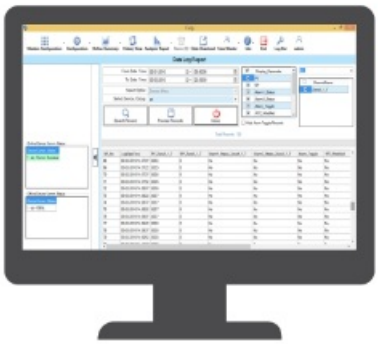
PPI LabCon Ultra Multi Purpose Temperature Controller with Recording and PC Software Instruction Manual

PPI LabCon Ultra Multi Purpose Temperature Controller with Recording and PC Software



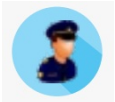
Contents

LabCon Ultra

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

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)
		SP Edit on Home Screen	Enable Disable
		Timer Start / Abort Command	NA

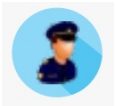
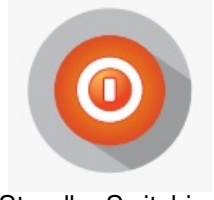
		Time Interval (HH:MM)	0.00 to 500.00 (Default : 0.10)
		Zero Offset	-50.0 to 50.0°C (Default : 0.0°C)
	 Recording	Recording Interval	0 to 250 Minutes (Default : 5 Minutes)
		‘Delete Record’ Command	NA
	 Clock & Calendar	Calendar Date (DD/MM/YY)	NA
		Clock Time (HH:MM:SS)	NA
		Set Value (Temperature Control Loop)	Temp. Setpoint Low Limit t o Temp. Setpoint High Limi t (Default : 25.0)
		Low Limit (for Temp. Control Set Value)	-199.9 to Temperature Set point High Limit (Default : 10.0)

		High Limit (for Temp. Control Set Value)	For RTD : Temperature Set point Low Limit to 600.0 For mA/V : Temperature S etpoint Low Limit to 999.9 (Default : 60.0)
		Overshoot Inhibit	Enable Disable (Default : Disable)
		Cutoff Factor	1.0 to 2.0 (Default : 1.2)
		Control PV Strategy	MAP-0 PV, Average PV if MAP-0 Fails, Average PV (Default : MAP-0 PV)
		Self Tune	NA
 Supervis ory		Compressor SP	0.0 to 100.0 (Default : 45.0)
		Cool Hysteresis	0.1 to 99.9 (Default : 2.0)
		Dual Zone	

Control Settings

Heat Zone PID Constants Heat Zone Proportional Band	0.1 to 999.9 °C (Default : 50.0 °C)
Heat Zone Integral Time	0 to 3600 Sec. (Default : 100 Sec.)
Heat Zone Derivative Time	0 to 600 Sec. (Default : 16 Sec.)
Cool Zone PID Constants Cool Zone Proportional Band	0.1 to 999.9 °C (Default : 50.0 °C)
Cool Zone Integral Time	0 to 3600 Sec. (Default : 100 Sec.)
Cool Zone Derivative Time	0 to 600 Sec. (Default : 16 Sec.)
Single Zone	
Proportional Band	0.1 to 999.9 °C (Default : 50.0 °C)
Integral Time	0 to 3600 Sec. (Default : 100 Sec.)

		Derivative Time	0 to 600 Sec. (Default : 16 Sec.)
		Single Zone & Dual Zone	
		Output Cycle Time (Sec.)	0.5 to 100.0 Sec. (Default : 10.0 Sec.)

Level	**Sub-Level**	**Parameters**	**Range (Default)**
 Supervisory	 SMS Alert	GSM Machine ID	1 to 128 (Default : 1)
		Reset GSM Module	NA
	 Maintenance	Repair Acknowledge ‘Control Gadget’	NA
	 Standby Switching	‘Switch Main/Standby Outputs’	NA
		Lock Position (On / Off)	Solenoid ON Solenoid OFF (Default : Solenoid OFF)

	 Door Lock Access	Password Entry	NA
		Input Type	TC-J, TC-K, TC-P, TC-R, TC-S, TC-B, TC-N, RTD Pt100, 0 to 20 mA, 4 to 20 mA, 0 to 5 V, 0 to 10 V, 1 to 5 V (Default : RTD Pt100)

