



DME SMART SERIES® 2.0

**UNCOMPROMISINGLY SIMPLE AND INTUITIVE
HOT RUNNER TEMPERATURE CONTROL**

Long-lasting and Reliable

3-sided LED Light Band Beacon

A 3-sided LED light band beacon indicates the operating status, which can be seen from a distance. Green indicates that everything is okay. Yellow signals non-critical deviations from normal operation, while red indicates errors or critical deviation.



Tiltable Display

The tiltable display ensures an optimum reading angle and thus reduces incorrect entries. Even when the display is tilted, the display electronics are 100% protected against accidental contact.



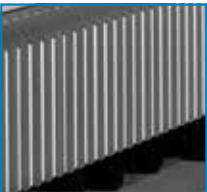
Service Friendly Design

The power cards are easily replaceable without opening the device. The fuses are accessible from outside and can be quickly replaced.



External Heat Sink

The external heat sinks ensure continuous heat dissipation. This maximizes the service life of the electronics.



Power Wiring #14AWG

The maximum heating current of 15 amps is guaranteed even at increased temperature inside the device. This is ensured by the robust power wiring using #14AWG wire.



Short Circuit Proof Outputs

The intelligent electronics detects short circuits when switching on and thus prevent the output circuits from being damaged due to excessive currents.



15 Amp Outputs

Each individual output of the hot runner controllers is capable of supplying up to 15 amps.

A special assignment of the outputs for nozzles or manifolds is not necessary.



Tabletop Units

ITEM NUMBER	ZONES	Main Amperage	Includes
MPC0615SS	6 Zones	40 amp	Integrated 7" Display
MPC01215SS	12 Zones	63 amp	Integrated 7" Display
MPC01815SS	18 Zones		Integrated 7" Display
MPC02415SS	24 Zones		Integrated 7" Display
MPCR02415SS	24 Zones		Integrated 7" Display + Remote Display Output*
MPC03015SS	30 Zones		Integrated 7" Display
MPCR03015SS	30 Zones		Integrated 7" Display + Remote Display Output*
MPC03615SS	36 Zones		Integrated 7" Display
MPCR03615SS	36 Zones		Integrated 7" Display + Remote Display Output*

* Choosing "Remote Display Output" requires additional accessories below

Tower Units

ITEM NUMBER	ZONES	Main Amperage	Includes
MPC04815SS	48 Zones	125 amp	Integrated 10" Display
MPCR04815SS	48 Zones		Integrated 10" Display + Remote Display Output*
MPCD04815SS	48 Zones		External 19" Touchscreen Monitor
MPC06015SS	60 Zones		Integrated 10" Display
MPCR06015SS	60 Zones		Integrated 10" Display + Remote Display Output*
MPCD06015SS	60 Zones		External 19" Touchscreen Monitor
MPC07215SS	72 Zones		Integrated 10" Display
MPCR07215SS	72 Zones		Integrated 10" Display + Remote Display Output*
MPCD07215SS	72 Zones		External 19" Touchscreen Monitor
MPC08415SS	84 Zones		Integrated 10" Display
MPCR08415SS	84 Zones		Integrated 10" Display + Remote Display Output*
MPCD08415SS	84 Zones		External 19" Touchscreen Monitor
MPC09615SS	96 Zones		Integrated 10" Display
MPCR09615SS	96 Zones		Integrated 10" Display + Remote Display Output*
MPCD09615SS	96 Zones		External 19" Touchscreen Monitor
MPC10815SS	108 Zones		Integrated 10" Display
MPCR10815SS	108 Zones		Integrated 10" Display + Remote Display Output*
MPCD10815SS	108 Zones		External 19" Touchscreen Monitor
MPC12015SS	120 Zones		External 19" Touchscreen Monitor (only option)

* Choosing "Remote Display Output" requires additional accessories below

Note: Higher zone counts available

Accessories

ITEM NUMBER	DESCRIPTION
MPCDSPY-15	Remote 15" Touchscreen Monitor
MPCDSPY-19	Remote 19" Touchscreen Monitor

Remote Touchscreen requires purchase of one cable set below.

