

Operation speed:
80 ns (up to 3 k steps)
580 ns (3 k and later steps)


Maximum I/O points:
128 points

Program capacity:
32 k steps

Tool port:
miniUSB

Battery-less:
F type

Pocket-size ultra-compact controller for use in extremely narrow spaces



Features

- **Large capacity program/data memory**
Program capacity: 32 k steps max.
Data register: 32 k words max.
- **Ultra-high speed processing**
80 ns / step (ST instruction)
* Within a range of 0 to 3,000 program steps
- **USB tool port provided as standard equipment**
Capable of high-speed program transfer with USB 2.0
- **Multi-axis control available without expansion units**
Built-in pulse outputs for four axes (50 kHz max. each)
- **Battery-less automatic backup of all data**
The F type has a built-in FeRAM, industry's first, that allows the automatic saving of all data without a backup battery.

SPECIFICATIONS

Performance specifications

Item		C10 (Relay output type only)	C14 (Relay output type only)	C16 (Transistor output type only)	C32 (Transistor output type only)	T32 (Transistor output type only)	F32 (Transistor output type only)
Programming method / Control method		Relay symbol / Cyclic operation					
Number of controllable I/O points	Control unit only (No expansion)	10 points (Input: 6, Output: 4)	14 points (Input: 8, Output: 6)	16 point (Input: 8, Output: 8)	32 points (Input: 16, Output: 16)	32 points (Input: 16, Output: 16)	
	W/expansion 1 * Same type of control and expansion units	Max. 58 points	Max. 62 points	Max. 112 points	Max. 128 points	Max. 128 points	
	W/expansion 2 * Mix type of relay and transistor units	Max. 106 points	Max. 110 points	Max. 112 points	Max. 128 points	Max. 128 points	
Program memory		Built-in flash EEPROM (no backup battery required)					
Program capacity		16,000 steps			32,000 steps		
Number of instructions	Basic instructions	110 types approx.					
	High-level instructions	210 types approx.					
Operation speed	Up to 3,000 steps	Basic instructions: 0.08 μs min., Timer instructions: 2.2 μs min., High-level instructions: 0.32 μs min. (MV instruction)					
	3,001st and later steps	Basic instructions: 0.58 μs min., Timer instructions: 3.66 μs min., High-level instructions: 1.62 μs min. (MV instruction)					
Operation memory	Relay	Internal relay (R)					
	Timer / Counter (T / C)	4,096 points					
	Memory area	Data register (DT)			1,024 points		
	Index register (IX, IY)	12,315 words			32,765 words		
Master control relay (MCR)		14 words (I0 to ID)					
Number of labels (JMP and LOOP)		256 points					
Differential points		256 points					
Number of step ladder		Equivalent to the program capacity					
Number of subroutines		1,000 stages					
Special functions		500 subroutines					
Special functions	High speed counter	Single-phase 6 channels (Max. 50 kHz each) or 2-phase 3 channels (Max. 15 kHz each) (Note)					
	Pulse output	Not available			4 channels (Max. 50 kHz each) Two channels can be controlled individually. (Note)		
	PWM output	Not available			4 channels (6 Hz to 4.8 kHz)		
	Pulse catch input / interrupt input	Total 8 channels (with high speed counter)					
	Interrupt program	Input: 8 programs (6 programs for C10 only) / Periodic: 1 program / Pulse match: 4 programs					
	Periodical interrupt	In units of 0.5 ms: 0.5 ms to 1.5 sec. / In units of 10 ms: 10 ms to 30 sec					
	Constant scan	In units of 0.5 ms: 0.5 ms to 600 ms					
	RS232C port	One RS232C port is mounted on each of C10CRS, C10CRM, C14CRS, C14CRM, C16CT, C16CP, C32CT, C32CP, T32CT, T32CP, F32CT and F32CP type (3P terminal block) Transmission speed (Baud rate): 2,400 to 115,200 bps, Transmission distance: 15 m 49.2 ft , Communication method: half duplex					
RS485 port	One RS485 port is mounted on each of C10MRS, C14MRS, C16MT, C16MP, C32MT, C32MP, T32MT, T32MP, F32MT and F32MP type (3P terminal block) Transmission speed (Baud rate): 115.2 kbps (It is possible to change to 19.2 kbps by the setting.), Transmission distance: 1,200 m 3937.0 ft , Communication method: half duplex						
Maintenance	Memory backup	Program and system register				Stored program and system register in flash EEPROM	
		Operation memory				Stored fixed area in flash EEPROM Counter: 16 points Internal relay: 128 points Data register: 315 words	
	Self-diagnostic function		Watchdog timer (690 ms approx.), program syntax check				
	Real-time clock function		Not available			Available	
	Other functions		Program edition during RUN, download in RUN mode (incl. comments), 8-character password setting and program upload protection				

Note: For the limitations while operating units, see the manual.