15 Appendix

last modified by admin

on 2022/06/09 09:45

Table of Contents

Attachment 1 Special Relay (SM)

Error message

SM label	Name	Content	R/W	Power-down data preservation
SM0	Latest error message	OFF: No error	R	×
		ON: There is an error		
SM1	Reserved			
SM2	Error resolution	OFF→ON: Clear wrong request	R/W	×
		ON→OFF: Error clearing completed		
SM3	Battery voltage is too low	OFF: Normal	R	×
		ON: Battery voltage is too low		
SM4	Low battery voltage latch	OFF: Normal	R	×
		ON: Battery voltage is too low		
SM5	Reserved		R	×
SM6	PLC Hardware Error	OFF: No error	R	×
		ON: There is an error		
SM7	PLC communication error	OFF: No error	R	×
		ON: There is an error		
SM10	Parameters error	OFF: No error	R	×
		ON: There is an error		
SM11	Operation Error	OFF: No error	R	×
		ON: There is an error		
SM14	Operation error latch	OFF: No error	R	×
		ON: There is an error		

System message

SM label	Name	Content	R/W	Power-down data preservation
SM30	Low battery warning shield	OFF: turn off (default)	R/W	×
		ON: open		
SM31	Clear all non-retentive registers	OFF→ON: Clear request	R/W	×
		ON→OFF: Clear completed		
SM32	Clear all holding registers	OFF→ON: Clear request	R/W	×
		ON→OFF: Clear completed		
SM33	All device remain unchanged in stop state	OFF: turn off (default)	R/W	×
		ON: open		
SM34	All PLC outputs are OFF	OFF: turn off	R/W	×

SM label	Name	Content	R/W	Power-down data preservation
SM35	Low battery BAT light status	ON: open OFF: BAT light is invalid ON: Low battery BAT light is on	R/W	×
SM36 to SM49	Reserved			
SM53 to SM99	Reserved			

Clock information

SM label	Name	Content	R/W	Power-down data preservation
SM100	Always ON after RUN		R	×
SM101	Always OFF after RUN		R	×
SM102	The 1st cycle after RUN is ON		R	×
SM103	The 1st cycle after RUN is OFF		R	×
SM104	USB power supply	USB power supply mode when ON. In this case, only download, clock setting, and password setting are allowed.	R	×
SM105 to SM106	Reserved		R	×
SM107	Clock stop and preset	Stop clock running and display	R/W	×
SM108	Clock reading display stops	Clock running at background, display stopped	R/W	×
SM109	1min oscillation clock	Switch state every 30 seconds	R	×
SM110	1ms oscillator clock	Switch state every 0.5ms	R	×
SM111	10ms oscillation clock	Switch state every 5ms	R	×
SM112	100ms oscillation clock	Switch state every 50ms	R	×
SM113	1s oscillation clock	Switch state every 500ms	R	×
SM114	nms oscillation clock	State switch for each (n/2) ms, n is set by SD114	R	×
SM115	ns oscillation clock	State switch for each (n/2) s, n is set by SD115	R	×
SM116	±30s correction	If the clock number is less than 30S, it is reset; if the clock number is greater than 30S, it is carried	R/W	×
SM117 to SM119	Reserved		R	×

Scan information

SM label	Name

SM120	Constant scan period	
SM121	RUN, STOP control	
SM122	Circuit program Watchdog function switch	

Instruction related

SM label	Name	Content	Power down data preservation
SM151	Carry sign	OFF: Operation does not carry ON: Operation carries	Have
SM152	Abdication sign	OFF: Operation does not abdicate ON: Operation abdicates	Have
SM153	Zero sign	OFF: Result is not zero ON: Result is zero	Have
SM160	XCH exchange mode	OFF: Parameter 1 is exchanged with parameter 2 ON: high	No

		8-bit is exchanged with eighth bits for parameter itself.
SM161	Bit processing mode (ASC, ASCI, BCC, CCD,CRC)	OFF: 16 bit processing mode ON: 8 bit processing mode
SM165	SORT/SORT2 instruction ascending and descending order selection	OFF: Ascending ON: Descending
SM167	HKY instruction HEX data processing	OFF: Number key + Function key ON : Hex key
SM168	SMOV instruction hexadecimal processing	OFF: Perform BIN→BCD conversion ON: BIN→BCD conversion is not performed
SM191	BINDA output character number switching signal	OFF: Output00H ON: There is no change
SM224	BMOV instruction direction	OFF: Forward transmission ON: Reverse transmission
SM226	RAMP instruction mode	OFF: looping

			execution mode
			ON: Hold after completion
SM227	PR mode	OFF :8 bytes serial output (fixed to 8 characters)	
		ON : 16-byte serial output (1 to 16 characters)	
SM229	Partial application instruction execution completed flag	OFF: Instruction not executed or under executing	
		ON: Instruction execution completed	
SM240	STL instruction transfer prohibited	OFF: Common action	
		ON: State transfer is prohibited	
SM241	IST instruction transfer start	OFF: The IST instruction is not performed	
		ON: IST instruction transfer started	
SM242	IST instruction corresponds to start input pulse output	OFF: Not Started	
		ON: Started	

SM243	End flag of IST command origin return state(User program control)	OFF: Regression through the origin is not finished ON: Regression through the origin is finished
SM244	IST instruction detects mechanical origin movement(User program control)	OFF: Non mechanical origin ON: Mechanical origin
SM245	STL instruction: disables all output reset during mode switch(User program control)	OFF: Full reset output when state is switched ON: No action when state is switched
SM246	IST instruction: It is ON in the state of STL	OFF: When the STL monitoring effect is OFF, or when the STL monitoring effect is ON and all stepping relays (S soft component) are OFF

SM247	STL monitoring is valid	ON: When STL monitoring is ON and any one of the stepping relay (S soft component) is ON.	OFF: Void
SM248	ANS command signal alarm action	ON: The STL monitoring becomes effective, and the state numbers in the action (S0 to S4095) are saved in the special auxiliary relays SD240 to SD247 in the order from small to large.	OFF: Alarm not working
		ON: Alarm working	
SM249	ANS command signal alarm is effective	ON: Alarm void	OFF: Alarm void

				ON: Alarm effective
SM340	DUTY timing clock output 1			CLKOUT for DUTY instruction R
SM341	DUTY timing clock output 2			R
SM342	DUTY timing clock output 3			R
SM343	DUTY timing clock output 4			R
SM344	DUTY timing clock output 5			R

Interrupt prohibited

SM label	Name	Content	R/W	Power-down data preservation
SM352	X0 rising edge interrupt	OFF: X0 rising edge interruption is valid	R	×
		ON: X0 rising edge interrupt is prohibited		
SM353	X0 falling edge interrupt	OFF: X0 falling edge interruption is valid	R	×
		ON: X0 falling edge interrupt is prohibited		
SM354	X1 rising edge interrupt	OFF: X1 rising edge interruption is valid	R	×
		ON: X1 rising edge interrupt is prohibited		
SM355	X1 falling edge interrupt	OFF: X1 falling edge interruption is valid	R/W	×
		ON: X1 falling edge interrupt is prohibited		
SM356	X2 rising edge interrupt	OFF: X2 rising edge interruption is valid	R/W	×
		ON: X2 rising edge interrupt is prohibited		
SM357	X2 falling edge interrupt	OFF: X2 falling edge interruption is valid	R/W	×
		ON: X2 falling edge interrupt is prohibited		
SM358	X3 rising edge interrupt	OFF: X3 rising edge interruption is valid	R/W	×
		ON: X3 rising edge interrupt is prohibited		
SM359	X3 falling edge interrupt	OFF: X3 falling edge interruption is valid	R/W	×
		ON: X3 falling edge interrupt is prohibited		
SM360	X4 rising edge interrupt	OFF: X4 rising edge interruption is valid	R/W	×
		ON: X4 rising edge interrupt is prohibited		
SM361	X4 falling edge interrupt	OFF: X4 falling edge interruption is valid	R/W	×
		ON: X4 falling edge interrupt is prohibited		

SM362	X5 rising edge interrupt	OFF: X5 rising edge interruption is valid	R/W	×
		ON: X5 rising edge interrupt is prohibited		
SM363	X5 falling edge interrupt	OFF: X5 falling edge interruption is valid	R/W	×
		ON: X5 falling edge interrupt is prohibited		
SM364	X6 rising edge interrupt	OFF: X6 rising edge interruption is valid	R/W	×
		ON: X6 rising edge interrupt is prohibited		
SM365	X6 falling edge interrupt	OFF: X6 falling edge interruption is valid	R/W	×
		ON: X6 falling edge interrupt is prohibited		
SM366	X7 rising edge interrupt	OFF: X7 rising edge interruption is valid	R/W	×
		ON: X7 rising edge interrupt is prohibited		
SM367	X7 falling edge interrupt	OFF: X7 falling edge interruption is valid	R/W	×
		ON: X7 falling edge interrupt is prohibited		

High-speed input and output

SM label	Name	Content	R/W	Power-down data preservation
SM400	HSC0 contact status	OFF:Calculated value does not reach the set value	R	×
		ON: Calculated value reaches the set value		
SM401	Moving direction of HSC0	OFF: forward and reverse	R	×
		ON: reverse direction		
SM405	HSC0 counting direction	OFF: count up	R/W	×
		ON: count down		
SM406 to SM429	Reserved			
SM430	HSC1 contact status	OFF:Calculated value does not reach the set value	R	×
		ON: Calculated value reaches the set value		
SM431	Moving direction of HSC1	OFF: forward direction	R	×
		ON: reverse direction		
SM435	HSC1 counting direction	OFF: count up	R/W	×
		ON: count down		
SM436 to SM459	Reserved			

SM460	HSC2 contact status	OFF:Calculated value does not reach the set value	R	×
		ON: Calculated value reaches the set value		
SM461	Moving direction of HSC2	OFF: forward direction	R	×
		ON: reverse direction		
SM465	HSC2 counting direction	OFF: count up	R/W	×
		ON: count down		
SM466 to SM489	Reserved			
SM490	HSC3 contact status	OFF:Calculated value does not reach the set value	R	×
		ON: Calculated value reaches the set value		
SM491	Moving direction of HSC3	OFF: forward and reverse	R	×
		ON: reverse direction		
SM495	HSC3 counting direction	OFF: count up	R/W	×
		ON: count down		
SM496 to SM519	Reserved			
SM520	HSC4 contact status	OFF:Calculated value does not reach the set value	R	×
		ON: Calculated value reaches the set value		
SM521	Moving direction of HSC4	OFF: forward and reverse	R	×
		ON: reverse direction		
SM525	HSC4 counting direction	OFF: count up	R/W	×
		ON: count down		
SM526 to SM549	Reserved			
SM550	HSC5 contact status	OFF:Calculated value does not reach the set value	R	×
		ON: Calculated value reaches the set value		
SM551	Moving direction of HSC5	OFF: forward direction	R	×
		ON: reverse direction		
SM555	HSC5 counting direction	OFF: count up	R/W	×
		ON: count down		
SM556 to SM579	Reserved			
SM580	HSC6 contact status	OFF:Calculated value does not reach the set value	R	×
		ON: Calculated value reaches the set value		
SM581	Moving direction of HSC6	OFF: forward direction	R	×
		ON: reverse direction		

SM585	HSC6 counting direction	OFF: count up	R/W	×
		ON: count down		
SM586 to SM609	Reserved			
SM610	HSC7 contact status	OFF:Calculated value does not reach the set value	R	×
		ON: Calculated value reaches the set value		
SM611	Moving direction of HSC7	OFF: forward direction	R	×
		ON: reverse direction		
SM615	HSC7 counting direction	OFF: count up	R/W	×
		ON: count down		
SM616 to SM639	Reserved			

Pulse output (positioning axis)

SM label	Name	Content	R/W	Power-down data preservation
SM880	CH1 Pulse sending	OFF: Pulse transmission has not started or completed	R/W	×
		ON: Pulse being sent		
SM881	CH1 Pulse sending error	OFF: Normal	R/W	×
		ON: Error		
SM882	CH1 Pulse sending stopped	OFF: Indicates that the pulse is being sent or started	R/W	×
		ON: Pulse transmission is complete		
SM883	CH1 Forward limit	OFF: Inactive	R/W	×
		ON: After the		

			function is enabled, forward pulse sending stops		
SM884	CH1 Reversal limit		OFF: Inactive	R/W	×
			ON: After the function is enabled, reverse pulse sending stops		
SM885	CH1 Rotation direction setting		OFF: Pulse meter value increases during forward rotation	R/W	×
			ON: Pulse meter value increases when reversed		
SM886	CH1 Origin return start		OFF: Disables the origin regression function. That is, the origin regression command is disabled and cannot be used.	R/W	×
			ON: Enable the origin regression function, that is, the origin regression command is		

			enabled and can be used normally (default).		
SM887		CH1 Origin regression direction	Reserved	R/W	×
SM888		Reserved		R/W	×
SM889		Reserved		R/W	×
SM890		Reserved		R/W	×
SM891		Reserved		R/W	×
SM892		CH1 External signal start	OFF: Receiving external signals when inactive	R/W	×
			ON: Receiving external signals when activated		
SM893		CH1 External signal logic	OFF: No external signal is received	R/W	×
			ON: Receives external signals		
SM894		CH1 Interrupt signal start	OFF: Turns OFF the interrupt signal and cannot use the DVIT command	R/W	×
			ON: Turn ON interrupt signal (default)		
SM895		CH1 Interrupt signal logic	OFF: No interrupt signal is received	R/W	×
			ON: Interrupt		

		signal is received		
SM896	CH1 External limit signal open	CH1 Limit signal on	R/W	
SM897	CH1 PWM mode	OFF: 16-bit pulse output mode	R/W	×
		ON: 1000 ratio mode		
SM898	CH1 Immediately stop	OFF: No action is performed	R/W	×
		ON: Stop pulse output immediately without acceleration or deceleration		
SM899	CH1 scan period is not processed	OFF: Common mode, stop after sending (default)	R/W	×
		ON: Stop or slow down immediately		
SM900	CH1 start speed setting	OFF: Use self-contained acceleration and deceleration	R/W	×
		ON: Use set acceleration and deceleration		
SM940	CH2 Pulse sending	OFF: Pulse transmission has not	R/W	×

			started or completed		
			ON: Pulse being sent		
SM941		CH2 Pulse sending error	OFF: Normal	R/W	×
			ON: Error		
SM942		CH2 Pulse sending stopped	OFF: Indicates that the pulse is being sent or started	R/W	×
			ON: Pulse transmission is complete		
SM943		CH2 Forward limit	OFF: Inactive	R/W	×
			ON: After the function is enabled, forward pulse sending stops		
SM944		CH2 Reversal limit	OFF: Inactive	R/W	×
			ON: After the function is enabled, reverse pulse sending stops		
SM945		CH2 Rotation direction setting	OFF: Pulse meter value increases during forward rotation	R/W	×
			ON: Pulse		

			meter value increases when reversed	
SM946	CH2 Origin return start	OFF: Disables the origin regression function. That is, the origin regression command is disabled and cannot be used. ON: Enable the origin regression function, that is, the origin regression command is enabled and can be used normally (default).	R/W	×
SM947	CH2 Origin regression direction	Reserved	R/W	×
SM948	Reserved			
SM949	Reserved			
SM950	Reserved			
SM951	Reserved			
SM952	CH2 External start signal start	OFF: Receiving external signals when inactive ON: Receiving external signals when activated	R/W	×
SM953	CH2 External start signal logic	OFF: No external signal	R/W	×

			is received		
			ON: Receives external signals		
SM954		CH2 Interrupt signal start	OFF: Turns OFF the interrupt signal and cannot use the DVIT command	R/W	×
			ON: Turn ON interrupt signal (default)		
SM955		CH2 Interrupt input signal logic	OFF: No interrupt signal is received	R/W	×
			ON: Interrupt signal is received		
SM956		CH2 External limit signal open	CH2 Limit signal on	R/W	×
SM957		CH2 PWM mode	OFF: 16-bit pulse output mode	R/W	×
			ON: 1000 ratio mode		
SM958		CH2 Immediately stop	OFF: No action is performed	R/W	×
			ON: Stop pulse output immediately without acceleration		

		or deceleration		
SM959	CH1 scan period is not processed	OFF: Common mode, stop after sending (default)	R/W	×
		ON: Stop or slow down immediately		
SM960	CH2 Start speed setting	OFF: Use self-contained acceleration and deceleration	R/W	×
		ON: Use set acceleration and deceleration		
SM1000	CH3 Pulse sending	OFF: Pulse transmission has not started or completed	R/W	×
		ON: Pulse being sent		
SM1001	CH3 Pulse sending error	OFF: Normal	R/W	×
		ON: Error		
SM1002	CH3 Pulse sending stopped	OFF: Indicates that the pulse is being sent or started	R/W	×
		ON: Pulse transmission is complete		

