

ENG VERSION

# LIGHTSTAR

CATALOG Vol. 9



## PRODUCTS

ANALOGUE METER

TRANSFORMER / SHUNT

DIGITAL METER

TRANSDUCER

TEST MEASURING EQUIPMENT

CHARGING DEVICE

SINCE 1979  
(주)광성계측기

# SAFETY INSTRUCTION

## Warning

- 1. Do NOT work on cable or devices while energized.**  
Be aware of electrical shock.
- 2. Please check the input power specification, and the terminal number before cable connection.**  
Be aware of explosion and fire.
- 3. Do NOT disassemble the lithium battery, which was installed in products**
- 4. Please avoid following severe conditions, such as high temperature, direct sunlight, chemical contaminated area, excessive vibration or excessive humidity.**
- 5. Please use F.G(Field Ground) terminal alone with 1.25mm cable for grounding.**  
Be aware of electrical shock.
- 6. Please use DC power isolated with primary and secondary for DC power input device.**  
Be aware of electrical shock. (For Digital meter, Panel multi meter)
- 7. Do NOT put the fingers or materials in the opening of products.**  
Be aware of electrical shock.
- 8. Please use protection cover at all times.**
- 9. Please use insulation tube to prevent cable to touch cover and terminal directly.** (For analog meter 50,60,80,81 type)

## General Instruction

- 1. If you are using our products in combination with other products, please check the required specifications, or regulations.**  
**Also, please check the suitability of our products for your systems, machines and devices. If such confirmation is not made, the company shall not be liable for product warranty.**
- 2. For the following purposes, please consider to apply redundant safety device such as safety circuits.**
  - ① Using outdoors, potential chemical contamination, electro-magnetic affected area or other condition which was not intend to be installed following original design
  - ② Nuclear control facilities, incineration facilities, railway, aviation, vehicle facilities, medical machinery, entertainment machinery, safety devices and facilities subject to regulations by administrative or individual industries
  - ③ System or mechanical device affect human safety or property
  - ④ Facilities requiring high reliability, such as gas, water, electricity supply system or 24-hour continuous operation system
  - ⑤ High levels of safety required place other than no. 1 to 4 above
- 3. Please understand and comply with all the warnings and precautions to prevent unforeseen damages to customers due to incorrect use of our products.**

## Caution

- 1. Please use within rating and performance range.**  
It may cause short life and fire.
- 2. Do Not exceed replay contact capacity.**  
It may cause poor insulation, contact fusion, poor contact, relay damage and fire.
- 3. Do not use water or solvents for cleaning, Please use dry towels without water.**  
Please be aware of electric shock and fire.
- 4. Please refrain from dust and cable debris into product inside.**  
It may cause fire and malfunction.
- 5. For DC input/output device, please check the terminal polarity before connection.**  
It may cause fire.
- 6. For potential transformer, please install over-current protection device.**
- 7. Please segregate the aux power from condenser or frequent on/off motor system. Otherwise please apply surge killer.**  
Be aware of malfunction or damage from this condition.
- 8. Do not disassemble and modify the product. Please contact the head office for internal inspection or repair.**  
It may cause fire, electric shock and product damage.
- 9. Please tighten terminal bolt within the torque limit**  
**Designed torque limit**

<b>M4 - 9.8 to 13.5 kgf·cm</b>	<b>M5 - 28.4 to 37.2 kgf·cm</b>
<b>M6 - 47.1 - 63.7 kgf·cm</b>	<b>M8 - 117-153 kgf·cm</b>
<b>M12 - 402-524 kgf·cm</b>	

  
Poor contact may cause fire.

## Warranty policy

- 1. Warranty period**  
24 Month from the date of shipment or 12 Month from the date of installation, which is longer
- 2. Coverage**  
In the event of malfunction, we provide replacement or repair work for free within warranty period.  
However, any other damages affected to other equipment will be voided from the warranty.  
The following circumstance will void the warranty
  - ① Caused by other electrical connected device
  - ② Incorrect or improper modification work or maintenance
  - ③ Misuse or abusive use
  - ④ Adverse external conditions, such as thunderstorm, acts of god.

## Other

Product specification and configuration are subject to change without notice.

## CE certification

CE stands for "Conformité Européene" and indicates conformity with health, safety, and environmental protection standards for products sold within the European Economic Area (EEA). Our CE certified products are complied to the requirements of EU Directives; relating to LVD (Low Voltage Directives) and EMC (Electro Magnetic Compatibility Directives). LIGHTSTAR achieved CE certificate for Analog meter, Current Transformer, Digital meter, Power meter and Transducers.

# CURRENT TRANSFORMER

## KS certification

KS stands for Korean Standard and indicates conformity with Korean government required standards. LIGHTSTAR achieved KS certificate for Analog meter, Current Transformer and Transducers.



# CONTENTS

42-43 General Instruction

---



44-45 Ring Type Current Transformer KBJ-□□

---

46-47 3Phase Ring Type Current Transformer KBD-□□

---



48-49 Window Type Current Transformer KBM-□□

---



50-51 Window Type Current Transformer KBM-□□

---



52-54 Easy selection guide for current transformer

---

55 3Phase CT For ACB KBF-7□□

---



56-58 3Phase Window Type Current Transformer KBF-□□

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59 Split-Type Current Transformer KBC

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60-61 Current Transformers for Metering Service KBK-08

