

Motor Condition Monitoring Device K6CM-CI

Quantifying the status of a three-phase induction motor.

- The “comprehensive current diagnosis” can monitor not only for motor problems, but also abnormal load-side conditions.
- Simply install a CT on the control panel enables monitoring.
- Configuration tool for fast rollout.
- K6CM-CI2M is suitable for use in an excessive noise environment such as using an inverter. Supports Modbus TCP in addition to EtherNet/IP.

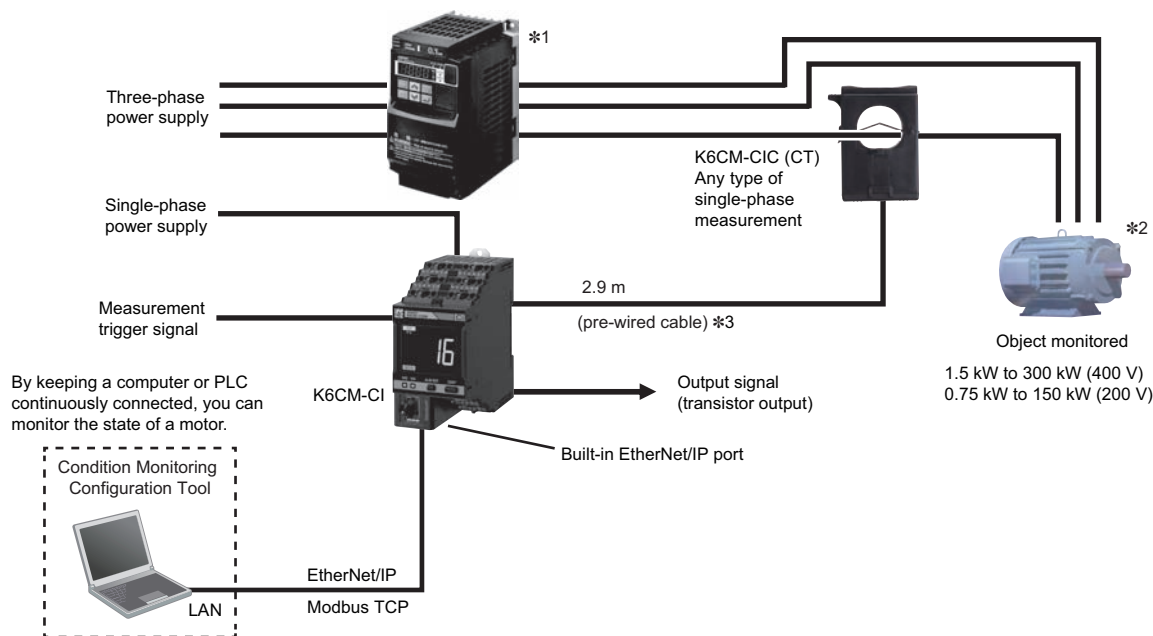


For the most recent information on models that have been certified for safety standards, refer to your OMRON website.

System Configuration

Basic Configuration

Comprehensive current diagnosis type (K6CM-CI)



Note : 1. Even without a computer, the alarm bar of the main unit notifies you of changes of motor state.

2. The degradation level may appear differently depending on the failure condition of the motor or load, or depending on the installation condition.

*1. In an environment where the motor is driven by an inverter, if the degradation level 1 is used as the measurement value, it may not be possible to monitor the motor or load abnormalities. Therefore, it is recommended to use the degradation level 2. Refer to the User's manual (N219) for details.

*2. Since the frequency band of the harmonics of the drive frequency and the frequency band in which errors such as load imbalance and misalignment appear are the same frequency band for a 2-pole meter, sensitivity may be reduced with degradation level 2.

*3. The CT cable cannot be extended.

K6CM-CI

Ordering Information

List of Models

Monitoring type	Power supply voltage	Model
Comprehensive current diagnosis type	100 to 240 VAC	K6CM-CI2MA-EIP
	24 VAC/VDC	K6CM-CI2MD-EIP

CT (Order separately)

Rated primary-side current	Applicable Relay	Model
5 A	K6CM-CI	K6CM-CICB005
25 A		K6CM-CICB025
100 A		K6CM-CICB100
200 A		K6CM-CICB200
400 A		K6CM-CICB400
600 A		K6CM-CICB600

- Note:** 1. One sensor is combined with one main unit. A cable for connection is provided with the CT.
 Select a CT that sets the current of the applicable motor within the measurement range.
 To calculate the current, refer to *Comprehensive Current Diagnosis Type Technical Data (Reference)* on page 11.
 2. The sensor applicable for CSA certification is K6CM-CICB□□□-C.

EtherNet/IP communications cable recommended parts

Use a Category 5 or higher STP cable (shielded twisted pair cable).