SM1003	CH3 Forward limit	OFF: Inactive	R/W	×
		ON: After the function is enabled, forward pulse sending stops		
SM1004	CH3 Reversal limit	OFF: Inactive	R/W	×
		ON: After the function is enabled, reverse pulse sending stops		
SM1005	CH3 Rotation direction setting	OFF: Pulse meter value increases during forward rotation	R/W	×
		ON: Pulse meter value increases when reversed		
SM1006	CH3 Origin return start	OFF: Disables the origin regression function. That is, the origin regression command is disabled and cannot be used.	R/W	×
		ON: Enable the origin regression function,		

		that is, the origin regression command is enabled and can be used normally (default).	
SM1007	CH3 Origin regression direction	Reserved R/W	×
SM1008	Reserved		
SM1009	Reserved		
SM1010	Reserved		
SM1011	Reserved		
SM1012	CH3 External start signal start	OFF: Receiving external signals when inactive ON: Receiving external signals when activated	R/W	×
SM1013	CH3 External start signal logic	OFF: No external signal is received ON: Receives external signals	R/W	×
SM1014	CH3 Interrupt signal start	OFF: Turns OFF the interrupt signal and cannot use the DVIT command ON: Turn ON interrupt signal (default)	R/W	×
SM1015	CH3 Interrupt input signal logic	OFF: No	R/W	×

			interrupt signal is received		
			ON: Interrupt signal is received		
SM1016		CH3 External limit signal open	CH3 Limit signal on	R/W	×
SM1017		CH3 PWM mode	OFF: 16-bit pulse output mode	R/W	×
			ON: 1000 ratio mode		
SM1018		CH3 Immediately stop	OFF: No action is performed	R/W	×
			ON: Stop pulse output immediately without acceleration or deceleration		
SM1019		CH1 scan period is not processed	OFF: Common mode, stop after sending (default)	R/W	×
			ON: Stop or slow down immediately		
SM1020		CH3 Start speed setting	OFF: Use self-contained acceleration and deceleration	R/W	×
			ON: Use set acceleration		

			and deceleration		
SM1060	CH4 Pulse sending		OFF: Pulse transmission has not started or completed	R/W	×
			ON: Pulse being sent		
SM1061	CH4 Pulse sending error		OFF: Normal	R/W	×
			ON: Error		
SM1062	CH4 Pulse sending stopped		OFF: Indicates that the pulse is being sent or started	R/W	×
			ON: Pulse transmission is complete		
SM1063	CH4 Forward limit		OFF: Inactive	R/W	×
			ON: After the function is enabled, forward pulse sending stops		
SM1064	CH4 Reversal limit		OFF: Inactive	R/W	×
			ON: After the function is enabled, reverse pulse sending stops		
SM1065	CH4 Rotation direction setting		OFF: Pulse meter	R/W	×

			value increases during forward rotation		
			ON: Pulse meter value increases when reversed		
SM1066		CH4 Origin return start	OFF: Disables the origin regression function. That is, the origin regression command is disabled and cannot be used.	R/W	×
			ON: Enable the origin regression function, that is, the origin regression command is enabled and can be used normally (default)。		
SM1067		CH4 Origin regression direction	Reserved	R/W	×
SM1068		Reserved			
SM1069		Reserved			
SM1070		Reserved			
SM1071		Reserved			
SM1072		CH4 External start signal start	OFF: Receiving external signals when inactive	R/W	×
			ON: Receiving		

			external signals when activated		
SM1073	CH4 External start signal logic		OFF: No external signal is received	R/W	×
			ON: Receives external signals		
SM1074	CH4 Interrupt signal start		OFF: Turns OFF the interrupt signal and cannot use the DVIT command	R/W	×
			ON: Turn ON interrupt signal (default)		
SM1075	CH4 Interrupt input signal logic		OFF: No interrupt signal is received	R/W	×
			ON: Interrupt signal is received		
SM1076	CH4 External limit signal open		CH4 Limit signal on		
SM1077	CH4 PWM mode		OFF: 16-bit pulse output mode	R/W	×
			ON: 1000 ratio mode		
SM1078	CH4 Immediately stop		OFF: No action is performed	R/W	×

			ON: Stop pulse output immediately without acceleration or deceleration	
SM1079	CH4 scan period is not processed	OFF: Common mode, stop after sending (default)	R/W	×
		ON: Stop or slow down immediately		
SM1120	CH5 Pulse sending	OFF: Use self-contained acceleration and deceleration	R/W	×
		ON: Use set acceleration and deceleration		
SM1121	CH5 Pulse sending error	OFF: Pulse transmission has not started or completed	R/W	×
		ON: Pulse being sent		
SM1122	CH5 Pulse sending stopped	OFF: Normal	R/W	×
		ON: Error		
SM1123	CH5 Forward limit	OFF: Indicates that the pulse is being sent or started	R/W	×

			ON: Pulse transmission is complete	
SM1124	CH5 Reversal limit		OFF: Inactive	R/W ×
			ON: After the function is enabled, forward pulse sending stops	
SM1125	CH5 Rotation direction setting		OFF: Inactive	R/W ×
			ON: After the function is enabled, reverse pulse sending stops	
SM1126	CH5 Origin return start		OFF: Pulse meter value increases during forward rotation	R/W ×
			ON: Pulse meter value increases when reversed	
SM1127	CH5 Origin regression direction		OFF: Disables the origin regression function. That is, the origin regression command is disabled and cannot be used.	R/W ×

		ON: Enable the origin regression function, that is, the origin regression command is enabled and can be used normally (default).	
SM1128	Reserved	Reserved	R/W	×
SM1129	Reserved		
SM1130	Reserved		
SM1131	Reserved		
SM1132	CH5 External signal start		
SM1133	CH5 External signal logic	OFF: Receiving external signals when inactive ON: Receiving external signals when activated	R/W	×
SM1134	Interrupt signal start	OFF: No external signal is received ON: Receives external signals	R/W	×
SM1135	CH5 Interrupt signal logic	OFF: Turns OFF the interrupt signal and cannot use the DVIT command ON: Turn ON	R/W	×

		interrupt signal (default)	
SM1136	CH5 External limit signal open	CH5 Limit signal on	R/W	×
SM1137	CH5 PWM mode		R/W	×
SM1138	CH5 Immediately stop	OFF: 16-bit pulse output mode	R/W	×
		ON: 1000 ratio mode	
SM1139	CH5 scan period is not processed	OFF: No action is performed	R/W	×
		ON: Stop pulse output immediately without acceleration or deceleration	
SM1140	CH5 Start speed setting	OFF: Common mode, stop after sending (default)	R/W	×
		ON: Stop or slow down immediately	
SM1180	CH6 Pulse sending	OFF: Use self-contained acceleration and deceleration	R/W	×
		ON: Use set acceleration and deceleration	
SM1181	CH6 Pulse sending error	OFF: Pulse transmission has	R/W	×

			not started or completed	
SM1182	CH6 Pulse sending stopped	ON: Pulse being sent OFF: Normal	R/W	×
SM1183	CH6 Forward limit	ON: Error OFF: Indicates that the pulse is being sent or started	R/W	×
SM1184	CH6 Reversal limit	ON: Pulse transmission is complete OFF: Inactive	R/W	×
SM1185	CH6 Rotation direction setting	ON: After the function is enabled, forward pulse sending stops OFF: Inactive	R/W	×
SM1186	CH6 Origin return start	ON: After the function is enabled, reverse pulse sending stops OFF: Pulse meter value increases during forward rotation	R/W	×

SM1187	CH6 Origin regression direction	ON: Pulse meter value increases when reversed OFF: Disables the origin regression function. That is, the origin regression command is disabled and cannot be used. ON: Enable the origin regression function, that is, the origin regression command is enabled and can be used normally (default).	R/W ×
SM1188	Reserved	Reserved	R/W ×
SM1189	Reserved		
SM1190	Reserved		
SM1191	Reserved		
SM1192	CH6 External signal start		
SM1193	CH6 External signal logic	OFF: Receiving external signals when inactive ON: Receiving external signals when activated	R/W ×
SM1194	CH6 Interrupt signal start	OFF: No	R/W ×

		external signal is received	
		ON: Receives external signals	
SM1195	CH6 Interrupt input signal logic	OFF: Turns OFF the interrupt signal and cannot use the DVIT command	R/W ×
		ON: Turn ON interrupt signal (default)	
SM1196	CH6 External limit signal open	CH6 Limit signal on	R/W ×
SM1197	CH6 PWM mode		
SM1198	CH6 Immediately stop	OFF: 16-bit pulse output mode	R/W ×
		ON: 1000 ratio mode	
SM1199	CH6 Scan period processing is not performed	OFF: No action is performed	R/W ×
		ON: Stop pulse output immediately without acceleration or deceleration	
SM1200	CH6 start speed setting	OFF: Common mode, stop after sending (default)	R/W ×

			ON: Stop or slow down immediately		
SM1240	CH7 Pulse sending		OFF: Use self-contained acceleration and deceleration	R/W	×
			ON: Use set acceleration and deceleration		
SM1241	CH7 Pulse sending error		OFF: Pulse transmission has not started or completed	R/W	×
			ON: Pulse being sent		
SM1242	CH7 Pulse sending stopped		OFF: Normal	R/W	×
			ON: Error		
SM1243	CH7 Forward limit		OFF: Indicates that the pulse is being sent or started	R/W	×
			ON: Pulse transmission is complete		
SM1244	CH7 Reversal limit		OFF: Inactive	R/W	×
			ON: After the function is enabled, forward pulse		

			sending stops	
SM1245	CH7 Rotation direction setting	OFF: Inactive	R/W	×
		ON: After the function is enabled, reverse pulse sending stops		
SM1246	CH7 Origin return start	OFF: Pulse meter value increases during forward rotation	R/W	×
		ON: Pulse meter value increases when reversed		
SM1247	CH7 Origin regression direction	OFF: Disables the origin regression function. That is, the origin regression command is disabled and cannot be used.	R/W	×
		ON: Enable the origin regression function, that is, the origin regression command is enabled and can be used		

		normally (default).	
SM1248	Reserved	Reserved R/W	×
SM1249	Reserved		
SM1250	Reserved		
SM1251	Reserved		
SM1252	CH7 External start signal start		
SM1253	CH7 External start signal logic	OFF: Receiving external signals when inactive	R/W	×
		ON: Receiving external signals when activated	
SM1254	CH7 Interrupt signal start	OFF: No external signal is received	R/W	×
		ON: Receives external signals	
SM1255	CH7 Interrupt input signal logic	OFF: Turns OFF the interrupt signal and cannot use the DVIT command	R/W	×
		ON: Turn ON interrupt signal (default)	
SM1256	CH7 External limit signal open	CH7 Limit signal on	R/W	×
SM1257	CH7 PWM mode		
SM1258	CH7 Immediately stop	OFF: 16-bit pulse output mode	R/W	×
		ON: 1000	

		ratio mode	
SM1259	CH7 Scan interval is not performed	OFF: No action is performed	R/W ✕
		ON: Stop pulse output immediately without acceleration or deceleration	
SM1300	Pulse sending	OFF: Common mode, stop after sending (default)	R/W ✕
		ON: Stop or slow down immediately	
SM1301	CH8 Pulse sending error	OFF: Use self-contained acceleration and deceleration	R/W ✕
		ON: Use set acceleration and deceleration	
SM1302	CH8 Pulse sending stopped	OFF: Pulse transmission has not started or completed	R/W ✕
		ON: Pulse being sent	
SM1303	CH8 Forward limit	OFF: Normal	R/W ✕
		ON: Error	
SM1304	CH8 Reversal limit	OFF: Indicates	R/W ✕

			that the pulse is being sent or started	
			ON: Pulse transmission is complete	
SM1305		CH8 Rotation direction setting	OFF: Inactive	R/W ✕
			ON: After the function is enabled, forward pulse sending stops	
SM1306		CH8 Origin return start	OFF: Disables the origin regression function. That is, the origin regression command is disabled and cannot be used.	R/W
			ON: Enable the origin regression function, that is, the origin regression command is enabled and can be used normally (default)。	
SM1307		CH8 Origin regression direction	Reserved	R/W

SM1308	Reserved	R/W
SM1309	Reserved	R/W
SM1310	Reserved	R/W
SM1311	Reserved	R/W
SM1312	CH8 External start signal start	OFF: R/W Receiving external signals when inactive ON: Receiving external signals when activated
SM1313	CH8 External start signal logic	OFF: R/W No external signal is received ON: Receives external signals
SM1314	CH8 Interrupt signal start	OFF: R/W Turns OFF the interrupt signal and cannot use the DVIT command ON: Turn ON interrupt signal (default)
SM1315	CH8 Interrupt input signal logic	OFF: R/W No interrupt signal is received ON: Interrupt signal is received
SM1316	CH8 External limit signal open	CH8 R/W Limit signal on

SM label	Name	Content	
SM1317	CH8 PWM mode	OFF: 16-bit pulse output mode	R/W
		ON: 1000 ratio mode	
SM1318	CH8 Immediately stop	OFF: No action is performed	R/W
		ON: Stop pulse output immediately without acceleration or deceleration	
SM1319	Reserved	OFF: Common mode, stop after sending (default)	R/W
		ON: Stop or slow down immediately	
SM1320	CH8 Start speed setting	OFF: Use self-contained acceleration and deceleration	
		ON: Use set acceleration and deceleration	

