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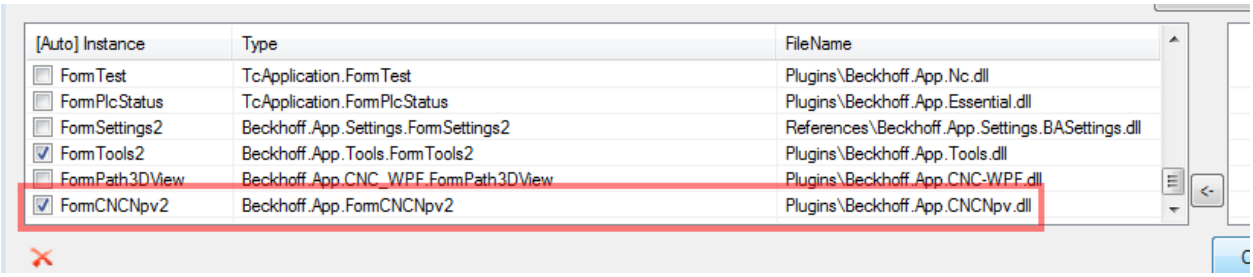
Last Updated: 20.10.2020

ZeroOffsets CNC

The Plugin “FormCncNpv2” is located in the plugins folder in the "Beckhoff.App.CNCNpv.dll" file and can be integrated using the menu manager.



On startup of the HMI current axis names are read from the CNC core and the columns are then labled accordingly. In the cells the current values known by the CNC are displayed.

If "AutoInstance" is selected, the last saved NPV values are automatically sent to the CNC at startup. When values are changed they will be transmitted, via ADS, directly to the CNC. The next call to the corresponding zero-point shift in the NC program (G54, G159 = 7, ...) will use the new values.

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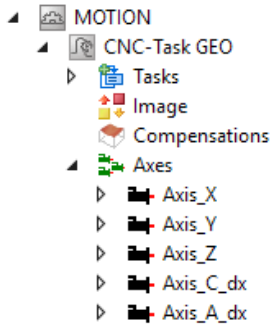
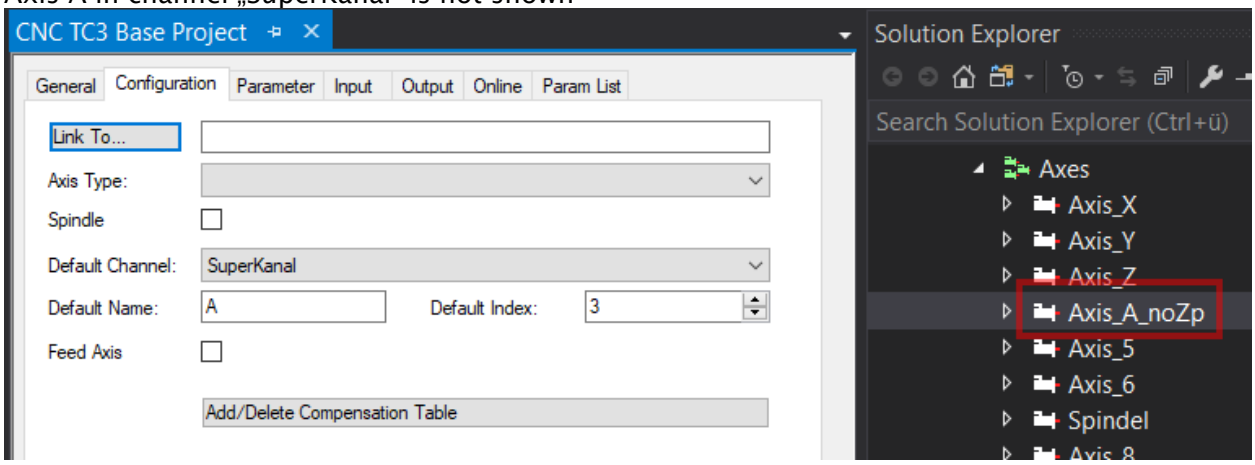
Axis wich contain a string „_dx“ or „_noZp“ in AxisNameReal are not shown in the table.
“_dx“ disables this axis also in the default CNC Axis view.

