

Collate Bits or Words into a Group of Adjacent Data Table Locations

COLLATE T37

DESCRIPTION

The collate special function is to collate bits or words of a user specified type which are in no particular order into a group of adjacent data table locations.

FEATURES

- User programmable selection of input bits or words specified in message string.
- User programmable table type.

SPECIFICATION

Control language:-

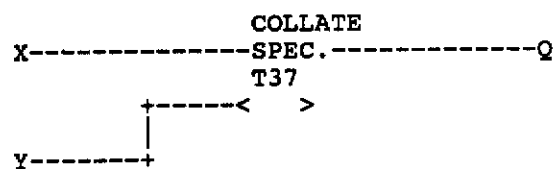


Table 1 Program Rung Data

Sym	Location	Use	Range
X	Rung Input	Number of messages to be executed	0 - 32767
Y	Rung input	Internal GEM80 address of output group	Address of write enabled data table location obtained by LOCATE (S20)
Q	Rung output	Fault indication	See Table 2

Table 2 Fault Codes

Condition	Code in Q	
	Numeric Value	States ON
No Error	0	-
Programming Error. Syntax error in message string	3	0 & 1
Message string does not exist	5	0 & 2
Unable to obtain input. Word or bit to be collated does not exist	9	0 & 3
Collated output past end of data table memory area	17	0 & 4
Programming error. Output group in write protected tables	33	0 & 5

APPLICATION NOTES

Spaces in a message string are ignored by Collate, but can be used to improve the readability of a message string.

e.g. "G1 G3 G5" is cleaner than "G1G3G5"

Full stops are used to indicate that a particular bit(s) only in the word is to be transferred:

e.g. "A2.1" - A2 bit 1 only
 "A2.3.5.7" - A2 bits 3, 5, and 7 only.

Commas in a message string indicates that another word in the same table is to be specified.

e.g. "A1A53.3B3D32G22G55" can be written as:"A1,53.3B3D32G22,55"

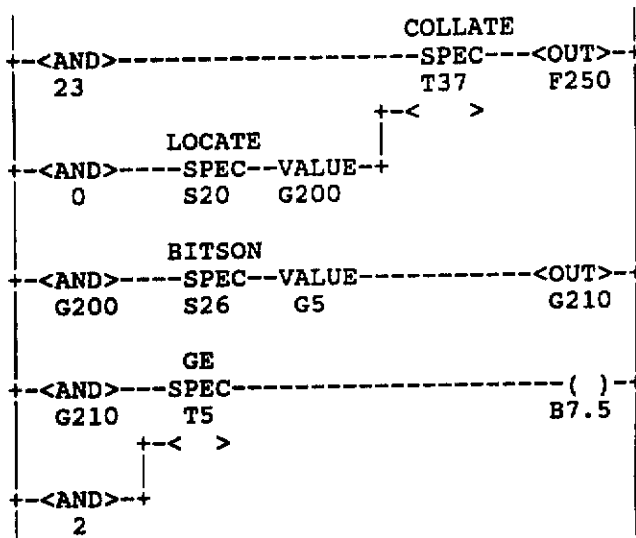
It is advisable to make the message string as short as possible in order to reduce the time taken for the function to run.

If the last word in the output group is not completely filled, then the unused leading bits are filled up with zeros.

EXAMPLES

- Any two of the following input bits on sets an output alarm.

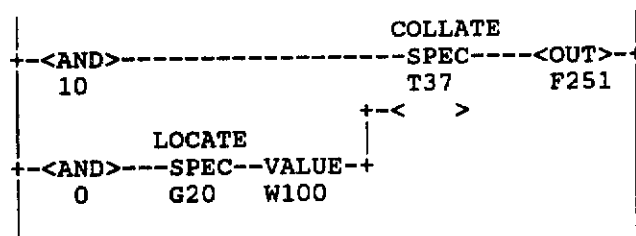
A12 bit 13
 A3 bit 5
 A6 bit 0
 J14 bit 6
 J16 bits 14 and 15
 A32 bits 0 to 15
 A64 bits 0 to 15



Message string (Number 23 specified in Rung):

M23 = "A12.13,3.5,6.0,J14.6,16.14.15,A32,64"

GEM80/250 multidropping to 32 off GEM80's (B off an each of 4 serial ports). User requires first 5 tables of each tributary GEM to use in an array special function.



Message strings (Number 10 specified in rung).

M10 = "J0,32,64,96,128,160,192,224,256,288,320,352,384,416,448,512,544,576,608,672,704,736,768,800,832,864,928,960,992"



Kidsgrove, Stoke-on-Trent, ST7 1TW, England
Tel: (0782) 783511 Fax: (0782) 776329

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