BD board module

SM label	Name	Content
BD board 1		
SM2010	BD1 first switch	The BD board has different models and functions. F

SM2011	BD1 second way switch	
SM2012	BD1 third way switch	
SM2013	BD1 fourth way switch	

BD board 2

SM2030	BD2 first switch	The BD board has different models and functions. F
SM2031	BD2 second way switch	
SM2032	BD2 third way switch	
SM2033	BD2 fourth switch	

Communication

SM label	Name	Content

Communication COM1

SM2540	COM1 Sending- control function is enabled	
	COM1 Sending- control/sent & reminding function	
	COM1 Receive - control is enabled	
SM2541	COM1 Sending- control function is enabled	
	COM1 Sending- control/sent & reminding function	
	COM1 Receive - control is enabled	
SM2542	COM1 Sending- control function is enabled	
	COM1 Sending- control/sent & reminding function	
	COM1 Receive - control is enabled	
SM2543	Control acceptance /prompt receiving	
SM2548	8-bit mode	
SM2560	Communication completion mark	
SM2561	Receiving sign	
SM2562	Retry occurs	
SM2563	Communication error	
SM2564	Communication timeout	
SM2565	Reserved	
SM2566	Reserved	
SM2567	Reserved	
SM2568	Reserved	
SM2569	Reserved	

BM2570 Reserved

BM2571 Reserved

Communication COM2

SM2590 COM2 sending- control function is enabled | OFF: Data transmission will be controll

  COM2 sending- control/sent & reminding function | ON: Data is automatically sent

  COM2 receive - control is enabled

SM2591 COM2 sending- control function is enabled | OFF→ON: Start of data transmission

  COM2 sending- control/sent & reminding function | ON→OFF: End of data transmission

  COM2 receive - control is enabled

SM2592 COM2 sending- control function is enabled | OFF: Automatic stop when data receiv

  COM2 sending- control/sent & reminding function | ON: Normal reception, not affected

  COM2 receive - control is enabled

SM2593 COM2 control acceptance /prompt receiving | OFF: Data is not fully received or data

   | ON: Full data reception or data rece

SM2594 COM2 8-bit mode (used by RS custom protocol) | OFF: 16-bit mode

   | ON: 8-bit mode

SM2610 Communication completion mark | OFF: Communication is not completed

   | ON: Communication is completed

BM2611 Receiving sign | OFF: No data is received

   | ON: Data is being received

BM2612 Retry occurs | OFF: No retries occur

   | ON: Retry occurs

SM2613 Communication error | OFF: No error

   | ON: Communication error occurs

SM2614 Communication timeout | OFF: Normal communication

   | ON: Communication timeout

BM2615 Reserved

List of Special devices related to Ethernet

SM number	Name	Content	Down save
SM2681	Display the current network information	Refresh the current IP, subnet mask, default gateway after ON, and then OFF after the refresh is complete	We

SM2682	Display the current MAC information	Refresh the current MAC, and then OFF after the refresh is complete
SM2683	IP, subnet mask, gateway modification flag	ON: changeable OFF: unchangeable (When is set to ON, modify when stop->run, and then turn OFF after modification is complete)
SM2684	Network card connection status	ON: Network is connecting OFF: Network is not connecting, please check whether the wire is connected
SM2692	MAC address modification flag	ON: changeable OFF: unchangeable (When is set to ON, modify when stop-

			>run, and then turn OFF after modification is complete)
SM2700	ModbusTCP keep alive mechanism		ON: enable
			OFF: disable (default)
SM2701	ModbusTCP server is forced to shut down		ON: enable
			OFF: disable (default)
			(After successfully close the enable, it automatically changes to OFF)
SM2710	Ethernet error flag		ON: Ethernet error, please check SD2710 and SD2711
			OFF: No Ethernet error
SM2740	ModbusTCP server connection status 1		ON: The client is connected
			OFF: The client is not connected
SM2760	ModbusTCP server connection status 2		ON: The client is connected
			OFF: The client

		is not connected
SM2780	ModbusTCP server connection status 3	ON: The client is connected
		OFF: The client is not connected
SM2800	ModbusTCP server connection status 4	ON: The client is connected
		OFF: The client is not connected
SM2820	ModbusTCP server connection status 5	ON: The client is connected
		OFF: The client is not connected
SM2840	ModbusTCP server connection status 6	ON: The client is connected
		OFF: The client is not connected
SM2860	ModbusTCP server connection status 7	ON: The client is connected
		OFF: The client is not connected
SM2880	ModbusTCP server connection status 8	ON: The

client
is
connected

OFF:
The
client
is
not
connected

Appendix 2 Special Register (SD)

Error message

SD label	Name	Content	RW	Power-down data preservation
SD0	Latest error message Error code	Latest self-diagnosed error code will be stored	R	X
SD1	Reserved			
SD2	Set minimum battery voltage	Default value: 26 (2.6V) Unit: 0.1 V	R/W	X
SD3	Current battery voltage	Default value: 26 (2.6V) Unit: 0.1 V	R/W	X
SD4	Battery voltage latch value	Battery voltage value, in unit of 0.1V, when the battery voltage is too low and the latching error occurs	R	X

SD5	AC/DC power down times	Record the number of times the current power supply fails and restarts automatically
SD6	Error code of PLC hardware error	Hardware error code will be stored
SD7	PLC communication Error code	Communication error code will be stored
SD8	PLC communication error step number low word	Circuit program step numbers for communication error will be stored, double-word
SD9	PLC communication error step number high word	Parameter error codes will be stored
SD10	Parameter Error code	Error codes for operation errors are stored
SD11	Operation Error code	Circuit program step number of the operation error will be stored,

				double word
SD12	Operation error program step number low word	Error code for operation error is stored and cannot be cleared by the error lifting function	R	X
SD13	Operation error program step number high word	Circuit program step number of the operation error will be stored, double word, cannot be cleared by error lifting function, double word	R	X
SD14	Operation Error code latch	An unexpected error occurred in the PLC	R	X
SD15	Operation error program step number latch low word	Recovered time after AC220V power failure will be stored, unit: ms	R	X
SD16	Operation error program step number latch high word		R	X
SD17	Program error Error code	The latest self-diagnosing error	R	X

			code will be stored
SD18	AC220V power down recovery time		R X
SD19 to SD29	Reserved		Default value: 26 (2.6V)

System message

SD label	Name	Content	R/W	Power-down data preservation
SD30	Model ID	PLC model ID is stored and cannot be modified	R	X
SD31	Software version number	PLC software version number is stored and cannot be modified	R	X
SD32	Hardware version number	PLC hardware version number is stored and cannot be modified	R	X
SD33	Input points	PLC input points are stored and cannot be modified	R	X
SD34	Output points	Output points of PLC are stored and cannot be modified	R	X
SD35	Number of high-speed input shafts	Number of high speed input shafts is stored, cannot be modified	R	X
SD36	Number of high-speed output shafts	Number of PLC high speed output shafts is stored and cannot be modified	R	X
SD37、SD38	Relay identification	Identify how many output points are of relay type,Using mask method, each bit identifies an output point, 1 code stands for relay type	R	X
SD40 to SD47	Product unique ID (16 bytes)	Unique ID code of the product is stored and cannot be modified	R	X
SD48	Compile the link version	PLC compiler linked module version is stored, and cannot be modified	R	X
SD49	Production information string	Production information is stored, and ASCII code is saved		X
SD50 to SD99	Model ID	PLC model ID is stored and cannot be modified	R	X

Clock information

SD label	Name	Content	R/W	Power-down data preservation

SD100	Real time clock seconds (0 to 59)	PLC built-in RTC clock	R	X
SD101	Real-time clock minutes (0 to 59)		R	X
SD102	Real-time clock hour (0 to 23)		R	X
SD103	Real-time clock day (1 to 31)		R	X
SD104	Real-time clock month (1 to 12)		R	X
SD105	Real-time clock Gregorian calendar year (2000 to 2099)		R	X
SD106	Real time clock week		R	X
SD107 to SD113	Reserved			
SD114	n value of nms oscillation clock	Set SM114 clock oscillator n to 500ms by default	R/W	X
SD115	n value of ns oscillation clock	Set SM115 clock oscillator n to 2s by default	R/W	X
SD116 to SD119	Reserved			

Scan information

SM label	Name	Content
SD120	Constant scan cycle time setting (ms)	Default: 10ms
SD122	Watchdog timer time setting value	Unit ms, default 200
SD128	Ms part of current scan cycle value (ms part)	• The current scan time will be stored in SD128 and SD129. (Measure
SD129	Scan period current value (us part)	SD128: store ms bits (storage range: 0 to 65535)
		SD129: store μs bits (storage range: 0 to 999)
		(Example) When the current scan time is 23.6ms, Store as follows:
		SD128=23
		SD129=600
		• STOP→RUN zero clearing will be performed once
SD130	Ms part of the maximum scan period	Maximum scan time excluding the scan time of the initial execution pr
SD131	Maximum scan period us part	SD130: Store ms bits (storage range: 0 to 65535)
		SD131: Store μs bits (storage range: 0 to 999)
		• STOP→RUN zero clearing will be performed once
SD132	Scan period minimum ms part	The minimum scan time excluding the scan time of the initial executio
SD133	Scan period minimum us part	SD130: Store ms bits (storage range: 0 to 65535)
		SD131: Store μs bits (storage range: 0 to 999)
		• STOP→RUN zero clearing will be performed once
SD134	Ms part of initial scan time	• The initial scan time will be stored in SD134 and SD135. (Measured
SD135	Initial scan time us part	SD134: store ms bits (storage range: 0 to 65535)
		SD135: store μs bits (storage range: 0 to 999)

		• STOP→RUN zero clearing will be performed once
SD136	END processing time ms part	• After the scan, the time until the start of the next scan will be stored
SD137	END processing time us part	SD136: store ms bits (storage range: 0 to 65535)
		SD137: store μs bits (storage range: 0 to 999)
		• STOP→RUN zero clearing will be performed once
SD138	Ms part of program execution time	Constant scan wait time (in ms)
SD139	Program execution time us part	• Wait times for constant scan Settings are stored in SD138 and SD
		SD138: Store ms bits (storage range: 0 to 65535)
		SD149: Store μs bits (storage range: 0 to 999)
		• STOP→RUN zero clearing will be performed once
SD140	Constant scan cycle waiting time ms	• Execution time of a scan is stored in SD140 and SD141. (Measured
SD141	Constant scan cycle waiting time us	SD140: store ms bits (storage range: 0 to 65535)
		SD141: store μs bits (storage range: 0 to 999)
		• STOP→RUN zero clearing will be performed once
SD150	Current interrupt priority	During the execution of the interrupt program, the priority of interrupts
		0 to 2: Priority of interrupt pointer for an executing interrupt program
SD151	Priority of interrupts currently prohibited	According to interrupt prohibition instruction (DI instruction),interrupt
		0: interrupt prohibition with all priority (default)
		1: interrupt prohibition with priority level 1 and priority level 2.
		2: interrupt prohibition with priority level 2.
		3: interrupt enable with all priority.

Instruction related

SM label	Name	Content
SD150	Current interrupt priority	During the execution of the interrupt program, the p
		1 to 3: The interrupt pointer priority of the interrup
		0: No interrupt is executed (default)
SD151	Currently interrupt prohibition priority	According to the interrupt prohibition instruction (DI interrupts are disabled (default) 1: Priority 1 and 2 i
SD240	For STL: ON status number 1	The S soft element number of the ON status in STL
SD241	For STL: ON status number 2	
SD242	For STL: ON status number 3	
SD243	For STL: ON status number 4	
SD244	For STL: ON status number 5	
SD245	For STL: ON status number 6	
SD246	For STL: ON status number 7	
SD247	For STL: ON status number 8	
SD249	Signal alarm ON state minimum number	Store signal alarm ON state minimum number
SD340	DUTY timing clock count value 1	Timing clock output 1 of DUTY instruction is counte
SD341	DUTY timing clock count value 2	Timing clock output 2 of DUTY instruction is counte

SD342	DUTY timing clock count value 3	Timing clock output 3 of DUTY instruction is counte
SD343	DUTY timing clock count value 4	Timing clock output 4 of DUTY instruction is counte
SD344	DUTY timing clock count value 5	Timing clock output 5 of DUTY instruction is counte

Interrupt prohibited

SD label	Name	Content	R/W	Power-down data preservation
SD350 to SD381	Timer interrupt disable mask	SIMASK instruction interrupt mask. Each bit represents an interrupt. For details, see SIMAK instruction	R/W	X
SD382 to SD388	High-speed counter interrupt disable mask	SIMASK instruction interrupt mask. Each bit represents an interrupt. For details, see SIMAK instruction	R/W	X

High-speed input and output

SD label	Name
SD400	HSC0 current count value low
SD401	HSC0 current count value high
SD402	HSC0 current frequency low
SD403	HSC0 current frequency high
SD405	HSC0 mode (display)
	0: ordinary IO
	1: Single phase counting
	2: AB phase count

SD420   HSC0 frequency multiplication (display)

           1: 1 times frequency

           2: 2 times frequency

           4: 4 times frequency

SD421   HSC0 frequency sampling time (ms)

SD422   HSC0 input filter setting (0.01us)

SD423   DHSCS, DHSCR, DHSZ instructions use the priority setting of the HSC0channel

SD430   HSC1 current count value low

SD431   HSC1 current count value high

SD432   HSC1 current frequency low

SD433   HSC1 current frequency high

SD435   HSC1 mode (display)

                       0: ordinary IO

                       1: Single phase counting

                       2: AB phase count

SD450   HSC1 frequency multiplication

                       1: 1 times frequency

                       2: 2 times frequency

                       4: 4 times frequency

SD451   HSC1 frequency sampling time (ms)

SD452   HSC1 input filter setting (0.01us)

SD453   DHSCS, DHSCR, DHSZ instructions use the priority setting of the HSC1 channel

SD460	HSC2 current count value low
SD461	HSC2 current count value high
SD462	HSC2 current frequency low
SD463	HSC2 current high frequency
SD464	Reserved
SD465	HSC2 mode (display)
	0: ordinary IO
	1: Single phase counting
	2: AB phase count
SD480	HSC2 frequency multiplication
	1: 1 times frequency
	2: 2 times frequency
	4: 4 times frequency

SD481   HSC2 frequency sampling time (ms)

SD482   HSC2 input filter setting (0.01us)

SD483   DHSCS, DHSCR, DHSZ instructions use the priority setting of the HSC2 channel

SD490   HSC3 current count value low

SD491   HSC3 current count value high

SD492   HSC3 current frequency low

SD493   HSC3 current high frequency

SD494   Reserved

SD495   HSC3 mode (display)

      0: ordinary IO

      1: Single phase counting

      2: AB phase count

SD510   HSC3 frequency multiplication

      1: 1 times frequency

      2: 2 times frequency

      4: 4 times frequency

SD511   HSC3 frequency sampling time (ms)

SD512   HSC3 input filter setting (0.01us)

SD513   DHSCS, DHSCR, DHSZ instructions use the priority setting of the HSC3 channel

SD521	HSC4 current count value high
SD522	HSC4 current frequency low
SD523	HSC4 current high frequency