Example: Axis_C and Axis_A are not visible in table



Axis A in channel „SuperKanal“ is not shown



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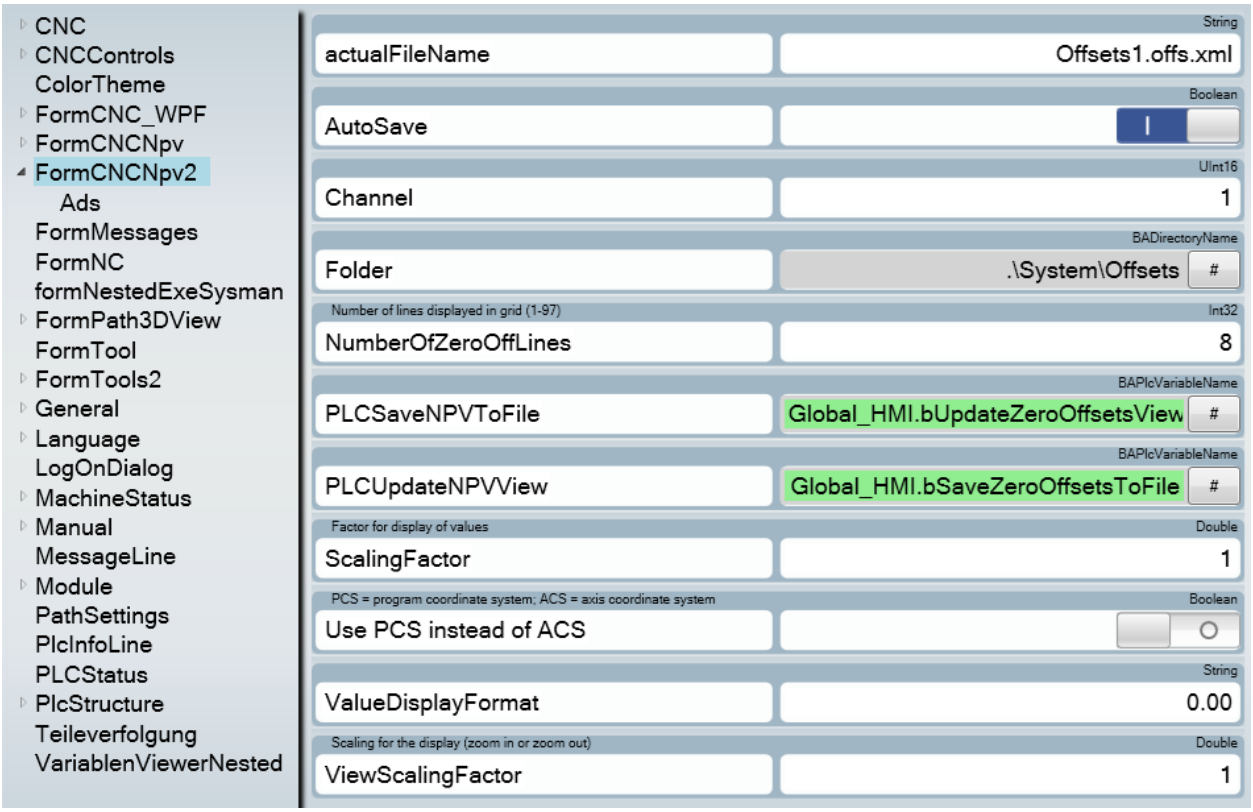
Settings



In „Settings“ the following settings can be made for each instance of FormCncNpv2:

- actualFileName: Entered automatically and should not be changed
- AutoSave: TRUE: Every change is automatically saved in the last selected file.
- Folder: location of offset files
- NumberOfZeroLines: Number of lines shown NPV (1 – 97)
- PLCSaveNPVToFile: BOOL PLC variable. Rising edge of this variable saves the current table on the disk.
- PLCUpdateNPVView: BOOL PLC variable. Rising edge of this variable reads the current values from the CNC to the table.
- Scalingfactor factor for displaying values (may be used for inch conversation)
- Use PCS instead of ACS axis values are taken from PCS coordinates instead of ACS
- ValueDisplayFormat: Display Format in the NPV table
- ViewScalingFactor: Scaling of the view (> 1 zoom in, < 1 zoom out)

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Function Keys

In the standard configuration, there are the function keys "F1 Load", “F2 LoadFrom”, “F3 Save” and “F4 SaveAs" to the file handling of zero offsets.

