

MEDIUM VOLTAGE PRODUCT

IHBF

Indoor current transformers



—
01 Non-reconnectible
transformers

—
02 Transformers with
reconnectible secondary

—
03 Primary reconnection
for IHBF 12 A; 17 A and
24 C

Technical parameters	Value
Design voltage	12 - 24 kV
Frequency	50 and 60 Hz
Maximal primary current	10 - 2 000 A
Number of core	1; 2 or 3
IHBF 12 A, 17 A and 24 C are delivered with a reconnectible primary for 2 ratios.	
Class	0.2; 0.5; 1; 5P

Description

Design voltage 12-24 kV

- The transformers can be mounted in any desired position
- The cores and windings are moulded entirely in epoxy resin
- The transformers have smooth surfaces and are adapted for installation in switchgear
- A- and C-type transformers can be provided fitted with a baseplate

In the type designation, e.g. IHBF 12 A 2-1 the number (12) signifies the design voltage in kV, the letter (A) the size and the figure (2) the number of cores. The last figure determines the type of secondary terminals and whether the transformer has a baseplate for mounting or not:

- (1) = plug-in type terminals, no baseplate
(2) = clamp type terminals and baseplate
(3) = plug-in type terminals and baseplate

Rated burden and accuracy

The transformer cores are manufactured of high-grade magnetic material. Different sizes of cores can be selected depending on the accuracy, burden and accuracy limit factor.

Standards, test voltages etc.

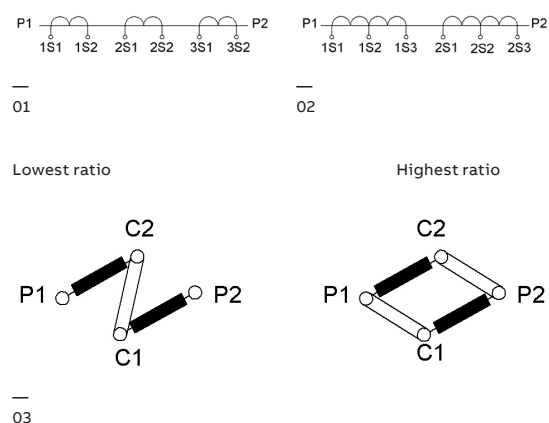
The current transformers fulfil the insulation requirements of the following standards

Type	International IEC 185	American ANSI C 57.13	Can adian CAN 3 C13	Test voltage		Maximum permissible physical force on primary terminals
	Swedish SEN 270811			Type tests		
	Design voltage	Nominal system voltage	Design voltage	Impulse 1.2/50	Dry test 50 Hz 1 min	
IHBF	kV	kV	kV	k.V/ pea	kV	kN
12	12	13.8	15	95	34	3 750
17	17.5	-	-	95	38	3 750
24	24	25	27.5	125	50	3 000

Short circuit strength

The maximum thermal short-circuit current for 1 second = 50 kA at the highest ratio. For shorter periods than 1 second, the transformers can withstand higher short-circuit currents. (The maximum thermal short-circuit current = the permissible surge current/2.5). At lower rated currents, the short circuit strength is reduced.

Diagrams



P1, P2
1S1, 1S2

2S1, 2S2
3S1, 3S2

Primary terminals
Secondary terminals for core 1
(for transformers with 1 core: S1, S2)
Secondary terminals for core 2
Secondary terminals for core 3

Summary

Type IHBF	Max. primary current [A]	Max. number of cores	Primary reconnectible
12 A	1 200	2	Yes
12 B	2 000	3	No
17 A	1 200	2	Yes
17 B	2 000	3	No
24 B	2 000	3	No
24 C	1 200	2	Yes

Selecting current transformers

When ordering, state the type designation and the Catalogue/Code number including the technical data. Current transformers are selected from the ordering tables as follows:

Insulation level

Select a transformer that has the required insulation level and the required number of cores, from the tables.

Rated current and short-time current

Select the associated rated current and short-time current from the tables.

Cores and secondary windings

These are selected from the tables. The available core space in the transformer can be divided among a number of cores. Cores of different sizes are listed in the catalogue and are marked with the percentage of the total space required by each size of core, e.g., for IHBF 12 A: 2 pcs 35 % cores or 1 pc 100% core or 1 pc 35 % + 1 pc 65 % core can be accommodated, i.e., a total of max. 100 %.

Non-catalogue listed transformers

Versions which are not covered by the catalogue can, to a certain extent, be quoted for on request. This will involve an extra charge. Full information must be provided with the enquiry. At rated primary currents that are between two tabulated values, the maximum burden will be equivalent to that for the next lower rated primary current. Additional terminals on the secondary winding for another lower ratio:

For measuring transformers, the reduction in burden is approximately proportional to the square of the rated ampere turns when the secondary rated current is unchanged. In certain cases, this may mean a lower accuracy class. In the case of relay cores, the reduction in burden is approximately

proportional to the rated ampere turns.

Ordering

When ordering, state:

- Type designation
- Primary current
- Short time current and surge current
- Standards
- Frequency
- Core 1
 - A Core size
 - B Rated secondary current (1, 2 or 5 A)
 - C Burden 1
 - D Class
 - E Burden 2 (not obligatory)
 - F Class 2 (not obligatory)
- Core 2 (compare with particulars for core 1)
- Core 3 (IHBF 12-24 B only)
 - (compare with particulars for core 1)

When required

- Fault characteristics for core no.
- Magnetisation curves for core no.
- Test certificate
- In case of a transformer without a base plate state if no secondary plug is needed. Otherwise it will automatically be delivered and charged for.

Preferred transformers for 12 and 24 kV

Technical data and ordering information

IHBF 12 and 24 kV

A selection of current transformers type IHBF are made as preferred-types which have two advantages:

1. The transformers are ready-designed and complete with documentation for the most common types to ensure a short delivery time for urgent orders.
2. Simplified ordering process with every preferred IHBF having a unique ordering code.

When ordering transformers in accordance with the following table, please state ordering code and quantity.