MPCDSPY1MC	1m Remote display cable set
MPCDSPY5MC	5m Remote display cable set
MPCDSPY10MC	10m Remote display cable set
MPCDSPYSTAND	Remote display magnetic stand
MPCDSPYMNT	Remote display machine mount







ITEM NUMBER
MPCTROLLEY



See back cover for replacement fuses

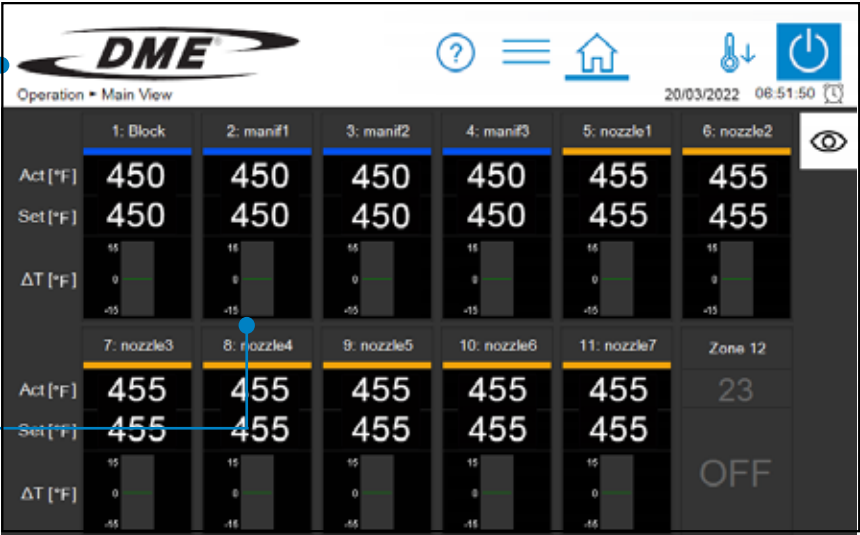


Simple & Intuitive

Clear Screen Layout with Intuitive Design

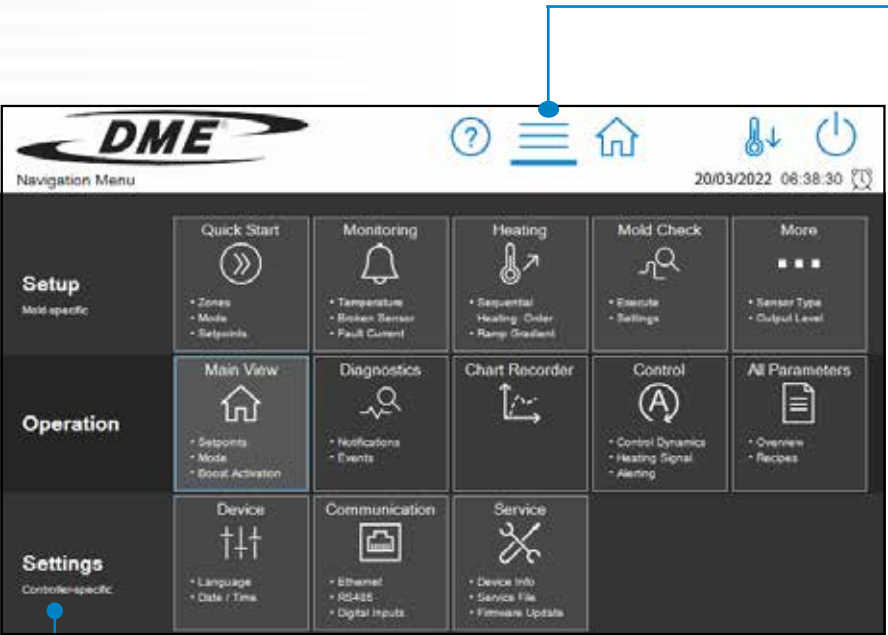
The menu bar is always visible and allows access at anytime to the main functions such as navigation , main view,  and switching outputs on and off  as well as activity standby .


