PLC

Пнмі











Electronic Counter

Tachometer

Digital Timer

Programmable Cam

KCV

ксх

KCM

KCX-B6T

Features

High Speed Increment-Decrement Total Counter

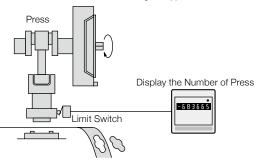
- Maximum counting speed: for both 10 Hz and 20 kHz
- The KCX-B6T is an increment-decrement type counter that enables counting from positive range to the negative range. The total counter with green display can be used for displaying the current position for positioning devices.
- The KCX-B6T is equipped with counting inhibit input and reset button function inhibit input, and supports the input of both positive logic and negative logic.

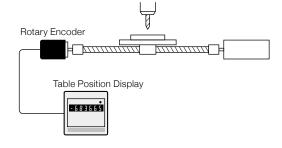


Features

High Speed Increment-Decrement Total Counter of 20 kHz Response

The KCX-B6T has high speed response, which is exceptional as a total counter. Since the counting speed can be switched to a low speed of 10 Hz, the counter can be used for a wide range of applications.





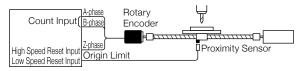
Counting Across from Positive Range to Negative Range is Possible

Since the KCX-B6T enables counting in the minus zone, it can display a range twice as large as counters that can count only in the plus zone.



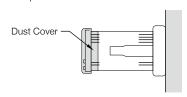
Equipped with High Speed and Low Speed Reset Input

The two reset inputs operate in AND conditions. Therefore, for example, the counter does not require an external circuit even when performing origin correction at high speed by combining the origin pulse of a rotary encoder and the origin limit switch of a machine.



Equipped with a Dust Cover as a Standard Feature

All models are equipped with the dust cover as a standard feature, and the reset button can be operated from outside the dust cover.

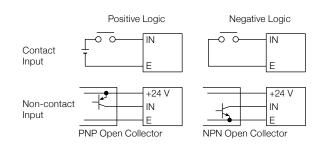


Supports 2-phase Phase Difference Input / Addsubtract Individual Input

Other than rotary encoders, input devices such as proximity sensors and relay contacts can be used. In the case of add-subtract individual input, since both increment input and decrement input can be simultaneously input, the KCX-B6T can be applied to manage the quantity of workpieces on conveyers and the numbers of cars in parking lots.

Input Logic Switching Functions that Operate for All Sensors

Since the input logic can be switched between positive logic and negative logic (only negative logic operation for low speed reset input), the KCX-B6T can use both PNP open collector output and NPN open collector output.



KCX-B6T Specifications

PLC ...

