KG Technologies®

HONGFA Group Company

CURRENT SENSOR

World Class Energy Management Solutions

Table of Contents

Switch • Measure • Protect

KG Technologies, founded in 1999, is dedicated to innovative development and high quality/high volume manufacturing of latching relays for the Global Energy Market. We are a preferred supplier due to our ability to provide value-add, cost-effective solutions to our customers with the highest quality global standards, and flexible delivery. For our customers, this translates into significant savings in cost.

In 2015, Hongfa Group, the largest latching relay manufacturer in the world, acquired KG Technologies, broadening our product line with a variety of products including power and signal relays, HVDC contactors, current transformers, and smart circuit breakers.

The combined companies have become the largest producer of latching relays in the world. As we continue to grow, we will add additional Energy Management Solutions to our portfolio.

Customization

The Most Reliable Current Sensors in the Market

KG Technologies provides flexible solutions from the design process through final product delivery. At the start of each project, we collaborate with our customers' engineers to understand their specific product needs and develop the most cost-effective and high-performance assemblies. We design our products to improve form, fit, as well as optimize performance.

KGT Specializes in Customization and Value Added Services

The KG Team offers their expertise in customization (some examples below)

- Links / busbars
- Injection molding
- Service Disconnect and non-SD meter base assemblies
- e-Beam welding
- Custom packaging and labelling
- Full Electrical and environmental test capabilities

Product Overview

The wide-measuring-range micro Current Transformers (CTs), PTs and current/voltage transformers, grade S CTs, high-saturation-high-linearity DC immune CTs are specially designed for wide measuring-range electricity meters (such as the wide-measuring-range three-phase-three wire, three-phase-four wire electricity meters, anti-tampering electricity meters). Hongfa designs and produces CTs according to IEC61869/IEC62053 standards.

Operating Conditions

- Relative Humidity: < 90% at 25°C
- Altitude: 2000m
- Rated voltage: 500Vac with harmonic <5%
- There should be no gases, steam, chemical sediments, dust and any other harmful elements that might affect the insulation of the CTs
- No severe shock and vibration
- No strong external electromagnetic field

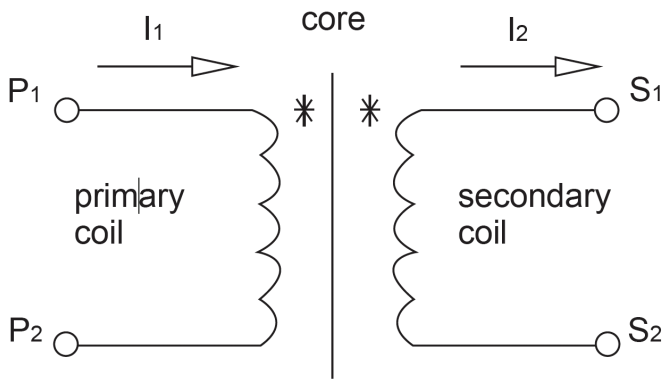
Key Performance

- Dielectric strength at 50Hz:
  3kV 1min between primary coil and secondary coil, and the earth

- Dielectric strength between turns: open circuit at the secondary coil, there is no damage when the primary coil is applied with rated voltage during 1 minute

- Insulation resistance: The insulation resistance of the primary coil to the secondary coil and to the earth should be higher than 500MΩ

- Polarity: primary and secondary coil have the same polarity



- Errors: a CT has two different errors, current error (ratio error) and phase shift error, which can be measured with CT testing equipment

- Accuracy Class:
  Transformation Ratio = Nominal Primary Current / Nominal Secondary Current

IEC61869 Error Limits

Accuracy class	Ratio error ±%				Phase displacement							
					± Minutes				± Centiradians			
	at current (% of rated)				at current (% of rated)				at current (% of rated)			
	5	20	100	120	5	20	100	120	5	20	100	120
0.1	0.4	0.2	0.1	0.1	15	8	5	5	0.45	0.24	0.15	0.15
0.2	0.75	0.35	0.2	0.2	30	15	10	10	0.9	0.45	0.3	0.3
0.5	1.5	0.75	0.5	0.5	90	45	30	30	2.7	1.35	0.9	0.9
1	3.0	1.5	1.0	1.0	180	90	60	60	5.4	2.7	1.8	1.8

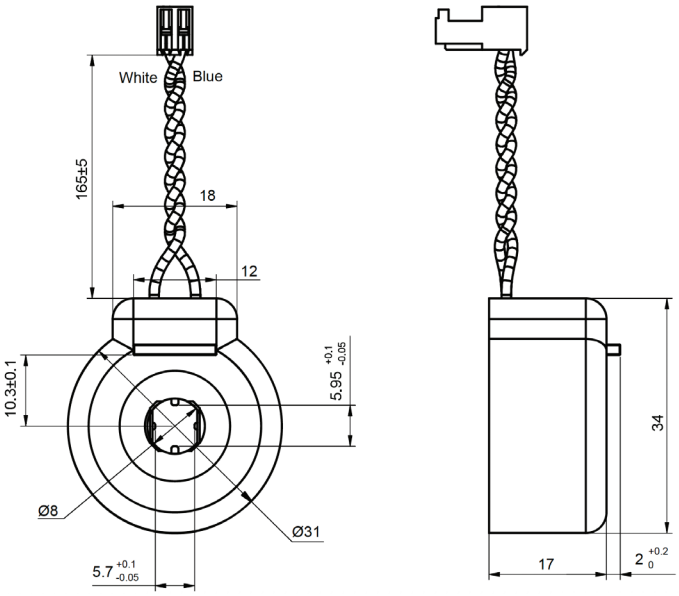
Remark: DC immune products do not apply to the above table.

Bus-bar type Current Transformer

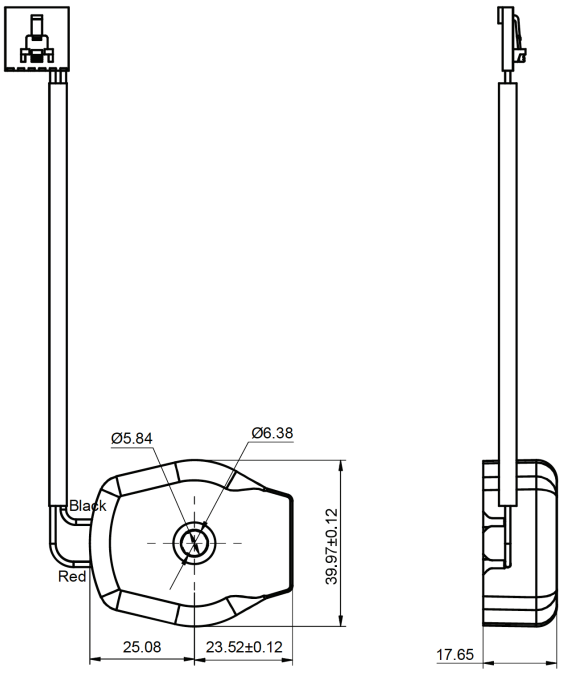
- Various mechanical dimensions and different forms available
- Linear output current, high precision
- Compact size, light weight, easy installation
- PBT flame retardant plastic casing
- Encapsulated with epoxy resin to ensure high dielectric strength

