

Power controllers | THYRITOP 300

PRODUCT ADVANTAGES

- Resistive and inductive loads
- Use from 24 VAC to 600 VAC and from 16 A to 1,500 A
- Built-in ultra-fast fuse
- Built-in human-machine interface
- Power connection via top or bottom
- Digital communication via bus module

NEW



Description

The **THYRITOP 300** models represent the latest generation of power controllers for all types of resistive or inductive loads.

Operation

The **THYRITOP 300** can operate in four modes:

- On-off (SWITCH),
- Syncopated wave train (TAKT),
- Fast syncopated wave train (QTM),
- Phase-angle variation (VAR).

These modes can be configured via the graphical interface or via software.

This ensures that **users can adapt to all types of power control**, such as resistors with a significant hot/cold coefficient, silicon carbide, molybdenum, tantalum, tungsten, transformer primaries, etc.

Power circuit

Circuit	Single-phase or three-phase with 2 or 3-phase cut-off
Rated current	16 A to 1,500 A
Rated voltage	230 V, 400 V, 500 V, 600 V
Network frequency	47 to 63 Hz
Operating voltage	From 24 VAC up to the rated voltage +10 %

Control circuit

Analogue	2 configurable analogue inputs: <ul style="list-style-type: none"> • 0/4...20 mA (Ri = 250 Ω) • 0...5 V (Ri = 44 kΩ) • 0...10 V (Ri = 88 kΩ)
Potentiometric	5 kΩ to 10 kΩ
Digital	Via bus module
Other	Logic input for start-up authorization

General specifications

Control	<ul style="list-style-type: none"> • U and U² to ± 1.5 % • I and I² to ± 1.5 % • P to ± 3 % • No control
Supervision	<ul style="list-style-type: none"> • Internal faults • Partial load fault • Under or overvoltage • Under or overcurrent • Excessive temperature • Fuse blown, etc.

Alarm	1 x relay (250 V / 4 A), configurable
Fault indication	Display on graphical interface + error message
Recording	Up to 64 time/date-stamped events (real-time clock)
Retransmission	3 x configurable analogue outputs (0...10 V or 0/4... 20 mA)
Auxiliary inputs / outputs	3 configurable logic inputs/outputs
Auxiliary power supply	110/230 VAC (85-265 VAC)
Voltage / current measurements	<ul style="list-style-type: none"> • Internal transformers • Possibility of wiring external transformers
Configuration	Via the graphical interface or the THYRITOP-Tool 300 software
USB interface	For PC connection (THYRITOP-Tool 300) and back-up/loading of parameters on USB stick
Ethernet interface	For PC connection (Thyritop-Tool 300), built-in Web server for viewing the values in real time
Insulation	As per EN 50178
Protection	IP 20
Installation conditions	Vertical mounting and power connection at top or bottom
Climatic conditions	<ul style="list-style-type: none"> • Rated current from -10 °C to +40 °C • Reduced current up to +55 °C [-2 % of current per additional °C]
Compliance	CE + UL