MAP-0 Sensor

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

Factory

<table>
<tr><td>Signal Range High</td><td>
<table>
<tr><th>Input Type</th><th>Settings</th><th>Default</th></tr>
<tr><td>0 to 20mA</td><td>Signal Low to 20.00</td><td>20.00</td></tr>
<tr><td>4 to 20mA</td><td>Signal Low to 20.00</td><td>20.00</td></tr>
<tr><td>0 to 5V</td><td>Signal Low to 5.000</td><td>5.000</td></tr>
<tr><td>0 to 10V</td><td>Signal Low to 10.00</td><td>10.00</td></tr>
<tr><td>1 to 5V</td><td>Signal Low to 5.000</td><td>5.000</td></tr>
</table>
</td></tr>
<tr><td>Display Range Low</td><td>-199.9 to Range High (Default : 0.0)</td></tr>
<tr><td>Display Range High</td><td>Range Low to 999.9 (Default : 100.0)</td></tr>
</table>

	Zero Offset	-50.0 to 50.0°C (Default : 0.0°C)
 Heat-Cool Select	Mode	*Continuous OFF, Continuous ON , SP Based ON-OFF, PV Based ON-OFF* (Default : *Continuous OFF*)
	Time Delay	0 to 1000 Sec. (Default : 200 Sec .)
	Boundary SP	0.0 to 100.0 (Default : 45.0)
	Zone Select	Single, Dual (Default : Single I)
 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)
	Timer	Enable Disable (Default : Disable)
	On Timer END Heater Off	Yes / No (Default : Yes)
	On Timer END Compressor Off	Yes / No (Default : Yes)
	Hold Band Type	None, Up, Down, Both (Default : None)

	 Timer	Hold Band Value	0.1 to 999.9 (Default : 0.5)
		Start Band Value	0 to 999.9 Default : 0.5
		Power Up recovery	Abort, Restart, Continuous Default : Abort

Level	**Sub-Level**		**Parameters**	**Range (Default)**
	 Power Fail		Detection Enable	No / Yes (Default : No)
			Power Fail Logic	Switch Open, Switch Close (Default : Switch Close)
	 Door Open		Detection Enable	No / Yes (Default : No)
			Door Open Logic	Switch Open, Switch Close (Default : Switch Close)
			Alarm Delay (Sec.)	0 to 1000 Sec. (Default : 60 Sec.)

	Configuration	Select Mapping Inputs	1 MAP (M0), 2 MAP (M0+M1), 3 MAP (M0+M1+M2), 4 MAP (M0+M1+M2+M3), 5 MAP (M0+M1+M2+M3+M4) (Default : 1 MAP (M0)
		Input Type	TC-J, TC-K, TC-P, TC-R, TC-S, TC-B, TC-N, RTD Pt100, 0 to 20 mA, 4 to 20 mA, 0 to 5 V, 0 to 10 V, 1 to 5 V (Default : RTD Pt100)

Factory

Mapping

Input Settings

Signal Range Low

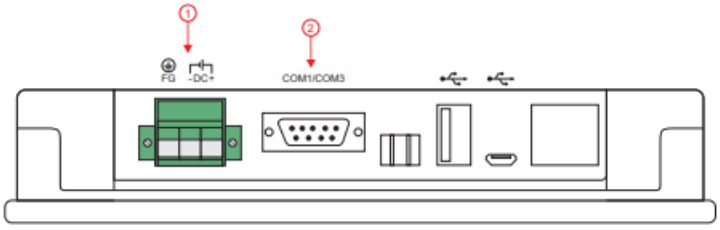
Input Type	Settings	Default
0 to 20mA	0.00 to Signal High	0.00
4 to 20mA	4.00 to Signal High	4.00
0 to 5V	0.000 to Signal High	0.000
0 to 10V	0.00 to Signal High	0.00
1 to 5V	1.000 to Signal High	1.000