In the main view  all zones are displayed with the relevant process values. Via the menu icon  you can access all functions and settings the controller has.



A clear and well-arranged structure of the user interface with icons and clearly visible touch fields (white) ensure intuitive and self-explanatory operation. A blue background means that a function is selected.

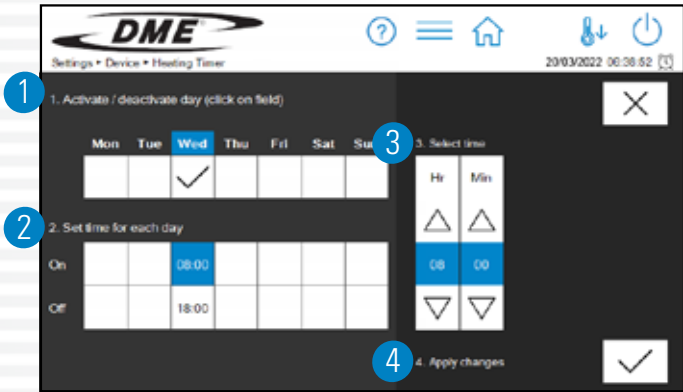
Smart Navigation



All functions are clearly displayed in the navigation menu and can be called up by one click. The navigation menu can be accessed via the menu icon .

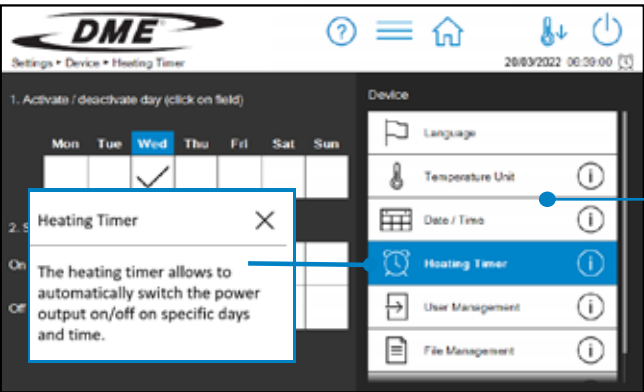
The functions are divided into the areas of mold-specific set-up, operation and controller-specific settings in a user-oriented manner.


Operator Guidance



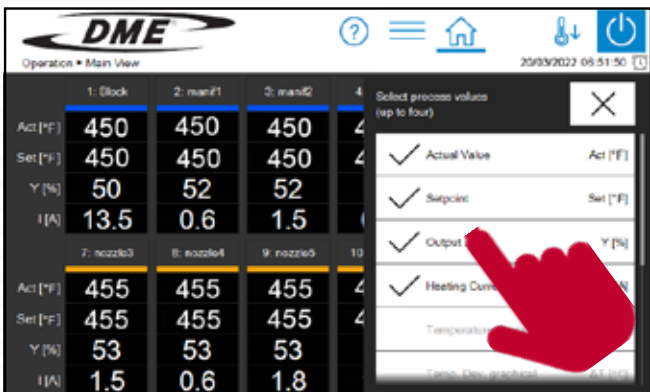
All user defined parameters are clearly identified on each screen, making inputs intuitive and eliminating the need of constant reference to the manual.

Explanation at the Touch of a Button



A brief description of each function can be called up by touching the icon . This avoids tedious searching in the manual.

Individual Zone Display



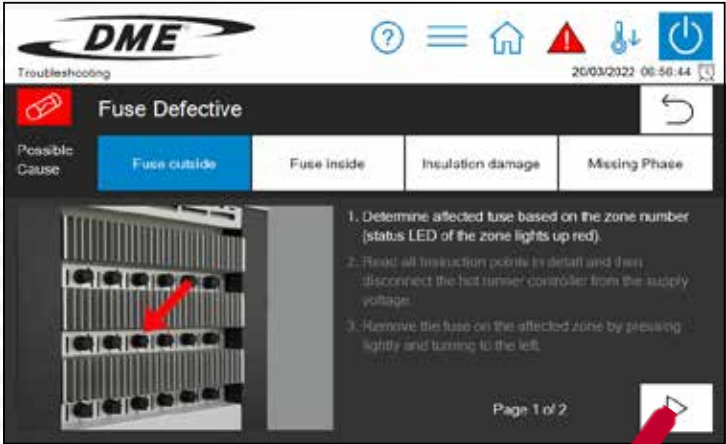
The operator can determine from numerous process values those that are to be shown in the zone display. Up to 8 values can be displayed per zone.