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62

Direct connect type  
Current Transformer

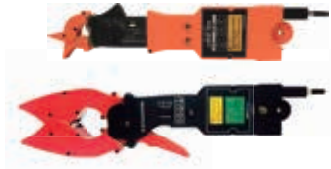
KBK-□



63

Rogowski Coil CT

KBA-30



64

Wireless clamp CT

KBH



65

Condenser Discharging Coil

KBN



66

Potential Transformer

KB□-□



67

Potential Transformer

KBT-□



68

3Phase Potential Transformer

KBO-□



69

Voltage Divider for DC

KBV



70

Earthed Voltage Transformer

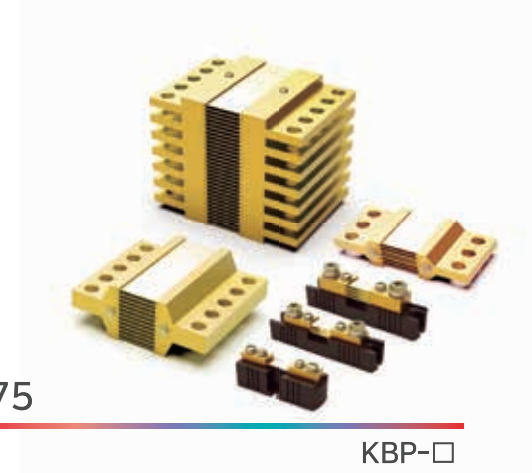
KBG-□□



71

Current Limit Resister

KBL



72-75

Shunt

KBP-□

76

Bus bar rated current

## Definition

- Burden** Impedence burdens for assuring capacity under designed condition
- Class** Accuracy tolerances for rated current or rate voltage under rated burden

primary current A		Ratio error(%)			Phase angle error (Arcmin)		
		0.05 In	0.2 In	1.0 In	0.05 In	0.2 In	1.0 In
class	0.5	±1.5%	±0.75%	±0.5%	±90'	±45'	±30'
	1.0	±3.0%	±1.5%	±1.0%	±180'	±90'	±60'
	3.0	0.5 In ~ 1.0 In ±3.0%			0.5 In ~ 1.0 In ±180'(1' = 1/60°)		

- NOTE: " In " indicates the rated primary current of the rated frequency.
- Phase angle error: difference between the primary current phase and the secondary current phase rotated by 180 °
- Ratio error: [(Calculated current ratio - Measured current ratio)/ Measured current ratio] X 100

- AF(Ampere Frame)** Capacity of circuit breaker including terminals, contact, trip devices and conductive materials.
- Choice of instrument CT (MCT):** Normally, in order to protect instrument from overcurrent, CT to be saturated over rated current ( Overcurrent factor is not indicated)
- Choice of OCR CT (PCT) :** In case primary current is extremely bigger than rated current, CT core to be saturated and OCR can not be operated properly. Please choose correct CT by considering overcurrent factor " (Max current / Rated primary current of CT) <overcurrent factor"
- IEC 60044** Standard for "instrument transformers" according to IEC (International Electrical Commission)
- JEC 1201** Standard for "Instrument transformers" according to JEC(Japanese Electrotechnical Committee)
- IEE(ANSI) C57.13.1-2006** Standard for "instrument transformers" according to ANSI(American National Standards Institute)
- BS 7627:1993** Standard for "instrument transformers" according to BS(British Standard institution)
- DIN EN VDE 0414** Standard for "instrument transformers" according to DIN(Deutsches Institut fur Normung)

## Standard burden for instruments (For reference)

Secondary current	Burden ( 2.5 mm 2 cable)	Analog ammeter	Digital ammeter	Current transducer	Digital energy meter	EOCR
5A	Approx 0.18VA/m	2.0VA	1.0VA	1.0VA	1.0VA	1.0VA
1A	Approx 0.07VA/m	0.4VA	0.20VA	0.20VA	0.20VA	-

## General Instruction.

### Information for safe use.

- Operating condition: ambient temperature - 20°C - 50°C, humidity less than 85%.
- Torque limit for bus bar fixing bolt (Excess torque may cause bending and distortion) : M4 - 5~7 kgf · cm, M5 - 7~10kgf · cm
- Torque to Tighten Terminal Bolts
  - M4 - 9.8~13.5 kgf · cm, M5 - 28.4~37.2kgf · cm
  - M6 - 47.1~63.7 kgf · cm, M8 - 117~153kgf · cm, M12 - 402~524kgf · cm
- Control cable needs isolation.
- Please be aware that bus bar fixing bolt for current transformer can be energized
- For busbar fixing bolt, insulation covers are recommended for safety

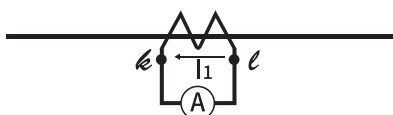

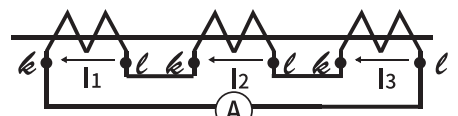
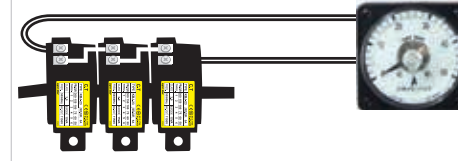
#### Caution

1. Do not use a three-phase Potential transformer as a single-phase.
2. Do not use a potential transformer on the secondary side of the inverter circuit or the thyristar circuit.

#### Warning

1. The removal of short copper wire shall be done only at the time of meter connection.
2. Do not open the secondary side of the current transformer.
3. The rated fuse must be used for the potential transformer.

### Example of Accuracy and burden improvement.

Condition	Burden and class	KBJ-23 50/5A Picture
 One unit connected	5VA 3.0	
 Three units connected	10VA 1.0	

As shown in the figure, serial CT connection can improve class and burden.

Applied CT	KBJ-04 100/5A 5VA 1.0 Class	KBJ-04 200/5A 15VA 1.0 Class
ACTUAL CONDITION	1 Turn - 100/5A 5VA 1.0 Class	2 Turn - 100/5A 15VA 1.0 Class
Picture		

As shown in the figure, CT ratio can be changed and burden/class can be improved if the number of turns is increased at the same current condition.

### Current transformers use for Inverter secondary

Under low frequency excitation current to be increased and error occurs due to harmonics from Inverter. Please choose burden of CTs with 10 times bigger than normal condition. If the current is not in rated frequency(50 or 60 Hz), accuracy tolerance may be over rated range.