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SENSOR -

ENCODER -

COUNTER 🛄

INFORMATION	i

Electronic	
Counter	

Tachometer

Digital Timer

Programmable Cam

■Specifications

Digit 6 digits 999,999 to +999,999 to	Model Number	KCX-B6T			
Maximum counting speed 10 Hz 20 kHz Changed by switch Input resistance Positive logic input: 2.2 kD Regative logic input: 3.3 kD	Digit				
Count linput Imput resistance Positive logic input: 2.2 kΩ Negative logic input: 3.3 kΩ Imput voltage Imput resistance Positive logic input: 3.3 kΩ Imput voltage Imput voltage Imput resistance Positive logic input: 2.2 kΩ Negative logic input: 3.3 kΩ Imput voltage Imput resistance Positive logic input: 3.3 kΩ Imput voltage Imput resistance Positive logic input: 2.2 kΩ Negative logic input: 2.2 kΩ Negative logic input: 3.3 kΩ Imput voltage Imput resistance Positive logic input: 3.3 kΩ Imput voltage Imput resistance Positive logic input: 3.3 kΩ Imput voltage Imput resistance On delay: 25 μs or less Off delay: 50 ms or less Off delay: 50 ms or less Imput resistance Imput voltage Imput gale response time When power fallure coccurs Imput gale response time When power fallure Voltage Imput gale response time Voltage Imput gale response time Voltage Imput gale response time	Counting Range				
Input resistance Negative logic input: 3.3 kΩ Input voltage "L" 0 to 6 V, "H" 16 to 30 V Input resistance Positive logic input: 2.2 kΩ Negative logic input: 2.2 kΩ Negative logic input: 3.3 kΩ Input voltage "L" 0 to 6 V, "H" 16 to 30 V Input resistance Positive logic input: 2.2 kΩ Negative logic input: 2.2 kΩ Negative logic input: 3.3 kΩ Input voltage "L" 0 to 6 V, "H" 16 to 30 V Input voltage Positive logic input: 2.2 kΩ Negative logic input: 2.2 kΩ Negative logic input: 2.2 kΩ Negative logic input: 3.3 kΩ Input voltage "L" 0 to 6 V, "H" 16 to 30 V Input voltage "L" 0 to 6 V, "H" 16 to 50 V Input voltage "L" 0 to 6 V, "H" 16 to 50 V Input voltage "L" 0 to 6 V, "H" 16 to 50 V Input voltage "L" 0 to 6 V, "H"		Maximum counting speed			
Response time	Count Input	Input resistance			
Disabled Count Input Input resistance Positive logic input: 2.2 kΩ Negative logic input: 3.3 kΩ Input voltage "L" 0 to 6 V, "H" 16 to 30 V		Input voltage	"L" 0 to 6 V, "H" 16 to 30 V		
Input resistance Negative logic input: 3.3 kΩ Input voltage "L" 0 to 6 V, "H" 16 to 30 V Response time On delay: 25 µs or less Off delay: 25 µs or less Input resistance Positive logic input: 2.2 kΩ Negative logic input: 3.3 kΩ Input voltage "L" 0 to 6 V, "H" 16 to 30 V Response time On delay: 50 ms or less Off delay: 50 ms or less Input resistance Only negative logic input: 3.3 kΩ Input roltage "L" 0 to 6 V, "H" 16 to 30 V Response time Onleay: 50 ms or less Off delay: 50 ms or less Only negative logic input: 3.3 kΩ Input voltage "L" 0 to 6 V, "H" 16 to 30 V Manual Reset With the front button (Manual reset is prohibited by short-circuiting terminals ③ and ⑥.) EEPROM Number of overwrite cycles: 100,000 cycles or more Storage time 10 years Input gate response time when power failure occurs Input gate response time when power failure occurs Input gate response time when the power returns when the power returns Voltage 24 V DC (20 to 28 V) 80 mA Withstand Voltage Vibration Resistance Input with JIS C 0911 Endurance vibration: Displacement amplitude 0.5 mm 10 to 55 Hz, 3 axial directions Malfunction vibration: Displacement amplitude 0.35 mm 10 to 55 Hz, 3 axial directions Malfunction vibration: Displacement amplitude 0.35 mm 10 to 55 Hz, 3 axial directions Malfunction vibration: Displacement amplitude 0.35 mm 10 to 55 Hz, 3 axial directions Malfunction vibration: Displacement amplitude 0.35 mm 10 to 55 Hz, 3 axial directions Malfunction vibration: Displacement amplitude 0.35 mm 10 to 55 Hz, 3 axial directions Malfunction vibration: Displacement amplitude 0.35 mm 10 to 55 Hz, 3 axial directions Malfunction vibration: Displacement amplitude 0.35 mm 10 to 55 Hz, 3 axial directions Malfunction vibration: Displacement amplitude 0.35 mm 10 to 55 Hz, 3 axial directions Malfunction vibration: Displacement a		Response time			
Response time On delay: 25 μs or less Off delay: 3.3 kΩ Input voltage ""." 0 to 6 V, "" 16 to 30 V Response time On delay: 50 ms or less Off delay: 50 ms or less Input resistance Input voltage ""." 0 to 6 V, ""1 16 to 30 V Manual Reset With the front button (Manual reset is prohibited by short-circuiting terminals (**) and (**).) EEPROM Number of overwrite cycles: 100,000 cycles or more Storage time 10 years Input gate response time when power failure occurs Input gate response time when power failure occurs Input gate response time when the power returns So to 500 ms Power Source for Sensor 24 V DC (20 to 28 V) 80 mA Withstand Voltage 2kV AC 1 min (Between AC power supply terminal and E terminal) Compliant with JIS C 091. Endurance vibration: Displacement amplitude 0.35 mm 10 to 55 Hz, 3 axial directions Malfunction vibration: Displacement amplitude 0.35 mm 10 to 55 Hz, 3 axial directions Molise Resistance 1 μs width, square-wave pulse, 1 kV Supply Voltage 90 to 132 V AC, 180 to 264 V 14 VA Use Ambient Temperature -20 to +50°C (Can be stored at -20 to +70°C for about 1 week during transport) Use / Storage Temperature Use / Storage Ambient Temperature -20 to +50°C (Can be stored at -20 to +70°C for about 1 week during transport)	Disabled Count Input	Input resistance			
Input resistance Input resistance Input voltage Low Speed Reset Input Response time Ond relay: 25 μs or less Off delay: 25 μs or less Off delay: 35 μs α less Off delay: 50 ms or less Input voltage Input v		Input voltage	"L" 0 to 6 V, "H" 16 to 30 V		
Input voltage		Response time			
Response time On delay: 50 ms or less Off delay: 50 ms or less Input resistance Input voltage "L" 0 to 6 V, "H" 16 to 30 V	High Speed Reset Input	Input resistance			