SD524	Reserved
SD525	HSC4 mode (display)
	0: ordinary IO
	1: Single phase counting
	2: AB phase count
SD540	HSC4 frequency multiplication
	1: 1 times frequency
	2: 2 times frequency
	4: 4 times frequency
SD541	HSC4 frequency sampling time (ms)

SD542	HSC4 input filter setting (0.01us)

SD543   DHSCS, DHSCR, DHSZ instructions use the priority setting of the HSC4 channel

SD550   HSC5 current count value low

SD551   HSC5 current count value high

SD552   HSC5 current frequency low

SD553   HSC5 current frequency high

SD554   Reserved

SD555   HSC5 mode (display)

    0: ordinary IO

    1: Single phase counting

    2: AB phase count

SD570   HSC5 frequency multiplication

    1: 1 times frequency

    2: 2 times frequency

    4: 4 times frequency

SD571   HSC5 frequency sampling time (ms)

SD572   HSC5 input filter setting (0.01us)

SD573   DHSCS, DHSCR, DHSZ instructions use the priority setting of the HSC5 channel

SD580   HSC6 current count value low

SD581   HSC6 current count value high

SD582   HSC6 current frequency low

SD583   HSC6 current frequency high

SD584   Reserved

SD585   HSC6 mode (display)

          0: ordinary IO

          1: Single phase counting

          2: AB phase count

SD586   HSC6 frequency multiplication

          1: 1 times frequency

          2: 2 times frequency

          4: 4 times frequency

SD601   HSC6 frequency sampling time (ms)

SD602   HSC6 input filter setting (0.01us)

SD603   DHSCS, DHSCR, DHSZ instructions use the priority setting of the HSC6 channel

SD610   HSC7 current count value low

SD611   HSC7 current count value high

SD612	HSC7 current frequency low
SD613	HSC7 current frequency high
SD614	Reserved
SD615	HSC7 mode (display)
	0: ordinary IO
	1: Single phase counting
	2: AB phase count
SD630	HSC7 frequency multiplication
	1: 1 times frequency
	2: 2 times frequency
	4: 4 times frequency
SD631	HSC7 frequency sampling time (ms)
SD632	HSC7 input filter setting (0.01us)

SD633   Reserved

Pulse output (positioning axis)

SD label	Name	Power down data preservation	Content
SD880	CH1 positioning axis output low bit	No	R/W	Count Value of current high speed pulse output
SD881	CH1 positioning axis output upper bit	No	R/W	
SD882	Reserved	No	R/W	
SD883	Reserved	No	R/W	
SD884	CH1 current speed lower bit	No	R/W	Current high speed pulse output frequency
SD885	CH1 current speed upper bit	No	R/W	
SD886	Reserved	No	R/W	
SD887	Reserved	No	R/W	
SD888	Reserved	No	R/W	
SD889	Reserved	No	R/W	
SD890	Reserved	No	R/W	
SD891	Reserved	No	R/W	
SD892	Reserved	No	R/W	
SD893	Reserved	No	R/W	
SD894	Reserved	No	R/W	

SD895	Reserved	R/W
SD896	Reserved	R/W
SD897	Reserved	R/W
SD898	CH1 maximum speed (32 bits)	Default: R/W 100000Hz
SD899	CH1 maximum speed (32 bits)	R/W
SD900	CH1 offset speed (32 bits)	Default: R/W 0Hz
SD901	CH1 offset speed (32 bits)	R/W
SD902	CH1acceleration time (16 bits)	Default: R/W 100ms
SD903	CH1 deceleration time (16 bits)	Default: R/W 100ms
SD904	CH1 stop mode	R/W 0: slows down and stops 1: Stop immediately
SD905	CH1 direction delay time (ms)	Default: R/W 0ms
SD906	CH1 external start signal (X register value)	R/W After the external start signal is enabled, set the input register, for example, SET X10 to 10. Default value: 0
SD907	Reserved	R/W
SD908	CH1 start speed (32 bits)	Default: R/W 0Hz
SD909	CH1 start speed (32 bits)	R/W
SD910	Reserved	R/W
SD911	Reserved	R/W

SD912	Reserved	R/W
SD913	Reserved	R/W
SD914	Reserved	R/W
SD915	Reserved	R/W
SD940	CH2 positioning axis output low bit	Count Value R/W
SD941	CH2 positioning axis output upper bit	of current high speed pulse output
SD942	Reserved	R/W
SD943	Reserved	R/W
SD944	CH2 current speed lower bit	Current high R/W
SD945	CH2 current speed upper bit	speed pulse output frequency
SD946	Reserved	R/W
SD947	Reserved	R/W
SD948	Reserved	R/W
SD949	Reserved	R/W
SD950	Reserved	R/W
SD951	Reserved	R/W
SD952	Reserved	R/W
SD953	Reserved	R/W
SD954	Reserved	R/W
SD955	Reserved	R/W
SD956	Reserved	R/W
SD957	Reserved	R/W
SD958	CH2 maximum speed (32 bits)	Default: R/W 100000Hz
SD959	CH2 maximum speed (32 bits)	R/W
SD960	CH2 offset speed (32 bits)	Default: R/W 0Hz

SD961	CH2 offset speed (32 bits)		R/W
SD962	CH2acceleration time (16 bits)		R/W Default: 100ms
SD963	CH2 deceleration time (16 bits)		R/W Default: 100ms
SD964	CH2 stop mode		R/W Slows down and stops 1: Stop immediately
SD965	CH2 direction delay time (ms)		R/W Default: 0ms
SD966	CH2 external start signal (X register value)		R/W After the external start signal is enabled, set the input register, for example, set X10 to 10. Default: 0
SD967	Reserved		R/W
SD968	CH2 start speed (32 bits)		R/W Default: 0Hz
SD969	CH2 start speed (32 bits)		R/W
SD970	Reserved		R/W
SD971	Reserved		R/W
SD972	Reserved		R/W
SD973	Reserved		R/W
SD974	Reserved		R/W
SD975	Reserved		R/W
SD1000	CH2 positioning axis output low bit (Configurable unit)		R/W Count value of current high
SD1001	CH2 positioning axis output upper bit (Configurable unit)		R/W

			speed pulse output
SD1002	Reserved	R/W	
SD1003	Reserved	R/W	
SD1004	CH3 current speed lower bit	R/W	Current high speed pulse output frequency
SD1005	CH3 current speed upper bit	R/W	
SD1006	Reserved	R/W	
SD1007	Reserved	R/W	
SD1008	Reserved	R/W	
SD1009	Reserved	R/W	
SD1010	Reserved	R/W	
SD1011	Reserved	R/W	
SD1012	Reserved	R/W	
SD1013	Reserved	R/W	
SD1014	Reserved	R/W	
SD1015	Reserved	R/W	
SD1016	Reserved	R/W	
SD1017	Reserved	R/W	
SD1018	CH3 maximum speed (32 bits)	R/W	Default: 100000Hz
SD1019	CH3 maximum speed (32 bits)	R/W	
SD1020	CH3 offset speed (32 bits)	R/W	Default: 1Hz
SD1021	CH3 offset speed (32 bits)	R/W	
SD1022	CH3acceleration time (16 bits)	R/W	Default: 100ms
SD1023	CH3 deceleration time (16 bits)	R/W	Default: 100ms
SD1024	CH3 stop mode	R/W	Slows down and stops

		1: Stop immediately
SD1025	CH3 direction delay time (ms)	R/W Default: 0ms
SD1026	CH3 external start signal (X register value)	R/W After the external start signal is enabled, set the input register, for example, SET X10 to 10. Default value: 0
SD1027	Reserved	R/W
SD1028	CH3 start speed (32 bits)	R/W Default: 0Hz
SD1029	CH3 start speed (32 bits)	R/W
SD1030	Reserved	R/W
SD1031	Reserved	R/W
SD1032	Reserved	R/W
SD1033	Reserved	R/W
SD1034	Reserved	R/W
SD1035	Reserved	R/W
SD1060	CH5 positioning axis output low bit	R/W Count value of current high speed pulse output
SD1061	CH5 positioning axis output upper bit	R/W
SD1062	Reserved	R/W
SD1063	Reserved	R/W
SD1064	CH4 current speed lower bit	R/W Current High speed pulse
SD1065	CH4 current speed upper bit	R/W

Register	Function	Remark	R/W
		output frequency	
SD1066	Reserved		R/W
SD1067	Reserved		R/W
SD1068	Reserved		R/W
SD1069	Reserved		R/W
SD1070	Reserved		R/W
SD1071	Reserved		R/W
SD1072	Reserved		R/W
SD1073	Reserved		R/W
SD1074	Reserved		R/W
SD1075	Reserved		R/W
SD1076	Reserved		R/W
SD1077	Reserved		R/W
SD1078	CH4 maximum speed (32 bits)	Default: 100000Hz	R/W
SD1079	CH4 maximum speed (32 bits)		R/W
SD1080	CH4 offset speed (32 bits)	Default: 1Hz	R/W
SD1081	CH4 offset speed (32 bits)		R/W
SD1082	CH4acceleration time (16 bits)	Default: 100ms	R/W
SD1083	CH4 deceleration time (16 bits)	Default: 100ms	R/W
SD1084	CH4 stop mode	0: Slows down and stops 1: Stop immediately	R/W
SD1085	CH4 direction delay time (ms)	Default: 0ms	R/W
SD1086	CH4 External start signal (X register value)	After the external start signal is enabled, set the	R/W

		input register, for example, SET X10 to 10. Default value: 0
SD1087	Reserved	R/W
SD1088	CH4 start speed (32 bits)	Default: 0Hz R/W
SD1089	CH4 start speed (32 bits)	R/W
SD1090	Reserved	R/W
SD1091	Reserved	R/W
SD1092	Reserved	R/W
SD1093	Reserved	R/W
SD1094	Reserved	R/W
SD1095	Reserved	R/W
SD1120	CH5 positioning axis output low bit	Count value of current high speed pulse output R/W
SD1121	CH5 positioning axis output upper bit	R/W
SD1122	Reserved	R/W
SD1123	Reserved	R/W
SD1124	CH5 current speed lower bit	Current high speed pulse output frequency R/W
SD1125	CH5 current speed upper bit	R/W
SD1126	Reserved	R/W
SD1127	Reserved	R/W
SD1128	Reserved	R/W
SD1129	Reserved	R/W
SD1130	Reserved	R/W

SD1131	Reserved	R/W
SD1132	Reserved	R/W
SD1133	Reserved	R/W
SD1134	Reserved	R/W
SD1135	Reserved	R/W
SD1136	Reserved	R/W
SD1137	Reserved	R/W
SD1138	CH5 maximum speed (32 bits)	Default: 100000Hz R/W
SD1139	CH5 maximum speed (32 bits)	R/W
SD1140	CH5 offset speed (32 bits)	Default: 1Hz R/W
SD1141	CH5 offset speed (32 bits)	R/W
SD1142	CH5 acceleration time (16 bits)	Default: 100ms R/W
SD1143	CH5 deceleration time (16 bits)	Default: 100ms R/W
SD1144	CH5 stop mode	R/W Slows down and stops 1: Stop immediately
SD1145	CH5 direction delay time (ms)	Default: 0ms R/W
SD1146	CH5 external start signal (X register value)	R/W After the external start signal is enabled, set the input register, for example, SET X10 to 10. Default value: 0
SD1147	Reserved	R/W

SD1148	CH5 start speed (32 bits)	Default: 0Hz
SD1149	CH5 start speed (32 bits)	R/W
SD1150	Reserved	R/W
SD1151	Reserved	R/W
SD1152	Reserved	R/W
SD1153	Reserved	R/W
SD1154	Reserved	R/W
SD1155	Reserved	R/W
SD1180	CH6 positioning axis output low bit	Count Value of current high speed pulse output
SD1181	CH6 positioning axis output upper bit	R/W
SD1182	Reserved	R/W
SD1183	Reserved	R/W
SD1184	CH6 current speed lower bit	Current high speed pulse output frequency
SD1185	CH6 current speed upper bit	R/W
SD1186	Reserved	R/W
SD1187	Reserved	R/W
SD1188	Reserved	R/W
SD1189	Reserved	R/W
SD1190	Reserved	R/W
SD1191	Reserved	R/W
SD1192	Reserved	R/W
SD1193	Reserved	R/W
SD1194	Reserved	R/W
SD1195	Reserved	R/W
SD1196	Reserved	R/W

SD1197	Reserved	R/W
SD1198	CH6 maximum speed (32 bits)	R/W Default: 100000Hz
SD1199	CH6 maximum speed (32 bits)	R/W
SD1200	CH6 offset speed (32 bits)	R/W Default: 0Hz
SD1201	CH6 offset speed (32 bits)	R/W
SD1202	CH6acceleration time (16 bits)	R/W Default: 100ms
SD1203	CH6 deceleration time (16 bits)	R/W Default: 100ms
SD1204	CH6 stop mode	R/W 0: slows down and stops 1: Stop immediately
SD1205	CH6 direction delay time (ms)	R/W Default: 0ms
SD1206	CH6 external start signal (X register value)	R/W After the external start signal is enabled, set the input register, for example, SET X10 to 10. Default value: 0
SD1207	Reserved	R/W
SD1208	CH6 external start signal (X register value)	R/W Default: 0Hz
SD1209	CH6 start speed upper bit (32 bits)	R/W
SD1210	Reserved	R/W
SD1211	Reserved	R/W
SD1212	Reserved	R/W
SD1213	Reserved	R/W

SD1214	Reserved	R/W
SD1215	Reserved	R/W
SD1240	CH7 positioning axis output low bit	R/W Count Value of current high speed pulse output
SD1241	CH7 positioning axis output upper bit	R/W
SD1242	Reserved	R/W
SD1243	Reserved	R/W
SD1244	CH7 current speed lower bit	R/W Current high speed pulse output frequency
SD1245	CH7 current speed upper bit	R/W
SD1246	Reserved	R/W
SD1247	Reserved	R/W
SD1248	Reserved	R/W
SD1249	Reserved	R/W
SD1250	Reserved	R/W
SD1251	Reserved	R/W
SD1252	Reserved	R/W
SD1253	Reserved	R/W
SD1254	Reserved	R/W
SD1255	Reserved	R/W
SD1256	Reserved	R/W
SD1257	Reserved	R/W
SD1258	CH7 maximum speed (32 bits)	R/W Default: 100000Hz
SD1259	CH7 maximum speed (32 bits)	R/W
SD1260	CH7 offset speed (32 bits)	R/W Default: 1Hz
SD1261	CH7 offset speed (32 bits)	R/W
SD1262	CH7acceleration time (16 bits)	R/W Default: 100ms