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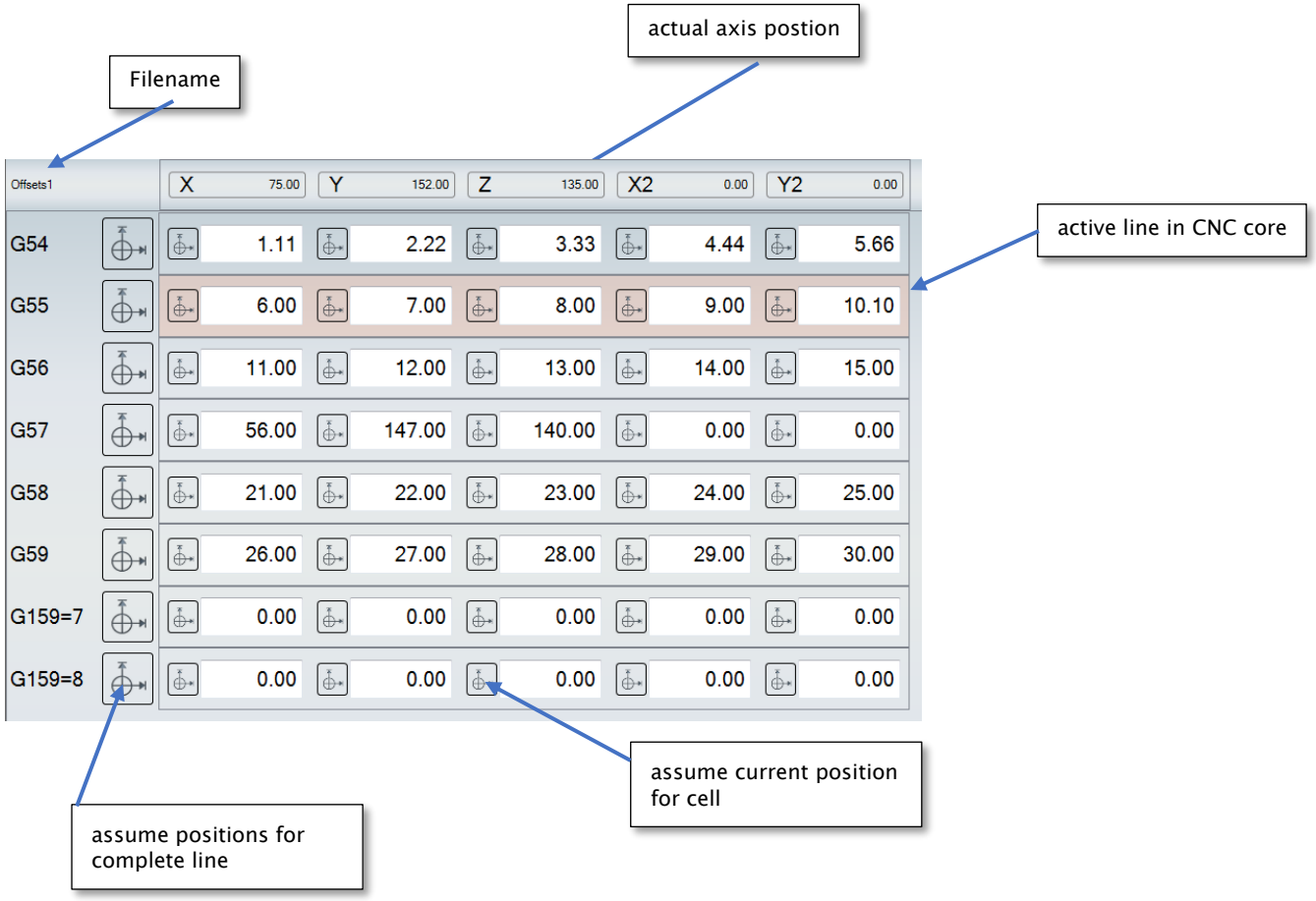
Enter current axis positions as Zero Offset correction

To enter the current axes positions (axis coordinate system) as a correction in the table, select the appropriate entry and press the button nearby. Depending on the setting of "Use PCS instead of ACS" the ACS or PCS Poistion is used.



