Instruction Execution Times

In This Appendix...

Introduction

This appendix contains several tables that provide the instruction execution times for DL06 Micro PLCs. Many of the execution times depend on the type of data used with the instruction. Registers may be classified into the following types:

- Data (word) Registers
- Bit Registers

V-Memory Data Registers

Some V-memory locations are considered data registers, such as timer or counter current values. Standard user V-memory is classified as a V-memory data register. Note that you can load a bit pattern into these types of registers, even though their primary use is for data registers. The following locations are data registers:

Data Registers	DL06
Timer Current Values	V0 - V377
Counter Current Values	V1000 - V1177
User Data Words	V400 - V677 V1200 - V7377 V10000 - V17777

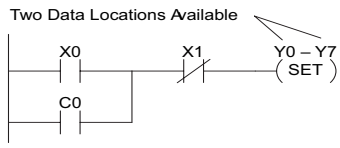
V-Memory Bit Registers

You may recall that some of the discrete points such as X, Y, C, etc., are automatically mapped into V-memory. The following bit registers contain this data:

Bit Registers	DL06
Input Points (X)	V40400 - V40437
Output Points (Y)	V40500 - V40537
Control Relays (C)	V40600 - V40677
Stages (S)	V41000 - V41077
Timer status Bits	V41100 - V41177
Counter status Bits	V41140 - V41147
Special Relays (SP)	V41200 - V41237

How to Read the Tables

Some instructions can have more than one parameter. For example, the SET instruction shown in the ladder program to the right can set a single point or a range of points.



In these cases, execution times depend on the amount and type of parameters. The execution time tables list execution times for both situations, as shown below:

SET	1st #: X, Y, C, 2nd #: X, Y, C, S (N pt)	9.2 µs 9.6 µs + 0.9 V x N
RST	1st #: X, Y, C, 2nd #: X, Y, C, S (N pt)	9.2 µs 9.6 µs + 0.9 V x N

Execution depends on numbers of locations and types of data used

Instruction Execution Times

Boolean Instructions

Boolean Instructions		DL06	
Instruction	**Legal Data Types**	**Execute**	**Not Execute**
STR	X, Y, C, T, CT, S, SP, GX, GY	0.67 µs	0.00 µs
STRN	X, Y, C, T, CT, S, SP, GX, GY	0.67 µs	0.0 µs
OR	X, Y, C, T, CT, S, SP, GX, GY	0.51 µs	0.51 µs
ORN	X, Y, C, T, CT, S, SP, GX, GY	0.55 µs	0.55 µs
AND	X, Y, C, T, CT, S, SP, GX, GY	0.42 µs	0.42 µs
ANDN	X, Y, C, T, CT, S, SP, GX, GY	0.51 µs	0.51 µs
ANDSTR	None	0.37 µs	0.37 µs
ORSTR	None	0.37 µs	0.37 µs
OUT	X, Y, C, GX, GY	1.82 µs	1.82 µs
OROUT	X, Y, C, GX, GY	2.09 µs	2.09 µs
NOT	None	1.04 µs	1.04 µs
SET	1st #: X, Y, C, S, 2nd #: X, Y, C, S (N pt)	9.2 µs 9.6 µs+0.9 µs x N	1.0 µs 1.1 µs
RST	1st #: X, Y, C, S, GX, GY 2nd #: X, Y, C, S (N pt), GX, GY	9.2 µs 9.6 µs+0.9 µs x N	1.0 µs 1.1 µs
	1st #: T, CT, GX, GY 2nd #: T, CT (N pt), GX, GY	25.7 µs 16.8 µs + 2.7 µs x N	1.1 µs 1.4 µs
PAUSE	1wd: Y 2wd: Y (N points)	5.6 µs 9.2 µs + 0.3 µs x N	5.4 µs 4.8 µs

Comparative Boolean Instructions

Comparative Boolean Instructions			DL06	
Instruction	Legal Data Types		Execute	Not Execute
STRE	***1st***	***2nd***		
	V Data Reg.	V:Data Reg.	7.6 µs	7.6 µs
		V:Bit Reg	7.6 µs	7.6 µs
		K:Constant	4.8 µs	4.8 µs
		P:Indir. (Data)	30.2 µs	30.2 µs
		P:Indir. (Bit)	30.2 µs	30.2 µs
	V: Bit Reg.	V:Data Reg.	7.6 µs	7.6 µs
		V:Bit Reg	7.6 µs	7.6 µs
		K:Constant	4.8 µs	4.8 µs
		P:Indir. (Data)	30.2 µs	30.2 µs
		P:Indir. (Bit)	30.2 µs	30.2 µs
	P:Indir. (Data)	V:Data Reg	29.9 µs	29.9 µs
		V:Bit Reg	29.9 µs	29.9 µs
		K:Constant	27.7 µs	27.7 µs
		P:Indir. (Data)	51.0 µs	51.0 µs
		P:Indir. (Bit)	51.0 µs	51.0 µs
	P:Indir. (Bit)	V:Data Reg	29.9 µs	29.9 µs
		V:Bit Reg	29.9 µs	29.9 µs
		K:Constant	27.7 µs	27.7 µs
		P:Indir. (Data)	51.0 µs	51.0 µs
		P:Indir. (Bit)	51.0 µs	51.0 µs
STRNE	***1st***	***2nd***		
	V: Data Reg.	V:Data Reg.	7.6 µs	7.6 µs
		V:Bit Reg.	7.6 µs	7.6 µs
		K:Constant	4.8 µs	4.8 µs
		P:Indir. (Data)	30.2 µs	30.2 µs
		P:Indir. (Bit)	30.2 µs	30.2 µs
	V: Bit Reg.	V:Data Reg.	7.6 µs	7.6 µs
		V:Bit Reg.	7.6 µs	7.6 µs
		K:Constant	4.8 µs	4.8 µs
		P:Indir. (Data)	30.2 µs	30.2 µs
		P:Indir. (Bit)	30.2 µs	30.2 µs
	P:Indir. (Data)	V:Data Reg.	30.3 µs	30.3 µs
		V:Bit Reg.	30.3 µs	30.3 µs
		K:Constant	27.4 µs	27.4 µs
		P:Indir. (Data)	51.0 µs	51.0 µs
		P:Indir. (Bit)	51.0 µs	51.0 µs
	P:Indir. (Bit)	V:Data Reg.	30.3 µs	30.3 µs
		V:Bit Reg.	30.3 µs	30.3 µs
		K:Constant	27.4 µs	27.4 µs
		P:Indir. (Data)	51.0 µs	51.0 µs
		P:Indir. (Bit)	51.0 µs	51.0 µs

Comparative Boolean Instructions (cont'd)