SD1263	CH7 deceleration time (16 bits)	R/W Default: 100ms
SD1264	CH7 stop mode	R/W 0: Slows down and stops 1: Stop immediately
SD1265	CH7 direction delay time (ms)	R/W Default: 0ms
SD1266	CH7 external start signal (X register value)	R/W After the external start signal is enabled, set the input register, for example, SET X10 to 10. Default value: 0
SD1267	Reserved	R/W
SD1268	CH7 start speed low bit (32 bits)	R/W Default: 0Hz
SD1269	CH7 start speed high bit (32 bits)	R/W
SD1270	Reserved	R/W
SD1271	Reserved	R/W
SD1272	Reserved	R/W
SD1273	Reserved	R/W
SD1274	Reserved	R/W
SD1275	Reserved	R/W
SD1300	CH8 positioning axis output low bit	R/W Count value of current high speed pulse output
SD1301	CH8 positioning axis output upper bit	R/W

SD1302	Reserved	R/W	
SD1303	Reserved	R/W	
SD1304	CH8 current speed lower bit	R/W	Current high speed pulse output frequency
SD1305	CH8 current speed upper bit	R/W	
SD1306	Reserved	R/W	
SD1307	Reserved	R/W	
SD1308	Reserved	R/W	
SD1309	Reserved	R/W	
SD1310	Reserved	R/W	
SD1311	Reserved	R/W	
SD1312	Reserved	R/W	
SD1313	Reserved	R/W	
SD1314	Reserved	R/W	
SD1315	Reserved	R/W	
SD1316	Reserved	R/W	
SD1317	Reserved	R/W	
SD1318	CH8 maximum speed (32 bits)	R/W	Default: 100000Hz
SD1319	CH8 maximum speed (32 bits)	R/W	
SD1320	CH8 offset speed (32 bits)	R/W	Default: 1Hz
SD1321	CH8 offset speed (32 bits)	R/W	
SD1322	CH8acceleration time (16 bits)	R/W	Default: 100ms
SD1323	CH8 deceleration time (16 bits)	R/W	Default: 100ms
SD1324	CH8 stop mode	R/W	0: Slows down and stops 1: Stop immediately
SD1325	CH8 direction delay time (ms)	R/W	Default: 0ms

SD1326	CH8 external start signal (X register value)	R/W	After the external start signal is enabled, set the input register, for example, SET X10 to 10. Default value: 0
SD1327	Reserved	R/W	
SD1328	CH8 start speed low bit (32 bits)	R/W	Default: 0Hz
SD1329	CH8 start speed high bit (32 bits)	R/W	
SD1330	Reserved	R/W	
SD1331	Reserved	R/W	
SD1332	Reserved	R/W	
SD1333	Reserved	R/W	
SD1334	Reserved	R/W	
SD1335	Reserved	R/W	

BD board module

SD label	Name	Content	R/W	Power-down data preservation
BD board 1				
SD2000	BD1 Type	Stores the type of the BD board currently connected)	R	×
SD2001	BD1 version	Stores the version number of the BD board currently connected	R	×
SD2002	BD1 last error	Stores the last time Error code of the the currently connected BD board	R	×
SD2003	BD1 current error	store the current error code of the	R	×

SD label	Name	Content	R/W	Power-down data preservation
		BD board currently connected		
SD2004	BD1 error times	Stores the number of errors recorded in BD board currently connected	R	×
SD2010	BD1 first value	Values stored on different BD boards have different meanings. For details, see the corresponding BD board description	R	×
SD2011	BD1 second value		R	×
SD2012	BD1 third value		R	×
SD2013	BD1 fourth value		R	×

BD board 2

SD2020	BD2 type	Stores the type of the BD board currently connected)	R	×
SD2021	BD2 version	Stores the version number of the BD board currently connected	R	×
SD2022	BD2 last error	Last time Error code of the the currently connected BD board	R	×
SD2023	BD2 current error	store the current error code of the BD board currently connected	R	×
SD2024	BD2 error times	Stores the number of errors recorded in BD board currently connected	R	×
SD2030	BD2 first value	Values stored on different BD boards have different meanings. For details, see the corresponding BD board description	R	×
SD2031	BD2 second value		R	×
SD2032	BD2 third value		R	×
SD2033	BD2 fourth value		R	×

Right expansion module

SD label	Name	Content	R/W	Power-down data preservation
SD2081	Total number of modules connected	Total number of currently connected right expansion modules	R	×
SD2082	Number of IO modules	Number of connected I/O expansion modules	R	×
SD2083	Number of special expansion modules	Number of special extension modules currently connected	R	×
SD2084	Which module started to go offline	-1: No module is offline 0: The first module is offline	R	×

1: The second module
is offline, and so on

Input filtering

SD label	Name	Content	R/W	Power-down data preservation
SD2280	Input filter point setting, default 10ms	Low byte X0 to X3, high byte X4 to X7	R/W	×
SD2281	Input filter point setting, default 10ms	Low byte X10 to X13, high byte X14 to X17	R/W	×
SD2282	Input filter point setting, default 10ms	Low byte X20 to X23, high byte X24 to X27	R/W	×
SD2283	Input filter point setting, default 10ms	Low byte X30 to X33, high byte X34 to X37	R/W	×
SD2284	Input filter point setting, default 10ms	Low byte X40 to X43, high byte X44 to X47	R/W	×
SD2285	Input filter point setting, default 10ms	Low byte X50 to X53, high byte X54 to X57	R/W	×
SD2286 to SD2287	Input filter point setting, default 10ms	......	R/W	×

Communication

SD label	Name	Content
Communication com1		
SD2540	COM1 Communication port settings	Default: Baud rate 115200, S
SD2541	COM1 Serial port parameter modification identifier	If you need to modify serial p about the operation method,
SD2542	COM1 Protocol settings	0H : Wecon Modbus slave st
		2H : ModbusRTU slave sta
		3H : ModbusASCII slave s
		10H : User-defined protoco
		20H : ModbusRTU Master
		30H : ModbusASCII Maste
SD2543	COM1 Protocol modification logo	If the communication PROTO For details, see the PROTOC
SD2544	COM1 Station number setting	Value range: 0~255 Default v
SD2545	COM1 Station number modification logo	If the communication STATIO automatically. For the specifi
SD2546	Sending interval 0.1ms	
SD2547	Communication timeout setting 10ms	
SD2548	COM1 Timeout retries	
SD2549	COM1 Character interval timeout setting 0.1ms	
SD2550	COM1 STX value	

SD2551	COM1 ETX value	
SD2555	In case of PLC upload and download timeout, the upload and download will be interrupted if the transmission does not continue after the timeout.	Unit: 100ms, default: 300 (30
SD2560	The amount of data received by COM1	
SD2561	COM1 last error	
SD2562	COM1 Current error	
SD2563	COM1 Error steps	
SD2564	COM1 Error station number	
SD2565	COM1 Cumulative number of errors	
SD2566	COM1 Number of error steps (double world)	
SD2567		
SD2568	Reserved	
SD2569	Reserved	
SD2570	Reserved	
SD2571	Reserved	
Communication com2		
SD2590	COM2 Communication port settings	Default: Baud rate 115200, S
		For details, see the descrip
SD2591	COM2 Serial port parameter modification identifier	If you need to modify serial p about the calculation method
SD2592	COM2 Protocol settings	0H: Wecon Modbus slave sta
		2H: ModbusRTU slave sta
		3H: ModbusASCII slave st
		10H: User-defined protoco
		20H: ModbusRTU master
		30H: ModbusASCII maste
SD2593	COM2 Protocol modification logo	If the communication PROTO For details, see the PROTOC
SD2594	COM2 Station number setting	Value range: 0 to 255 Defaul
SD2595	Station number modification logo	If the communication STATIO automatically. For the specifi
SD2596	Sending interval	Unit: 0.1ms, Default: 0
SD2597	Communication timeout setting	Unit: 10ms,Default: 100ms
SD2598	COM2 Timeout retries	Default: 0
SD2599	COM2 Character interval timeout setting 0.1ms	Unit: 0.1ms, Default: 10 (1ms
SD2600	COM2 user-defined protocol starting symbol	Default: 0
SD2601	COM2 user-defined protocol end symbol	Default: 0
SD2610	The amount of data received by COM2	Amount of data received by t
SD2611	COM2 last error	Stores the last communicatio
SD2612	COM2 Current error	Stores the current communic
SD2613	COM2 Error steps	Stores the number of steps i

| SD2614 | COM2 Error station number | The station number that store |
| SD2615 | COM2 Cumulative number of errors | Stores the accumulative num |

List of special devices related to Ethernet

SD number	Name
SD2680	The 1st byte of IP address
SD2681	The 2nd byte of IP address
SD2682	The 3rd byte of IP address
SD2683	The 4th byte of IP address
SD2684	The 1st byte of subnet mask
SD2685	The 2nd byte of subnet mask
SD2686	The 3rd byte of subnet mask
SD2687	The 4th byte of subnet mask
SD2688	The 1st byte of default gateway
SD2689	The 2nd byte of default gateway
SD2690	The 3rd byte of default gateway
SD2691	The 4th byte of default gateway
SD2692	The 1st byte of MAC address
SD2693	The 2nd byte of MAC address
SD2694	The 3rd byte of MAC address
SD2695	The 4th byte of MAC address
SD2696	The 5th byte of MAC address
SD2697	The 6th byte of MAC address
SD2700	Communication speed

SD2702	The maximum connection number supported by ModbusTCP server
SD2703	Number of ModbusTCP connections
SD2710	Error code
SD2711	The socket ID of the error this time
SD2720	Input the low bit of the number of ping requests
SD2721	Input the high bit of the number of ping requests
SD2722	Input the low bit of the number of ping replies
SD2723	Input the high bit of the number of ping replies
SD2724	Output the low bit of the number of ping requests
SD2725	Output the high bit of the number of ping requests
SD2726	Output the low bit of the number of ping replies
SD2727	OUtput the high bit of the number of ping replies

SD2728	The sending number of arp package
SD2729	The receiving number of arp package
SD2730	The sending number of IP package
SD2731	The receiving number of IP package
SD2732	The sending number of tcp package
SD2733	The receiving number of tcp package
SD2734	The sending number of udp package
SD2735	The receiving number of udp package
SD2740	Connection 1 Local port number
SD2741	Connection 1 The 1st byte of IP address
SD2742	Connection 1 The 2nd byte of IP address
SD2743	Connection 1 The 3rd byte of IP address
SD2744	Connection 1 The 4th byte of IP address

SD2745	Connection 1 Peer port number
SD2746	Reserved
SD2747	Reserved
SD2748	Connection 1 Error code
SD2749	Connection 1 Error communication times low word
SD2750	Connection 1 Error communication times high word
SD2760	Connection 2 Local port number
SD2761	Connection 2 The 1st byte of IP address
SD2762	Connection 2 The 2nd byte of IP address
SD2763	Connection 2 The 3rd byte of IP address
SD2764	Connection 2 The 4th byte of IP address
SD2765	Connection 2 Port number
SD2766	Reserved
SD2767	Reserved
SD2768	Connection 2 Error code
SD2769	Connection 2 Error communication times low word
SD2770	Connection 2 Error communication times high word
SD2780	Connection 3 Local port number
SD2781	Connection 3 The 1st byte of IP address
SD2782	Connection 3 The 2nd byte of IP address
SD2783	Connection 3 The 3rd byte of IP address
SD2784	Connection 3 The 4th byte of IP address
SD2785	Connection 3 Peer port number
SD2786	Reserved
SD2787	Reserved
SD2788	Connection 3 Error code
SD2789	Connection 3 Error communication times low word
SD2780	Connection 3 Error communication times high word

Log information

SD label	Name	Content	R/W	Power-down data preservation
SD4000	Lower bit of ladder diagram writing number	Total download times of storage ladder diagram, power off preservation	R	√
SD4001	Higher bit of ladder diagram writing number		R	√
SD4002	Lower bit of PLC parameter writing number	Total download times of storage parameters, power off preservation	R	√
SD4003	Higher bit of PLC parameter writing number		R	√
SD4004	Lower bit of password writing number	Store the total times of writing password, power off preservation	R	√
SD4005	Higher bit of password writing number		R	√
SD4006	Lower bit of comment writing number	Store the total times of downloading comment, power off preservation	R	√
SD4007	Lower bit of comment writing number		R	√

SD4008	Lower bit of total startup times	Store the total number of PLC startup times, power off preservation	R	√
SD4009	Higher bit of total startup times		R	√
SD4010	Lower bit of total startup time	Store the total startup time of PLC, power off preservation, unit s	R	√
SD4011	Higher bit of total startup time		R	√
SD4012	Lower bit of total startup RUN time	Store the total number of PLC startup times, power off preservation	R	√
SD4013	Higher bit of total startup RUN time		R	√
SD4014	Lower bit of this startup RUN time	Store the total startup time of PLC, power off preservation, unit s	R	×
SD4015	Lower bit of this startup RUN time		R	×

Appendix 3 Error code Sorting

PLC hardware error

Error code	Instruction	Action
1000	PLC power supply voltage is abnormal	Stop runni
1100	Watchdog timeout	Stop runni
1200	FLASH write times exceed limit (information display of read times of upper computer, SD4000 double word)	Stop runni
1201	Failed to read production information	Stop runni
1380	It is detected that the battery voltage is too low, which will affect the power-down retention Devices	keep runni
1382	User-defined exception	keep runni

Circuit program execution error

Error code	Instruction	Action
1400	Program abnormality caused by STOP→RUN	Check the parame config Byop theoing Gorfigu progra whethe
1401	Program exception caused by STOP	
1402	The execution of the Circuit program is caused by the program exception	

1403	Program abnormality caused by RUN→STOP	the Circuit program When uses running an unsupp instruct
1500	Circuit program conversion is executed in the END instruction OUT T label is wrong	When the circuit END instruct is Execute program
1501	Null pointer error	When initiating an undefin program name is used

PLC parameter error

Error code	Instruction
2000	Number of I/O points allocated by program is different from the actual number of hardware I/O points
2001	Set the parameters of the standard input and output module for the high-speed pulse input and output modu
2002	The installed expansion module exceeds the maximum number
2003	X point multiplexing, the same point is used as AB phase high-speed input, but also as one-way input or inte
2004	Configure high-speed input IO error, CNTCFG instruction parameter write
2100	Memory capacity setting error

2101	Wrong setting of holding area
2102	Setting of the comment area is wrong
2103	File register area setting error
2200	Inconsistent program verification
2201	Inconsistent check sums of special parameters
2202	Special parameter setting error
2203	PLC EDITOR2 and PLC firmware version are inconsistent

2380	The current scan period exceeds the constant scan period setting value
2400	Event exceeds maximum range
2401	Event executor is empty
2402	Event clearer is empty
2403	Timed interrupt exceeds the maximum range
2404	Timed interrupt execution program is empty
2405	Timed interrupt priority setting error
2406	High-speed counting interrupt exceeds the maximum range

2407	High-speed counting interrupt execution program is empty
2408	High-speed counter priority setting error
2409	Input interruption exceeds the maximum range
240A	Input interrupt execution program is empty
240B	Input interrupt priority setting error
2500	High-speed counter channel exceeds the maximum range*/

2501	High-speed counter mode setting error*/
2502	The multiplication setting of the high-speed counter is wrong*/
2503	The counting direction of the high-speed counter is set incorrectly*/
2504	High-speed counter interrupts were used, but high-speed counters were not turned on using OUT HSC instr modified
2580	After the high-speed counter is turned on, but the axis high-speed counter enable is not configured
2581	High-speed counter interrupts were used, but high-speed counters were not turned on using OUT HSC instr modified
2582	The REF instruction was used to refresh the speedometer value, but no OUT HSC instruction was used to tu

| 2600 | High-speed counter conflicts with the interrupted X point |

PLC communication error

Error code	Instruction
3080	COM1 data receiving error
3081	COM1 data receiving timeout

