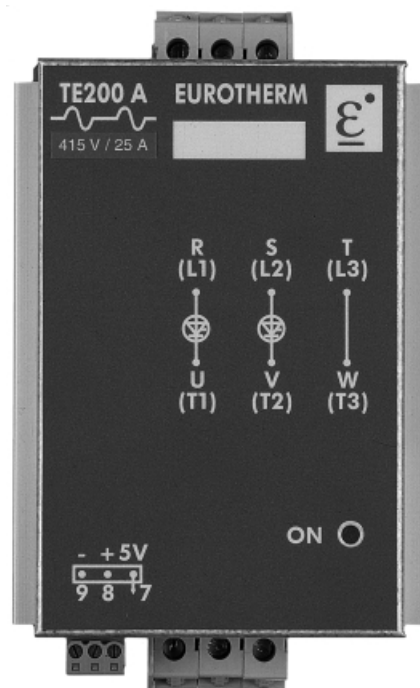


TE200

TWO LEG, THREE PHASE
BURST FIRING THYRISTOR



CE

Product
data

TE200

Two leg, three phase burst firing thyristor

Multiple applications

The TE200 range is designed for general purpose three phase applications which use three wire resistive or short wave infrared loads. Two of the three phases are switched by the TE200, the third phase being directly connected. Typical applications include; heat treatment, metallurgy, plastics, foods and environmental temperature control. For short wave infrared elements (not suitable with 63A unit), high speed fuses should not be used because they may not survive the initial inrush current which the TE200 can accept.

Ergonomic design

The TE200 range is easily integrated into a control system because of its compact size, simplicity of wiring and convenient DIN rail or bulkhead mounting.

TE200S Solid State Contactor

This unit is an ideal replacement for a mechanical contactor, accepting a DC or AC Logic input signal and giving two leg ON/OFF power switching.

TE200A Analogue input burst firing thyristor

The input to this unit can be configured for voltage, current or potentiometer inputs and the firing mode can be selected as burst firing or single cycle.

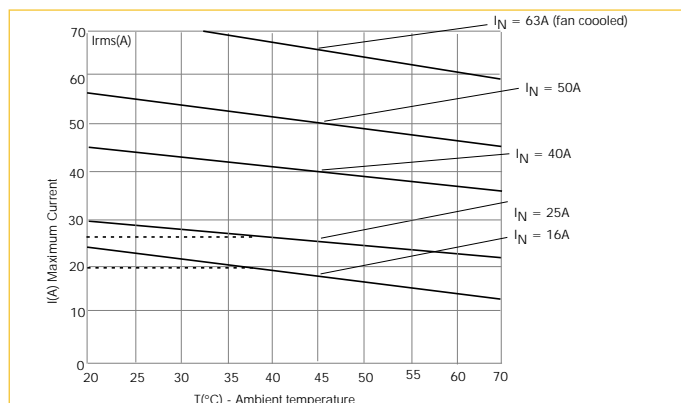
CE marking/safety

The TE200S and TE200A meet the essential requirements of the European Low Voltage Directive. No exposed parts are at a dangerous voltage.

Eurotherm certifies that the TE200S and TE200A products installed and used in compliance with User Manuals HA175921ENG and HA175773ENG respectively meet the necessary EMC test standards. EMC filters are internal to the units.

A copy of Eurotherm's Electromagnetic Compatibility Installation Guide (ref. HA025464) is available on request.

CURRENT DERATING CURVES



RMS current per phase, derating as a function of ambient temperature.
(Dotted line: limit of recommended fuse)

TECHNICAL SPECIFICATION

Power

Nominal current per phase	16A, 25A, 40A, 50A or 63A (at 45 Deg. C)
Line-to-line supply voltage	200Vac to 500Vac (+/- 10%) depending on voltage code.
Supply frequency	50Hz and 60Hz (+/- 2Hz) Automatic selection.
Supply phases	Independent of phase rotation.
Auxiliary supply	Not required as units are self powered. Optionally the TE200A can have a standard auxiliary supply if the load supply voltage is non standard (i.e. not in voltage selection list)
Dissipated power	1.3 Watts per amp, per phase (two phases switched). Allow additional 0.7 watts per amp per phase for external fuses if fitted.
Cooling	Natural convection for 16A to 50A units, fan cooling for 63A unit. Fan supply 115V or 230V (to be specified), fan consumption 13 Watts.
Insulation (1 min. test)	Between Power and Earth: 2000Vac, 50Hz. Between Power and Control: 3600Vac, 50Hz.
Load	Three wire, three phase load (two phases switched): Resistive with low temperature coefficient or ; Short wave infrared elements (except for 63A unit).
Fuses	External - order separately. Not recommended for short wave infrared loads.
Safety	TE200S and TE200A products comply with the Low Voltage Directive 73/23/EEC dated 19/2/73 amended by directive 93/68/EEC dated 22/7/93.
EMC Standards	Immunity: EN50082-2, EN61000-4-2, EN61000-4-4, ENV50140, ENV50141, ENV50204. Emission: EN50081-2, EN55011 Class A, IEC 1800-3 Second (Industrial) Environment.
EMC Filters	EMC filters are incorporated in the TE200S and TE200A to reduce conducted emission in accordance with the corresponding test standard.
Operating temperature	0 to 60 Deg. C. Nominal ratings specified at 45 Deg. C (see derating curves).
Storage temperature	-10 Deg. C. to +70 Deg. C.
Atmosphere	Electrically conductive pollution must be excluded from the cabinet in which the unit is mounted. This product is not suitable for use above 2000m or in corrosive or explosive atmospheres without further protection.
Humidity	RH; 5% to 95%, non-condensing, non-streaming.
Pollution	Pollution degree 2 permissible, defined by IEC 664. Over voltage category 3 defined by IEC 664.
Protection (mechanical)	IP20 (in compliance with IEC 529)
Dimensions (H x W x D mm)	189 x 116 x 131 for 16A, 25A, 40A and 50A units - natural cooling. 195 x 116 x 131 for 63A fan cooled unit.
Weight	16A, 25A, 40A and 50A units; 2.3kg. 63A (fan cooled) units; 2.9kg.
Mounting	Symmetrical DIN rail to EN 50022 standard (2 off) or bulkhead mounting.