Low Speed Reset Input Compliant with JIS C 0911. Endurance vibrations Displacement amplitude 0.35 mm 10 to 55 Hz, 3 axial directions		Input voltage	"L" 0 to 6 V, "H" 16 to 30 V		
Input resistance Only negative logic input: 3.3 kΩ Input voltage "L" 0 to 6 V, "H" 16 to 30 V Manual Reset With the front button (Manual reset is prohibited by short-circuiting terminals ④ and ⑥.) EEPROM Number of overwrite cycles: 100,000 cycles or more	Law Canad Danat land	Response time			
Manual Reset With the front button (Manual reset is prohibited by short-circuiting terminals ④ and ⑥.) EEPROM Number of overwrite cycles: 100,000 cycles or more Storage time 10 years Input gate response time when power failure occurs Input gate response time when the power returns 20 to 500 ms Power Source for Sensor 24 V DC (20 to 28 V) 80 mA Withstand Voltage 2kV AC 1 min (Between AC power supply terminal and E terminal) Vibration Resistance Compliant with JIS C 0911. Endurance vibration: Displacement amplitude 0.5 mm 10 to 55 Hz, 3 axial directions Malfunction vibration: Displacement amplitude 0.35 mm 10 to 55 Hz, 3 axial directions Noise Resistance 1 µs width, square-wave pulse, 1 kV Supply Voltage 90 to 132 V AC, 180 to 264 V 14 VA Use Ambient Temperature -20 to +50°C (Can be stored at -20 to +70°C for about 1 week during transport) Use / Storage Ambient 35 to 85% RH (No condeposation)	Low Speed Reset Input	Input resistance	Only negative logic input: $3.3 \text{ k}\Omega$		
EEPROM Number of overwrite cycles: 100,000 cycles or more		Input voltage	"L" 0 to 6 V, "H" 16 to 30 V		
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Retentive Feature for Power Failure Input gate response time when power failure occurs Input gate response time when the power returns 50 to 500 ms Power Source for Sensor 24 V DC (20 to 28 V) 80 mA Withstand Voltage 2kV AC 1 min (Between AC power supply terminal and E terminal) Vibration Resistance Compliant with JIS C 0911. Endurance vibration: Displacement amplitude 0.5 mm 10 to 55 Hz, 3 axial directions Malfunction vibration: Displacement amplitude 0.35 mm 10 to 55 Hz, 3 axial directions Noise Resistance 1 µs width, square-wave pulse, 1 kV Supply Voltage 90 to 132 V AC, 180 to 264 V 14 VA Use Ambient Temperature -20 to +50°C (Can be stored at -20 to +70°C for about 1 week during transport) Use / Storage Ambient 35 to 85% BH (No condensation)			EEPROM Number of overwrite cycles: 100,000 cycles or more		
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when the power returns 50 to 500 ms Power Source for Sensor 24 V DC (20 to 28 V) 80 mA Withstand Voltage 2kV AC 1 min (Between AC power supply terminal and E terminal) Vibration Resistance Compliant with JIS C 0911. Endurance vibration: Displacement amplitude 0.5 mm 10 to 55 Hz, 3 axial directions Malfunction vibration: Displacement amplitude 0.35 mm 10 to 55 Hz, 3 axial directions Noise Resistance 1 µs width, square-wave pulse, 1 kV Supply Voltage 90 to 132 V AC, 180 to 264 V 14 VA Use Ambient -10 to +50°C Storage Temperature -20 to +50°C (Can be stored at -20 to +70°C for about 1 week during transport) Use / Storage Ambient 35 to 85% RH (No condensation)	Retentive Feature for Power Failure		20 to 500 ms		
Withstand Voltage 2kV AC 1 min (Between AC power supply terminal and E terminal) Compliant with JIS C 0911. Endurance vibration: Displacement amplitude 0.5 mm 10 to 55 Hz, 3 axial directions Malfunction vibration: Displacement amplitude 0.35 mm 10 to 55 Hz, 3 axial directions Noise Resistance 1 µs width, square-wave pulse, 1 kV Supply Voltage 90 to 132 V AC, 180 to 264 V 14 VA Use Ambient Temperature -10 to +50°C Storage Temperature -20 to +50°C (Can be stored at -20 to +70°C for about 1 week during transport) Use / Storage Ambient 35 to 85% RH (No condeposation)			50 to 500 ms		
Vibration Resistance Compliant with JIS C 0911. Endurance vibration: Displacement amplitude 0.5 mm 10 to 55 Hz, 3 axial directions Malfunction vibration: Displacement amplitude 0.35 mm 10 to 55 Hz, 3 axial directions Noise Resistance 1 μs width, square-wave pulse, 1 kV Supply Voltage 90 to 132 V AC, 180 to 264 V 14 VA Use Ambient Temperature -10 to +50°C Storage Temperature -20 to +50°C (Can be stored at -20 to +70°C for about 1 week during transport) Use / Storage Ambient 35 to 85% RH (No condeposation)	Power Source for Sensor	24 V DC (20 to 28 V) 80 mA			
Malfunction vibration: Displacement amplitude 0.35 mm 10 to 55 Hz, 3 axial directions Noise Resistance 1 µs width, square-wave pulse, 1 kV Supply Voltage 90 to 132 V AC, 180 to 264 V 14 VA Use Ambient Temperature -20 to +50°C (Can be stored at -20 to +70°C for about 1 week during transport) Use / Storage Ambient 35 to 85% RH (No condensation)	Withstand Voltage	2kV AC 1 min (Between AC power supply terminal and E terminal)			
Supply Voltage 90 to 132 V AC, 180 to 264 V 14 VA Use Ambient Temperature -10 to +50°C Storage Temperature -20 to +50°C (Can be stored at -20 to +70°C for about 1 week during transport) Use / Storage Ambient 35 to 85% RH (No condensation)	Vibration Resistance				
Use Ambient Temperature -10 to +50°C Storage Temperature -20 to +50°C (Can be stored at -20 to +70°C for about 1 week during transport) Use / Storage Ambient 35 to 85% RH (No condensation)	Noise Resistance	1 µs width, square-wave pulse, 1 kV			
Temperature -10 to +50 C Storage Temperature -20 to +50°C (Can be stored at -20 to +70°C for about 1 week during transport) Use / Storage Ambient 35 to 85% RH /(No condensation)	Supply Voltage	90 to 132 V AC, 180 to 264 V 14 VA			
Use / Storage Ambient 35 to 85% RH (No condensation)	Use Ambient Temperature	-10 to +50°C			
	Storage Temperature	-20 to +50°C (Can be stored at -20 to +70°C for about 1 week during transport)			
runiury .	Use / Storage Ambient Humidity	35 to 85% RH (No condensation)			
Weight (g) Approx. 350 g	Weight (g) Approx. 350 g				

