PROGRAM PLC\_PRG

VAR

CODE : Code ;

IN1 : LREAL ;

IN2 : LREAL ;

END\_VAR

IN1 := 100 ;

IN2 := 100 ;

CODE (In1 := IN1 , In2 := IN2 );

FUNCTION\_BLOCK Code

VAR\_INPUT

In1: LREAL;

In2: LREAL;

END\_VAR

VAR\_OUTPUT

Out1: LREAL;

END\_VAR

VAR

INPUTTOINDEX1 : InputToIndex1 ; //Instance of InputToIndex1 function

INPUTTOINDEX2 : InputToIndex2 ; //Instance of InputToIndex1 function

Index1 : LREAL ;

END\_VAR

(\* Outputs for Atomic SubSystem: '<Root>/Code 2' \*)

(\* Sum: '<S1>/Sum3' \*)

Out1 := In1 + In2;

(\* Saturate: '<S1>/Sat Block (Psig)' \*)

Index1 := In1\*In2 ;

IF Out1 >= 3.6 THEN

IF Index1 < ABS (In1 \* In2) THEN

INPUTTOINDEX1(Input1 := In1 , Input2 := In2) ;

Out1 := 3.6;

ELSE

INPUTTOINDEX2(Input1 := In1 , Input2 := In2);

Out1 := 3.6;

END\_IF;

ELSIF Out1 <= -8.4 THEN

IF Index1 < ABS (In1 \* In2) THEN

INPUTTOINDEX1(Input1 := In1 , Input2 := In2) ;

Out1 := -8.4;

ELSE

INPUTTOINDEX2(Input1 := In1 , Input2 := In2);

Out1 := -8.4;

END\_IF;

END\_IF;

(\* End of Saturate: '<S1>/Sat Block (Psig)' \*)

(\* Gain: '<S1>/Heat input Valve' \*)

Out1 := 0.1667 \* Out1;

(\* Saturate: '<S1>/Valve Limits' \*)

IF Out1 <= -1.4 THEN

(\* Outport: '<Root>/Out1' \*)

Out1 := -1.4;

END\_IF;

(\* End of Saturate: '<S1>/Valve Limits' \*)

(\* End of Outputs for SubSystem: '<Root>/Code 2' \*)

FUNCTION\_BLOCK InputToIndex1

VAR\_INPUT

Input1 : LREAL ;

Input2 : LREAL ;

END\_VAR

VAR\_OUTPUT

Array\_ : ARRAY [0..1000] OF LREAL ;

END\_VAR

VAR

Index1 : LREAL ;

Index2 : DINT ; //32 BITS

i : DINT;

END\_VAR

Index1 := ((Input1)\*(Input2));

Index2 := LREAL\_TO\_DINT (Index1);

FOR i:= 0 TO Index2 DO

Array\_[i] := Index2 + i ;

END\_FOR

FUNCTION\_BLOCK InputToIndex2

VAR\_INPUT

Input1 : LREAL ;

Input2 : LREAL ;

END\_VAR

VAR\_OUTPUT

Array\_ : ARRAY [0..100] OF LREAL ;

END\_VAR

VAR

Index1 : LREAL ;

Index2 : DINT ; //32 BITS

END\_VAR

Index1 := ((Input1)\*(Input2));

Index2 := LREAL\_TO\_DINT (Index1);

Array\_[Index2] := Index2 ;