PRODUCT NEWS

Product Discontinuation Notices

March 2, 2009

Programmable Controllers

No.2009081E

Discontinuation Notice of High-Speed Counter Unit. C500-CT041

Product Discontinuation	Recommended Replacement
C500-CT041	C500-CT021

Discontinuation date : The end of March, 2010

Caution on recommended replacement

If the unit is used on 3 axis or 4 axis, two unit of CT021 is necessary.
Then, when the "preset timer" and "preset counter" function is used, CS1W-HCP22-V1 is available against the functions instead of C500-CT021.

Difference from discontinued product

Model	Body Color	Dimensions	Wire connection	Mounting Dimensions	Characteristics	Operation ratings	Operation methods
C500-CT021	**	*	--	--	*	--	--

** : Fully compatible
* : The change is a little/Almost compatible
-- : Not compatible
- : No corresponding specification

Product Discontinuation and recommended replacement

Product discontinuation		Recommended replacement	
Model	Product code	Model	Product code
C500-CT041	3GA55975B	C500-CT021	3GA56032G

OMRON Corporation
Industrial Automation Company

Dimensions

Product discontinuation C500-CT041	Recommendable replacement C500-CT021
250(H) × 34.5(W) × 93(D)mm	250(H) × 34.5(W) × 115(D)mm (Inc. Terminal height) Note: On 3 axis and 4 axis, two CT021 is necessary.

Wire Connection

Product discontinuation C500-CT041	Recommendable replacement C500-CT021
By connector	By terminal

Characteristic

Product discontinuation
C500-CT041

General Specifications

Item		Specification
No. of operating channels		4 channels maximum (each channel individually operable)
Operating modes		The following six modes are available for each of the four counter channels: Preset timer mode 1, preset timer mode 2, preset counter mode 1, preset counter mode 2, gate ring counter mode, and sampling counter mode Any or all of the operating modes can be used in the same Counter Unit.
External inputs	Input signals	The following inputs are used: pulse inputs: PL 0 to PL 3, sensor inputs: SN 0 to SN 3, PCOK inputs PC 0 to PC 3, counter clear input:s CC 0 to CC 3. Each input number corresponds to a channel, i.e., each channel has one of each input.
	Signal level	24 VDC
External outputs	Output signals	External outputs: OUT 0 to 3 Each output number corresponds to a channel, i.e., each channel has one output.
	Switching capacity	5 to 24 VDC (open collector output)
Internal current consumption		1.0 A at 5 VDC maximum (supplied from Backplane)
External power supply		30 mA at 24 VDC ±10% maximum (for each of 2 circuits)
Dimensions (mm)		250 x 34.5 x 93 mm (HxWxD)
Weight		800 g maximum (without connectors)
Battery life		5 years at 25°C (Battery life is shortened at higher temperatures.)

Characteristic

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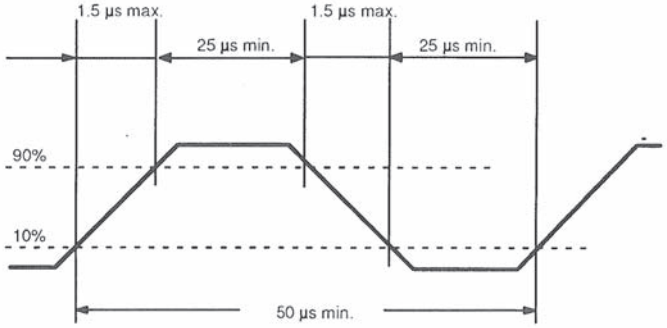
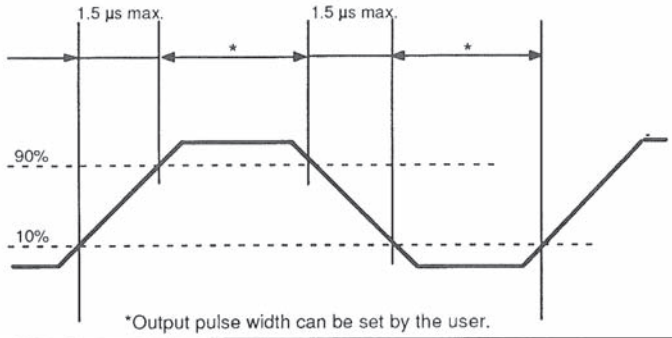
Input Specifications

