



multict KBR 28



multict KBU 23



multict CTM7

## Cable type current transformers multict KBR, multict KBU and pipe rod current transformers, multict CTM7

### Foldable cable type current transformers, multict KBR and multict KBU

Current transformer with divisible measuring core for primary rated currents from 50 A to 5,000 A, secondary rated current 5 A or 1 A, in accuracy classes 0.5, 1 and 3.

The divisible measuring system enables easy retrofitting in existing systems with minimum installation effort.

For installation, the locking mechanism on the transformer is opened, placed around the primary conductor and audibly engaged again. After connecting the secondary conductors, the measuring arrangement is ready for operation immediately.

### Low voltage - Bushing type current transformer, multict CTM7

Mini current transformers of the multict CTM7 series are inductive, according to the transformer principle of working, single-ended current transformers. They are used to adapt the primary measured value to the input nominal values of the connected measuring instruments.

Based on the applied measuring principle, these current transformers are suitable for use in AC networks only.

The multict CTM7 current transformer series is maintenance-free and designed for primary rated currents of 32 A to 64 A with a secondary rated current of 1 A, in accuracy class 1.



multict KBR 42

- Cable type current converters are mainly used for retrofitting to prevent primary conductors from separating.
- Straightforward and secure attachment
- Due to their dimensions and ease of use, they are particularly suitable for use in hard-to-reach places or when space is limited.
- Thanks to the “click” system, single-handed fitting is possible
- Available with secondary current 5 A/1 A.
- A total of eight different designs in the KBR series

The “click” system in conjunction with the fixing clips enables single-handed fitting



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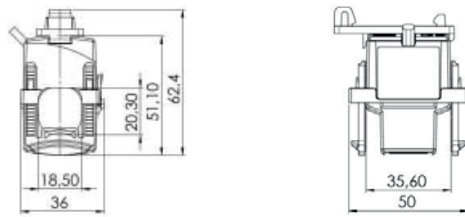
### Technical data

Length of the connection cables (color-coded)		
Sec 1A:	2.5 m, cross section 2 x 0.75 mm <sup>2</sup>	KBR 18; KBR 32; KBR 44
	2.5 m, cross section 2 x 0.5 mm <sup>2</sup>	KBR 18S; KBR 18L; KBR 28; KBR 42; KBR 42L
Sec 5A:	0.5 m, cross section 2 x 1.5 mm <sup>2</sup>	KBR 18L; KBR 28; KBR 32; KBR 44; KBR 42; KBR 42L

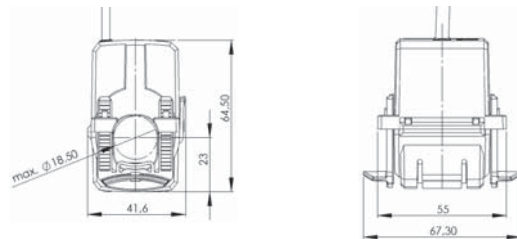
Rated power rating of types KBR at the end of connecting cable

- Working temperature range:  $-5^{\circ}\text{C} < T < +50^{\circ}\text{C}$
- Storage temperature range:  $-25^{\circ}\text{C} < T < +70^{\circ}\text{C}$
- Therm. Rated continuous current  $I_{ct}$ :  $1.2 \times I_N$
- Therm. Rated short-time current  $I_{th}$ :  $60 \times I_N$ , 1 sec.
- Max. operating voltage  $U_m$ : 0.72 kV
- Insulation test voltage: 3 kV,  $U_{eff}$ , 50 Hz, 1 min.
- Rate frequency: 50 Hz
- Insulation class: E
- Applied technical standards: DIN EN 61869, part 1 + 2

