EX1N, 1S

Ex1RTC USER'S GUIDE

This manual only describes the specification for Ex1RTC.
These manuals should be read and understood before attempting to install or use the unit.

*** Specifications ***

Ex1RTC1-1	Real Time Clock Extension Board
	Install to more than 24 points of Ex1s, Ex1n,
	Ex2n series main unit.
	Capacitor back up (7days / 2 x EXRTC-CAP-B,
	up to 4 sets)
	Second, minute, hour, date, month, year, week (with
	compensation for leap year)
Ex1RTC1-2	EEPROM memory board
	8000 steps replaced internal EEPROM
	This doesn't include "Real Time Clock"
	function.
Ex1RTC1-3	EEPROM memory (8K steps) and Real Time clock Extension Board
	Install to more than 24 points of Ex1s, Ex1n,
	Ex2n series main unit.
	Capacitor back up (7days / 2 x EXRTC-CAP-B,
	up to 4 sets)
	Second, minute, hour, date, month, year, week (with
	compensation for leap year)
♦ EXRTC-C	AP-B is number of 0.33F/5.5V capacitor.

Ex1RTC1-4 / Ex1RTC1-5

SW-2	SW-1	Description
OFF (OFF	Execute internal EEprom program, not execute
	011	copy function.
ON		Execute external EEprom program, not execute
	OFF	copy function.
OFF ON		Copy EEprom program of RTC and content of D
	ON	register into EEprom of CPU.
ON	ON	Copy content of D register of EEprom which is
		inside CPU into EEprom of RTC.

- Can not turn switch during operation.
- To change another external EEprom when execute external EEprom: turn to internal EEprom, power ON and OFF, then change.

*** Applicable Items ***

Real Time Clock Extension Board is an option product.

The applicable item as follows,

- Ex1s24MR, Ex1s24MT, Ex1s32MR, Ex1s32MT
- Ex1n24MR, Ex1n24MT, Ex1n32MR, Ex1n32MT
- Ex2n24MR, Ex2n24MT, Ex2n32MR, Ex2n32MT
- *"Real Time Clock" function of Ex1n16MR, Ex1n14MT is build in (option).
- There are item no. "Ex1n16MR-1/Ex1n14MT-1" on the side-mark.

*** Installation ***



******* Application Note *******

M1000			data o	of time s	setting
		[MOVP	K4	D100] year
		[MOVP	K2	D101] month
		[MOVP	K17	D102] date
		[MOVP	K15	D103] hour
		[MOVP	K3	D104] minute
		[MOVP	K0	D105] second
M1000		[MOVP	K2	D106] week
		[T\	WRP	D100] Time write
∟ и1000 м80 ∤	013 Read onc	e per seco	ST ond, t RDP	D200 o redu D0] Error time clear ce scan time] Time read
	M8019	[IN	IC	D200] Error time
M8002		[R	ST data d	M8019)] Error flag clear
		-[MOV	K18	D20] hour
		[MOV	K0	D21] minute
		—[MOV	K0	D22] second
		[MOV	K22	D30] hour
		-[MOV	K0	D31] minute
M8000		[MOV	K0	D32] second
	TZCP D	20 D30 • 18:00 to	D3 22:00	M500 ON]
X001 Se	ect pulse me	ethod to e	xecu	-(9001 te adju -(M801) I stment 7)
×000 ⊣				-(M801)	6)
				-[END]

M8016	M8017	Time adjusting
ON		-60 seconds
OFF		+60 seconds

◆TWR D100 (continuously occupy 7 bits D100 – D106)

First, copy D8013 ~ D8019 as follows, then write

system RTC device

Item	Device		Device	Item
Year	D100	\rightarrow	D8018	Year
Month	D101	\rightarrow	D8017	Month
Date	D102	\rightarrow	D8016	Date
Hour	D103	\rightarrow	D8015	Hour
Minute	D104	\rightarrow	D8014	Minute
Second	D105	\rightarrow	D8013	Second
Week	D106	\rightarrow	D8019	Week

◆TRD D0 (continuously occupy 7 bits D0 – D6)

Read system RTC device time renewal D8013 – D8019, then copy to D0 - D6 as follows,

Item	Device		Device	Item	
Year	D0	←	D8018	Year	Sys
Month	D1	←	D8017	Month	stem
Date	D2	←	D8016	Date	inter
Hour	D3	←	D8015	Hour	nal c
Minute	D4	←	D8014	Minute	lock
Second	D5	←	D8013	Second	devi
Week	D6	←	D8019	Week	ce

◆TZCP Execute Time Compare instruction



System internal clock device

When X000 OFF, then not execute TZCP, M500~M502 status unchanged.

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