KCV Series

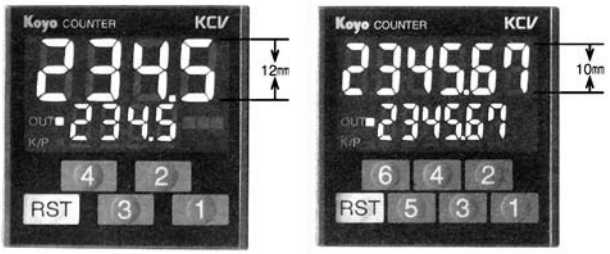
Single Preset Counters for Addition and Subraction / Total Counters for Addition and Subtraction.

High-speed	30 Hz / 10 Hz (with Dipswitch selected) 200 Hz / 1 kHz (with Set-up Mode selected)

A preset counter that aggregates counts with functions that provide a large, two-color LED for display that is easy-to-read in small DIN 48 x 48 body. Dual output of predicted output and preset output can be set with settings for predicted output.

Merits

Large, easy-to-see display
A large LED for display with character height of 12 mm (4 digits) and 10 mm (6 digits) is used in a small DIN 48 x 48 body.



Easy operation
Setting and changing of preset values with individual setting keys has the feel of digital switches.

User configurabe digit number
User can configure the no. of digit.

Battery-less memory retention
EEPROM is used to retain values in memory, so there is no need for battery maintenance.

Removable terminals
Maintenance has been reduced via terminals that can be removed. After wiring, the terminal cover provides a safe surface for worry-free use.

Tamper proof
Key protection can be set for individual keys to prevent tampering.

Power source for a large-capacity sensor (AC P/S type only)
You can source the power for sensor from the built-in P/S 24 VDC, 60mA.

Free power supply for the AC type
The operating AC voltage is wide as 85 VAC ~ 264 VAC.

Various types of counts
Prescaling
- The input pulse can be converted to any values and displayed.

Dual phase addition / subtraction by individual input
- The counting range can be from positive to negative. However, settings are in the positive range.

Addition-Subtraction
- Counts can be selected for positive or negative display.

Dual output with alarm output
Dual setting is possible with alarm output.
Alarm values are values prior to reaching preset values.

High-speed response with 10 kcps
The input response frequency for this class is a maximum of 10 kHz. Input operational speed can be adjusted to switch to 30, 200, 1K, or 10 kHz.

IP65
Membrane is used to protect from operation with wet or dirty hands. A special cover is also provided as an option to enhance the protective structure.

Designed in compliance with CE and UL

DIGITAL COUNTERS

List of Models

Category	Model Number	Number of Digits	Source Voltage	Sensor Source Voltage DC24V 60mA
Preset Counter	KCV-4S	4	AC	●
	KCV-4S-C		DC	
	KCV-6S	6	AC	●
	KCV-6S-C		DC	
Total Counter	KCV-4T	4	AC	●
	KCV-4T-C		DC	
	KCV-6T	6	AC	●
	KCV-6T-C		DC	

AC:AC100~240V
DC:DC12~24V

Model Number System

KCV-□□-□

- **C:** DC power
  Blank: AC power
- **S** : Output
  T : Total
- **4** : 4-digit
  6 : 6-digit
- Series Name