Offsets1	X 75.00	Y 152.00	Z 135.00	X2 0.00	Y2 0.00
G54	1.11	2.22	3.33	4.44	5.66
G55	6.00	7.00	8.00	9.00	10.10
G56	11.00	12.00	13.00	14.00	15.00
G57	56.00	147.00	140.00	0.00	0.00
G58	21.00	22.00	23.00	24.00	25.00
G59	26.00	27.00	28.00	29.00	30.00
G159=7	0.00	0.00	0.00	0.00	0.00
G159=8	0.00	0.00	0.00	0.00	0.00

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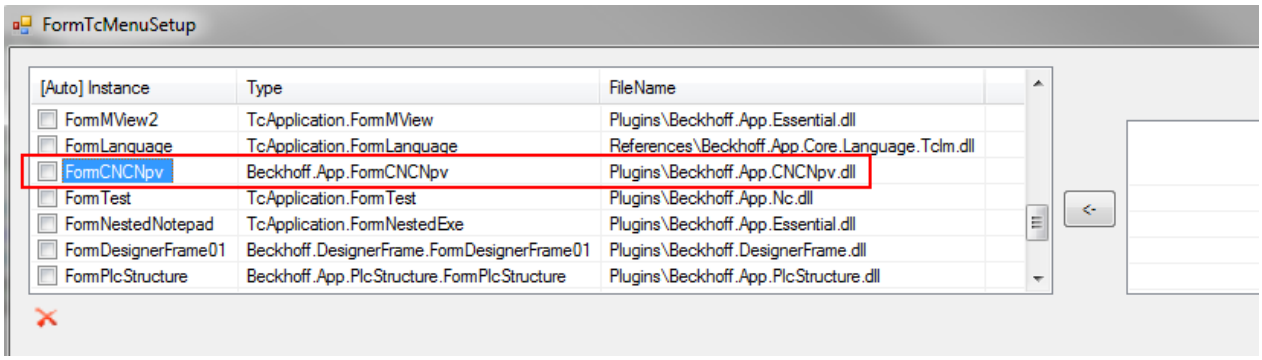
Online Change of the Zero Offsets in the CNC (old version)

The Plugin FormCNCNpv is located in the plugins folder in the "Beckhoff.App.CNCNpv.dll" file and can be integrated using the menu manager.



On startup of the HMI current axis names are read from the CNC core and the columns are then labled accordingly. In the cells the current values known by the CNC are displayed.

If "AutoInstance" is selected, the last saved NPV values are automatically sent to the CNC at startup. When values are changed they will be transmitted, via ADS, directly to the CNC. The next call to the corresponding zero-point shift in the NC program (G54, G159 = 7, ...) will use the new values.

