

HumiTherm Ultra

Temperature + Humidity (%RH) Control & Recording System with 8 / 16 Mapping Inputs

Operation Manual

This brief manual is primarily meant for quick reference to wiring connections and parameter searching. For more details on operation and application; please log on to www.ppiindia.net



101, Diamond Industrial Estate, Navghar, Vasai Road (E), Dist. Palghar - 401 210.
Sales : 8208199048 / 8208141446 Support : 07498799226 / 08767395333
E: sales@ppiindia.net, support@ppiindia.net
Jan 2022

Level	Sub-Level	Parameters	Range (Default)		
Operator		Temperature Set Value	Temp. Setpoint Low Limit to Temp. Setpoint High Limit (Default : 25.0 °C)		
		Temperature Low Deviation Alarm	0.2 to 99.9 °C (Default : 2.0 °C)		
		Temperature High Deviation Alarm	0.2 to 99.9 °C (Default : 2.0 °C)		
		%RH Set Value	%RH Setpoint Low Limit to Temp. Setpoint High Limit (Default : 60.0 %)		
		%RH Low Deviation Alarm	0.2 to 99.9 % (Default : 2.0 %)		
		%RH High Deviation Alarm	0.2 to 99.9 % (Default : 2.0 %)		
		SP Edit on Home Screen	Enable / Disable		
Supervisory	Recording	Recording Interval	1 to 250 Minutes (Default : 5 Minutes)		
		'Delete Record' Command	NA		
	Clock & Calendar	Calendar Date (DD/MM/YY)	NA		
		Clock Time (HH:MM:SS)	NA		
	SMS Alert	GSM Machine ID	1 to 128 (Default : 1)		
		Reset GSM Module	NA		
	Door Lock Access	Lock Position (On / Off)	Solenoid ON / Solenoid OFF (Default : Solenoid OFF)		
		Password Entry	NA		
	Standby Switching	'Switch Main/Standby Outputs'	NA		
		'Switch to Standby Sensors'	NA		
Maintenance	Repair Acknowledge 'Control Gadget' 'Input Sensor'	NA			
Factory	Input Settings	Input Type	*RTD Pt100, 0 to 20mA, 4 to 20mA, 0 to 5V, 0 to 10V, 1 to 5V (Default : For Temp. Input : RTD Pt100 For %RH Input : 0 to 5V) *Available for Temp. Input Only		
		Signal Range Low	Input Type	Settings	Default
			0 to 20mA	0.00 to Signal High	0.00
			4 to 20mA	4.00 to Signal High	4.00
			0 to 5V	0.000 to Signal High	0.000
			0 to 10V	0.00 to Signal High	0.00
		1 to 5V	1.000 to Signal High	1.000	
		Signal Range High	Input Type	Settings	Default
			0 to 20mA	Signal Low to 20.00	20.00
			4 to 20mA	Signal Low to 20.00	20.00
	0 to 5V		Signal Low to 5.000	5.000	
	0 to 10V		Signal Low to 10.00	10.00	
	1 to 5V	Signal Low to 5.000	5.000		
Display Range Low	-199.9 to Range High (Default : 0.0)				
Display Range High	Range Low to 999.9 (Default : 100.0)				
Zero Offset	-50.0 to 50.0 (Default : 0.0)				
Alarm Settings	Inhibit	Enable, Disable (Default : Enable)			
	Low Alarm Deviation / High Alarm Deviation	0.2 to 99.9 (Default : 2.0)			
	Hysteresis	0.1 to 99.9 (Default : 0.2)			