Product and Online Dimensions

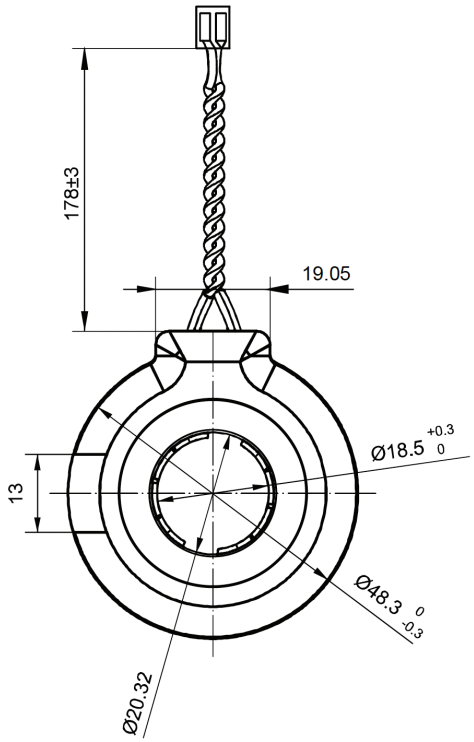
HFCT-M02

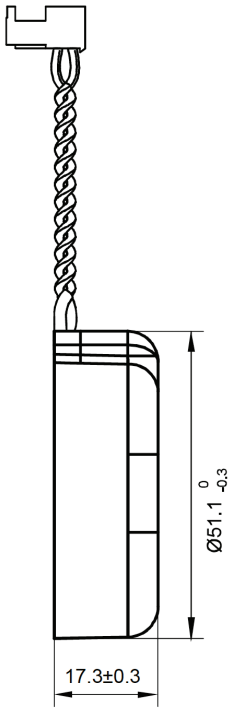


HFCT-M03



HFCT-M061



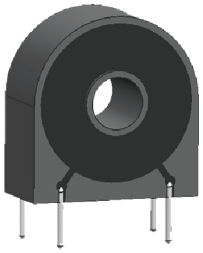


1) Avoid using current transformer in a strong magnetic field, the external magnetic field will affect the measurement accuracy of the CT.
2) It is not feasible to evaluate all performance parameters for every possible application and installation environment.
Therefore, it is the user's responsibility to select the most suitable product for their specific application.
Please contact KG technologies for technical assistance when evaluating a CT for a specific use case or if you have customization requirements.
3) The operating temperature range in this specification refers to the maximum tolerable temperature range under specific load conditions.
4) To ensure optimal performance of current transformers, avoid dropping them or subjecting them to strong mechanical shocks.
5) All the performance data listed in the datasheet are the initial values tested under standard testing conditions.
6) We reserve the right to modify the product and its specifications without prior notice. Customers are responsible for verifying the applicable specifications before placing their initial order and may request the latest specifications from us when required to ensure accuracy and suitability for their application.

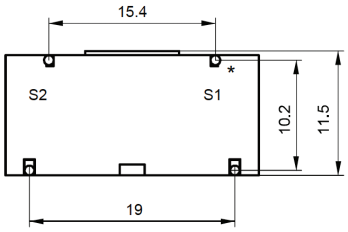
PCB-mount type Current Transformer

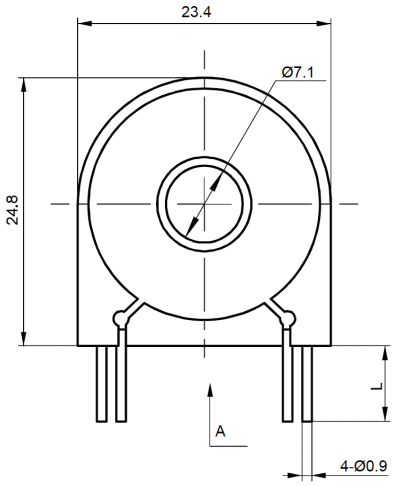
- Fully encapsulated with epoxy resin, resistant to harsh environment, high dielectric strength
- PCB-mount type
- The CT secondary output can be configured for PCB mounting, with flex wires or tin-plated copper wire. Upon request, flex wires can also be terminated with connectors to meet specific application requirements.- Linear output current, high precision
- Compact size, light-weight for easy installation
- PBT flame retardant plastic casing

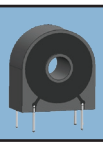
Product and Online Dimensions



HFCT-M406



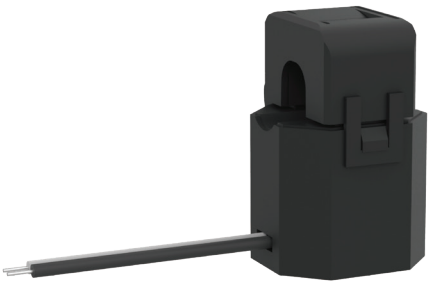


Part Number	Type	Primary Current	Max Primary Current	Rated Secondary Current	Accuracy Class	Product Image
HFCT-M02	30 - 200A/15mA	30A	200A	15mA	0.1	
HFCT-M03	30 - 320A/10mA	30A	320A	10mA	0.1	
HFCT-M061	60 - 400A/30mA	60A	400A	30mA	0.1	
HFCT-M406	5 - 60A/2.5mA	5A	60A	2.5mA	0.2	

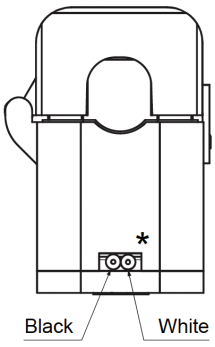
Main Features and Applications

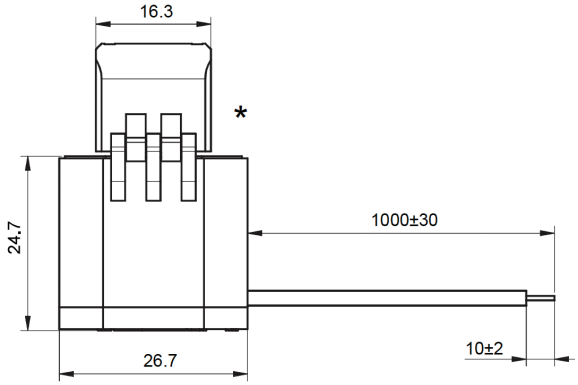
- Divisible iron core, with high accuracy and low magnetic loss
- Elegant appearance, compact size, light weight, easy installation
- Applications:
  - Electronic multifunction meter and field calibrator, measurements with instruments and protection functions.
  - General measurement and protection for power or electric systems that have rather requires motility or dispose limited space.