Cable with Connectors

Item	Recommended manufacturer	Cable length (m)	Model
Wire Gauge and Number of Pairs: AWG26, 4-pair Cable Cable Sheath material: LSZH *2 	OMRON	0.3	XS6W-6LSZH8SS30CM-Y
		0.5	XS6W-6LSZH8SS50CM-Y
		1	XS6W-6LSZH8SS100CM-Y
		2	XS6W-6LSZH8SS200CM-Y
		3	XS6W-6LSZH8SS300CM-Y
		5	XS6W-6LSZH8SS500CM-Y
Wire Gauge and Number of Pairs: AWG22, 2-pair Cable 	OMRON	0.3	XS5W-T421-AMD-K
		0.5	XS5W-T421-BMD-K
		1	XS5W-T421-CMD-K
		2	XS5W-T421-DMD-K
		5	XS5W-T421-GMD-K
		10	XS5W-T421-JMD-K

- *1. Cables with standard RJ45 plugs are available in the following lengths: 0.2 m, 0.3 m, 0.5 m, 1 m, 1.5 m, 2 m, 3 m, 5 m, 7.5 m, 10 m, 15 m, 20 m.
 Cables with rugged RJ45 plugs are available in the following lengths: 0.3 m, 0.5 m, 1 m, 2 m, 3 m, 5 m, 10 m, 15 m.
 For details, refer to the *Industrial Ethernet Connectors Catalog* (Cat. No. G019).
 *2. The lineup features Low Smoke Zero Halogen cables for in-cabinet use and PUR cables for out-of-cabinet use.
 *3. Cable colors are available in yellow, green, and blue. The last character of the model changes to "-G" or "-B".

Cable/Connector

Part name	Manufacturer	Model
Cable	Kuramo Electric Co.	KETH-SB *
RJ45 connector	Panduit Corporation	MPS588-C *

* It is recommended to use the cable and connector in combination described above.

Industrial switching hub (recommended parts)

Product name	Appearance	Functions	No. of ports	Model
Industrial Switching Hubs		Quality of Service (QoS): EtherNet/IP control data priority 10/100BASE-TX, Auto-Negotiation	5	W4S1-05D

Ratings and Specifications

List of Models

Ratings

Power Supply	Power supply voltage		K6CM-□□MA: 100 to 240 VAC, 50/60 Hz K6CM-□□MD: 24 VAC, 50/60 Hz, 24 VDC
	Allowable operating voltage range		85% to 110% of power supply voltage
	Power supply frequency range		45 to 65 Hz
	Power consumption		24 VAC/24 VDC: 3.2 VA/1.7 W max. 100 to 240 VAC: 6.1 VA max.
Input	Current, comprehensive current diagnosis (CT)	Rated input current	5 A, 25 A, 100 A, 200 A, 400 A, 600 A
Applicable motor type			Three-phase induction motor (Rated voltage 600 VAC max) *1
Outputs	Output form		Transistor output
	Output capacity		3-point
	Output rating		Rated voltage: 24 VDC Max. current: 50 mA, DC
Ambient operating temperature			-10 to +55°C (with no condensation or icing)
Storage temperature			-20 to +65°C (with no condensation or icing)
Ambient operating humidity			25% to 85% RH (with no condensation)
Storage humidity			25% to 85% RH (with no condensation)
Case color			Black
Case material			Polycarbonate UL94-V0
Altitude			2,000 m max.
Applicable wires			Stranded wires, solid wires, or ferrules
Applicable wire size			0.25 to 1.5 mm ² (AWG24 to 16)
Wire insertion force			8 N max. (AWG20)
Screwdriver insertion force			15 N max.
Wire stripping length			8 mm
Recommended flat-blade screwdriver			XW4Z-00B (Omron)
Current capacity			10 A (per pole)
Number of insertions			50 times
Weight			Approx. 200 g
Mounting			Mounts to DIN Track screw mounting
Dimensions			45 (W) × 90 (H) × 90 (D) mm
Setting method			Communications settings from a dedicated tool *2 or Condition Monitoring Configuration Tool via EtherNet/IP
Other functions			Display value selection, self-diagnosis error output, setting value initialization, operation integration
Accessories			Operation manual, CD-ROM (Motor condition monitoring Tool) *2

*1. Motors other than three-phase induction motors (synchronous motors, single phase motors, servo motors, and stepping motors) are excluded. The rated voltage of the motor applicable for UL certification is 480 VAC.

*2. The support of a dedicated tool will end in November 2024 and the CD-ROM for the Motor Condition Monitoring Tool will no longer be supplied with K6CM manufactured in December 2024 or later. Download the Condition Monitoring Configuration Tool from OMRON website and use it instead.