Inputs	Input signals: sensor inputs, pulse inputs, PCOK inputs, counter clear inputs
Input voltage	24 VDC ±10%
Input current	8 mA typical (7.0 to 10 mA) per input
Minimum ON voltage	21.6 VDC
Maximum OFF voltage	4.0 VDC
Minimum response pulse (maximum response frequency: 20 KHz)	Input rise/fall time of sensor inputs, pulse inputs, PCOK inputs: 1.5 µs maximum  Counter clear input signal ON level must be maintained for at least 5 ms.

Output Specifications

Output	External output signal
Maximum switching capacity	100 mA/24.0 VDC + 10% 200 mA maximum/common (300-mA fuse in each of 2 circuits)
Minimum switching capacity	1 mA at 5 VDC
Output	Open collector
Leakage current	0.1 mA maximum
Residual voltage	0.4 V maximum
ON/OFF delay	Counter processing time + 15 µs (with a load current of 1 mA minimum)
External power supply	24 VDC ±10% (30 mA maximum at 26.4 VDC) for each of 2 circuits
Output pulse	1-mA minimum load current Output rise/fall time 15 µs maximum  *Output pulse width can be set by the user.
Signal level	All output levels are active low.

Characteristic

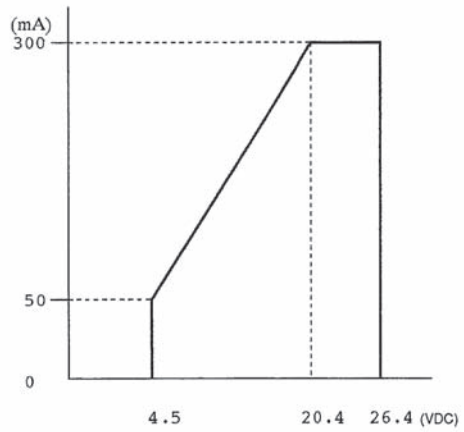
Recommended replacement
C500-CT021

Item		Specification
Number of axes		2 axes/Unit
Operating modes		The 7 operating modes are listed below. A different mode can be set for each axis on each Unit. Simple linear mode Linear mode Circular mode Preset mode Gate mode Latch mode Sampling mode
Count inputs	Input signals	Encoder input A, encoder input B
	Signal levels	5 VDC, 12 VDC, and 24 VDC (open collector/line driver)
	Input modes	Offset phase inputs (×1/×4) Up and down pulse inputs Pulse + direction inputs
	Counting rate	50K cps max. (The offset phase input has a ×4 input multiplier function.)
External inputs	Input signal	Pulse input Z
	Signal levels	5 VDC, 12 VDC, and 24 VDC (open collector/line driver)
	Input signal	One control input (Used with the preset function, reset function, gate counter, sampling counter, preset counter, and latch counter.)
	Signal levels	12 VDC and 24 VDC
External outputs	Outputs	External outputs 0 to 7, 8 points/Unit (Can be allocated freely to each comparison set value.)
	Switching capacity	50 mA at 5 VDC to 300 mA at 24 VDC
Internal current consumption		350 mA max. at 5 VDC (Supplied from Backplane.)
Dimensions		250 × 34.5 × 115 mm (H × W × D) including the terminal block's height.
Weight		500 g max.