Quick Start




Quick start guides you through the essential settings (groups, operating mode and setpoints) to put the controller into operation quickly and safely when changing molds.

Integrated Service & Support



Troubleshooting Made Easy

When a malfunction occurs, the user receives precise instructions in words and pictures on how to proceed with troubleshooting. By clicking on the arrow button  the instructions can be displayed step by step.

This allows troubleshooting to be carried out extremely efficiently, thus keeping downtimes to a minimum.

In the example, the fault "Fuse Defective" is present.



Mold Check

The mold check tests the wiring of sensors and heaters and is particularly useful when setting up a new mold.

The mold check detects swapped sensors, heaters or connectors, reversed sensor polarity and sensor short circuit.

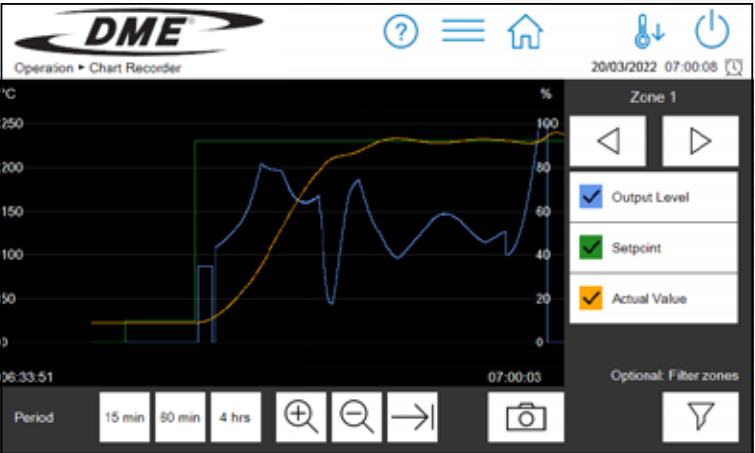
Results can be saved in a protocol.



Chart Recorder

The chart recorder is used to analyze the control behavior of zones displaying the time course of the process values setpoint, actual value and output level in a curve diagram.

The diagram can be saved as a screen shot for further analysis.



Event List

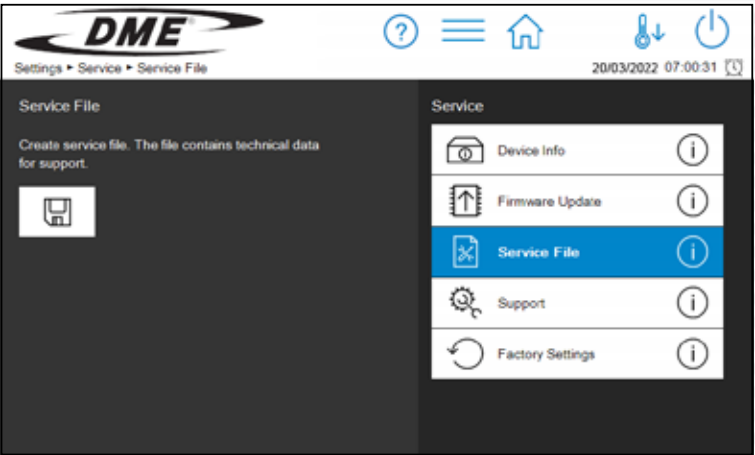
All changes of state of the controller, whether faults or changes of setting, are recorded chronologically in an event list.

With this completed documentation, the process can be optimized and errors tracked.

Service File

The service file contains technical data that provides valuable information for error analysis. It is helpful when a malfunction cannot be solved right away and therefore technical support has to be called in.

Generated with one click, the file can then be forwarded by email to Technical Support, who can perform an in-depth analysis based on the data.



