

# Ladder Logic Instruction List

Class	Type	Inst.	Symbol	Speed (ON/OFF) (μ sec)	
				2600T/2400T	2300T/L
Bit Manipulation	Normally Open	NO		0.3	0.3
	Normally Closed	NC		0.3	0.3
	Positive Transition	PT		1.7	1.7
	Negative Transition	NT		2.3	2.7
	Output Coil	OUT		9.9	10
	Retention Coil	M		9.9	10
	Negated Coil	NEG		0.3	0.3
	Negated Retention Coil	NM		10	10
	Unlatch Coil	RST		8	8.1
	Unlatch Retention Coil	RM		8	8.1
	Latch Coil	SET		8	8.1
	Latch Retention Coil	SM		8	8.1
Logic Operation	Logical Multiply	AND		0.3	0.3
	Bit Negation	NOT		0.3	0.3
	Logical Add	OR		3.1	3.3
	Exclusive Logical Add	XOR		0.3	0.3
Movement Instructions	Block Move	BMOV		0.3	0.3
	File Move	FMOV		0.3	0.3
	Move	MOV		0.3	0.3
	Rotate Left	ROL		0.3	0.3
	Rotate Right	ROR		0.3	0.3
	Shift Left	SHL		0.3	0.3
	Shift Right	SHR		0.3	0.3

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Mathematical Instructions	Add	ADD		0.3	0.3
	Subtract	SUB		0.3	0.3
	Multiply	MUL		0.3	0.3
	Divide	DIV		0.3	0.3
	Residual Processing	MOD		0.3	0.3
	Decrement	DEC		0.3	1.6
	Increment	INC		0.3	0.3
	Equal To (=)	EQ		0.3	0.3
	Greater Than (>)	GT		0.3	0.3
	Greater or Equal To (>=)	GE		0.3	0.3
	Less Than (<)	LT		0.3	0.3
	Less or Equal To (<=)	LE		0.3	0.3
Not Equal (<>)	NE		0.3	0.3	

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Timer/Counter Instructions	Timer On-Delay	TON		7.8	9.9
	Timer Off-Delay	TOF		11	12
	Timer Pulse	TP		4	7.6
	Counter Up	CTU		7.7	8.5
	Counter Down	CTD		7.9	7.9
	Counter Up Down	CTUD		18.8	19.2
Conversion	BCD Conversion	BCD		1.9	1.9
	<b>NEW</b> Encode*1	ENCO		3.6	4
	<b>NEW</b> Decode*1	DECO		1.5	3.2
	Binary Conversion	BIN		3.4	4
	Jump	JMP	-->LabelName		
	Jump to Subroutine	JSR	-->SubroutineName<<-		
	Return from Subroutine	RET	--<RETURN--		
<b>NEW</b> Repeat*1	FOR				
	NEXT				

\* All instruction speeds given here are for your reference only. Instruction execution speed can vary slightly from the above value, depending on program and memory conditions. For details, contact your local Pro-face distributor.  
 \*1 These new instructions will be provided on GP-Pro/PBIII C Package01.

