

TM3007 Technical Manual

Revision: 2.03

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IMPORTANT NOTES

This documentation has been made solely to serve as an aid to the stoker producer to describe his product. Techno-Matic A/S does not issue any warranty that this documentation fulfils or satisfies the national or international demands for documenting the product since this is the duty of the individual stoker producer. However, Techno-Matic A/S will be thankful for any comment or advice that may help to improve this manual.

Please note: You must always turn off the power supply before actually touching anything in the system in order to avoid dangerous situations. Only persons with permission from the stoker producer and with an authorization in accordance with the national legislation must carry out any interventions/repairs in the installations.

1 TRANSIENT PROTECTION

In order to secure the controller against interference, relays and solenoid valves should be transient protected. (DC relays and solenoid valves with diodes and AC relays and solenoid valves with RC filter).

2 POWER CURRENT CONNECTIONS

IMPORTANT: Always prefuse the system with maximum 10A prefuses. Always make sure not to exceed the maximum limit of the total load on the outputs.

Power Supply		
Terminal Main supply N L GROUND (Earth)	Supply for system	230VAC (L) 50(60)Hz Maximum prefuse 10A
Boiler overheat switch		Maximum total load on all outputs 2000W
Supply returning to board Supply out to switch GROUND (Earth)	The outputs: power out 1 to 4 + relay output 1, are supplied from the overheat switch.	
Power outputs		Outputs 1 to 4: Overall load max. 2000W
Power out 1 to 4 GROUND (Earth)	U N Connecting to Motors which are starting and stopping often	230VAC (U). Maximum load 500W on a single output. Notice! Minimum load 15W
Relay out 1 GROUND (Earth)	U N Connecting to a Motor that starts and stops seldom, e.g. ignition	230VAC. Maximum load 2000W Notice! Minimum load 10W
Relay out 2 GROUND (Earth)	U N Connecting to a motor which should not be interrupted by the "Boiler overheat switch"	230VAC. Maximum load 1000W Notice! Minimum load 10W

