

# THYRITOP 600

40 A to 600 A Power Controllers



**Adaptable to all types  
of industrial heating,  
whatever the application**

Current calibres from 40 A to 600 A  
480 V and 690 V voltage calibres  
Single-phase, split-phase and three-phase  
Modbus RTU RS485 communication  
Fieldbuses (option)



*Measure up*



The accurate, modular THYRITOP 600 range of power controllers can be used to manage the electrical power of any type of industrial heating element, offering extensive modularity for all single-phase, split-phase and three-phase applications. The THYRITOP 600 models offer an exclusive temperature measurement function on the power terminals to prevent any risk of cable overheating. They are also equipped with an additional function for measuring the air temperature at the fan outlet. This keeps your installations safe.

## 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.:

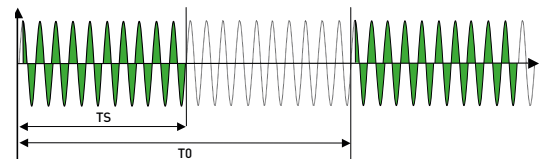
- Transformers
- Inductors

## Select the right conduction mode for your application

### • BURST firing

Resistive loads with thermal inertia: resistor or transformer primary.

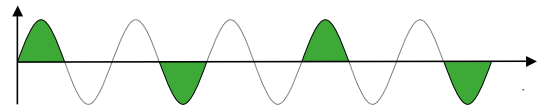
Full wave switching, power adjustment using the TS/T0 ratio. An ignition delay when conduction is started can be used to avoid inrush currents in the transformers.



### • Half single-cycle

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

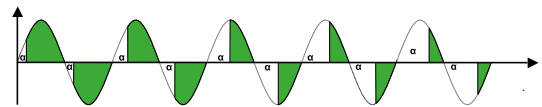
Half-wave switching, with frequent provision of energy for good thermal stability of the heating element.



### • Phase angle

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

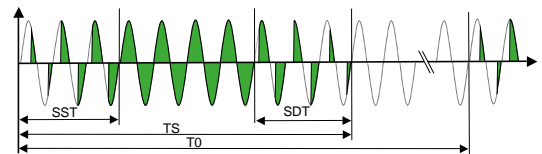
Adaptation of the power by means of the trigger angle. Power is constant but harmonics are present.



### • 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)
- ▶ Autoclaves for composite materials
- ▶ Furnaces equipped with Super Kanthal™ silicon carbide heating elements



## ■ General specifications

Control	I - I <sup>2</sup> - V - V <sup>2</sup> - P
Current calibres	40 A - 60 A - 100 A - 150 A - 200 A - 250 A - 300 A - 400 A - 500 A - 600 A
Rated voltage calibres	480 Vac - 690 Vac
Configurable command input	<ul style="list-style-type: none"> <li>• 0 - 10 V - 0/4 - 20 mA signals</li> <li>• Potentiometers (5 Vdc available) and logic signals</li> </ul>
Communication	Modbus RTU via RJ10 plug-in connectors (telephone-type)
Indication	Diagnostic LED, relays
Conduction mode	<ul style="list-style-type: none"> <li>• BURST firing</li> <li>• Half single-cycle mode with zero voltage switching</li> <li>• Phase angle</li> </ul>
Available options	<ul style="list-style-type: none"> <li>• Total or partial load break alarm,</li> <li>• Current limitation</li> <li>• V, I, P control</li> <li>• Fieldbuses</li> <li>• External U(V) and I(A) measurements</li> <li>• Pocket Thyritop for viewing the parameters and the values measured</li> <li>• Additional logic, relay and analogue inputs</li> <li>• PYRO ALM : PYRO LOAD MANAGEMENT MODULE to optimize and limit the network load</li> </ul>



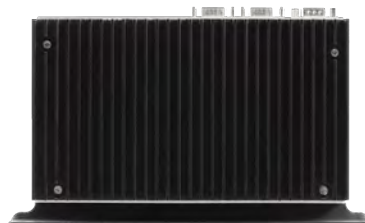
## ■ PyroALM

**PyroALM** can be used to smooth the network power and optimize energy consumption. In the event of an installation containing several **THYRITOP 600** models (up to 64 on the same electrical network), PyroALM will automatically adjust the moment when each of them is triggered.

Equipped with an "anti-flicker" system, it significantly reduces the current peaks due to simultaneous activation of the power controllers configured in BURST firing mode, thus cutting your electricity consumption. It is connected with a simple RJ45 cable.

Your electricity consumption will then be stable and below the power limit defined by your electricity supplier. It will enable you to centralize comprehensive diagnostics of the **THYRITOP 600** models connected to the module.

PYRO ALM-16	16-module energy management module	P01666601
PYRO ALM-32	32-module energy management module	P01666602
PYRO ALM-64	64-module energy management module	P01666603



## ■ Direct viewing with THYRITOP REMOTE

A simple box for immediate viewing of the main current and voltage parameters without installing extra software.

Hooked up via a 9-pole D-SUB connector, it can be installed directly on the front panel of the **THYRITOP 600** by means of a magnetic plate.