Ordering details

Current transformers IHBF 12 A 2 and 24 C 2
International standard IEC 60044-1
Swedish standard SEN 270811

Secondary rated current 5 A
Number of cores 2
Weight 16 and 22 kg

PREFERRED CURRENT TRANSFORMERS										Ordering code	
Rated primary current	Short circuit strength		Core S1			Core S2					
	Short-time current 1 s	Surge current	Class 0.5			Class 5P10					
[A]	[kA] r.m.s.	[kA] peak	[VA]	F _s	R _{ct} [Ω]	[VA]	R _{ct} [Ω]	U _k [V]	I _o [mA]		
100-200	25-50	100-140	10	5	0.12	10	0.14	23	150	IHBF __ - AF 17	
150-300	25-50	100-140	25	5	0.18	15	0.28	34	110	IHBF __ - AF 18	
200-400	25-50	100-140	30	5	0.24	20	0.38	46	80	IHBF __ - AF 19	
300-600	25-50	100-140	25	5	0.18	15	0.28	34	110	IHBF __ - AF 22	
400-800	25-50	100-140	30	5	0.24	20	0.38	46	80	IHBF __ - AF 24	
600-1 200	25-50	100-140	50	5	0.4	30	0.57	70	60	IHBF __ - AF 26	
			Class 0.5			Class 5P10					
[A]	[kA] r.m.s.	[kA] peak	[VA]	F _s	R _{ct} [Ω]	[VA]	R _{ct} [Ω]	U _k [V]	I _o [mA]		
100-200	25-50	100-140	10	10	0.08	10	0.14	23	150		IHBF __ - AG 17
150-300	25-50	100-140	25	10	0.2	15	0.28	34	110		IHBF __ - AG 18
200-400	25-50	100-140	30	10	0.3	20	0.38	46	80		IHBF __ - AG 19
300-600	25-50	100-140	25	10	0.2	15	0.28	34	110		IHGF __ - AG 22
400-800	25-50	100-140	30	10	0.3	20	0.38	46	80		IHBF __ - AG 24
600-1 200	25-50	100-140	50	10	0.4	30	0.57	70	60	IHBF __ - AG 26	

E.g. IHBF 12 A2-2-AF 17 specifies a transformer for a nominal voltage of 12 kV, with base plate and with ratings as detailed on the first line of the table above.

Custom designed transformers

IHBF 12 A, 17 A and 24 C

Technical data and ordering information

Ordering data for type IHBF 12 A, 17 A and 24 C

Transformers where the difference between short-time current and rated current is too large, must in these cases be loaded with a min burden which is marked on the rating plate.

Ordering details

International standards IEC
 Swedish standards SEN 270811
 Rated secondary current 1; 2 and 5 A
 Number of cores 1-2
 Mass 16 and 22 kg

Primary rated current	Short-circuit strength		(ASEA Supple- mentary number)	(Core size 35 M)								(Core size 65M)							
	Shorttime current for 1 s	Surge current		Class								Class							
				0.2		0.5		1		R _{ct} [Ω]	0.2		0.5		1		R _{ct} [Ω]		
				[VA]	F _s	[VA]	F _s	[VA]	F _s		[VA]	F _s	[VA]	F _s	[VA]	F _s			
[A]	[kA] r.m.s.	[kA] peak																	
10-20	6.3-12.5	25-50	A101					2	10	0.01					4	10	0.01		
15-30	6.3-12.5	25-50	A102					4	10	0.01					7.5	10	0.02		
20-40	6.3-12.5	25-50	A103			4	10	6	5	0.02			7.5	10	12	5	0.02		
20-40	12.5-25	50-100	A104					3	10	0.01					5	10	0.02		
25-50	6.3-12.5	25-50	A105			7.5	5	10	5	0.04			10	10	15	5	0.04		
25-50	12.5-25	50-100	A106					4	10	0.01					7.5	10	0.02		
25-50	25-50	100-140	A107					2	10	0.01					4	10	0.01		
30-60	6.3-12.5	25-50	A108	2	15	7.5	10			0.05	7.5	10	15	5			0.06		
30-60	12.5-25	50-100	A109			2.5	10	5	10	0.02			5	15	10	10	0.02		
30-60	25-50	100-140	A110					3	10	0.01					5	10	0.02		
50-100	6.3-12.5	25-50	A111	10	10	15	5			0.15	25	10	30		5		0.2		
50-100	12.5-25	50-100	A112	2	15	7.5	10			0.05	7.5	10	15				0.06		
50-100	25-50	100-140	A113			4	10	6	5	0.02			7.5	10	12	5	0.02		
75-150	12.5-25	50-100	A114	10	10	15	5			0.14	20	10	30	5			0.18		
75-150	25-50	100-140	A115	2	15	7.5	10			0.05	7.5	10	15	5			0.06		
100-200	12.5-25	50-100	A116	12	10	25	5			0.18	30	10	50	5			0.24		
100-200	25-50	100-140	A117	5	10	10	5			0.12	15	10	25	5			0.16		
150-300	25-50	100-140	A118	12	10	25	5			0.18	30	10	50	5			0.24		
200-400	25-50	100-140	A119	12	10	30	5			0.24	30	10	50	5			0.32		
250-500	25-50	100-140	A120	10	10	15	5			0.15	25	10	30	5			0.2		
250-500	25-50	100-140	A121 (1)	20	10	40	5			0.3	40	10	60	5			0.4		
300-600	25-50	100-140	A122	12	10	25	5			0.18	30	10	50	5			0.24		
300-600	25-50	100-140	A123 (1)	25	10	50	5			0.4	40	10	60	5			0.5		
400-800	25-50	100-140	A124	12	10	30	5			0.24	30	10	50	5			0.32		
500-1 000	25-50	100-140	A125 (1)	20	10	40	5			0.3	40	10	60	5			0.4		
600-1 200	25-50	100-140	A126 (1)	25	10	50	5			0.4	40	10	60	5			0.5		

(1) For rated secondary current of 5 A only.

Custom designed transformers

IHBF 12 A, 17 A and 24 C

Technical data and ordering information

The transformers are marked with the burdens and classes only for which they are ordered.