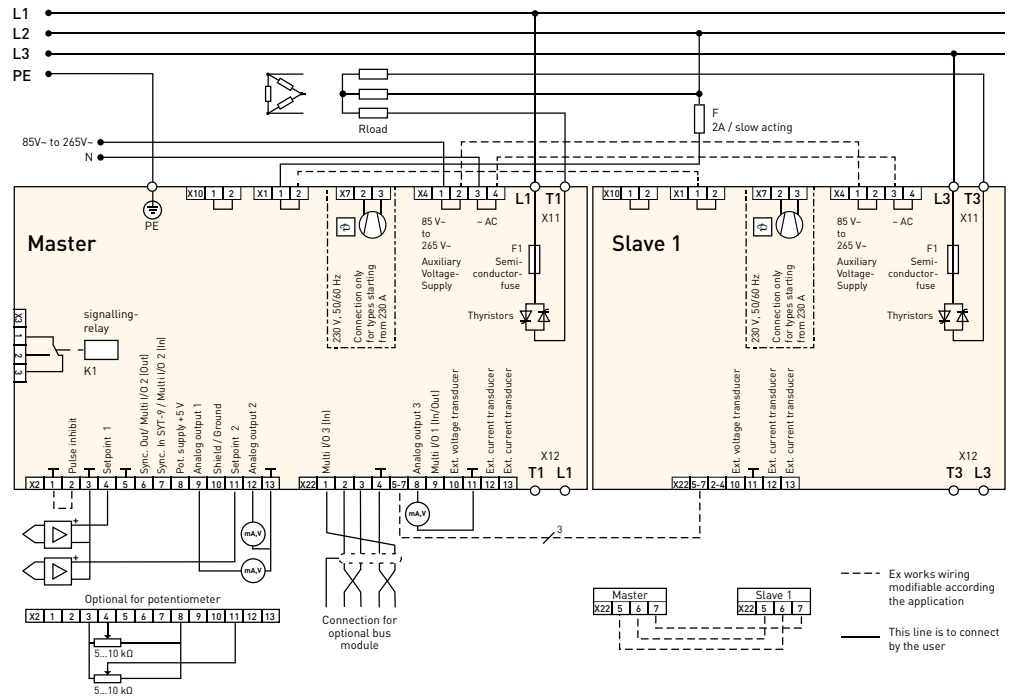
Selection guide

	THYRITOP 300		
	1A	2A	3A
Network			
Single-phase	■		
Three-phase, 2-phase cut-off		■	
Three-phase, 3-phase cut-off			■
Voltage range	230 V, 400 V, 500 V, 600 V		
Current range	16 A ... 1,500 A		
Load			
Constant resistance		■	
Variable resistance		■	
Transformer and inductor		■	
Operation			
On-off	■	■	■
Syncopated wave train	■	■	■
Fast syncopated wave train	■		
Phase angle	■		■
Control			
Analogue input		■	
Potentiometric input		■	
Digital input		■	
Functions			
U, U ² control / limitation		■	
I, I ² control / limitation		■	
P control / limitation		■	
Retransmission		■	
Load fault detection		■	
Diagnosis		■	
Alarm		■	
Synchronization		■	
Communication		■	
Power fuses		■	

■ = HRLP2

► Application diagram

THYRITOP 300 models with 2-phase cut-off (2A)



