
XMRD: Extended Memory Read

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At a Glance

Introduction

This chapter describes the instruction XMRD.

What's in this Chapter?

This chapter contains the following topics:

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Short Description

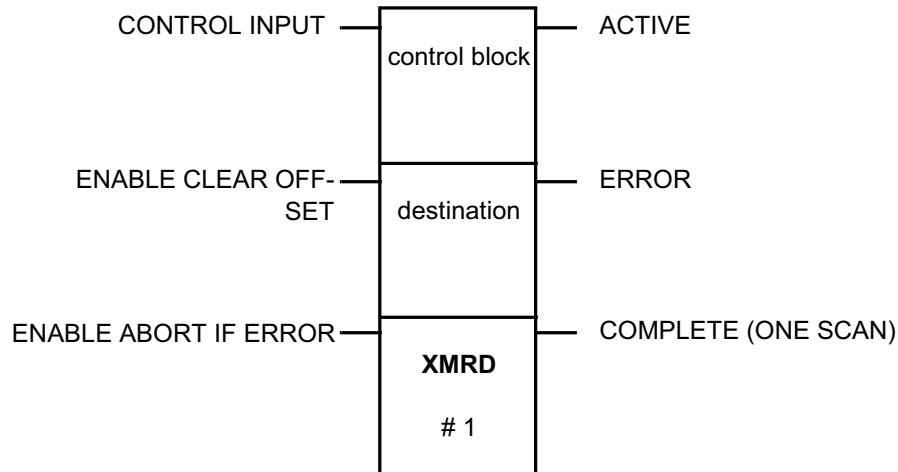
Function Description

The XMRD instruction is used to copy a table of 6x extended memory registers to a table of 4x holding registers in state RAM.

Representation: XMRD - Extended Memory Read

Symbol

Representation of the instruction



Parameter Description

Description of the instruction's parameters

Parameters	State RAM Reference	Data Type	Meaning
Top input	0x, 1x	None	ON = activates read operation
Middle input	0x, 1x	None	OFF = clears offset to 0 ON = does not clear offset
Bottom input	0x, 1x	None	OFF = abort on error ON = do not abort on error
control block (see <i>p. 1136</i>) (top node)	4x	INT, UINT, WORD	First of six contiguous holding registers in the extended memory (For expanded and detailed information please see <i>p. 1136</i> .)
destination (middle node)	4x	INT, UINT, WORD	The first 4x holding register in a table of registers that receive the transferred data from the 6x extended memory storage registers
1 (bottom node)		INT, UINT	Contains the constant value 1, which cannot be changed
Top output	0x	None	Read transfer active
Middle output	0x	None	Error condition detected
Bottom output	0x	None	ON = operation complete

Parameter Description

Control Block (Top Node)

The 4x register entered in the top node is the first of six contiguous holding registers in the extended memory control block.

Reference	Register Name	Description
Displayed	status word	Contains the diagnostic information about extended memory (see <i>p. 1137</i>)
First implied	file number	Specifies which of the extended memory files is currently in use (range: 1 ... 10)
Second implied	start address	Specifies which 6x storage register in the current file is the starting address; 0 = 60000, 9999 = 69999
Third implied	count	Specifies the number of registers to be read or written in a scan when the appropriate function block is powered; range: 0 ... 9999, not to exceed number specified in max registers (fifth implied)
Fourth implied	offset	Keeps a running total of the number of registers transferred thus far
Fifth implied	max registers	Specifies the maximum number of registers that may be transferred when the function block is powered (range: 0 ... 9999)

If you are in multi-scan mode, these six registers should be unique to this function block.

**Status Word of
the Control Block****Status Word of the Control Block**

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
---	---	---	---	---	---	---	---	---	----	----	----	----	----	----	----

Bit	Function
1	1 = power-up diagnostic error
2	1 = parity error in extended memory
3	1 = extended memory does not exist
4	0 = transfer not running 1 = busy
5	0 = transfer in progress 1 = transfer complete
6	1 = file boundary crossed
7	1 = offset parameter too large
8 - 9	Not used
10	1 = nonexistent state RAM
11	Not used
12	1 = maximum registers parameter error
13	1 = offset parameter error
14	1 = count parameter error
15	1 = starting address parameter error
16	1 = file number parameter error

XMWT: Extended Memory Write

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At a Glance

Introduction

This chapter describes the instruction XMWT.