## Ring Type Current Transformer

Certificates  



### Model No

**KBJ -**   
 

**① Size**


See the table below







**② Use**

**N/A** For Meter (MCT)

**R** For OCR(PCT)


### Selection table

Certi.	Size	For meter(MCT)					For OCR(PCT)			
		Current(A)				Class (%)	Current(A)			Class (IEC)
		2.5VA	5VA	15VA	40VA		2.5VA	5VA	15VA	
	15	40	50~75	-	-	3.0	-	-	-	
		-	100	-	-	1.0	-	-	-	

	25	50~60	75	-	-	3.0	-	-	-	5P10
		-	100~200	250~300	-	1.0				
	26	30	<b>40~60</b>	-	-	3.0	<b>150</b>	200~400	-	
		-	<b>75~100</b>	<b>120~150</b>	200~500	1.0				
	03	-	100~150	200~350	400~600	1.0	250~400	500~600	-	
	04	-	100~150	200~350	400~2000	1.0	200~350	400~800	1000~2000	
	06	-	<b>100~250</b>	<b>300~400</b>	500~3000	1.0	-	500~1000	1200~3000	
	10	-	-	300~500	600~6000	1.0	-	500~1000	1200~6000	

 **How to find** Example) KBJ-25 Type is manufactured at 5 VA 1.0 CL within the range from 100 to 200 AT. and in the range of 40AT in 2.5VA 3.0 class.

 **How to order** Example) KBJ-25 100/5, 5VA, 1.0%

 Customized product can be produced by order.

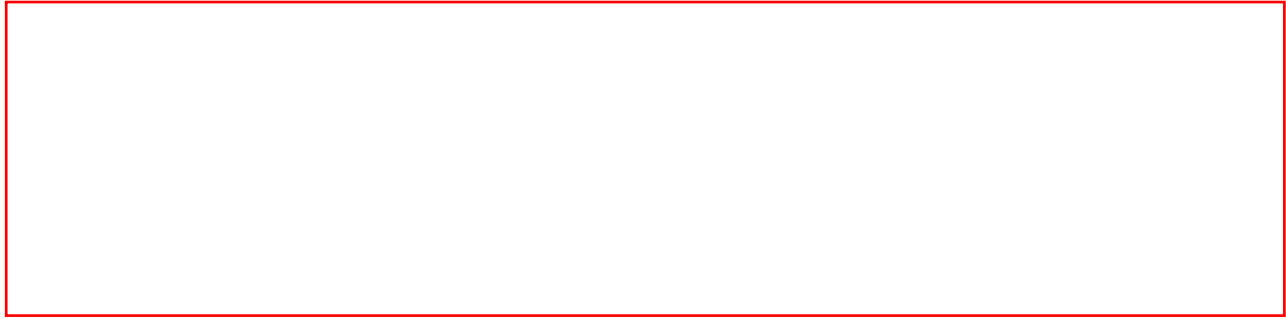
### Specification

Secondary current	Overcurrent strength	Maximum voltage	Withstand voltage	Frequency
5A OR 1A	40times	1.15kV	4.0 kV / 1 min	50/60Hz

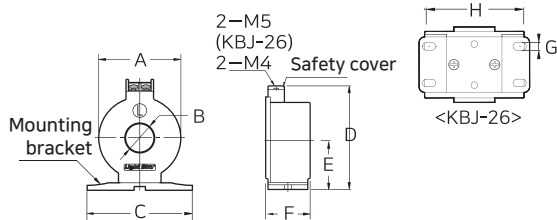


Drawing

Unit:mm

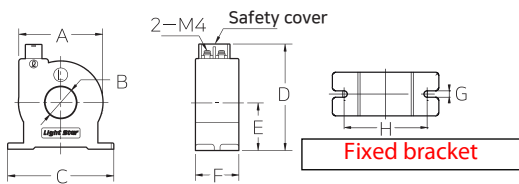


**KBJ-26**



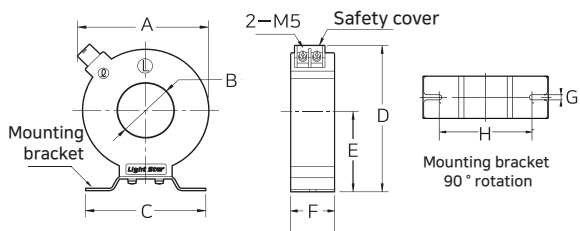
TYPE	A	B	C	D	E	F	G	H	Weight
KBJ-26	90	Φ26	100	120	60	60	6	82	2.5kg

**KBJ-03 / KBJ-15 / KBJ-25**



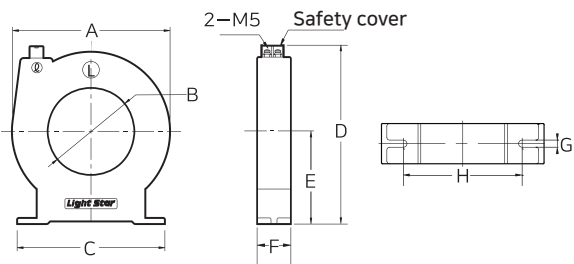
TYPE	A	B	C	D	E	F	G	H	Weight
KBJ-03	80	Φ30	100	100	45	40	6	78	550g
KBJ-15	66.5	Φ16	88	87.5		33	7	67	400 g
KBJ-25	66.5	Φ25	88	87.5		33	7	67	320 g

**KBJ-04/KBJ-06**



TYPE	A	B	C	D	E	F	G	H	Weight
KBJ-04	102	Φ40	95	117	64	40	5	70	800g
KBJ-06	125	Φ60	120	141	75	40	5	92	1100g

**KBJ-10**



TYPE	A	B	C	D	E	F	G	H	Weight
KBJ-10	182	Φ100	182	203	106	40	6	133	2100g

## 3Phase Ring Type Current Transformer

Optimized design for Circuit Breaker

Certificates  



### Model No





KBD -   
① ②

① Size  
See the table below

② Use  
N/A For Meter(MCT)

### Selection table

Type		Size	For meter(MCT)			
			Current(A)			Class (%)
			2.5VA	5VA	15VA	
3Φ 3W (2CT)	100AF	12	50~100	120~150	-	3.0
			-	200	-	1.0
	12S	40~75	80	-	3.0	
		-	100~200	-	1.0	
	250AF	22	60	75	-	3.0
			-	100~300	-	1.0
400AF	42	-	100~150	-	3.0	
		-	200~400	500	1.0	
600AF	62	-	200~250	300~1200	1.0	
3Φ 4W (3CT)	100AF	13	50~100	120~150	-	3.0
			-	200	-	1.0
	13S	40~75	80	-	3.0	
		-	100~200	-	1.0	
	250AF	21	60	75	-	3.0
			-	100~200	-	1.0
	23	75~120	-	-	3.0	
		-	150~300	-	1.0	
	400AF	43	-	100~150	-	3.0
			-	200~400	500	1.0
600AF	63	-	200~250	300~1200	1.0	

-  **How to find** Example) KBD-12 Type is manufactured at 5VA 1.0 class within the range from 150 to 200 AT
-  **How to order** Example) KBD-22 100/5A, 5VA, 1.0%, KBD-43 250/5A, 5VA, 1.0%
-  Customized product can be produced by order.
-  Refer to page 43 for accuracy improvement.