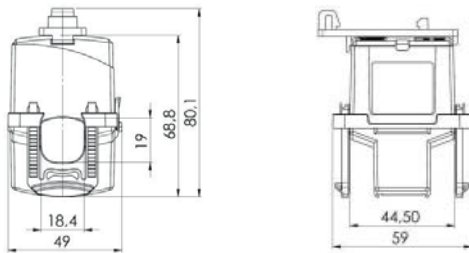
**KBR 18S**



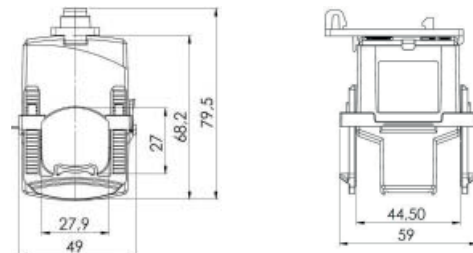
**KBR 18**



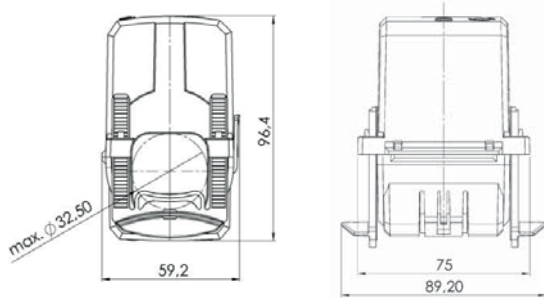
**KBR 18 L**



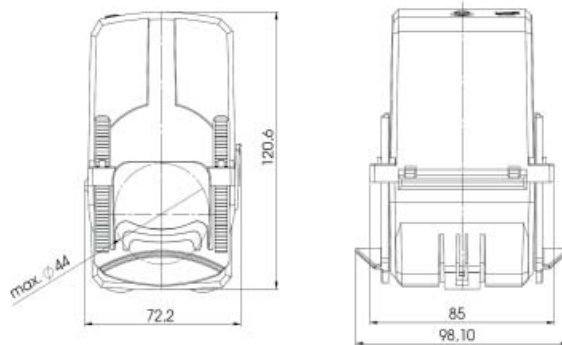
**KBR 28**



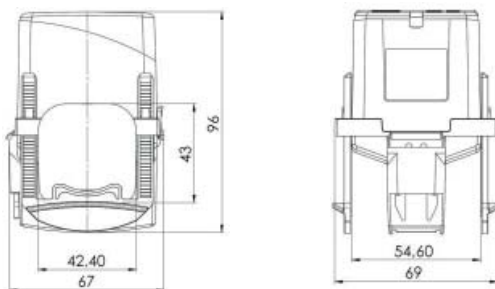
**KBR 32**



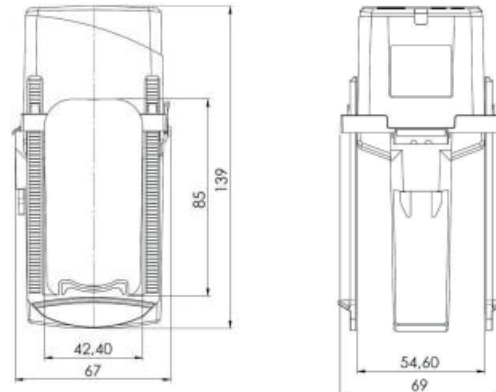
**KBR 44**



**KBR 42**



**KBR 42L**





multict KBR18S

**Dimensions:**

Round conductor: ..... 18.5 mm  
 Structural width: ..... 36.0 mm  
 Structural height: ..... 51.1 mm

**Order table KBR18S**

Secondary current		1 A	
Primary current [ A ]	Rated power [ VA ]	Accuracy class	
		3	1
		Item no.	Item no.
60	0.4	23217	–
75	0.5	23218	–
100	0.75	23219	–
125	0.75	23220	–
150	1	23221	–
200	0.4		23215
	1.5	23222	
250	0.5	–	23216
	2	23223	–

