

SPLIT CORE CURRENT TRANSFORMER

TYPE KUW

Item No.: 201.503 xxx



DESCRIPTION OF FUNCTIONS The compact, splittable current transformer type KUW is ideally suited for retrofitting as the primary circuit does not have to be disconnected for installation.

The split core current transformer is available with a secondary current of 1 A and 5 A and can therefore be used universally for energy meters and power analyzers with transformer measurement.

Series KUW1 for insulated cables up max. 18 mm diameter

Type	Primary current in A	Secondary current in A	Power in VA	Class	Cable length in m	∅ Primary line in mm	Weight in kg	Item No.
KUW1/30-60	60	1	0.2	3	3	18	0.3	201.503 510
KUW1/30-75	75	1	0.2	3	3	18	0.3	201.503 511
KUW1/30-100	100	1	0.2	3	3	18	0.3	201.503 512
KUW1/30-125	125	1	0.2	3	3	18	0.3	201.503 513
KUW1/30-150	150	1	0.2	3	3	18	0.3	201.503 514
KUW1/30-200	200	1	0.2	1	3	18	0.3	201.503 515
KUW1/30-250	250	1	0.2	1	3	18	0.3	201.503 317
KUW1/40-100	100	1	0.2	1	3	18	0.4	201.503 320
KUW1/40-125	125	1	0.2	1	3	18	0.4	201.503 321
KUW1/40-150	150	1	0.2	1	3	18	0.4	201.503 322
KUW1/40-200	200	1	0.2	0.5	3	18	0.4	201.503 325
KUW1/40-250	250	1	0.2	0.5	3	18	0.4	201.503 326
KUW1/40-150	150	5	1	1	0.5	18	0.4	201.503 329
KUW1/40-200	200	5	1	1	0.5	18	0.4	201.503 330
KUW1/40-250	250	5	1	0.5	0.5	18	0.4	201.503 331

Series KUW2 for insulated cables up max. 28 mm diameter

Type	Primary current in A	Secondary current in A	Power in VA	Class	Cable length in m	∅ Primary line in mm	Weight in kg	Item No.
KUW2/40-200	200	1	0.2	1	3	28	0.3	201.503 351
KUW2/40-250	250	1	0.2	1	3	28	0.3	201.503 352
KUW2/40-300	300	1	0.2	1	3	28	0.3	201.503 354
KUW2/40-400	400	1	0.2	1	3	28	0.4	201.503 356
KUW2/40-500	500	1	0.2	0.5	3	28	0.4	201.503 358
KUW2/40-250	250	5	1	1	0.5	28	0.3	201.503 353
KUW2/40-300	300	5	1	1	0.5	28	0.3	201.503 355
KUW2/40-400	400	5	1	1	0.5	28	0.3	201.503 357
KUW2/40-500	500	5	1	1	0.5	28	0.3	201.503 359

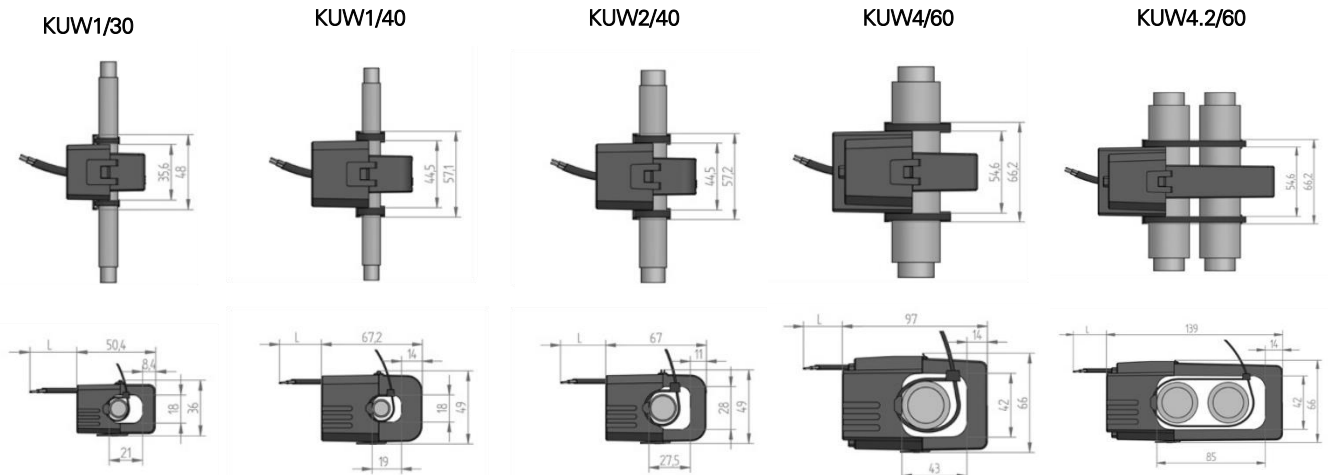
Series KUW4/60 for insulated cables up max. 42 mm diameter