Accessories : Installation Frame

4-digit

6-digit

General Specifications

Item	Specification		
	AC Power		DC Power
Source Voltage	AC100~240V		DC12~24V
Permitted Power Fluctuation	AC85~264V		DC10~26.4V
Power Consumption	Approx. 11 VA		Approx. 4W
Sensor Power	DC24 V (20-28V) 60mA (Max. 10%p-p ripple)		-
Memory Backup Upon Power Failure	EEPROM (Writing Up to 100,000 times) Memory Duration 10 years		
Ambient Temperature	-10~50°C		
Storage Temperature	-20-70°C (with no freezing)		
Ambient Humidity	35-85%RH (with no dewing)		
Withstand Voltage	AC 2kV for one minute (for AC input, 0 V, and relay interconnection) (for DC input, 0 V, and relay interconnection)		
Vibration Resistance	Durable	Displacement amplitude 0.5 mm Frequency 10-55 Hz along 3 axes	
	No Malfunction	Displacement amplitude 0.35 mm Frequency 10-55 Hz along 3 axes	
Impact Resistance	Durable	490 m/s² 11 ms along 3 axes	
	No Malfunction	98 m/s² 11 ms along 3 axes	
Noise Resistance	AC Power ±1.5kV between terminals (pulse width 1 of μs and rise time 1 of ns)		DC Power ±1.0kV between terminals (pulse width 1 of μs and rise time 1 of ns)
Protective Structure	IP65 (front panel only)		
Weight	Aprrox. 150 g		Aprrox. 110 g
Terminals	Conforming Wiring	0.25~1.65mm²	
	Conforming Crimped Contact	R1.25-3	
	Permitted Torque	0.5Nm	

Performance Specifications

Item	Preset Counter	Total Counter
Category	Addition and Subtraction Preset Counter	Addition and Subtraction Total Counter
Setting	Single with alarm output	-
Number of Digits	4 or 6 digits	4 or 6 digits
Display (LED character height)	4-digit: 12 mm (count) / 7 mm (preset) 6-digit: 10 mm (count) / 7 mm (preset)	
Counting Range	4-digit: 0-9999 6-digit: -99999-999999	
Setting Range	4-digit: 0-9999 6-digit: 0-999999	-
Input	Operational speed: 30/200/1 k /10 kHz switching	
	Input resistance: positive logic 15 kΩ Negative logic 3.3 kΩ (AC Power) / 1.8 kΩ (DC Power)	
	Input voltage: “L” 0-3 “H” 7-30 V	
Disabled Count Input	Responded in less than 100 μs	
External Reset	Max. signal amplitude 5 ms	
Automatic Reset	Responded in less than 100 μs	
Manual Reset	Responded in less than 0.1 s	
Input Gate During Power Failure	20~500 ms	
Input Gate During Power Recovery	50~500 ms	
Output	DC output: NPN open collector output 24 V 100 mA Withstand pressure 35V residual voltage less than 1.5 V	-
	Relay output: 1 transformer relay AC220V 2A (resistance load)	-
Output Mode	One-shot / Hold / Match	-
Output Duration	10-9990 ms every 10 ms	-
Prescaling	0.001-99.999 (6 digit) / 0.001-9.999 (4 digit)	
Decimal Point	Lamp for arbitrary places available	
Key Protection	Setting of arbitrary keys possible	Setting of reset keys possible
Installation	Exclusively for embedding (terminal block connection)	

* Prescaling is for 1x values.

I/O Specifications

Count Input	Input Speed	30 Hz / 200 Hz / 1 kHz / 10 kHz		
	Input Resistance	Positive logic 15 kΩ Negative logic 3.3kΩ (AC Power) / 1.8kΩ (DC Power)		
	Input Voltage	L: 0~3V H: 7~30V		
Disabled Count Input	Input Response	On delay: 0.1 ms Off delay: 0.1 ms		
	Input Resistance	Positive logic 15 kΩ Negative logic 3.3kΩ (AC Power) / 1.8 kΩ (DC Power)		
	Input Voltage	L: 0~3V H: 7~30V		
External Reset Input	Input Response	On delay: 0.1 ms Off delay: 0.1 ms		
	Input Resistance	Positive logic 15 kΩ Negative logic 3.3kΩ (AC Power) / 1.8 kΩ (DC Power)		
	Input Voltage	L: 0~3V H: 7~30V		
Transistor Output	Withstand Voltage	Less than 35V		
	Current	Less than 100 mA		
	Residual Voltage	Less than 2V		
Relay Output	Capacity	AC220V 2A (resistance load)	AC220V 0.5A (cos ø = 0.4)	DC30V 0.5A (L/R = 7ms)
	Lifetime	More than 100,000 uses	More than 200,000 uses	More than 200,000 uses