Snap-on attachment for  
 DIN rail assembly  
 multict KBR 18S item no. 23478



multict KBR18

**Dimensions:**

Round conductor: ..... 18.5 mm  
 Structural width: ..... 41.6 mm  
 Structural height: ..... 64.5 mm

**Order table KBR18**

Secondary current		1 A	
Primary current [ A ]	Rated power [ VA ]	Accuracy class	
		3	1
		Item no.	Item no.
50	1	23226	–
75	1	23227	–
100	1.25	23228	–
125	1.5	23229	–
150	2	23230	–
200	1	–	23224
	3	23231	–
250	1.5	–	23225
	4	23232	–

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multict KBR18L

**Dimensions:**

Round conductor: ..... 18.4 mm  
 Structural width: ..... 49.0 mm  
 Structural height: ..... 68.8 mm

**Order table multict KBR18L**

Secondary current		5 A		1 A	
Primary current [ A ]	Rated power [ VA ]	Accuracy class		Accuracy class	
		1	0.5	1	0.5
		Item no.	Item no.	Item no.	Item no.
100	0.3	–	–	23239	–
125	0.5	–	–	23240	–
150	1	23234	–	23241	–
200	0.2	–	–	–	23237
	1.5	23235	–	23242	–
250	0.5	–	–	–	23238
	1	–	23233	–	–
	2	23236	–	–	–
	2.5	–	–	23243	–

Snap-on attachment for DIN rail assembly  
 multict KBR 18L,  
 multict KBR 28 item no. 23479



multict KBR28

**Dimensions:**

Round conductor: ..... 27.9 mm  
 Structural width: ..... 49.0 mm  
 Structural height: ..... 68.2 mm

**Order table multict KBR 28**

Secondary current		5 A		1 A	
Primary current [ A ]	Rated power [ VA ]	Accuracy class		Accuracy class	
		1	0.5	1	0.5
		Item no.	Item no.	Item no.	Item no.
200	0.3	–	–	23251*	–
250	1	23245	–	23252	–
300	1.5	23246	–	23253	–
400	0.5	–	–	–	23249
	2.5	23247	–	23254	–
500	1	–	23244	–	23250
	3	23248	–	23255	–

Snap-on attachment for DIN rail assembly  
 multict KBR 18L,  
 multict KBR 28 item no. 23479



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multict KBR32

**Dimensions:**

Round conductor: ..... 32.5 mm  
 Structural width: ..... 59.2 mm  
 Structural height: ..... 96.4 mm

**Order table multict KBR32**

Secondary current		5 A		1 A	
Primary current [ A ]	Rated power [ VA ]	Accuracy class		Accuracy class	
		3	1	3	1
		Item no.	Item no.	Item no.	Item no.
100	1.5	23260	–	–	–
	2.5	–	–	23269	–
125	2.5	23261	–	–	–
	3	–	–	23270	–
150	3	23262	–	23271	–
200	3	23263	–	–	–
	5	–	–	23272	–
250	3	23264	–	–	–
	5	–	–	23273	–
300	2.5	–	23256	–	–
	5	–	–	–	23265
400	5	–	23257	–	23266
500	5	–	23258	–	23267
600	5	–	23259	–	23268



multict KBR42

**Dimensions:**

Round conductor: ..... 42.4 mm  
 Structural width: ..... 67.0 mm  
 Structural height: ..... 96.0 mm

**Order table multict KBR42**

Secondary current		5 A		1 A	
Primary current [ A ]	Rated power [ VA ]	Accuracy class		Accuracy class	
		3	1	3	1
		Item no.	Item no.	Item no.	Item no.
250	2.5	–	–	23291	–
300	2.5	23278	–	23292	–
400	2.5	–	–	–	23285
	5	23279	–	23293	–
500	2.5	–	–	–	23286
	5	23280	–	23294	–
600	2.5	–	23274	–	23287
	5	23281	–	23295	–
750	2.5	–	23275	–	23288
	5	23282	–	23296	–
800	2.5	–	23276	–	23289
	5	23283	–	23297	–
1000	2.5	–	23277	–	23290
	5	23284	–	23298	–