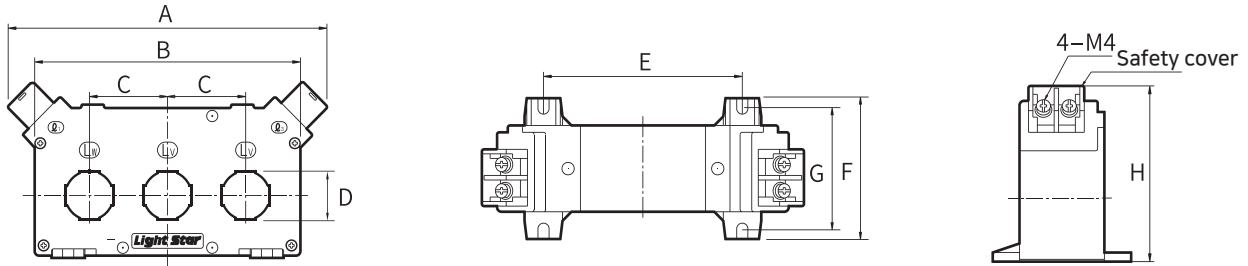
### Specification

Secondary current	Overcurrent strength	Maximum voltage	Withstand voltage	Frequency
5A OR 1A	40times	1.15kV	4.0 kV / 1 min	50/60Hz

Outline drawing

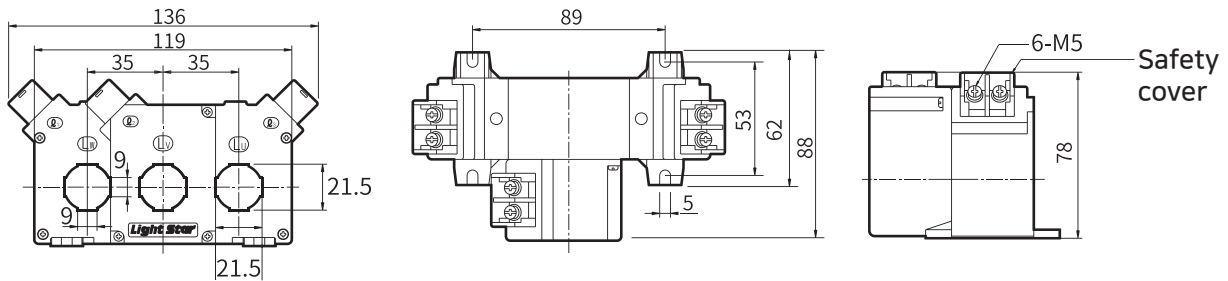
Unit:mm

KBD-12/13,12S/13S, 22/23, 42/43

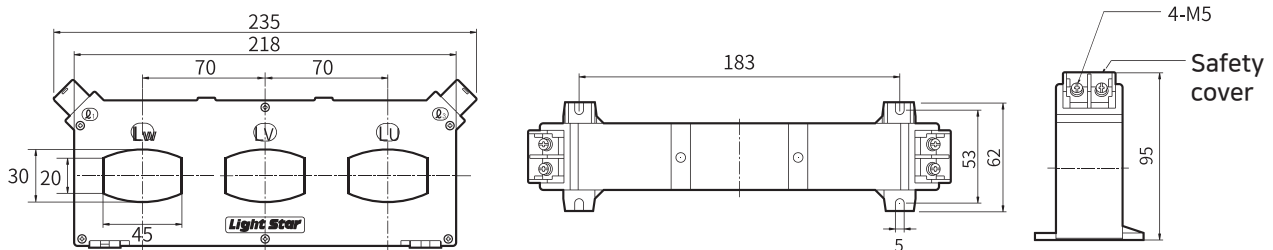


Size		A	B	C	D	E	F	G	H
Type	KBD-12/13	119	99	30	14	63	62	55	59
	KBD-12S/13S	119	99	30	14	63	75	61	59
	KBD-22/23	136	119	35	21.5	89	62	53	78
	KBD-42/43	170	149	44	27	117	62	53	93

KBD-21

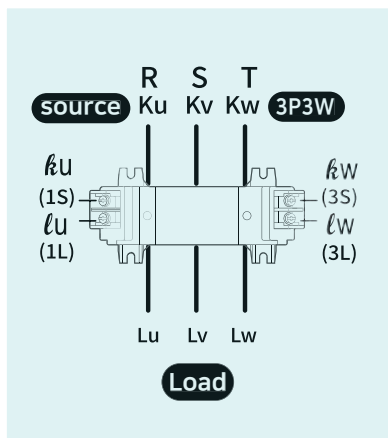


KBD-62/63

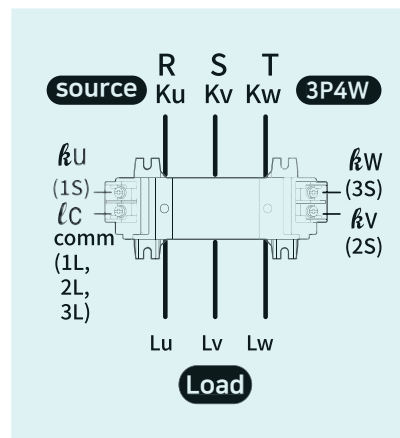


Terminal Connection

KBD-12,12S,22,42,62



KBD-13,13S,23,43,63



# Window Type Current Transformer

Optimized design for circuit breaker

Certificates 









## Model No

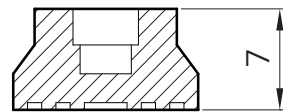
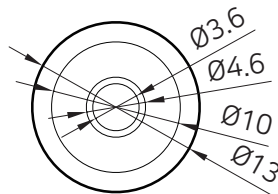
**KBM -**   
① ②

