



# Transz vill Zrt.

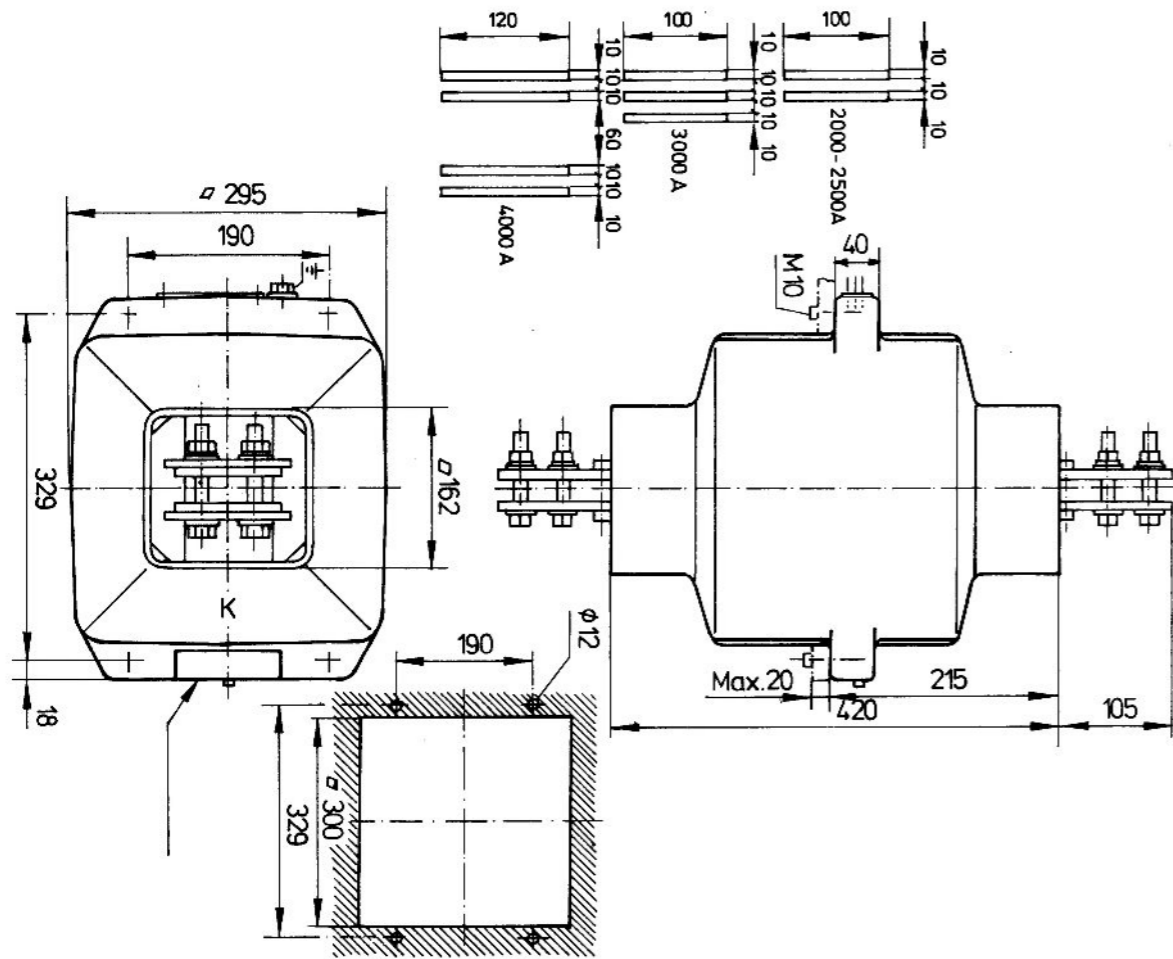
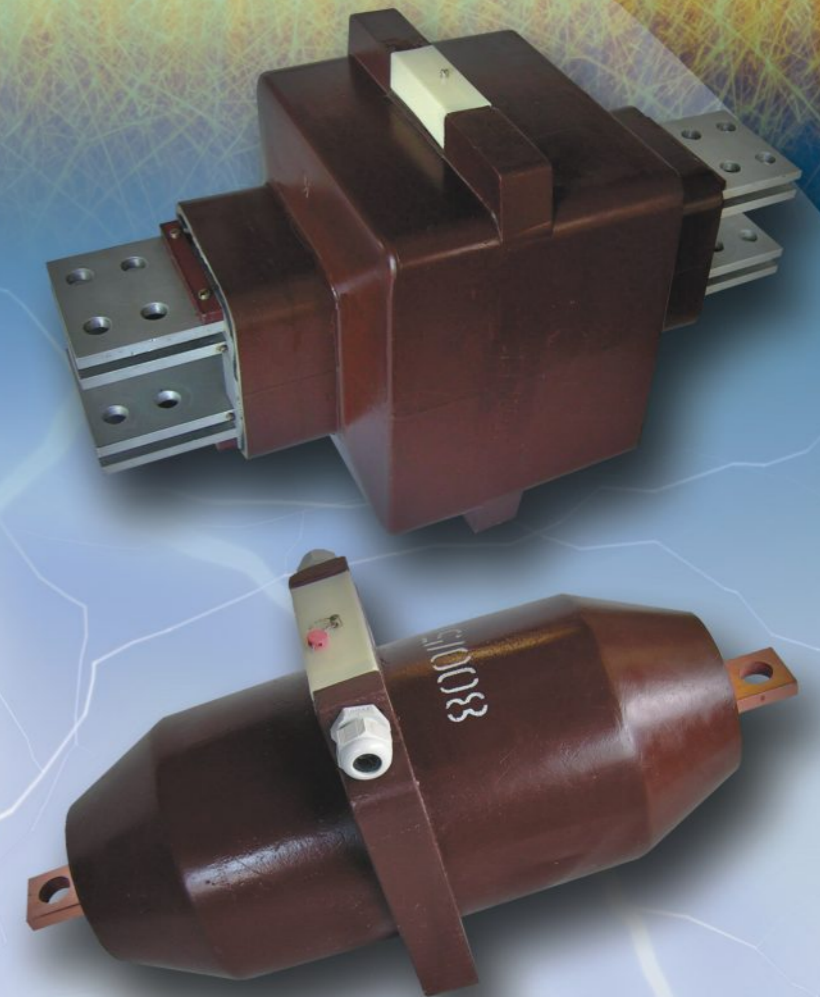