TE200S Solid State Relay

Input	DC or AC Logic. Factory set according to the order code - not customer configurable.
DC input:	ON > 5V or 5mA(max.32V,10mA). OFF < 2V or 0.5mA.
AC input (24 to 48 Vac).	ON > 20Vac (max 53Vac). OFF < 5Vac. Impedance; 2.2K (50Hz and 60Hz).
AC input (100 to 230Vac).	ON > 85Vac (max 253Vac) OFF < 10Vac. Impedance; 9.6K (50Hz), 8.0K (60Hz)
Firing mode	Logic ON/OFF, zero crossing firing with LED indication.

TE200A Analogue input burst firing thyristor

Input	Analogue; 0 to 5Vdc, 0 to 10Vdc or 4 to 20mAdc, selectable by internal solder links. Impedance; voltage input 100K, current input 250 ohm.
Firing mode	Potentiometer; 10K potentiometer supplied by 5V user voltage (input configured as 0 to 5V) Single Cycle or Burst Firing with modulation period of 30 cycles at 50% power and 6 seconds at very high and low powers. Zero crossing firing with LED indication of status.
Control performance	The total power controlled in the three phase load (V ²) is proportional to the setpoint. Linearity: Better than +/- 2% of full scale. Stability; For +/- 10% supply voltage variation, stability is better than +/- 2% of full scale. (V ² compensation for supply variation).
Option	Auxiliary power supply. It is possible to operate on a non-standard three phase supply by separately supplying the electronics with 115Vac or 230Vac.

ORDERING CODE - TE200S Solid State Contactor

Basic product	Current	Voltage	Fan supply	Input signal	Mounting	Manual language	
TE200S							00

Basic product	Code	Voltage (Vac)	Code	Input signal (Logic)	Code
	TE200S	200, 220, 230, 240 volts	240V	Universal DC	LGC
Current		380, 400, 415, 440, 480 volts	480V	24-48Vac	LAC
16 amps	16A	500 volts	500V	100-230Vac	HAC
25 amps	25A	Fan supply (63 amp units)			
40 amps	40A	No fan (16A to 50A rating)	000	Mounting	
50 amps	50A	115V	115V	Bulkhead	BKD
63 amps †	63A	230V	230V	DIN rail	DIN
† Fan cooled (13 watts)				Manual language	
				English	ENG
				French	FRA
				German	GER

ORDERING CODE - TE200A Analogue input burst firing thyristor

Basic product	Current	Voltage	Fan supply	Input	Firing	Mounting	Manual language	Option	
TE200A									00

Basic product	Code	Fan supply (63 amp units)	Code	Manual language	Code	
	TE200A	No fan (16A to 50A rating)	000	English	ENG	
Current		115V	115V	French	FRA	
16 amps	16A	230V	230V	German	GER	
25 amps	25A	Input				
40 amps	40A	0-5Vdc	0V5	Option**		
50 amps	50A	0-10Vdc	0V10	Separate power supply		
63 amps †	63A	4-20mA	4mA20	115 volts	115V	
† Fan cooled (13 watts)		Firing mode			230 volts	230V
		Single cycle	FC1	** Non-standard mains; use voltage coding for the next highest voltage and choose the required separate Power Supply Voltage .		
Voltage (Vac)		Burst firing	FC			
200 volts	200V	Mounting				
230 volts	230V	Bulkhead	BKD			
240 volts	240V	DIN rail	DIN			
277 volts	277V					
380 volts	380V					
400 volts	400V					
415 volts	415V					
440 volts	440V					
480 volts	480V					
500 volts	500V					

FUSES AND FUSEHOLDER for TE200S and TE200A

(Not recommended for short wave infrared applications)

TE200 Rating	Fuse & fuseholder (2 off required)	Dimensions (H x W x Dmm)	Spare fuse
16A	FU1038/16A/00	81 x 17.5 x 68	CH260024
25A	FU1038/25A/00	81 x 17.5 x 68	CH260034
40A	FU1451/40A/00	95 x 26 x 86	CH330054
50A	FU2258/50A/00	140 x 35 x 90	CS173087U063
63A	FU2760/63A/00	150 x 38 x 107	CS173246U080

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