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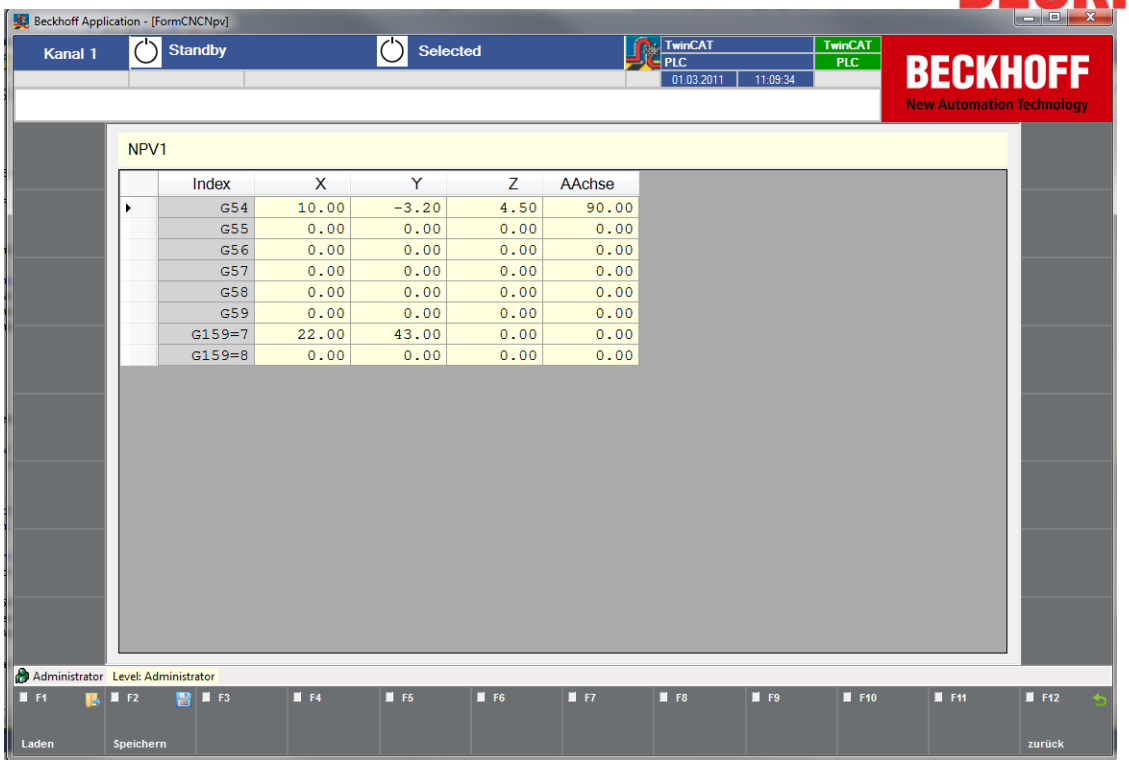

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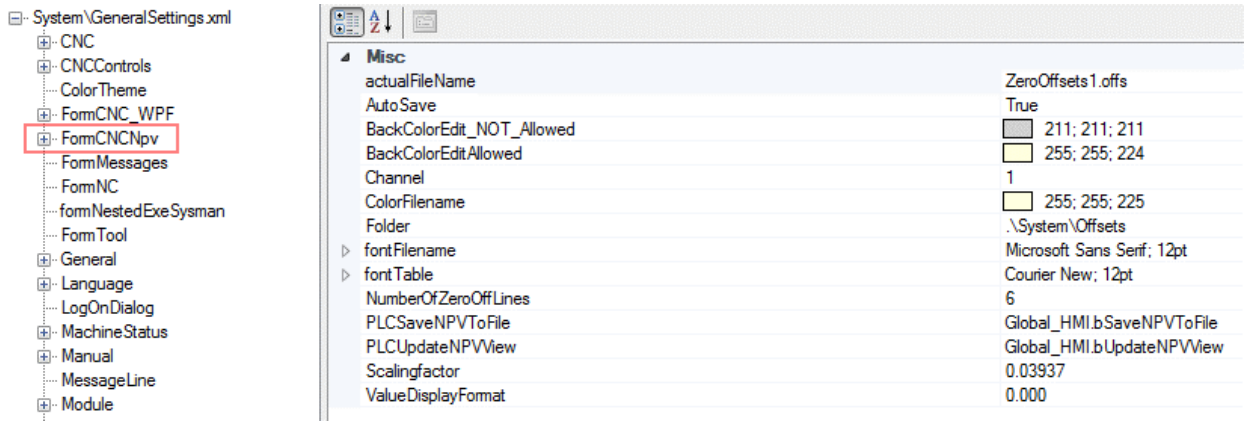
Settings in the „Settings“



In the „Settings“ the following settings can be made for each instance of FormCNCNpv:

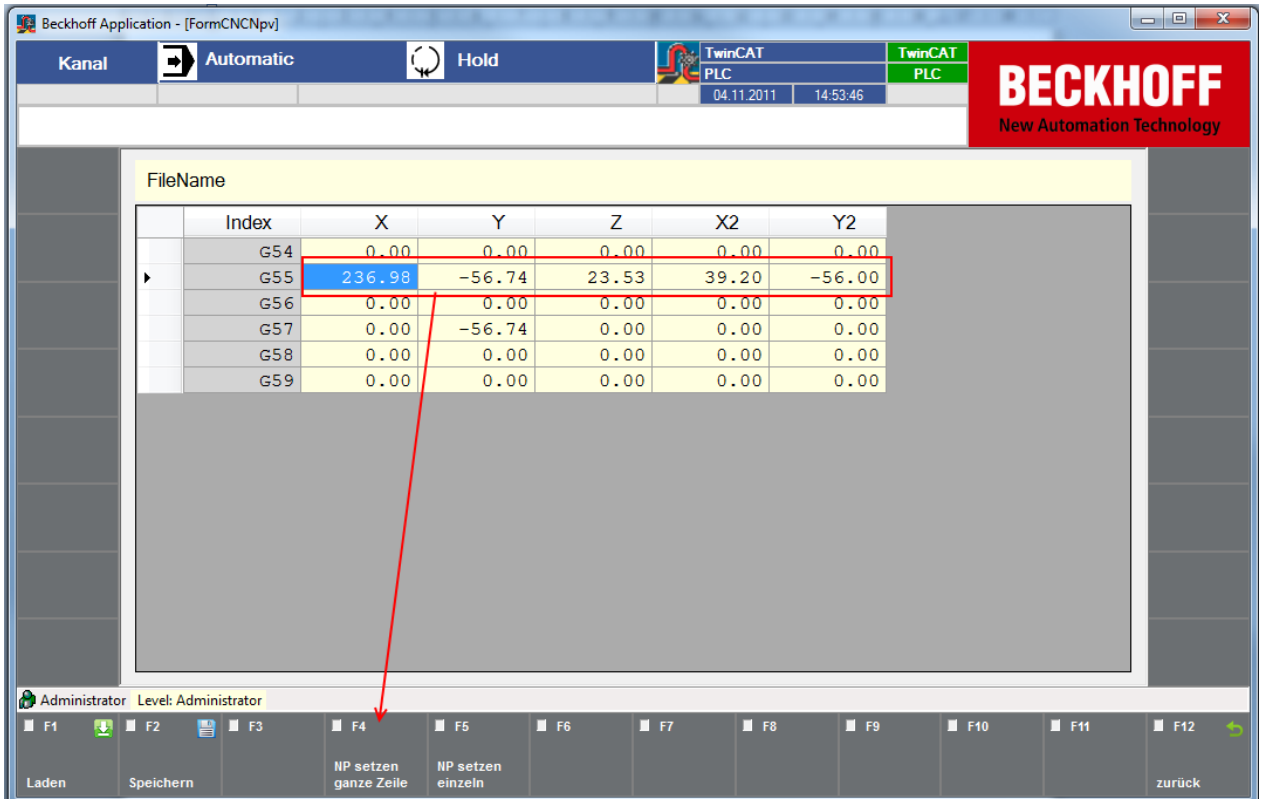
- actualFileName: Entered automatically and should not be changed
- AutoSave: TRUE: Every change is automatically saved in the last selected file.
- BackColorEdit_NOT_Allowed: background color for non-editable fields
- BackColorEditAllowed: background color for editable fields
- Folder: location of offset files
- fontFilename: font for the display of the file name
- fontTable: font for the table
- NumberOfZeroLines: Number of lines shown NPV (1 - 97)
- PLCSaveNPVToFile: BOOL PLC variable. Rising edge of this variable saves the current table on the disk.
- PLCUpdateNPVView: BOOL PLC variable. Rising edge of this variable reads the current values from the CNC to the table.
- Scalingfactor factor for displaying values (may be used for inch conversation)
- ValueDisplayFormat: Display Format in the NPV table

Function Keys

In the standard configuration, there are the function keys "F1 Load" and "Save F2" to the file handling of zero offsets.
The "<ALT> <F1>" button will generate a completely empty NPV and the new axis names are read from the CNC.

Enter current axis positions as Zero Offset correction

To enter the current axes positions (axis coordinate system) as a correction in the table, select the appropriate entry and use the method "NPVSetSelectedCell". The current axis actual value will be entered in the table.
The "NPVSetSelctedRow" function takes the axis actual values for all entries in the selected line. The method can be assigned to any function key on "Call Method" (see Menu Manager documentation).



Alternatively, there are methods "NPVSetSelectedCellWKS" and "NPVSetSelectedRowWKS". These can be used to take the actual values from the Work Coordinate System or Program Coordinate System.

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