THYRITOP REMOTE	P01666600
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## ■ Advanced customization and configuration with the FREE PYROtools software

A simple, clever tool for:

- ▶ Setting the parameters
- ▶ Viewing the data and analysing the parameters: measured values, setpoints, alarms, etc.
- ▶ Recording the data
- ▶ Archiving

*The cable for connecting the PC to the **THYRITOP 600** (for configuration) is sold separately. Don't forget to order it.*

Available to download from [www.pyrocontrole.com](http://www.pyrocontrole.com)



RS485 configuration cable	P01660101
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# To order

906211606 - Ed. 5 - 11/2022 - LC - Non-contractual document. Specifications subject to modifications linked to technological developments.

Assembly	Current calibre (A)	480 V voltage V <sub>AC</sub>				690 V voltage V <sub>AC</sub>				Power dissipation (W)	Dimensions (mm)			Weights (kg)
		Rated power (kW)	Reference	Reference	Reference	Rated power (W)	Reference	Reference	Reference		L	H	D	
			BO*	HB* + LC*	HB + UIP*		BO*	HB*	HB* + UIP*					
Single-phase	40	19.2	P01666000	P01666001	P01666002	Contact CA PYROCONTROLE				52	108.4	302.0	170.4	2.2
	60	28.8	P01666013	P01666014	P01666015					78	108.4	302.0	170.4	2.2
	100	48.0	P01666026	P01666027	P01666028					130	108.4	302.0	170.4	2.2
	150	72.0	P01666039	P01666040	P01666041					195	108.4	302.0	170.4	2.6
	200	96.0	P01666052	P01666053	P01666054					260	108.4	302.0	170.4	2.6
	250	120.0	P01666065	P01666066	P01666067					325	108.4	302.0	170.4	2.6
	300	144.0	P01666078	P01666079	P01666080					390	108.4	302.0	170.4	2.6
	400	-	-	-	-	276.0	P01666091	P01666092	P01666093	520	145.0	350.0	286.0	8.0
	500	-	-	-	-	345.0	P01666104	P01666105	P01666106	650	145.0	350.0	286.0	11.0
	600	-	-	-	-	414.0	P01666118	P01666119	P01666120	780	145.0	350.0	286.0	11.0
Three-phase with 2-phase control	40	33.3	P01666200	P01666201	P01666202	Contact CA PYROCONTROLE				104	195.6	349.4	180.39	4.2
	60	49.9	P01666213	P01666214	P01666215					156	195.6	349.4	180.39	4.2
	100	83.1	P01666226	P01666227	P01666228					260	195.6	349.4	180.39	4.2
	150	124.7	P01666239	P01666240	P01666241					390	195.6	349.4	180.39	5.0
	200	166.3	P01666252	P01666253	P01666254					520	195.6	349.4	180.39	5.0
	250	207.8	P01666265	P01666266	P01666267					650	195.6	349.4	180.39	5.0
	300	249.4	P01666278	P01666279	P01666280					780	195.6	349.4	180.39	5.0
	400	-	-	-	-	478.0	P01666291	P01666292	P01666293	1040	240.0	350.0	286.0	15.5
	500	-	-	-	-	597.5	P01666304	P01666305	P01666306	1300	240.0	350.0	286.0	21.0
	600	-	-	-	-	717.0	P01666317	P01666318	P01666319	1560	240.0	350.0	286.0	21.0
Three-phase with 3-phase control	40	33.3	P01666400	P01666401	P01666402	Contact CA PYROCONTROLE				156	282.8	349.4	180.39	6.2
	60	49.9	P01666413	P01666414	P01666415					234	282.8	349.4	180.39	6.2
	100	83.1	P01666426	P01666427	P01666428					390	282.8	349.4	180.39	6.2
	150	124.7	P01666439	P01666440	P01666441					585	282.8	349.4	180.39	7.4
	200	166.3	P01666452	P01666453	P01666454					780	282.8	349.4	180.39	7.4
	250	207.8	P01666465	P01666466	P01666467					975	282.8	349.4	180.39	7.4
	300	249.4	P01666478	P01666479	P01666480					1170	282.8	349.4	180.39	7.4
	400	-	-	-	-	478.0	P01666491	P01666492	P01666493	1560	335.0	350.0	286.0	22.5
	500	-	-	-	-	597.5	P01666504	P01666505	P01666506	1950	335.0	350.0	286.0	31.0
	600	-	-	-	-	717.0	P01666517	P01666518	P01666519	2340	335.0	350.0	286.0	31.0

BO	Open loop
HB	Partial and total load break detection
UIP	U <sub>x1</sub> , U <sup>2</sup> , I <sup>2</sup> , U and I power control

## Accessories

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

**Contact us**  
**PYROCONTROLE**  
 Groupe Chauvin Arnoux  
 6 bis avenue du Docteur Schweitzer  
 69881 MEYZIEU Cedex



Ask for our other product catalogues

+33 4 72 14 15 40

info@pyrocontrole.com