Ordering example:

IHBF 12 A 2-2; 50 Hz; 50-100 A/5/5 A;

I_{th} = 12.5-25 kA/I_{dyn} = 50-100 kA

Core 1: 4 VA; cl. 0.5; F_s = 15

Core 2: 8 VA; cl. 5P10

Standards: IEC

(ASEA Supplementary number)	(Core size 35)					(Core size 65)							(Core size 100)						
	Class					Class							Class						
	0.5		1		R _{ct} [Ω]	1		5P		R _{ct} [Ω]	U _k [V]	I _o [mA]	1		5P		R _{ct} [Ω]	U _k [V]	I _o [mA]
	[VA]	F _s	[VA]	F _s		[VA]	F _s	[VA]	ALF				[VA]	F _s	[VA]	ALF			
A101								2	10	0.02	6	480	2	30	4	10	0.03	8	480
A102			2	20	0.01	4	20	4	10	0.03	8	330	5	20	6	10	0.06	13	330
A103			4	10	0.02	7	15	5	10	0.05	11	270	10	15	7.5	10	0.08	17	270
A104						2	25	3	10	0.02	7	400	4	20	4	10	0.03	10	400
A105			7.5	10	0.05	15	10	7	10	0.06	14	240	25	10	10	10	0.1	22	240
A106			2	20	0.01	4	20	4	10	0.03	8	330	5	20	6	10	0.03	13	330
A107								2	10	0.02	6	480	2	30	4	10	0.03	8	480
A108	4	15	7.5	10	0.06	20	10	8	10	0.07	17	200	30	10	12	10	0.14	26	200
A109			4	10	0.02	5	20	5	10	0.04	10	290	8	20	7.5	10	0.07	15	290
A110						2	25	3	10	0.02	7	400	4	20	4	10	0.03	10	400
A111	15	10	30	5	0.17	60	5	12	10	0.23	29	120	90	5	15	10	0.4	43	120
A112	4	15	7.5	10	0.06	20	10	8	10	0.07	17	200	30	10	12	10	0.14	26	200
A113			4	10	0.02	7	15	5	10	0.05	11	270	10	15	7.5	10	0.08	17	270
A114	12	10	20	5	0.11	50	5	10	10	0.2	26	130	60	5	15	10	0.32	39	130
A115	4	15	7.5	10	0.06	20	10	8	10	0.07	17	200	30	10	12	10	0.14	26	200
A116	25	10	40	5	0.2	60	5	15	10	0.28	34	110	90	5	20	10	0.5	52	110
A117	10	10	20	5	0.08	40	5	10	10	0.14	23	150	60	5	12	10	0.23	35	150
A118	25	10	40	5	0.2	60	5	15	10	0.28	34	110	90	5	20	10	0.5	52	110
A119	30	10	60	5	0.3	90	5	20	10	0.38	46	80	120	5	25	10	0.65	70	80
A120	15	10	30	5	0.17	60	5	12	10	0.23	29	120	90	5	15	10	0.4	43	120
A121(1)	40	10	60	5	0.35	90	5	25	10	0.47	58	70	120	10	30	10	0.8	87	70
A122	25	10	40	5	0.2	60	5	15	10	0.28	34	110	90	5	20	10	0.5	52	110
A123(1)	50	10	90	5	0.4	90	10	30	10	0.57	70	60	120	10	40	10	1.0	100	60
A124	30	10	60	5	0.3	90	5	20	10	0.38	46	80	120	5	25	10	0.65	70	80
A125(1)	40	10	60	5	0.35	90	5	25	10	0.47	58	70	120	10	30	10	0.8	87	70
A126(1)	50	10	90	5	0.4	90	10	30	10	0.57	70	60	120	10	40	10	1.0	100	60

Custom designed transformers

IHBF 12 B and 17 B

Technical data and ordering information

The transformers are marked with the burdens and classes only for which they are ordered.

Values of U_k , I_o and R_{ct} applies to a rated secondary current of 5 A

Ordering data for types IHBF 12 B and 17 B

Short-time current 50 kA for 1 second
Surge current 140 kA
Rated secondary current 1; 2 and 5 A
Number of cores 1-3
Mass 30 kg

Rated sec. current 1 A: Multiply U_k by 5
Divide I_o by 5
Multiply R_{ct} by 25

Rated sec. current 2 A: Multiply U_k by 2.5
Divide I_o by 2.5
Multiply R_{ct} by 6.25

Rated primary current	(Core size 30 M)						(Core size 35 M)					(Core size 30)										
	Class						Class					Class										
	0.2		0.5		R _{ct} [Ω]	0.2		0.5		R _{ct} [Ω]	0.2		0.5		1		5P		R _{ct} [Ω]	U _k [V]	I _o [mA]	
	[VA]	F _s	[VA]	F _s		[VA]	F _s	[VA]	F _s		[VA]	F _s	[VA]	F _s	[VA]	ALF						
200	2	5	4	5	0.02	5	5	8	5	0.02					4	15			0.04	7	320	
200	2	5	4	5	0.02	5	5	8	5	0.02					4	15			0.04	7	320	
250	4	5	5	5	0.03	8	5	10	5	0.03			2	25	5	15			0.06	8.5	250	
300	6	5	6	5	0.04	12	5	12	5	0.06			5	15	10	10			0.07	10	210	
400	8	5	8	5	0.06	15	5	15	5	0.08			10	10	20	10	6	10	0.09	14	160	
500	8	5	8	5	0.10	20	5	20	5	0.15			12	15	20	10	8	10	0.11	17	130	
600	10	5	10	5	0.12						8	20	15	15	30	5	8	10	0.13	21	110	
750	12	5	12	5	0.15						5	15	20	10	60	5	10	10	0.18	26	100	
800	12	5	12	5	0.16						5	15	20	10	60	5	10	10	0.19	28	90	
1 000	15	5	15	5	0.20						12	10	45	5	100	5	15	10	0.24	35	80	
1 200	20	5	20	5	0.24						20	10	70	5	120	5	20	10	0.31	43	65	
1 250	20	5	20	5	0.25						20	10	70	5	120	5	20	10	0.32	44	60	
1 500											45	10	80	5	80	5	10	10	0.38	30	50	
1 600											50	5	80	5	80	5	10	10	0.40	32	45	
2 000											80	5	100	5	100	5	15	10	0.44	40	40	

U_k = Kneepoint voltage

I_o = Exciting current

R_{ct} = Secondary resistance at 75°C

Custom designed transformers

IHBF 12 B and 17 B

Technical data and ordering information

The transformers are marked with the burdens and classes only for which they are ordered.

