8.1   Performance Specification Of The FX1S

Item		Specification	Remarks
Operation control method		Cyclic operation by stored program	
I/O control method		Batch processing method (when END instruction is executed)	I/O refresh instruction is available
Operation processing time		Basic instructions: 0.55 to 0.7 μs Applied instructions: 1.65 to several 100 μs	
Programming language		Relay symbolic language + step ladder	Step ladder can be used to produce an SFC style program
Program capacity		2K steps	Provided by built in EEPROM memory
Number of instructions		Basic sequence instructions: 29 Step ladder instructions: 2 Applied instructions: 85	A Maximum 116 applied instructions are available including all variations
I/O configuration		Max total I/O set by Main Processing Unit	
Auxiliary relay (M coils)	General	384 points	M0 to M383
	Latched	128 points (subset)	M384 to M511
	Special	256 points	From the range M8000 to M8255
State relays (S coils)	General	128 points	S0 to S127
	Initial	10 points (subset)	S0 to S9
Timers (T)	100 msec	Range: 0 to 3,276.7 sec 63 points	T0 to T55
	10 msec	Range: 0 to 327.67 sec 31 points	T32 to T62 when special M coil M8028 is driven ON
	1 msec	Range: 0.001 to 32.767 sec 1 point	T63
Counters (C)	General	Range: 1 to 32,767 counts 16 points	C0 to C15 Type: 16 bit up counter
	Latched	16 points(subset)	C16 to C31 Type: 16 bit up counter
High speed counters (C)	1 phase	Range: -2,147,483,648 to +2,147,483,647 counts FX0: Select upto four 1 phase counters with a combined counting frequency of 5kHz or less.	C235 to C240 (note C235 is latched) 6 points
	1 phase c/w start stop input	Alternatively select one 2 phase or A/B phase counter with a counting frequency of 2kHz or less. FX0S: When multiple 1-phase counters are used the sum of the frequencies must be equal or less than 14kHz. Only 1, 2 phase high speed counter may be used at any one time. When 2 phase counters are in use the maximum counted speeds must be equal or less than 14kHz, calculated as (2 ph counter speed 5 number of counted edges) + 1 ph counter speeds.	C241(latched), C242 and C244 (latched) 3 points
	2 phase		C246, C247 and C249 (all latched) 3 points
	A/B phase		C251, C252 and C254 (all latched) 3 points

Item		Specification	Remarks
Data registers (D)	General	128 points	D0 to D127 Type:16 bit data storage register pair for 32 bit device
	Latched	128 points (subset)	D128 to D255 Type:16 bit data storage register pair for 32 bit device
	Externally adjusted	Range: 0 to 255 2 points	D8013 or D8030 & D8031 Data is entered indirectly through the external setting potentiometer
	Special	256 points (inclusive of D8013)	From the range D8000 to D8255 Type: 16 bit data storage register
	Index	16 points	V and Z Type: 16 bit data storage register
Pointers (P)	For use with CALL	64 points	P0 to P63
	For use with interrupts	6 points	I00☐ to I30☐ (rising trigger ☐ = 1, falling trigger ☐ = 0)
Nest levels		8 points for use with MC and MCR	N0 to N7
Constants	Decimal K	16 bit: -32,768 to +32,767 32 bit: -2,147,483,648 to +2,147,483,647	
	Hexadecimal H	16 bit: 0000 to FFFF 32 bit: 00000000 to FFFFFFFF	

8.2　　Performance Specification Of The FX1N

Item		Specification	Remarks
Operation control method		Cyclic operation by stored program	
I/O control method		Batch processing method (when END instruction is executed)	I/O refresh instruction is available
Operation processing time		Basic instructions: 0.55 to 0.7 μs Applied instructions: 1.65 to several 100 μs	
Programming language		Relay symbolic language + step ladder	Step ladder can be used to produce an SFC style program
Program capacity		8K steps	Provided by built in EEPROM memory
Number of instructions		Basic sequence instructions: 29 Step ladder instructions: 2 Applied instructions: 89	A Maximum 120 applied instructions are available including all variations
I/O configuration		Max hardware I/O configuration points 128, dependent on user selection (Max. software addressable Inputs 128, Outputs 128)	
Auxiliary relay (M coils)	General	384 points	M0 to M383
	Latched	1152 points (subset)	M384 to M1535
	Special	256 points	From the range M8000 to M8255