Comparative Boolean Instructions			DL06	
Instruction	Legal Data Types		Execute	Not Execute
ORE	*1st* V Data Reg	*2nd* V:Data Reg	7.6 µs	7.6 µs
		V:Bit Reg	7.6 µs	7.6 µs
		K:Constant	4.8 µs	4.8 µs
		P:Indir. (Data)	30.2 µs	30.2 µs
		P:Indir. (Bit)	30.2 µs	30.2 µs
	V: Bit Reg.	V:Data Reg.	7.6 µs	7.6 µs
		V:Bit Reg	7.6 µs	7.6 µs
		K:Constant	4.8 µs	4.8 µs
		P:Indir. (Data)	30.2 µs	30.2 µs
		P:Indir. (Bit)	30.2 µs	30.2 µs
	P:Indir. (Data)	V:Data Reg	30.3 µs	30.3 µs
		V:Bit Reg	30.3 µs	30.3 µs
		K:Constant	27.4 µs	27.4 µs
		P:Indir. (Data)	50.4 µs	50.4 µs
		P:Indir. (Bit)	50.4 µs	50.4 µs
	P:Indir. (Bit)	V:Data Reg	30.3 µs	30.3 µs
		V:Bit Reg	30.3 µs	30.3 µs
		K:Constant	27.4 µs	27.4 µs
		P:Indir. (Data)	50.4 µs	50.4 µs
		P:Indir. (Bit)	50.4 µs	50.4 µs
ORNE	*1st* Data Reg.	*2nd* V:Data Reg.	7.6 µs	7.6 µs
		V:Bit Reg.	7.6 µs	7.6 µs
		K:Constant	4.8 µs	4.8 µs
		P:Indir. (Data)	30.2 µs	30.2 µs
		P:Indir. (Bit)	30.2 µs	30.2 µs
	V: Bit Reg.	V:Data Reg	7.6 µs	7.6 µs
		V:Bit Reg.	7.6 µs	7.6 µs
		K:Constant	4.8 µs	4.8 µs
		P:Indir. (Data)	30.2 µs	30.2 µs
		P:Indir. (Bit)	30.2 µs	30.2 µs
	P:Indir. (Data)	V:Data Reg.	29.9 µs	29.9 µs
		V:Bit Reg.	29.9 µs	29.9 µs
		K:Constant	27.4 µs	27.4 µs
		P:Indir. (Data)	51.0 µs	51.0 µs
		P:Indir. (Bit)	51.0 µs	51.0 µs
	P:Indir. (Bit)	V:Data Reg.	29.9 µs	29.9 µs
		V:Bit Reg.	29.9 µs	29.9 µs
		K:Constant	27.4 µs	27.4 µs
		P:Indir. (Data)	51.0 µs	51.0 µs
		P:Indir. (Bit)	51.0 µs	51.0 µs

Comparative Boolean Instructions (cont'd)

Comparative Boolean Instructions			DL06	
Instruction	Legal Data Types		Execute	Not Execute
ANDE	***1st*** V Data Reg.	***2nd*** V:Data Reg	7.6 µs	7.6 µs
		V:Bit Reg	7.6 µs	7.6 µs
		K:Constant	4.8 µs	4.8 µs
		P:Indir. (Data)	30.2 µs	30.2 µs
		P:Indir. (Bit)	30.2 µs	30.2 µs
	V: Bit Reg.	V:Data Reg	7.6 µs	7.6 µs
		V:Bit Reg	7.6 µs	7.6 µs
		K:Constant	4.8 µs	4.8 µs
		P:Indir. (Data)	30.2 µs	30.2 µs
		P:Indir. (Bit)	30.2 µs	30.2 µs
	P:Indir. (Data)	V:Data Reg	29.9 µs	29.9 µs
		V:Bit Reg	29.9 µs	29.9 µs
		K:Constant	27.4 µs	27.4 µs
		P:Indir. (Data)	51.0 µs	51.0 µs
		P:Indir. (Bit)	51.0 µs	51.0 µs
	P:Indir. (Bit)	V:Data Reg	29.9 µs	29.9 µs
		V:Bit Reg	29.9 µs	29.9 µs
		K:Constant	27.4 µs	27.4 µs
		P:Indir. (Data)	51.0 µs	51.0 µs
		P:Indir. (Bit)	51.0 µs	51.0 µs
ANDNE	***1st*** V: Data Reg.	***2nd*** V:Data Reg.	7.6 µs	7.6 µs
		V:Bit Reg.	7.6 µs	7.6 µs
		K:Constant	4.8 µs	4.8 µs
		P:Indir. (Data)	30.2 µs	30.2 µs
		P:Indir. (Bit)	30.2 µs	30.2 µs
	V: Bit Reg.	V:Data Reg.	7.6 µs	7.6 µs
		V:Bit Reg	7.6 µs	7.6 µs
		K:Constant	4.8 µs	4.8 µs
		P:Indir. (Data)	30.2 µs	30.2 µs
		P:Indir. (Bit)	30.2 µs	30.2 µs
	P:Indir. (Data)	V:Data Reg.	29.9 µs	29.9 µs
		V:Bit Reg.	29.9 µs	29.9 µs
		K:Constant	27.4 µs	27.4 µs
		P:Indir. (Data)	51.0 µs	51.0 µs
		P:Indir. (Bit)	51.0 µs	51.0 µs
	P:Indir. (Bit)	V:Data Reg.	29.9 µs	29.9 µs
		V:Bit Reg.	29.9 µs	29.9 µs
		K:Constant	27.4 µs	27.4 µs
		P:Indir. (Data)	51.0 µs	51.0 µs
		P:Indir. (Bit)	51.0 µs	51.0 µs

Comparative Boolean Instructions (cont'd)

Comparative Boolean Instructions			DL06	
Instruction	Legal Data Types		Execute	Not Execute
STR	*1st* T, CT	*2nd* V:Data Reg. V:Bit Reg K:Constant P:Indir. (Data) P:Indir. (Bit)	7.6 µs 7.6 µs 4.8 µs 30.2 µs 30.2 µs	7.6 µs 7.6 µs 4.8 µs 30.2 µs 30.2 µs
	V Data Reg	V:Data Reg. V:Bit Reg K:Constant P:Indir. (Data) P:Indir. (Bit)	7.6 µs 7.6 µs 4.8 µs 30.2 µs 30.2 µs	7.6 µs 7.6 µs 4.8 µs 30.2 µs 30.2 µs
	V: Bit Reg.	V:Data Reg. V:Bit Reg K:Constant P:Indir. (Data) P:Indir. (Bit)	7.6 µs 7.6 µs 4.8 µs 30.2 µs 30.2 µs	7.6 µs 7.6 µs 4.8 µs 30.2 µs 30.2 µs
	P:Indir. (Data)	V:Data Reg. V:Bit Reg K:Constant P:Indir. (Data) P:Indir. (Bit)	29.9 µs 29.9 µs 27.4 µs 51.0 µs 51.0 µs	29.9 µs 29.9 µs 27.4 µs 51.0 µs 51.0 µs
	P:Indir. (Bit)	V:Data Reg V:Bit Reg K:Constant P:Indir. (Data) P:Indir. (Bit)	29.9 µs 29.9 µs 27.4 µs 51.0 µs 51.0 µs	29.9 µs 29.9 µs 27.4 µs 51.0 µs 51.0 µs
STRN	*1st* T, CT	*2nd* V:Data Reg. V:Bit Reg. K:Constant P:Indir. (Data) P:Indir. (Bit)	7.6 µs 7.6 µs 4.8 µs 30.2 µs 30.2 µs	7.6 µs 7.6 µs 4.8 µs 30.2 µs 30.2 µs
	V: Data Reg.	V:Data Reg. V:Bit Reg K:Constant P:Indir. (Data) P:Indir. (Bit	7.6 µs 7.6 µs 4.8 µs 30.2 µs 30.2 µs	7.6 µs 7.6 µs 4.8 µs 30.2 µs 30.2 µs