Ordering example:

IHBF 12 B 3; 50 Hz; 600/5/5/1 A

Core 1: 10 VA cl. 0.5; F_s = 5

Core 2: 70 VA cl. 1.0; F_s = 5

Core 3: 20 VA cl. 5P10

Standards: IEC

Primary rated current	(Core size 35)							(Core size 65)							(Core size 70)						
	Class							Class							Class						
	1		5P		R _{ct} [Ω]	U _k [V]	I _o [mA]	1		5P		R _{ct} [Ω]	U _k [V]	I _o [mA]	1		5P		R _{ct} [Ω]	U _k [V]	I _o [mA]
	[VA]	F _s	[VA]	F _s				[VA]	F _s	[VA]	ALF				[VA]	F _s	[VA]	ALF			
200	4	25	5	10	0.06	14	320	6	25	7	10	0.10	21	320	9	25	10	10	0.11	28	320
250	8	20	8	10	0.07	17	250	10	20	10	10	0.13	26	250	15	20	15	10	0.14	34	250
300	10	15	10	10	0.08	20	210	15	15	10	10	0.15	30	210	25	15	20	10	0.17	40	210
400	25	10	10	10	0.11	28	160	35	10	20	10	0.20	42	160	50	10	25	10	0.22	56	160
500	45	10	15	10	0.14	34	130	60	10	25	10	0.25	51	130	90	10	35	10	0.28	68	130
600	70	5	20	10	0.17	42	110	100	5	30	10	0.30	63	110	120	10	40	10	0.34	84	110
750	120	5	25	10	0.21	52	100	120	10	40	10	0.38	78	100	120	10	50	10	0.42	100	100
800	120	5	25	10	0.22	56	90	120	10	40	10	0.40	84	90	120	10	50	10	0.45	110	90
1 000	120	5	35	10	0.28	70	80	120	10	50	10	0.50	105	80	120	10	70	10	0.56	140	80
1 200	120	10	45	10	0.34	86	65	120	10	60	10	0.60	130	65	120	15	90	10	0.67	175	65
1 250	120	10	45	10	0.35	88	60	120	10	60	10	0.63	132	60	120	15	90	10	0.70	180	60
1 500	120	5	25	10	0.38	60	50	120	10	40	10	0.65	90	50	120	10	50	10	0.75	120	50
1 600	120	5	30	10	0.40	64	45	120	10	40	10	0.70	96	45	120	10	60	10	0.80	130	45
2 000	120	10	35	10	0.50	80	40	120	10	50	10	0.85	120	40	120	10	70	10	1.0	160	40

Custom designed transformers

IHBF 24 B

Technical data and ordering information

Ordering data for type IHBF 24 B

International standards	IEC
Swedish standards	SEN 270811
Short-time current	50 kA for 1 second
Surge current	140 kA
Rated secondary current	1; 2 and 5 A
Number of cores	1-3
Mass	32 kg

Values of U_k , I_o and R_{ct} applies to a rated secondary current of 5 A

Rated sec. current 1 A: Multiply U_k by 5
 Divide I_o by 5
 Multiply R_{ct} by 25

Rated sec. current 2 A: Multiply U_k by 2.5
 Divide I_o by 2.5
 Multiply R_{ct} by 6.25

Rated primary current	(Core size 30 M)					(Core size 35 M)					(Core size 30)										
	Class					Class					Class										
	0.2		0.5		R _{ct} [Ω]	0.2		0.5		R _{ct} [Ω]	0.2		0.5		1		5P		R _{ct} [Ω]	U _k [V]	I _o [mA]
	[VA]	F _s	[VA]	F _s		[VA]	F _s	[VA]	F _s		[VA]	F _s	[VA]	F _s	[VA]	ALF					
[A]	[VA]	F _s	[VA]	F _s		[VA]	F _s	[VA]	F _s		[VA]	F _s	[VA]	F _s	[VA]	F _s	[VA]	ALF			
200	2	5	4	5	0.02	5	5	8	5	0.02					4	15			0.04	7	320
200	2	5	4	5	0.02	5	5	8	5	0.02					4	15			0.04	7	320
250	4	5	5	5	0.03	8	5	10	5	0.03			2	25	5	15			0.06	8.5	250
300	6	5	6	5	0.04	12	5	12	5	0.06			5	15	10	10			0.07	10	210
400	8	5	8	5	0.06	15	5	15	5	0.08			10	10	20	10	6	10	0.09	14	160
500	8	5	8	5	0.10	20	5	20	5	0.15			12	15	20	10	8	10	0.11	17	130
600	10	5	10	5	0.12						8	20	15	15	30	5	8	10	0.13	21	110
750	12	5	12	5	0.15						5	15	20	10	60	5	10	10	0.18	26	100
800	12	5	12	5	0.16						5	15	20	10	60	5	10	10	0.19	28	90
1 000	15	5	15	5	0.20						12	10	45	5	100	5	15	10	0.24	35	80
1 200	20	5	20	5	0.24						20	10	70	5	120	5	20	10	0.31	43	65
1 250	20	5	20	5	0.25						20	10	70	5	120	5	20	10	0.32	44	60
1 500											45	10	80	5	80	5	10	10	0.38	30	50
1 600											50	5	80	5	80	5	10	10	0.40	32	45
2 000											80	5	100	5	100	5	15	10	0.44	40	40

U_k = Kneepoint voltage

I_o = Exciting current

R_{ct} = Secondary resistance at 75°C

Custom designed transformers

IHBF 12 B and 17 B

Technical data and ordering information

The transformers are marked with the burdens and classes only for which they are ordered.