Characteristics

Measurement range		Current Rating 5 A: 1.00 to 5.00 A Rating 25 A: 5.0 to 25.0 A Rating 100 A: 20.0 to 100.0 A Rating 200 A: 40.0 to 200.0 A Rating 400 A: 80.0 to 400.0 A Rating 600 A: 120.0 to 600.0 A Rated frequency: 20 to 80 Hz Degradation level 1, degradation level 2: 0 to 999 Recommended frequency: 20 to 80 Hz *1
Measurement absolute accuracy	Current	±1.0% FS±1 digit (at 10 to 30°C, CT variation is not included) *2
Sampling cycle		Degradation level 1, degradation level 2, current: 5 s
Moving average frequency		1, 2, 4, 8, 16, 32 times
External trigger	External contact input specification	Short-circuit: Residual voltage 1.5 V max. Open: Leakage current 0.1 mA max.
	Current during short-circuiting	Approx. 7 mA
Transistor output		Contact configuration: NPN open collector Rated voltage: 24 VDC (maximum voltage: 26.4 VDC) Max. current: 50 mA, DC
Alarm	Parameters that can be output	Degradation level 1, degradation level 2, current
	Expression method	Transistor output, alarm bar
	Setting value	Current Rating 5 A: 00.00 to 99.99 A Rating 25 A/100 A/ 200 A/400 A/600 A: 0.0 to 999.9 A Degradation level 1, degradation level 2: 0 to 9999
	Hysteresis	10% width of setting value
	Reset method	Manual reset/automatic reset (switchable) * Manual return method: Press the ALMRST button
LCD display		7-Segment digital display and single-shot display Font height 14 mm
Applicable standards	Conforming standards	EN61010-2-030 Installation environment: Pollution degree 2, overvoltage category II, measurement category II
	EMC	EN61326-1(EMI: Class A EMS: Industrial Location) Current ± 10% F.S.
	Safety standards	UL61010-2-030 (listing) *5 / CSA 22.2 No.14 Overvoltage category II Korean Radio Waves Act (Act 10564) RCM
Insulation resistance		20 MΩ min. Between all external terminals and the case Between all power supply terminals and all other terminals Between all sensor connection terminals and trigger input terminal + output terminal + all EtherNet/IP ports
Dielectric strength		2,000 VAC for 1 minute Between all external terminals and the case Between all power supply terminals and all other terminals Between all sensor connection terminals and trigger input terminal + output terminal + all EtherNet/IP ports
Vibration resistance		Vibration frequency 10 to 55 Hz, slice amplitude 0.35 mm in each of X, Y, Z directions 5 minute × 10
Shock resistance		100 m/s ² , 3 times each in 6 directions along 3 axes
Degree of protection		IP20
LED display	Alarm bar	Red/Yellow/Green
	MS, NS *3	Red/Green
Ethernet communications *4	Number of ports	1
	Physical layer	Ethernet: Connector RJ45
	Type	100BASE-TX
	Transmission distance (Maximum cable length)	100 m (Between hub and node)
	Topology	Star type
	Protocol	EtherNet/IP Modbus TCP

*1. When used at a frequency higher than 80 Hz, the tendency toward motor degradation is less noticeable.

*2. For the frequency characteristics of the CT, refer to the technical data on page 11.

*3. MS: Product status display, NS: Network status display.

*4. A tag data link timeout may occur with products manufactured on or before April 30, 2019, over a network system including nodes set for multicast communications. Use the multicast blocking function of the switching hub to prevent multicast packets from reaching the K6CM.

*5. The rated voltage of the motor applicable for UL certification is 480 VAC.

CT

Ratings and Specifications

Model #3		K6CM-CICB005	K6CM-CICB025	K6CM-CICB100	K6CM-CICB200	K6CM-CICB400	K6CM-CICB600
Construction		Indoor split type					
Primary-side rated current		5 A	25 A	100 A	200 A	400 A	600 A
Measurement range *1		1 to 5 A	5 to 25 A	20 to 100 A	40 to 200 A	80 to 400 A	120 to 600 A
Rated voltage		600 VAC *4					
Secondary-side rated current		Dedicated current					
Secondary winding		3000 turns				6000 turns	9000 turns
Insulation resistance		Between output terminal and case: 50 MΩ min.					
Dielectric strength		Between output terminal and case: 2,000 VAC, 1 minute					
Protective element		7.5 V clamp element					
Permissible attachment/removal frequency		100 times					
Attachable wire diameter *2		7.9 mm dia. max.	9.5 mm dia. max.	14.5 mm dia. max.	24.0 mm dia. max.	35.5 mm dia. max.	
Operating temperature / humidity range		-20 to +60°C, 25 to 85% (with no condensation or icing)					
Storage temperature / humidity range		-30 to +65°C, 25 to 85% (with no condensation or icing)					
Supplied cable length		2.9 m (pre-wired cable)					
Supplied cable terminal	Main unit side	Ferrule terminal					
	CT side	Round terminal					
Degree of protection		IP20					

*1. Select a CT that brings the current of the applicable motor into the measurement range.

To calculate the current, refer to the technical data on page 11.

*2. When using a flat wire, be sure to refer to the external dimensions drawing of the CT before selection on page 9.

