WSZ Series

Main Unit

Model：WSZ-24MCT2-AC

製品仕様書
Product Specifications

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富士電機株式会社
Fuji Electric Co.,Ltd.

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DWG.NO. WDS500049 1／6

1 .Main Unit 共通仕様
Specifications of Main Unit

Item					Specification	Note
Execution Speed					0.33us / per Sequence Command	
Space of Control Program					20K Words	
Program Memory					FLASH ROM or SRAM+ Lithium battery for Back-up	
Sequence Command					36	
Application Command					300 (113 types)	Include Derived Commands
Flow Chart (SFC) Command					4	
Single Point〜BIT Status〜	X	Input Contact(DI)			X0 ~ X255 (256)	Corresponding to External Digital Input Point
	Y	Output Relay(DO)			Y0 ~ Y255 (256)	Corresponding to External Digital Output Point
	TR	Temporary Relay			TR0 ~ TR39 (40)	
	M	Internal Relay		Non-retentive	M0 ~ M799 (800)*	Can be configured as retentive type
					M1400 ~ M1911 (512)	
				Retentive	M800 ~ M1399 (600)*	Can be configured as non-retentive type
		Special Relay			M1912 ~ M2001 (90)	
	S	Step Relay		Non-retentive	S0 ~ S499 (500)*	S20~S499 can be configured as retentive type
				Retentive	S500 ~ S999 (500)*	Can be configured as non-retentive type
	T	Timer "Time Up" Status Contact			T0 ~ T255 (256)	
	C	Counter "Count Up" Status Contact			C0 ~ C255 (256)	
Register〜WORD Data〜	TMR	Current Time Value Register	0.01S Time base		T0 ~ T49 (50)*	T0 ~ T255 Numbers for each time base can be flexibly adjusted.
			0.1S Time base		T50 ~ T199 (150)*	
			1STime base		T200 ~ T255 (56)*	
	CTR	Current Counter Value Register	16-Bit	Retentive	C0 ~ C139 (140)*	Can be configured as non-retentive type
				Non-retentive	C140 ~ C199 (60)*	Can be configured as retentive type
			32-Bit	Retentive	C200 ~ C239 (40)*	Can be configured as non-retentive type
				Non-retentive	C240 ~ C255 (16)*	Can be configured as retentive type
	HR DR	Data Register		Retentive	R0 ~ R2999 (3000)*	Can be configured as non-retentive type
					D0 ~ D3999 (4000)	
				Non-retentive	R3000 ~ R3839 (840)*	Can be configured as retentive type
	HR ROR			Retentive	R5000 ~ R8071 (3072)*	When not configured as ROR, it can serve as normal register (for read/Write)
				Read-only Register	R5000 ~ R8071 can be configured as ROR, default setting is (0)*	ROR is stored in special ROR area and not consume program space
				File Register	F0 ~ F8191 (8192)*	Must save/retrieved via special commands
	IR	Input register			R3840 ~ R3903 (64)	Corresponding to external numeric input
	OR	Output Register			R3904 ~ R3967 (64)	Corresponding to external numeric output
	SR	Special System Register			R3968 ~ R4167 (197) D4000 ~ D4095 (96)	Except R4152 ~ 4154
	〈Special Register〉	0.1ms High Speed Timer register			R4152 ~ R4154 (3)	
		High Speed Counter Register	Hardware(4 sets)		DR4096 ~ DR4110 (4×4)	
			Software (4 sets)		DR4112 ~ DR4126 (4×4)	
		Real Time Calendar Register			R4128 (sec) / R4128 (min) / R4130 (hour) / R4131 (day) / R4132 (month) / R4133 (year) / R4134 (week)	Accuracy: ±20 seconds per day
	XR	Index Register			V、Z (2), P0 ~ P9 (10)	
Interrupt Control		External Interrupt Control			32 (16 point input positive/negative edges)	
		Internal Interrupt Control			8 (1, 2 3, 4, 5, 10, 50, 100ms)	
0.1ms High Speed Timer (HST)					1 (16bits), 4 (32bits, derived from HHSC)	