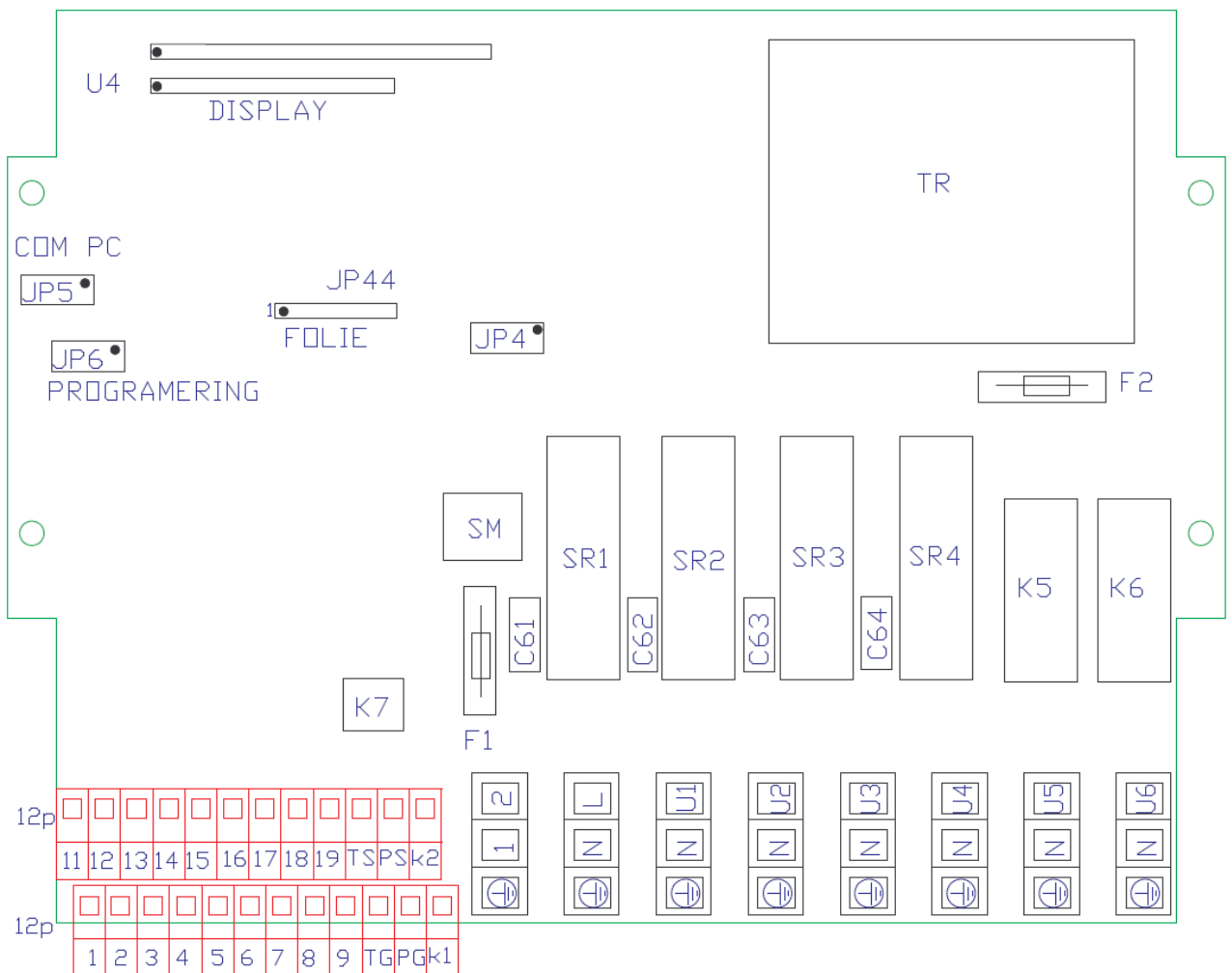
3 SENSOR CONNECTIONS

Digital Inputs		
Terminals 1 & 11	Digital input	On/off switch
Terminals 2 & 12	Digital input	On/off switch
Terminals 3 & 13	Digital input	On/off switch
Terminals 4 & 14	Special functions input	On/off switch
Analogue Inputs		
Terminals 5 & 15	Boiler Temperature Sensor	NTC thermistor (12kOhm at 25 °C)
Terminals 6 & 16	Stoker Tube Temperature Sensor	NTC thermistor (12kOhm at 25 °C)
Terminals 7 & 17	Photo Sensor Exhaust Gas Temperature Sensor	Danfoss LDS PT1000 (6 mW)
Terminals 8 & 18	Oxygen Sensor	Lambda probe
Supply oxygen sensor		
Terminals 9 & 19	Oxygen Sensor Heating Element	12VAC for Heating Element. Please Note: During the heating of the oxygen sensor, the supply for the computer will be gone for about 3 minutes!

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PWM Blower		
Terminals TG & TS	"Tacho" signal	TG = 0V. DC. TS = 5 V. DC.
Terminals PG & PS	PWM signal 10Vdc	PG = 0V. DC. PS = 10V PWM signal
Alarm Output		
Terminals k1 & k2	Alarm Output	Potential free output: Max. 1A. 30 V. AC/DC.