Primary rated current	(Core size 35)							(Core size 65)							(Core size 70)						
	Class							Class							Class						
	1		5P		R _{ct} [Ω]	U _k [V]	I _o [mA]	1		5P		R _{ct} [Ω]	U _k [V]	I _o [mA]	1		5P		R _{ct} [Ω]	U _k [V]	I _o [mA]
[A]	[VA]	F _s	[VA]	F _s				[VA]	F _s	[VA]	ALF				[VA]	F _s	[VA]	ALF			
200	4	25	5	10	0.06	14	320	6	25	7	10	0.10	21	320	9	25	10	10	0.11	28	320
250	8	20	8	10	0.07	17	250	10	20	10	10	0.13	26	250	15	20	15	10	0.14	34	250
300	10	15	10	10	0.08	20	210	15	15	10	10	0.15	30	210	25	15	20	10	0.17	40	210
400	25	10	10	10	0.11	28	160	35	10	20	10	0.20	42	160	50	10	25	10	0.22	56	160
500	45	10	15	10	0.14	34	130	60	10	25	10	0.25	51	130	90	10	35	10	0.28	68	130
600	70	5	20	10	0.17	42	110	100	5	30	10	0.30	63	110	120	10	40	10	0.34	84	110
750	120	5	25	10	0.21	52	100	120	10	40	10	0.38	78	100	120	10	50	10	0.42	100	100
800	120	5	25	10	0.22	56	90	120	10	40	10	0.40	84	90	120	10	50	10	0.45	110	90
1 000	120	5	35	10	0.28	70	80	120	10	50	10	0.50	105	80	120	10	70	10	0.56	140	80
1 200	120	10	45	10	0.34	86	65	120	10	60	10	0.60	130	65	120	15	90	10	0.7	175	65
1 250	120	10	45	10	0.35	88	60	120	10	60	10	0.63	132	60	120	15	90	10	0.70	180	60
1 500	120	5	25	10	0.38	60	50	120	10	40	10	0.65	90	50	120	10	50	10	0.75	120	50
1 600	120	5	30	10	0.40	64	45	120	10	40	10	0.70	96	45	120	10	60	10	0.80	130	45
2 000	120	10	35	10	0.50	80	40	120	10	50	10	0.85	120	40	120	10	70	10	1.0	160	74

Custom designed transformers

IHBF 12 A and 24 C

Technical data and ordering information

The transformers are marked with the burdens and classes only for which they are ordered.

Ordering data for type IHBF 12 A and 24 C

American standards	ANSI C57.13
Canadian standards	CAN3-C13
Rated secondary current	5 A
Number of cores	1-2
Mass	16 and 22 kg

Ordering example:

IHBF 12 A 2-2; 60 Hz; 50-100 A/5/5 A;
 I_{th} = 12.5-25 kA; I_{dyn} = 50-100 kA
 Core 1: B 0.2; cl. 0.3
 Core 2: B 0.9 cl. 1.1
 Standards: ANSI

Primary rated current	Short-circuit strength		(ASEA Supple- mentary number)	(Core size 35 M)			(Core size 65M)			(Core size 35)		(Core size 65)		(Core size 100)	
	Shorttime current for 1 s	Surge current		Class			Class								
				0.3	0.6	1.2	0.3	0.6	1.2	0.6	1.2	1.1	C, 2.5L (2)	1.2	C,2 -5L (2)
[A]	[kA] r.m.s.	[kA] peak		Burden	Burden	Burden	Burden	Burden	Burden	Burden	Burden	[V]	Burden	[V]	
10-20	6.3-12.5	25-50	A101			B0.1			B0.2		B0.1	B0.2	5	B0.2	10
15-30	6.3-12.5	25-50	A102			B0.1			B0.2		B0.1	B0.2	10	B0.2	10
20-40	6.3-12.5	25-50	A103		B0.2			B0.2			B0.2	B0.2	10	B0.5	15
20-40	12.5-25	50-100	A104			B0.1			B0.2		B0.1	B0.2	5	B0.2	10
25-50	6.3-12.5	25-50	A105		B0.2			B0.2			B0.2	B0.5	15	B0.9	20
25-50	12.5-25	50-100	A106			B0.1			B0.2		B0.1	B0.2	10	B0.2	10
25-50	25-50	100-140	A107			B0.1			B0.2		B0.1	B0.2	5	B0.2	10
30-60	6.3-12.5	25-50	A108	B0.2	B0.2		B0.2	B0.5		B0.2	B0.5	B0.9	15	B0.9	25
30-60	12.5-25	50-100	A109			B0.1			B0.2		B0.1	B0.2	10	B0.2	10
30-60	25-50	100-140	A110			B0.1			B0.2		B0.1	B0.2	5	B0.2	10
50-100	6.3-12.5	25-50	A111	B0.5	B0.9		B0.9	B0.9		B0.9	B0.9	B1.8	20	B1.8	25
50-100	12.5-25	50-100	A112	B0.2	B0.2		B0.2	B0.5		B0.2	B0.5	B0.9	15	B0.9	25
50-100	25-50	100-140	A113		B0.2			B0.2			B0.2	B0.2	10	B0.5	15
75-150	12.5-25	50-100	A114	B0.2	B0.5		B0.5	B0.9		B0.5	B0.9	B1.8	20	B1.8	25
75-150	25-50	100-140	A115	B0.2	B0.2		B0.5	B0.5		B0.2	B0.5	B0.9	15	B0.9	25
100-200	12.5-25	50-100	A116	B0.5	B0.9		B0.9	B0.9		B0.9	B1.8	B1.8	20	B1.8	30
100-200	25-50	100-140	A117	B0.2	B0.5		B0.5	B0.9		B0.5	B0.5	B1.8	20	B1.8	25
150-300	25-50	100-140	A118	B0.5	B0.9		B0.9	B0.9		B0.9	B1.8	B1.8	20	B1.8	30
200-400	25-50	100-140	A119	B0.5	B0.9		B0.9	B1.8		B0.9	B1.8	B1.8	30	B1.8	40
250-500	25-50	100-140	A120	B0.5	B0.9		B0.9	B0.9		B0.9	B0.9	B1.8	20	B1.8	25
250-500	25-50	100-140	A121 (1)	B0.5	B0.9		B0.9	B1.8		B0.9	B1.8	B1.8	40	B1.8	50
300-600	25-50	100-140	A122	B0.5	B0.9		B0.9	B0.9		B0.9	B1.8	B1.8	20	B1.8	30
300-600	25-50	100-140	A123 (1)	B0.9	B1.8		B1.8	B1.8		B1.8	B1.8	B1.8	45	B1.8	60
400-800	25-50	100-140	A124	B0.5	B0.9		B0.9	B1.8		B0.9	B1.8	B1.8	30	B1.8	40
500-1 000	25-50	100-140	A125 (1)	B0.5	B0.9		B0.9	B1.8		B0.9	B1.8	B1.8	40	B1.8	50
600-1 200	25-50	100-140	A126 (1)	B0.9	B1.8		B1.8	B1.8		B1.8	B1.8	B1.8	45	B1.8	60

(1) For rated secondary current of 5 A only.