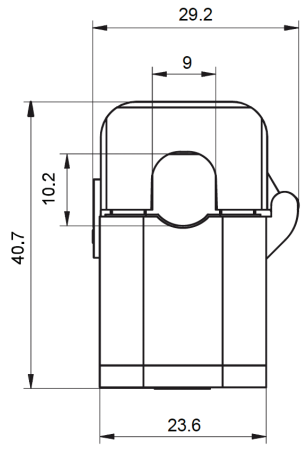
Product and Online Dimensions



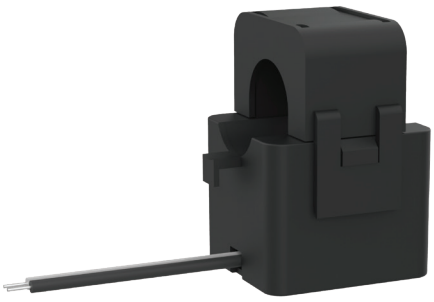
HFCT-K10



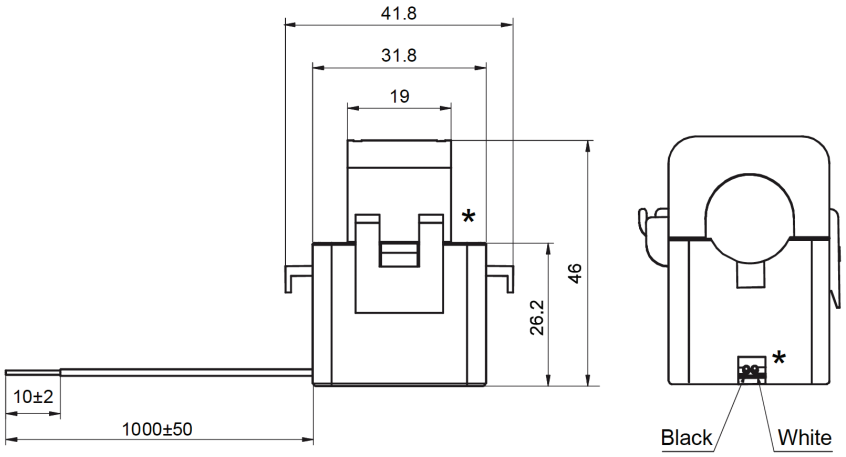


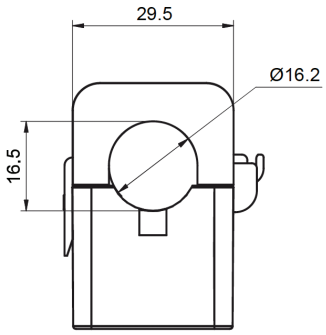


Split-Core Current Sensor

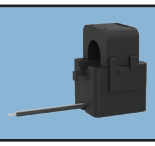


HFCT-K16





1) Avoid using current transformer in a strong magnetic field, the external magnetic field will affect the measurement accuracy of the CT.
2) It is not feasible to evaluate all performance parameters for every possible application and installation environment.
Therefore, it is the user's responsibility to select the most suitable product for their specific application.
Please contact KG technologies for technical assistance when evaluating a CT for a specific use case or if you have customization requirements.
3) The operating temperature range in this specification refers to the maximum tolerable temperature range under specific load conditions.
4) To ensure optimal performance of current transformers, avoid dropping them or subjecting them to strong mechanical shocks.
5) All the performance data listed in the datasheet are the initial values tested under standard testing conditions.
6) We reserve the right to modify the product and its specifications without prior notice. Customers are responsible for verifying the applicable specifications before placing their initial order and may request the latest specifications from us when required to ensure accuracy and suitability for their application.

Part Number	Type	Primary Current	Max Primary Current	Rated Secondary Current	Accuracy Class	Product Image
HFCT-K10	60 - 80A/20mA	60A	80A	20mA	1.0	
HFCT-K16	100 - 120A/33.3mA	100A	120A	33.3mA	1.0	

Main Features

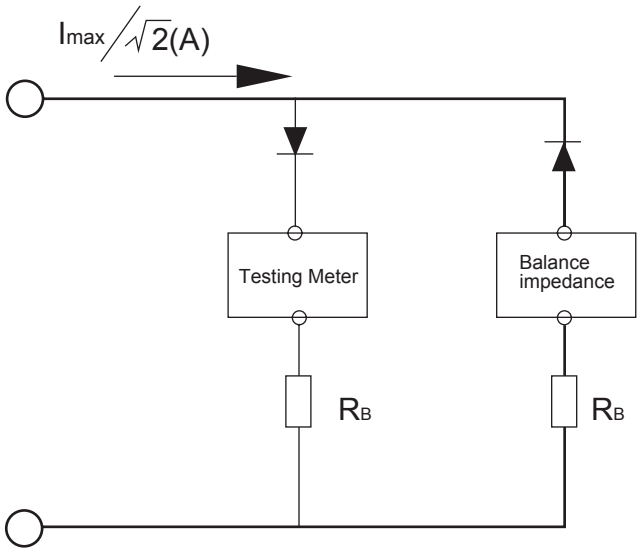
- Low DC tolerance
- Suitable for a wide range of current (from 1.5 to 100A)
- Linear output current, high precision
- Compact size, delicate appearance
- Fully encapsulated with epoxy resin, high dielectric strength

---

DC Tolerance

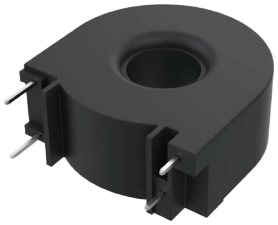
In normal condition, the power net is pure sinusoidal AC signal. But in special cases, the circuit have DC composition. Standard current transformer would be saturated under this condition, and cause huge error rate in the meter measurements. DC immune CT can solve this problem.

DC tolerance measurement circuit: use half rectified AC signal at input side, and connect meter and balance impedance at output side. Accuracy class 1.0 CTs the DC tolerance is within ±3.0%, and ±6.0% for accuracy class 2.0 CTs.

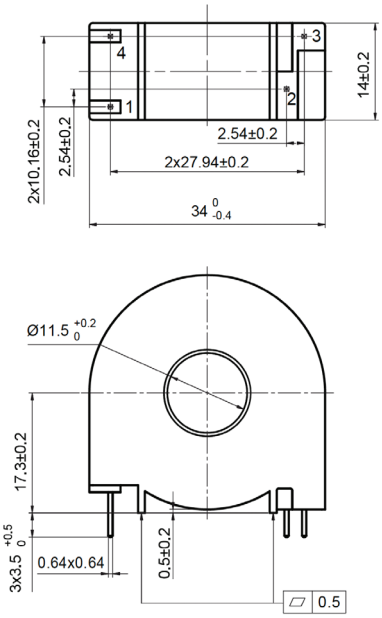


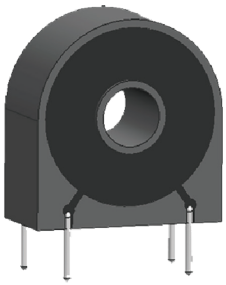
Product and Online Dimensions

DC-Immune Current Transformer

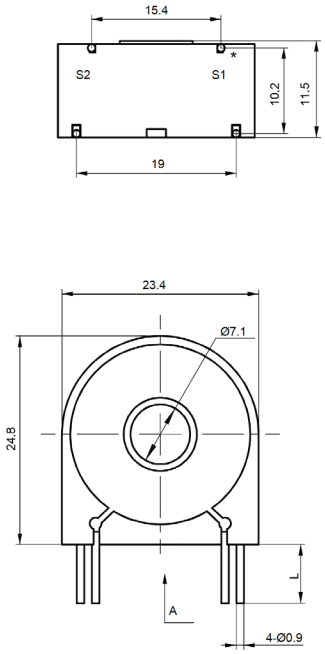


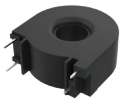
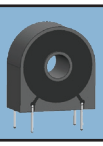
HFCT-D02





HFCT-D406

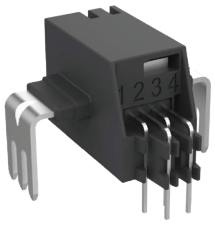


Part Number	Type	Primary Current	Max Primary Current	Rated Secondary Current	DC Immune Peak Current	Accuracy Class	Product Image
HFCT-D02	5 - 100A/2mA	5A	100A	2mA	100A	0.2	
HFCT-D406	5 - 80A/1.667mA	5A	80A	1.667mA	40A	0.2	

Main Features and Applications

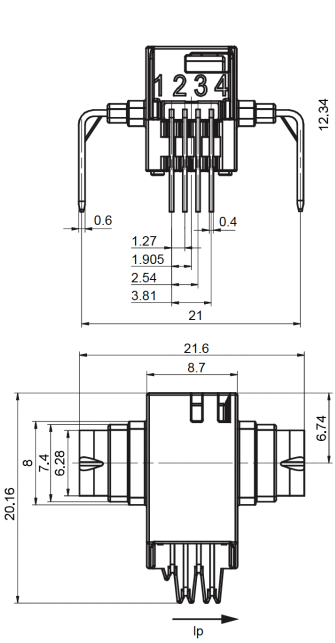
- Simplified design enables quick and easy installation
- Energy-efficient operation with low power consumption
- Robust immunity to external electromagnetic interference, ensuring reliable performance
- Typical Applications
  - Uninterruptible Power Supplies (UPS)
  - Static converters for DC motor drives
  - AC variable speed drives and servo motor drives
  - Solar inverters and renewable energy systems
  - Power supplies for welding equipment