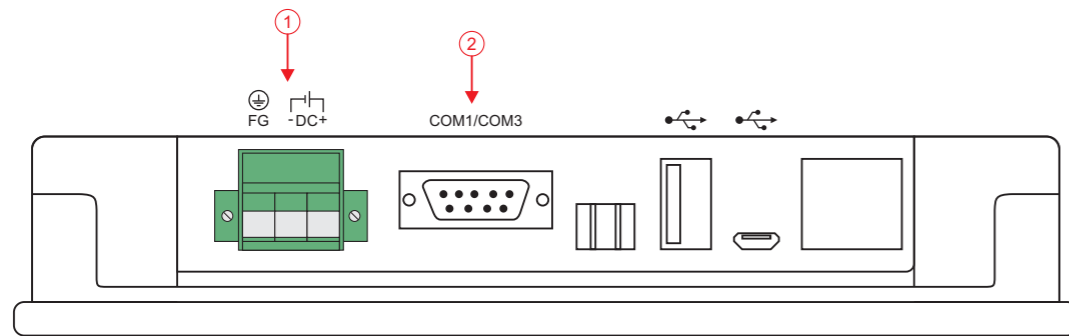
Level	Sub-Level	Parameters	Range (Default)		
Factory	Control Settings	Dual Zone			
		Heat Zone PID Constants	0.1 to 999.9 °C (Default : 50.0 °C)		
		Heat Zone Proportional Band	0 to 3600 Sec. (Default : 100 Sec.)		
		Heat Zone Integral Time	0 to 600 Sec. (Default : 16 Sec.)		
		Heat Zone Derivative Time	0.1 to 999.9 °C (Default : 50.0 °C)		
		Cool Zone PID Constants	0.1 to 999.9 °C (Default : 50.0 °C)		
		Cool Zone Proportional Band	0 to 3600 Sec. (Default : 100 Sec.)		
		Cool Zone Integral Time	0 to 600 Sec. (Default : 16 Sec.)		
		Cool Zone Derivative Time	0.1 to 999.9 °C (Default : 50.0 °C)		
		Single Zone			
	Proportional Band	0 to 3600 Sec. (Default : 100 Sec.)			
	Integral Time	0 to 600 Sec. (Default : 16 Sec.)			
	Derivative Time	0.1 to 999.9 °C (Default : 50.0 °C)			
	Single Zone & Dual Zone				
	Output Cycle Time (Sec.)	0.5 to 100.0 Sec. (Default : 10.0 Sec.)			
	Set Value (Temperature Control Loop)	Temp. Setpoint Low Limit to Temp. Setpoint High Limit (Default : 25.0)			
	Low Limit (for Temp. Control Set Value)	-199.9 to Temperature Setpoint High Limit (Default : 10.0)			
	High Limit (for Temp. Control Set Value)	For RTD : Temperature Setpoint Low Limit to 600.0 For mA/V : Temperature Setpoint Low Limit to 999.9 (Default : 60.0)			
	Self Tune	NA			
	Compressor		Mode	Continuous OFF / Continuous ON / SP Based ON-OFF / PV Based ON-OFF (Default : Continuous OFF)	
			Compressor SP	0.0 to 100.0 (Default : 45.0)	
			Boundary SP	0.0 to 100.0 (Default : 45.0)	
			Time Delay	0 to 1000 Sec. (Default : 200 Sec.)	
Hysteresis			0.1 to 99.9 °C (Default : 2.0 °C)		
Zone Select			Single, Dual (Default : Single)		
Water Level				Float Detection Enable	Yes / No (Default : No)
				Float Low Level Logic	Switch Open, Switch Close (Default : Switch Close)
				Thermostat Detection Enable	Yes / No (Default : No)
				Thermostat Low Level Logic	Switch Open, Switch Close (Default : Switch Close)
Door Open		Common Boiler	No / Yes (Default : No)		
		Detection Enable	No / Yes (Default : No)		
Power Fail		Door Open Logic	Switch Open, Switch Close (Default : Switch Close)		
		Alarm Delay (Sec.)	0 to 1000 Sec. (Default : 60 Sec.)		
		Detection Enable	No / Yes (Default : No)		
		Power Fail Logic	Switch Open, Switch Close (Default : Switch Close)		

Level	Sub-Level	Parameters	Range (Default)		
Factory	Sensor Inputs	Temperature Low Limit for Sensor Fail Detection	0 to 25.0 °C (Default : 0 °C)		
		%RH Low Limit for Sensor Fail Detection	0 to 60.0 % (Default : 0 %)		
	Control Gadgets	Fail Detect Time (Min)	0 to 250 Min. (Default : 10 Min.)		
		Cyclic Time (Hrs.)	0 to 500 Hrs. (Default : 48 Hrs.)		
		Inhibit Time (Hrs.)	0 to 250 Hrs. (Default : 1 Hrs.)		
	Configuration	Select Mapping Inputs	4T + 4RH, 8T + 8RH (Default : 4T + 4RH)		
		Alarm Settings	Low Alarm Set Value	-199.9 to 600.0 °C (Default : 0 °C)	
			Low Alarm Hysteresis	0.1 to 50.0 °C (Default : 2.0 °C)	
			Low Alarm Inhibit	Enable, Disable (Default : Disable)	
			High Alarm Set Value	-199.9 to 600.0 °C (Default : 0 °C)	
			High Alarm Hysteresis	0.1 to 50.0 °C (Default : 2.0 °C)	
			Low Alarm Inhibit	Enable, Disable (Default : Disable)	
		Input Settings	Input Type	*RTD Pt100, 0 to 20 mA, 4 to 20 mA, 0 to 50 mV, 0 to 200 mV, 0 to 1.25 V, 0 to 5 V, 1 to 5 V, 0 to 10 V (Default : For Temp. Input : RTD Pt100 For %RH Input : 0 to 5V) *Available for Temp. Input Only	
Signal Range Low			Input Type	Settings	Default
			0 to 20mA	0.00 to Signal High	0.00
Signal Range High	Input Type		Settings	Default	
	4 to 20mA	Signal Low to 20.00	20.00		
	0 to 50mV	Signal Low to 50.00	50.00		
	0 to 200mV	Signal Low to 200.0	200.0		
	0 to 1.25V	Signal Low to 1.250	1.250		
	0 to 5V	Signal Low to 5.000	5.000		
	1 to 5V	Signal Low to 5.000	5.000		
	0 to 10V	Signal Low to 10.00	10.00		
Display Range Low	-199.9 to Range High (Default : 0.0)				
Display Range High	Range Low to 999.9 (Default : 100.0)				
Zero Offset	-50.0 to 50.0 (Default : 0.0)				