Fig 2  
ARM-10d; ARM-20d outline drawing



# ARM

Bar/bushing type, synthetic resin insulated indoor current transformer range for 12, 24kV highest voltage for equipment. Types: ARM-10a,b,c,d; ARM-20a,b,c,d;

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## TYPE MARKING

The letters and numerals applied in type marking have the following meanings:

A	current transformer,
R	bar type transformer (bushing transformer),
M	synthetic resin insulated,
10,20	number referring to the highest voltage for equipment,
a,b,c,d	dimensional markings, depending on the accuracy class, output and the rated primary current.

## GENERAL DESCRIPTION

The current transformers type ARM-10a,b,c, ARM-20a,b, are produced for 300-2000A, and the types ARM-10d, ARM-20d for 2000-4000A rated currents. The current transformers comply with the specifications of MSZ EN 60044-1 and EN 60044-1 standards. It is also possible to produce according to other standards, differing from the afore-mentioned. The current transformers produced in serial production, can be applied indoor under moderate climate condition (N), but on request can be produced in finish suitable for tropical use too. These types are produced in single, double and triple core, synthetic resin insulated, bushing type (in case of types ARM-10d, ARM-20d bushing/bartype) design. The material of the primary and secondary windings is copper, except the types ARM-10d, ARM-20d where the primary is aluminium bar. The primary terminal is flat copper or aluminium bar, the secondary winding is connected to threaded blocks embedded in the synthetic resin body. The secondary terminal can be closed and sealed by means of a plastic cover. The connecting wires can be lead to the terminals through a PM16 gland (on types ARM-10d, ARM-20d through an opening located beside the plastic cover). The gland can be screwed in either on the left or on the right side depending on the requirement. The hole on the side without gland is closed with a screw plug. Upon request the current transformers can be manufactured with secondary change over too (e.g.: ARM-20b 1000-2000/5A, 15VA, Accuracy class 0.5, Fs5-10 or in case of a protective core 5P10-5P20).

## PACKING, DELIVERY

The current transformer is delivered in a finish suitable for use under normal climatic conditions, packed in corrugated paper box, but upon agreement also in packing fit for marine or aerial transport.

## STORAGE

In case of a long-term storage, it is practical, to keep the current transformer indoor, in a covered, well ventilated room (storage temperature: +5 °C, +40 °C).

## INSTALLATION, PUTTING INTO OPERATION, OPERATION

Before installation the current transformer has to be checked in order to discover on the surface, or on the terminals any possible damages occurred during the transportation or the storage. In case of any damages further investigation is necessary.

