

**Masked Move**  
**MSK\_MV\_WORD & MSK\_MV\_DWORD**  
**User-Defined Function Blocks (UDFBs)**

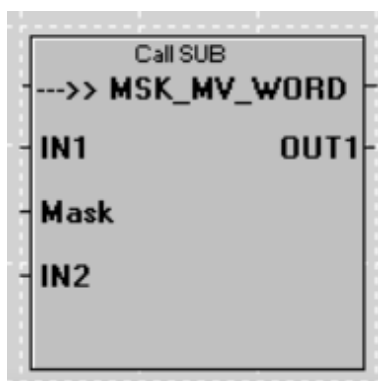
Description:

The Masked Move UDFBs allow users to perform a bit-by-bit Move operation on either a WORD or DWORD variable. The Masked Move UDFBs is designed to perform the bit-by-bit move ONLY on selected bit position, leaving the other bit positions unchanged.

A Mask variable is used to specify which bit-positions are to be written, and which are to be left unchanged. The Mask will contain a 1 in each bit-position to be changed, and a 0 in each bit-position to leave unchanged.

Both Masked Move UDFBs have an incoming and outgoing power rail, 3 inputs and a single output. The UDFB will execute whenever the incoming power rail receives power.

## MSK\_MV\_WORD UDFB



The input and output parameters for this UDFB are listed and described in the table below:

| Input  | Descriptive Name   | Data Type |
|--------|--|-----------|
| IN1    | Source Variable  | UINT      |
| Mask   | 16-bit Bit Pattern of Bit Positions to be written<br>(write a 0 in each bit-position to leave unchanged)<br>(write a 1 in each bit-position to write to) | UINT      |
| IN2    | Destination Variable   | UINT      |
| Output | Descriptive Name   | Data Type |
| OUT1   | Modified Destination Variable  | UINT      |

### IN1

This is the variable containing the source data to be written.

### Mask

This is the 16-bit variable that indicates which bits are to be written to the destination variable, and which ones are to be ignored or left unchanged. The Mask will contain a 1 in each bit-position to be written, and a 0 in each bit-position to leave unchanged.

### IN2

This is the destination variable to be written to.

### OUT2

This is the destination variable after the write has been completed by the UDFB.

## MSK\_MV\_DWORD UDFB



The input and output parameters for this UDFB are listed and described in the table below:

| Input  | Descriptive Name   | Data Type |
|--------|--|-----------|
| IN1    | Source Variable  | UDINT     |
| Mask   | 16-bit Bit Pattern of Bit Positions to be written<br>(write a 0 in each bit-position to leave unchanged)<br>(write a 1 in each bit-position to write to) | UDINT     |
| IN2    | Destination Variable   | UDINT     |
| Output | Descriptive Name   | Data Type |
| OUT1   | Modified Destination Variable  | UDINT     |

### IN1

This is the variable containing the source data to be written.

### Mask

This is the 32-bit variable that indicates which bits are to be written to the destination variable, and which ones are to be ignored or left unchanged. The Mask will contain a 1 in each bit-position to be written, and a 0 in each bit-position to leave unchanged.

### IN2

This is the destination variable to be written to.

### OUT2

This is the destination variable after the write has been completed by the UDFB.