

温度调节控制器 Temperature controllers



使用简便 · 应用灵活 · 节省成本

EASY-TO-USE · FLEXIBILITY OF APPLICATION · EFFECTIVE COST SAVING

TH-M6 Control unit



■ 般特性

不论控制几个区段的温度，Thermoplay的最新温控器都具有以下特性：

- 克服不同的加热惯性，同步加热所有区域，不需要喷嘴加热启动的延迟。
- 感温线失灵时的从动：可转化为手动模式，操作员可以随便选择某个区域与另一个具有相似热性能的区域相连接。
- 注塑塑料泄漏报警：通过持续地物料消耗监测检测喷嘴处的泄漏，及时采取挽救措施。
- 一键式修改：按下控制面板的一个键，可立即调整系统的温度，修改所有区域的参数设定和报警。
- 快速、彻底的故障判断：温控器可以识别并提示感温线异常（断路和反向连接），保险丝、加热器和固态继电器故障以及某区段电流缺失。
- 自动调节优化电流使软启动更有效
- 电流输出不同步以避免电流高峰
- 两个独立的设定点
- 多语言支持
- 电源线连接错误导致的电压过大对电路板无影响
- 最高工作温度50° C
- 过载保护开关
- 400V 带地线的三项电源/240V不带地线的三项电源
- CE认证

可选项：

- 与注塑机连接的兼容性或紧急情况的显示输出。
- 2个温控器连接：只要与两个温控器中的任何一个连接，其任何区域的温度都会同步升高。

■ Main features :

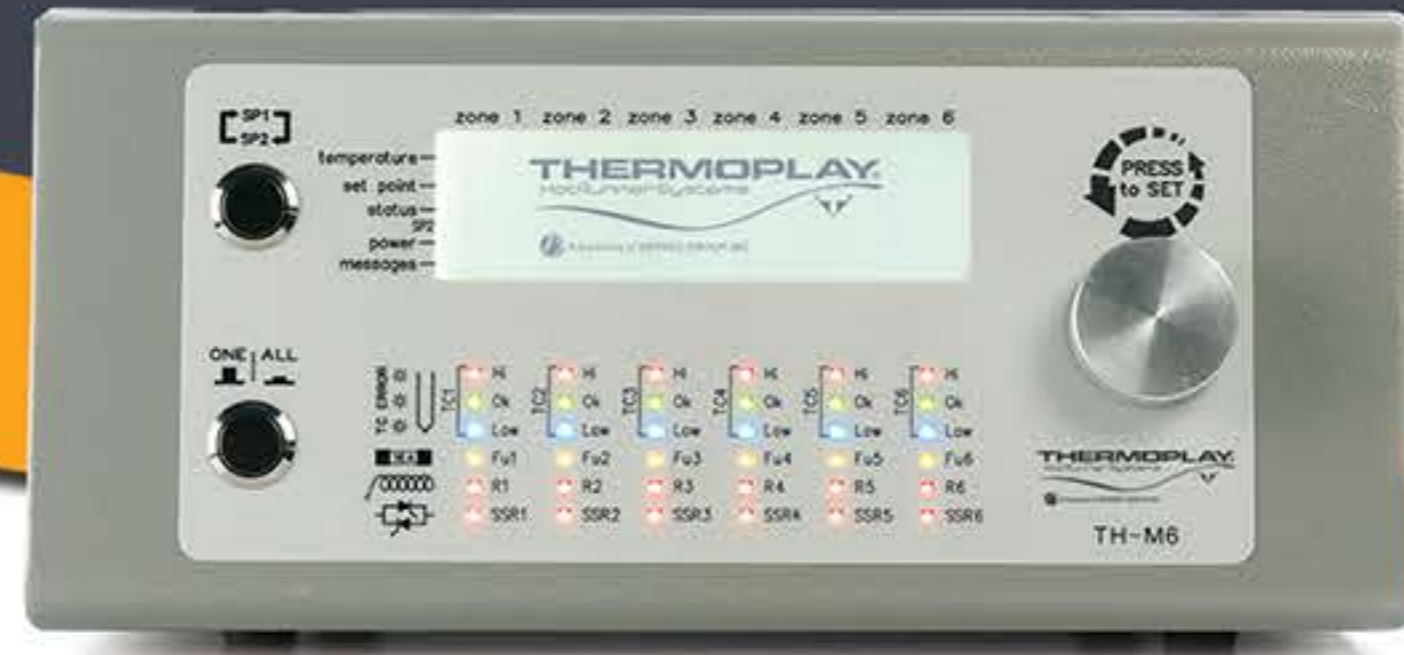
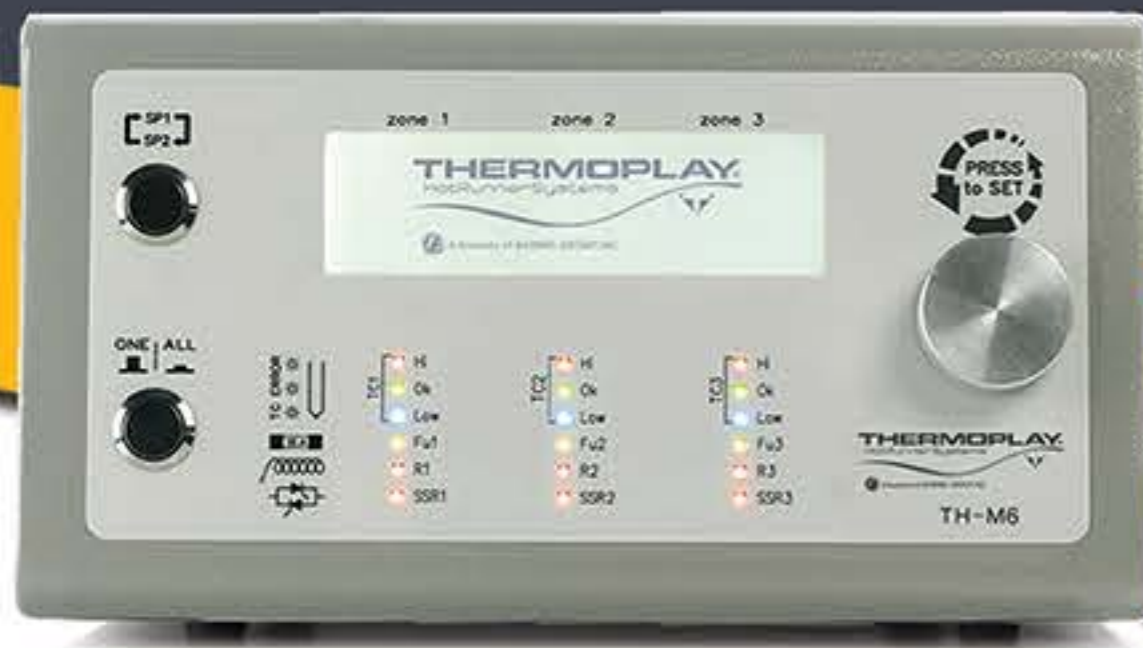
Regardless of the number of zones and operator interface, the new Thermoplay temperature controllers provide the following functions/key features:

- Synchronous increase of temperatures despite the thermal inertia of different zones: delayed start-up of the nozzle zones is avoided
- "Slave" function: each zone can be linked to another with similar thermal behaviour (operator's choice) if a thermocouple is interrupted. This is a valid alternative to manual operation.
- Plastic leakage alarm: the controller continuously monitors each zone's absorption and allows immediately intervention if plastic leaks from a nozzle.
- Collective modification of all zones: set temperature and all the control and alarms parameters can be simultaneously modified on all the zones. This happens by pressing a panel button.
- Immediate and complete diagnostic: the controller identifies and signals the thermocouple failures (breaking and inverted connection), fuse and heater interruption, solid state relay faults, phase power supply interruption.
- Phase modulation adjustment for a more efficient soft start
- Regulation outputs offset to avoid absorption peaks on three-phase mains
2 independent set points.
- Multi language
- Electronic board immune to over-voltage due to incorrect connection to power supply line.
- Max working temperature: 50°C
- Main protection with circuit breaker
- 3-phase 400V supply voltage with neutral, 3-phase 240V without neutral
- CE Certification

Optional:

Alarm/enabling outputs for connection with injection press
Interconnection of 2 (or more) controllers: all zones connected to one of the two control units (regardless of which) will follow the same temperature increment.





■ 温控器TH-M6 3-6-12 zone

特性:

- 高强度的散热器使每个区段电流均为16 A (3500 W)
- 迅速彻底的故障判断: 每区段6个 led 灯可以在单个调节阶段失灵的时候明确显示故障出现位置
- 240x64高分辨率的显示屏: 同步显示每个控制区域的所有信息
- 出现异常情况时向操作员显示求救信息
- 尺寸: 290长 x 160 高 x 420宽 mm (3区段)
340长 x 160 高 x 420宽 mm (6区段)
390长 x 210 高 x 480宽 mm (12区段)

可选项:

- 通过RS485 (Modbus RTU) 远程连接。
- 最多可容纳3台温控器的推车。

■ TH-M6 control unit 3-6-12 zones

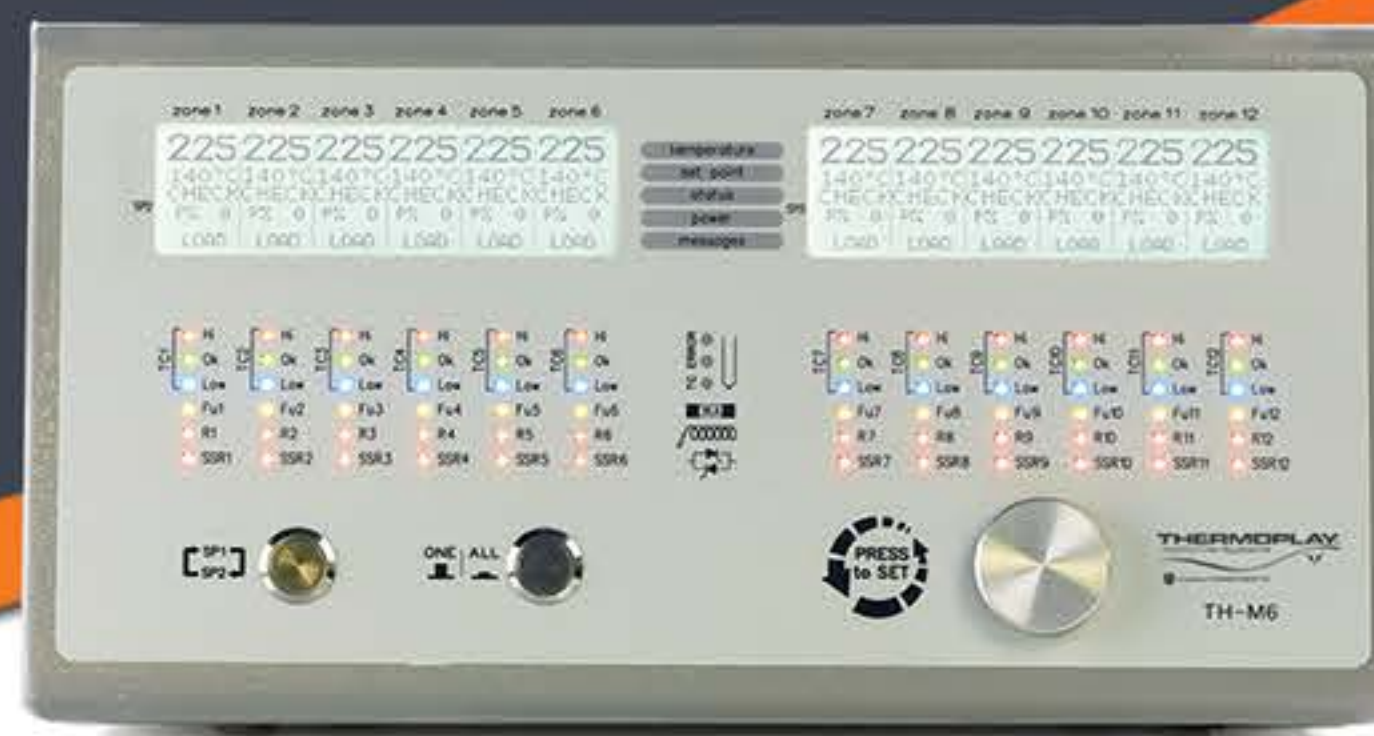
Technical characteristics:

- 16 A for each zone (3500 W) even simultaneously, thanks to the high heat exchange self ventilated heat sink
- Immediate and complete diagnostic: 6 led for each zone indicating all possible failures in the adjustment loop.
- Wide graphic display (260x64 pixel): simultaneously displays all information related to each controlled zone
- Scrolling messages help the operator in case of alarm
- Dimensions: 290 W x 160 H x 420 D mm (3 zones)
340 W x 160 H x 420 D mm (6 zones)
390 W x 210 H x 480 D mm (12 zones)

Optional:

- Remote connection through serial RS485 interface (Modbus RTU)
- Support trolley up to 3 control units





温控器TH-M6

TH-M6 temperature controllers

TH-M6 3-6-12区段温控器的可控区段有如下选择:

The number of zones of TH M6 3-6-12 zones control units, can be configured depending on your requirements according the following:

	TH M6 -3 3区段	TH M6 -6 3-6区段	TH M6 -12 7-12区段
标准 Standard	3	6	12
可选 Optional		5	11
		4	10
		3	9
			8
			7

此种配置的温控器可控区段可以通过相应系统根据客户要求拓展。

The number of zones of configured control units can be further expanded - upon request, depending on the number of zones to increase - through a special enabling procedure.



24-48区段温控器
每组控制6区段
24÷48 zones, modules of 6 zones
(24, 30, 36, 42, 48)



24-240区段温控器
每组控制6区段
24÷240 zones, modules of 6 zones
(... , 48, 54, ..., 240)



- 可以把多个温控器相连使配置区域在3到240之间。
- 连接多个温控器的线缆保证了同步升温。

- It is possible to connect multiple units in series to get intermediate configurations from 3 to 240.
- The connection is made through a cable in order to extend the function of synchronous increase.