*3. The sensor applicable for CSA certification is K6CM-CICB□□□-C.

*4. The rated voltage of the motor applicable for UL certification is 480 VAC.

Motor condition monitoring Tool (Software included with main unit)

The support of a dedicated tool will end in November 2024 and the CD-ROM for the Motor Condition Monitoring Tool will no longer be supplied with K6CM manufactured in December 2024 or later. Download the Condition Monitoring Configuration Tool from OMRON website and use it instead.

Operating Environment

Element	Specification
Supported OS	Windows 7, Windows 8.1, Windows 10 (32 bit/64 bit) (Japanese/English)
.NET	.NET Framework 4 and .NET Framework 3.5
CPU	1 GHz or more, 32 bit or 64 bit processor
Memory	1 GB or more, or 2 GB or more (for 64 bit)
HDD	Available space of 16 GB or more, or 20 GB or more (for 64 bit)
Others	Since this software is provided on a CD-ROM, a CD-ROM reading device must be available. If data is to be collected, a LAN I/F must be available.

Functions/Specifications (For more details, refer to the catalog of each product.)

Item	Specification
Project	Number of files that can be created
Log file	No limit
Monitoring cycle	CSV data format
Number that can be registered in one project	5 second to 366 days
Number of motors (device groups)	10
	Number of devices per motor (device group)
Graphic display	3 *1
Type of graph	Line graph
Display period *2	1 hour, 1 day, 1 month, 1 year

*1. One vibration and temperature type, one insulation resistance type, and one current comprehensive diagnosis type can be set for one motor.

*2. In the software tool version 1.2.0.0 and earlier, the graph display period can be set by selecting the tabs (1 hour, 1 day, 3 months, 6 months, 1 year, 2 years, 5 years, 10 years, 20 years).

In the software tool version 1.2.0.0 and later, you can move the graph in the time axis direction using the graph time axis movement.

Condition Monitoring Configuration Tool

Starting in February 2024, OMRON releases a software tool for configuring all models of condition monitoring devices. The unified configuration and verification environment of the software tool makes it easy to introduce condition monitoring devices. While the existing tools for condition monitoring devices will remain functional, be advised that OMRON has no plans to provide support for updates or related services. Going forward, use the Condition Monitoring Configuration Tool instead of the existing tools.

Product name	Model	Software Tool	The last day to download the tools		The new Tool will be available from February 2024 onwards
Motor Condition Monitoring Device	K6CM *1	Motor Condition Monitoring Tool *2	30 November, 2024		
Thermal Condition Monitoring Device	K6PM-TH	K6PM-TH Software Tool	30 June, 2024		Condition Monitoring Configuration Tool
Insulation Resistance Monitoring Device	K7GE-MG	K7GE-MG Logging Tool			
Heater Condition Monitoring Device	K7TM	K7TM Configuration Tool			
Advanced Motor Condition Monitoring Device	K7DD	K7DD Support Tool			

*1. Can be used only for K6CM-CI2, K6CM-VB with EIP CPU version 1.20 or higher, and K6CM-IS with EIP CPU version 1.20 or higher.
*2. The CD-ROM for the Motor Condition Monitoring Tool will no longer be supplied with K6CM manufactured in December 2024 or later.

Operating Environment

Supported OS	Windows 10 (Version1607 or later) and 11 (Japanese or English) 64 bit
PC specifications	CPU: 1 GHz or higher, 64 bit processor Memory: 2 GB or higher Disk reserved area capacity: 20 GB or more Monitor resolution: 1920 × 1080 Others: LAN port (for network connection)