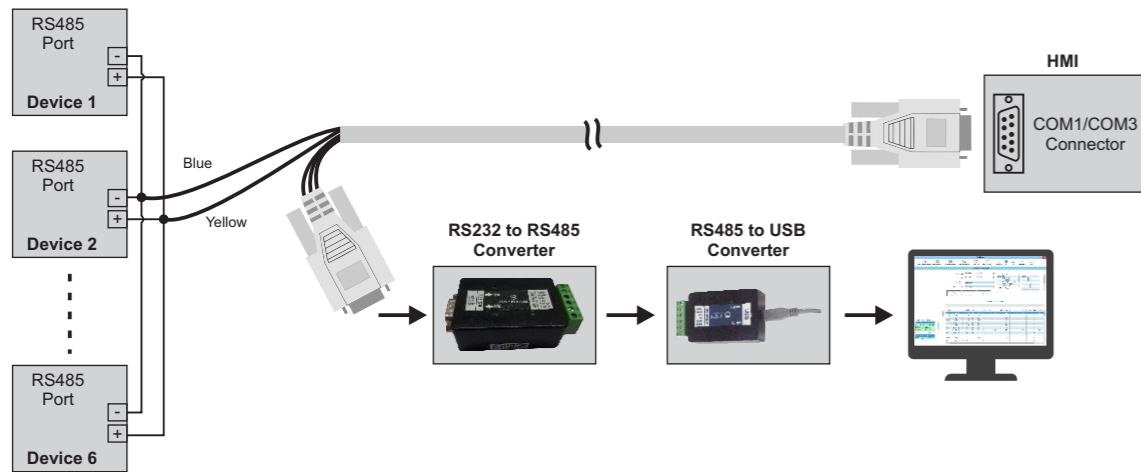
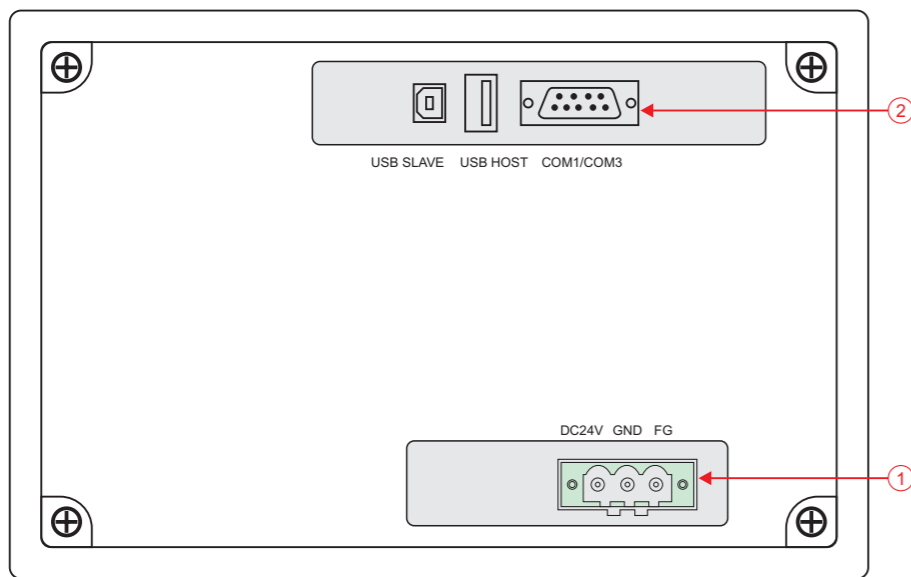
Note
The Setting and Default Values are the same for Temperature and Humidity (%RH) parameters. The units for Temperature is °C & that for Humidity is %.

ELECTRICAL CONNECTIONS

HMI (NEW Version)

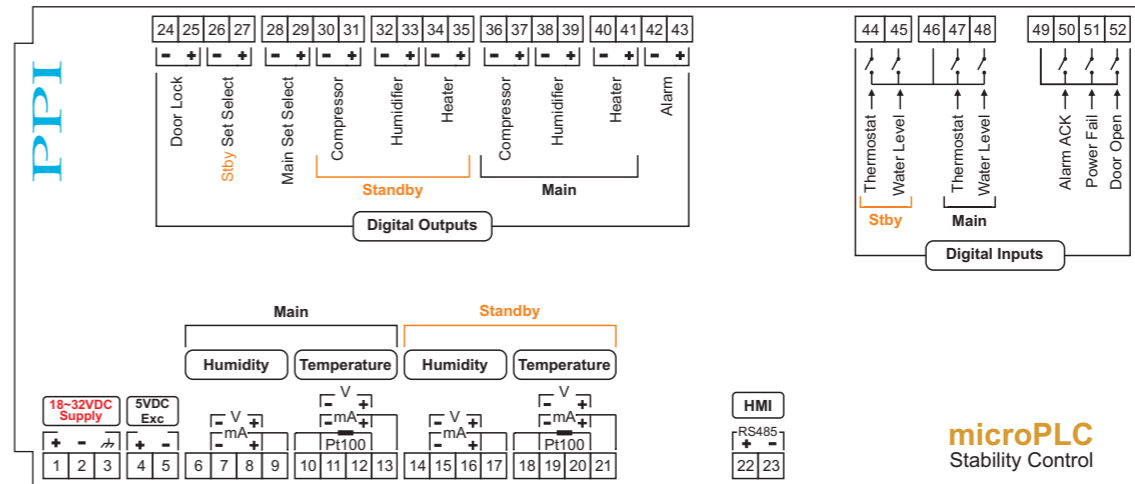


HMI (OLD Version)



