
Config files

Explanation of config files for running and processing TRNSYS files using PyTrnsys

Dr. Daniel Carbonell

Dani.Carbonell@spf.ch

14st October of 2019

Abstract

This report explains the main functionalities included in the config files for the running and processing of TRNSYS results.

Contents

1	Introduction	3
2	Revision history	3
3	Config file for running TRNSYS cases	3
4	Example	5

1. Introduction

The idea of the config files is to include general functionality without having to type python code for the user. Thus, this config file will grow as long as users believe some functionality is used so often that its worth to implemente it within the config file. All the functionality not included in the config file will need to be implemented as python code and thus will be a bit limited to those knowing how to program in python.

There are several types of variables with scape separator:

- **bool** :with True/False as possible value
- **int** : with any interger as possible value
- **string** : with “any string” as possible value
- **deck** : with any float as possible value
- **STRING\$**: ddck file path. STRING\$ needs to define one path of the ddck folder.
- **variation** : used to do parametric variations of chaginfg deck variables. For parallel simulations
- **changeDdckFile** : used to do changes on the ddck files loaded in the config, e.g. weather data
- **fit** : ask Mattia
- **case** : ask Mattia
- **fitobs** : ask Mattia

2. Revision history

Date	Version	Author	Changes
Oct 14, 2019	v1.0	D. Carbonell	First version released

3. Config file for running TRNSYS cases

The separator used is a blank space.

Type	Name	Description
bool	ignoreOnlinePlotter	It comments all online plotters
bool	runCases	if set to False it created all cases but do not execute TRNSYS to check
bool	parseFileCreated	True : all possible combinations of the variation are used; False : variations are executed case to case, so all of them need to be of the same size
bool	combineAllCases	True : all possible combinations of the variation are used; False : variations are executed case to case, so all of them need to be of the same size
int	reduceCpu	uses the value to reduce the number of CPU. Suggested 1 or 2 if you would like to work when parallel simulations are running
string	runType	"runFromCases" : runs the cases defined in a file and path defined by strings pathWithCasesToRun and fileWithCasesToRun. "runFromFolder" : It executes all the cases found in a specific folder defined by string pathFolderToRun. This used to execute failed cases that were moved to a specific folder. "runFromConfig" : it builds and executes the cases as defined in the config file
string	pathWithCasesToRun	"path" of file with cases to run. Only active if runFromCases=True
string	fileWithCasesToRun	'fileName' added to the pathWithCasesToRun defined. Only active if runFromCases=True
string	pathFolderToRun	"path" of the folder with all cases to run. Only active if runFromFolder=True
string	trnsysExePath	including the exe file, e.g. "C:/Trnsys17/Exe/TRNExe.exe"
string	addResultsFolder	False to deactivate. If defined as a "stringPath" it creates a folder on the main path and creates all simulations folders inside this folder path
string	STRING\$	the symbol \$ denotes a path used for find ddck files. The STRING\$ defined can be used as path to look for the ddck files.
string	scaling	False or "toDemand" or "toNormalDemand" (custom for TRI-HP)
string	pathRef	path to look for th reference case if scaling !=False (custom for TRI-HP)
string	nameRef	file to look for th reference case if scaling !=False (custom for TRI-HP)
variation	list	It builds dck files using all variation given. By default all permutations are used. Format: variation nameFolderResults nameVariableDDck listOfvalues.
deck	any ddck variable	It changes the value (int/float) of the variable
changeDDckFile	list of names	nameToChange changedName1 changedName2 etc
addDDckFolder	list of names	folderForChangeName1 folderForChangeName2
STRING\$	ddckNamePath	The ddck file path will be added to the STRING\$ path

