TWINT Flag. TWI State detection module bus, when the bus is idle transmitted immediately START signal. When sending the START

After the hardware is set TWINT Flag while updating TWSR The status code 0x08 .

To enter the master transmitter mode, you must send SLA + W . This can be accomplished by the following operation. First to the TWDR Write register SLA + W , Then go TWINT Write bit "1" Clear TWINT Flag to continue the transmission, that is to TWCR Transmitting register write the following values SLA + W :

TWINT	TWEA	TWSTA	TWSTO	TWWC	TWEN	-	TWIE
1	x	0	0	x	1	0	x

when SLA + W Send completed and received the response signal, TWINT It has been set, at the same time TWSR The status code update. Possible status code 0x18 , 0x20 or 0x38 . In response to each state will be described in detail in the appropriate code status code table.

when SLA + W After sending successfully, you can start sending packets. This can be done to TWDR Writing register data to complete.

TWDR only at TWINT When the flag is high it can be written. Otherwise, access is ignored and the write collision flag TWWC

It will be set. Update complete TWDR After, to TWINT Write bit "1" Clear TWINT Flag to continue the transfer. That is to TWCR

Register write data transmitted following values:

TWINT	TWEA	TWSTA	TWSTO	TWWC	TWEN	-	TWIE
1	x	0	0	x	1	0	x

When the end of packet and receive the response signal, TWINT It has been set, at the same time TWSR The status code update. Possible status code 0x28 or 0x30 . In response to each state will be described in detail in the appropriate code status code table.

When the data is sent successfully, you can continue to send data packets. This process is repeated until the last byte sent. The master generates STOP Signal or REPEATED START The entire signal transmission until the end.

Go through TWCR Register write to emit following values STOP signal:

TWINT	TWEA	TWSTA	TWSTO	TWWC	TWEN	-	TWIE
1	x	0	1	x	1	0	x

Go through TWCR Register write to emit following values REPEATED START signal:

TWINT	TWEA	TWSTA	TWSTO	TWWC	TWEN	-	TWIE
1	x	1	0	x	1	0	x

In sending REPEATED START (Status code 0x10)after that, TWI Interface can access the same slave again, or visit the new slave without sending a STOP signal. REPEATED START That may be different from the host machine, switching between the host and the host receiving the transmission mode without losing control of the bus.

Status code in master transmission mode and a corresponding operation in the following table:

Status of the host transmission mode code table

status code	Bus and hardware status	Response application software					Hardware next move
		Read / Write TWDR	Correct TWCR Operations				
			STA	STO	TWINT	TWEA	
0x08	START Has been sent	load SLA + W	0	0	1	x	Will send SLA + W ; The reception ACK or NACK
0x10	REPEATED START sent	load SLA + W	0	0	1	x	Will send SLA + W ; The reception ACK or NACK