① Size	② Use
See the table below	N/A For meter(MCT) R For OCR(PCT)

### Selection table

Type	Size	For meter(MCT)					For OCR(PCT)			
		Current(A)				Class (%)	Current(A)			Class (IEC)
		2.5VA	5VA	15VA	40VA		2.5VA	5VA	15 VA	
100AF	31	50~100		-	-	3.0	-	-	-	5P5
250AF	32	75~120	150	-	-	3.0	-	-	-	
		-	200~250	-	-	1.0	-	-	-	
400AF	34	-	100~200	250~400	-	1.0	250~300	-	-	5P5
							350~400	-	-	5P10
600AF	36	-	100			3.0	300~400	500~1000		5P10
			120~150	200~300	400~1000	1.0				

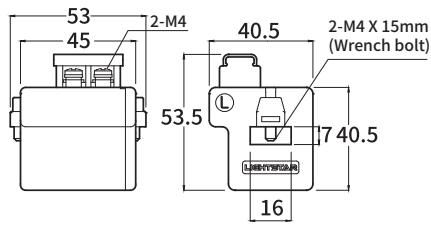
-  Customized product can be produced by order.
-  Please avoid to contact busbar directly to prevent damage from heat
-  Torque limit for bus bar fixing bolt : M4 - 5~7 kgf · cm, M5 - 7~10kgf · cm (Excess torque may cause bending and distortion)
-  Please be aware that bus bar fixing bolt for current transformer can be energized
-  Bolt insulation covers are recommended for safety(See the details below)
-  Bolt insulation cover



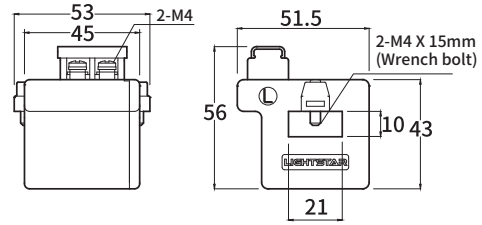
Design can be changed without notice

## Specification

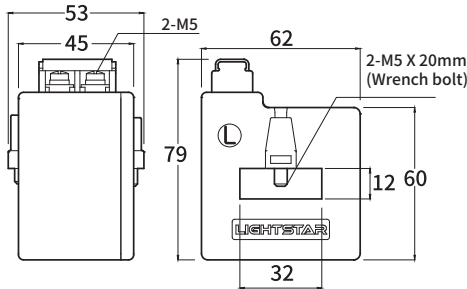
Secondary current	Overcurrent strength	Maximum voltage	Withstand voltage	Frequency
5A OR 1A	40times	1.15kV	4.0 kV / 1 min	50/60Hz



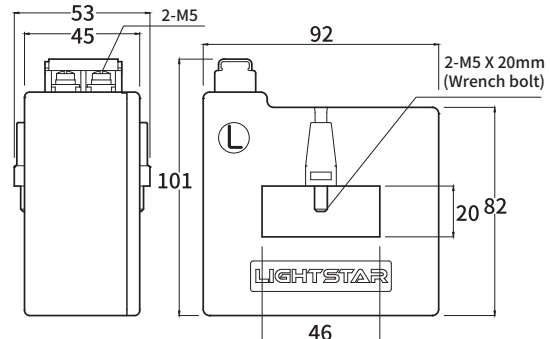
KBM-31[For 100AF]



KBM-32[For 250AF]

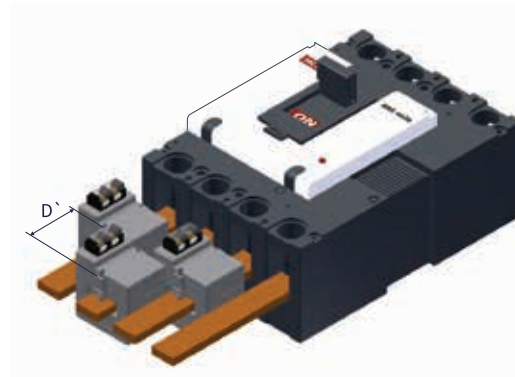
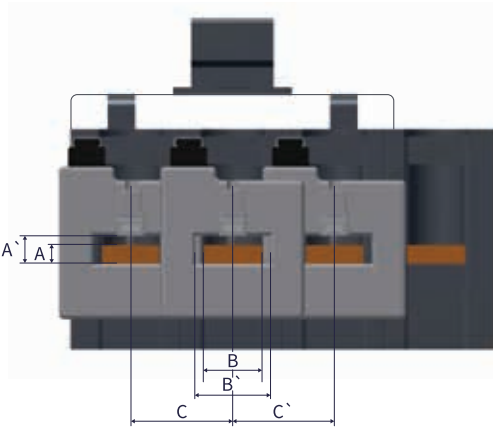


KBM-34[For 400AF]



KBM-36[ For 600AF]

Recommended CT For CB design



Circuit breaker

CB frame size	100AF	250AF	400AF	600AF/800AF	1000AF/1200AF	1000AF/1200AF (Double)
A	4	7	8	10	17	34
B	15	20	25		44	
C	30	35	44		70	
<b>Recommended</b>	↓	↓	↓		↓	↓
Type	KBM-31	KBM-32	KBM-34		KBM-36	KBM-05
A'	7	10	12		20	40
B'	16	21	32		46	61
C'	30	35	44		70	
D'				53		118

☐ 20mm bus bar is recommended for 250AF circuit breaker. ☐ 25mm bus bar is recommended for 400AF circuit breaker.