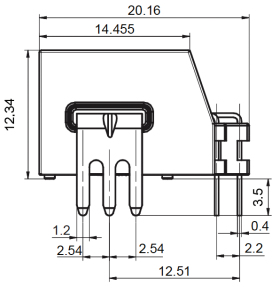
Product and Online Dimensions

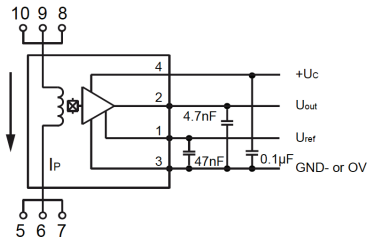


HFCH-C09

HFCH-C09 (120A)







Notes:

Pin 1	Vref
Pin 2	Vout
Pin 3	GND
Pin 4	(+5V)

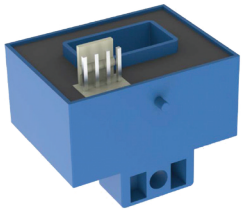
HFCH-C09 Electrical Data (Ta=25°C)

Parameter	Sym	HFCH-C09/10	HFCH-C09/16	HFCH-C09/20	HFCH-C09/32	HFCH-C09/40	HFCH-C09/50
Primary Nominal Current	I_{PN}	10A	16A	20A	32A	40A	50A
Measuring Range	I_{PM}	±25A	±40A	±50A	±80A	±100A	±125A
Rated Output Voltage	V_{out}	0.8V@I_{PN},T=25°C					
Electrical Offset Voltage	V_{OE}	≤10mV(V_{OUT}-V_{ref})@I_P=0,T=25°C					
Reference Voltage	V_{ref}	2.5±0.02V@I_{PN}					
Error	X	≤±0.8%@I_{PN},T=25°C					
Error	X	≤±1.5%@I_{PN}(-40°C~105°C)					
Linearity	εL	≤±0.5%@I_{PN}					
Linearirty	εL	≤±0.5%@I_{PM}					
Temperature coefficient of Vref	TCV_{ref}	≤±8mV(-40°~105°C)@I_P=0A					
Temperature coefficient of Vout	TCV_{out}	≤±170ppm/K(-40°C~105°C)					
Response Time	T_r	≤2.5 μs					
Frequency Bandwidth (-3 dB)	BW	DC---240kHz					
Supply Voltage (±5%)	V_C	+5V					
Current Consumption (at +5V)	I_C	<20mA					
Operating Temperature	T_A	-40°C ~ +105°C					

HFCH-C09 (120A) Electrical Data (Ta=25°C)

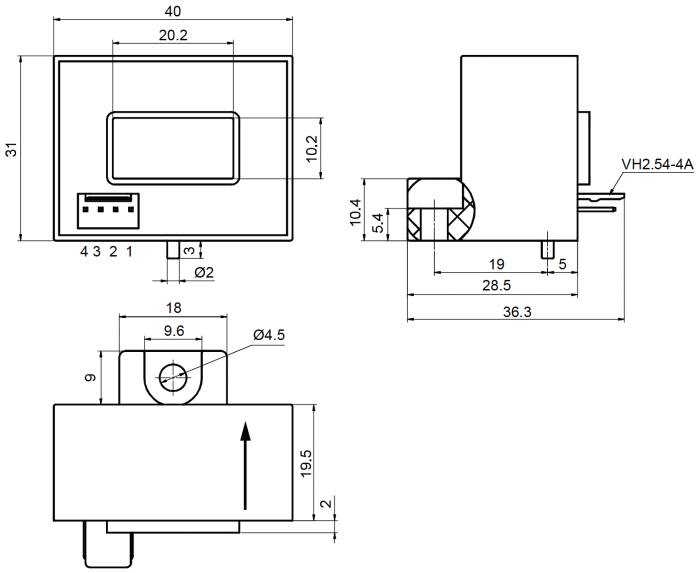
Parameter	Sym	HFCH-C09/80	HFCH-C09/100	HFCH-C09/120
Primary Nominal Current	I_{PN}	80A	100A	120A
Measuring Range	I_{PM}	±200A	±250A	±300A
Rated Output Voltage	V_{out}	0.8V@I_{PN},T=25°C		
Electrical Offset Voltage	V_{OE}	≤10mV(V_{OUT}-V_{ref})@I_P=0,T=25°C		
Reference Voltage	V_{ref}	2.5±0.02V@I_{PN}		
Error	X	≤±0.8%@I_{PN},T=25°C		
Error	X	≤±1.5%@I_{PN}(-40°C~105°C)		
Linearity	εL	≤±0.5%@I_{PN}		
Linearirty	εL	≤±0.5%@I_{PM}		
Temperature coefficient of Vref	TCV_{ref}	≤±8mV(-40°~105°C)@I_P=0A		
Temperature coefficient of Vout	TCV_{out}	≤±170ppm/K(-40°C~105°C)		
Response Time	T_r	≤2.5 μs		
Frequency Bandwidth (-3 dB)	BW	DC---240kHz		
Supply Voltage (±5%)	V_C	+5V		
Current Consumption (at +5V)	I_C	<20mA		
Operating Temperature	T_A	-40°C ~ +105°C		

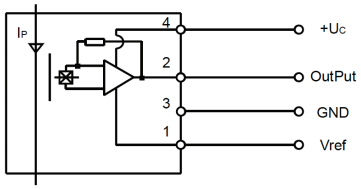
1) Avoid using current transformer in a strong magnetic field, the external magnetic field will affect the measurement accuracy of the CT.
2) It is not feasible to evaluate all performance parameters for every possible application and installation environment.
Therefore, it is the user's responsibility to select the most suitable product for their specific application.
Please contact KG technologies for technical assistance when evaluating a CT for a specific use case or if you have customization requirements.
3) The operating temperature range in this specification refers to the maximum tolerable temperature range under specific load conditions.
4) To ensure optimal performance of current transformers, avoid dropping them or subjecting them to strong mechanical shocks.
5) All the performance data listed in the datasheet are the initial values tested under standard testing conditions.
6) We reserve the right to modify the product and its specifications without prior notice. Customers are responsible for verifying the applicable specifications before placing their initial order and may request the latest specifications from us when required to ensure accuracy and suitability for their application.



HFCH-C18(0.625V)

HFCH-C18(2V)





Notes:

Pin 1	Vref
Pin 2	Vout
Pin 3	GND
Pin 4	(+5V)

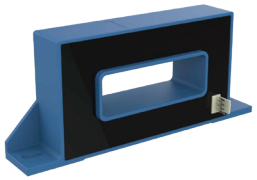
HFCH-C18 (0.625V) Electrical Data (Ta=25°C)

Parameter	Sym	HFCH-C18 /50	HFCH-C18 /100	HFCH-C18 /150	HFCH-C18 /200	HFCH-C18 /300	HFCH-C18 /400	HFCH-C18 /500	HFCH-C18 /600
Primary Nominal Current	I_{PN}	50A	100A	150A	200A	300A	400A	500A	600A
Measuring Range	I_{PM}	±150A	±300A	±450A	±600A	±900A	±1100A	±1100A	±1100A
Rated Output Voltage	V_{out}	Vref±0.625V@I_{PN},T=25°C							
Electrical Offset Voltage	V_{OE}	2.5V±0.02V@I_P=0,T=25°C							
Reference Voltage	V_{ref}	2.5±0.02V							
Error	X	≤±1%@I_{PN}							
Linearity	εL	≤±0.8%@I_{PN}							
Temperature coefficient of V_{OE}	TCV_{OE}	≤±0.1mV/°C							
Temperature coefficient of Vref	TCV_{ref}	≤±8mV(-40°~105°C)@I_P=0A							
Temperature coefficient of Vout	TCV_{out}	≤±170ppm/K(-40°C~105°C)							
Response Time	T_r	≤5 μs							
Frequency Bandwidth (-3 dB)	BW	DC---200kHz							
Supply Voltage (±5%)	V_C	+5V							
Current Consumption (at +5V)	I_C	<25mA							
Operating Temperature	T_A	-40°C ~ +105°C							