Controller Operation Industry 4.0

Operation with Notebook/Tablet etc.



The MPC Hot Runner Controllers have a VNC (Virtual Network Computing) server. This technology enables the controller’s screen content to be displayed on a remote computer. In this way, the MPC hot runner controllers can also be operated via mobile devices such as notebooks, tablets or smartphones. All that needs to be installed on the mobile device is VNC viewer (available for free on the internet).

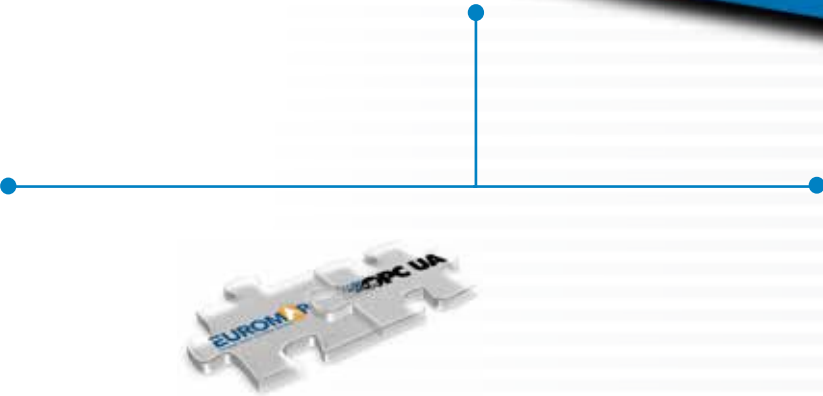
Operation via Injection Molding Machine



With the VNC technology described above, the MPC hot runner controllers can also be controlled remotely via an injection molding machine, provided it has a VNC client. The controller can be operated from the injection molding machine in exactly the same way as via the integrated touch display. Operation on the controller is still possible without any restrictions.



Both tabletop and large units on rollers can be remotely operated via a 15” or 19” touch monitor. The maximum cable length is 10m for remote display installation.

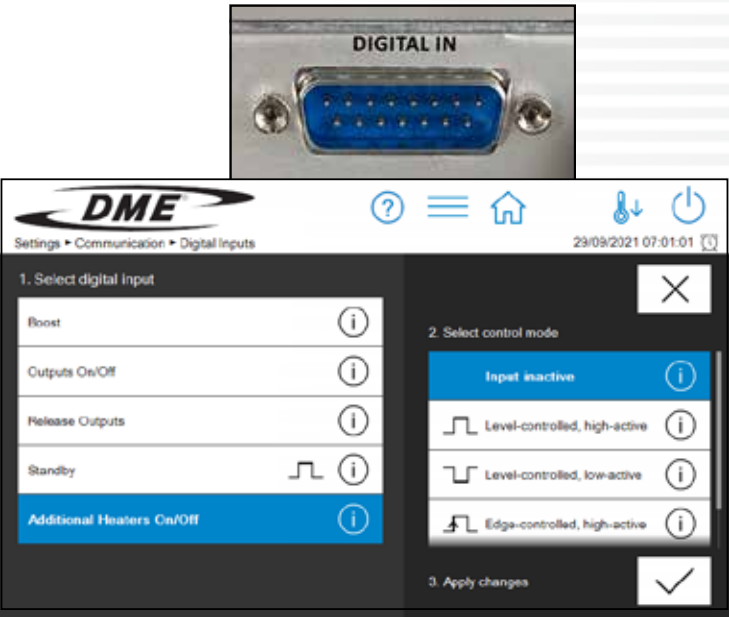


OPC UA is a cross-industry communication standard. It is the basis of Euromap 82.2, which defines the parameterization of any hot runner controller for interface with the injection molding machine.