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Item			Specification		Note
High Speed Counter	Hardware High Speed Counter (HHSC) /32Points	Channels	Up to 1	Up to 4	• Total number of HHSC and SHSC is 8. • HHSC can change into High Speed Timer with 32 bits/0.1ms Time base.
		Counting frequency	Up to 200KHz (single-end input)	Up to 100KHz (single-end input)	
		Counting mode	8 (U/D, U/D×2, P/R P/R×2, A/B, A/B×2,A/B×3 A/B×4)		
	Software High Speed Counter (SHSC) /32Points	Channels	Up to 4		
		Counting mode	3 (U/D、P/R、A/B)		
		Counting frequency	Maximum sum up to 10KHz		
Communication Interface	Port0 (RS232)		Communication Speed 4.8Kbps ~ 921.6Kbps (9.6Kbps)*		
	Port1(RS232), Port2(RS485)		Communication Speed 4.8Kbps ~ 921.6Kbps (9.6Kbps)*		Port1 ~ 2 talk original or Modbus RTU Master/Slave Communication Protocol
NC Positioning Output (PSO)	Number of Axes		Up to 2		
	Output Frequency		200KHz single-end transistor output		
	Output Pulse Mode		3 (U/D、P/R、A/B)		
	Positioning Language		Special Positioning Programming Language		
HSPWM Output	Number of Points		Up to 4		
	Output Frequency		72Hz ~ 18.432KHz (with 0.1% resolution) 720Hz ~ 184.32KHz (with 1% resolution)		
Captured input		Points	Max.36 points (all of main units have the feature)		
			> 10μs(super high speed/high speed input)		
		Captured pulse width	> 47μs(medium speed input)		
			> 470μs(mid/low speed input)		
Setting of Digital Filter		X0 ~ X15	Frequency 14KHz ~ 1.8MHz		Chosen by frequency at high frequencies
			Tine constant 0 ~ 1.5ms/0 ~ 15ms,adjustable by step of 0.1ms/1ms		Chosen by time constant at low frequencies
		X16 ~ X35	Time constant 1ms~15ms,adjustable by step of 1ms		

2． 入出力仕様

Digital Input and Output Specifications

DI: 14 points / DO: 10 points

For more DI/DO information, see the next pages.

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入力仕様
Specifications of Digital Input Circuit

Item / Specifications		24VDC Single-end Input				Note
		High Speed(HSC) 200KHz	Medium Speed(HSC) 20KHz*1	Mid/Low Speed 470μ S	Low Speed (200Hz)	
Input Signal Voltage		24VDC±10%				
Input Current Threshold	ON Current	＞4mA			＞2.3mA	
	OFF Current	＜1.5mA			＜0.9mA	
Maximum Input current		7mA			4.2 mA	
Input Status Indication		Displayed by LED: Lit when “ON”, dark when “OFF”				
Isolation Type		Photo coupler signal isolation				
SINK/SRCE Wiring		Independent Wiring	Via variation of internal common terminal S/S and external common wiring			
List of Input Response Speed for Various Models	WSZ-24MCT2-AC	X0,1	X2~13			
	WSZ-32MCT2-AC	X0,1	X2~15	X16~19		
	WSZ-40MCT2-AC	X0,1	X2~15	X16~23		
	WSZ-60MCT2-AC	X0,1	X2~15	X16~35		
	Expansion Unit/Module				All Input Points	
Noise Filtering Time Constant		DHF(0ns～15ms) ＋AHF(470ns)	DHF(0～15ms) ＋AHF(470μ s)		AHF(4.7ms)	DHF：Digital Hardware Filter AHF：Analog Hardware Filter

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出力仕様
Specifications of Digital Output Circuit

Item / Specification			Single-End Transistor Output		
			High Speed	Medium Speed	Low Speed
Maximum switching (working) Frequency			200KHz	20KHz	200HZ
Working Voltage			5 ~ 30VDC		
Maximum Load Current		Resistive	0.5A	0.1A	0.5A
		Inductive			
Maximum Voltage Drop (@ maximum load)			0.6V	2.2V	1.2V
Leakage Current			< 0.1 mA/30VDC		
Maximum Output Delay Time		ON→ OFF	200nS	15μ S	1mS
		OFF→ ON		30μ S	
Output Status Indication			LED is bit when 〝ON〞 , dark when 〝OFF〞		
Over Current Protection			N/A		
Isolation Type			Photo Coupler Isolation		
For Various Models Response Speed List of output	WSZ-24MCT2-AC		Y0~3	Y4~7	Y8~9
	WSZ-32MCT2-AC		Y0~3	Y4~7	Y8~11
	WSZ-40MCT2-AC		Y0~3	Y4~7	Y8~15
	WSZ-60MCT2-AC		Y0~3	Y4~7	Y8~23
	Expansion Units/Modules				All output points

* : The standard product of MCT2-AC-type High-Speed output is 2 points, it can extend to 3~8points (Option). Every increment one High-speed output point, and decrement one Middle-speed output point relatively. Only X4~X5,X8~X9 and X12~X13 output can be extended, and the priority is low serial-number to High serial-number.

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３．環境仕様

Environmental Specifications

Item			Specification	Note
Operating Ambient Temperature	Enclosure equipment	Minimum	5°C	Permanent Installation
		Maximum	40°C	
	Open equipment	Minimum	5°C	
		Maximum	55°C	
Storage Temperature			-25°C～+70°C	
Relative Humidity (non-condensing, RH-2)			5% ~ 95%	
Pollution Level			Degree II	
Corrosion Resistance			By IEC-68 Standard	
Altitude			2000m	
Vibration	Fixated by DIN RAIL		0.5G, for 2 hours each along the 3 axes	
	Secured by screws		2G, for 2 hours each along the 3 axes	
Shock			10G, 3 times each along the 3 axes	
Noise Suppression			1500Vp-p, width 1us	
Withstand Voltage			1500VAC, 1 minute	L, N to any terminal

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