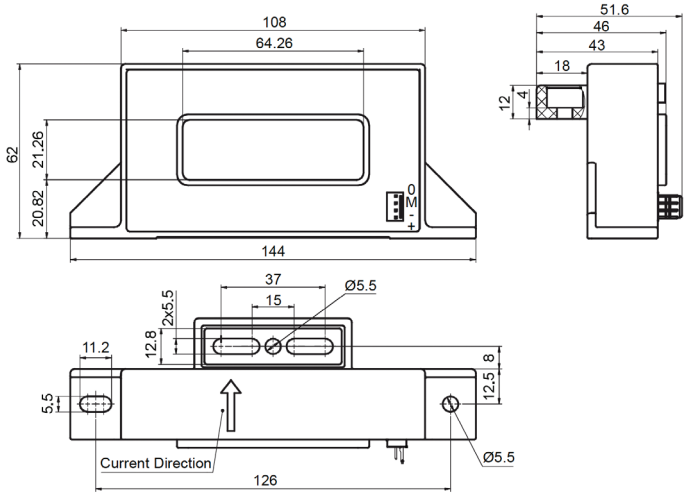
HFCH-C18 (2V) Electrical Data (Ta=25°C)

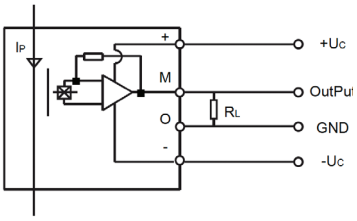
Parameter	Sym	HFCH-C18 /50	HFCH-C18 /100	HFCH-C18 /150	HFCH-C18 /200	HFCH-C18 /300	HFCH-C18 /400	HFCH-C18 /500	HFCH-C18 /600
Primary Nominal Current	I_{PN}	50A	100A	150A	200A	300A	400A	500A	600A
Rated Output Voltage	V_{out}	Vref±2V@I_{PN},T=25°C							
Electrical Offset Voltage	V_{OE}	2.5V±0.02V@I_P=0,T=25°C							
Reference Voltage	V_{ref}	2.5±0.02V							
Error	X	≤±1%@I_{PN}							
Linearity	εL	≤±0.8%@I_{PN}							
Temperature coefficient of V_{OE}	TCV_{OE}	≤±0.1mV/°C							
Temperature coefficient of Vref	TCV_{ref}	≤±8mV(-40°~105°C)@I_P=0A							
Temperature coefficient of Vout	TCV_{out}	≤±170ppm/K(-40°C~105°C)							
Response Time	T_r	≤5 μs							
Frequency Bandwidth (-3 dB)	BW	DC---50kHz							
Supply Voltage (±5%)	V_C	+5V							
Current Consumption (at +5V)	I_C	<25mA							
Operating Temperature	T_A	-40°C ~ +105°C							

1) Avoid using current transformer in a strong magnetic field, the external magnetic field will affect the measurement accuracy of the CT.
2) It is not feasible to evaluate all performance parameters for every possible application and installation environment.
Therefore, it is the user's responsibility to select the most suitable product for their specific application.
Please contact KG technologies for technical assistance when evaluating a CT for a specific use case or if you have customization requirements.
3) The operating temperature range in this specification refers to the maximum tolerable temperature range under specific load conditions.
4) To ensure optimal performance of current transformers, avoid dropping them or subjecting them to strong mechanical shocks.
5) All the performance data listed in the datasheet are the initial values tested under standard testing conditions.
6) We reserve the right to modify the product and its specifications without prior notice. Customers are responsible for verifying the applicable specifications before placing their initial order and may request the latest specifications from us when required to ensure accuracy and suitability for their application.



HFCH-P19





Notes:

+	(+15V)
-	(-15V)
M	Vout
O	GND

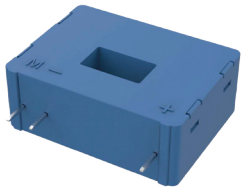
HFCH-P19 Electrical Data (Ta=25°C)

Parameter	Sym	HFCH-P19 /500	HFCH-P19 /600	HFCH-P19 /850	HFCH-P19 /1000	HFCH-P19 /1500	HFCH-P19 /2000	HFCH-P19 /2500
Primary Nominal Current	I_{PN}	500A	600A	850A	1000A	1500A	2000A	2500A
Measuring Range	I_{PM}	±1500A	±1800A	±2550A	±3000A	±4500A	±5500A	±5500A
Rated Output Voltage	V_{out}	±4V(RL=10kΩ)@IPN T=25°C						
Electrical Offset Voltage	V_{OE}	≤20mV@I_P=0,T=25°C						
Error	X	≤±1%@I_{PN}						
Linearity	εL	≤±1%@I_{PN}						
Temperature coefficient of V_{OE}	TCV_{OE}	≤±1mV/°C						
Temperature coefficient of Vout	TCV_{out}	≤±0.1%/°C(-40°C~105°C)						
Response Time	T_r	≤5 μs						
Frequency Bandwidth (-3 dB)	BW	DC---25kHz						
Supply Voltage (±5%)	V_C	+15V						
Current Consumption (at +5V)	I_C	<25mA						
Operating Temperature	T_A	-40°C ~ +85°C						

Main Features and Applications

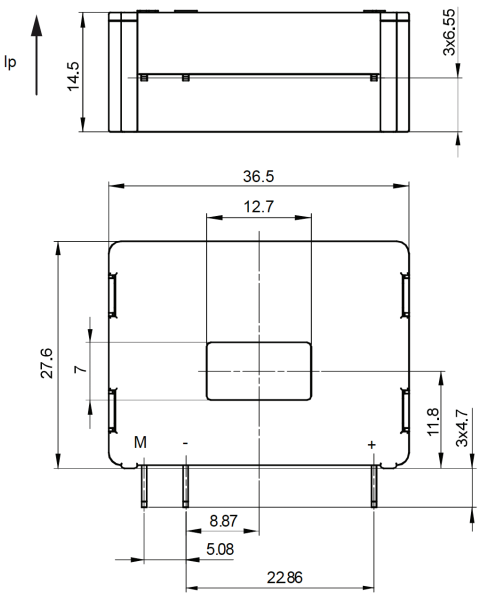
- Superior accuracy with excellent linearity for precise current measurement
- Optimized response time and wide bandwidth for dynamic performance
- Strong EMI immunity for stable operation
- Typical Applications
  - Uninterruptible Power Supplies (UPS)
  - Static converters for DC motor drives
  - AC variable speed drives and servo motor drives
  - Inverters for industrial and renewable energy systems
  - Power supplies for welding equipment
  - Battery management systems (BMS) for evs and energy storage
  - Electric vehicle (EV) charging stations
  - Industrial automation and robotics
  - Power monitoring and energy management systems
  - Motor protection and control in HVAC systems
  - Smart grid and distributed generation systems
  - Rail traction and transportation systems
  - Data center power infrastructure

Product and Online Dimensions

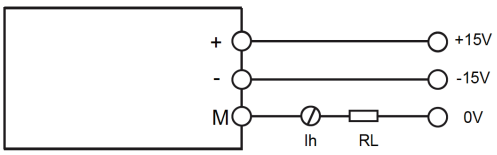


HFCH-L01

Outline Dimensions



Wiring Diagram



Notes:

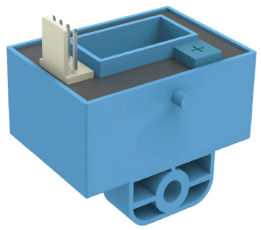
+	(+15V)
-	(-15V)
M	I_0

HFCH-L01 Electrical Data (Ta=25°C)