<table>
<tr><td></td><td></td><td></td><td>Signal Range High</td><td><table>
<tr><th>Input Type</th><th>Settings</th><th>Default</th></tr>
<tr><td>0 to 20mA</td><td>Signal Low to 20.00</td><td>20.00</td></tr>
<tr><td>4 to 20mA</td><td>Signal Low to 20.00</td><td>20.00</td></tr>
<tr><td>0 to 5V</td><td>Signal Low to 5.000</td><td>5.000</td></tr>
<tr><td>0 to 10V</td><td>Signal Low to 10.00</td><td>10.00</td></tr>
<tr><td>1 to 5V</td><td>Signal Low to 5.000</td><td>5.000</td></tr>
</table></td></tr>
<tr><td></td><td></td><td></td><td>Display Range Low</td><td>-199.9 to Range High (Default : 0.0)</td></tr>
<tr><td></td><td></td><td></td><td>Display Range High</td><td>Range Low to 999.9 (Default : 100.0)</td></tr>
<tr><td></td><td> 
Standby</td><td></td><td>Fail Detect Time (Min)</td><td>0 to 250 Min. (Default : 10 Min.)</td></tr>
<tr><td></td><td></td><td></td><td>Cyclic Time (Hrs.)</td><td>0 to 500 Hrs. (Default : 48 Hrs.)</td></tr>
</table>

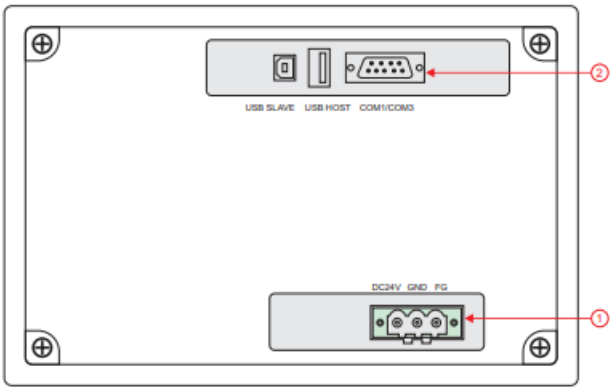
			Inhibit Time (Hrs.)	0 to 250 Hrs. (Default : 1 Hrs.)
	Control Settings		Heater Output Type (Main & Standby Heater)	SSR 0-20 mA 0-4 mA 0-5 V 0-10 V (Default : SSR)

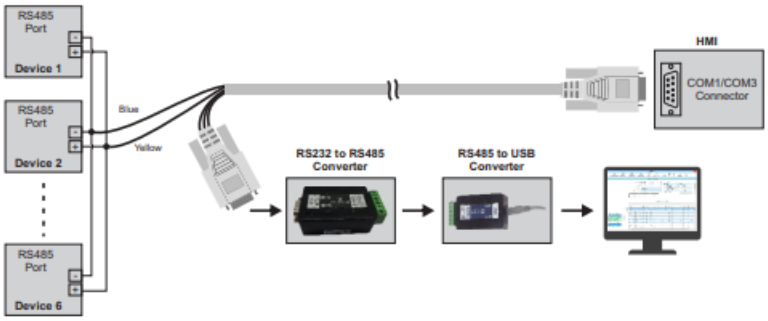
ELECTRICAL CONNECTIONS

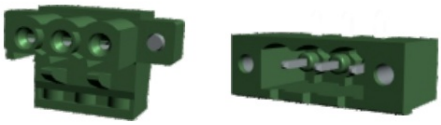
HMI (NEW Version)