Control Signals

The injection molding machine can activate certain functions via digital control signals on the hot runner controller without the user having to take manual action. The following functions can be activated under machine control:

- Boost
- Switching outputs on and off
- Enable the output signals
- Standby
- Switching additional heaters on and off



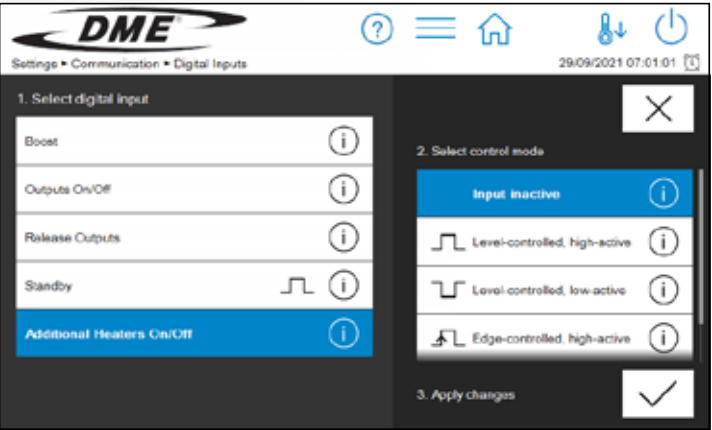
Flexibility for Your Process

Control up to 360 zones in a device network



The device network allows several MPC hot runner controllers connected via Ethernet to be used as one device. All settings can then be made centrally from one controller. This allows applications with up to 360 zones to be implemented.

Setting the controller network is very simple. The user is guided through the settings step by step. In this way, the service philosophy of the MCP hot runner controllers is also strictly followed here.



Function - Additional Heaters

The function “additional heaters” supports, for example, the preheating of molded parts in a 2-step production process before they are fed into the actual injection molding process.

Selected heaters of the preheating station can be switched on and off separately via a digital input on the controller.

More Functions:

- Recipe management
- User levels with password protection
- Boost, Standby
- Continued heating in case of sensor break - Heating can be continued with a freely selectable output level, with the average output level or with the output level of a reference zone
- Comprehensive monitoring functions for: Sensor break, reversed sensor polarity, sensor voltage, heater current, load short-circuit, heater interruption, temperature deviations, output level, fault current, fuse, triac, relay
- Timer - switch outputs on and off automatically at specific days and times
- Combined heating, sequencing heating or combination of both functions, gentle heating (Softstart)
- Delta and WYE AC inputs
- Languages: English, German, Spanish, French, Italian, Czech, Polish, Russian, Japanese, Chinese

MPC Trolley



The MPC Trolley allows convenient placement and operation of the MPC tabletop units.

The trolley is very stable, with high quality construction and a large storage compartment for cables. Furthermore, a shelf for storing documents is welded in place. The smooth-running swivel casters ensure safe transport. With wheel locks, the trolley can be securely fixed.

Functions at a Glance



Operation / Display

Operation tabletop devices	7" Touch-display-integrated
Optional	15" Touchscreen Monitor
Operation large devices	10" Touch-display integrated or 19" Touchscreen Monitor

User interface

Self-explanatory user interface	✓
Quick start	✓
Operator guidance in plain text	✓
Explanation of functions and settings at the touch of a button	✓
Index	✓
Individual zone display	✓
Graphical display of temperature deviation	✓
1-Touch setpoint change	✓
Status display of the zones	✓
Clear fault display	✓

Functionality

LED light band beacon to indicate the operating status	✓
Multiple languages (10 languages)	✓
Group zones	✓
Mold check	✓
Gentle heating	✓
Sequential heating	✓
Boost	✓
Standby	✓
Combined heating	✓
Controller network up to 360 zones	✓

Overvoltage protection	✓
Delta / Wye / Single Phase AC input	✓
User levels with password protection	✓
Timer	✓
Chart recorder	✓
Individual shut-down of zones	✓
Step-by-step troubleshooting	✓
Event list	✓
Service file	✓
Short circuit detection at power up	✓
Recipe management	✓
Maintenance without opening device	✓

Extensive monitoring functions

Temperature alarms	✓
Heating current	✓
Heating circuit interruption	✓
Fuse failure	✓
Melt leak detection	✓
Sensor break	✓
Reversed sensor polarity	✓
Fault current	✓
Output level	✓
Triac defective	✓
Relay defective	✓