Comparative Boolean Instructions (cont'd)

Comparative Boolean Instructions			DL06	
Instruction	Legal Data Types		Execute	Not Execute
STRN (cont.)	***1st*** V: Bit Reg	***2nd*** V:Data Reg.	7.6 µs	7.6 µs
		V:Bit Reg.	7.6 µs	7.6 µs
		K:Constant	4.8 µs	4.8 µs
		P:Indir. (Data)	30.2 µs	30.2 µs
		P:Indir. (Bit)	30.2 µs	30.2 µs
	P:Indir. (Data)	V:Data Reg.	29.9 µs	29.9 µs
		V:Bit Reg.	29.9 µs	29.9 µs
		K:Constant	27.4 µs	27.4 µs
		P:Indir. (Data)	51.0 µs	51.0 µs
		P:Indir. (Bit)	51.0 µs	51.0 µs
	P:Indir. (Bit)	V:Data Reg.	29.9 µs	29.9 µs
		V:Bit Reg.	29.9 µs	29.9 µs
		K:Constant	27.4 µs	27.4 µs
		P:Indir. (Data)	51.0 µs	51.0 µs
		P:Indir. (Bit)	51.0 µs	51.0 µs
OR	***1st*** T, CT	***2nd*** V Data Reg	7.6 µs	7.6 µs
		V:Bit Reg	7.6 µs	7.6 µs
		K:Constant	4.8 µs	4.8 µs
		P:Indir. (Data)	30.2 µs	30.2 µs
		P:Indir. (Bit)	30.2 µs	30.2 µs
	V Data Reg.	V:Data Reg.	7.6 µs	7.6 µs
		V:Bit Reg	7.6 µs	7.6 µs
		K:Constant	4.8 µs	4.8 µs
		P:Indir. (Data)	30.2 µs	30.2 µs
		P:Indir. (Bit)	30.2 µs	30.2 µs
	V: Bit Reg.	V:Data Reg.	7.6 µs	7.6 µs
		V:Bit Reg	7.6 µs	7.6 µs
		K:Constant	4.8 µs	4.8 µs
		P:Indir. (Data)	30.2 µs	30.2 µs
		P:Indir. (Bit)	30.2 µs	30.2 µs
	P:Indir. (Data)	V:Data Reg	29.9 µs	29.9 µs
		V:Bit Reg	29.9 µs	29.9 µs
		K:Constant	27.4 µs	27.4 µs
		P:Indir. (Data)	51.0 µs	51.0 µs
		P:Indir. (Bit)	51.0 µs	51.0 µs
	P:Indir. (Bit)	V:Data Reg	29.9 µs	29.9 µs
		V:Bit Reg	29.9 µs	29.9 µs
		K:Constant	27.4 µs	27.4 µs
		P:Indir. (Data	51.0 µs	51.0 µs
		P:Indir. (Bit)	51.0 µs	51.0 µs

Comparative Boolean Instructions (cont'd)

Comparative Boolean Instructions			DL06	
Instruction	Legal Data Types		Execute	Not Execute
ORN	*1st* T, CT	*2nd* V:Data Reg. V:Bit Reg K:Constant P:Indir. (Data P:Indir. (Bit)	 7.6 µs 7.6 µs 4.8 µs 30.2 µs 30.2 µs	 7.6 µs 7.6 µs 4.8 µs 30.2 µs 30.2 µs
	V: Data Reg	V:Data Reg V:Bit Reg K:Constant P:Indir. (Data) P:Indir. (Bit)	7.6 µs 7.6 µs 4.8 µs 30.2 µs 30.2 µs	7.6 µs 7.6 µs 4.8 µs 30.2 µs 30.2 µs
	V: Bit Reg.	V:Data Reg. V:Bit Reg. K:Constant P:Indir. (Data) P:Indir. (Bit)	7.6 µs 7.6 µs 4.8 µs 30.2 µs 30.2 µs	7.6 µs 7.6 µs 4.8 µs 30.2 µs 30.2 µs
	P:Indir. (Data)	V:Data Reg. V:Bit Reg. K:Constant P:Indir. (Data) P:Indir. (Bit)	29.9 µs 29.9 µs 27.4 µs 51.0 µs 51.0 µs	29.9 µs 29.9 µs 27.4 µs 51.0 µs 51.0 µs
	P:Indir. (Bit)	V:Data Reg. V:Bit Reg. K:Constant P:Indir. (Data) P:Indir. (Bit)	29.9 µs 29.9 µs 27.4 µs 51.0 µs 51.0 µs	29.9 µs 29.9 µs 27.4 µs 51.0 µs 51.0 µs

Comparative Boolean Instructions (cont'd)

Comparative Boolean Instructions			DL06	
Instruction	Legal Data Types		Execute	Not Execute
AND	*1st*	*2nd*		
	T, CT	V Data Reg.	7.6 µs	7.6 µs
		V:Bit Reg	7.6 µs	7.6 µs
		K:Constant	4.8 µs	4.8 µs
		P:Indir. (Data)	30.2 µs	30.2 µs
		P:Indir. (Bit)	30.2 µs	30.2 µs
	V: Data Reg.	V:Data Reg	7.6 µs	7.6 µs
		V:Bit Reg	7.6 µs	7.6 µs
		K:Constant	4.8 µs	4.8 µs
		P:Indir. (Data)	30.2 µs	30.2 µs
		P:Indir. (Bit)	30.2 µs	30.2 µs
	V: Bit Reg.	V:Data Reg.	7.6 µs	7.6 µs
		V:Bit Reg	7.6 µs	7.6 µs
		K:Constant	4.8 µs	4.8 µs
		P:Indir. (Data)	30.2 µs	30.2 µs
		P:Indir. (Bit)	30.2 µs	30.2 µs
	P:Indir. (Data)	V:Data Reg	29.9 µs	29.9 µs
		V:Bit Reg	29.9 µs	29.9 µs
		K:Constant	27.4 µs	27.4 µs
		P:Indir. (Data)	51.0 µs	51.0 µs
		P:Indir. (Bit)	51.0 µs	51.0 µs
	P:Indir. (Bit)	V:Data Reg	29.9 µs	29.9 µs
		V:Bit Reg	29.9 µs	29.9 µs
		K:Constant	27.4 µs	27.4 µs
		P:Indir. (Data)	51.0 µs	51.0 µs
		P:Indir. (Bit)	51.0 µs	51.0 µs