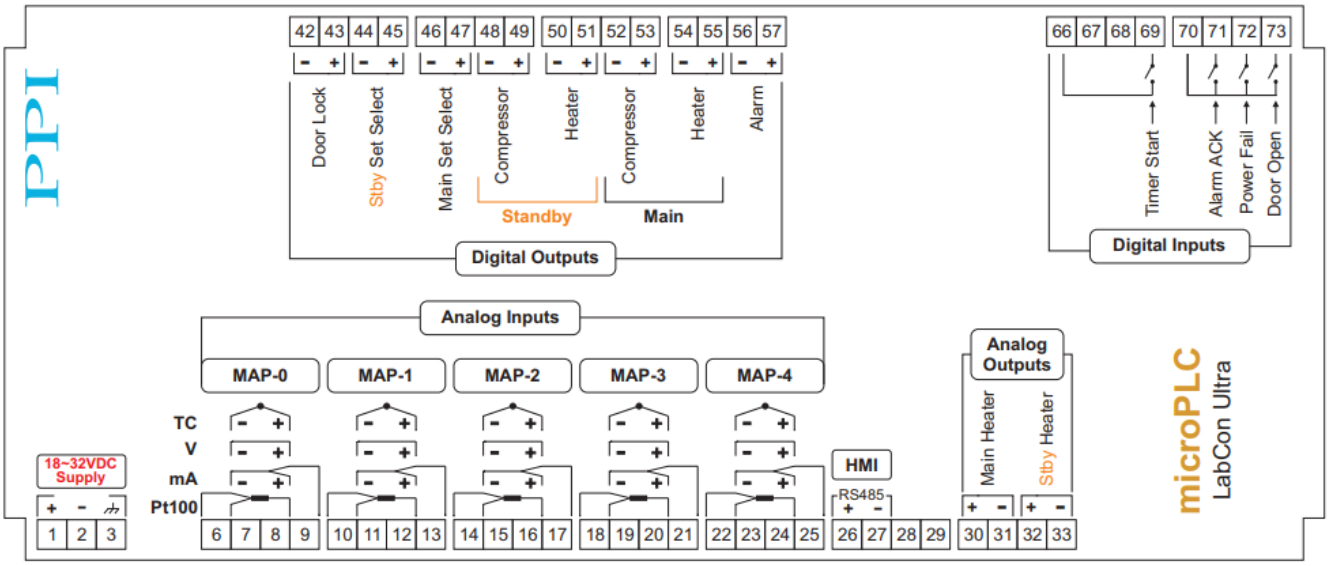
HMI (OLD Version)