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multict KBR42L

**Dimensions:**

Round conductor: ..... 2 x 42.4 mm  
 Structural width: ..... 67.0 mm  
 Structural height: ..... 139.0 mm

**Order table multict KBR42L**

Secondary current		5 A		1 A	
Primary current [ A ]	Rated power [ VA ]	Accuracy class		Accuracy class	
		1	0.5	1	0.5
		Item no.	Item no.	Item no.	Item no.
250	2.5	–	–	23316	–
300	2.5	23303	–	23317	–
400	2.5	–	–	–	23310
	5	23304	–	23318	–
500	2.5	–	–	–	23311
	5	23305	–	23319	–
600	2.5	–	23299	–	23312
	5	23306	–	23320	–
750	2.5	–	23300	–	23313
	5	23307	–	23321	–
800	2.5	–	23301	–	23314
	5	23308	–	23322	–
1000	2.5	–	23302	–	23315
	5	23309	–	23323	–



multict KBR44

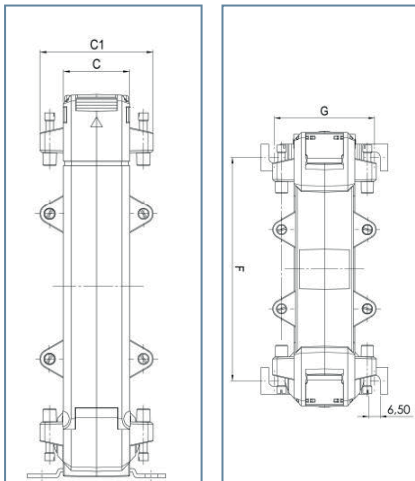
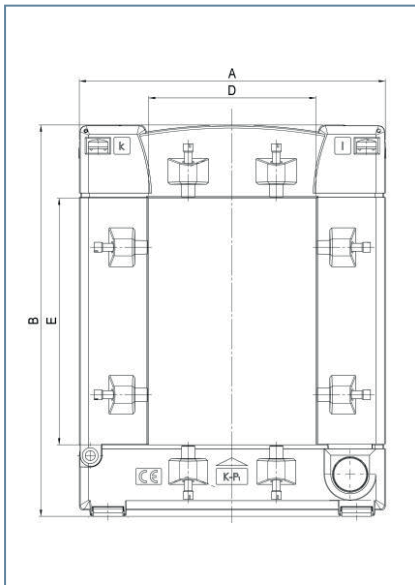
**Dimensions:**

Round conductor: ..... 44.0 mm  
 Structural width: ..... 72.2 mm  
 Structural height: ..... 120.6 mm

**Order table multict KBR44**

Secondary current		5 A		1 A	
Primary current [ A ]	Rated power [ VA ]	Accuracy class		Accuracy class	
		1		1	
		Item no.		Item no.	
250	1.5	23324		–	
	2.5	–		23332	
300	2.5	23325		23333	
400	5	23326		23334	
500	5	23327		23335	
600	5	23328		23336	
750	5	23329		23337	
800	5	23330		23338	
1000	5	23331		23339	

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- Ideal for retrofitting in existing systems
- Straightforward and secure attachment – Current transformer engages audibly
- Available with secondary current 5 A/1 A.
- Also available in accuracy class 0.5
- Four different designs

### Technical data

- Working temperature range:  $-5^{\circ}\text{C} < T < +40^{\circ}\text{C}$
- Storage temperature range:  $-25^{\circ}\text{C} < T < +70^{\circ}\text{C}$
- Therm. Rated continuous current  $I_{ctH}$ :  $1.0 \times I_N$
- Therm. Rated short-time current  $I_{th}$ :  $60 \times I_N$ , 1 sec.
- Max. operating voltage  $U_m$ : 0.72 kV
- Insulation test voltage: 3 kV,  $U_{eff}$ , 50 Hz, 1 min.
- Rate frequency: 50 Hz
- Insulation class: E
- Applied technical standards: DIN EN 61869, part 1 + 2