Output Characteristics

Item	External Outputs 0 to 7
Number and type of outputs	8 transistor outputs/Unit
Max. switching capacity	50 mA at 4.5 VDC to 300 mA at 26.4 VDC (See the following graph.)
Leakage current	0.1 mA max.
Residual voltage	0.8 V max.
I/O response time (Count comparison to external output)	Simple linear mode: 1 ms max. Any other mode: 1.5 ms max.
External power supply	5 to 24 VDC ±10%

The maximum switching current depends upon the power supply voltage, as shown below.



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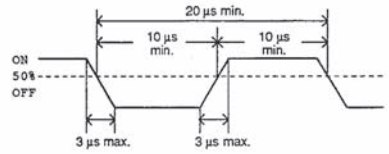
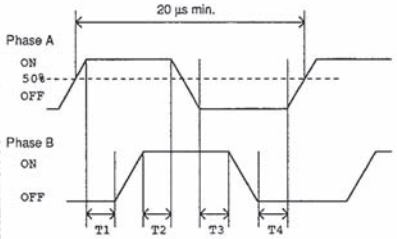
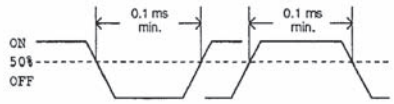
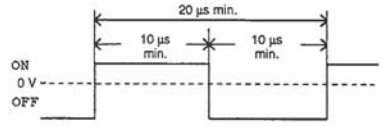
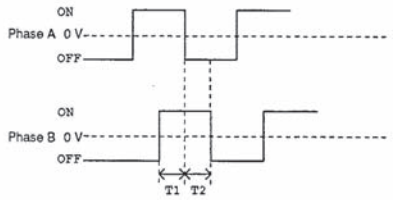
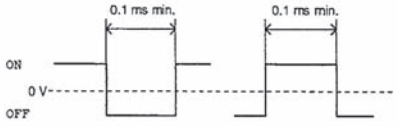
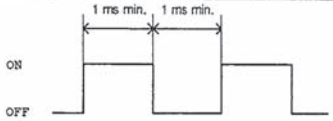
Input Characteristics (Open Collector/Line Driver Inputs)

Item	Encoder Input A, Encoder B, Pulse Input Z			Encoder Input A, Encoder B, Pulse Input Z
Input voltage	5 VDC ±5%	12 VDC ±10%	24 VDC ±10%	Conform to RS-422 line driver (Am26LS31 or equivalent) specifications. (The power supply voltage of the connecting side is 5 VDC ±5%.)
Input current	14 mA TYP.	8 mA TYP.		
ON voltage (min.)	4.5 VDC	10.2 VDC	20.4 VDC	
OFF voltage (max.)	1.5 VDC	3.0 VDC	4.0 VDC	
Minimum response pulse	Encoder Input A/Encoder B waveform: The input's rise/fall time is 3 µs max. (Equivalent to a 50-Khz signal with a 50% duty ratio.)  A and B phases in offset phase inputs: The variation between phases A and B (T1/T2/T3/T4) is 2.5 µs min.  Pulse input Z: The pulse width is 0.1 ms min.  Be sure to leave an input interval of at least 1.5 ms between Z input pulses.	Encoder Input A/Encoder B (+) terminal waveform: Equivalent to a 50-Khz signal with a 50% duty ratio.  A and B phases in offset phase inputs: The variation between phases A and B is 2.5 µs min.  Pulse input Z: A pulse width of at least 0.1 ms min. is required.  Be sure to leave an input interval of at least 1.5 ms between Z input pulses.

External Control Inputs

Item	External Control Input
Input voltage	12 to 24 VDC ±10%
Input current	4 to 11 mA
ON voltage (min.)	10.2 VDC
OFF voltage (max.)	3.0 VDC
ON/OFF delay	1 ms max.
Minimum response pulse	 When accessing these signals from the PC, the signals must be ON longer than the PC's cycle time.

Operation methods

Product discontinuation C500-CT041	Recommended replacement C500-CT021
a. Operation mode and settings is retained by battery. b. Data transfer by READ/WRIT instruction.	a. Data transfer by MOV instruction(4CH mode) and READ/WRIT instruction (2CH mode)