



RAISE

THE BAR

BOLD3 | TEMPERATURE
CONTROLLER

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BOLD3 | TEMPERATURE CONTROLLER

BOLD3 is a controller that can control 12 zones comprehensively and shows off compact size and sturdy style.

It has a structure that the bumper cover interlocks up and down based on the 12-zone integrated control. It also has expandability that can control 24 zones when stacked in second layer.

It considers user interface adopting high-intensity blue LCD that matches user's eye level.



Main functions

Easy checking of defects by adopting a two-color (blue and red) LED

Operation/stop, standby, and boost function using the hot key

Separate setting screen for the field user and the supervisor to keep security

Soft start function for service life extension and protection of heater

Damage prevention via monitoring exothermic condition of control part

Support various languages, including Korean and English

Precision control

High precision PID Control suitable for various injection conditions

SelfTuning (Quick/Full) function detecting features of heater

Innovative bold style design

Compact size comparing to the number of maximum zones

Apply Bumper-type cover for external damage protection

Bold style design

Stylish Black High-Glossy display control panel

Easy to use

Integrated control with high brightness

Blue LCD (240 x 128) (Max. 12 zone)

Easy and intuitive MMI with 9 keys

Display operating condition by 2 colors
(Blue, Red) LED

Safety

High reliability hardware enhanced
overvoltage protection

Total 18 kinds of self-diagnosis for safety

Specifications

HMI	LCD	240 x 128 GLCD
	LED	2 colors (blue & red) 12 points
	Key	Tact switch 9 points

Input	Zone	4, 6, 8, 12 zone (Classification by model)
	Control Range	0 ~ 400°C
	Scan Rate	100 ms
	Scan Accuracy	±0.3% of FS
	Display Resolution Limit	0.1°C or 1°C
	Compensable Temperature Variation	± 2.0°C

Output	Zone	4, 6, 8, 12 zone (Classification by model)
	Output Mode	Phase angle control, Zero cross control
	Output Resolution Limit	Phase angle control: Approximately 1,000 resolutions, Zero cross control: 60Hz-120, 50Hz-100 resolutions
	Output Capacity	15A / zone(Max.), 50A / BOLD3(Max.)

Environment	Operating Temperature	0 ~ 50°C
	Operating Humidity	20 ~ 90% RH (Non-condensing)
	Storage Temperature	-10 ~ 60°C
	Insulation Resistance	500VDC, over 20MΩ (Power supply – other terminal)
	Permissive Signal Resistance of T.C	Less than 250Ω
	Withstand Voltage	1,500VAC 50/60Hz 1min. (Power supply – other terminal)
	Vibration Resistance	10 ~ 55Hz, Bandwidth 0.75mm, 3 directions 4 swings, 5min/swing
	Warming-up Time	Over 30min.

Power	Voltage	3 phase 4 wire 380V (±10%) or 3 phase 3 wire 220V (±10%)
	Rated Frequency	50/60Hz
	(Electric) Power Consumption	48W (12 zone, Max., No-load condition)

Data Communication	Protocol	EIA-RS485
	Max. Number of Connection	31 set
	Communication Method	Half - duplex 2 wire
	Communication Speed	19,200 bps
	Communication Distance	About within 1.2km

Other Detail	Electric Detection	0.0 ~ 20.0A
	Electric Detection Degree	±0.1A
	Radiator Temperature Detection	0.0 ~ 100.0°C
	Radiator Temperature Degree	±3°C
	Radiator Break Temperature	85 ± 3°C
	Fuse Rating	250VAC, 20A
Safety Relay	250VAC, 16A	

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RAISE

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CW991 | TEMPERATURE
CONTROLLER

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CW991 | TEMPERATURE CONTROLLER

Integrated Control System

Available to control the temperature and the Sequence Injection Timer

Available to manage the injection condition for each Mold as well the files and log