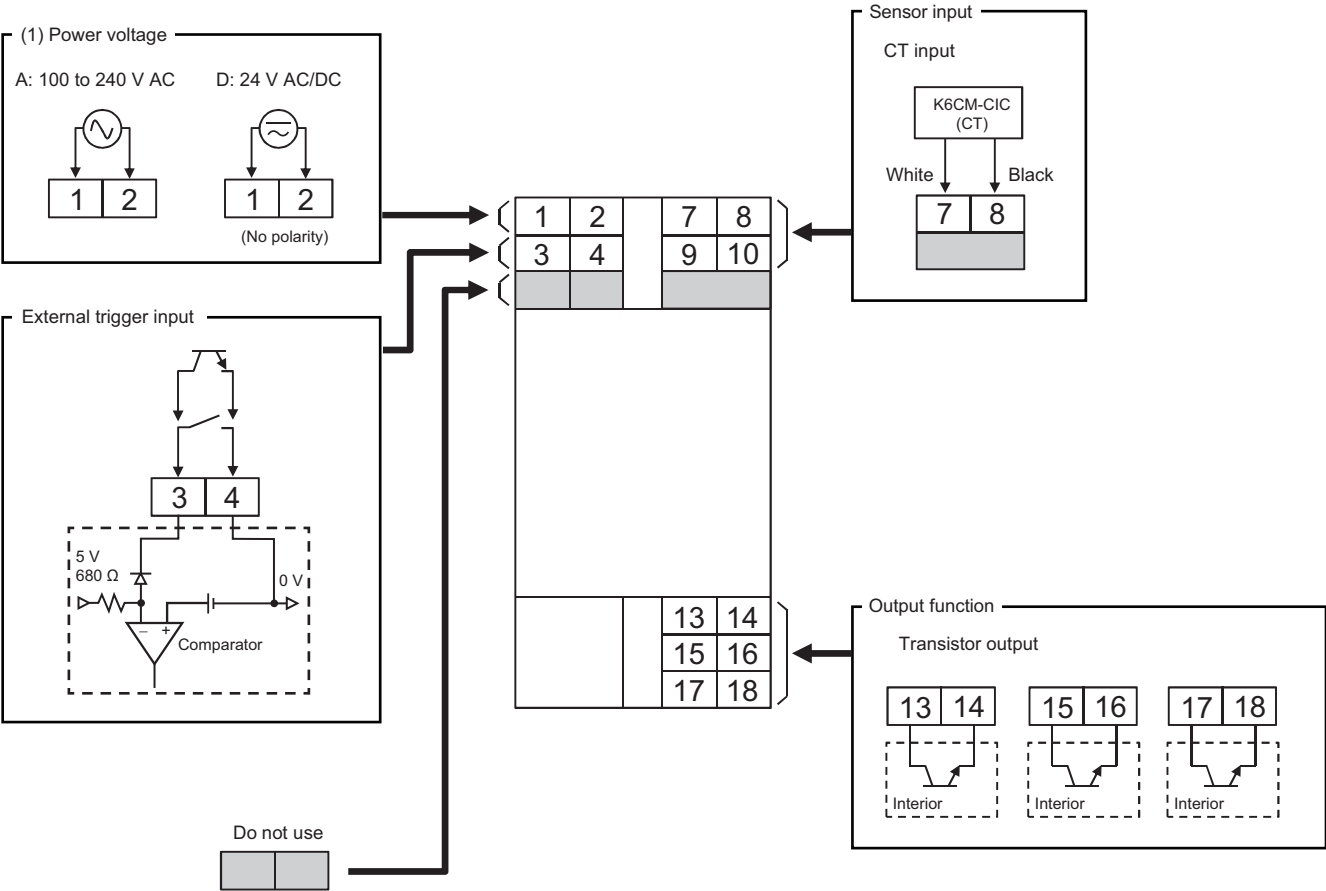
How to obtain the Condition Monitoring Configuration Tool

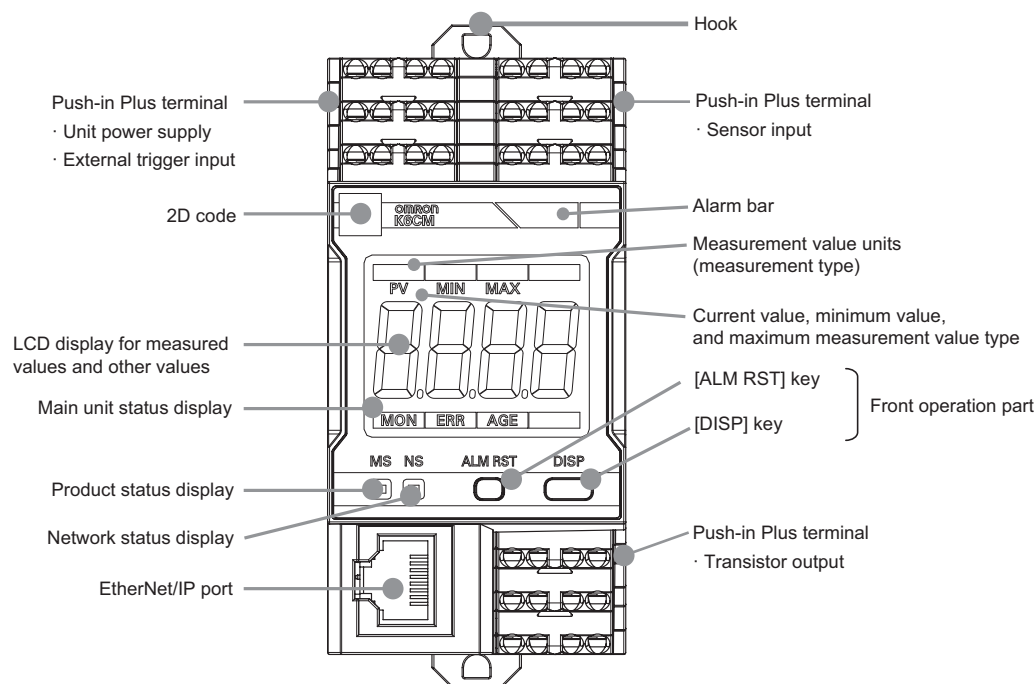
The Tool is provided by download only.
https://www.ia.omron.com/cmc_tool