4. Example

```
# used to filter lines and comments
bool ignoreOnlinePlotter True
int reduceCpu 1
bool parseFileCreated True
bool runCases False

string trnsysExePath "C:\Trnsys17\Exe\TRNExe.exe"
string addResultsFolder "DebugHydCool"

#####
# DDeck paths definition
#####
string HOME$ "C:\Daten\spfPackages\GIT\TriHpTrnsysDDeck"
string SPF$ "C:\Daten\spfPackages\GIT\spfTrnsysFiles"

string scaling False #"toDemand"
string pathRef "C:\Daten\OngoingProject\BigIce\Simulations\BICE-HydD_circ-8Cities-Ref"
string nameRef "BICE-HydD_circ-Ac136.4-Vice27.3-MFH"

#####
# Type of Running
#####
string runType "runFromConfig" #"runFromCases","runFromFolder"
##### if runType = "runFromCases"
string fileWithCasesToRun "TestCases.txt"
string pathWithCasesToRun "C:\\Daten\\OngoingProject\\BigIce\\Simulations\\Cooling\\
TestCooling"
##### if runType = "runFromPath"
string pathFolderToRun "C:\\Daten\\OngoingProject\\BigIce\\Simulations\\GSHPCity-failed"
##### if runType = "runFromConfig"

##### VARIATIONS

bool combineAllCases True # True for all combinations, False for one to one simulation ALL variation
MUST have same length
variation Ac AcollAp 1.5
variation Vice VlceS 0.3

#####
```

#FIXED NAMES CHANGED IN DECKS.

#####

deck START 4344 # START is a variable that exist in one of the ddck files.

deck STOP2 13104

deck maxIceFrac 0.8

deck ratioIceBegin 0

deck yBetweenHx 0.1

deck TiceIni 25

#####

#CHANGE DDCK FILES

#####

#**changeDDckFile** nameToChange changedName1 changedName2 etc...

changeDDckFile CityKLO_dryN CityDAV_dryN CityGVE_dryN

we can use all path from the end if desired e.g. SIA\Normal\CityKLO_dryN

#**addDDckFolder** folderForChangeName1 folderForChangeName2 etc...

addDDckFolder City1 City2 # It will move results of changedName1 to City1 and changedName2 to City2

#####

#NAMES OF DDCK

#####

HOME\$ Generic\Head

HOME\$ Control\Control-Cooling-888

HOME\$ Control\Control-Cooling-863

HOME\$ Control\Control-863_Printer

HOME\$ DemandsDHW\DHW-MFH

HOME\$ DemandsDHW\DHW-MFH_Printer

HOME\$ weatherData\WeatherData

HOME\$ weatherData\WeatherData_Printer

HOME\$ weatherData\SIA\Normal\CityKLO_dryN

HOME\$ Building\Bui-ISO-MFH2019-RadFloor-Cooling

HOME\$ Building\Bui-ISO-MFH2019-RadFloor-Cooling_Printer

HOME\$ IceStore\FP-Hx-IceStorage

HOME\$ IceStore\IceStore-Cooling-861Generic

HOME\$ IceStore\IceStore-861Generic_Printer

HOME\$ IceStore\CellarIceCoupled

HOME\$ SolarCollector\SolarCollector

HOME\$ SolarCollector\SolarCollector_Printer

HOME\$ SolarCollector\uncoveredNonSelectiveESSA

HOME\$ HeatPump\HeatPumpBase

HOME\$ HeatPump\BrineToWater\Cadena\ProDomo13-R410A\ProDomo13-R410A

HOME\$ HeatPump\PrinterHP-SolarIce

HOME\$ Tes\Tes-HxSolar-CircDirect

HOME\$ Tes\TesPrinter-SolarIce

HOME\$ HX\Const_Eff_HX

HOME\$ Hydraulics\HydD_circOk

#HOME\$ Hydraulics\pumps

HOME\$ Printers\coolingPrinter

HOME\$ Printers\MonthlyPrinter

HOME\$ Printers\PrinterQvsT-SolarIce

HOME\$ Printers\debugPrinter

HOME\$ Generic\End