The central control system for for multi CW991 through network

Easy To Use

User friendly Color Touch LCD equipped with MMI

To prevent the error setting, the authority code is provided to each user

Customization

The optimized zone for the wide variety of injection environment

Available to provide the special function upon customer's request

Reliability

16 criteria internal safety inspections

CE certification, UL approved



Feature

The high precision and speed PID control system is applicable to the wide variety of injection environment.
(±0.018F(±0.01C)/20ms)

The Self Auto-Tuning mode to sense each heater's property

The Inter-Lock function is related to IMM protects Mold and prevents faulty products

The Audto Standby function is linked to the injection signal of Injection machine

When the temperature control sensor malfunctions, PV/MV Bypass enables the other one to play the role instead

The Soft Start function to protect heater from the cold starting

The Saving system for error occurrence and operating history

Specifications

HMI	Display	12" TFT Monitor		
	Input unit	4 wire Resistance-Type Touch Panel		
	Language	Korean / English/ Japanese/ Chinese		
Input	Zone	6 Zone/Unit		
	Thermocouple Type	TC-K(IIEC-584), TC-J(IIEC-584)		
	Control range	0.0 ~ 500.00 °C (32~932°F)		
	Scan Rate	20 ms		
	Scan Accuracy	± 0.5 % of F/S		
	Display Resolution Limit	0.1 °C or 1 °C		
	Compensable Temperature variation	± 2.0 °C (0 ~ 50°C)		
	Output	Zone	6 Zone/Unit	
Output Mode		Phase angle control, Zero cross control		
Output Resolution Limit		Phase Angle Control: Approximately 1,000 Resolutions Zero Cross Control: 60Hz/50Hz ~ 120/100 Resolutions		
Transmission Output		15A / Zone, 50A / Unit(6 Zone)		
Transmission Output period of renewal		0.02/1sec (Difference Between the output kind)		
Environment	Operating Temperature	0 ~ 50°C		
	Operating Humidity	20 ~ 90% RH (Non-condensing)		
	Storage Temperature	-25 ~ 70°C		
	Insulation Resistance	500VDC, Over 20MΩ [Input Power-Field Ground, Input / Output-Field Ground]		
	Permissive Signal Resistance of T.C	Less than 250Ω		
	Withstand Voltage	@1,500Vac, 50/60Hz, 1min [Input Power-F/G, Input/Output-F/G, Input/Output-Input Power]		
	Vibration Resistance	10 ~ 55Hz, Bandwidth 0.75mm, 3 directions 4 swings, 5 min/swing		
	Impact Resistance	147%, 3 directions-3 times		
	Magnetic Effect	Below 400 AT/m		
	Warming-up Time	Over 30 min		
	Net Weight	Cabinet Sizing	Max. Weight	Remarks
		72 108	Below Max 135kg Below Max 190kg	* 6 Zone/Unit : Max 2.6kg
	Power	Voltage	3phase 4wire 380V, 3phase 3wire 220V	
Rated frequency		50/60Hz		
(Electric) Power Consumption		154W, 175W, 217W, 260W, 315W (24, 48, 72, 96, 120 Zone - 220VAC)		
Data communication	Protocol	EIA-RS485/422, USB V2.0		
	Max. number of connection	Max. 21 IDs (include Master) Repeater is required if additional IDs are connected		
	Communication Method	Half - duplex 2 wire		
	Communication Speed	19,200 / 38,400 bps		
	Port Parameters	None parity, 8 Data, 1 Stop bit		
	Communication Distance	About within 1.2Km (Depending on the installation environment)		
Sequence timer [Optional]	Input	Injection Signal	24 VDC, 110VAC, 220VAC	
		Voltage	85~264VAC	
	Output	Relay	24VDC (Max. 100mA) x 16 outputs (valve gates)	
			110VAC (Max. 1A) x 16 outputs (valve gates)	
			220VAC (Max. 1A) x 16 outputs (valve gates)	
	System Rule	Mode	Mode A : Set Delay 1 time	
			Mode B : Set Delay 1, Open 1 times	
			Mode C : Set Delay1, Open1, Delay2, Open2 times	
Misc.	0.00 ~ 999sec			
	Independent running			
	Detect and display Solenoid Valve output voltage			
	Open all valve gates or individual valve gate.			

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