► Accessories

Mounting fixture, programming software, communication modules

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REFERENCES

Circuit	Rated current (A)	Rated voltage (V)						Power dissipation (W)	Fuse (A)	Dimensions (mm)			Weight (kg)		
		230 V		400 V		500 V				600 V		L		H	W
		Rated power (kW)	HRLP2 model ref.	Rated power (kW)	HRLP2 model ref.	Rated power (kW)	HRLP2 model ref.			Rated power (kW)	HRLP2 model ref.				
1A: Single-phase	16	3.7	P01641050	6.4	P01641060	8	P01641074	-	25	20	45	196	193	1.1	
	30 F	6.9	P01641051	12	P01641061	15	P01641075	-	40	40	45	196	193	1.1	
	45	11	P01641052	18	P01641062	23	P01641076	27	P01641088	60	63	52	276	238	2.2
	60	14	P01641053	24	P01641063	30	P01641077	36	P01641089	70	100	52	276	238	2.2
	100 F	23	P01641054	40	P01641064	50	P01641078	60	P01641090	130	180	54	276	238	2.8
	130	30	P01641055	52	P01641065	65	P01641079	78	P01641091	180	200	125	361	283	7.8
	170	39	P01641056	68	P01641066	85	P01641080	102	P01641092	210	315	125	361	283	7.8
	230 F	53	P01641057	92	P01641067	115	P01641081	-	280	315	125	373	283	8.3	
	240 F	-	-	-	-	-	-	138	P01641093	330	315	125	373	283	8.3
	280 F	64	P01641058	112	P01641068	140	P01641082	-	350	350	125	373	283	8.3	
	350 F	81	P01641059	140	P01641069	175	P01641083	210	P01641094	400	500	125	373	283	8.3
	495 F	-	198	P01641070	248	P01641084	297	P01641095	610	630	180	640	395	20	
	650 F	-	260	P01641071	325	P01641085	390	P01641096	740	900	180	640	395	20	
	1000 F	-	400	P01641072	500	P01641086	600	P01641097	1400	2 x 1000	285	550	565	33.5	
	1400 F	-	-	-	700	P01641087	840	P01641098	1700	4 x 900	285	550	565	33.5	
1500 F	-	600	P01641073	-	-	-	-	1770	4 x 900	285	550	565	33.5		
2A: Three-phase, 2-phase cut-off	16	-	-	11	P01641138	14	P01641152	-	50	20	90	196	193	2.2	
	30 F	-	-	21	P01641139	26	P01641153	-	80	40	90	196	193	2.2	
	45	-	-	31	P01641140	39	P01641154	47	P01641166	120	63	108	276	238	4.4
	60	-	-	42	P01641141	52	P01641155	62	P01641167	150	100	108	276	238	4.4
	100 F	-	-	69	P01641142	87	P01641156	104	P01641168	260	180	110	276	238	5.6
	130	-	-	90	P01641143	112	P01641157	135	P01641169	360	200	250	361	283	15.6
	170	-	-	118	P01641144	147	P01641158	177	P01641170	420	315	250	361	283	15.6
	230 F	-	-	159	P01641145	199	P01641159	-	560	315	250	373	283	16.6	
	240 F	-	-	-	-	-	-	240	P01641171	670	315	250	373	283	16.6
	280 F	-	194	P01641146	243	P01641160	-	-	700	350	250	373	283	16.6	
	350 F	-	243	P01641147	303	P01641161	364	P01641172	800	500	250	373	283	16.6	
	495 F	-	342	P01641148	429	P01641162	514	P01641173	1200	630	256	640	395	28.5	
	650 F	-	450	P01641149	563	P01641163	676	P01641174	1460	900	256	640	395	28.5	
	1000 F	-	693	P01641150	866	P01641164	1040	P01641175	2820	2 x 1000	452	550	565	53	
	1400 F	-	-	-	1212	P01641165	1455	P01641176	3470	4 x 900	452	550	565	53	
1500 F	-	1040	P01641151	-	-	-	-	3550	4 x 900	452	550	565	53		
3A: Three-phase, 3-phase cut-off	16	-	-	11	P01641216	14	P01641230	-	75	20	135	196	193	3.3	
	30 F	-	-	21	P01641217	26	P01641231	-	120	40	135	196	193	3.3	
	45	-	-	31	P01641218	39	P01641232	47	P01641244	180	63	164	276	238	6.6
	60	-	-	42	P01641219	52	P01641233	62	P01641245	220	100	164	276	238	6.6
	100 F	-	-	69	P01641220	87	P01641234	104	P01641246	390	180	164	276	238	8.4
	130	-	-	90	P01641221	112	P01641235	135	P01641247	540	200	375	361	283	23.4
	170	-	-	118	P01641222	147	P01641236	177	P01641248	550	315	375	361	283	23.4
	230 F	-	-	159	P01641223	199	P01641237	-	840	315	375	373	283	24.9	
	240 F	-	-	-	-	-	-	240	P01641249	1000	315	375	373	283	24.9
	280 F	-	194	P01641224	243	P01641238	-	-	1050	350	375	373	283	24.9	
	350 F	-	243	P01641225	303	P01641239	364	P01641250	1200	500	375	373	283	24.9	
	495 F	-	342	P01641226	429	P01641240	514	P01641251	1840	630	344	640	395	37	
	650 F	-	450	P01641227	563	P01641241	676	P01641252	2200	900	344	640	395	37	
	1000 F	-	693	P01641228	866	P01641242	1040	P01641253	4150	2 x 1000	618	550	565	72	
	1400 F	-	-	-	1212	P01641243	1455	P01641254	5100	4 x 900	618	550	565	72	
1500 F	-	1040	P01641229	-	-	-	-	5200	4 x 900	618	550	565	72		

(F): Model equipped with fans