THM6 24-48

■ 最多可以控制48区段的温控器TH-M6

(24, 30, 36, 42, 48) - 6的倍数

特性:

- 高强度的散热器使每个区段电流稳定在16A (3500 W)
- 强大的控制软件
 - 菜单
 - 自动测试加热元件和温度传感器的电气连接
 - 传统的报警和过程数据以图形显示
 - 带抓取功能的环境同步
 - 登录已执行操作
 - 撤销功能
- 高性能的操作员终端
 - 10" LCD / TFT显示屏
 - 分辨率1024x600 (最大1024x768)
 - 铝合金制前面板
 - 触摸屏跟踪系统

可选项:

通过本地网络、带Wi-Fi的互联网或以太网监控

■ TH-M6 Control unit up to 48 zones

24, 30, 36, 42, 48 - multiples of 6 zones

Technical characteristics :

- 16 A for each zone (3500 W) even simultaneously, thanks to the high heat exchange self ventilated heat sink
- Powerful control software:
 - Recipes
 - TEST environment to automatically test the electric connections of the heaters and of the temperature probes
 - Process data and alarms log, graphic display and export
 - Synoptic ambient with drag&drop function
 - Log of executed operations
 - "Undo" function
- High performing operator terminal:
 - 10" LCD/TFT display
 - 1024x600 (max 1024x768) resolution
 - Aluminium front panel
 - Touch screen

Optional:

Local or remote monitoring through Wi-fi or Ethernet connection



THM6 *EVO* HP

■ 带操作员终端的最多可控240区段的温控器TH-M6 Windows

■ TH-M6 control unit up to 240 zones with Windows operator terminal

般特性

- 安装在用于加热流道板的电路板上的高强度散热器使每个区段电流稳定在16A (3500W)
- 用于加热喷嘴的新型电路板耐受电流更小 (每区段最大6.3 A)
- 通过Ethernet (Modbus TCP) 连接操作员终端
- 超强的控制软件
 - 菜单
 - 自动检测加热元件和温度检测器的电路连接
 - 以图表形式显示和输出报警历史和工作记录
 - 有文件夹导出功能的全面监控环境
 - 已执行操作清单
 - “取消已执行操作” 功能
- 功能强大的操作员终端
 - 15” 触摸宽屏
 - 坚硬的铝合金结构
 - 前端USB 接口
 - 带有5个功能按键
 - 通过互联网远程技术支持
- 可选项:
 - 独立的操作员终端

Technical characteristics :

- 16 A for each zone (3500 W) even simultaneously, thanks to the high heat exchange self ventilated heat sink on the manifolds heating boards
- New smaller boards (max. 6.3 A for each zone) for heating the nozzles.
- Ethernet connection with operator terminal (Modbus RTU)
- Powerful control software:
 - Recipes
 - TEST environment to automatically test the electric connections of the heaters and of the temperature probes
 - Process data and alarms log, graphic display and export
 - Synoptic ambient with drag&drop function
 - Log of executed operations
 - “Undo” function
- High performing operator terminal:
 - Wide 15" touch screen display
 - Cast aluminium sturdy structure
 - Front USB
 - 5 hardware function keys
- Remote technical support through internet

OPTIONAL:

- Stand alone control panel



THM6 *SERIES*

温度调节控制器

Temperature controllers



功能 FUNCTIONS	3 ZONES/区段	6 ZONES/区段	12 ZONES/区段	48 ZONES/区段	240 ZONES/区段
EXPANSION CAPABILITIES, SYNC	✓	✓	✓	✓	✗
COMPLETE DIAGNOSTIC	✗	✗	✗	✓	✓
MANUAL / AUTO MODES	✓	✓	✓	✓	✓
T/C SLAVE FUNCTION	✓	✓	✓	✓	✓
COLLECTIVE SETTING	✓	✓	✓	✓	✓
BOOST FUNCTION	✗	✗	✗	✓	✓
% OUT VOLTAGE DISPLAY	✓	✓	✓	✓	✓
PASSWORD	✓	✓	✓	✓	✓
ALARM INPUT/OUTPUT	✓	✓	✓	✓	✓
PROGRAMS PRESET	✗	✗	✗	✓	✓
DATA AND ALARMS LOG	✗	✗	✗	✓	✓
MATERIAL LEAK DETECTION	✓	✓	✓	✓	✓
SYNC. TEMP. INCREASE	✓	✓	✓	✓	✓
T/C FAILURES DETECTION	✓	✓	✓	✓	✓
SOFT START PRE-HEATING	✓	✓	✓	✓	✓
SYNOPTIC DISPLAY	✗	✗	✗	✓	✓
REMOTE MONITORING	✗	✗	✗	✓	✓

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