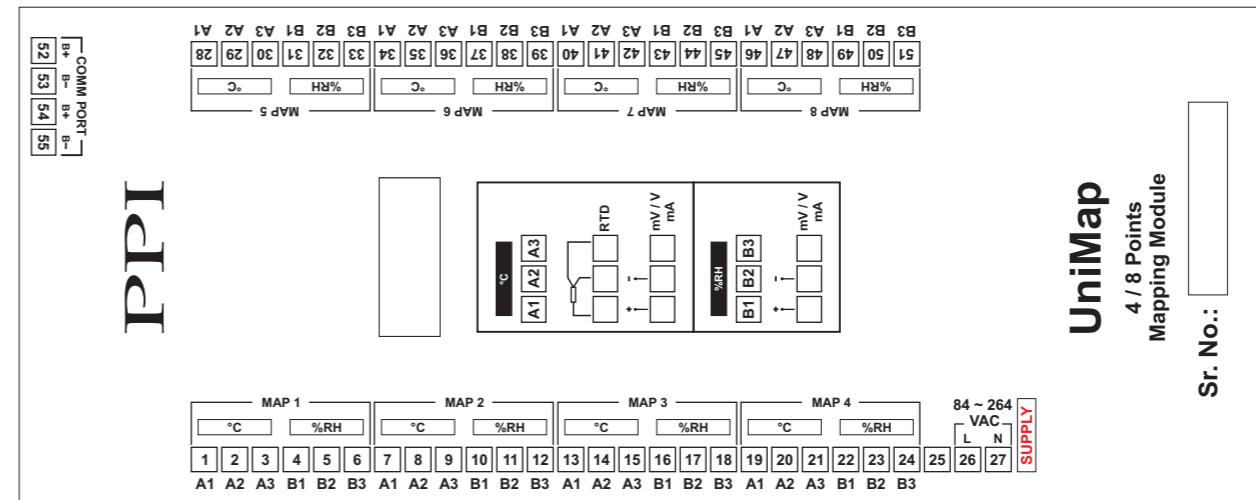
①		3-Pin Male / Female Connector (5.08 mm pitch) Supply Voltage : 20 to 28 VDC (24 V Nominal)
②		9 Pin D Type Connector RS485 Serial Communication with Control Unit & PC

