High-current Transformers

Indoor

AKA
ALG
JK-GCT
AKQ (7.2 –36) kV

PFIFFNER

Current and voltage – our passion

AKA current transformer

Type AKA current transformers are usually used in encased ducts, so-called isolated phase bus ducts (IBPs). The CT's transform high currents up to 50,000 A into standardised, equivalent values for meters, measuring equipment and protection devices.

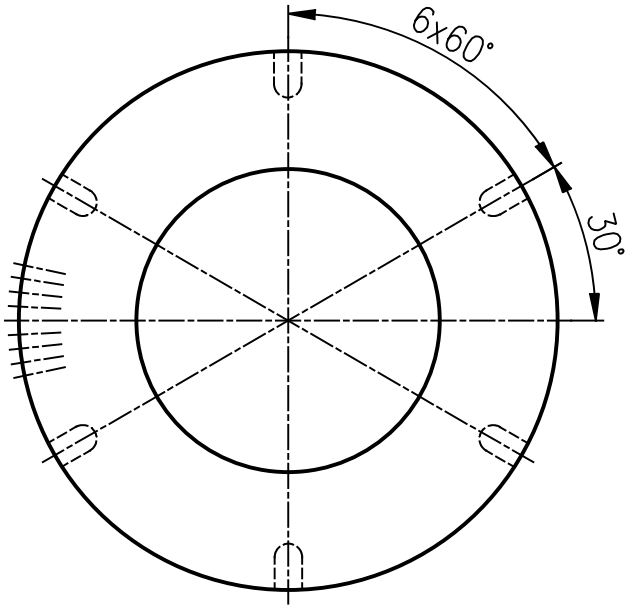
Power stations use IPB ducts between the generator on the one side and the generator transformer and its station-service feeders on the other. AKA current transformers are designed to be installed in these systems. The current transformer is fixed in place inside the casing. The distance between the transformer's internal diameter and the duct's primary conductor is determined by the system voltage, with the insulation being implemented with a sufficient distance between the primary conductor and the transformer's internal diameter.

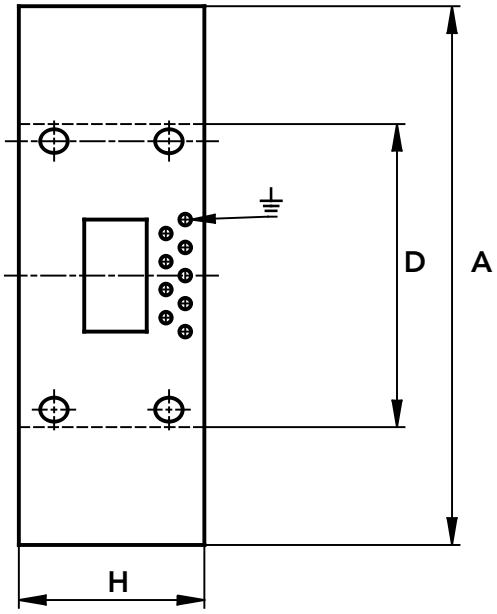
The transformer's active parts are cast in an epoxy resin specifically designed to withstand high temperatures. Depending on the requirements, up to five mutually galvanically isolated current transformer cores can be fitted and used to provide protection or for measurement tasks. As all the active parts are dimensioned and made to order, they can be manufactured in accordance with all international, national and customer-specific standards. Protection classes for transient transmission behaviour (TPY, TPZ) are also possible. A wide variety of casting moulds enables current transformers to be produced for virtually any kind of duct with an internal diameter of up to 1,200 mm, meaning that various voltages, conductor diameters, transmissions and class requirements can be handled with ease. The secondary terminals are designed as cast bushes, positioned on the transformer housing and connected via a special flanged opening in the duct casing. Its special design allows the transformer to be used in Zone 2 areas at risk of explosion in accordance with its official type test certificate. Type AKA current transformers can also be used in open systems if the distance between their internal diameters and the primary conductors is large enough.