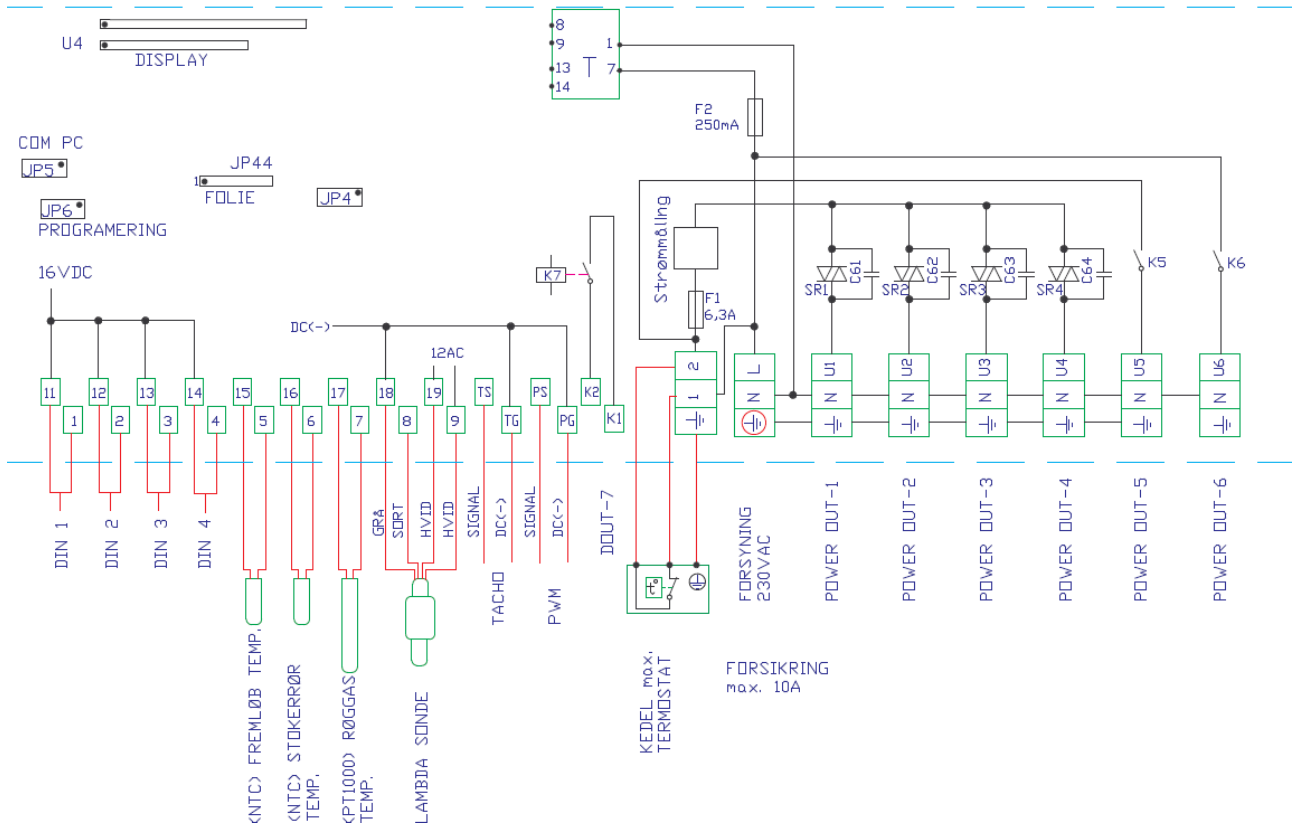
4 THE BOARD



Besides the terminals at the bottom of the print there are the following components/sockets:

F1	Fuse 6A	Fuse to protect SSR 1 to SSR4
F2	Fuse 250mA	Fuse on primary side of transformer
JP4	10-pol socket	Optional connector (Not in use)
JP5	10-pol socket	RS232 Connection (TM-Manager or GSM)
JP6	10-pol socket	Program Updating Connection
JP44	8-pol socket	Keyboard (foil)
SR1	Solid State Relay	Power out 1
SR2	Solid State Relay	Power out 2
SR3	Solid State Relay	Power out 3
SR4	Solid State Relay	Power out 4
K5	Relay	Relay out 1
K6	Relay	Relay out 2
K7	Relay	Alarm relay
SM	Current measuring	The current provided from SSR1 to SSR4 is measured by this unit.
TR	230V/12V	Transformer
U4	16-pol socket	Display

5 CONNECTING THE TM3007 BY 230 VAC



6 ENVIROMENT:

- Temperature: 0°-60° C
- Relative humidity: 10- 90 % non-condensing.
- Density: IP65
- Mounting: Indoor and mounted on wall, Boiler or other "not moving surfaces"