

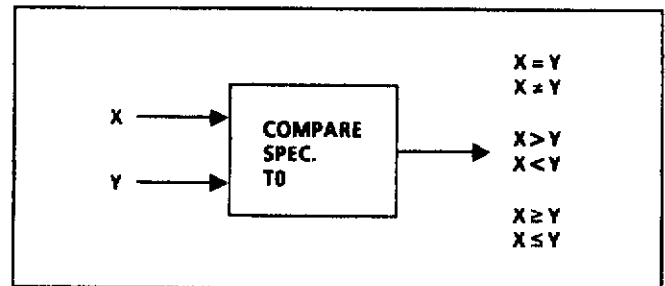
Compare Functions for Numerical Comparison

COMPARE T0

DESCRIPTION

The COMPARE function may be used to perform a numerical comparison between two variables.

It provides a set of flags so that the user can make subsequent program operation depend on the results of the comparison.



FEATURES

- Takes account of magnitude and sign
- Individual flag for each combination of > = <

SPECIFICATION

Control language:-

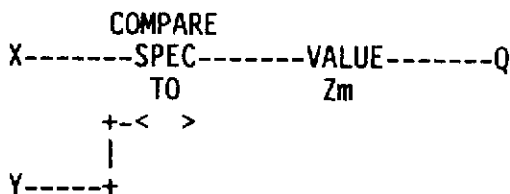


Table 1 Program rung data

Sym	Location	Use	Range
X,Y	Rung inputs	Numeric values to be compared	±32767
Zm	Value location	Location for flags	Any write enabled table usable by special functions
Q	Rung output	Logic ON for input to subsequent user program	Normally ON (-1)OFF(zero) under fault conditions. (See table 4)

Table 2 Numeric values in Zm

Condition	Number in Zm	Remarks
X > Y	25600	These numbers are the values which will be displayed when monitoring a program rung. See table 3 for flags to include in user program.
X = Y	-27648	
X < Y	22528	

Table 3 Meaning of individual Zm flags		
State ON in Zm	Condition Indicated	Remarks
10 11	$X \leq Y (X \geq Y)$ $X < Y$	For any typical values of X and Y a combination of flags will be ON
12 13	$X \geq Y (X \leq Y)$ $X > Y$	
14	$X \neq Y$	
15	$X = Y$	

Table 4 Fault conditions	
Condition	Result
Programming error. No VALUE after SPEC.	Q=0 (OFF)
Programming error. Invalid VALUE location:	Q=0 (OFF)
(a) Number instead of address.	
(b) Zm in write protected memory.	
(c) Zm in table not usable by special functions.	

APPLICATION NOTES

1. EXAMPLE - LOGIC

A lamp connected to output B0.8 is to be switched on when contents of location G10 are greater (more positive) than contents of G11.

```

      COMPARE
+---<AND>---SPEC---VALUE---] [---( )---+
      G10      TO      G59  G59.13  B0.8
      +---< >
+---<AND>--+
      G11

```

2. EXAMPLE - NUMERIC MANIPULATION

Find greater (more positive) of two numeric values G10 and G11 and store in G23.

```

      COMPARE
+<AND>---SPEC---VALUE---+---] [-<AND>+<OUT>+
      G10      TO      G60  G60.13  G10  G23
      +---< >
+<AND>+
      G11
      +---] [-<AND>+
      G60.12  G11

```



Kidsgrove, Stoke-on-Trent, ST7 1TW, England
 Tel: (0782) 783511 Fax: (0782) 776329 Telex: 36293/4 CICKID G
 Registered in England No. 2259095

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

©1991 CEGELEC CONTROLS Ltd