Comparative Boolean Instructions (cont'd)

Comparative Boolean Instructions			DL06	
Instruction	Legal Data Types		Execute	Not Execute
ANDN	***1st*** T, CT	***2nd*** V:Data Reg.	7.6 µs	7.6 µs
		V:Bit Reg.	7.6 µs	7.6 µs
		K:Constant	4.8 µs	4.8 µs
		P:Indir. (Data)	30.2 µs	30.2 µs
		P:Indir. (Bit)	30.2 µs	30.2 µs
	V: Data Reg.	V:Data Reg	7.6 µs	7.6 µs
		V:Bit Reg.	7.6 µs	7.6 µs
		K:Constant	4.8 µs	4.8 µs
		P:Indir. (Data)	30.2 µs	30.2 µs
		P:Indir. (Bit)	30.2 µs	30.2 µs
	V: Bit Reg.	V:Data Reg.	7.6 µs	7.6 µs
		V:Bit Reg.	7.6 µs	7.6 µs
		K:Constant	4.8 µs	4.8 µs
		P:Indir. (Data)	30.2 µs	30.2 µs
		P:Indir. (Bit)	30.2 µs	30.2 µs
	P:Indir. (Data)	V:Data Reg.	29.9 µs	29.9 µs
		V:Bit Reg.	29.9 µs	29.9 µs
		K:Constant	27.4 µs	27.4 µs
		P:Indir. (Data)	51.0 µs	51.0 µs
		P:Indir. (Bit)	51.0 µs	51.0 µs
	P:Indir. (Bit)	V:Data Reg.	29.9 µs	29.9 µs
		V:Bit Reg.	29.9 µs	29.9 µs
		K:Constant	27.4 µs	27.4 µs
		P:Indir. (Data)	51.0 µs	51.0 µs
		P:Indir. (Bit)	51.0 µs	51.0 µs

Immediate Instructions

Immediate Instructions		DL06	
Instruction	Legal Data Types	Execute	Not Execute
LDI	V	20.6 µs	1.1 µs
LDIF	1st #: Y 2nd #: K Constant	26.6 µs+0.9µs x N	1.4 µs
STRI	X	19.3 µs	19.3 µs
STRNI	X	19.4 µs	19.4 µs
ORI	X	19.1 µs	18.7 µs
ORNI	X	19.2 µs	18.9 µs
ANDI	X	18.7 µs	18.7 µs
ANDNI	X	18.8 µs	18.8 µs
OUTI	Y	25.5 µs	25.5 µs
OROUTI	Y	25.7 µs	25.7 µs
OUTIF	1st #: Y 2nd #: Y (N pt)	66.1 µs+0.9µs x N	1.4 µs
SETI	1st #: Y 2nd #: K Constant	23.1 µs, 22.8 µs+1.4µsxN	0.9 µs, 0.9 µs
RSTI	1st #: Y 2nd #: Y (N pt)	23.2 µs, 22.8 µs+1.4µsxN	0.9 µs, 0.9 µs

Bit of Word Boolean Instructions

Bit of Word Boolean Instructions		DL06	
Instruction	Legal Data Types	Execute	Not Execute
STRB	V:Data Reg. V:Bit Reg. P:Indir. (Data) P:Indir. (Bit)	3.1 µs 3.1 µs 30.0 µs 30.0 µs	3.1 µs 3.1 µs 30.0 µs 30.0 µs
STRNB	V:Data Reg. V:Bit Reg. P:Indir. (Data) P:Indir. (Bit)	3.0 µs 3.0 µs 29.8 µs 29.8 µs	3.0 µs 3.0 µs 29.8 µs 29.8 µs
ORB	V:Data Reg. V:Bit Reg. P:Indir. (Data) P:Indir. (Bit)	2.9 µs 2.9 µs 29.9 µs 29.9 µs	2.9 µs 2.9 µs 29.9 µs 29.9 µs
ORNB	V:Data Reg. V:Bit Reg. P:Indir. (Data) P:Indir. (Bit)	2.8 µs 2.8 µs 29.6 µs 29.6 µs	2.8 µs 2.8 µs 29.6 µs 29.6 µs
ANDB	V:Data Reg V:Bit Reg. P:Indir. (Data) P:Indir. (Bit)	2.8 µs 2.8 µs 29.6 µs 29.6 µs	2.8 µs 2.8 µs 29.6 µs 29.6 µs
ANDNB	V:Data Reg. V:Bit Reg. P:Indir. (Data) P:Indir. (Bit)	2.7 µs 2.7 µs 29.6 µs 29.6 µs	2.7 µs 2.7 µs 29.6 µs 29.6 µs
OUTB	V:Data Reg. V:Bit Reg. P:Indir. (Data) P:Indir. (Bit)	3.1 µs 3.1 µs 30.3 µs 30.3 µs	3.4 µs 3.4 µs 30.7 µs 30.7 µs
SETB	V:Data Reg. V:Bit Reg. P:Indir. (Data) P:Indir. (Bit)	13.4 µs 13.4 µs 41.1 µs 41.1 µs	3.4 µs 3.4 µs 29.1 µs 29.1 µs
RSTB	V:Data Reg. V:Bit Reg. P:Indir. (Data) P:Indir. (Bit)	13.5 µs 13.5 µs 41.3 µs 41.3 µs	1.4 µs 1.4 µs 29.1 µs 29.1 µs