(2) Class C according to ANSI C57.13 and class 2.5L according to CAN 3-C13.

Transformers where the difference between short-time current and rated current is too large, must in these cases be loaded with a min burden which is marked on the rating plate.

Custom designed transformers

IHBF 12 B

Technical data and ordering information

Ordering data for type IHBF 12 B

Short -time current	50 kA for 1 second
Surge current	140 kA
Rated secondary current	5 A
Number of cores	1-3
Mass	30 kg

Ordering example:

IHBF 12 B 3; 60 Hz; 600/5/5/1 A	
Core 1:	B 0.5 cl. 0.3
Core 2:	B 1.8 cl. 1.2
Core 3:	B 1.8 cl. 1.2
Standards:	ANSI

Primary rated current	(Core size 30M)		(Core size 35 M)		(Core size 30)				(Core size 35)		(Core size 65)		(Core size 70)	
	Class		Class		Class				Class		Class		Class	
	0.3	0.6	0.3	0.6	0.3	0.6	1.2	C2.5L (2)	1.2	C, 2.5L (2)	1.2	C, 2.5L (2)	1.2	C, 2.5L (2)
[A]	Burden	Burden	Burden	[V]	Burden	Burden	Burden	[V]	Burden	[V]	Burden	Volt	Burden	[V]
200	B0.1	B0.2	B0.2	B0.5			B01		B0.2	10	B0.5	20	B0.5	20
250	B0.2	B0.2	B0.5	B0.5		B0.1	B0.2		B0.5	10	B0.9	20	B0.9	20
300	B0.2	B0.2	B0.5	B0.5		B0.2	B0.5		B0.9	20	B0.9	20	B1.8	20
400	B0.2	B0.2	B0.9	B0.9		B0.5	B0.9	10	B1.8	20	B1.8	20	B1.8	50
500	B0.5	B0.5	B0.9	B0.9		B0.9	B1.8	10	B1.8	20	B1.8	50	B1.8	50
600	B0.5	B0.5			B0.5	B0.9		10	B1.8	20	B1.8	50	B1.8	100
750	B0.5	B0.5			B0.5	B0.9		20	B1.8	50	B1.8	50	B1.8	100
800	B0.5	B0.5			B0.5	B0.9		20	B1.8	50	B1.8	50	B1.8	100
1 000	B0.9	B0.9			B0.9	B1.8		20	B1.8	50	B1.8	100	B1.8	100
1 200	B0.9	B0.9			B1.8	B1.8		20	B1.8	100	B1.8	100	B1.8	200
1 250	B0.9	B0.9			B1.8	B1.8		20	B1.8	100	B1.8	100	B1.8	200
1 500					B1.8	B1.8		10	B1.8	50	B1.8	50	B1.8	100
1 600					B1.8	B1.8		10	B1.8	50	B1.8	50	B1.8	100
2 000					B1.8	B1.8		10	B1.8	50	B1.8	100	B1.8	100

(1) For rated secondary current of 5 A only.

(2) Class C according to ANSI C57.13 and class .5L according to CAN 3-C13.

Transformers where the difference between short-time current and rated current is too large, must in these cases be loaded with a min burden which is marked on the rating plate.

Custom designed transformers

IHBF 24 B

Technical data and ordering information

Ordering data for type IHBF 24 B

American standards	ANSI C57.13
Canadian standards	CAN3-C13
Short-time current	50 kA for 1 second
Surge current	140 kA
Rated secondary current	5 A
Number of cores	1-3
Mass	32 kg

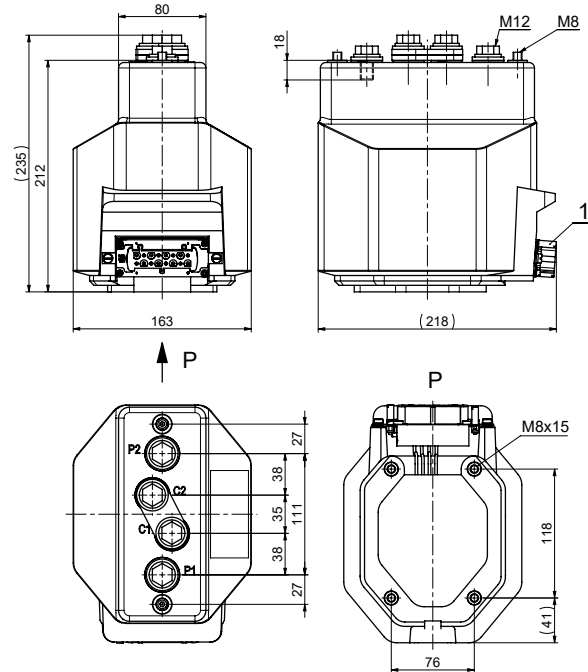
Primary rated current	(Core size 30M)		(Core size 35 M)		(Core size 30)				(Core size 35)		(Core size 65)		(Core size 70)	
	Class		Class		Class				Class		Class		Class	
	0.3	0.6	0.3	0.6	0.3	0.6	1.2	C2.5L (1)	1.2	C, 2.5L (1)	1.2	C, 2.5L (1)	1.2	C, 2.5L (1)
[A]	Burden	Burden	Burden	[V]	Burden	Burden	Burden	[V]	Burden	[V]	Burden	[V]	Burden	[V]
200	B0.1	B0.2	B0.2	B0.5			B01		B0.2	10	B0.5	20	B0.5	20
250	B0.2	B0.2	B0.5	B0.5		B0.1	B0.2		B0.5	10	B0.9	20	B0.9	20
300	B0.2	B0.2	B0.5	B0.5		B0.2	B0.5		B0.9	20	B0.9	20	B1.8	20
400	B0.2	B0.2	B0.9	B0.9		B0.5	B0.9	10	B1.8	20	B1.8	20	B1.8	50
500	B0.5	B0.5	B0.9	B0.9		B0.9	B1.8	10	B1.8	20	B1.8	50	B1.8	100
600	B0.5	B0.5			B0.5	B0.9		10	B1.8	20	B1.8	50	B1.8	100
750	B0.5	B0.5			B0.5	B0.9		20	B1.8	50	B1.8	50	B1.8	100
800	B0.5	B0.5			B0.5	B0.9		20	B1.8	50	B1.8	50	B1.8	100
1 000	B0.9	B0.9			B0.9	B1.8		20	B1.8	50	B1.8	100	B1.8	100
1 200	B0.9	B0.9			B1.8	B1.8		20	B1.8	100	B1.8	100	B1.8	200
1 250	B0.9	B0.9			B1.8	B1.8		20	B1.8	100	B1.8	100	B1.8	200
1 500					B1.8	B1.8		10	B1.8	50	B1.8	50	B1.8	100
1 600					B1.8	B1.8		10	B1.8	50	B1.8	50	B1.8	100
2 000					B1.8	B1.8		10	B1.8	50	B1.8	100	B1.8	100

(1) Class C according to ANSI C57.13 and class 2.5L according to CAN 3-C13.