Parameter	Sym	HFCH-L01/25	HFCH-L01/50	HFCH-L01/75	HFCH-L01/100
Primary Nominal Current	I_{PN}	25A	50A	75A	100A
Measuring Range	I_{PM}	±37.5A	±75A	±100A	±150A
Secondary Nominal Current	I_{SN}	25mA	50mA	50mA	50mA
Turns Ratio	N	1:1000	1:1500	1:1500	1:2000
Measuring Resistance @ I_{PN}	R_N	0-75Ω	0-75Ω	0-75Ω	0-75Ω
Measuring Resistance @ I_{PM}	R_M	0-50Ω	0-50Ω	0-50Ω	0-50Ω
Electrical Offset Current	I_O	≤±0.2mA @I_P=0			
Linearity	εL	<±0.1% @I_{PN}			
Error	X	≤±0.4% @I_{PN}			
Response Time	T_r	≤1 μs			
Temperature Coefficient of I_O	I_{OT}	≤±0.4mA (-40°C ~ +85°C)			
Frequency Bandwidth (-3 dB)	BW	DC---100kHz			
Supply Voltage (±5%)	V_C	+15V DC ±5%			
Current Consumption	I_C	<10mA + I_{SN}			
Operating Temperature	T_A	-40°C ~ +85°C			

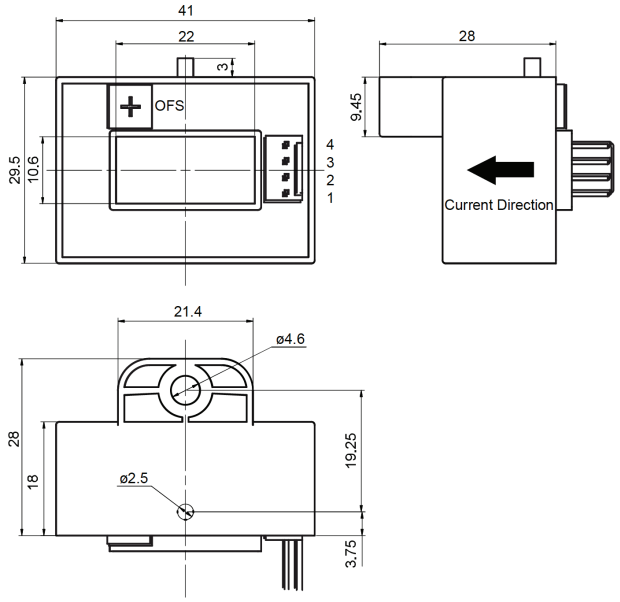
1) Avoid using current transformer in a strong magnetic field, the external magnetic field will affect the measurement accuracy of the CT.
2) It is not feasible to evaluate all performance parameters for every possible application and installation environment.
Therefore, it is the user's responsibility to select the most suitable product for their specific application.
Please contact KG technologies for technical assistance when evaluating a CT for a specific use case or if you have customization requirements.
3) The operating temperature range in this specification refers to the maximum tolerable temperature range under specific load conditions.
4) To ensure optimal performance of current transformers, avoid dropping them or subjecting them to strong mechanical shocks.
5) All the performance data listed in the datasheet are the initial values tested under standard testing conditions.
6) We reserve the right to modify the product and its specifications without prior notice. Customers are responsible for verifying the applicable specifications before placing their initial order and may request the latest specifications from us when required to ensure accuracy and suitability for their application.

Closed Loop Hall-Effect Current Sensor

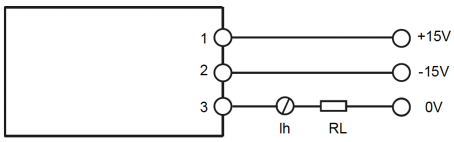


HFCH-L02

Outline Dimensions



Wiring Diagram



Notes:

Pin 1	(+15V)
Pin 2	(-15V)
Pin 3	I_0
Pin 4	NC

HFCH-L02 Electrical Data (Ta=25°C)

Parameter	Sym	HFCH-L02/25	HFCH-L02/50	HFCH-L02/100	HFCH-L02/200	HFCH-L02/300
Primary Nominal Current	I_{PN}	25A	50A	100A	200A	300A
Measuring Range	I_{PM}	±50A	±100A	±200A	±400A	±600A
Secondary Nominal Current	I_{SN}	25mA	50mA	50mA	100mA	100mA
Turns Ratio	N	1:1000	1:1000	1:2000	1:2000	1:3000
Measuring Resistance @ I_{PN}	R_N	0-200Ω	0-100Ω	0-100Ω	0-50Ω	0-50Ω
Measuring Resistance @ I_{PM}	R_M	0-100Ω	0-50Ω	0-50Ω	0-20Ω	0-20Ω
Electrical Offset Current	I_O	≤±0.2mA @I_P=0				
Linearity	εL	<±0.1% @I_{PN}				
Error	X	≤±0.4% @I_{PN}				
Response Time	T_r	≤1 μs				
Temperature Coefficient of I_O	I_{OT}	≤±0.4mA (-40°C ~ +85°C)				

Parameter	Sym	HFCH-L02/25	HFCH-L02/50	HFCH-L02/100	HFCH-L02/200	HFCH-L02/300
Frequency Bandwidth (-3 dB)	BW	DC---100kHz				
Supply Voltage (±5%)	V_C	+15V DC ±5%				
Current Consumption	I_C	<10mA + I_{SN}				
Operating Temperature	T_A	-40°C ~ +85°C				

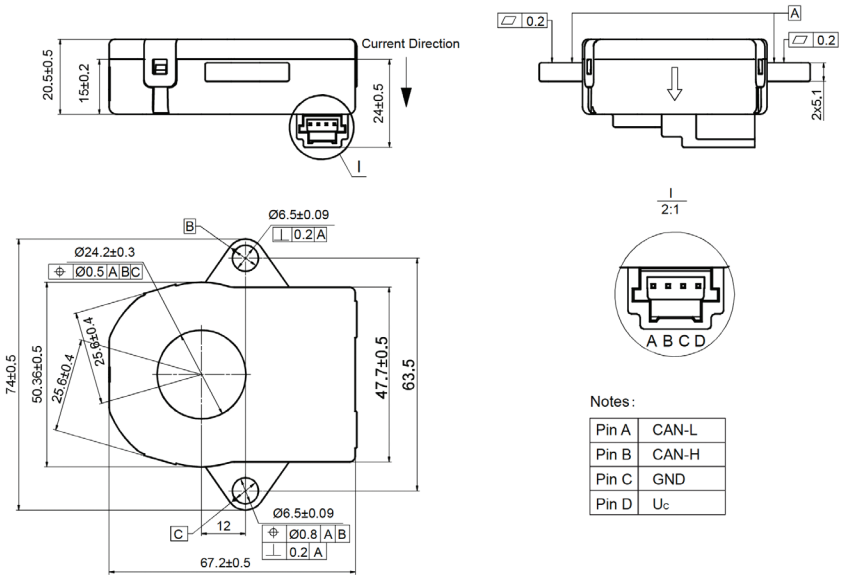
Main Features and Applications

- Exceptional accuracy and excellent linearity for precise current detection
- Fast response and wide bandwidth for complex signals.
- True galvanic isolation for safe measurement in high-voltage, noisy environments.
- Low drift and high stability for reliable long-term operation
- Low noise floor enabling detection of very small currents and irregular waveforms
- Typical Applications
  - Battery monitoring and management systems, including electric vehicles and energy storage
  - Accurate measurement of irregular and complex current waveforms under electrically isolated conditions
  - Renewable energy systems such as solar and wind inverters
  - Industrial process control and power quality monitoring
  - Medical equipment requiring precise and isolated current sensing
  - Aerospace and defense systems demanding high precision and reliability
  - Research and development applications involving low-level and dynamic current measurements

Product and Online Dimensions

Fluxgate Current Sensor

HFCF-M08



Notes:

Pin A	CAN-L
Pin B	CAN-H
Pin C	GND
Pin D	Uc

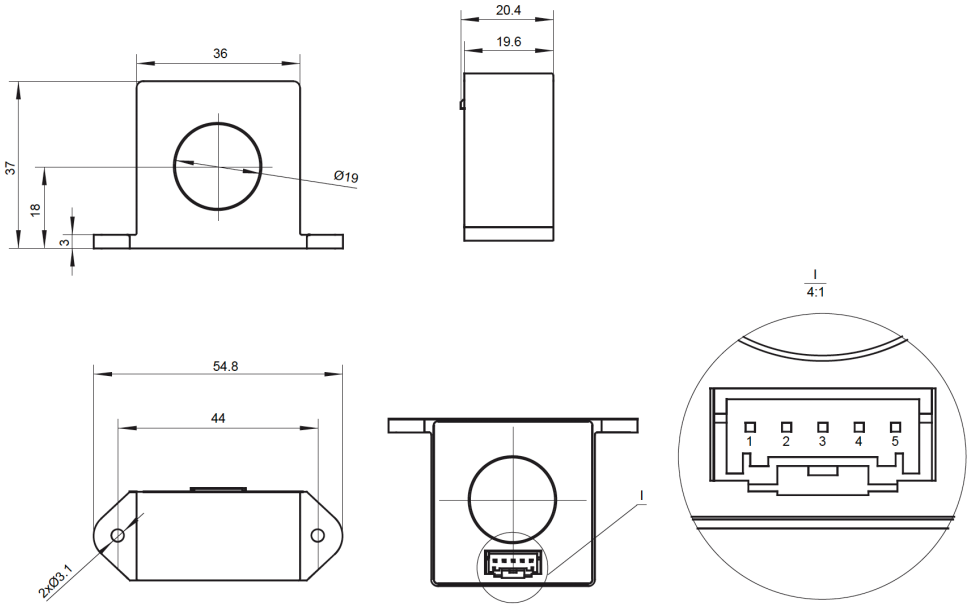
HFCF-M08 Electrical Data (Ta=25°C)

Parameter	Sym	Min	Typical	Max
Supply Voltage	Uc	8V	13.5V	16V
Current Consumption @IP=0A	Ic		30mA	40mA
Current Consumption @IP=500A	Ic			160mA
Ambient Operating Temperature	TA	-40°C		85°C
Primary Nominal DC or RMS Current	IPN	-500A		500A
Current Clamping Value	IPM	-530A		530A
Linearity	εL	0.1%		
Support for CAN 2.0B protocol				

Residual Current Related Characteristics

Parameter	Sym	Value	Conditions
Load-dump Over-voltage	Uc	32	400ms
Over-voltage	Uc	24	1min
Reverse Polarity	Uc	-16	1min
Minimum Supply Voltage	UCmin	8	Continuous not operating
Maximum Supply Voltage	UCmin	16	Continuous not operating

HFCF-F09



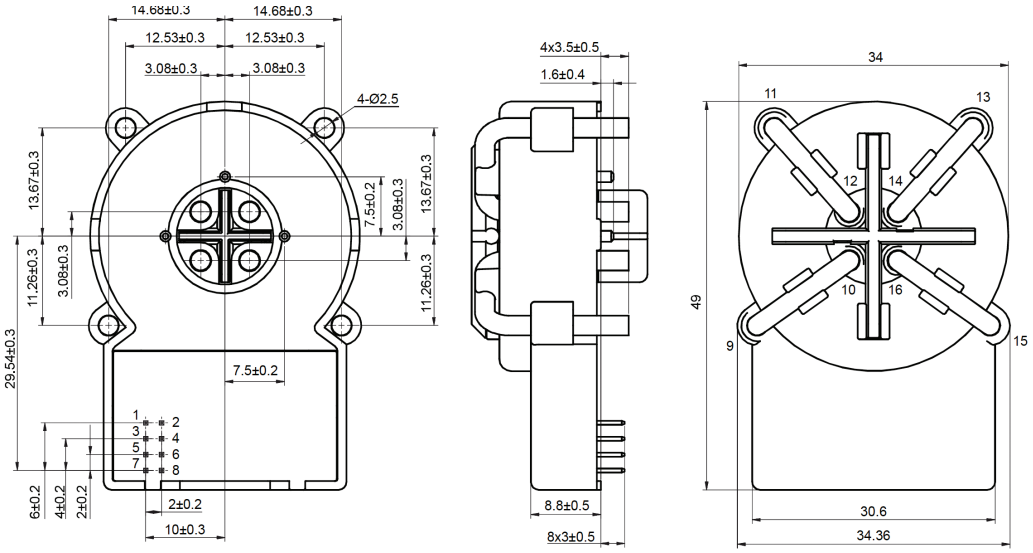
HFCF-M09 Electrical Data (Ta=25°C)

Parameter	Sym	Min	Typical	Max
Supply Voltage	V_{DD}	4.85V	5V	5.15V
Power Consumption @IP=0A	P_C			110mA
Voltage Input/Output, Low-level	V_L	0V		0.6V
Voltage Input/Output, High-level	V_H	4.2V		5V
Ambient Operating Tempaerature	T_A	-40°C		105°C

Residual Current Related Characteristics

Parameter	Sym	HFCF-F09/D-S5-1	HFCF-F09/D-S5-2	HFCF-F09/D-S5-3
Rated Residual Operating Current (DC)	$I_{\Delta N1}$	6mA DC	6mA DC	56mA DC
Rated Residual Operating Current (rms)	$I_{\Delta N2}$	30mA rms	-	20mA rms
Meets IEC62752 Residual Current Operating Characteristics				

HFCF-F12



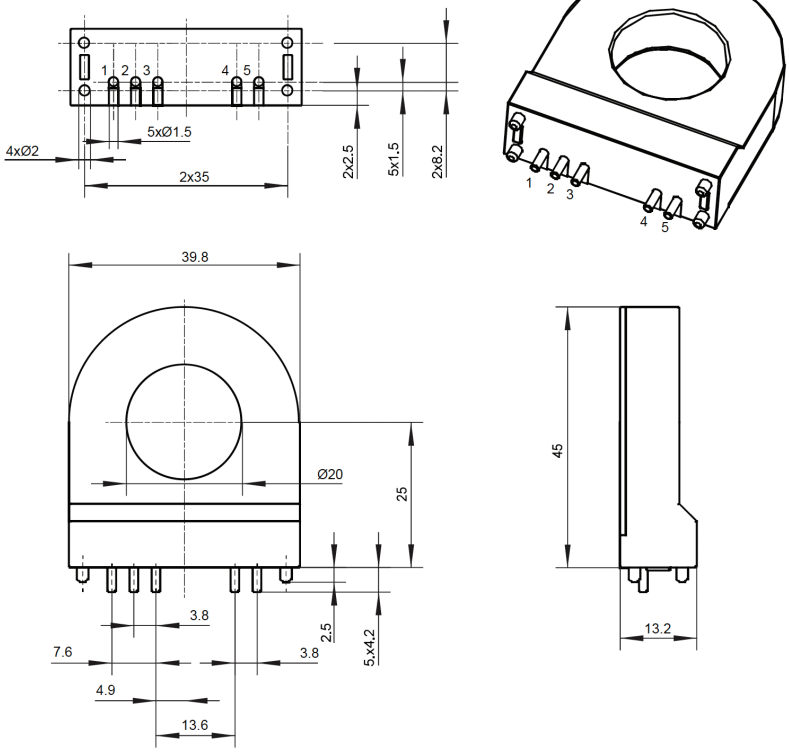
HFCF-F12 Electrical Data (Ta=25°C)