Timer, Counter and Shift Register

Timer, Counter and Shift Register			DL06	
Instruction	**Legal Data Types**		**Execute**	**Not Execute**
	1st	***2nd***		
TMR	T	V Data Reg.	26.8 µs	7.3 µs
		V:Bit Reg	26.8 µs	7.3 µs
		K:Constant	20.0 µs	4.8 µs
		P:Indir. (Data)	45.6 µs	30.2 µs
		P:Indir. (Bit)	45.6 µs	30.2 µs
TMRF	T	V:Data Reg.	51.4 µs	7.3 µs
		V:Bit Reg	51.4 µs	7.3 µs
		K:Constant	48.4 µs	4.6 µs
		P:Indir. (Data)	75.9 µs	30.2 µs
		P:Indir. (Bit)	75.9 µs	30.2 µs
TMRA	T	V:Data Reg.	48.9 µs	7.3 µs
		V:Bit Reg	48.9 µs	7.3 µs
		K:Constant	45.0 µs	4.6 µs
		P:Indir. (Data)	75.9 µs	30.2 µs
		P:Indir. (Bit)	75.9 µs	30.2 µs
TMRAF	***1st***	***2nd***		
	T	V Data Reg.	54.2 µs	7.3 µs
		V:Bit Reg	54.2 µs	7.3 µs
		K:Constant	50.3 µs	4.6 µs
		P:Indir. (Data)	81.2 µs	30.2 µs
		P:Indir. (Bit)	81.2 µs	30.2 µs
CNT	CT	V:Data Reg.	25.8 µs	7.3 µs
		V:Bit Reg	25.8 µs	7.3 µs
		K:Constant	22.2 µs	4.6 µs
		P:Indir. (Data)	53.5 µs	30.2 µs
		P:Indir. (Bit)	53.5 µs	30.2 µs
SGCNT	CT	V:Data Reg.	27.3 µs	7.3 µs
		V:Bit Reg	27.3 µs	7.3 µs
		K:Constant	23.5 µs	4.6 µs
		P:Indir. (Data)	54.9 µs	30.2 µs
		P:Indir. (Bit)	54.9 µs	30.2 µs
UDC	CT	V:Data Reg	39.8 µs	7.3 µs
		V:Bit Reg	39.8 µs	7.3 µs
		K:Constant	35.4 µs	4.6 µs
		P:Indir. (Data)	67.8 µs	30.2 µs
		P:Indir. (Bit)	67.8 µs	30.2 µs
SR	C (N points to shift)		17.8 µs + 0.9 µs x N	9.8 µs

Accumulator Data Instructions

Accumulator / Stack Load and Output Data Instructions			DL06	
Instruction	Legal Data Types		Execute	Not Execute
LD	V:Data Reg. V:Bit Reg. K:Constant P:Indir. (Data) P:Indir. (Bit)		11.8 µs 11.8µs 9.0 µs 33.9 µs 33.9 µs	1.0 µs 1.0 µs 1.0 µs 0.9 µs 0.9 µs
LDD	V:Data Reg. V:Bit Reg. K:Constant P:Indir. (Data) P:Indir. (Bit)		12.2 µs 12.2 µs 9.0 µs 37.8 µs 37.8 µs	1.0 µs 1.0 µs 1.0 µs 0.9 µs 0.9 µs
LDF	***1st*** X, Y, C, S T, CT, SP	***2nd*** K:Constant	20.5 µs+0.9 µsxN	0.9 µs
LDA	O: (Octal constant for address)		10.4 µs	1.0 µs
LDR	V:Data Reg. V:Bit Reg. K:Constant P:Indir. (Data) P:Indir. (Bit)		29.5 µs 29.5 µs 25.5 µs 54.9 µs 54.9 µs	1.0 µs 1.0 µs 1.0 µs 1.0 µs 1.0 µs
LDSX	K: Constant		14.6 µs	1.0 µs
LDX	V:Data Reg. V:Bit Reg. P:Indir. (Data) P:Indir. (Bit)		10.8 µs 10.8 µs 45.2 µs 45.2 µs	1.0 µs 1.0 µs 1.0 µs 1.0 µs
OUT	V:Data Reg. V:Bit Reg. P:Indir. (Data) P:Indir. (Bit)		9.3 µs 9.3 µs 35.2 µs 35.2 µs	1.0 µs 1.0 µs 0.9 µs 0.9 µs
OUTD	V:Data Reg. V:Bit Reg. P:Indir. (Data) P:Indir. (Bit)		10.2 µs 10.2 µs 35.8 µs 35.8 µs	1.0 µs 1.0 µs 0.9 µs 0.9 µs
OUTF	***1st*** X, Y, C	***2nd*** K:Constant	54 µs+1.0 µsxN	0.9 µs
OUTL	V:Data Reg. V:Bit Reg.		13.5 µs 13.5 µs	1.0 µs 1.0 µs
OUTM	V:Data Reg. V:Bit Reg.		13.7 µs 13.7 µs	1.0 µs 1.0 µs
OUTX	V:Data Reg. V:Bit Reg. P:Indir. (Data) P:Indir. (Bit)		17.2 µs 17.2 µs 43.4 µs 43.4 µs	1.0 µs 1.0 µs 1.0 µs 1.0 µs
POP	NONE		8.4 µs	1.0 µs

Logical Instructions

Logical (Accumulator) Instructions		DL06	
Instruction	**Legal Data Types**	**Execute**	**Not Execute**
AND	V:Data Reg. V:Bit Reg. P:Indir. (Data) P:Indir. (Bit)	7.9 µs 7.9 µs 33.4 µs 33.4 µs	1.0 µs 1.0 µs 0.9 µs 0.9 µs
ANDD	V:Data Reg. V:Bit Reg. K:Constant P:Indir. (Data) P:Indir. (Bit)	8.9 µs 8.9 µs 5.7 µs 34.4 µs 34.4 µs	1.0 µs 1.0 µs 1.0 µs 0.9 µs 0.9 µs
ANDF	***1st:*** X, Y, C, S T, CT, SP, GX, GY ***2nd:*** K:Constant	21.6 µs + 0.9 µs x N	1.0 µs
ANDS	None	10.0 µs	1.0 µs
OR	V:Data Reg V:Bit Reg. P:Indir. (Data) P:Indir. (Bit)	8.1 µs 8.1 µs 33.8 µs 33.8 µs	1.0 µs 1.0 µs 0.9 µs 0.9 µs
ORD	V:Data Reg. V:Bit Reg. K:Constant P:Indir. (Data) P:Indir. (Bit)	9.0 µs 9.0 µs 5.8 µs 34.5 µs 34.5 µs	1.0 µs 1.0 µs 1.0 µs 0.9 µs 0.9 µs
ORF	***1st:*** X, Y, C, S T, CT, SP, GX, GY ***2nd:*** K:Constant	20.9 µs + 0.9 µs x N	1.0 µs
ORS	None	10.2 µs	1.0 µs
XOR	V:Data Reg. V:Bit Reg. P:Indir. (Data) P:Indir. (Bit)	8.0 µs 8.0 µs 33.6 µs 33.6 µs	1.0 µs 1.0 µs 0.9 µs 0.9 µs
XORD	V:Data Reg. V:Bit Reg. K:Constant P:Indir. (Data) P:Indir. (Bit)	9.0 µs 9.0 µs 5.4 µs 34.4 µs 34.4 µs	1.0 µs 1.0 µs 1.0 µs 0.9 µs 0.9 µs
XORF	***1st:*** X, Y, C, S T, CT, SP, GX, GY ***2nd:*** K:Constant	20.9 µs + 0.9 µs x N	1.0 µs
XORS	None	10.1 µs	1.0 µs
CMP	V:Data Reg. V:Bit Reg. P:Indir. (Data) P:Indir. (Bit)	9.4 µs 9.4 µs 34.9 µs 34.9 µs	1.0 µs 1.0 µs 0.9 µs 0.9 µs
CMPD	V:Data Reg. V:Bit Reg. K:Constant P:Indir. (Data) P:Indir. (Bit)	9.9 µs 9.9 µs 6.7 µs 35.4 µs 35.4 µs	1.0 µs 1.0 µs 1.0 µs 1.0 µs 1.0 µs