What's in this Chapter?

This chapter contains the following topics:

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Parameter Description	1142

Short Description

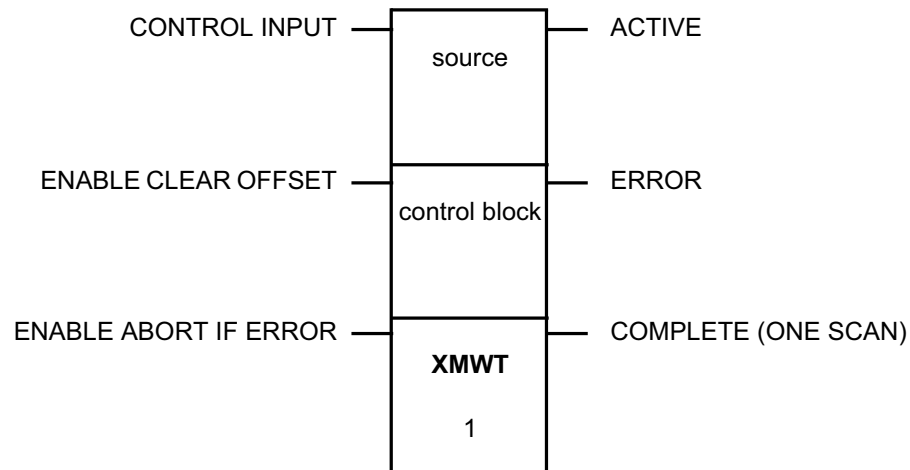
Function Description

The XMWT instruction is used to write data from a block of input registers or holding registers in state RAM to a block of 6x registers in an extended memory file.

Representation: XMWT - Extended Memory Write

Symbol

Representation of the instruction



Parameter Description

Description of the instruction's parameters

Parameters	State RAM Reference	Data Type	Meaning
Top input	0x, 1x	None	ON = activates write operation
Middle input	0x, 1x	None	OFF = clears offset to 0 ON = does not clear offset
Bottom input	0x, 1x	None	OFF = abort on error ON = do not abort on error
source (top node)	3x, 4x	INT, UINT, WORD	The first 3x or 4x register in a block of contiguous source registers, i.e. input or holding registers, whose contents will be written to 6x extended memory registers
control block (see <i>p. 1142</i>) (middle node)	4x	INT, UINT, WORD	First of six contiguous holding registers in the extended memory (For expanded and detailed information please see <i>p. 1142</i> .)
1 (bottom node)		INT, UINT	Contains the constant value 1, which cannot be changed
Top output	0x	None	Write transfer active
Middle output	0x	None	Error condition detected
Bottom output	0x	None	ON = operation complete

Parameter Description

Control Block (Middle Node)

The 4x register entered in the middle node is the first of six contiguous holding registers in the extended memory control block.

Reference	Register Name	Description
Displayed	status word	Contains the diagnostic information about extended memory (see <i>p. 1143</i>)
First implied	file number	Specifies which of the extended memory files is currently in use (range: 1 ... 10)
Second implied	start address	Specifies which 6x storage register in the current file is the starting address; 0 = 60000, 9999 = 69999
Third implied	count	Specifies the number of registers to be read or written in a scan when the appropriate function block is powered; range: 0 ... 9999, not to exceed number specified in max registers (fifth implied)
Fourth implied	offset	Keeps a running total of the number of registers transferred thus far
Fifth implied	max registers	Specifies the maximum number of registers that may be transferred when the function block is powered (range: 0 ... 9999)

If you are in multi-scan mode, these six registers should be unique to this function block.

**Status Word of
the Control Block****Status Word of the Control Block**

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
---	---	---	---	---	---	---	---	---	----	----	----	----	----	----	----

Bit	Function
1	1 = power-up diagnostic error
2	1 = parity error in extended memory
3	1 = extended memory does not exist
4	0 = transfer not running 1 = busy
5	0 = transfer in progress 1 = transfer complete
6	1 = file boundary crossed
7	1 = offset parameter too large
8 - 9	Not used
10	1 = nonexistent state RAM
11	Not used
12	1 = maximum registers parameter error
13	1 = offset parameter error
14	1 = count parameter error
15	1 = starting address parameter error
16	1 = file number parameter error