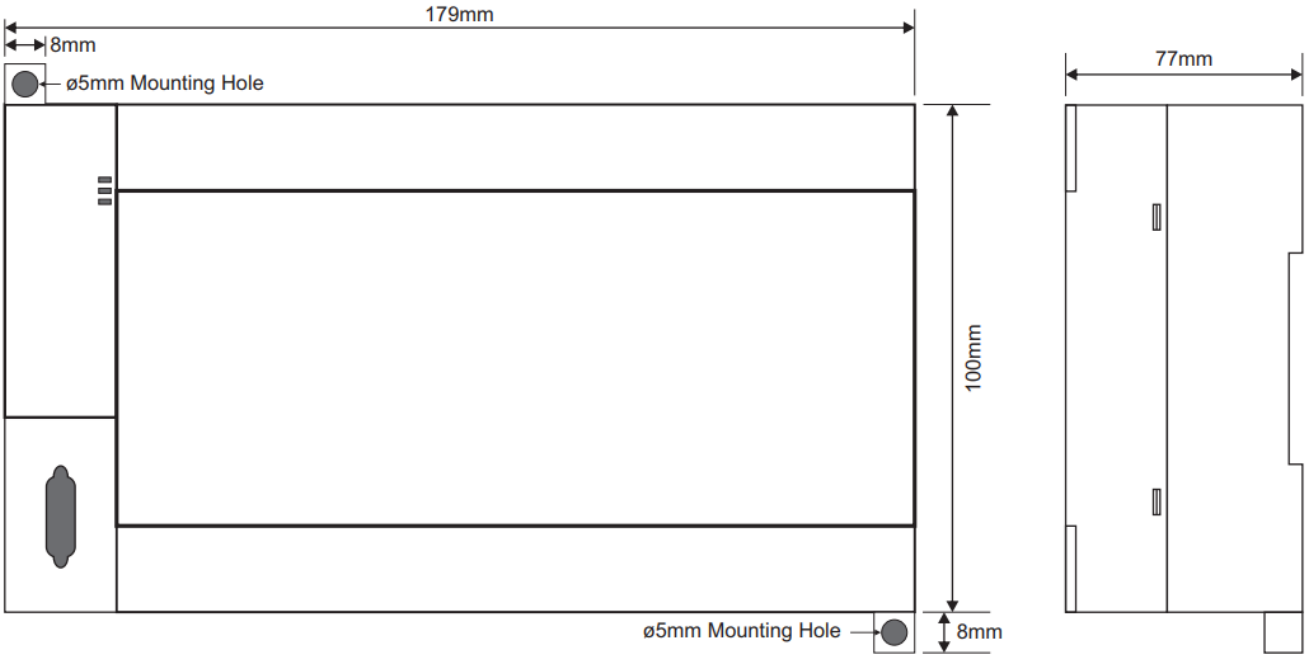


1		**3-Pin Male / Female Connector (5.08 mm pitch)** Supply Voltage : 20 to 28 VDC (24 V Nominal)
2		**9 Pin D Type Connector** RS485 Serial Communication with Control Unit & PC