Logical Instructions (cont'd)

Logical (Accumulator) Instructions		DL06	
Instruction	**Legal Data Types**	**Execute**	**Not Execute**
CMPF	***1st:*** X, Y, C, S T, CT, SP, GX, GY ***2nd:*** K:Constant	20.9 µs + 1.0 µs x N	1.0 µs
CMPR	V:Data Reg. V:Bit Reg. K:Constant P:Indir. (Data) P:Indir. (Bit)	42.8 µs 42.8 µs 38.4 µs 69.0 µs 69.0 µs	1.0 µs 1.0 µs 1.0 µs 1.0 µs 1.0 µs
CMPS	None	11.2 µs	1.0 µs

Math Instructions

Math Instructions (Accumulator)		DL06	
Instruction	**Legal Data Types**	**Execute**	**Not Execute**
ADD	V:Data Reg. V:Bit Reg. P:Indir. (Data) P:Indir. (Bit)	78.4 µs 78.4 µs 101.2 µs 101.2 µs	0.9 µs 0.9 µs 0.9 µs 0.9 µs
ADDD	V:Data Reg. V:Bit Reg. K:Constant P:Indir. (Daa) P:Indir. (Bit)	83.3 µs 83.3 µs 67.7 µs 101.2 µs 101.2 µs	0.9 µs 0.9 µs 0.9 µs 0.9 µs 0.9 µs
SUB	V:Data Reg. V:Bit Reg P:Indir. (Data) P:Indir. (Bit)	77.4 µs 77.4 µs 95.1 µs 95.1 µs	0.9 µs 0.9 µs 0.9 µs 0.9 µs
SUBD	V:Data Reg. V:Bit Reg. K:Constant P:Indir. (Data) P:Indir. (Bit)	82.5 µs 82.5 µs 66.0 µs 99.7 µs 99.7 µs	0.9 µs 0.9 µs 0.9 µs 0.9 µs 0.9 µs
MUL	V:Data Reg. V:Bit Reg. K:Constant P:Indir. (Data) P:Indir. (Bit)	266.1 µs 266.1 µs 286.9 µs 290.0 µs 290.0 µs	0.9 µs 0.9 µs 0.9 µs 0.9 µs 0.9 µs
MULD	V:Data Reg. V:Bit Reg. P:Indir. (Data) P:Indir. (Bit)	839.1 µs 839.1 µs 863.1 µs 863.1 µs	0.9 µs 0.9 µs 0.9 µs 0.9 µs
DIV	V:Data Reg. V:Bit Reg K:Constant P:Indir. (Data) P:Indir. (Bit)	363.9 µs 363.9 µs 384.4 µs 419.8 µs 419.8 µs	0.9 µs 0.9 µs 0.9 µs 0.9 µs 0.9 µs
DIVD	V:Data Reg. V:Bit Reg. P:Indir. (Data) P:Indir. (Bit)	398.3 µs 398.3 µs 390.9 µs 390.9 µs	0.9 µs 0.9 µs 0.9 µs 0.9 µs

Math Instructions (cont'd)

Math Instructions (Accumulator)		DL06	
Instruction	Legal Data Types	Execute	Not Execute
INC	V:Data Reg V:Bit Reg P:Indir. (Data) P:Indir. (Bit)	48.5 µs 48.5 µs 74.7 µs 74.7 µs	1.0 µs 1.0 µs 1.0 µs 1.0 µs
DEC	V:Data Reg. V:Bit Reg. P:Indir. (Data) P:Indir. (Bit)	47.5 µs 47.5 µs 71.5 µs 71.5 µs	1.0 µs 1.0 µs 1.0 µs 1.0 µs
INCB	V:Data Reg. V:Bit Reg. P:Indir. (Data) P:Indir. (Bit)	13.2 µs 13.2 µs 38.6 µs 38.6 µs	1.0 µs 1.0 µs 0.9 µs 0.9 µs
DECB	V:Data Reg. V:Bit Reg. P:Indir. (Data) P:Indir. (Bit)	13.2 µs 13.2 µs 38.0 µs 38.0 µs	1.0 µs 1.0 µs 0.9 µs 0.9 µs
ADDB	V:Data Reg. V:Bit Reg. K:Constant P:Indir. (Data) P:Indir. (Bit)	24.9 µs 24.9 µs 23.5 µs 51.1 µs 51.1 µs	1.0 µs 1.0 µs 1.0 µs 1.0 µs 1.0 µs
ADDBD	V:Data Reg. V:Bit Reg. K:Constant P:Indir. (Data) P:Indir. (Bit)	24.4 µs 24.4 µs 20.7 µs 50.7 µs 50.7 µs	1.0 µs 1.0 µs 1.0 µs 1.0 µs 1.0 µs
SUBB	V:Data Reg. V:Bit Reg. K:Constant P:Indir. (Data) P:Indir. (Bit)	24.7 µs 24.7 µs 23.3 µs 50.6 µs 50.6 µs	1.0 µs 1.0 µs 1.0 µs 1.0 µs 1.0 µs
SUBBD	V:Data Reg. V:Bit Reg. K:Constant P:Indir. (Data) P:Indir. (Bit)	24.2 µs 24.2 µs 20.2 µs 50.2 µs 50.2 µs	1.0 µs 1.0 µs 1.0 µs 1.0 µs 1.0 µs
MULB	V:Data Reg. V:Bit Reg. K:Constant P:Indir. (Data) P:Indir. (Bit)	10.8 µs 10.8 µs 8.2 µs 37.1 µs 37.1 µs	1.0 µs 1.0 µs 1.0 µs 1.0 µs 1.0 µs
DIVB	V:Data Reg. V:Bit Reg. K:Constant P:Indir. (Data) P:Indir. (Bit)	28.7 µs 28.7 µs 26.1 µs 54.9 µs 54.9 µs	1.0 µs 1.0 µs 1.0 µs 1.0 µs 1.0 µs
ADDR	V:Data Reg. V:Bit Reg. K:Constant P:Indir. (Data) P:Indir. (Bit)	48.1 µs 48.1 µs 41.7 µs 74.3 µs 74.3 µs	1.0 µs 1.0 µs 1.0 µs 1.0 µs 1.0 µs

