

Note: In case of RAM write operation, AC is increased/decreased by 1 as in read operation.

At this time, AC indicates the next address position, but only the previous data can be read by the read instruction.

5-2-2. INSTRUCTION

Instruction	Instruction code										Description	Execution time (fosc=270KHz)	
	RS	R/ W	DB 7	DB 6	DB 5	DB 4	DB 3	DB 2	DB 1	DB 0			
Clear Display	0	0	0	0	0	0	0	0	0	1	Write 20H to DDRAM and set DDRAM address to 00H from AC	1.53ms	
Return Home	0	0	0	0	0	0	0	0	0	1	Set DDRAM address to 00H From AC and return cursor to its Original position if shifted. The contents of DDRAM are not Changed.	1.53ms	
Entry Mode Set	0	0	0	0	0	0	0	0	1	I/D	SH	Assign cursor moving direction And enable the shift of entire display.	39us
Display ON/OFF Control	0	0	0	0	0	0	0	1	D	C	B	Set display(D), cursor(C), and blinking of cursor(B) on/off control bit.	39us
Cursor or Display Shift	0	0	0	0	0	1	S/C	R/L	-	-	-	Set cursor moving and display shift control bit, and the direction, without changing of DDRAM data.	39us
Function Set	0	0	0	0	1	DL	N	F	-	-	-	Set interface data length (DL: 8-bit/4-bit), numbers of display line (N: 2-line/1-line) and, display font type (F: 5x11dots/5x8dots)	39us
Set CGRAM Address	0	0	0	1	AC	AC	AC	AC	AC	AC	AC	Set CGRAM address in address Counter.	39us
Set DDRAM Address	0	0	1	AC	AC	AC	AC	AC	AC	AC	AC	Set DDRAM address in address Counter.	39us
Read Busy Flag and Address	0	1	BF	AC	AC	AC	AC	AC	AC	AC	AC	Whether during internal operation or not can be known by reading BF. The contents of address counter can also be read.	0us
Write Data to RAM	1	0	D7	D6	D5	D4	D3	D2	D1	D0		Write data into internal RAM (DDRAM/CGRAM).	43us
Read Data from RAM	1	1	D7	D6	D5	D4	D3	D2	D1	D0		Read data from internal RAM (DDRAM/CGRAM).	43us

*“-”: don't care

5-3 EXAPLES OF DATA TRANSFER OPERATION