microPLC Electrical Connections

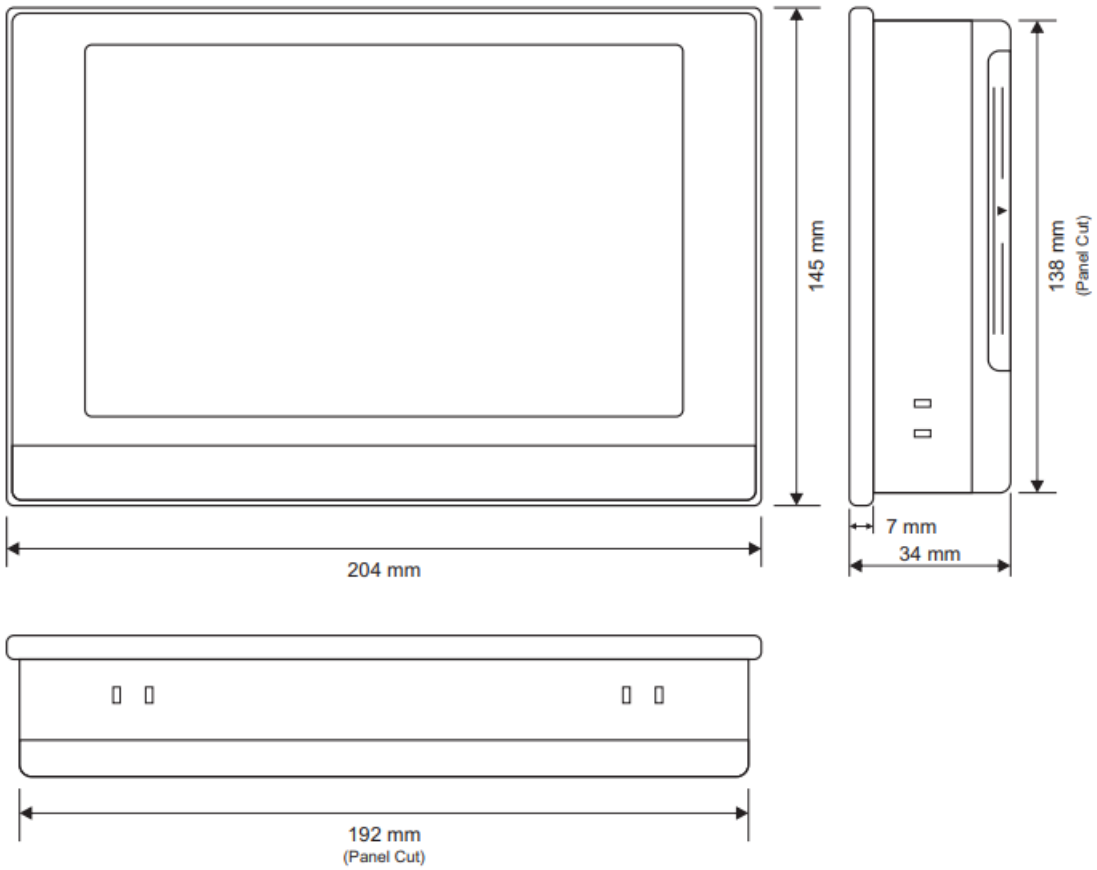


microPLC Mounting



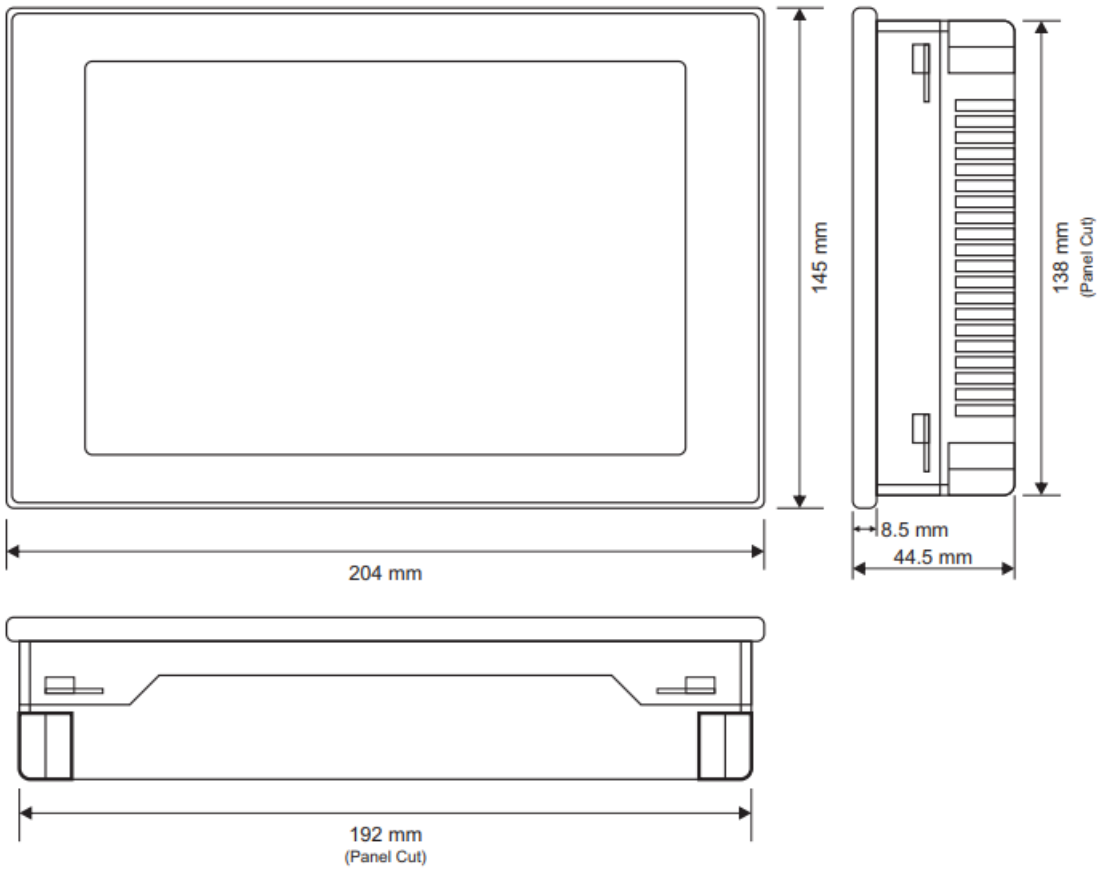
MECHANICAL MOUNTING

New Version



Dimensions	
Overall	204(W) X 145(H) X 34(D), mm
Panel Cutout	192(W) X 138(H), mm

Old Version



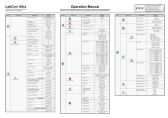
Dimensions	
Overall	204(W) X 145(H) X 44.5(D), mm
Panel Cutout	192(W) X 138(H), mm

Customer Support

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

LabCon Ultra

Documents / Resources

	PPI LabCon Ultra Multi Purpose Temperature Controller with Recording and PC Software [pdf] Instruction Manual LabCon Ultra Multi Purpose Temperature Controller with Recording and PC Software, LabCon, Ultra Multi Purpose Temperature Controller with Recording and PC Software, Temperature Controller with Recording and PC Software, Recording and PC Software, PC Software

References

- Factory Automation Products India | Automation Solutions in India