Math Instructions (cont'd)

Math Instructions (Accumulator)		DL06	
Instruction	**Legal Data Types**	**Execute**	**Not Execute**
SUBR	V:Data Reg. V:Bit Reg. K:Constant P:Indir. (Data) P:Indir. (Bit)	50.1 µs 50.1 µs 58.7 µs 76.3 µs 76.3 µs	1.0 µs 1.0 µs 1.0 µs 1.0 µs 1.0 µs
MULR	V:Data Reg. V:Bit Reg. K:Constant P:Indir. (Data) P:Indir. (Bit)	54.2 µs 54.2 µs 42.7 µs 80.4 µs 80.4 µs	1.0 µs 1.0 µs 1.0 µs 1.0 µs 1.0 µs
DIVR	V:Data Reg. V:Bit Reg. K:Constant P:Indir. (Data) P:Indir. (Bit)	50.1 µs 50.1 µs 58.7 µs 76.3 µs 76.3 µs	1.0 µs 1.0 µs 1.0 µs 1.0 µs 1.0 µs
ADDF	***1st:*** X, Y, C, S T, CT, SP, GX, GY ***2nd:*** K:Constant	109.3 µs + 0.9 µs x N	1.0 µs
SUBF	***1st:*** X, Y, C, S T, CT, SP, GX, GY ***2nd:*** K:Constant	107.3 µs + 0.9 µs x N	1.0 µs
MULF	***1st:*** X, Y, C, S T, CT, SP, GX, GY ***2nd:*** K:Constant	352.5 µs + 0.9 µs x N	1.0 µs
DIVF	***1st:*** X, Y, C, S T, CT, SP, GX, GY ***2nd:*** K:Constant	477.3 µs + 0.8 µs x N	1.0 µs
ADDS	None	99.5 µs	1.0 µs
SUBS	None	97.5 µs	1.0 µs
MULS	None	342.5 µs	1.0 µs
DIVS	None	467.3 µs	1.0 µs
ADDBS	None	24.3 µs	1.0 µs
SUBBS	None	23.7 µs	1.0 µs
MULBS	None	11.7 µs	1.0 µs
DIVBS	None	29.7 µs	1.0 µs
SQRTR	None	87.9 µs	1.0 µs
SINR	None	226.8 µs	1.0 µs
COSR	None	213.1 µs	1.0 µs
TANR	None	285.5 µs	1.0 µs
ASINR	None	489.8 µs	1.0 µs
ACOSR	None	508.3 µs	1.0 µs
ATANR	None	317.1 µs	1.0 µs

Differential Instructions

Differential Instructions		DL06	
Instruction	Legal Data Types	Execute	Not Execute
PD	X, Y, C	14.4 µs	14.4 µs
STRPD	X, Y, C, S, T, CT	5.4 µs	5.4 µs
STRND	X, Y, C, S, T, CT	7.3 µs	7.3 µs
ORPD	X, Y, C, S, T, CT	6.8 µs	5.2 µs
ORND	X, Y, C, S, T, CT	7.1 µs	4.9 µs
ANDPD	X, Y, C, S, T, CT	6.8 µs	5.2 µs
ANDND	X, Y, C, S, T, CT	7.1 µs	4.9 µs

Bit Instructions

Bit Instructions (Accumulator)		DL06	
Instruction	Legal Data Types	Execute	Not Execute
SUM	None	6.7 µs	1.0 µs
SHFR	V:Data Reg. (N bits) V:Bit Reg. (N bits) K:Constant (N bits)	12.1 µs + 0.1 x N 8.4 µs + 0.1 x N	0.9 µs
SHFL	V:Data Reg. (N bits) V:Bit Reg. (N bits) K:Constant (N bits)	12.1 µs + 0.1 x N 8.4 µs + 0.1 x N	0.9 µs
ROTR	V:Data Reg. (N bits) V:Bit Reg. (N bits) K:Constant (N bits)	16.4 µs 16.4 µs 12.9 µs	1.0 µs 1.0 µs 1.0 µs
ROTL	V:Data Reg. (N bits) V:Bit Reg. (N bits) K:Constant (N bits)	16.4 µs 16.4 µs 12.7 µs	1.0 µs 1.0 µs 1.0 µs
ENCO	None	33.9 µs	0.9 µs
DECO	None	5.7 µs	1.0 µs

Number Conversion Instructions

Number Conversion Instructions (Accumulator)		DL06	
Instruction	Legal Data Types	Execute	Not Execute
BIN	None	100.2 µs	0.9 µs
BCD	None	95.2 µs	0.9 µs
INV	None	2.5 µs	1.0 µs
BCDPL	None	75.6 µs	1.0 µs
ATH	V	25.4 µs	1.0 µs
HTA	V	25.4 µs	1.0 µs
GRAY	None	110.8 µs	1.0 µs
SFLDGT	None	23.1 µs	1.0 µs
BTOR	None	18.6 µs	1.0 µs
RTOB	None	8.6 µs	1.0 µs
RADR	None	51.4 µs	1.0 µs
DEGR	None	81.5 µs	1.0 µs

Table Instructions

Table Instructions		DL06	
Instruction	Legal Data Types	Execute	Not Execute
MOV	Move V:data reg. to V:data reg Move V:bit reg. to V:data reg Move V:data reg. to V:bit reg Move V:bit reg. to V:bit reg. N=#of words	60.2 µs+9.5 x N	0.9 µs
MOVMC	Move V:data Reg to EEPROM Move V:Bit Reg to EEPROM Move from Date Label to V: Data Reg Move from Data Label to V: Bit Reg N= #of words	35 µs + 10.4 µs x N	0.9 µs
LDLBL	K	6.4 µs	1.3 µs
FILL	V: Data Reg V:Bit Reg K:Constant P:Indir. (Data) P:Indir. (bit)	29.4 µs + 8.0 µs x N 26.2 µs + 8.0 µs x N 55.1 µs + 8.0 µs x N	1.0 µs 1.0 µs 1.0 µs
FIND	V: Data Reg (N bits) V:Bit Reg. (N bits) K:Constant(N bits)	66.8 µs 66.8 µs 64.0 µs	1.0 µs 1.0 µs 1.0 µs

Table Instructions (cont'd)