microPLC Electrical Connections

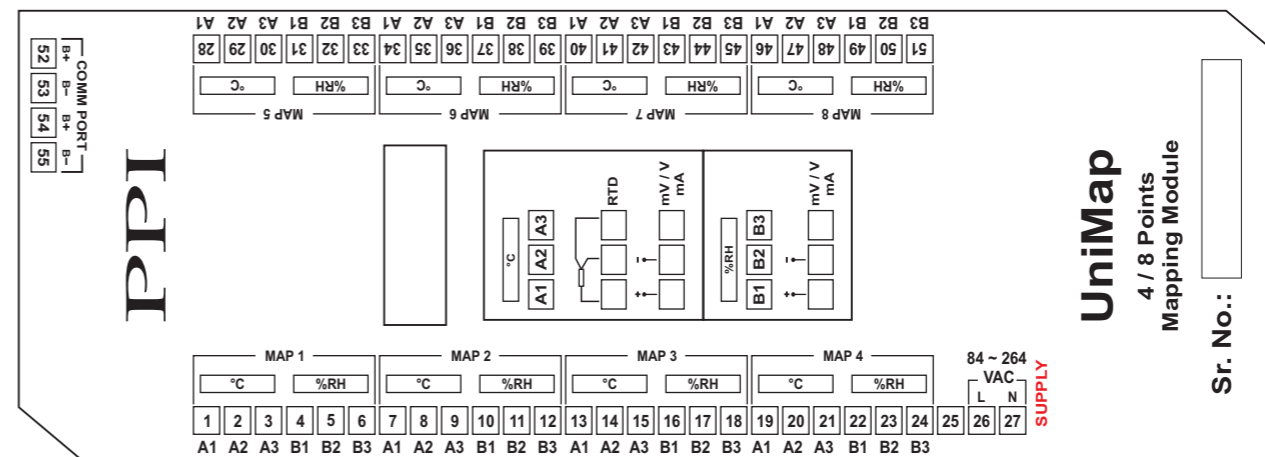


Mapping Module Electrical Connections

New Version

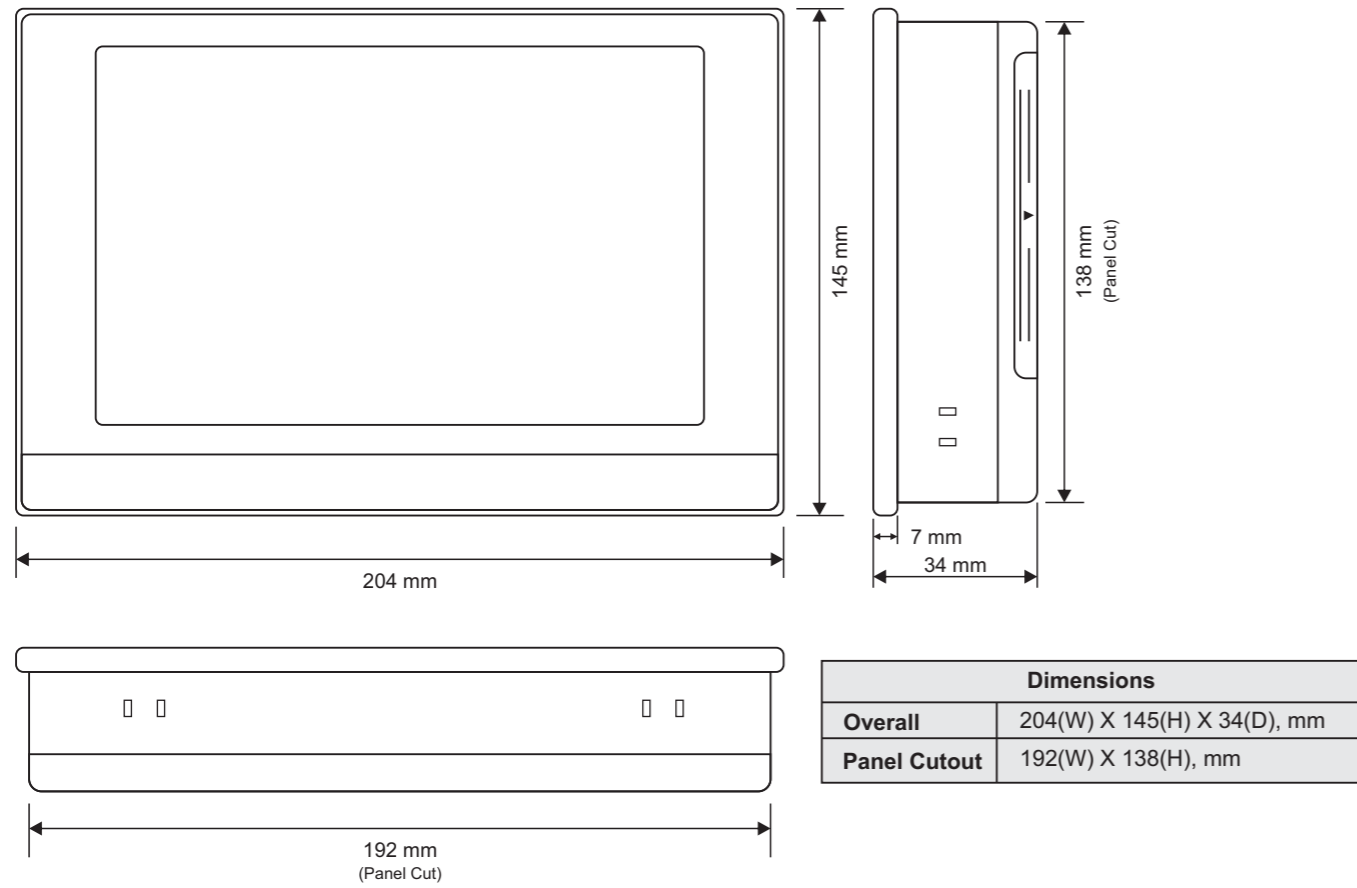


Old Version

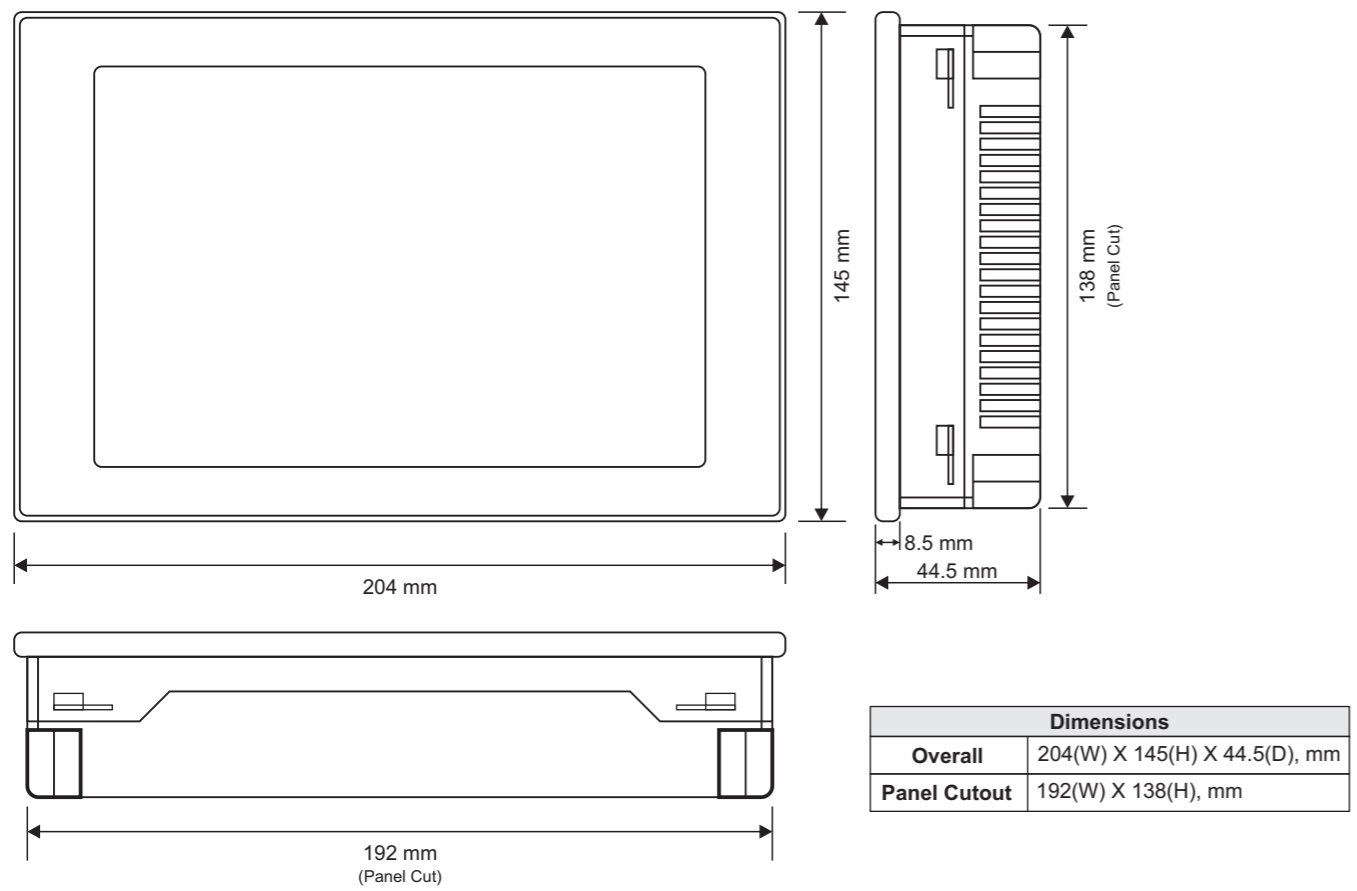


MECHANICAL MOUNTING

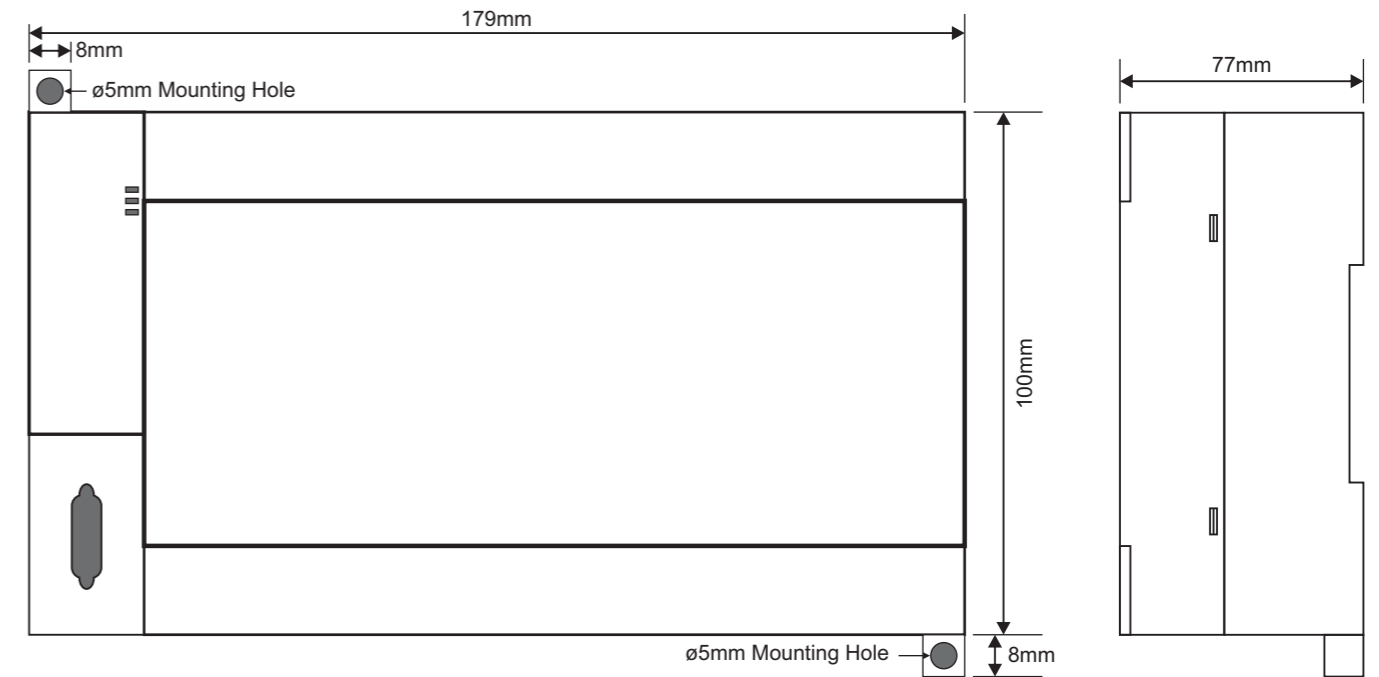
New Version



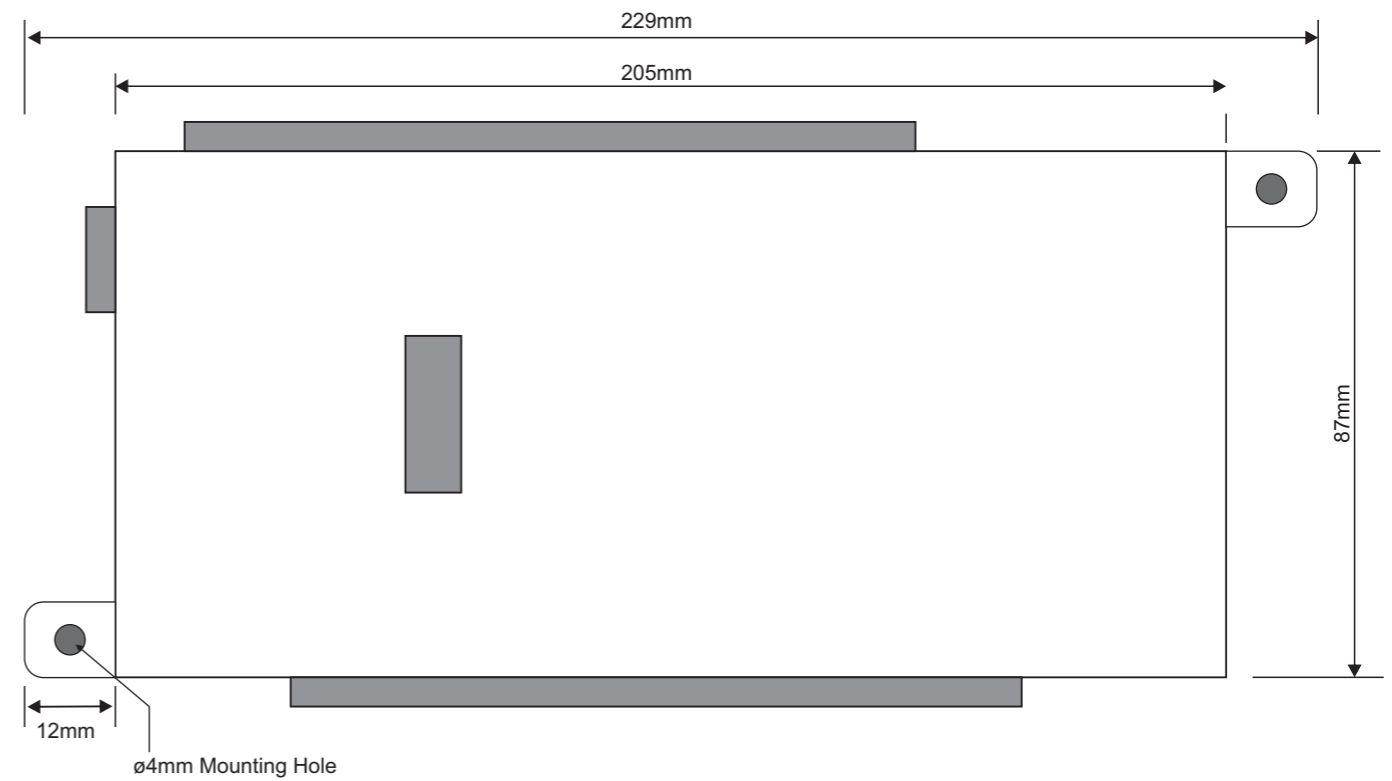
