

PROTECTION MADE SIMPLE.

Current Transformers for the WIC1

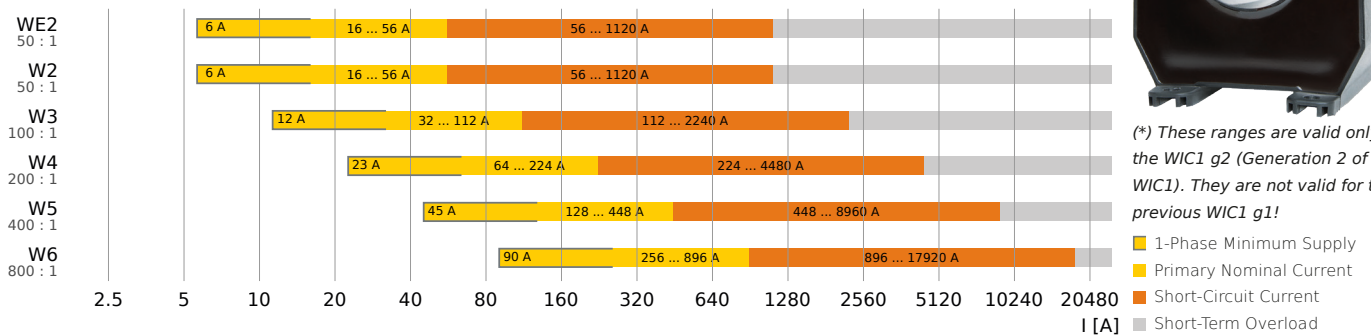
Easy Commissioning without Excessive Engineering

The phase current inputs of the WIC1 are designed for the connection of optimized WIC1-compatible CTs.



(* These ranges are valid only for the WIC1 g2 (Generation 2 of the WIC1). They are not valid for the previous WIC1 g1!

Primary Phase Current Ranges (*)



CT Selection Table

Operating Voltage [kV]	Rated Power of the Transformer [kVA]																					
	50	75	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	
3.0	10	14	19	24	31	38	48	61	77	96	121	154	192	241	308	385	481	606				
3.3	9	13	17	22	28	35	44	55	70	87	110	140	175	219	280	350	437	551				
4.2	7	10	14	17	22	27	34	43	55	69	87	110	137	172	220	275	344	433	550			
5.5		8	10	13	17	21	26	33	42	52	66	84	105	131	168	210	262	331	420	525		
6.0		7	10	12	15	19	24	30	38	48	61	77	96	120	154	192	241	303	385	481	606	
6.6		7	9	11	14	17	22	28	35	44	55	70	87	109	140	175	219	276	350	437	551	
10.0			7	9	12	14	18	23	29	36	46	58	72	92	115	144	182	231	289	364		
11.0			7	8	10	13	17	21	26	33	42	52	66	84	105	131	165	210	262	331		
13.8				7	8	10	13	17	21	26	33	42	52	67	84	105	132	167	209	264		
15.0				6	8	10	12	15	19	24	31	38	48	62	77	96	121	154	192	242		
20.0					7	9	12	14	18	23	29	36	46	58	72	91	115	144	182	229		
22.0					7	8	10	13	17	21	26	33	42	52	66	83	105	131	165	209		
24.0						8	10	12	15	19	24	30	38	48	60	76	96	120	152			
30.0							8	10	12	15	19	24	31	38	48	61	77	96	121			
33.0							7	9	11	14	17	22	28	35	44	55	70	87	110			
36.0							6	8	10	13	16	20	26	32	40	51	64	80	101			

The table above allows for quickly finding the right CT from the transformer data printed on the typeplate.

With respect to the overlapping ranges it is usually advisable to prefer the CT that fulfills $1.0 \leq »In,relative« \leq 2.5$ (where »In,relative« is the nominal current in units of $I_{n,min}$).

* 1p Min: Via DiggiMEC/Smart view, the WIC1 can be functional starting at $0.35 I_{n,min}$ (1-phase supply). The related setting values, however, cannot be set via DIP/HEX switches.

	1p Min*	In,min	In,max
WE2	7	16	56
W3	12	32	112
W4	23	64	224
W5	46	128	448
W6	91	256	896

WIC1-Compatible CTs - Order Form

Current Transformer (1 Piece)			Order Code	Order Code
			Construction Type 1	Construction Type 2
WE2	16 ... 56 A	5P80	WIC1-CT2-5P	WIC1WE2AS1
W2		10P80	WIC1-CT2-10P	WIC1W2AS1
W3	32 ... 112 A	5P80	WIC1-CT3	WIC1W3AS1
W4	64 ... 224 A	5P80	WIC1-CT4	WIC1W4AS1
W5	128 ... 448 A	5P80	WIC1-CT5	WIC1W5AS1
W6	256 ... 896 A	5P80	—	WIC1W6AS1

Ground Current Measurement

For WIC1 variants with ground (earth) current measuring inputs, standard 1 A ground current CTs can be used.