Advantages of the AKA

- Specially designed for installation in single-phase-encased heavy-current ducts (IPBs)
- Primary rated currents up to 50,000 A
- Internal diameters up to 1,280 mm
- Core padding ensures consistent class-specific accuracy
- Active parts cast in epoxy resin
- Wide range of geometric dimensions
- ATEX-certified to explosion category Ex II 3G

AKA current transformer





Type AKA		
Standard		DIN / IEC / IEEE
Highest operating voltage	kV	0.72
Power frequency withstand voltage	kV	3
Frequency	Hz	16.7 / 50 / 60
Primary rated current	A	≤ 50,000
Secondary rated current	A	1 / 5
Thermal short-time current rating [Ith]	kA/1s	100 x In
Rated dynamic current [Idyn]	kA	2.5 x Ith
Accuracy classes		0.1 – 3; 0.2S; 0.5S; P; PR; PX; PXR; TPX; TPY
Max. number of cores		5

Type AKA			
Max. transformer height	H	mm	300
Max. internal diameter	D	mm	1280
Max. external diameter	A	mm	1,530

other dimensions on request

ALG/JK-GCT current transformer

Type ALG/JK-GCT current transformers are used for installation on high-current ducts for generators. They transform high currents up to 50,000 A into standardised, equivalent values for counters, measuring equipment and protection devices.

The high currents and short phase distances that generators experience place extreme demands on transformers in terms of temperature and interfering fields. Compensating windings are fitted to achieve the necessary accuracy, with the transformers also being designed to withstand very high temperatures. The ALG transformer can be equipped with up to four secondary windings. Insulation is fitted inside the duct itself. Both types can be manufactured and tested in accordance with specific standards. Protection classes for transient transmission behaviour (TPY, TPZ) are also possible. The secondary connections are located in separate terminal boxes. The ALG transformer can be manufactured so as to permit installation in Zone 2 areas at risk of explosion in accordance with its official type test certificate.

Advantages of the ALG

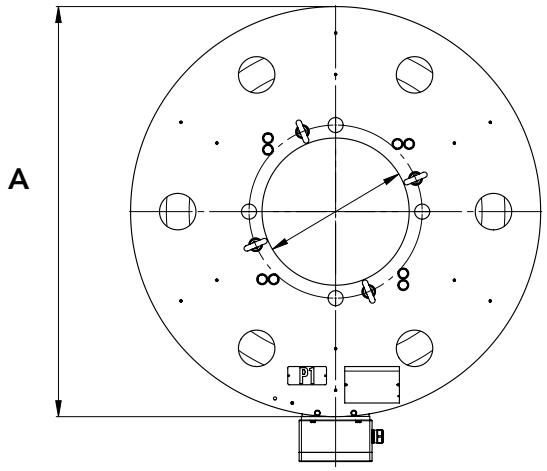
- Can be used for generator ducts
- Equipped with compensating windings to block interfering fields.
- Primary current up to 50,000 A
- Designed as a multi-core current transformer
- ATEX-certified to explosion category Ex II 3G

Advantages of the JK-GCT

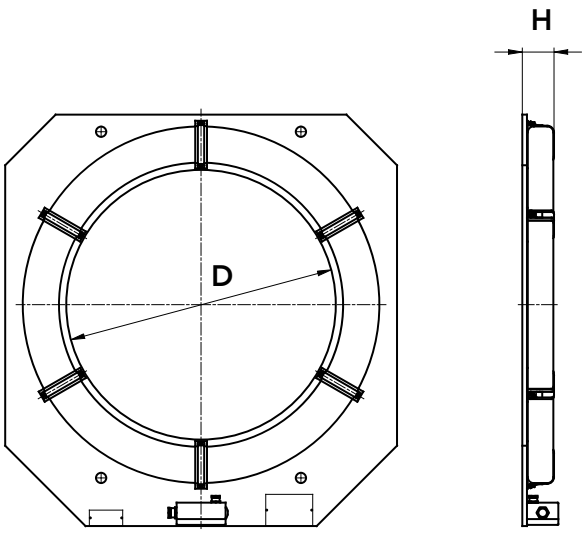
- Can be used for generator ducts
- Equipped with compensating windings to block interfering fields.
- Primary current up to 50,000 A