Old Version



microPLC Mounting



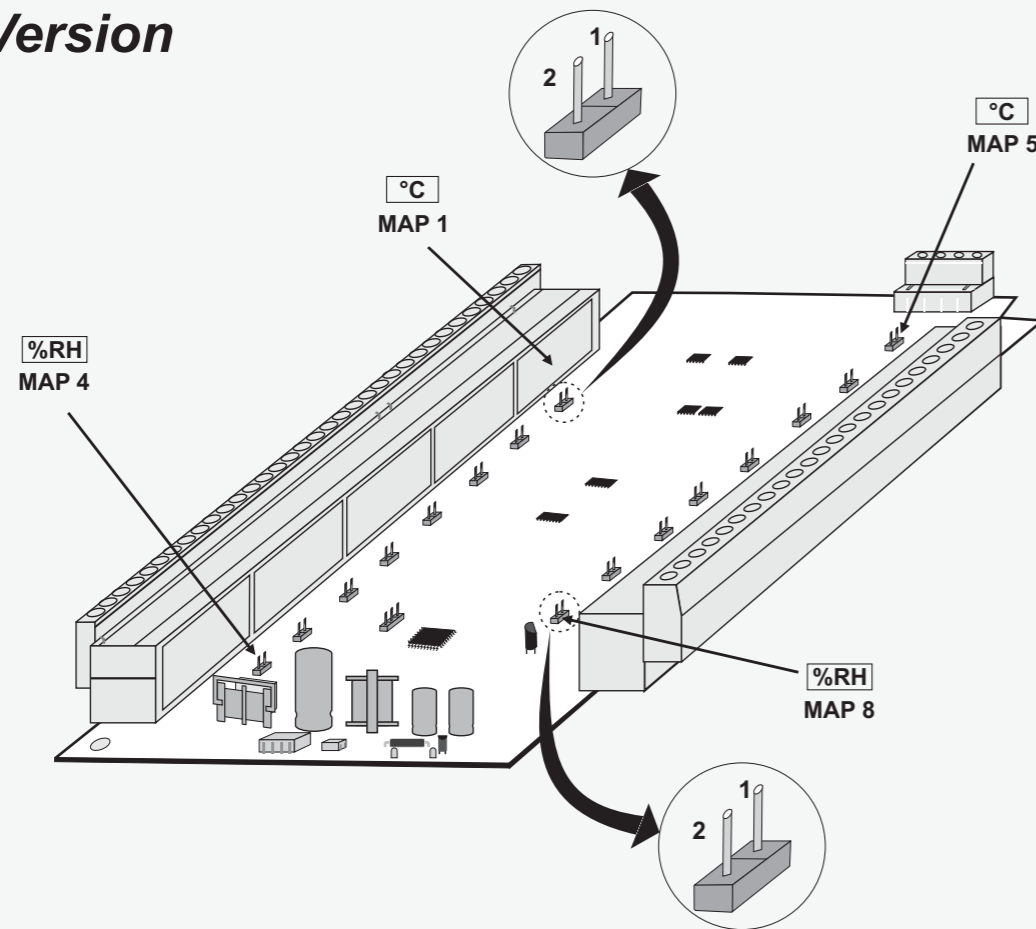
UniMap (4T + 4RH or 8T + 8RH) Mounting



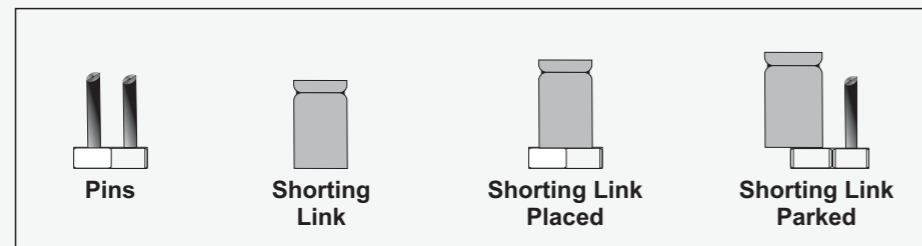
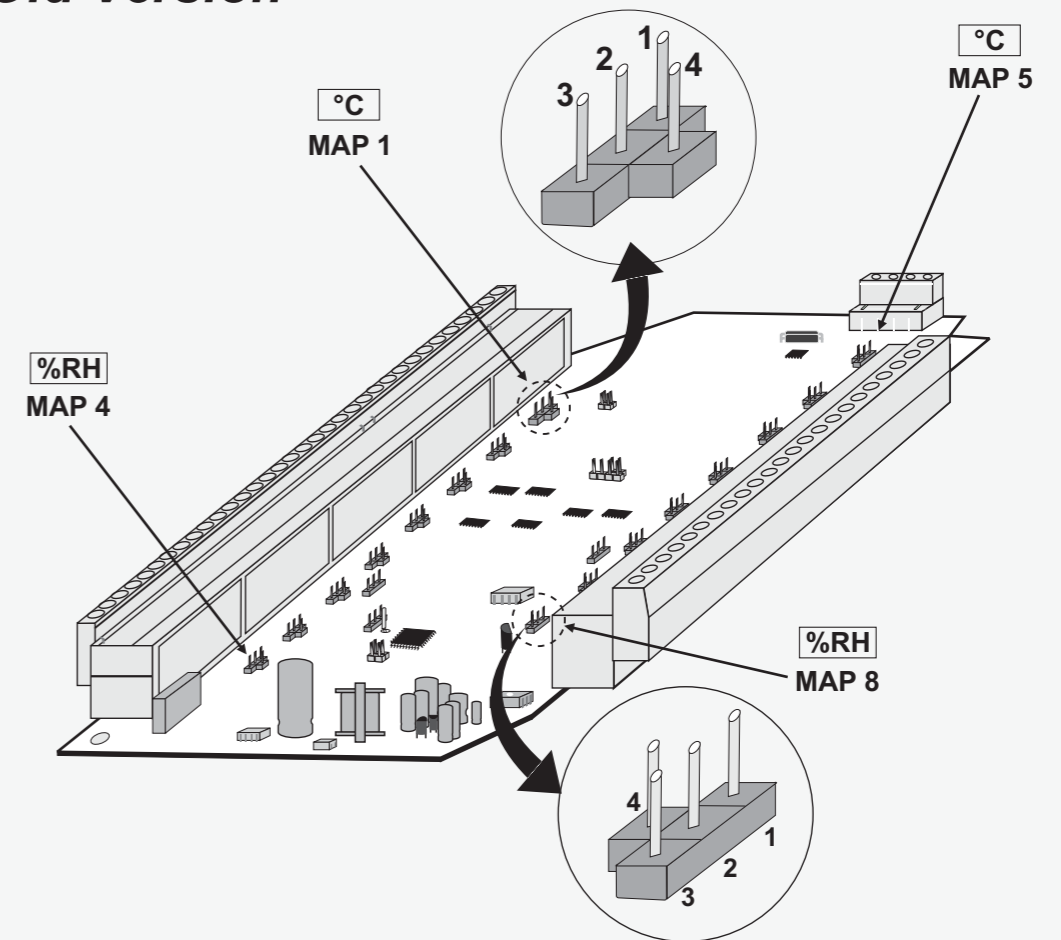
JUMPER SETTINGS

INPUT-CHANNEL INTERFACE MODULE (CIM)

New Version



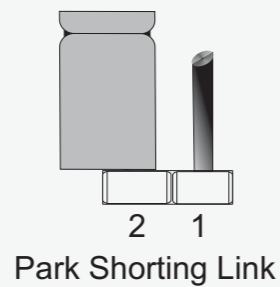
Old Version