Transformers where the difference between short-time current and rated current is too large, must in these cases be loaded with a min burden which is marked on the rating plate.

Dimensional Drawings

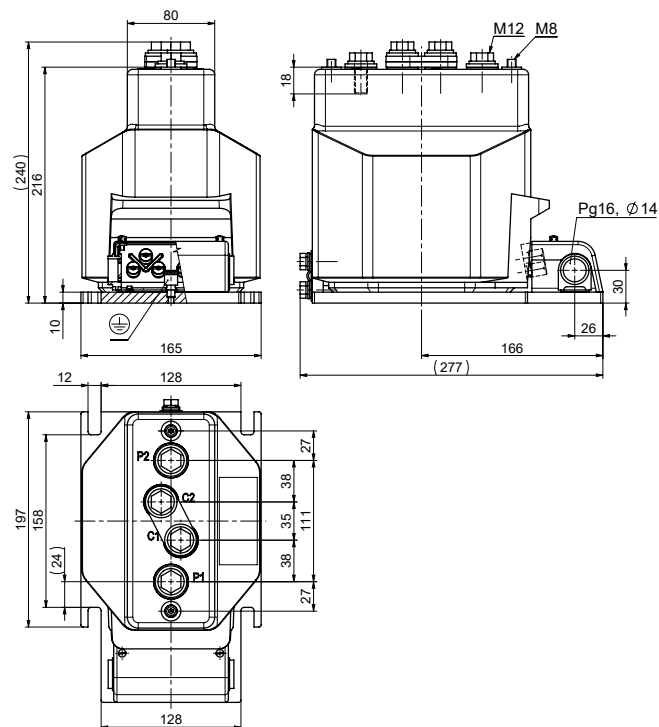
IHBF 12(17) A11
IHBF 12(17) A21



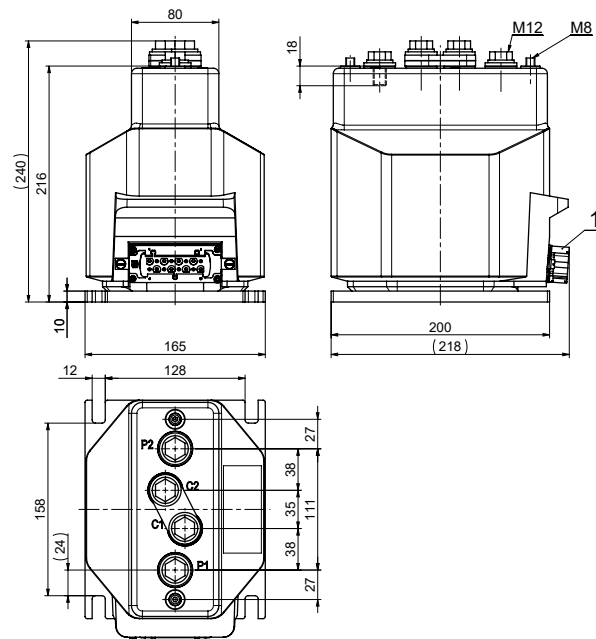
1. Plug-in contact

Weight: 14 kg
Creepage distance: 205 mm

IHBF 12(17) A12
IHBF 12(17) A22



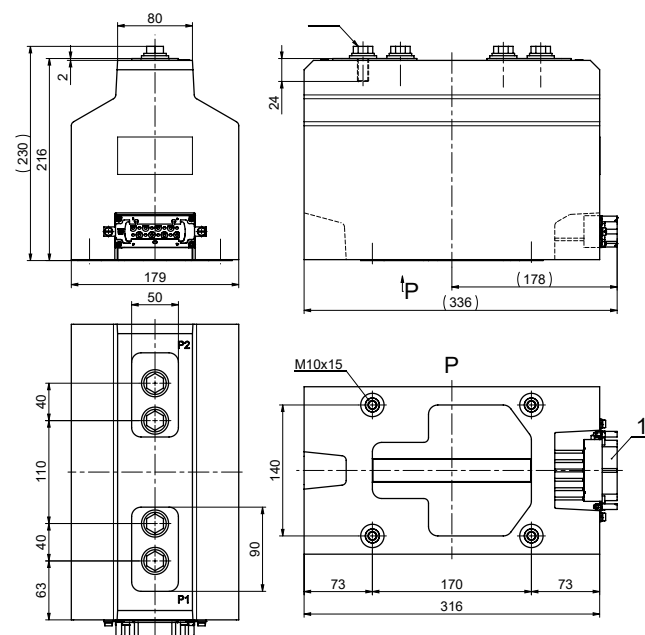
Weight: 16 kg
Creepage distance: 165 mm

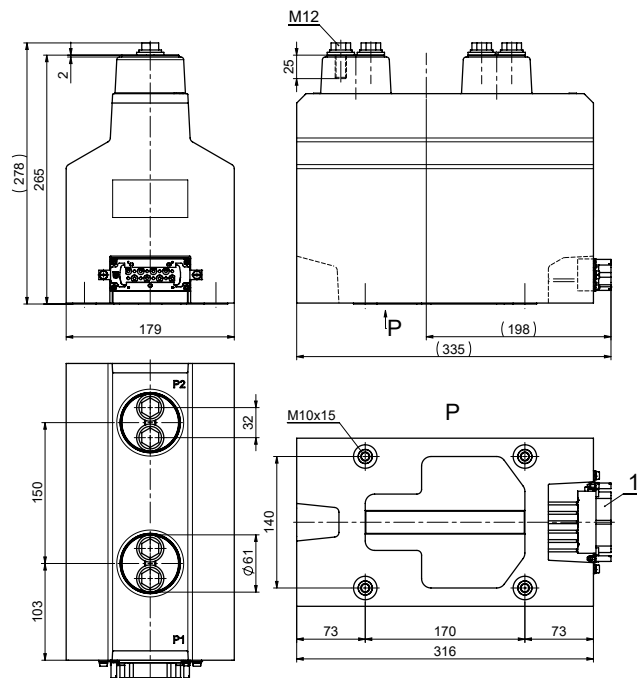


1. Plug-in contact

IHBF 12(17) B

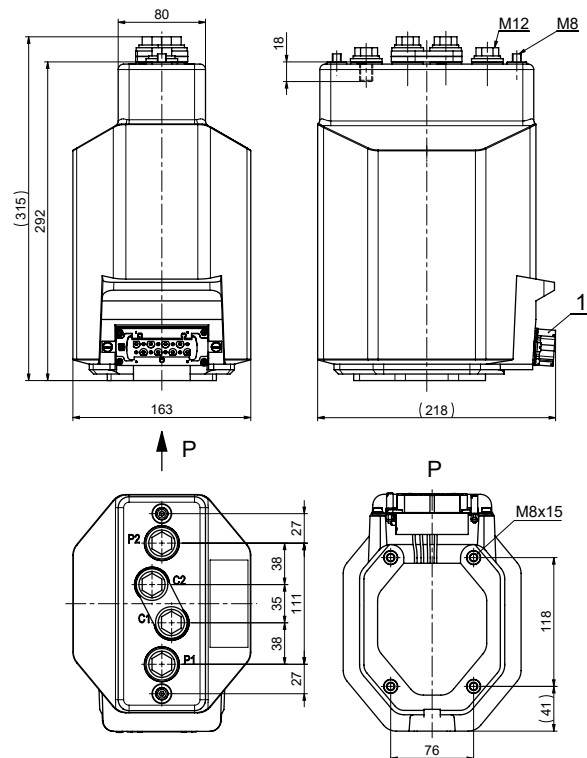
Weight: 30 kg



IHBF 24 B


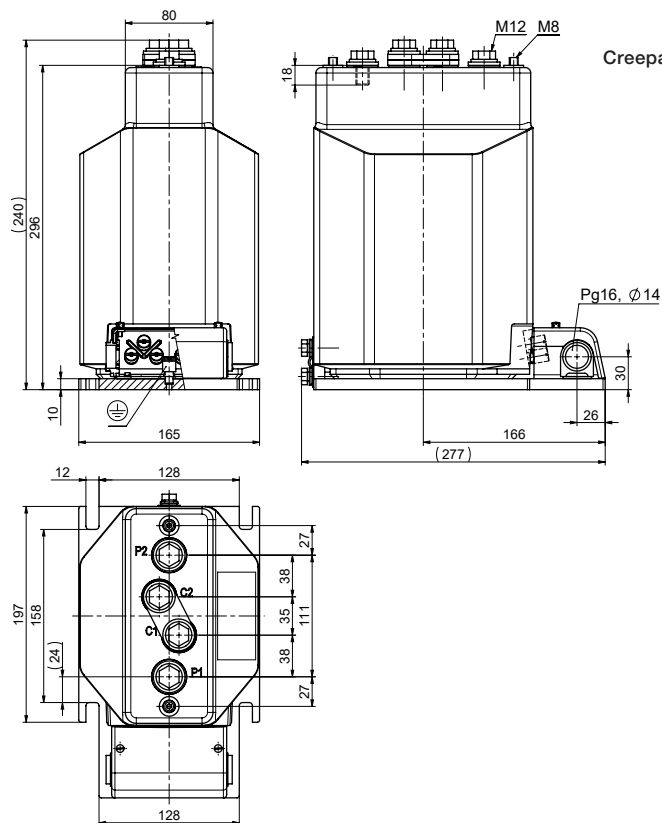
Weight: 32 kg

1. Plug-in contact

IHBF 24 C11
IHBF 24 C21
Weight: 20 kg
Creepage distance: 285 mm