The synthetic resin insulated bar type current transformers except the types ARM-10d, ARM-20d can be mounted in any position. The size of the necessary cut out at the site of the passage can be found on the figure placed beside the outline drawing. The wall thickness at the site of the passage cannot be more than it is given in the technical table, otherwise the arcing distance decreases under the permitted value. In case of a larger wall thickness the size of the cut out is to be chosen so, that the arcing distance given in the technical table all over could be kept. The secondary wires are to be arranged so that the arcing distance must not be decreased by them. One point of the secondary windings has to be earthed (system earthing).

We suggest the use of rubber washers by fastening of the current transformer. When connecting the primary busbar, care should be taken in order, that the end of the busbar must not near to the synthetic resin body less than 5 mm. At types ARM-10d, ARM-20d, in case of a slipover design depending on the size and arrangement of the connecting busbar, a busbar arranging block belongs to the current transformers. The busbars can be centralized by this blocks. The current transformer and the busbar arranging block are to fasten by means of 2-2 clamp plates. The clamp plate is to be mounted on the busbar so that it should be stretched tightly to the busbar arranging blocks. The clamp plate can be fastened either by means of thread cut into the busbar or with bolt and nut. Application of iron components at 4000 A primary current, causes harmful overheating.

The operation is possible keeping the prescriptions of the relevant security-, labour- and property-protection directives. Any faults and breakdowns emerging in the customer's sphere of interest due to breaching, disobeying the afore-mentioned, exempt the manufacturer from the warranty and guarantee liabilities.

## MAINTENANCE

The maintenance consists of works to be done according to the general rules for indoor instruments and discontinuing of the accidental irregularities. These are:

- periodical inspection of the contamination and cleaning, depending on the degree of impurity,
- inspection of the surfaces,
- periodical tightening of the bolts of the primary and secondary connections,
- controlling of the fixedness of the clamp plate,
- periodical tightening of the fastening screws.



## STATE VERIFICATION

The secondary windings of the current transformers in class 0.5 are manufactured in finish suitable for verification. The verification will be made only on special request, in this case the verification will be accomplished and documented by an official seal or an affixed verification stamp, by the National Office for Measures.

## DATA TO BE SUBMITTED WITH THE ORDER

- type (e.g. ARM-10b),
- rated insulation level (e.g. 12/28/75 kV),
- rated primary and secondary currents (e.g. 1000/5A),
- accuracy class, output and instrument security factor or accuracy limit factor of the secondary windings. (e.g. class 0.5, 15 VA, Fs5 or 15 VA 10P10),
- size and arrangement of the busbar (in case of ARM-10d, ARM-20d)
- quantity,
- requested term of delivery.

## OTHER OR SPECIAL REQUIREMENTS

- climatic zone of use other than normal,
- surface protection of primary terminals,
- application on busbar (in case of ARM-10d, ARM-20d),
- language of the rating plate,
- packing,
- number of pieces and sort of the documentation to be attached.

## WARRANTY PERIOD, GUARANTEE

The warranty period is 12 months and otherwise it can also be established upon the mutual agreement of the parties respectively.

## TECHNICAL DATA

Type	ARM-10				ARM-20					
	a	b	c	d	a	b	c	d		
Highest voltage for equipment [kV]	12				24					
Power frequency withstand voltage (r.m.s) [kV]	28				50					
Rated lightning impulse withstand voltage (peak) [kV]	75				125					
Rated frequency [Hz]					50					
Rated primary currents (I <sub>pn</sub> ) [A]	300-800	1000-2000	300-800	2000-4000	300-800	1000-2000	300-800	2000-4000		
Rated secondary current (I <sub>sn</sub> ) [A]					5 or 1					
Rated continuous thermal current [A]					I <sub>ctn</sub> = 1,2 I <sub>pn</sub>					
Rated short time thermal current (I <sub>th</sub> )					100 x I <sub>pn</sub> (kA r.m.s. 1 sec), but max. 50 kA r.m.s. 1 se					
Rated dynamic current					I <sub>dyn</sub> = 2,5 x I <sub>th</sub> , not be higher than 120 kA peak					
Accuracy class, output	0,5 1 5P, 10P		5-45 VA (in case of I <sub>pn</sub> =4000 A it may be 120 VA) 5-60 VA (in case of I <sub>pn</sub> =4000 A it may be 120 VA) 5-60 VA (in case of I <sub>pn</sub> =4000 A it may be 120 VA)							
Instrument security factor (Fs)					Fs5-Fs20					
Accuracy limit factor (np)					5P5-5P20 or 10P5-10P20					
Number of cores					1, 2 and 3 cores (ARM10d-ARM20d 4 cores)					
Class of insulation					B					
Climatic zone of use					According to the order					
Wall thickness at the place of the passage opening [mm] (max. value)	6		20		6		20			
Phase distance at the thermal and dynamic tests [mm]	245		500		310		500			
Arcing distance [mm]	125				180					
Mass (depending on the size) [kg]	7,6	17,5	19	41+ guide	10	25	25	41+ guide		
Dimensions [mm]	Fig1.			Fig2. bus bar	Fig1.			Fig2. bus bar		