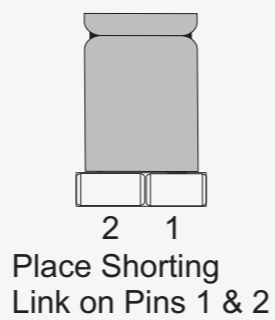
RTD Sensor
Pt100 (3-wire)

Thermocouples
J, K, T, R, S, B, N Types

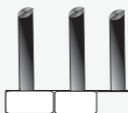

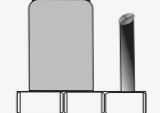

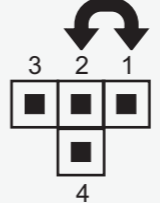
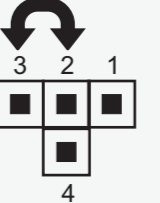
DC Voltage
0-50mV, 0-200mV
0-1.25V, 0-5V, 1-5V, 0-10V



DC Current
0-20mA, 4-20mA



Input Type Jumper Settings For Mapping Module

	 Pins	 Shorting Link	 Shorting Link Placed	 Shorting Link Parked
RTD Pt100 (3-wire)				
Place Shorting Link on Pins 1 & 2				
0-20mA, 4-20mA				
Place Shorting Link on Pins 2 & 3				
0-50mV, 0-200mV, 0-1.25V, 0-5V, 1-5V, 0-10V				
Park Shorting Link	