# Window Type Current Transformer

Optimized design for air circuit breaker

Certificates 












## Model No


**KBM -** 

① Size  
See the table below

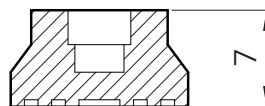
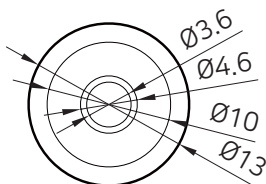
② Use  
N/A For meter(MCT)  
R For OCR(PCT)

### Selection table

Certi.	Size	For meter(MCT)				For OCR(PCT)				Class (IEC)
		Current(A)			Class (%)	Current(A)			Class (IEC)	
		5VA	15VA	40VA		5VA	15VA	40VA		
										5P10
	05	200~300	400~700	750~2000	1.0	800~1600	-	-		5P10
	08	100~200	250~400	500~2000	1.0	400~800	1000~2000	-		5P10
	10	200~300	400~500	600~3200	1.0	350~800	1000~2500	3000~3200		5P10
	12	300~400	500~750	800~3000	1.0	1200~3000	-	-		5P10
	14	-	400~500	600~6000	1.0	-	1000~2500	3000~4000		5P10
	18	-	500~800	1000~8000	1.0	-	3000~4000	-		5P20
	21	-	500~800	1000~12000	1.0	-	1200~2500	3000~5000		5P10
	13			600~6000	1.0		3000~5000	-		5P20
	16			1000~7500	1.0		1200~2000	3000~5000		5P10
							2500~5000	6000~8000		5P20
							600~1200	1500~6000		5P10
							1500~6000			5P20
							1000~1500	2000~7500		5P10
							2000~7500			5P20

 Customized product can be produced by order.

 Bolt Insulation Cover



Design can be changed without notice

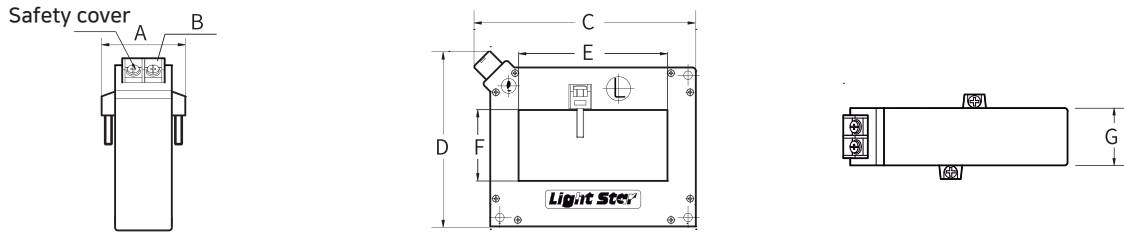
## Specification

Secondary current	Overcurrent strength	Maximum voltage	Withstand voltage	Frequency
5A OR 1A	40times	1.15kV	4.0 kV / 1 min	50/60Hz

**Drawing**

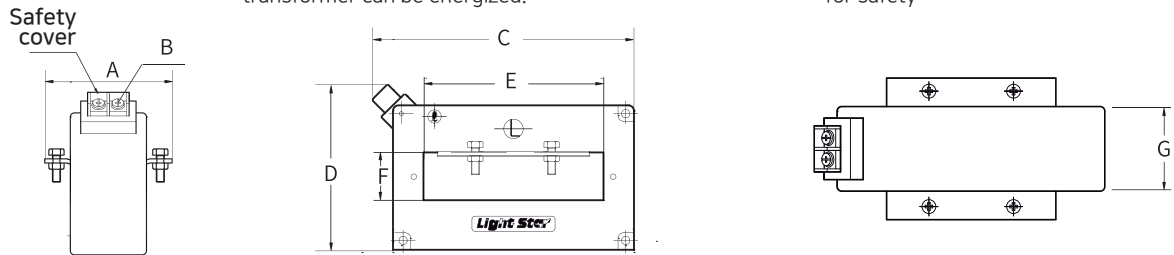
Unit:mm

**KBM-25/03/05/08/10/12** | Torque limit for bus bar fixing bolt : M4 - 5~7 kgf · cm, M5 - 7~10kgf · cm  
(Excess torque may cause bending and distortion)



TYPE	A	B	C	D	E	F	G	Weight
KBM-05	59	2-M5	107	104	61	40	40	800g
KBM-08	74	2-M5	139	95	80	12	55	1000g
KBM-10	74	2-M5	165	120	105	30	55	1300g
KBM-12	59	2-M5	157	121	105	50	40	840g

**KBM-14/18/21** | Please be aware that bus bar fixing bolt for current transformer can be energized. Bolt insulation covers are recommended for safety



TYPE	A	B	C	D	E	F	G	Weight
KBM-14	92	2-M5	186	116	130	34	55	2000g
KBM-18	92	2-M5	238	131	180	43	55	2700g
KBM-21	92	2-M5	280	179	210	85	55	3200g
KBM-13	74	2-M5	220.5	185.5	135	85	55	3000g
KBM-16	74	2-M5	220.5	185.5	160	85	55	3200g

**Circuit breaker**

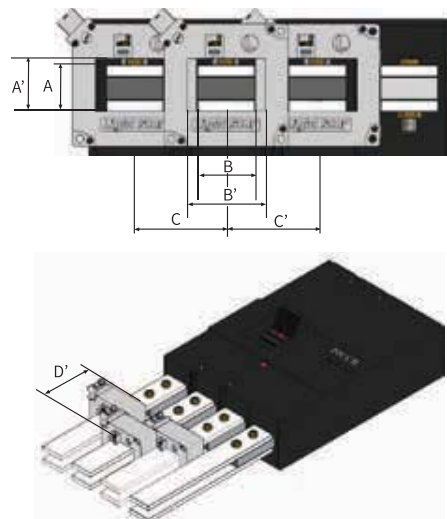
Standard	1000/1200AF
A	34
B	44
C	70

**Recommended**

Type	KBM-05
A'	40
B'	61
C'	70
D'	118

40VA is order made

**Example**



# 3Phase CT For ACB



Certificates 

## Model No.

**KBF-7** 

① For ACB	② Circuit	③ Terminal	④ Use
①	2 3P2W(2CT)	0 Current transformer	N/A For meter
②	3 3P4W(3CT)	1 Voltage detector + current transformer	R OCR Type
③		2 Temperature sensor + current transformer	
④		3 Temperature sensor + voltage detector + current transformer	