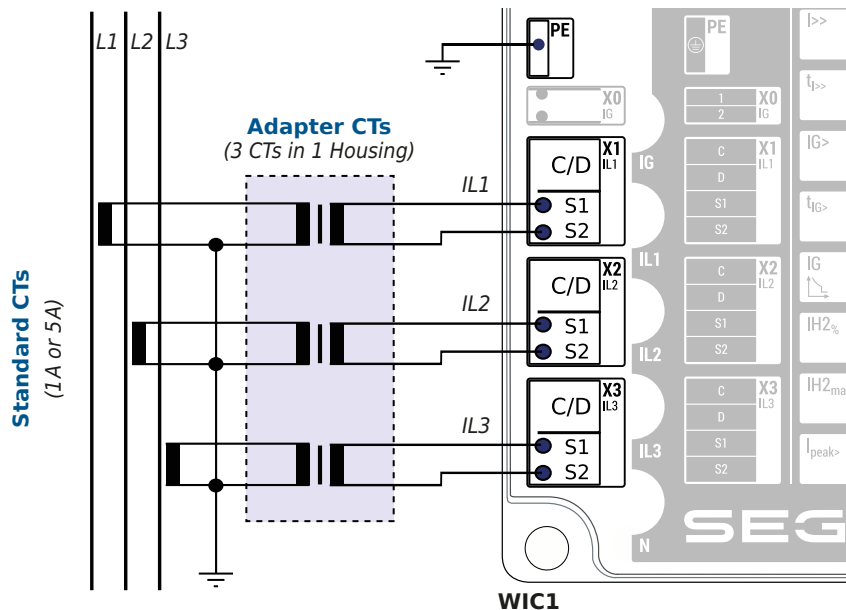
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Adapter CTs for 1 A or 5 A Standard CTs

SEG Electronics GmbH offers Adapter CTs, that can be connected between 1 A (or 5 A) standard CTs and the WIC1. The Adapter CTs transform the rated current (1 A / 5 A) to the magnitude required by the WIC1, and supply the WIC1 reliably and self-sufficiently with energy.

Retrofit with Adapter CTs

The Adapter CTs can be used for operating a WIC1 within an application where standard CTs are mandatory (for technical or historical reasons), instead of the WIC1-CTs.



Connection of standard CTs via adapter CTs for phase current measurement.

Holmgreen Connection

The 1A Adapter CTs can also be used with a Holmgreen connection^(#) if the WIC1 features a measuring input for ground current (order option).

(For a connection diagram, see the WIC1 User Manual, that can be accessed online.)

(#) The Holmgreen circuit is not available with 5 A CTs, because the WIC1 can have measuring inputs only for 1 A ground current.

Order Form Adapter CT - 3 phases in 1 housing with cables, cable length 3 m ^(*)

CT	Requirement (**)	Order Code WIC1 Adapter CT
1 A	$ALF \cdot S_{VA} \geq 10 \text{ VA}$, $R_{sec} \leq 0.3 \Omega$ for Holmgreen: $R_{sec} \leq 0.2 \Omega$	WIC1-CT-1A/3P
5 A	$ALF \cdot S_{VA} \geq 100 \text{ VA}$, $R_{sec} \leq 0.1 \Omega$	WIC1-CT-5A/3P

^(*) Cables can be shortened to your needs. For details and technical data, please check the CT datasheets or WIC1 User Manual.

^(**) Simplified criterion, for details see WIC1 User Manual.

ALF: Accuracy Limit Factor of the standard CT,

R_{sec} : Resistance of additional cables, short-circuit rails etc. in the secondary circuit between standard CT and Adapter CT.

For the secondary circuit between Adapter CT and WIC1: Resistance per contact $\leq 0.75 \Omega$

Example: Test whether an xP5 CT, 1 A, with 2.5 VA burden rating can be used:
 $ALF \cdot S_{VA} = 5 \cdot 2.5 \text{ VA} = 12.5 \text{ VA} \geq 10 \text{ VA} \Rightarrow$ fulfilled (if $R_{sec} \leq 0.3 \Omega$)

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