3082   COM1 CRC check error

3083   COM1 LRC check error

3084   COM1 station number configuration error

3085   COM1 send buffer overflow

3086   COM1 function code error

3087   COM1 address error

3088   COM1 length error

3089   COM1 data error

| 308A | COM1 slave is busy |

| 308B | COM1 slave does not support function codes |

| 308C | COM1 slave failure |

308D	COM1 slave confirmation
308E	
308F	COM1 sending timeout
3090	Receive buffer overflow
30A0	COM1 unavailable gateway
30A1	COM1 indicates that no response was obtained from the target device. Usually means that the device is not in the ne

3180   COM2 data receiving error

3181   COM2 data receiving timeout

3182   COM2 CRC check error

3183   COM2 LRC check error

3184   COM2 station number configuration error

3185   COM2 send buffer overflow

3186   COM2 function code error

3187   COM2 address error

3188   COM2 length error

3189   COM2 data error

318A   COM2 slave is busy

318B   COM2 slave does not support function codes

318C   COM2 slave failure

318D   COM2 slave confirmation

318E

| 318F | COM2 sending timeout |

| 31A0 | COM2 unavailable gateway |

| 31A1 | COM2 indicates that no response was obtained from the target device. Usually means that the device is not in the ne |

31C0	PLCLINK meter header exception
31C1	The communication port does not support PLCLINK for the function
31C2	PLCLINK table version is not compatible
31C3	The number of PLCLINK commands is out of range. The current limit is 1 to 255 articles.
31C4	The station number in the PLCLINK form is out of range
31C5	The PLCLINK form is outside the scope of the software component
31C6	The PLCLINK form command uses software components that are out of range

PLC operation error

Error code	Instruction
3680	Ethernet data reception error
3681	Ethernet data reception timeout

3684	ModbusTCP station number configuration error
3685	ModbusTCP send buffer overflow
3686	ModbusTCP function code error
3687	ModbusTCP address error
3688	ModbusTCP length error
3689	ModbusTCP data error
368A	ModbusTCP slave station is busy
368B	ModbusTCP slave station does not support function code
368C	ModbusTCP slave station fault
368D	ModbusTCP slave station confirmation
368E	ModbusTCP protocol currently does not support this instruction
368F	Network port sending timeout
3690	Receiving cache overflow
36A0	ModbusTCP unavailable gateway
36A1	ModbusTCP No response was received from the target device. Generally it means that the device is not on the netw
36C0	ModbusTCP transaction identifier error
36C1	ModbusTCP The server is full of available links
36C8	The Ethernet protocol stack is running out of space
36C9	The number of links exceeded the limit
36CA	The last sending is not complete
36CB	TCP abnormal write
36CC	TCP abnormal output
36CD	The IP address has been used
36CE	The server receiving link error
36CF	TCP receiving buffer overflow
36D0	TCP connection failed
36D1	Abnormal when closing the link initiatively
36D2	An abnormal shutdown occurred inside the protocol stack
36D3	Initiate an RST link on the opposite end
36D4	A single-ended shutdown of the protocol stack occurs
36D5	There is an IP address conflict
36D6	There is an MAC address conflict
36D7	TCP sending buffer overflow
36D8	UDP abnormal connection

36D9	UDP sending buffer overflow
36DA	UDP insufficient memory space when sending
36DB	UDP failed to send
36DC	UDP memory release failure
36DD	UDP receiving buffer overflow
4080	The divisor in the division instruction is 0
4081	Application instruction calculation data overflow
4082	A data type that cannot be converted is entered in the application instruction
4083	Any data of -0, non-normalized number, non-number, and ±∞ is input in the application command
4084	Data beyond the specified range is entered in the application instruction (for example, parameter 1 is specified as 0 ~
4085	The output result in the read application instruction exceeds device range (for example, the maximum D7999 of the D D8000 is used)
4086	The output result in the writing application instruction exceeds device range (for example, the maximum D7999 of the D8000 is used)
4087	The application instruction parameter uses an unsupported device
4088	Multiple application instructions use the same axis at the same time and all have been activated
4089	The number of application instructions exceeds the limit
408A	The read length of the string exceeds, the continuous length of the string exceeds the limit (currently 400) or exceeds instruction
408B	When the character string is read, the maximum range of device is read, but 00H is not found.
408E	Multiple application instruction parameters use the same device, but the instruction does not allow device multiplexin
408F	The firmware used does not support this command, please upgrade to the latest firmware
4100	The number of FOR ~ NEXT instructions used does not correspond or FOR ~ NEXT exceeds the maximum nesting l
4180	There is no jump destination address of CJ or CALL, the result of index modification, the label is not defined, and P6 CALL instruction when it is other than P0 to P4095. Because P63 is a label to jump to END, it cannot be used in the C
4181	CJ instruction exceeds the maximum nesting level
4102	CALL instruction exceeds the maximum nesting level
4183	Break exceeds maximum nesting level
4185	EI instruction popping error
4186	BREAK is not in the FOR ~ NEXT command
4187	MC ~ MCR exceeds the maximum nesting range
4188	When using N in the MC nesting structure, the order from small to large is not followed
4189	SIMASK instruction specifies an unset interrupt
4D80	The sampling time (Ts) exceeds the target range (Ts≦0)
4D81	The input filter constant (α) exceeds the target range (α<0 or 1025 < α)
4D82	The maximum ascent rate (deltaT) exceeds the target range (deltaT <0 or 32000 ≦ deltaT)
4D83	The proportional gain (Kp) exceeds the target range (Kp＜0)
4D84	The integral gain (Ki) exceeds the target range (Ki＜0)
4D85	Differential gain (Kd) exceeds the target range (Kd<0)
4D86	Sampling time (Ts)<operation period
4D87	The proportional gain (Kp) exceeds the target range (Kp<1 or Kp>3000)
4D88	The integration time (Ti) exceeds the target range (Ti<0 or Ti>3600)
4D89	Differential time (Td) exceeds the target range (Td<0 or Td>1000)
4D90	PID output upper limit is less than lower limit
4E80	E-cam table loading error
4E81	The currently numbered form has a cam in use
4E82	Form address error
4E83	Table exceeds device range

4EC0	Electronic gear ratio setting error
4F80	DHSZ instruction minimum range >= maximum range
4F81	DHSCS, DHSCR, DHSZ commands are enabled but high-speed counter counting is not enabled with OUT HSC inst

Right expansion module error (communication error reported)

Error code	Instruction	Detailed phase
7080	Expansion module and check error	Keep the connection between the expansion module and the host or whether there is external interference
7081	Expansion module communication message is abnormal	Keep the connection between the expansion module and the host or whether there is external interference
7082	FROM/TO instruction error	Check the link between the expansion module and the host
7083	Expansion module access exception	Check the link between the expansion module and the host

Appendix 4 ASCII code comparison table

ASCII code comparison table

Bin (Binary)	Oct (Octal)	Dec (Decimal)	Hex (Hexadecimal)	Abbreviation/ character	Explanation
0000 0000	0	0	0x00	NUL(null)	Null character
0000 0001	1	1	0x01	SOH(start of headline)	Start of headline
0000 0010	2	2	0x02	STX (start of text)	Start of text
0000 0011	3	3	0x03	ETX (end of text)	End of text
0000 0100	4	4	0x04	EOT (end of transmission)	End of transmission
0000 0101	5	5	0x05	ENQ (enquiry)	Enquiry
0000 0110	6	6	0x06	ACK (acknowledge)	Acknowledge
0000 0111	7	7	0x07	BEL (bell)	Bell
0000 1000	10	8	0x08	BS (backspace)	Backspace
0000 1001	11	9	0x09	HT (horizontal tab)	Horizontal tab
0000 1010	12	10	0x0A	LF (NL line feed, new line)	Line feed
0000 1011	13	11	0x0B	VT (vertical tab)	Vertical tab
0000 1100	14	12	0x0C	FF (NP form feed, new page)	Form feed
0000 1101	15	13	0x0D	CR (carriage return)	Enter key
0000 1110	16	14	0x0E	SO (shift out)	No need to switch
0000 1111	17	15	0x0F	SI (shift in)	Enable to switch
0001 0000	20	16	0x10	DLE (data link escape)	data link escape
0001 0001	21	17	0x11	DC1 (device control 1)	Device control 1
0001 0010	22	18	0x12	DC2 (device control 2)	Device control 2
0001 0011	23	19	0x13	DC3 (device control 3)	Device control 3
0001 0100	24	20	0x14	DC4 (device control 4)	Device control 4
0001 0101	25	21	0x15	NAK (negative acknowledge)	Decline to receive
0001 0110	26	22	0x16	SYN (synchronous idle)	Synchronous idle
0001 0111	27	23	0x17	ETB (end of trans. block)	Ends the transfer block
0001 1000	30	24	0x18	CAN (cancel)	Cancel
0001 1001	31	25	0x19	EM (end of medium)	End of medium
0001 1010	32	26	0x1A	SUB (substitute)	Substitute
0001 1011	33	27	0x1B	ESC (escape)	Escape
0001 1100	34	28	0x1C	FS (file separator)	File separator
0001 1101	35	29	0x1D	GS (group separator)	Group separator

0001 1110	36	30	0x1E	RS (record separator)	Record separator
0001 1111	37	31	0x1F	US (unit separator)	Unit separator
0010 0000	40	32	0x20	(space)	Space
0010 0001	41	33	0x21	!	!
0010 0010	42	34	0x22	"	"
0010 0011	43	35	0x23	#	#
0010 0100	44	36	0x24	$	$
0010 0101	45	37	0x25	%	%
0010 0110	46	38	0x26	&	&
0010 0111	47	39	0x27	'	'
0010 1000	50	40	0x28	(	(
0010 1001	51	41	0x29	)	)
0010 1010	52	42	0x2A	*	*
0010 1011	53	43	0x2B	+	+
0010 1100	54	44	0x2C	,	,
0010 1101	55	45	0x2D	-	-
0010 1110	56	46	0x2E	.	.
0010 1111	57	47	0x2F	/	/
0011 0000	60	48	0x30	0	0
0011 0001	61	49	0x31	1	1
0011 0010	62	50	0x32	2	2
0011 0011	63	51	0x33	3	3
0011 0100	64	52	0x34	4	4
0011 0101	65	53	0x35	5	5
0011 0110	66	54	0x36	6	6
0011 0111	67	55	0x37	7	7
0011 1000	70	56	0x38	8	8
0011 1001	71	57	0x39	9	9
0011 1010	72	58	0x3A	:	:
0011 1011	73	59	0x3B	;	;
0011 1100	74	60	0x3C	<	<
0011 1101	75	61	0x3D		
0011 1110	76	62	0x3E	>	>
0011 1111	77	63	0x3F	?	?
0100 0000	100	64	0x40	@	@
0100 0001	101	65	0x41	A	A
0100 0010	102	66	0x42	B	B
0100 0011	103	67	0x43	C	C
0100 0100	104	68	0x44	D	D
0100 0101	105	69	0x45	E	E
0100 0110	106	70	0x46	F	F
0100 0111	107	71	0x47	G	G
0100 1000	110	72	0x48	H	H
0100 1001	111	73	0x49	I	I
1001010	112	74	0x4A	J	J
0100 1011	113	75	0x4B	K	K

0100 1100	114	76	0x4C	L	L
0100 1101	115	77	0x4D	M	M
0100 1110	116	78	0x4E	N	N
0100 1111	117	79	0x4F	O	O
0101 0000	120	80	0x50	P	P
0101 0001	121	81	0x51	Q	Q
0101 0010	122	82	0x52	R	R
0101 0011	123	83	0x53	S	S
0101 0100	124	84	0x54	T	T
0101 0101	125	85	0x55	U	U
0101 0110	126	86	0x56	V	V
0101 0111	127	87	0x57	W	W
0101 1000	130	88	0x58	X	X
0101 1001	131	89	0x59	Y	Y
0101 1010	132	90	0x5A	Z	Z
0101 1011	133	91	0x5B	[	[
0101 1100	134	92	0x5C	\	\
0101 1101	135	93	0x5D	]	]
0101 1110	136	94	0x5E	^	^
0101 1111	137	95	0x5F	_	_
0110 0000	140	96	0x60	`	`
0110 0001	141	97	0x61	a	a
0110 0010	142	98	0x62	b	b
0110 0011	143	99	0x63	c	c
0110 0100	144	100	0x64	d	d
0110 0101	145	101	0x65	e	e
0110 0110	146	102	0x66	f	f
0110 0111	147	103	0x67	g	g
0110 1000	150	104	0x68	h	h
0110 1001	151	105	0x69	i	i
0110 1010	152	106	0x6A	j	j
0110 1011	153	107	0x6B	k	k
0110 1100	154	108	0x6C	l	l
0110 1101	155	109	0x6D	m	m
0110 1110	156	110	0x6E	n	n
0110 1111	157	111	0x6F	o	o
0111 0000	160	112	0x70	p	p
0111 0001	161	113	0x71	q	q
0111 0010	162	114	0x72	r	r
0111 0011	163	115	0x73	s	s
0111 0100	164	116	0x74	t	t
0111 0101	165	117	0x75	u	u
0111 0110	166	118	0x76	v	v
0111 0111	167	119	0x77	w	w
0111 1000	170	120	0x78	x	x
0111 1001	171	121	0x79	y	y
0111 1010	172	122	0x7A	z	z

0111 1011	173	123	0x7B	{	{
0111 1100	174	124	0x7C				
0111 1101	175	125	0x7D	}	}
0111 1110	176	126	0x7E	~	~
0111 1111	177	127	0x7F	DEL (delete)	Delete

Appendix 5 Instruction list

Application instruction (by instruction type)

Classification	Instruction	Function	LX5V	Reference page
Program flow instruction	LD	Normally open contact operation start instruction	○	29
	LDI	Normally closed contact operation start instruction	○	29
	AND	Normally open contact series connection instruction	○	29
	ANI	Normally closed contact series connection instruction	○	29
	OR	one normally open contact parallel connection instruction	○	29
	ORI	one normally closed contact parallel connection instruction	○	29
	LDP	Rising edge pulse operation start instruction	○	33
	LDF	Falling edge pulse operation start instruction	○	33
	ANDP	Rising edge pulse series connection instruction	○	33
	ANDF	Falling edge pulse series connection instruction	○	33
	ORP	Rising edge pulse parallel connection instruction	○	33
	ORF	Falling edge pulse parallel connection instruction	○	33
	ANB	Ladder diagram block series connection instruction	○	37
	ORB	Ladder diagram block parallel connection instruction	○	37
	MPS	Operation result push, read, pop	○	38