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Item		Specification	Remarks
State relays (S coils)	Latched	1000 points	S0 to S999
	Initial	10 points (subset)	S0 to S9
Timers (T)	100 msec	Range: 0 to 3,276.7 sec 200 points	T0 to T199
	10 msec	Range: 0 to 327.67 sec 46 points	T200 to T245
	1 msec	Range: 0 to 32.767 sec 4 point	T246 to T249
	100 msec retentive	Range: 0 to 3,276.7 sec 6 points	T250 to T255
Counters (C)	General	Range: 1 to 32,767 counts 16 points	C0 to C15 Type: 16 bit up counter
	Latched	184 points (subset)	C16 to C199 Type: 16 bit up counter
	General	Range: 1 to 32,767 counts 20 points	C200 to C219 Type: 32 bit bi-directional counter
	Latched	15 points (subset)	C220 to C234 Type: 32 bit bi-directional counter
High speed counters (C)	1 phase	Range: -2,147,483,648 to +2,147,483,647 counts	C235 to C240 6 points
	1 phase c/w start stop input	Select upto four 1 phase counters with a combined counting frequency of 5kHz or less.	C241, C242 and C244 3 points
	2 phase	Alternatively select one 2 phase or A/B phase counter with a counting frequency of 2kHz or less.	C246, C247 and C249 3 points
	A/B phase	Note all counters are latched	C251, C252 and C254 3 points
Data registers (D)	General	7128 points	D0 to D127 & D1000 to D7999 Type: 16 bit data storage register pair for 32 bit device
	Latched	872 points (subset)	D128 to D999 Type: 16 bit data storage register pair for 32 bit device
	File	7000 points	D1000 to D6999 set by parameter in 3 blocks of 500 program steps Type: 16 bit data storage register
	Externally adjusted	Range: 0 to 255 2 points	Data is move from external setting potentiometers to registers D8030 and D8031)
	Special	256 points (inclusive of D8013, D8030 and D8031)	From the range D8000 to D8255 Type: 16 bit data storage register
	Index	16 points	V and Z Type: 16 bit data storage register
Pointers (P)	For use with CALL	128 points	P0 to P127
	For use with interrupts	6 points	I00☐ to I30☐ (rising trigger ☐ = 1, falling trigger ☐ = 0)
Nest levels		8 points for use with MC and MCR	N0 to N7
Constants	Decimal K	16 bit: -32,768 to +32,767 32 bit: -2,147,483,648 to +2,147,483,647	
	Hexadecimal H	16 bit: 0000 to FFFF 32 bit: 00000000 to FFFFFFFF	

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8.3 Performance Specification Of The FX2N and the FX2NC PLC's

Item		Specification	Remarks
Operation control method		Cyclic operation by stored program	
I/O control method		Batch processing method (when END instruction is executed)	I/O refresh instruction is available
Operation processing time		Basic instructions: 0.08 μs Applied instructions: 1.52 to several 100 μs	
Programming language		Relay symbolic language + step ladder	Step ladder can be used to produce an SFC style program
Program capacity		8000 steps built in	Expandable to 16000 steps using additional memory cassette
Number of instructions		Basic sequence instructions: 20 Step ladder instructions: 2 Applied instructions: 125	A Maximum 125 applied instructions are available
I/O configuration		Max hardware I/O configuration points 255, dependent on user selection (Max. software addressable Inputs 255, Outputs 255)	
Auxiliary relay (M coils)	General	3072 points	M0 to M3071
	Latched	2572 points (subset)	M500 to M3071
	Special	256 points	From the range M8000 to M8255
State relays (S coils)	General	1000 points	S0 to S999
	Latched	500 points (subset)	S500 to S999
	Initial	10 points (subset)	S0 to S9
	Annunciator	100 points	S900 to S999
Timers (T)	100 msec	Range: 0 to 3,276.7 sec 200 points	T0 to T199
	10 msec	Range: 0 to 327.67 sec 46 points	T200 to T245
	1 msec retentive	Range: 0 to 32.767 sec 4 points	T246 to T249
	100 msec retentive	Range: 0 to 3,276.7 sec 6 points	T250 to T255
Counters (C)	General 16 bit	Range: 1 to 32,767 counts 200 points	C0 to C199 Type: 16 bit up counter
	Latched 16 bit	100 points (subset)	C100 to C199 Type: 16 bit up counter
	General 32 bit	Range: -2,147,483,648 to 2,147,483,647 35 points	C200 to C234 Type: 32 bit up/down counter
	Latched 32 bit	15 points (subset)	C219 to C234 Type: 16 bit up/down counter

Item		Specification	Remarks
High speed counters (C)	1 phase	Range: -2,147,483,648 to +2,147,483,647 counts General rule: Select counter combinations with a combined counting frequency of 20kHz or less. Note all counters are latched	C235 to C240 6 points
	1 phase c/w start stop input		C241 to C245 5 points
	2 phase		C246 to C250 5 points
	A/B phase		C251 to C255 5 points
Data registers (D)	General	8000 points	D0 to D7999 Type: 16 bit data storage register pair for 32 bit device
	Latched	7800 points (subset)	D200 to D7999 Type: 16 bit data storage register pair for 32 bit device
	File registers	7000 points	D1000 to D7999 set by parameter in 14 blocks of 500 program steps Type: 16 bit data storage register
	Special	256 points	From the range D8000 to D8255 Type: 16 bit data storage register
	Index	16 points	V0 to V7 and Z0 to Z7 Type: 16 bit data storage register
Pointers (P)	For use with CALL	128 points	P0 to P127
	For use with interrupts	6 input points, 3 timers, 6 counters	I00❑ to I50❑ and I644 to I844 (rising trigger ❑ =1, falling trigger ❑ =0, 44=time in msec)
Nest levels		8 points for use with MC and MCR	N0 to N7
Numbers	Decimal K	16 bit: -32,768 to +32,767 32 bit: -2,147,483,648 to +2,147,483,647	
	Hexadecimal H	16 bit: 0000 to FFFF 32 bit: 00000000 to FFFFFFFF	
	Floating Point	32 bit: 0, $\pm 1.175 \times 10^{-38}$, $\pm 3.403 \times 10^{38}$ (Not directly enterable)	