### Remark:

The afore-mentioned technical data (minimal and maximal values) can be interpreted exclusively in themselves. The possibilities of the mounting in the required type of equipment, or the implementation, are determined by the complex interpretation of the given technical data. The installation of the device in electrical network therefore needs a previous check up. For this reason, please contact us by means of any modes given in our technical publications.



Type	a [mm]	b [mm]	c [mm]	d [mm]	e [mm]	Ø f [mm]	g [mm]
ARM-10a	270	140	177	146	112	130	22
ARM-10b	297	198	231	156	156	194	36
ARM-10c	297	198	231	156	156	194	36
ARM-20a	374	140	177	198	112	130	30
ARM-20b	410	200	233	215	158	194	30
ARM-20c	410	200	233	215	158	194	30

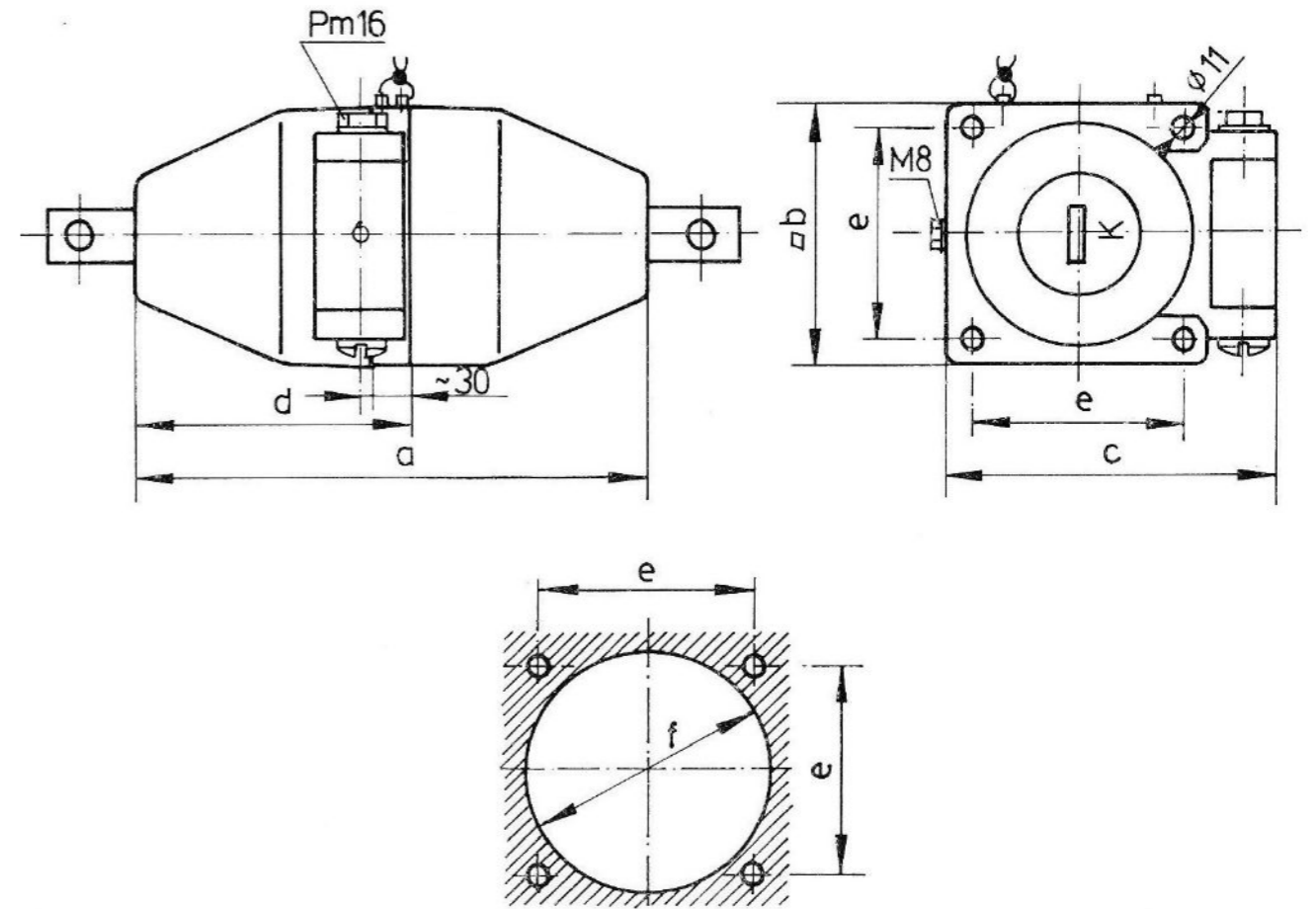


Fig 1a ARM-10a,b,c; ARM-20a,b,c; outline drawing

Type	Primary current [A]	A [mm]	B [mm]	C [mm]	ØD [mm]	E [mm]	F [mm]	Remark
ARM-10a,c ARM-20a,c	300	30	38*, 50**	8	13	15	-	* in case of „a” dimensional marking ** in case of „c” dimensional marking
	400-500	40	48*, 60**	10	17	20		
	600-800			12	21			
ARM-10b ARM-20b	1000	57	65	10	18	17	26	* in case of ARM-10b
	1250-1500	68	97*, 100**	14		20	50	** in case of ARM-20b
	2000	63		20				

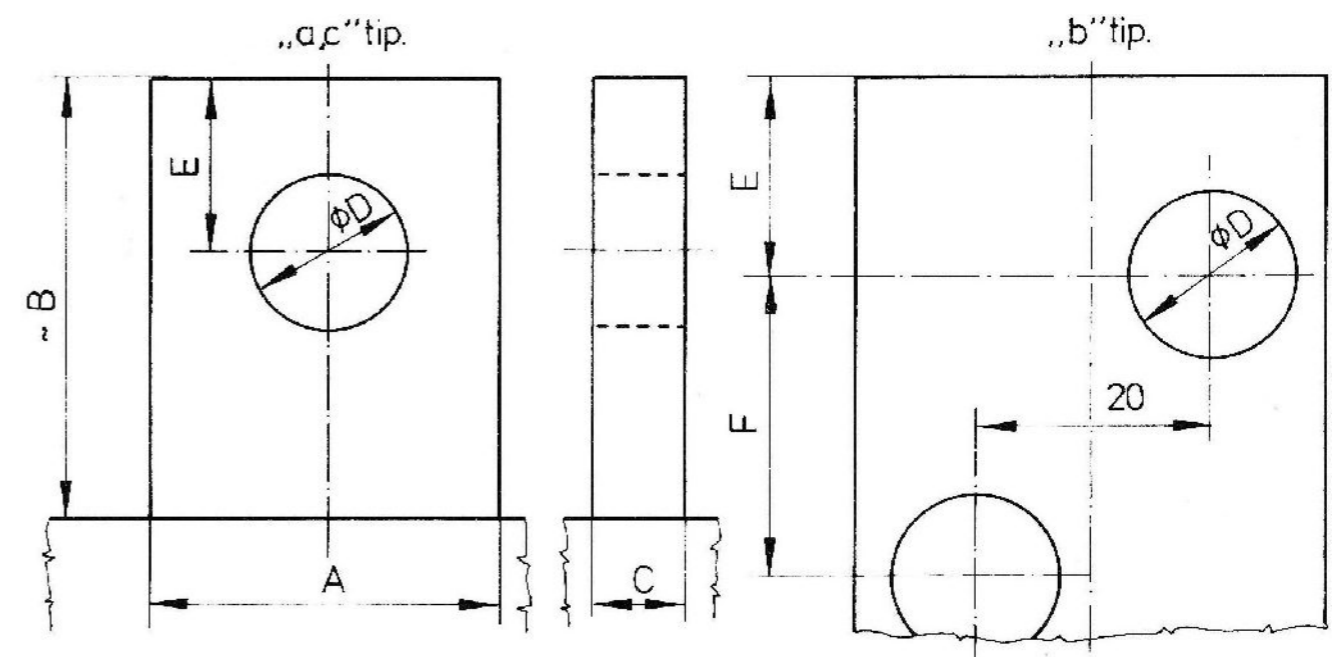


Fig 1b