Program blocks / 03_Disturbance

PseudoRandomNumberGenerator [FC4]

PseudoRandomNumberGenerator Properties							
General							
Name	PseudoRandomNumberGenerator	Number	4	Type	FC	Language	SCL
Numbering	Automatic						
Information							
Title		Author		Comment		Family	
Version	0.1	User-defined ID					

Name	Data type	Default value
▼ Input		
lowRangeInt	Int	
highRangeInt	Int	
▼ Output		
RandomInt	Int	
InOut		
▼ Temp		
diTime	DInt	
rTime	Real	
timeTck	Time	
rTemp	Real	
Constant		
▼ Return		
PseudoRandomNumberGenerator	Void	

```
0001  // read systemtime
0002 #timeTck := TIME_TCK(); // TIME
0003
0004 // calculate random number
0005 #diTime := TIME_TO_DINT(#timeTck);
0006 #rTime := DINT_TO_REAL(#diTime);
0007 #rTemp := SIN(#rTime);
0008
0009 IF #rTemp < 0 THEN
0010   #rTemp := #rTemp * (-1);
0011 END_IF;
0012
0013 #RandomInt := REAL_TO_INT(#rTemp*(#highRangeInt-#lowRangeInt))+#lowRangeInt;
```