Connection Diagram

Terminal Diagram (Main Unit)

K6CM- CI M A -EIP
(1)





Name		Meaning	
Alarm bar		A bar on which the color of the emitted light changes according to the alarm status.	It is indicated in the following colors during measurement/monitoring. Green: Alarm status (normal) Yellow: Alarm status (Warning) Red: Alarm status (Critical) The alarm bar is lit out in each of the following states: When the power is OFF, when measurement is not being performed, and when a self-diagnosis error has occurred, etc.
Measurement type		Indicates the type of the measured value being displayed. The type can be switched each time the [DISP] key is pressed on the front operation part.	"Ci1": Degradation level 1, "Ci2": Degradation level2, "A": Current
Front operation part	[ALM RST] key	Releases the latched alarm state.	The main use of this key is to release the latched and fixed alarm state after returning from the fault state to the normal state.
	[DISP] key	Switches the type of the measured value being displayed. You can switch between display-fixed mode and display auto switching mode by long-pressing for 3 seconds.	
	Others	If two keys are simultaneously pressed and held for 5 seconds or longer, all settings of the main unit are reset to factory defaults.	
Main unit status display		The status of the main unit is indicated by lighting of the LCD characters.	"MON": Measurement / monitoring is being performed "ERR": A self-diagnosis error has occurred "AGE": Running Time notification (it is recommended to replace the product main unit)
Transistor output	13-14	Output of the alarm status (Warning). Can be set to Normally Closed or Normally Open.	When measurement/monitoring is in progress, and the output method is Normally Closed ON = Comprehensive alarm: Normal / OFF = Comprehensive alarm: Warning or Critical and the output method is Normally Open OFF = Comprehensive alarm: Normal / ON = Comprehensive alarm: Warning or Critical
	15-16	Output of the alarm status (Critical). Can be set to Normally Closed or Normally Open.	When measurement/monitoring is in progress, and the output method is Normally Closed ON = Comprehensive alarm: Warning or Normal / OFF = Comprehensive alarm: Critical and the output method is Normally Open OFF = Comprehensive alarm: Warning or Normal / ON = Comprehensive alarm: Critical
	17-18	Self-diagnosis error output.	OFF: A self-diagnosis error has occurred ON: Other than the above
External trigger input	3-4	Input of the external contact signal to control measurement timing.	You can use "Trigger Type" to specify whether measurement/monitoring continue for a set time after starting by the rise or fall of the external contact, or are executed while the external contact is ON. You can also specify settings to enable selection of a trigger mode other than external trigger. *1

Note: Warning: Indicates that it is time for maintenance.

Critical: Indicates that it is time for replacement.

*1. Trigger modes other than external trigger

Always: Trigger is not used. Measurement/monitoring are performed continuously after the power of the K6CM unit is turned on.

Internal trigger: Measurement/monitoring starts based on the relation between the measured value and set value (trigger level).

You can use "Trigger Type" to specify whether measurement/monitoring start and continue for a set time when the measured value is over, or under, the set value (trigger level), or are executed while the measured value exceeds the set value (trigger level).

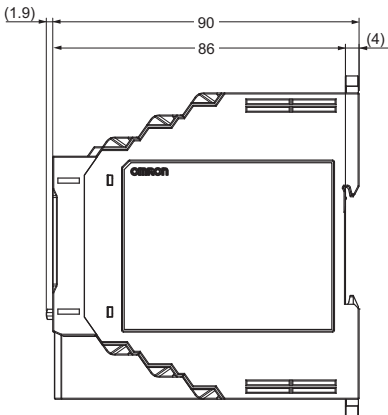
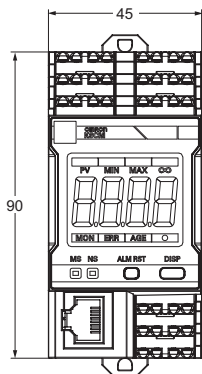
Also, the external trigger function can be used only when the insulation resistance type is EIP CPU version 1.1 or higher.

Dimensions

(Unit: mm)

List of Models

K6CM-CI

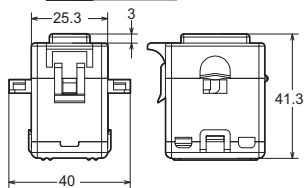
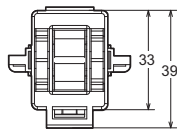
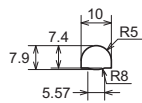


CT

K6CM-CICB005



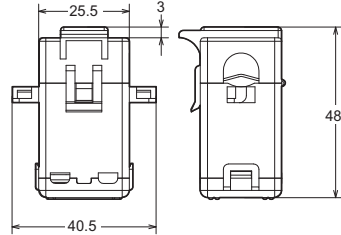
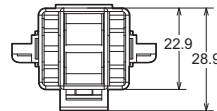
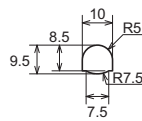
CT Through-hole Dimensions