Type	A (Width) [ mm ]	B (Height) [ mm ]	C/C1 (Depth) [ mm ]	D [ mm ]	E [ mm ]	F [ mm ]	G [ mm ]
KBU 23	93	106	34/58	23	33	64	56
KBU 58	125	158	34/58	55	85	96	56
KBU 812	155	198	34/58	85	125	126	56
KBU 816	195	243	64/79	85	165	156	62



## Order table multict KBU 23

Secondary current		5 A		
Primary current [A]	Rated power [VA]	Accuracy class		
		3	1	0.5
		Item no.	Item no.	Item no.
100	1.25	23064	–	–
150	1.5	23065	–	–
200	2.5	23066	–	–
250	1.5	–	23067	–
300	3.75	–	23068	–
400	1	–	–	23070
	5	–	23069	–

1 A		
Accuracy class		
3	1	0.5
Item no.	Item no.	Item no.
23071	–	–
23072	–	–
23073	–	–
–	23074	–
–	23075	–
–	–	23077
–	23076	–

## Order table multict KBU 58

Secondary current		5 A	
Primary current [A]	Rated power [VA]	Accuracy class	
		1	0.5
		Item no.	Item no.
250	1.5	12405	–
300	2.5	12406	–
400	1	–	23078
	2.5	12407	–
500	2.5	–	23079
	5	12408	–
600	2.5	–	23080
	5	12409	–
750	2.5	–	23081
	5	12410	–
800	2.5	–	23082
	7.5	12411	–
1000	5	–	23083
	10	12412	–

1 A	
Accuracy class	
1	0.5
Item no.	Item no.
23084	–
23085	–
–	23092
23086	–
–	23093
23087	–
–	23094
23088	–
–	23095
23089	–
–	23096
23090	–
–	23097
23091	–

## Order table multict KBU 812

Secondary current		5 A	
Primary current [A]	Rated power [VA]	Accuracy class	
		1	0.5
		Item no.	Item no.
250	1.5	23098	–
300	2.5	23099	–
400	2.5	23100	–
500	2.5	–	23106
	5	23101	–
600	2.5	–	23107
	5	23102	–
750	2.5	–	23108
	2	23103	–
800	2.5	–	23109
	7.5	18893	–
1000	5	–	23110
	10	23104	–
1200	5	–	23111
	10	23105	–
1250	7.5	–	23112
	15	12413	–
1500	7.5	–	23113
	15	12414	–

1 A	
Accuracy class	
1	0.5
Item no.	Item no.
23114	–
23115	–
23116	–
–	23123
23117	–
–	23124
23118	–
–	23125
23119	–
–	23126
21692	–
–	23127
23120	–
–	23128
21693	–
–	23129
23121	–
–	23130
23122	–

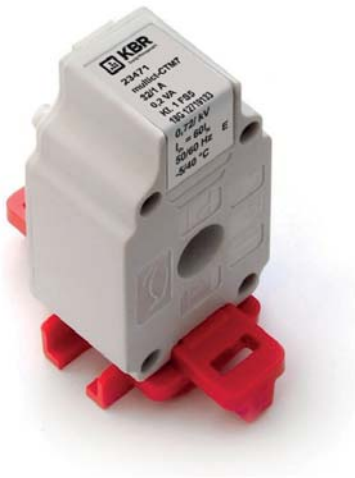


The rated power is the power which the transformer can give off at the end of the cable or the terminal.