ALG/JK-GCT current transformer

ALG



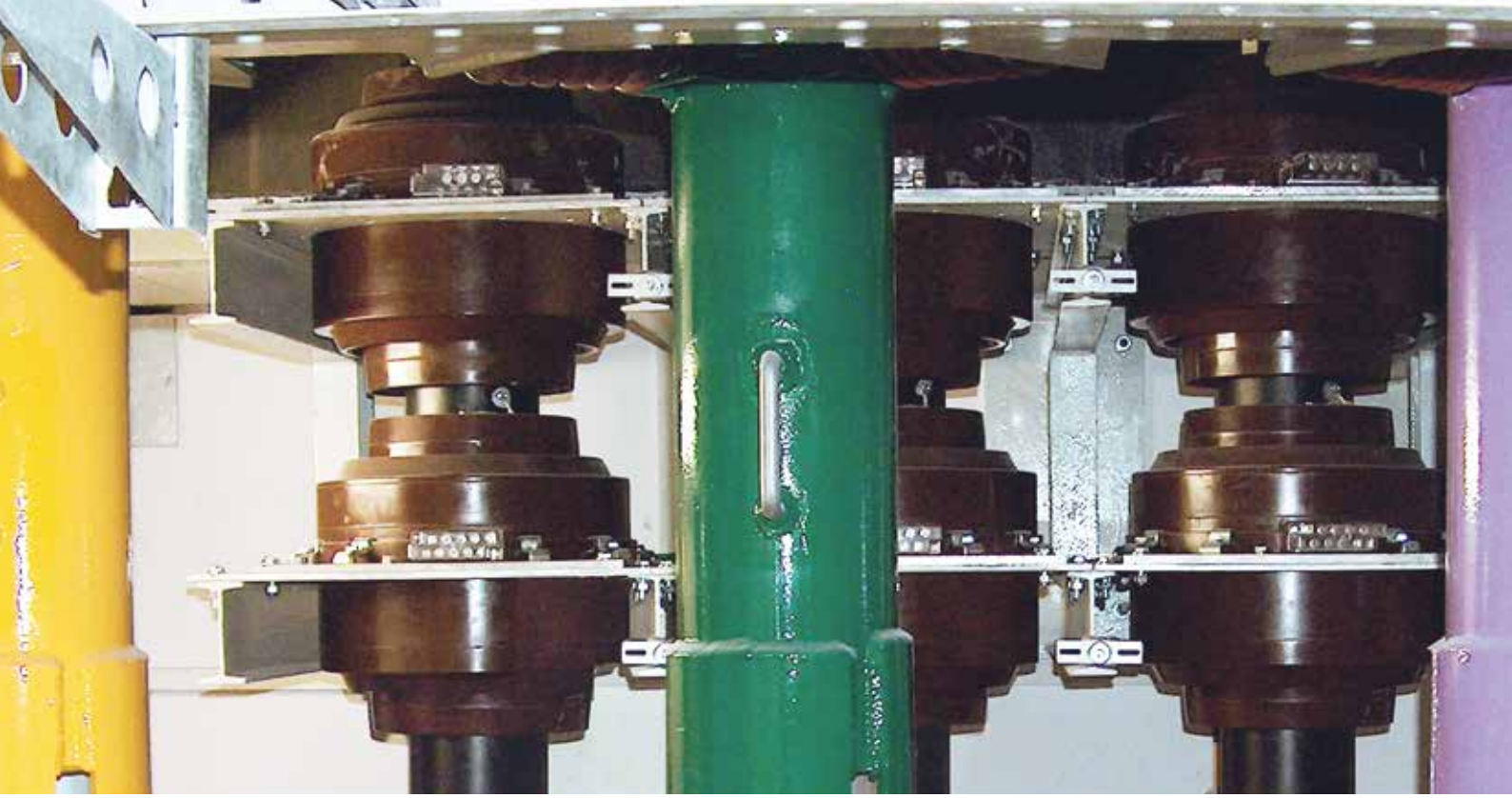
JK-GCT



Type		ALG	JK-GCT
Standard		DIN / IEC / IEEE	
Highest operating voltage	kV	0.72	
Power frequency withstand voltage	kV	3	
Frequency	Hz	16.7 / 50 / 60	
Primary rated current	A	≤ 50,000	
Secondary rated current	A	1 / 5	
Thermal short-time current rating [Ith]	kA/1s	100 x In	
Rated dynamic current [Idyn]	kA	2.5 x Ith	
Accuracy classes		0.1 – 3; 0.2S; 0.5S; P; PR; PX; PXR; TPX; TPY	
Max. number of cores		5	1

Type			ALG	JK-GCT
Transformer height	H	Mm	500	200
Internal diameter	D	Mm	according to customer requirements	
External diameter	A	Mm	according to customer requirements	

other dimensions on request



AKQ current transformer

Type AKQ current transformers are usually used in installations featuring open busbar systems. They transform high currents up to 15,000 A into standardised, equivalent values for meters, measuring equipment and protection devices.