Data interfaces/protocols

Ethernet interface	✓
RS485	✓
USB	✓
OPC UA according to Euromap 82.2	✓

External control signals

Outputs On/Off	✓
Output enable	✓
Standby	✓
Boost	✓
Additional heater on/off	✓

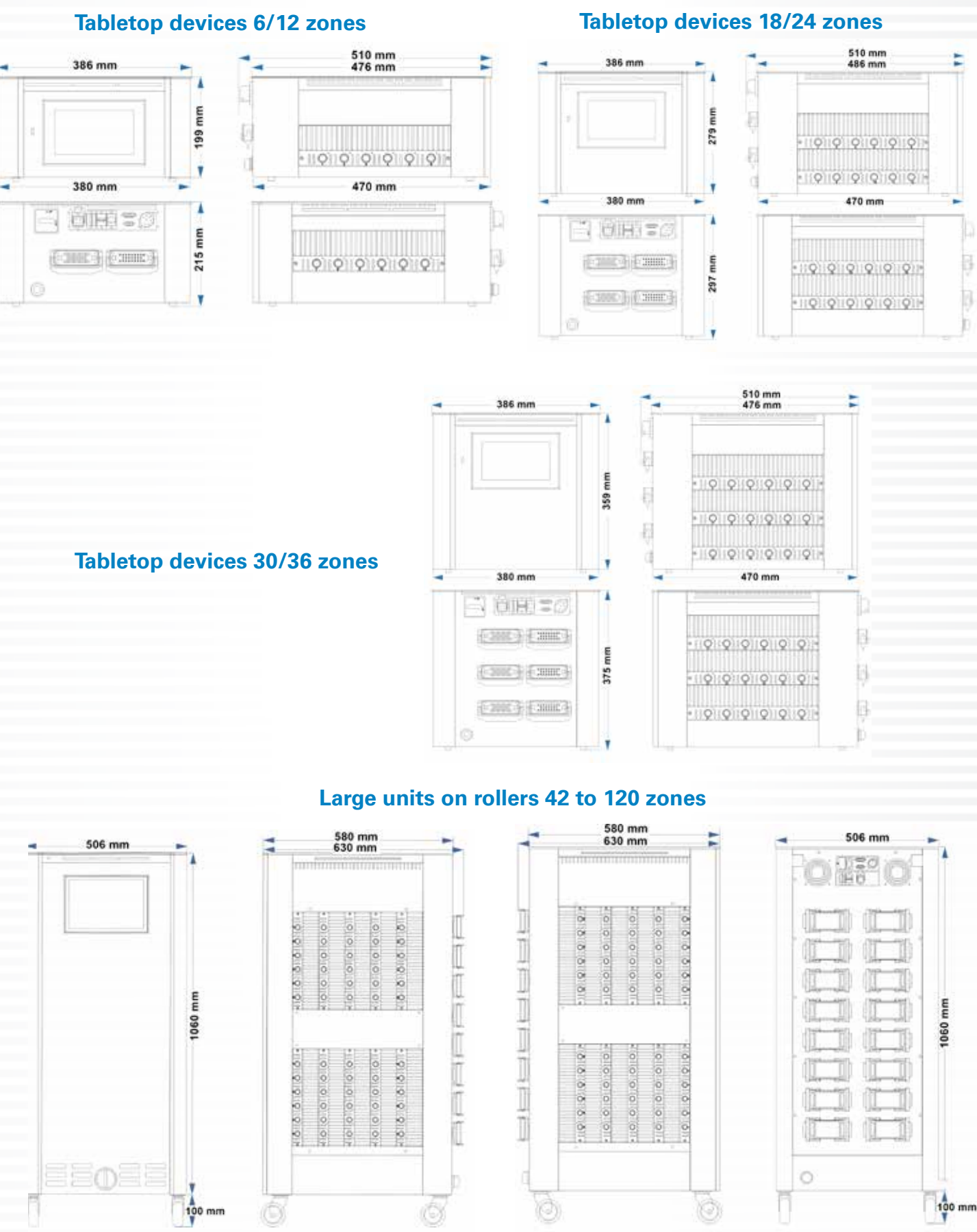
Notification contacts

2

















Technical Data

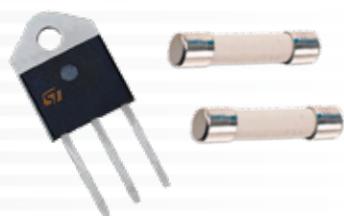
Operation and display	7" or 10" touchscreen, resistive
Housing	
Housing material	Galvanized steel
Protection type	IP 20
Environmental conditions	
Operation temperature	32 to 122°F (0 to 50°C)
Humidity	0 to 90% rel. humidity, no condensation
Storage temperature	-13 to 167°F (-25 to +75°C)
Mains supply	
Supply voltage	3-Phase 240 VAC DELTA or 1-Phase 208-240 VAC
Switchable to	3-Phase 380 VAC WYE
Tolerance	+10% / -15%
Power consumption (while idle)	7 W +5 W per power board
Control voltage	
Internal inputs	+24VDC
Protection	1 x 2A medium delay (5x20mm)
Thermocouple inputs	
Thermocouple / Temperature range	FeCuNi (Type J) Switchable to: NiCr-Ni (Type K) 0 to 1,526°F (0 to 830°C)
Cold junction compensation	Integrated / Automatic
Thermocouple resolution	0.18°F (0.1°C)
Thermocouple accuracy	+/- 0.3% full scale (1,436°F / 780°C)
Load outputs	
Per zone	1x heating, 230V AC switching
Control time (phase angle/pulse package)	10 ms at 50Hz - 8.3 ms at 60Hz
Control accuracy (automatic model)	0.18°F (0.1°C)
Minimum load	max. 16 A with 80% switch-on duration per zone
<i>Caution: observe the total load capacity of the electrical connection cable</i>	
