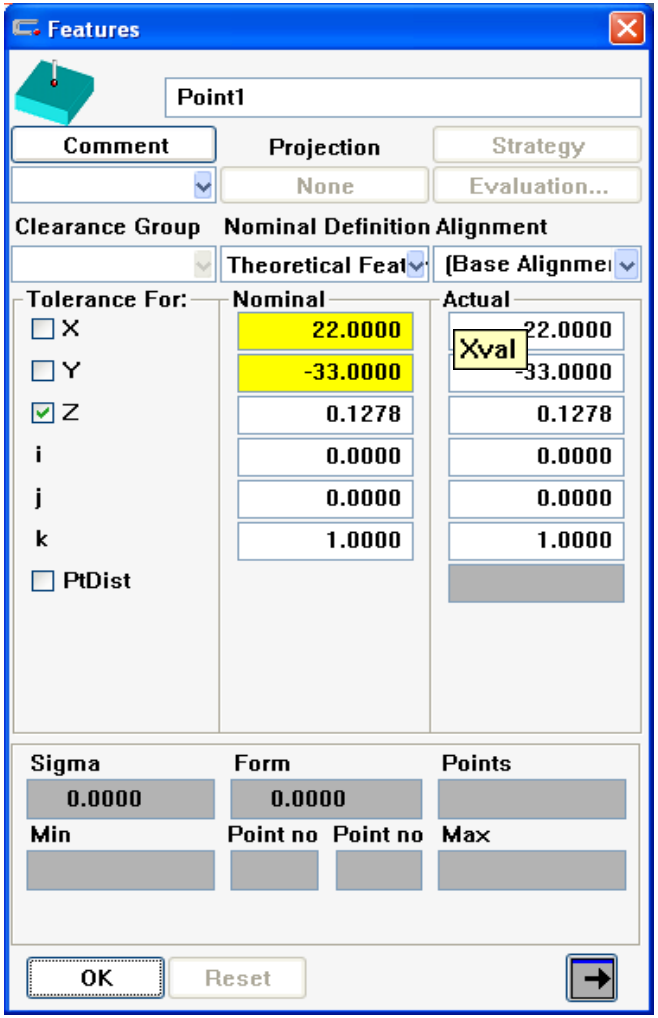

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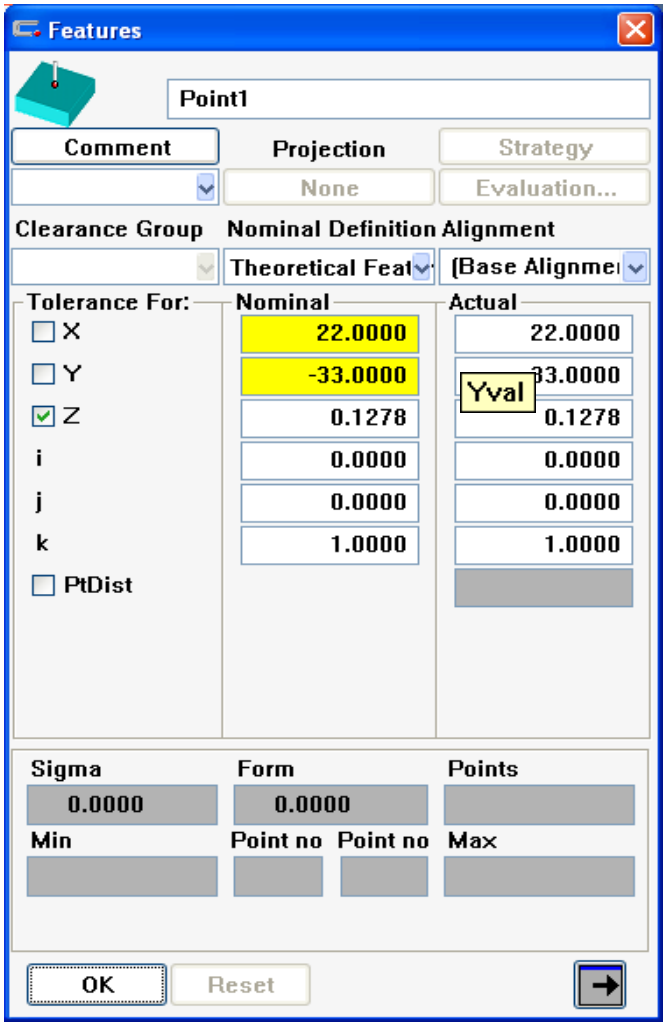

If you have any specific questions about how PCM works, or would like confirmation that Calypso with PCM is a good solution to your measurement challenges, please contact us!

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