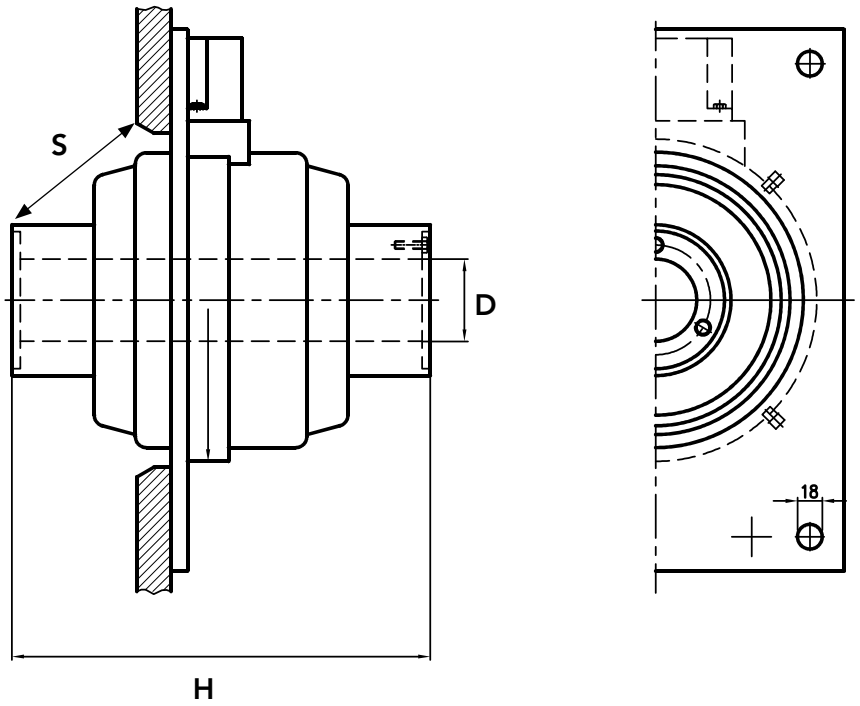
Type AKQ current transformers are available for five different voltage levels: 7.2 kV, 12 kV, 17.5 kV, 24 kV and 36 kV. Six different hole diameters – i.e. six different construction sizes – are possible for each voltage level. The active parts are cast in epoxy resin. Depending on the requirements, up to five mutually galvanically isolated cores can be fitted inside the current transformer's epoxy resin casing and used to provide protection or for measurement tasks. The insulation from the busbar voltage is implemented in the epoxy resin in the current transformer. This transformer type thus meets all the insulation conditions (BIL or TE ratings) for the relevant voltage level. The inside of the hole has an electroconductive coating that must be connected to the primary busbar potential and that ensures that the stringent requirements regarding insulating strength and partial discharge conditions are met. A mounting plate with suitable mounting holes is provided for installation in the system. If the AKQ current transformer is to be installed in custom-made mounting plates or wall openings, this type can also be supplied only with clamps and no plate. As all the active parts are dimensioned and made to order, they can be manufactured in accordance with all international, national and customer-specific standards. Protection classes for transient transmission behaviour (TPY, TPZ) are also possible.

The secondary terminals are designed as cast bushes, positioned underneath a cover. The connecting wires are fed into the terminal compartment through an opening in the cover and connected to the secondary terminals by means of a cable lug. This cover can be fitted with sealing screws if desired.

Advantages of the AKQ

- Can be used in open busbar systems
- Active parts cast in epoxy resin
- System voltages up to 36 kV
- Primary currents up to 15,000 A
- Available with mounting plate or fixing clamps

AKQ current transformer (7.2–36) kV



Type AKQ		7.2	12	17.5	24	36
Standard		DIN/IEC/IEEE				
Highest operating voltage	kV	7.2	12	17.5	24	36
Power frequency withstand voltage	kV	20	28	38	50	70
Lightning surge withstand voltage	kV	60	75	95	125	170
Frequency	Hz	16.7/50/60				
Primary rated current	A	≤15,000				
Secondary rated current	A	1/5				
Thermal short-time current rating [Ith]	kA/1s	100 x In				
Rated dynamic current [Idyn]	kA	2.5 x Ith				
Accuracy classes		0.1–3; 0.2S; 0.5S; P; PR; PX; PXR; TPX; TPY; TPZ				
Max. number of cores		5				

Type AKQ			7.2	12	17.5	24	36
Transformer size	H	Mm	≤520	≤520	≤520	≤520	≤640
Internal diameter	D	Mm	60/120/160/250/360/500				
Sparking distance	S	mm	≤90	≤125	≤175	≤220	≤320

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MV MEDIUM VOLTAGE
LV LOW VOLTAGE