## Feature

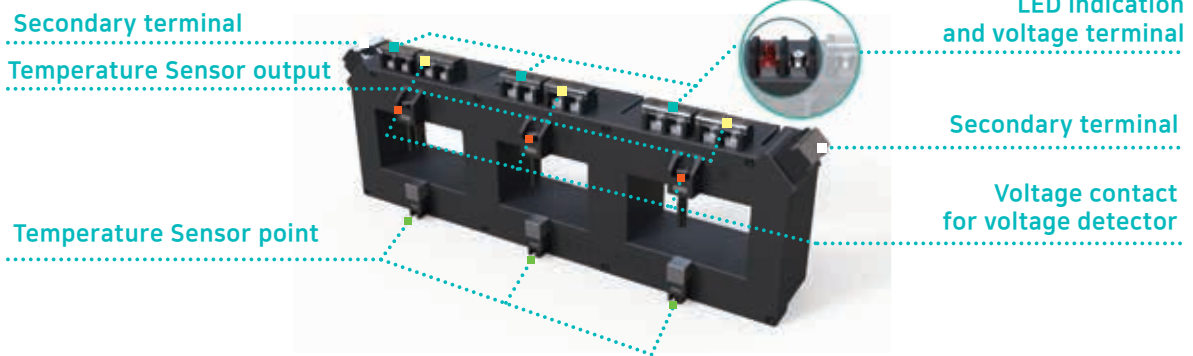
- Suitable design for various ACB type (200-1600A)
- Temperature sensor for bus bar temperature(option)/Voltage detector for checking energization (option)

## Specification

Secondary current	Overcurrent strength	Maximum voltage	Withstand voltage	Frequency
5A OR 1A	40times	1.15kV	4.0 kV / 1 min	50/60Hz

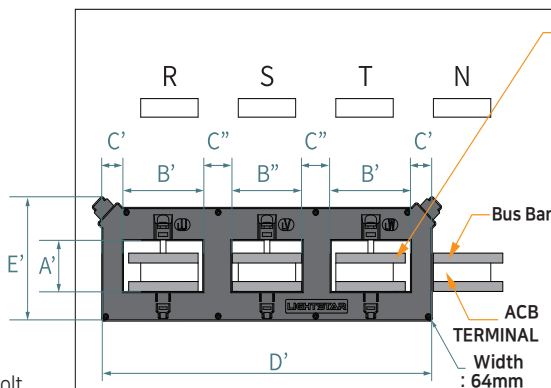
Use	For Measure (1.0 CL, MCT)			For OCR(PCT) <b>5P10</b>		
	Burden	5VA	15VA	40VA	2.5VA	5VA
Primary current	200~400A	500~750A	800~ <b>1600A</b>	250~600A	750~1000A	

## Description



## Drawing

Dimensions (Unit: mm)	
KBF-7□	
A'	41
B'	69
B''	61
C'	19
C''	25.5
D'	288
E'	105



- LS, Hyundai, Ki Sung, Gyeong-dong if using 60mm bus for ACB terminals, place R on the left side of the section, T and N on the right side of the terminal and assemble.
- O-Sung Electric Machinery if using a 60mm bus bar on the ACB terminal, place it in the center of the terminal and assemble it.
- Vitzro- If using 1 60mm busbar on ACB terminal, place R on the right side of the terminal and T phase is placed on the left side of the terminal and assembled.

Torque limit for current transformer fixing bolt : M4 - 5~7 kgf · cm, M5 - 7~10kgf · cm



## 3Phase Window Type Current Transformer

OPTIMIZED DESIGN FOR CIRCUIT BREAKER

Certificates  



### Model No.




**KBF -** 

① Size  
See the table below

② Use  
N/A For meter(MCT)

### Selection table

Circuit	Type	Size	For meter(MCT)			
			Current(A)			Class (%)
			2.5VA	5VA	15VA	
3P 3W (2CT)	100AF	02	50~75	100	-	3.0
			-	120~200	-	1.0
		12	50~75	100~150	-	3.0
			-	200	-	1.0
	12S	50~75	80	-	3.0	
		-	100~200	-	1.0	
	250AF	22	75~120	150	-	3.0
			-	200~300	-	1.0
400AF	42	-	200~600	-	1.0	
		600AF	62	-	300	400~1200
3P 4W (3CT)	100AF	03	50~100	120	-	3.0
			-	150~200	-	1.0
		13	50~100	120~150	-	3.0
			-	200	-	1.0
	13S	50~75	80	-	3.0	
		-	100~200	-	1.0	
	250AF	23	75~120	150	-	3.0
			-	200~300	-	1.0
	400AF	43	-	200~600	-	1.0
			600AF 800AF 1000AF 1200AF	63	-	300

-  **How to order** Example) KBF-12 100/5 A, 5 VA, 3.0 class, KBF-43 600/5 A, 15 VA, 1.0 class
-  Customized product can be produced by order.
-  These products are designed for standard circuit breakers

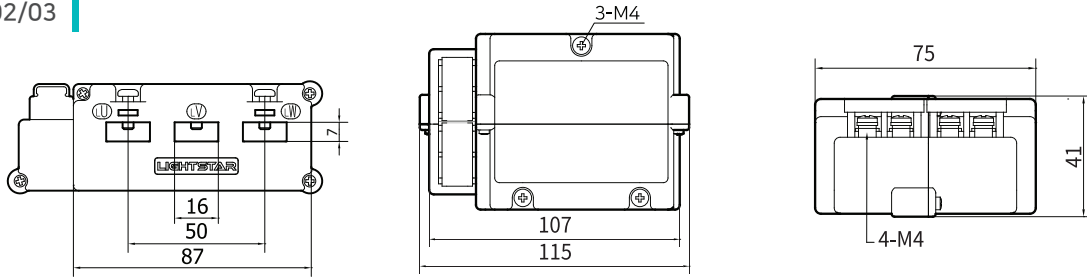
### Specification

Secondary current	Overcurrent strength	Maximum voltage	Withstand voltage	Frequency
5A OR 1A	40times	1.15kV	4.0 kV / 1 min	50/60Hz