	MRD	Operation result push, read, pop	○	38
	MPP	Operation result push, read, pop	○	38
	INV	Invert the result of the operation	○	39
	MEP	Pulse the result of the operation	○	40
	MEF	Pulse the result of the operation	○	40
	OUT	Output instruction	○	41
	SET	Setting instruction	○	43
	RST	Reset instruction	○	45
	PLF	Falling edge output	○	47
	PLS	Rising edge output	○	48
	END	Program end instruction	○	48
	CJ	Conditional jump	○	49
	CALL	Subroutine call	○	53
	DI	Interrupt prohibited	○	55
	EI	Interrupt allowed	○	55
	SIMASK	Interrupt mask	○	59
	FOR~NEXT	Cycle instruction	○	60
	BREAK	Break cycle	○	62
	MC	Main control instruction	○	63
	MCR	Main control instruction	○	63
	WDT	Watchdog timer	○	67
Timer, counter and output instruction	OUT T	Timer output	○	68
	OUT C	Counter output	○	70
	OUT LC	Long counter output	○	71
High-speed input counter	OUT HSC	High-speed counter switch	○	77
	DHSCS	High-speed comparison set	○	79
	DHSCR	High-speed comparison reset	○	81
	DHSZ	High-speed zone comparison	○	83
Transmit comparison instructions	MOV	16-bit transmission	○	85
	DMOV	32-bit transmission	○	86
	BMOV	Batch transmission	○	87
	FMOV	16-bit multicast	○	88
	DFMOV	32-bit multicast	○	90
	SMOV	Bit shift	○	91
	CML	16-bit invert transmission	○	93
	DCML	32-bit invert transmission	○	94
	CMP	16-bit data comparison output	○	95
	DCMP	32-bit data comparison output	○	96

	XCH	16-bit data exchange	○	97
	DXCH	32-bit data exchange	○	99
	ZCP	16-bit data interval comparison	○	101
	DZCP	32-bit data interval comparison	○	103
Cycle bit shift instruction	ROR	16-bit cycle shift right	○	105
	DROR	32-bit cycle shift right	○	107
	RCR	16-bit cycle shift right with carry	○	109
	DRCR	32-bit cycle shift right with carry	○	111
	ROL	16-bit cycle shift left	○	113
	DROL	32-bit cycle shift left	○	114
	RCL	16-bit cycle shift left with carry	○	115
	DRCL	32-bit cycle shift left with carry	○	116
	SFTR	n-bit shift right of the n-bit data	○	117
	SFTL	n-bit shift left of the n-bit data	○	119
	WSFR	n-word shift right of the n-word data	○	121
	WSFL	n-word shift left of the n-word data	○	122
	SFR	n-bit shift right of the 16-bit data	○	126
	DSFR	one word shift right of the n-bit data	○	125
	SFL	n-bit shift left of the 16-bit data	○	126
	DSFL	one word shift left of the n-bit data	○	128
Arithmetic operation instruction	ADD	16-bit addition operation	○	129
	DADD	32-bit addition operation	○	131
	SUB	16-bit subtraction operation	○	133
	DSUB	32-bit subtraction operation	○	135
	MUL	16-bit multiplication operation	○	137
	DMUL	32-bit multiplication operation	○	138
	DIV	16-bit division operation	○	139
	DDIV	32-bit division operation	○	140
	INC	16-bit data increment	○	141
	DINC	32-bit data increment	○	142
	DEC	16-bit data decrement	○	143
	DDEC	32-bit data decrement	○	144
Logic operation instruction	NEG	16-bit complement	○	145
	DNEG	32-bit complement	○	147

	WOR	16-bit data logic OR	○	148
	DOR	32-bit data logic OR	○	149
	WAND	16-bit data logic AND	○	150
	DAND	3-bit data logic AND	○	151
	WXOR	16-bit data logic exclusive OR	○	152
	DXOR	32-bit data logic exclusive OR	○	153
	PRUN	Octal bit transmission (16-bit data)	○	611
Data processing instruction	ANS	Alarm setting	○	162
	ANR	Alarm reset	○	164
	BON	16-bit data bit judgement	○	165
	DBON	32-bit data bit judgement	○	166
	ENCO	Encode	○	167
	DECO	Decode	○	168
	SUM	The ON bits of 16-bit data	○	169
	DSUM	The ON bits of 32-bit data	○	170
	MEAN	16-bit data mean value	○	171
	DMEAN	32-bit data mean value	○	172
	SQR	16-bit square root	○	173
	DSQR	32-bit square root	○	174
	WSUM	16-bit data sum value	○	175
	DWSUM	32-bit data sum value	○	176
	SORT	16-bit data sorting	○	177
	SORT2	16-bit data sorting	○	180
	DSORT2	32-bit data sorting	○	183
	SWAP	16-bit high and low byte swap	○	186
	DSWAP	32-bit high and low byte swap	○	187
	BTOW	Byte unit data merge	○	188
	WTOB	Byte unit data separation	○	190
	DIS	4-bit separation of 16-bit data	○	192
	UNI	4-bit combination of 16-bit data	○	193
	ZRST	Data batch reset	○	194
	ZSET	Data batch set	○	196
	CRC	cyclic redundancy check instruction	○	197
	BCC	BIN16 and BIN8 bit data addition, subtraction and exclusive check	○	154
	MAX	BIN16 bit The maximum value of 16-bit data	○	158

	DMAX	BIN32 bit The maximum value of 32-bit data	○	158
	MIN	BIN16 bit The minimum value of 16-bit data	○	159
	DMIN	BIN32 bit The minimum value of 32-bit data	○	160
Matrix input instruction	MTR	Matrix input	○	200
Convenient instruction	ABSD	BIN 16-bit data absolute method	○	202
	DABSD	BIN 32-bit data absolute method	○	204
	SER	16-bit data search	○	206
	DSER	32-bit data search	○	208
	ALT	Bit device output inversion	○	210
	INCD	BIN 16-bit data relative method	○	212
	RAMP	Rotary table proximity control	○	214
	ROTC	Rotary table proximity control	○	216
	STMR	Special function timer	○	219
	TTMR	Teaching timer	○	222
	TRH	Conversion of wet and dry bulb temperature and humidity	○	613
External IO instruction	ARWS	Arrow switch	○	224
	DSW	Numeric key input	○	228
	HKY	Hexadecimal numeric key input	○	230
	DHKY	32 digit key input	○	233
	PR	ASCII code printing	○	236
	SEGD	numeric key input	○	238
	SEGL	7SEG code hour and minute display	○	239
	TKY	Numeric key input	○	242
	DTKY	Numeric key input	○	244
Data conversion instruction	BCD	BIN → BCD	○	246
	BIN	4-bit BCD → BIN	○	248
	DBIN	8-bit BCD → BIN	○	250
	FLT	BIN integer → binary floating point number	○	252
	DFLT	BIN integer → binary floating point number	○	254
	VAL	Character string → BIN 16-bit data conversion	○	255
	DVAL	Character string → BIN 32-bit data conversion	○	257
	ASCI	HEX code data → ASCII conversion	○	259
	HEX	ASCII → HEX code data conversion	○	262

	CCD	Check code	○	265
	GBIN	Gray code → BIN 16-bit data conversion	○	268
	DGBIN	Gray code → BIN 32-bit data conversion	○	268
	GRY	BIN 16-bit data → Gray code conversion	○	270
	DGRY	BIN 32-bit data → Gray code conversion	○	271
	DPRUN	Octal digit transmission (32-bit data)	○	273
Floating point instruction	DACOS	Single precision real number COS-1 operation	○	274
	DASIN	Single precision real number SIN-1 operation	○	275
	DATAN	Single precision real number TAN-1 operation	○	276
	DCOS	Single precision real number COS operation	○	277
	DCOSH	Single precision real number COSH operation	○	278
	DSIN	Single precision real number SIN operation	○	279
	DSINH	Single precision real number SINH operation	○	280
	DTAN	Single precision real number TAN operation	○	281
	DTANH	Single precision real number TANH operation	○	282
	DDEG	Single precision real number radian → angle conversion	○	283
	DRAD	Single precision real number conversion angle → radian conversion	○	284
	DEADD	Single precision real number addition operation	○	285
	DESUB	Single precision real number subtraction operation	○	287
	DEMUL	Single precision real number multiplication operation	○	289
	DEDIV	Single precision real number division operation	○	291
	DEMOV	Single precision real data transmission	○	293
	DEBCD	Binary floating point → decimal floating point conversion	○	294

	DEBIN	Decimal floating point → binary floating point conversion	○	296
	DENEG	Single precision real number sign inversion	○	297
	DECMP	Single precision real number comparison	○	298
	DEZCP	Binary floating point bandwidth comparison	○	300
	DESQR	Single precision real square root	○	302
	DESTR	Single precision real number → string conversion	○	303
	DEVAL	String → single precision real number conversion	○	308
	DEXP	Single precision real number exponential operation	○	311
	INT	Single precision real number → signed BIN 16-bit data	○	312
	DINT	Single precision real number → signed BIN 32-bit data	○	313
	DLOG10	Single precision real number common logarithmic operation	○	314
	DLOGE	Single precision real number natural logarithm operation	○	315
Contact comparison instruction	LD=	Number equal comparison	○	316
	LD>	Number greater than comparison	○	316
	LD<	Number less than comparison	○	316
	LD>=	Number greater than or equal to comparison	○	316
	LD<=	Number less than or equal to comparison	○	316
Floating number comparison instruction	LD<>	Number unequal comparison	○	316
	AND=	Number equal comparison	○	316
	AND>	Number greater than comparison	○	316
	AND<	Number less than comparison	○	316
	AND>=	Number greater than or equal to comparison	○	316
	AND<=	Number less than or equal to comparison	○	316
	AND<>	Number unequal comparison	○	316

OR=	Number equal comparison	○	316
OR>	Number greater than comparison	○	316
OR<	Number less than comparison	○	316
OR>=	Number greater than or equal to comparison	○	316
OR<=	Number less than or equal to comparison	○	316
OR<>	Number unequal comparison	○	316
LDD=	Number equal comparison	○	318
LDD>	Number greater than comparison	○	318
LDD<	Number less than comparison	○	318
LDD>=	Number greater than or equal to comparison	○	318
LDD<=	Number less than or equal to comparison	○	318
LDD<>	Number unequal comparison	○	318
ANDD=	Number equal comparison	○	318
ANDD>	Number greater than comparison	○	318
ANDD<	Number less than comparison	○	318
ANDD>=	Number greater than or equal to comparison	○	318
ANDD<=	Number less than or equal to comparison	○	318
ANDD<>	Number unequal comparison	○	318
ORD=	Number equal comparison	○	318
ORD>	Number greater than comparison	○	318
ORD<	Number less than comparison	○	318
ORD>=	Number greater than or equal to comparison	○	318
ORD<=	Number less than or equal to comparison	○	318
ORD<>	Number unequal comparison	○	318
LDE=	Floating number equal comparison	○	320
LDE>	Floating number greater than comparison	○	320
LDE<	Floating number less than comparison	○	320

	LDE>=	Floating number greater than or equal to comparison	○	320
	LDE<=	Floating number less than or equal to comparison	○	320
	LDE<>	Floating number unequal comparison	○	320
	ANDE=	Floating number equal comparison	○	320
	ANDE>	Floating number greater than comparison	○	320
	ANDE<	Floating number less than comparison	○	320
	ANDE>=	Floating number greater than or equal to comparison	○	320
	ANDE<=	Floating number less than or equal to comparison	○	320
	ANDE<>	Floating number unequal comparison	○	320
	ORE=	Floating number equal comparison	○	320
	ORD>	Floating number greater than comparison	○	320
	ORE<	Floating number less than comparison	○	320
	ORE>=	Floating number greater than or equal to comparison	○	320
	ORE<=	Floating number less than or equal to comparison	○	320
	ORE<>	Floating number unequal comparison	○	320
	LDS=	String number equal comparison	○	322
	LDS<>	String number greater than comparison	○	322
	ANDS=	String number less than comparison	○	322
	ANDS<>	String number greater than or equal to comparison	○	322
	ORS=	String number less than or equal to comparison	○	322
	ORS<>	String number unequal comparison	○	322
Clock operation instruction	TADD	The addition of clock data	○	324
	TSUB	The subtraction of clock data	○	326
	TRD	Clock data reading	○	328
	TWR	Clock data writing	○	329

	HTOS	16-bit data conversion of time data (hour, minute, second → second)	○	331
	DHTOS	1. bit data conversion of time data (hour, minute, second → second)	○	332
	HOUR	Hour measuring 16-bit	○	334
	DHOUR	Hour measuring 32-bit	○	336
	STOH	1. bit data conversion of time data (second → hour, minute, second)	○	338
	DSTOH	1. bit data conversion of time data(second → hour, minute, second)	○	339
	TCMP	Clock data comparison	○	340
	TZCP	Clock data bandwidth comparison	○	342
Data control instruction	BAND	BIN 16-bit data dead zone control	○	344
	DBAND	BIN 32-bit data dead zone control	○	345
	BINDA	BIN 16-bit data → Decimal ASCII conversion	○	347
	DBINDA	BIN 32-bit data → Decimal ASCII conversion	○	348
	DABIN	Decimal ASCII → BIN conversion	○	349
	DDABIN	Decimal ASCII → BIN32-bit data conversion	○	351
	LIMIT	BIN 16-bit data high and low limit control	○	353
	DLIMIT	BIN 32-bit data high and low limit control	○	354
	SCL	BIN 16-bit unit scale (coordinate data of each point)	○	355
	DSCL	BIN 32-bit unit scale (coordinate data of each point)	○	358
	DSCL2	BIN 32-bit unit scale (X/Y coordinate data)	○	365
	ZONE	BIN 16-bit data zone control	○	369
	DZONE	BIN 32-bit data zone control	○	370
Data block instruction	BK+	BIN 16-bit block data addition operation	○	372

DDVIT	32-bit data relative positioning	○	430
DRVI	Relative positioning	○	432
DDRVI	Relative positioning	○	432
DRVA	Absolute positioning	○	434
SCL2	BIN16-bit unit scale (X/Y coordinate data)	○	362
DDRVA	Absolute positioning	○	434
PLSR	Pulse output with acceleration and deceleration	○	436
DPLSR	Pulse output with acceleration and deceleration	○	436
PLSR2	Multi-speed positioning	○	438
PLSV	Variable speed operation	○	444
DPLSV	Variable speed operation	○	444
PLSY	Pulse output	○	446
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PWM	BIN 16-bit pulse output	○	448
PWM	PWM perimeter mode	○	449
G90G01	Absolute position line interpolation instruction	○	451
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G91G02	Relative position clockwise circular interpolation instruction	○	458
G90G03	Absolute position counterclockwise circular interpolation instruction	○	461
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G90G02H	Absolute position clockwise circular helical interpolation instruction	○	467
G91G02H	Relative position clockwise circular helical interpolation instruction	○	470
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	DECAM	32-bit electronic cam instruction	○	495
	ECAMCUT	Electronic cam table switching instruction	○	498
	ECAMTBX	Electronic cam table generation instructions	○	501
Communication instruction	PROTOCOL	Communication port protocol setting	○	547
	PORTPARA	Modbus serial port parameter setting	○	549
	STATION	Modbus station number setting	○	551
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	TO	Single word data writing from TO/PLC to the module (16-bit specification)	○	562
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	FROM	Read single word data from the module (16-bit specification)	○	566
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	CCPID_SHT	CCPID_SHT calculation		
	PID	PID calculation	○	603
	LAGCDL	Hysteresis temperature control instruction		
	FPID	FPID calculation	○	607
	FPID	FPID calculation	○	607
	PRUN	Octal bit transmission (16-bit data)	○	611
	TRH	Conversion of wet and dry bulb temperature and humidity	○	613
	LEN	String length detection	○	625
	LEFT	Extract from the left side of the string	○	626
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	MIDR	Any extraction from string	○	630
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	MIDW	Arbitrary replacement in string	○	634
	STR	BIN 16-bit data → string conversion	○	637
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	$+	Combination of strings	○	642
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Ethernet instruction	SOCOPEN	Create socket link	○	670
	SOCCLOSE	Close socket link	○	672
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Application instruction (by alphabetical order)