Signal shape	Pulse operation/phase control (automatic or manual selection)
Protection	2-pin; 6.3 x 32mm Internal: SIBA TYPE 16A T External: SIBA Type 16A GRL
Alarm notification outputs	
3x relay contact	Potential-free for max. 250 VAC
Maximum current	4 A for cos φ = 1; 2A for cos φ = 0.5
Digital inputs	
Insulated, potential-free	16 - 30 V DC
Data interfaces	
Ethernet	CAT 5
RS485	D-SUB 9-pin
USB	USB 3.0 standard

Dimensions



MPC Temperature Controller Component Ordering Information

ZONES	CONTROLLER	CABLES	TERMINAL MOUNTING BOX
12 ZONES OF CONTROL (15 AMP)	 MPC01215SS	 (1 each) + 	 (1 each)
24 ZONES OF CONTROL (15 AMP)	 MPC02415SS	 (2 each) + 	 (2 each)
36 ZONES OF CONTROL (15 AMP)	 MPC03615SS	 (3 each) + 	 (3 each)
48 ZONES OF CONTROL (15 AMP)	 MPC04815SS	 (4 each) + 	 (4 each)



ITEM NUMBER	DESCRIPTION
RPM0130	16 AMP MPC EXT LOAD FUSE, TYPE GRL 6.3 X 32MM (5PK)
RPM0131	16 AMP MPC INT LOAD FUSE, TYPE T 6.3 X 32MM (5PK)
RPM0132	2.5 AMP MPC CTRL FUSE, TYPE MT 5 X 20MM
RPM0133	40 AMP 600V MPC TRIAC, BTA41-600BRG
RPM0134	MPC 6 ZONE OUTPUT PC BOARD, FULLY ASST INCL HEAT SINK



World Headquarters

DME Company LLC

29111 Stephenson Highway
Madison Heights, MI 48071

800-626-6653 toll-free tel

248-398-6000 tel

888-808-4363 toll-free fax

www.dme.net web

dme@dme.net email

DME of Canada Ltd.

6210 Northwest Drive
Mississauga, Ontario
Canada L4V 1J6

800-387-6600 toll-free tel

905-677-6370 tel

800-461-9965 toll-free fax

dme_canada@dme.net email