Parameter	Sym	Min	Typ	Max
Primary Nominal RMS Current (1phase / 3phase)	I_P		32A	40A
Supply Voltage	V_{DD}	4.85V	5V	5.15V
Power Consumption	P_C			110mA
Voltage Input/Output, Low-level	V_L	0V		0.6V
Voltage Input/Output, High-level	V_H	4.2V		5V
Ambient Operating Temperature	T_A	-40°C		105°C

Residual Current Related Characteristics

Parameter	Sym	HFCF-F09/D-S5-1	HFCF-F09/D-S5-2	HFCF-F09/D-S5-3
Rated Residual Operating Current (DC)	$I_{\Delta N1}$	6mA DC	6mA DC	56mA DC
Rated Residual Operating Current (rms)	$I_{\Delta N2}$	30mA rms	-	20mA rms
Meets UL2231, IEC62752 Requirements for Residual Current Operating Characteristics				

HFCF-F22(104)

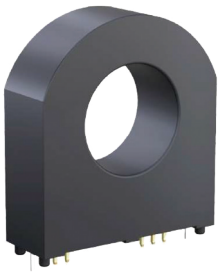


HFCF-F22(104) Electrical Data (Ta=25°C)

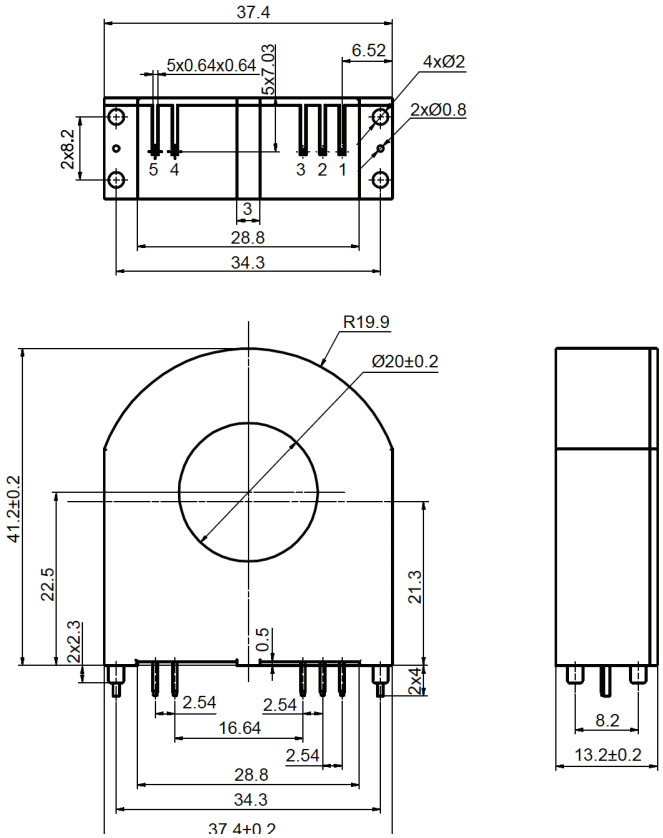
Parameter	Sym	Min	Typ	Max
Supply Voltage	V_{DD}	4.85V	5V	5.15V
Power Consumption	P_C			110mA
Voltage Input/Output, Low-level	V_L	0V		0.6V
Voltage Input/Output, High-level	V_H	4.2V		5V
Ambient Operating Temperature	T_A	-40°C		105°C

Residual Current Related Characteristics

Parameter	Sym	HFCF-F22/D-S5-1(104)	HFCF-F22/D-S5-3(104)
Rated Residual Operating Current (DC)	$I_{\Delta N1}$	6mA DC	56mA DC
Rated Residual Operating Current (rms)	$I_{\Delta N2}$	30mA rms	20mA rms
Meets IEC62955, IEC62752, UL2231 Requirements for Residual Current Operating Characteristics			



HFCF-F22



HFCF-F22 Electrical Data (Ta=25°C)

Parameter	Sym	Min	Typ	Max
Supply Voltage	V_{DD}	4.85V	5V	5.15V
Power Consumption	P_C			110mA
Voltage Input/Output, Low-level	V_L	0V		0.6V
Voltage Input/Output, High-level	V_H	4.2V		5V
Ambient Operating Temperature	T_A	-40°C		105°C

Residual Current Related Characteristics

Parameter	Sym	HFCF-F22/D-S5-1
Rated Residual Operating Current (DC)	$I_{\Delta N1}$	6mA DC
Rated Residual Operating Current (rms)	$I_{\Delta N2}$	30mA rms
Meets IEC62752 Requirements for Residual Current Operating Characteristics		

Quality Statement

KG Technologies Inc.'s commitment is to ensure that our services and products consistently meet our customers' expectations, delivered on time and defect free.

We also ensure that our products are compliant with all relevant statutory and regulatory requirements including those from IEC, ANSI and UL regulatory bodies.

Our various product delivery teams are highly skilled and are focused in ensuring that through innovation and creativity we are committed on continual improvement of our product quality and reliability, as well as the efficiency of our service offerings.

Production Quality Standards

RoHS - KG conforms to the requirements of the RoHS directive (2011/65/EU). This directive specifies the restrictions of the use of hazardous substances in Electrical and Electronic markets in Europe.

REACH - The European Union's REACH Directive (EC 1907/2006) is designed to regulate the Registration, Evaluation, Authorization and Restriction of Chemical Substances.

Conflict Minerals Policy - We are committed to support ending the violence and human rights violations in the mining of certain minerals from a location described as the "Conflict Region."

In addition to our commitments, we must meet regulatory obligations. For more information view our statement at www.kgtechnologies.net - Environmental Policies Page.

Global Contacts

North America Corporate Headquarters
KG Technologies, Inc.
6028 State Farm Drive
Rohnert Park, CA 94928 - USA
Phone: +1 (888) 513-1874 (PST)
Email: techinfo@kgtechnologies.net

South America/ Asian Pacific Sales Office
Phone: +1 (888) 513-1874 (PST)
Email: techinfo@kgtechnologies.net

Mexico Sales Office
Phone: +1 (888) 513-1874 (PST)
Email: techinfo@kgtechnologies.net

African / Middle East Headquarters
KG Technologies, (Pty) Ltd.
49 Bergzicht Street
Malmesbury, WC, RSA, 7300
Phone: +27 (81) 562 5961
Email: techinfo@kgtechnologies.net

India Sales Office
Phone: +91 981 0833005
Email: techinfo@kgtechnologies.net

European Headquarters
KG-Technologies, Europe GmbH
Stadttor 1, 40219 Düsseldorf, Germany
Phone: +33 (0) 646 572547
Email: techinfo@kgtechnologies.net

France Sales Office
KG Technologies, Europe GmbH
Phone: + 33 (0) 646 572547

UK Engineering Office
KG Technologies, Europe GmbH
Phone: + 33 (0) 646 572547
Email: techinfo@kgtechnologies.net

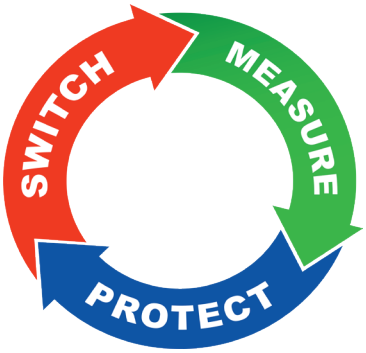
Turkey Sales Office
KG Technologies, Europe GmbH
Phone: +33 (0) 646 572547
Email: techinfo@kgtechnologies.net

Western European Sales Office
Phone: +34 660 890 570
Email: techinfo@kgtechnologies.net

We Speak Your Language!
KG Technologies, a Diversified Company
Serving a Diversified Customer Base Globally

HONGFA
Group Company

We strive to provide our customers with commitment, teamwork and respect!



KG Technologies®

6028 State Farm Drive, Rohnert Park, CA 94928
Tel: +1.888.513.1874
Email: techinfo@kgtechnologies.net
www.kgtechnologies.net

Scan for more information