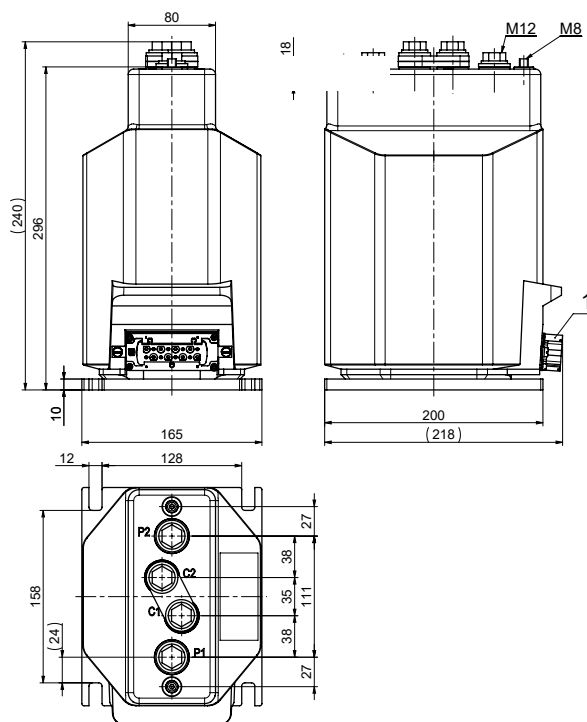
1. Plug-in contact

IHBF 24 C12
IHBF 24 C22



Weight: 22 kg
 Creepage distance: 245 mm

IHBF 24 C13
IHBF 24 C23



Weight: 21 kg
 Creepage distance: 285 mm

1. Plug-in contact

Secondary terminals

Accessories

Plug-in contact without protective shroud

- max. number of terminals:
 - 6 for IHBF 12 A and 24 C
 - 9 for IHBF 12 B and 24 B



Terminal box with

- two entrance holes for 22.5 mm threaded steel conduit
- clamp terminal for a cross-sectional area of max. 6 mm²
- max number of terminals
 - 6 for IHBF 12 A and 24 C



Earthing clamp

- in secondary terminal box, for a cross-sectional area of max. 6 mm²
- on the baseplate, for max. 15 mm diameter or square conductor

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