

Bloc Fonction



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Référence	Linear Approximation
Révision	1.0
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+ Support	http://support-omron.fr/

Function Block for Linear Approximation (CJ/CS only)

Basic Function	The LinearApproximation FB calculates $y=f(x)$ when $f(x)$ is not linear			
Symbol				
File	LinearApproximation.cxf			
Applicable Models	CJ series and CS series (not CS1D)			
Function description	<p>Calculates data_out for a data_in using arrays table_in and table_data doing linear approximation between two points of array. Ex:</p> <table border="0" style="width: 100%;"> <tr> <td style="width: 50%;"> Quantity = &5 D100 : -100,0 D102 : -50,0 D104 : +0,0 D106 : +50,0 D108 : +100,0 </td> <td style="width: 50%;"> D300 : -1000,0 D302 : +2000,0 D304 : -3000,0 D306 : +4000,0 D308 : -5000,0 </td> </tr> </table> <p> data_in = -101,0 => data_out = -1000,0 data_in = -100,0 => data_out = -1000,0 data_in = -99,0 => data_out = -940,0 data_in = -1,0 => data_out = -2900,0 data_in = 0,0 => data_out = -3000,0 data_in = +1,0 => data_out = -2860,0 data_in = 51,0 => data_out = +3820,0 data_in = +100,0 => data_out = -5000,0 data_in = +101,0 => data_out = -5000,0 </p>		Quantity = &5 D100 : -100,0 D102 : -50,0 D104 : +0,0 D106 : +50,0 D108 : +100,0	D300 : -1000,0 D302 : +2000,0 D304 : -3000,0 D306 : +4000,0 D308 : -5000,0
Quantity = &5 D100 : -100,0 D102 : -50,0 D104 : +0,0 D106 : +50,0 D108 : +100,0	D300 : -1000,0 D302 : +2000,0 D304 : -3000,0 D306 : +4000,0 D308 : -5000,0			
Restriction	Table_in[0] <= Table_in[1] → <= Table_in[quantity-2] <= Table_in[quantity-1]			

Input Variables

Name	Data type	Range	Description
Data_in	REAL	Limits of REAL data	Value to be converted
Quantity	UINT	2 to 32768	Number of values in Table_in and Table_out

Output Variables

Name	Data type	Range	Description
Data_out	REAL	Limits of REAL data	Value converted

Input/output Variables

Name	Data type	Range	Description
Table_in	REAL	Limits of REAL data	Array of values
Table_out	REAL	Limits of REAL data	Array of values