K6CM-CICB025



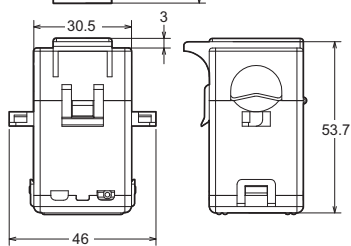
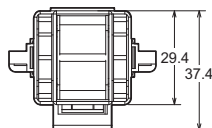
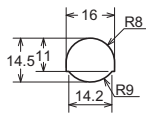
CT Through-hole Dimensions



K6CM-CICB100



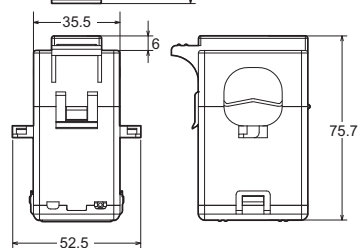
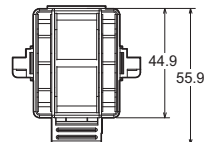
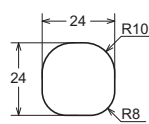
CT Through-hole Dimensions



K6CM-CICB200

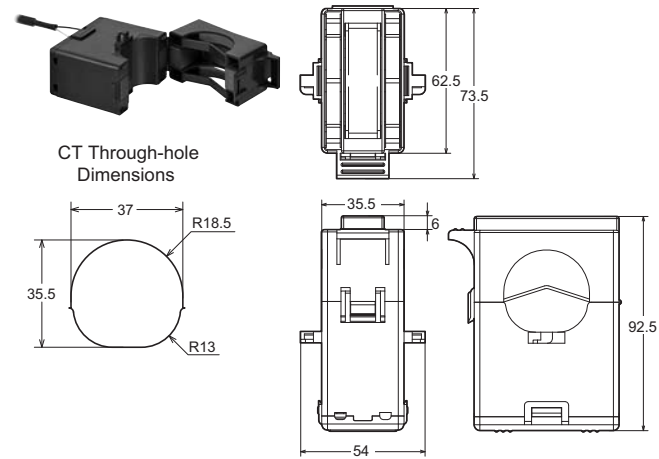


CT Through-hole Dimensions

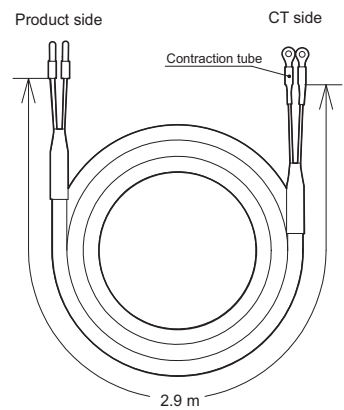


K6CM-CI

K6CM-CICB400
K6CM-CICB600



Cable supplied with CT



The cable supplied with the CT is shipped in the connected state.

Comprehensive Current Diagnosis Type Technical Data (Reference)

Use one CT per motor to detect current flowing into the motor. Select a CT that matches the motor capacity.

CT type	Measurement range	Maximum measurement range	Applicable motor (200 VAC)	Applicable motor (400 VAC)
K6CM-CICB005	1.00 A to 5.00 A	1.00 A to 5.25 A	0.75 kW	1.5 kW to 2.2 kW
K6CM-CICB025	5.00 A to 25.00 A	5.00 A to 26.25 A	1.5 kW to 5.5 kW	3.7 kW to 11 kW
K6CM-CICB100	20 A to 100 A	20 A to 105 A	7.5 kW to 22 kW	15 kW to 45 kW
K6CM-CICB200	40 A to 200 A	40 A to 210 A	30 kW to 45 kW	55 kW to 90 kW
K6CM-CICB400	80 A to 400 A	80 A to 420 A	55 kW to 90 kW	110 kW to 200 kW
K6CM-CICB600	120 A to 600 A	120 A to 630 A	110 kW to 150 kW	250 kW to 300 kW

Note: At no load, the motor current is at approximately half rated load.

Select a CT that can cover the range of 50% to 100% of rated current.

Use the following expression when calculating the current value from the motor capacitance.

$$\text{Current value of motor (A)} = \frac{\text{Motor capacitance (kW)} \times 1000}{\text{Motor voltage (V)} \times \sqrt{3} \times \text{Power factor (0.9)} \times \text{Efficiency (0.8)}}$$

(Example) When a 5.5-kW motor is used at 200 V

$$\text{Current value of motor} = \frac{5.5 \times 1000}{200 \times \sqrt{3} \times 0.9 \times 0.8} = 22 \text{ A}$$

Therefore, the CT K6CM-CICB025 in which 22 A is within the measurement range is selected.