Type	Primary current in A	Secondary current in A	Power in VA	Class	Cable length in m	∅ Primary line in mm	Weight in kg	Item No.
KUW4/60-250	250	1	0.5	1	5	42	0.6	201.503 565
KUW4/60-300	300	1	0.5	1	5	42	0.6	201.503 566
KUW4/60-400	400	1	0.5	0.5	5	42	0.6	201.503 568
KUW4/60-500	500	1	0.5	0.5	5	42	0.6	201.503 570
KUW4/60-600	600	1	0.5	0.5	5	42	0.6	201.503 572
KUW4/60-750	750	1	0.5	0.5	5	42	0.6	201.503 574
KUW4/60-800	800	1	0.5	0.5	5	42	0.6	201.503 576
KUW4/60-1000	1,000	1	0.5	0.5	5	42	0.6	201.503 578
KUW4/60-300	300	5	0.5	1	3	42	0.6	201.503 367
KUW4/60-400	400	5	0.5	1	3	42	0.6	201.503 369
KUW4/60-500	500	5	0.5	1	3	42	0.6	201.503 371
KUW4/60-600	600	5	0.5	0.5	3	42	0.6	201.503 373
KUW4/60-750	750	5	0.5	0.5	3	42	0.6	201.503 375
KUW4/60-800	800	5	0.5	0.5	3	42	0.6	201.503 377
KUW4/60-1000	1,000	5	0.5	0.5	3	42	0.6	201.503 379

Series KUW4.2/60 for insulated cables up max. 42 mm x 84 mm diameter

Type	Primary current in A	Secondary current in A	Power in VA	Class	Cable length in m	∅ Primary line in mm	Weight in kg	Item No.
KUW4/60-250	250	1	0.5	1	5	42 x 84	0.7	201.503 580
KUW4/60-300	300	1	0.5	1	5	42 x 84	0.8	201.503 581
KUW4/60-400	400	1	0.5	0.5	5	42 x 84	0.7	201.503 583
KUW4/60-500	500	1	0.5	0.5	5	42 x 84	0.8	201.503 585
KUW4/60-600	600	1	0.5	0.5	5	42 x 84	0.7	201.503 587
KUW4/60-750	750	1	0.5	0.5	5	42 x 84	0.8	201.503 589
KUW4/60-800	800	1	0.5	0.5	5	42 x 84	0.8	201.503 591
KUW4/60-1000	1,000	1	0.5	0.5	5	42 x 84	0.8	201.503 593
KUW4/60-300	300	5	0.5	1	3	42 x 84	0.7	201.503 382
KUW4/60-400	400	5	0.5	1	3	42 x 84	0.8	201.503 384
KUW4/60-500	500	5	0.5	1	3	42 x 84	0.6	201.503 386
KUW4/60-600	600	5	0.5	0.5	3	42 x 84	0.7	201.503 388
KUW4/60-750	750	5	0.5	0.5	3	42 x 84	0.8	201.503 390
KUW4/60-800	800	5	0.5	0.5	3	42 x 84	0.8	201.503 392
KUW4/60-1000	1,000	5	0.5	0.5	3	42 x 84	0.8	201.503 394

DIMENSION DRAWINGS



SELECTION GUIDANCE

Transformation ratio

The transformation ratio is the ratio of the primary rated current to the secondary rated current and is indicated as a fraction on the type plate of the current transformer.

The most commonly used current transformers are $x \text{ A} / 5 \text{ A}$, since most measuring instruments (power analyzer / energy meter) have the higher accuracy class at 5 A. For technical and moreover economic reasons, $x \text{ A} / 1 \text{ A}$ current transformers are recommended with long measuring cable lengths.

The line losses for 1 A current transformers are only 4 % compared to 5 A current transformers, but measuring instruments (power analyzer / energy meter) often have lower measuring accuracies when 1 A current transformers are used.

Rated current

The rated or nominal current (former designation) is the value of the primary and secondary current (primary rated current, secondary rated current) indicated on the type plate, for which the current transformer is rated.

Standardized rated currents for measuring transformers are 10 A, 12.5 A, 15 A, 20 A, 25 A, 30 A, 40 A, 50 A, 60 A and 75 A, as well as their decimal multiples and parts thereof. Standardized secondary currents are 1 and 5 A, preferably 5 A.

The correct selection of the primary current is decisive for the measuring accuracy. A ratio directly above the measured / defined current (I_n) is recommended.

Example

Maximum apparent power of the PV system $S_{Amax} = 100 \text{ kVA}$

Nominal system voltage $V_n = 400 \text{ V}$

=> Maximum feed-in current $I_{Amax} = S_{Amax} / (\sqrt{3} \times U_n) = 100 \text{ kVA} / (\sqrt{3} \times 400 \text{ V}) = 144 \text{ A}$

=> Selected transformer ratio = 150 A / 5 A

Note

For PV systems with self-consumption, the transformer rated current of the customer system can also be multiplied by a factor of 1.1 to determine the transformer primary rated current and the next transformer size can be selected.

Accuracy class

Current transformers are divided up into classes according to their accuracy. Standardized (IEC 61869-2) accuracy classes for measuring transformers are:

- 0.1
- 0.2
- 0.5
- 1
- 3
- 5

The following table illustrates the increasing measurement uncertainty the more the current transformer is operated at partial load.

Accuracy class	Current error (\pm) in % at rated current I_r			
	120 % / 100 % I_r	50 % I_r	20 % I_r	5 % I_r
0.1	0.1	-	0.2	0.4
0.2	0.2	-	0.35	0.75
0.5	0.5	-	0.75	1.5
1	1.0	-	1.5	3.0
3	3.0	3.0	-	-
5	5.0	5.0	-	-