Table Instructions		DL06	
Instruction	**Legal Data Types**	**Execute**	**Not Execute**
FDGT	V: Data Reg (N bits) V:Bit Reg. (N bits) K:Constant(N bits)	66.1 µs 66.1 µs 55.2 µs	1.0 µs 1.0 µs 1.0 µs
FINDB	V: Data Reg (N bits) V:Bit Reg. (N bits) P:Indir. (Data) P:Indir. (Bit)	210.8 µs 210.8 µs 237.0 µs 237.0 µs	1.0 µs 1.0 µs 1.0 µs 1.0 µs
TTD	V: Data Reg V:Bit Reg	66.9 µs 66.9 µs	1.0 µs 1.0 µs
RFB	V: Data Reg V:Bit Reg	66.8 µs 66.8 µs	1.0 µs 1.0 µs
STT	V: Data Reg V:Bit Reg K:Constant	67.8 µs 67.8 µs 65.0 µs	1.0 µs 1.0 µs 1.0 µs
RFT	V: Data Reg V:Bit Reg	51.1 µs 51.1 µs	1.0 µs 1.0 µs
ATT	V: Data Reg V:Bit Reg K:Constant	53.5 µs 53.5 µs 50.8 µs	1.0 µs 1.0 µs 1.0 µs
TSHFL	V: Data Reg V:Bit Reg	134.0 µs 134.0 µs	1.0 µs 1.0 µs
TSHFR	V: Data Reg V:Bit Reg	133.9 µs 133.9 µs	1.0 µs 1.0 µs
ANDMOV	V: Data Reg V:Bit Reg	80.2 µs 80.2 µs	1.0 µs 1.0 µs
ORMOV	V: Data Reg V:Bit Reg	80.4 µs 80.4 µs	1.0 µs 1.0 µs
XORMOV	V: Data Reg V:Bit Reg	80.4 µs 80.4 µs	1.0 µs 1.0 µs
SWAP	V: Data Reg V:Bit Reg	84.1 µs 84.1 µs	1.0 µs 1.0 µs
SETBIT	V: Data Reg (N bits) V:Bit Reg. (N bits)	59.5 µs 59.5 µs	1.0 µs 1.0 µs
RSTBIT	V: Data Reg (N bits) V:Bit Reg. (N bits)	59.5 µs 59.5 µs	1.0 µs 1.0 µs

CPU Control Instructions

CPU Control Instructions		DL06	
Instruction	Legal Data Types	Execute	Not Execute
NOP	None	1.1 µs	1.1 µs
END	None	24.0 µs	24.0 µs
STOP	None	10.0 µs	1.1 µs
RSTWT	None	5.9 µs	2.2 µs

Program Control Instructions

Program Control Instructions		DL06	
Instruction	Legal Data Types	Execute	Not Execute
GOTO	K	5.1 µs	4.8 µs
LBL	K	5.7 µs	0.0 µs
FOR	V, K	125.9 µs	14.5 µs
NEXT	None	64.4 µs	64.4 µs
GTS	K	27.5 µs	14.8 µs
SBR	K	1.5 µs	1.5 µs
RTC	None	25.7 µs	12.1 µs
RT	None	21.2 µs	21.2 µs
MLS	K	(1–7) 35.2 µs	35.2 µs
MLR	K	(0–7) 30.9 µs	30.9 µs

Interrupt Instructions

Interrupt Instructions		DL06	
Instruction	Legal Data Types	Execute	Not Execute
ENI	None	24.2 µs	2.7 µs
DISI	None	9.4 µs	2.3 µs
INT	O(0,1)	7.5 µs	–
IRTC	None	0.9 µs	1.3 µs
IRT	None	6.6 µs	–

Network Instructions

Network Instructions		DL06	
Instruction	Legal Data Types	Execute	Not Execute
RX	X, Y, C, T, CT, SP, S, $ V:Data Reg. V:Bit Reg. P:Indir. (Data) P:Indir. (Bit)	852.0 µs 852.0 µs 852.0 µs 868.2 µs 868.2 µs	4.4 µs 4.4 µs 4.4 µs 4.2 µs 4.2 µs
WX	X, Y, C, T, CT, SP, S, $ V:Data Reg. V:Bit Reg. P:Indir. (Data) P:Indir. (Bit)	1614.0 µs 1614.0 µs 1614.0 µs 1630.0 µs 1630.0 µs	4.4 µs 4.4 µs 4.4 µs 4.4 µs 4.4 µs

Intelligent I/O Instructions

Network Instructions		DL06	
Instruction	Legal Data Types	Execute	Not Execute
RD	V:Data Reg. V:Bit Reg.	385.7 µs 385.7 µs	1.2 µs 1.2 µs
WT	V:Data Reg. V:Bit Reg.	385.6 µs 385.6 µs	1.2 µs 1.2 µs

Message Instructions

Message Instructions		DL06	
Instruction	Legal Data Types	Execute	Not Execute
FAULT	V:Data Reg. V:Bit Reg. K:Constant	65.0 µs 65.0 µs 204.7 µs	4.4 µs 4.4 µs 4.4 µs
DLBL	K	–	–
NCON	K	–	–
ACON	A	–	–
PRINT	ASCII	631.0 µs	3.6 µs

RLLplus Instructions

RLL^{PLUS} Instructions		DL06	
Instruction	Legal Data Types	Execute	Not Execute
ISG	S	44.0 µs	41.1 µs
SG	S	44.0 µs	41.1 µs
JMP	S	76.0 µs	9.3 µs
NJMP	S	77.4 µs	9.3 µs
CV	S	42.1 µs	27.5 µs
CVJMP	S	89.5 µs	17.6 µs
BCALL	C	22.1 µs	22.6 µs
BLK	C	17.1 µs	14.6 µs
BEND	None	8.7 µs	0.0 µs

Drum Instructions

Drum Instructions		DL06	
Instruction	Legal Data Types	Execute	Not Execute
DRUM	CT	840.0 µs	339.6 µs
EDRUM	CT	753.2 µs	357.0 µs
MDRMD	CT	411.3 µs	216.4 µs
MDRMW	CT	378.6 µs	147.0 µs

Clock/Calendar Instructions

Clock/Calendar Instructions		DL06	
Instruction		Execute	Not Execute
DATE	V:Data Reg. V:Bit Reg.	24.0 µs	1.2 µs
TIME	V:Data Reg. V:Bit Reg.	50.8 µs	1.2 µs

MODBUS Instructions

Clock/Calendar Instructions		DL06	
Instruction		Execute	Not Execute
MRX	Input, Input Register Coil, Holding Register	120.2 µs	1.3 µs
MWX	Input, Input Register Coil, Holding Register	21.3 µs	1.3 µs

ASCII Instructions

ASCII Instructions		DL06	
Instruction	Legal Data Types	Execute	Not Execute
AIN	V	13.9 µs	12.0 µs
AFIND	V	111.5 µs	1.3 µs
AEX	V	111.7 µs	1.3 µs
CMPV	V	12.2 µs	1.3 µs
SWAPB	V	109.8 µs	1.3 µs
VPRINT	Text Data	161.6 µs	1.3 µs
PRINTV	V	163.3 µs	1.3 µs
ACRB	V	3.9 µs	1.1 µs