

Select Minimum in Array Select Maximum in Array

MAXARAY S13
MINARAY S14

DESCRIPTION

The MAXARAY/MINARAY special functions find the largest or smallest entry in an array.

The MAXARAY/MINARAY functions treat a block of adjacent data table locations as a one dimensional array of numerical values. The elements within an array are referenced by an index commencing at word 0.

FEATURES

- Input array location and length definable by user.

SPECIFICATION

Control language:-

- (a) Fixes gain factor N:

MAXARAY/MINARAY
 X-----SPEC-----VALUE-----Q
 S13/S14 Zm

The determination of largest or smallest is on the basis of most positive or most negative respectively.

Note: The mnemonics MAXARAY/MINARAY will not automatically be recognised by older GEM80 programming units, but can be added as a user defined mnemonic in the system programmer.

Table 1 Program rung data

Sym	Location	Use	Range
X	Upper Rung Input	Internal GEM80 address of input array	Address of data table location obtainable by LOCATE.
Zm	Value location	Start of parameter list (3 locations)	Any write enabled table usable by special function
Q	Rung Output	Maximum or Minimum value	±32767

Table 2 Value Data

Sym	Location	Use	Range
EC	Zm	Fault code	See Table 3
AL	Zm + 1	Input array length (words) set by user	1 to 4096
PM	Zm + 2	Array position of maximum or minimum value set by function	0 to 4096

Table 3 Fault conditions

Conditions	Rung Output	Code in Zm	
		Numeric Value	States ON
Programming error. Array length invalid	Q = 0	3	0,1
Programming error. Invalid array address: input array a) not in table usable by specials; or b) extends beyond end of data table area.	Q = 0	5	0,2



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Note: The Company's policy is one of continuous development. Products supplied may differ from those described herein