**Drawing**

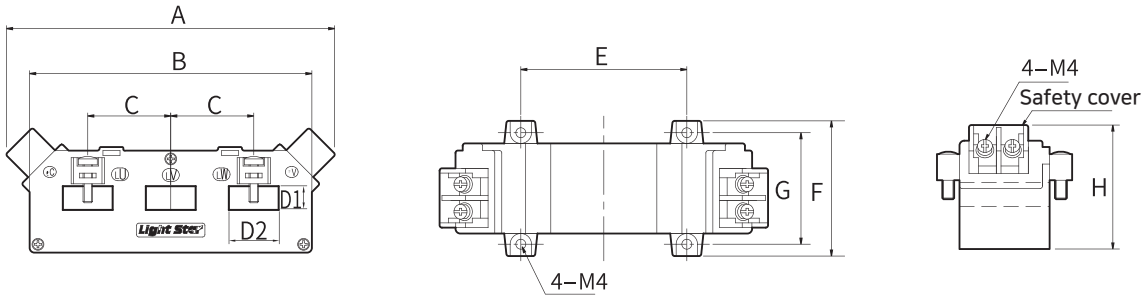
Unit:mm

**KBF-02/03**



**KBF-12/13, 12S/13S, 22/23/42/43, 62/63**

☰ Torque limit for bus bar fixing bolt : M4 - 5~7 kgf · cm, M5 - 7~10kgf · cm

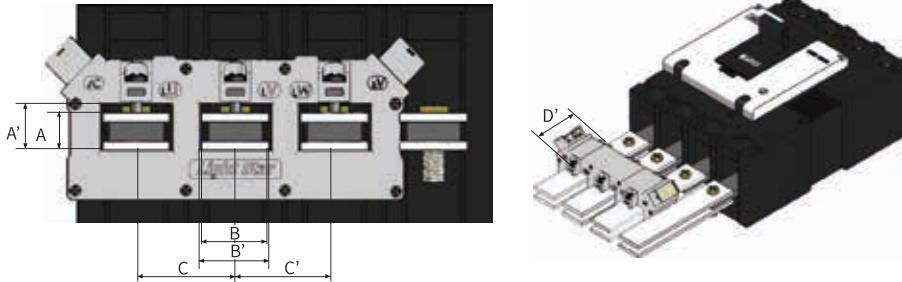


Dimension		A	B	C	D1XD2	E	F	G	H
TYPE	KBF-12/13	122	102	30	7 X 16	60	59	49	52
	KBF-12S/13S	122	102	30	7 X 16	60	69	59	52
	KBF-22/23	139	119	35	10 x 21	70	57	47	52
	KBF-42/43	168	149	44	20 x 30	88	57	47	70
	KBF-62/63	237	218	70	25 X 46	140	57	47	85

**Recommended CT per CB frame size**

Unit:mm

**Example**



**Circuit breaker**

CB frame size	50AF	100AF	250AF	400AF	600AF	800AF	1000AF	1200AF
A	4	4	7	16	14	20	25	25
B	17	15	*25	30	44	44	44	44
C	50	30	35	44	70	70	70	70

**Recommend**



Type	KBF-02 KBF-03	KBF-12/12S KBF-13/13S	KBF-22/23	KBF-42/43	KBF-62/63
A'	7	7	10	20	25
B'	16	16	*21	30	46
C'	50	30	35	44	70
D'	75	59/69 (12S,13S)	57	57	57

☰ 250 AF breaker terminal is 25mm(B), and B' is 21. Only if bus bar size is 20mm, KBF-23/23 can be fit.

## Direct connect type Current Transformer

Certificates 



### Model No.


KBK-  
①

#### ① Size

See the table below

#### Selection table

Size	For meter(50/60Hz)			Weight(g)	Size	For meter(50/60Hz)			Weight(g)
	Current(AT)		Class (%)			Current(AT)		Class (%)	
	5VA	15VA				5VA	15VA		
01	-	1~30	1.0	1020	23	1~30	-	1.0	300
03	-	1~150		700	33	-	1~30		500
06	-	200~750		750					

 **How to order** Example)KBK-01 15/5A 15VA 1.0%,KBK-03 100/5A 15VA 1.0%,KBK-06 500/5A 15VA 1.0%  
KBK-23 10/5A 5VA 1.0%,KBK-33 30/5A 15VA 1.0%

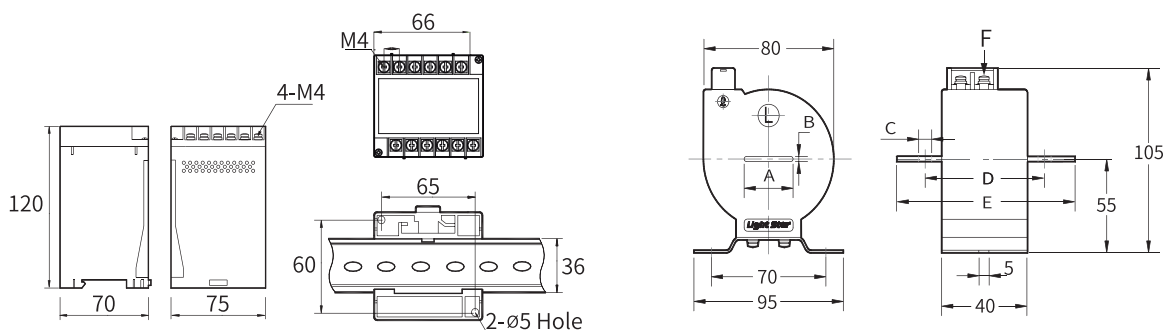
 Primary current less than 1A or burden 40 VA is an order made. Customized product can be produced by order

### Specification

Maximum voltage	Overcurrent strenght	Withstand voltage	Frequency	Body material	Weight
1.15kV	40Times	4.0 kV / 1 min	50/60Hz	Flame retardant case and polyester flame retardant resin filling	KS C 1706, IEC 60044-1

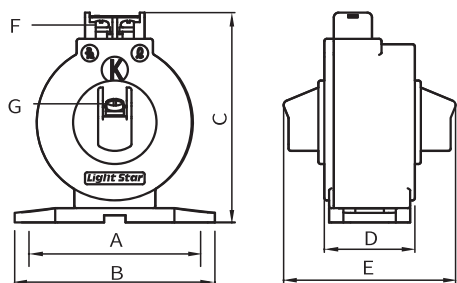
### Drawing

Unit:mm



KBK-01

KBK-03/06



KBK-23/33

Type	A	B	C	D	E	F	G
KBK-03	25	4	8	75	100	2-M5	-
KBK-06	40	8	12	80	120	2-M5	-
KBK-23	72	84	88	38	72.5	2-M4	2-M5
KBK-33	70	95	105	40	77	2-M5	2-M5