The measurement range is within 20 and 100 A even in the case of K6CM-CICB100, which means that 22 A is within the range and this model can also be used. However, during selection, priority must be given to a CT having a small rated current value in order to realize more accurate measurement.

Note: In the expression shown above, general values must be used for the power factor and efficiency, and the load factor must be 100%. However, depending on the actual operating environment, the actual current value and measured value may be different. If the CT is used at a current value that is below the lower-limit value of the measurement range of the CT, the measurement error of the degradation level will increase. Therefore, if possible, measure the current during a steady-state operation with a clamp meter, etc., and select a CT corresponding to the current value.

K6CM-CI

List of Parameters

Setting values

Parameter	Content
Degradation level alarm threshold value (Critical and Warning)	0 to 9999
Current alarm threshold value (Critical and Warning)	CT rating 5 A: 00.00 to 99.99 A CT rating 25 A/100 A/200 A/400 A/600 A: 0.0 to 999.9 A
Main unit IP address	Sets the IP address of the main unit. The default value is "192.168.250.10" (common to all models)
Software reset	Restarts the K6CM. Used to enable the settings after changing the setting values. 0 → 1: Execute
MAX/MIN reset	Initializes the MAX/MIN value. 0 → 1: Execute
Display value type	Sets which measurement value to display in the 7-segment display at the front of the main unit. 0: PV (Present Value), 1: MIN, 2: MAX
Trigger mode *1	Sets the trigger mode. 0: At all times, 1: External trigger, 2: Internal trigger
Trigger type	Sets Rise, Fall, or Level in the case of an internal trigger or external trigger. 0: Rise, 1: Fall, 2: Level
Trigger level	Sets the trigger level when "Internal trigger" and the trigger type "Level" have been selected.
Monitoring time	Sets the time for continuing measurement or monitoring in the case of an internal trigger or external trigger, when the trigger type is either Rise or Fall. Setting value: 0.1 to 600.0 s
Alarm latch	Sets whether to enable or disable the alarm latch function. 0: Disable (no latch), 1: Enable (latched)
Use Running Time	Sets whether or not to use the main unit residual amount function. 0: OFF (Do not use), 1: ON (Use)
Moving average times	Performs the averaging process for the past n-times of data including the sampling data of that time, each time sampling of the measurement value is performed. 0: OFF, 1: 2 times, 2: 4 times, 3: 8 times, 4: 16 times, 5: 32 times
Current range	Selects the connected CT. 0: 5 A, 1: 25 A, 2: 100 A, 3: 200 A, 4: 400 A, 5: 600 A
Transistor output method *2	0: Normally Closed/1: Normally Open
Monitoring delay time	Set the delay time from the trigger input to the start of measurement. Setting value: 0.0 to 600.0 seconds.

*1. The external trigger function can be used only when the insulation resistance type is EIP CPU version 1.1 or higher.

*2. Can be used only with EIP CPU version 1.1 or higher.

Measured values / Status data

Parameter	Content
Degradation level (Present value, MIN, MAX)	Degradation level of the motor calculated by measuring the current including the high-frequency component. 0 to 999
Current (Present value, MIN, MAX)	10 to 100% of the rated value
Degradation level status	Bit 00: Present value measurement status Bit 01: Present value input error Bit 04: MAX value measurement status Bit 05: MAX value input error
Current value status	Bit 08: MIN value measurement status Bit 09: MIN value input error Bit 12: Individual alarm threshold value (Warning) setting Bit 13: Individual alarm threshold value (Critical) setting
Measurement CPU version	Measurement unit version
Main CPU version	Main unit version
EIP CPU version	EtherNet/IP unit version
Measurement status	1: Measurement/monitoring in progress, 0: Measurement/monitoring stopped
Running time status	The product of the operation time and internal temperature is integrated, and ON is set if it reaches the design life. 1: Reached (Operation integration has reached 100%) 0: Not reached (Operation integration has not reached 100%)
Trigger input	Status of external trigger input. 1: ON, 0: OFF
TR1 (Transistor 1 output status)	Status of transistor 1. 1: ON, 0: OFF
TR2 (Transistor 2 output status)	Status of transistor 2. 1: ON, 0: OFF
TR3 (Transistor 3 output status)	Status of transistor 3. 1: ON, 0: OFF
Running time	Coefficient showing the extent of life of the main unit based on the product of the operation time and internal temperature. Incremented in units of 10% starting from 0%. 0000 hex to 0064 hex (0 to 100)
Trigger frequency	Total integrated number of external triggers and internal triggers. Incremented by 1 after every 100 times. 0 to 65535
Threshold value setting of integrated alarm (Warning)	State when the measurement value is "Warning".
Threshold value setting of integrated alarm (Critical)	State when the measurement value is "Critical".
Degradation level alarm (Critical and Warning)	ON, OFF
Current alarm (Critical and Warning)	ON, OFF