

THYRITOP 500

25 to 250 A Power Controllers



Ideal for controlling current, voltage and power values in industrial electric heating processes while receiving comprehensive information.

Compact

480 V, 600 V and 690 V voltage ranges

Single and three-phase*,
2 or 3-phase control

Modbus RTU communication

Master/slave operation

*on resistive load

Measure up



The **THYRITOP 500** range of compact, optimized power controllers can be used to manage the electric power values of most industrial heating elements.

HEATING ELEMENTS WITH LOW THERMAL COEFFICIENTS

E.g.:

- Nickel-chrome resistor
- Medium and long-wave infrared lamps

HEATING ELEMENTS WITH HIGH THERMAL COEFFICIENTS

E.g.:

- Kanthal™ and Super Kanthal™ (MiSo2) heating resistors
- Short-wave infrared lamps

INDUCTIVE LOADS

E.g.:

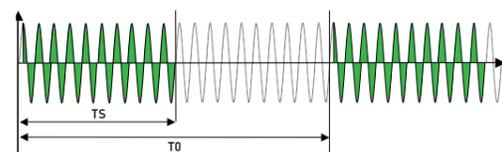
- Transformers
- Inductors

Select the right conduction mode for your application

• BURST firing

Resistive loads with thermal inertia: resistor or transformer primary.

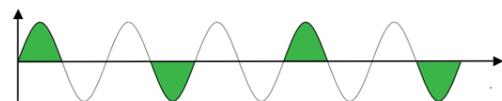
Full-wave switching, power adjustment using the TS/T0 ratio. An ignition delay when conduction is started can be used to avoid inrush currents in the transformers.



• Half single-cycle

Single-phase resistive loads with low thermal inertia (infrared resistors).

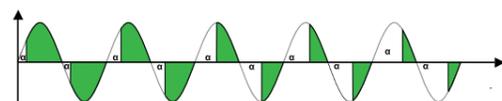
Half-wave switching, with frequent provision of energy for good thermal stability of the heating element.



• Phase angle

Loads with low thermal inertia: resistor or transformer primary or inductor.

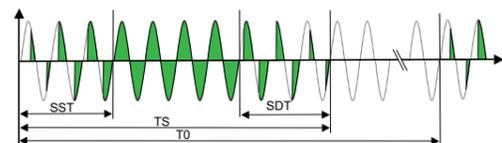
Adaptation of the power by means of the trigger angle. Power is constant but harmonics are present



• Mixed mode

Resistive loads with thermal inertia: resistor or transformer primary.

Gradual start of the phase-angle wave train, then full-wave conduction and gradual stop. Adjustment of the power by means of the ratio TS/T0. Limits inrush currents.



Main fields of application

- ▶ Industrial furnaces for thermal treatments and metallurgy
- ▶ Melting, sintering and nitriding furnaces
- ▶ Furnaces for ceramics and precious metals
- ▶ Industrial dryers
- ▶ Heating systems with infrared lamps (long, medium and short wave)
- ▶ Welding applications on conditioning machines
- ▶ Blowing machine for plastics
- ▶ Thermoforming machines
- ▶ Edge-gluing machines for wood
- ▶ Furnaces equipped with Super Kanthal™ silicon carbide heating elements



General specifications

Control	I - I ² - V - V ² - P
Current ranges	25 A - 40 A - 50 A - 60 A - 75 A - 90 A - 120 A - 150 A - 200 A - 250 A
Rated voltage ranges	480 Vac - 600 Vac - 690 Vac
Configurable command input	• 0 - 10 V - 0/4 - 20 mA signals • Potentiometers (5 Vdc available) and logic signals
Communication	Modbus RTU via RJ10 plug-in connectors (telephone-type)
Conduction mode	• Wave train • Fast synchopated wave train with zero voltage switching • Phase angle
Operating mode	Master / Slave for controlling resistive three-phase loads
Available options	• Total or partial load break alarm • Current limitation • V, I, P control • 2-wire RS485 available as an option



Advanced customization and parameterization with the PYROtools

A clever, simple tool for:

- ▶ Configuration of the parameters
- ▶ Display of the data and analysis of the parameters: values measured, setpoints, alarms, etc.
- ▶ Data recording
- ▶ Archiving

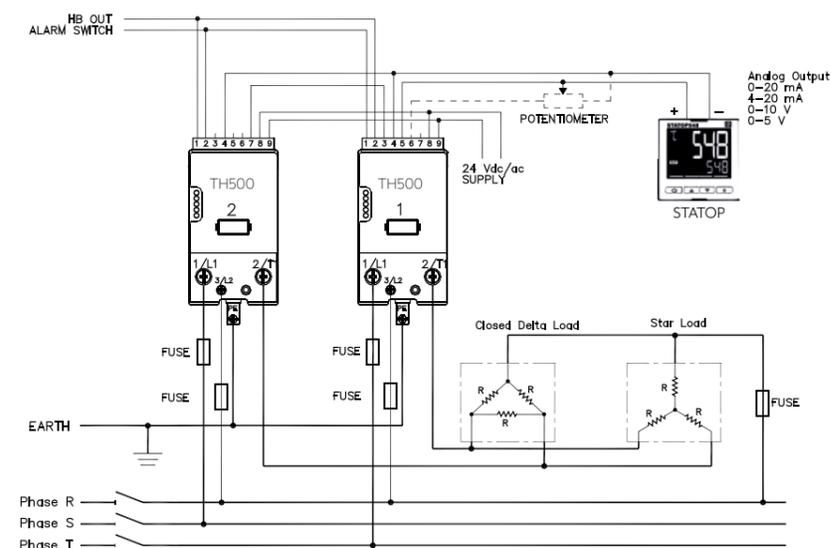
Download from www.pyrocontrol.com



The connection cables between the PC and **Thyritop 500** models (for configuration) are sold separately. Don't forget to order them.

RS232 configuration cable	P01665998
RS485 configuration cable	P01665999

Example of a two-phase connection (master/slave) for a three-phase load



To order

Circuit	Rating (A)	Rated power (kW)	Reference	Reference	Reference	Reference	Reference	Reference	Power dissipation (w)	L	H	D	Weight (kg)
	Rated voltage (480 V)		BO	HB + LC	HB + UIP + LC	BO + RS485	HB + LC RS485	HB + UIP + LC + RS485					
Single-phase	25	12	P01665000	P01665001	P01665002	P01665003	P01665004	P01665005	52	60.0	122.5	143.0	0.81
	40	19	P01665007	P01665008	P01665009	P01665010	P01665011	P01665012	78	60.0	122.5	143.0	0.81
	50	24	P01665014	P01665015	P01665016	P01665017	P01665018	P01665019	130	80.0	122.5	143.0	0.97
	60	28	P01665021	P01665022	P01665023	P01665024	P01665025	P01665026	195	80.0	122.5	143.0	0.97
	75	36	P01665028	P01665029	P01665030	P01665031	P01665032	P01665033	260	127.0	122.5	143.0	1.3
	90	43	P01665035	P01665036	P01665037	P01665038	P01665039	P01665040	325	127.0	122.5	143.0	1.3
	120	57	P01665042	P01665043	P01665044	P01665045	P01665046	P01665047	390	127.0	154.5	143.0	1.5
	150	72	P01665049	P01665050	P01665051	P01665052	P01665053	P01665054	520	108.3	302.0	170.4	2.6
	200	96	P01665057	P01665058	P01665059	P01665060	P01665061	P01665062	650	108.3	302.0	170.4	2.6
	250	120	P01665065	P01665066	P01665067	P01665068	P01665069	P01665070	780	108.3	302.0	170.4	2.6

BO	Open loop
HB	Partial and total load break detection
LC	Current limitation
UIP	Power control UxI, U ² , I ² , U, I
	In stock

This reference chart is not exhaustive. Scan the QR code for more possibilities.

The THYRITOP 500 models are also available in 600 V.

Find all the THYRITOP 500 references



Accessories

A wide range of accessories is available: fuses, fuse holders, configuration cables, supports for mounting on DIN rail, software, etc. Ask your usual correspondent for details.

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