Classification	Instruction	Function	LX5V	Reference page
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	ABSD	BIN 16-bit data absolute method	○	202
	ADD	16-bit addition operation	○	29
	ALT	Bit device output inversion	○	210
	ANB	Ladder diagram block series connection instruction	○	37
	AND	Normally open contact series connection instruction	○	29
	AND<	Number less than comparison	○	316
	AND<=	Number less than or equal to comparison	○	316
	AND<>	Number unequal comparison	○	316
	AND=	Number equal comparison	○	316
	AND>	Number greater than comparison	○	316
	AND>=	Number greater than or equal to comparison	○	316
	ANDD<	Number less than comparison	○	318
	ANDD<=	Number less than or equal to comparison	○	318

	ANDD<>	Number unequal comparison	○	318
	ANDD=	Number equal comparison	○	318
	ANDD>	Number greater than comparison	○	318
	ANDD>=	Number greater than or equal to comparison	○	318
	ANDE<	Floating number less than comparison	○	320
	ANDE<=	Floating number less than or equal to comparison	○	320
	ANDE<>	Floating number unequal comparison	○	320
	ANDE=	Floating number equal comparison	○	320
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	ANDF	Falling edge pulse series connection instruction	○	33
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	ANDS<>	String number greater than or equal to comparison	○	322
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	ANI	Normally closed contact series connection instruction	○	29
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	ANS	Alarm setting	○	162
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	ASC	ASCII data input	○	646
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DDABIN	Decimal ASCII → BIN32-bit data conversion	○	351
DDEC	32-bit data decrement	○	144
DDEG	Single precision real number radian → angle conversion	○	283
DDIV	32-bit division operation	○	140
DDRVA	Absolute positioning	○	434
DDRVI	Relative positioning	○	432
DDSZR	Origin return	○	428
DDVIT	32-bit data relative positioning	○	430
DEADD	Single precision real number addition operation	○	285
DEBCD	Binary floating point → decimal floating point conversion	○	294
DEBIN	Decimal floating point → binary floating point conversion	○	95
DEC	16-bit data decrement	○	143
DECAM	32-bit electronic cam instruction	○	495
DECMP	Single precision real number comparison	○	298
DECO	Decode	○	168
DEDIV	Single precision real number division operation	○	291

DEGEAR	Electronic gear/32 bit hand wheel instruction	○	490
DEMOV	Single precision real data transmission	○	293
DEMUL	Single precision real number multiplication operation	○	289
DENEG	Single precision real number sign inversion	○	297
DESQR	Single precision real square root	○	302
DESTR	Single precision real number → string conversion	○	303
DESUB	Single precision real number subtraction operation	○	287
DEVAL	String → single precision real number conversion	○	308
DEXMN	Preferred instruction	○	421
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DEZCP	Binary floating point bandwidth comparison	○	300
DFLT	BIN integer → binary floating point number	○	254
DFMOV	32-bit multicast	○	90
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DGRY	BIN 32-bit data → Gray code conversion	○	271
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DHOUR	Hour measuring 32-bit	○	336
DHSCR	High-speed comparison reset	○	81
DHSCS	High-speed comparison set	○	79
DHSZ	High-speed zone comparison	○	83
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DI	Interrupt prohibited	○	55
DINC	32-bit data increment	○	142
DINT	Single precision real number → signed BIN 32-bit data	○	313
DIS	4-bit separation of 16-bit data	○	192

DIV	16-bit division operation	○	139
DLIMIT	BIN 32-bit data high and low limit control	○	354
DLOG10	Single precision real number common logarithmic operation	○	314
DLOGE	Single precision real number natural logarithm operation	○	315
DMAX	BIN32 bit The maximum value of 32-bit data	○	158
DMEAN	32-bit data mean value	○	172
DMIN	BIN32 bit The minimum value of 32-bit data	○	287
DMOV	32-bit transmission	○	86
DMUL	32-bit multiplication operation	○	138
DNEG	32-bit complement	○	147
DOR	32-bit data logic OR	○	149
DPLSR	Pulse output with acceleration and deceleration	○	436
DPLSV	Variable speed operation	○	444
DPLSY	Pulse output	○	446
DPRUN	Octal digit transmission (32-bit data)	○	273
DRAD	Single precision real number conversion angle → radian conversion	○	284
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DRCR	32-bit cycle shift right with carry	○	111
DROL	32-bit cycle shift left	○	114
DROR	32-bit cycle shift right	○	107
DRVA	Absolute positioning	○	434
DRVI	Relative positioning	○	432
DSCL	BIN 32-bit unit scale (coordinate data of each point)	○	358
DSCL2	BIN 32-bit unit scale (X/Y coordinate data)	○	365
DSER	32-bit data search	○	208
DSFL	one word shift left of the n-bit data	○	128
DSFR	one word shift right of the n-bit data	○	125
DSIN	Single precision real number SIN operation	○	279
DSINH	Single precision real number SINH operation	○	280
DSORT2	32-bit data sorting	○	183

	FMOV	16-bit multicast	○	88
	FOR~NEXT	Cycle instruction	○	60
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	FROM	Read single word data from the module (16-bit specification)	○	566
G	G90G01	Absolute position line interpolation instruction	○	451
	G90G02	Absolute position clockwise circular interpolation instruction	○	455
	G90G02H	Absolute position clockwise circular helical interpolation instruction	○	467
	G90G03	Absolute position counterclockwise circular interpolation instruction	○	461
	G90G03H	Absolute position counterclockwise circular helical interpolation instruction	○	473
	G91G01	Relative position line interpolation instruction	○	453
	G91G02	Relative position clockwise circular interpolation instruction	○	458
	G91G02H	Relative position clockwise circular helical interpolation instruction	○	470
	G91G03	Relative position counterclockwise circular interpolation instruction	○	464
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	GBIN	Gray code → BIN 16-bit data conversion	○	268
	GRY	BIN 16-bit data → Gray code conversion	○	270
H	HEX	ASCII → HEX code data conversion	○	262
	HKY	Hexadecimal numeric key input	○	230
	HOUR	Hour measuring 16-bit	○	334
	HTOS	16-bit data conversion of time data (hour, minute, second → second)	○	331
I	INC	16-bit data increment	○	141
	INCD	BIN 16-bit data relative method	○	212
	INSTR	String search	○	644

	INT	Single precision real number → signed BIN 16-bit data	○	312
	INV	Invert the result of the operation	○	38
L	IST	Initialization state	○	652
	LD<	Number less than comparison	○	15
	LD<=	Number less than or equal to comparison	○	15
	LD<>	Number unequal comparison	○	15
	LD=	Number equal comparison	○	29
	LD>	Number greater than comparison	○	29
	LD>=	Number greater than or equal to comparison	○	15
	LDD<	Number less than comparison	○	318
	LDD<=	Number less than or equal to comparison	○	318
	LDD<>	Number unequal comparison	○	318
	LDD=	Number equal comparison	○	318
	LDD>	Number greater than comparison	○	318
	LDD>=	Number greater than or equal to comparison	○	318
	LDE<	Floating number less than comparison	○	320
	LDE<=	Floating number less than or equal to comparison	○	320
	LDE<>	Floating number unequal comparison	○	320
	LDE=	Floating number equal comparison	○	320
	LDE>	Floating number greater than comparison	○	320
	LDE>=	Floating number greater than or equal to comparison	○	320
	LDF	Falling edge pulse operation start instruction	○	33
	LDI	Normally closed contact operation start instruction	○	29
	LDP	Rising edge pulse operation start instruction	○	33
	LDS<>	String number greater than comparison	○	322

	LDS=	String number equal comparison	○	322
	LEFT	Extract from the left side of the string	○	626
	LEN	String length detection	○	625
	LIMIT	BIN 16-bit data high and low limit control	○	353
M	MAX	BIN16 bit The maximum value of 16-bit data	○	158
	MC	Main control instruction	○	63
	MCR	Main control instruction	○	63
	MEAN	16-bit data mean value	○	171
	MEF	Pulse the result of the operation	○	40
	MEP	Pulse the result of the operation	○	40
	MIDR	Any extraction from string	○	630
	MIDW	Arbitrary replacement in string	○	634
	MIN	BIN16 bit The minimum value of 16-bit data	○	159
	MOV	16-bit transmission	○	85
	MPP	Operation result push, read, pop	○	38
	MPS	Operation result push, read, pop	○	38
	MRD	Operation result push, read, pop	○	38
	MTR	Matrix input	○	200
	MUL	16-bit multiplication operation	○	137
N	NEG	16-bit complement	○	145
O	OR	One normally open contact parallel connection instruction	○	29
	OR<	Number less than comparison	○	316
	OR<=	Number less than or equal to comparison	○	316
	OR<>	Number unequal comparison	○	316
	OR=	Number equal comparison	○	316
	OR>	Number greater than comparison	○	316
	OR>=	Number greater than or equal to comparison	○	316
	ORB	Ladder diagram block parallel connection instruction	○	37
	ORD<	Number less than comparison	○	318

	ORD<=	Number less than or equal to comparison	○	318
	ORD<>	Number unequal comparison	○	318
	ORD=	Number equal comparison	○	318
	ORD>	Number greater than comparison	○	318
	ORD>	Floating number greater than comparison	○	318
	ORD>=	Number greater than or equal to comparison	○	318
	ORE<	Floating number less than comparison	○	320
	ORE<=	Floating number less than or equal to comparison	○	320
	ORE<>	Floating number unequal comparison	○	320
	ORE=	Floating number equal comparison	○	320
	ORE>=	Floating number greater than or equal to comparison	○	320
	ORF	Falling edge pulse parallel connection instruction	○	33
	ORI	one normally closed contact parallel connection instruction	○	29
	ORP	Rising edge pulse parallel connection instruction	○	33
	ORS<>	String number unequal comparison	○	322
	ORS=	String number less than or equal to comparison	○	322
	OUT	Output instruction	○	41
	OUT C	Counter output	○	70
	OUT HSC	High-speed counter switch	○	77
	OUT LC	Long counter output	○	71
	OUT T	Timer output	○	70
P	PID	PID calculation	○	603
	PLF	Falling edge output	○	47
	PLS	Rising edge output	○	48
	PLSR	Pulse output with acceleration and deceleration	○	436
	PLSR2	Multi-speed positioning	○	438
	PLSV	Variable speed operation	○	444
	PLSY	Pulse output	○	446

	POP	Read from the back of the data table	○	406
	PORTPARA	Modbus serial port parameter setting	○	551
	PR	ASCII code printing	○	236
	PROTOCOL	Communication port protocol setting	○	547
	PRUN	Octal bit transmission (16-bit data)	○	611
	PWM	BIN 16-bit pulse output	○	448
	PWM	PWM perimeter mode	○	449
R	RAMP	Rotary table proximity control	○	214
	RCL	16-bit cycle shift left with carry	○	115
	RCR	16-bit cycle shift right with carry	○	109
	REF	IO refresh	○	415
	REFF	Input refresh (with filter setting)	○	417
	RIGHT	Extract from the right side of the string	○	628
	RND	Random number instruction	○	420
	ROL	16-bit cycle shift left	○	113
	ROR	16-bit cycle shift right	○	105
	ROTC	Rotary table proximity control	○	216
	RS	External communication instruction	○	553
	RS2	External communication instruction	○	557
	RST	Reset instruction	○	45
S	SCL	BIN 16-bit unit scale (coordinate data of each point)	○	355
	SCL2	BIN16-bit unit scale (X/Y coordinate data)	○	362
	SEGD	numeric key input	○	238
	SEGL	7SEG code hour and minute display	○	239
	SER	16-bit data search	○	206
	SET	Setting instruction	○	43
	SFL	n-bit shift left of the 16-bit data	○	126
	SFR	n-bit shift right of the 16-bit data	○	126
	SFRD	Shift read	○	404
	SFTL	n-bit shift left of the n-bit data	○	119
	SFTR	n-bit shift right of the n-bit data	○	117
	SFWR	Shift write	○	408

	SIMASK	Interrupt mask	○	59
	SMOV	Bit shift	○	91
	SOCCLOSE	Close socket link	○	672
	SOCMTCP	Ethernet ModbusTCP communication	○	674
	SOCOPEN	Create socket link	○	670
	SOCRECV	Ethernet free-form communication receiving	○	673
	SOCSEND	Ethernet free-form communication sending	○	672
	SORT	16-bit data sorting	○	177
	SORT2	16-bit data sorting	○	180
	SQR	16-bit square root	○	173
	STATION	Modbus station number setting	○	551
	STL/RET	Step ladder diagram instruction	○	648
	STMR	Special function timer	○	219
	STOH	16-bit data conversion of time data (hour, minute, second → second)	○	338
	STR	BIN 16-bit data → string conversion	○	STR
	SUB	16-bit subtraction operation	○	133
	SUM	The ON bits of 16-bit data	○	169
	SWAP	16-bit high and low byte swap	○	186
T	TADD	The addition of clock data	○	324
	TCMP	Clock data comparison	○	340
	TKY	Numeric key input	○	242
	TO	Single word data writing from TO/PLC to the module (16-bit specification)	○	562
	TRD	Clock data reading	○	328
	TRH	Conversion of wet and dry bulb temperature and humidity	○	613
	TSUB	The subtraction of clock data	○	326
	TTMR	Teaching timer	○	222
	TWR	Clock data writing	○	329
	TZCP	Clock data bandwidth comparison	○	342
V	UNI	4-bit combination of 16-bit data	○	193
	VAL	Character string → BIN 16-bit data conversion	○	255

W	WAND	16-bit data logic AND	○	150
	WDT	Watchdog timer	○	67
	WOR	16-bit data logic OR	○	148
	WSFL	n-word shift left of the n-word data	○	122
	WSFR	n-word shift right of the n-word data	○	121
	WSUM	16-bit data sum value	○	175
	WTOB	Byte unit data separation	○	190
	WXOR	16-bit data logic exclusive OR	○	152
X	XCH	16-bit data exchange	○	97
Z	ZCP	16-bit data interval comparison	○	101
	ZONE	BIN 16-bit data zone control	○	369
	ZRN	Origin return	○	426
	ZRST	Data batch reset	○	194
	ZSET	Data batch set	○	196
	$+	Combination of strings	○	642
	$MOV	String transfer	○	632