8-bit Timer/Counter0 – Register (ATmega16)

Timer/Counter Control Register – TCCR0 (Initialwert: 0x00)

W	*R/W*	*R/W*	*R/W*	*R/W*	*R/W*	*R/W*	*R/W*
Bit 7	*Bit 6*	*Bit 5*	*Bit 4*	*Bit 3*	*Bit 2*	*Bit 1*	*Bit 0*
FOC0	WGM00	COM01	COM00	WGM01	**CS02**	**CS01**	**CS00**

CS0[2:0]	Clock Source
000	None
001	$clk_{I/0}$
010	$clk_{I/0}/8$
011	$clk_{I/0}/64$
100	$clk_{I/0}/256$
101	$clk_{I/0}/1024$
110	External clock on T0 (falling edge trigger)
111	External clock on T0 (rising edge trigger)

Clock Select

Timer/Counter Control Register (TCCR0)

FOC0	WGM00	COM01	COM00	WGM01	CS02	CS01	CS00
7							0

Waveform Generation Mode

Mode	WGM00:01	Mode
0	00	Normal
1	10	PWM, Phase Correct
2	01	CTC
3	11	Fast PWM

Normal, CTC

COM0[1:0]	Description
00	Normal, OC0 disconnected
01	Toggle OC0 on compare match
10	Clear OC0 on compare match
11	Set OC0 on compare match

PWM, Phase Correct

COM0[1:0]	Description
00	Normal, OC0 disconnected
01	Reserved
10	Clear OC0 on compare match when up-counting. Set OC0 on compare match when down counting
11	Set OC0 on compare match when up-counting. Clear OC0 on compare match when down counting.

Fast PWM

COM0[1:0]	Description
00	Normal, OC0 disconnected
01	Reserved
10	Clear OC0 on compare match, set OC0 at TOP
11	Set OC0 on compare match, clear OC0 at TOP

8-bit Timer/Counter0 – Register (ATmega16)

Timer/Counter Register – TCNT0 (Initialwert: 0x00; alle Bits: *R/W*)

laufender 8bit Aufwärtszähler

Output Compare Register – OCR0 (Initialwert: 0x00; alle Bits: *R/W*)

8bit Vergleichswert

Timer/Counter Interrupt Mask Register – TIMSK (Initialwert: 0x00)

R/W	*R/W*	*R/W*	*R/W*	*R/W*	*R/W*	*R/W*	*R/W*
Bit 7	*Bit 6*	*Bit 5*	*Bit 4*	*Bit 3*	*Bit 2*	*Bit 1*	*Bit 0*
OCIE2	TOIE2	TICIE1	OCIE1A	OCIE1B	TOIE1	**OCIE0**	**TOIE0**
Timer2	Timer2	Timer1	Timer1	Timer1	Timer1	**Timer0** *match* 1 : *frei*	**Timer0** Überlauf 1 : *frei*

Timer/Counter Interrupt Flag Register – TIFR (Initialwert: 0x00)

R/W	*R/W*	*R/W*	*R/W*	*R/W*	*R/W*	*R/W*	*R/W*
Bit 7	*Bit 6*	*Bit 5*	*Bit 4*	*Bit 3*	*Bit 2*	*Bit 1*	*Bit 0*
OCF2	TOV2	ICF1	OCF1A	OCF1B	TOV1	**OCF0**	**TOV0**
Timer2	Timer2	Timer1	Timer1	Timer1	Timer1	**Timer0** 1 : *match*	**Timer0** 1 : *Überlauf*