### Order table multict KBU 816

Secondary current		5 A	
Primary current [A]	Rated power [VA]	Accuracy class	
		1	0.5
		Item no.	Item no.
1000	10	23131	23148
	15	23132	
1200	10	23133	23149
	15	23134	
1500	10	23135	23150
	15	23136	23151
1600	10	23137	23152
	15	23138	23153
2000	10	23139	23154
	15	23140	23155
2500	10	23141	23156
	15	19353	23157
3000	15	23142	23158
	30	23143	
4000	15	23144	23159
	30	23145	23160
5000	15	23146	23161
	30	23147	23162

1 A	
Accuracy class	
1	0.5
Item no.	Item no.
23163	23180
23164	
23165	23181
23166	
23167	23182
23168	23183
23169	23184
23170	23185
23171	23186
19478	23187
23172	23188
23173	23189
23174	23190
23175	
23176	23191
23177	23192
23178	23193
23179	23194



Mini current transformer for primary rated currents of 32 A to 64 A with a secondary rated current of 1 A, in accuracy class 1.

### Technical Data:

- Working temperature range:  $-5^{\circ}\text{C} < T < +50^{\circ}\text{C}$
- Storage temperature range:  $-25^{\circ}\text{C} < T < +70^{\circ}\text{C}$
- Therm. Rated continuous current  $I_{cth}$ :  $1.0 \times I_N$
- Therm. Rated short-time current  $I_{th}$ :  $60 \times I_N$ , 1 sec.
- Max. operating voltage  $U_m$ : 0.72 kV
- Insulation test voltage: 3 kV,  $U_{eff}$ , 50 Hz, 1 min.
- Rate frequency: 50 Hz
- Insulation class: E
- Applied technical standards: DIN EN 61869, part 1 + 2  
IEC 61010-1

### Order table multict CTM7

Item no.	Description	Electrical attributes			
		Primary current	Secondary current	Load	Class
23471	CTM7 32	32 A	1 A	0.2 VA	1
23472	CTM7 35	35 A	1 A	0.2 VA	1
23473	CTM7 40	40 A	1 A	0.3 VA	1
23474	CTM7 50	50 A	1 A	0.4 VA	1
23475	CTM7 60	60 A	1 A	0.4 VA	1
23476	CTM7 64	64 A	1 A	0.5 VA	1

### Accessories:

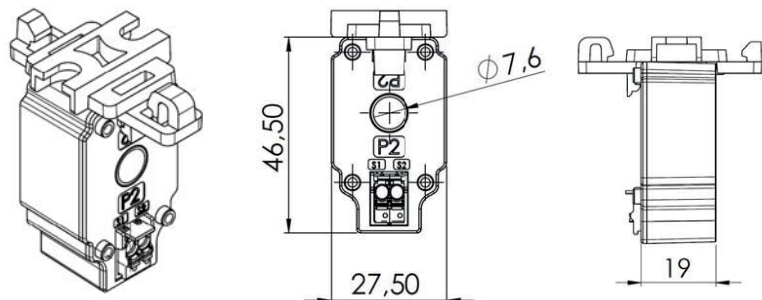


Item no.  
23477

Snap-on attachment for DIN rail assembly multict CTM7

### Dimensions:

Round conductor: 7.6 mm  
Structural width: 27.5 mm  
Structural height: 46.5 mm  
Structural depth total: 19.0 mm



Current transformers are special transformers for the proportional conversion of currents of high currents to directly measurable, smaller values. Due to their structural design, as well as their physical working principle, reliable electrical isolation between primary circuit and measuring circuit is achieved.