KCV

KCX

KCM



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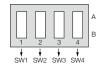
Programmable Cam

KCX-B6T

Operation

Operation

Various operation modes can be selected using the 4 DIP switches on the back of the case.



Input Operation Switching (SW1 to 4)

The 4 DIP switches are used for setting the input operation of the counter, enabling the switching of input speed, counting method, and logic.

Switch Number	Function	Position	Operation
1	Counting input speed IN A	А	10 Hz
		В	20 kHz
2	Counting input speed IN B	Α	10 Hz
2		В	20 kHz
3	Occuption outland	А	Add-subtract individual input
3	Counting system	В	2-phase phase difference input
4	Input logio	А	Negative logic
4	Input logic	В	Positive logic

■Terminal Assignment

Terminal Number Symbol		Description	
1	24 V DC 80 mA	Power source for sensor	
2	IN A	Count input A	
3	IN B	Count input B	
4	Е	Input common	
5	IN H	Disabled count input	
6	RD	Manual reset prohibition input	
7	RH	External reset input: High speed	
8	RL	External reset input: Low speed (Negative logic only)	
9	_	(Not connected)	
10	_	(Not connected)	
11	_	(Not connected)	
12	180 to 264 V AC		
13	90 to 132 V AC	Power source input	
14	0 V AC		

KCV

KCM

KCX-B6T

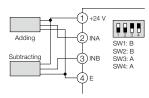
Connection

Terminal Connections

Connection of Counting Input

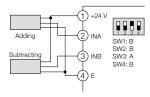
1. In the case of a proximity sensor / photoelectronic sensor 《Negative logic》

The sensor output is an NPN open collector.

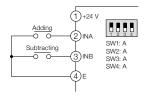


《Positive logic》

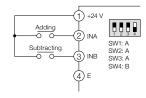
The sensor output is an PNP open collector.



2. Switch / relay «Negative logic»

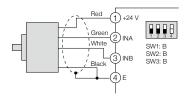


《Positive logic》

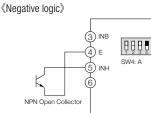


3. Rotary encoder

When the TRD-J -RZ is used, SW4 can be in either position A or position B.



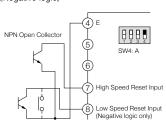
Connection of a Counting Prohibit Input



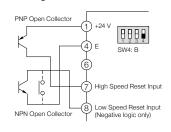
《Positive logic》 1 +24 V 2 INA 3 INB SW4: B PNP Open Collector INH

Connection of the Reset Input

《Negative logic》



《Positive logic》







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