Primary rated current	Value of the primary current that characterizes the current transformer and for which it is rated.
Secondary rated current	Value of the secondary current that characterizes the current transformer and for which it is rated.
Rated power	Value of the apparent power (in [VA] at fixed power factor) that the converter can supply to the secondary circuit with secondary rated current and rated load.
Rated ratio	Ratio of the primary rated current to the secondary rated current. The rated ratio of a current transformer is indicated on the rating plate as an uncut fraction.
Load	Impedance of the secondary circuit, expressed in ohms with indication of the power factor.
Rated load	Value of the load forming the basis of the accuracy specifications of the current transformer.
Rated frequency	Value of the frequency forming the basis of the rating of the current transformer.
Accuracy class	Specifies for a current transformer that its measurement deviations are within specified limits under prescribed conditions of use.
Angle of error [d]	Angle difference between the primary and secondary current pointers. The direction of the pointer is chosen so that in an ideal current transformer, the error angle is zero.
Current measurement deviation	Measurement deviation which a current transformer causes when measuring a current and which is due to the fact that the actual ratio deviates from the rated ratio. The current measurement deviation expressed as a percentage is calculated according to the following formula:

$$F_i [\%] = \frac{(K_n I_s - I_p) \times 100}{I_p}$$

$F_i$  = current measurement deviation in%

$K_n$  = nominal ratio

$I_p$  = actual primary current

$I_s$  = actual secondary current, when  $I_p$  flows under measuring conditions

Highest voltage for operating equipment  $U_m$

Effective value of the highest phase-to-phase voltage, for which a transformer is measured in terms of insulation

		Cable length from current transformer to measuring instrument												
		1 m	2 m	3 m	4 m	5 m	6 m	7 m	8 m	9 m	10 m	15 m	20 m	
Wire cross section	1.5 mm <sup>2</sup>	0.60	1.19	1.79	2.38	2.98	3.57	4.17	4.76	5.36	5.95	8.93	11.90	[VA]
	2.5 mm <sup>2</sup>	0.36	0.71	1.07	1.43	1.79	2.14	2.50	2.86	3.21	3.57	5.36	7.14	[VA]
	4 mm <sup>2</sup>	0.22	0.45	0.67	0.89	1.12	1.34	1.56	1.79	2.01	2.23	3.35	4.46	[VA]
	6 mm <sup>2</sup>	0.15	0.30	0.45	0.60	0.74	0.89	1.04	1.19	1.34	1.49	2.23	2.98	[VA]
	10 mm <sup>2</sup>	0.09	0.18	0.27	0.36	0.45	0.54	0.63	0.71	0.80	0.89	1.34	1.79	[VA]

		Cable length from current transformer to measuring instrument												
		1 m	2 m	3 m	4 m	5 m	6 m	7 m	8 m	9 m	10 m	15 m	20 m	
Wire cross section	1.5 mm <sup>2</sup>	0.02	0.05	0.07	0.10	0.12	0.14	0.17	0.19	0.21	0.24	0.36	0.48	[VA]
	2.5 mm <sup>2</sup>	0.01	0.03	0.04	0.06	0.07	0.09	0.10	0.11	0.13	0.14	0.21	0.29	[VA]
	4 mm <sup>2</sup>	0.01	0.02	0.03	0.04	0.04	0.05	0.06	0.07	0.08	0.09	0.13	0.18	[VA]
	6 mm <sup>2</sup>	0.01	0.01	0.02	0.02	0.03	0.04	0.04	0.05	0.05	0.06	0.09	0.12	[VA]
	10 mm <sup>2</sup>	0.00	0.01	0.01	0.01	0.02	0.02	0.03	0.03	0.03	0.04	0.05	0.07	[VA]

$$P = \frac{I^2 \times l}{\text{mm}^2 \times \text{conductance material (cu=56)}}$$

The power of the transformer must be  $\geq$  than the load (power consumption of the measuring device + load of the wire)

### Example:

A current transformer 250/5A with a rated power of 2VA is intended to be connected to a measuring device with a power consumption of 0.3 VA (at 5 A). The performance length is five meters.

From the table above, we can see that a 2.5 mm<sup>2</sup> cable with a five-meter cable length has a power consumption of 1.79 VA.

1.79 VA + 0.3 VA = 2.09 VA. The current transformer cannot be used.

Either a larger cross section must be laid (6 mm<sup>2</sup>), or a 1A current transformer must be used.