IPC5000 S/D

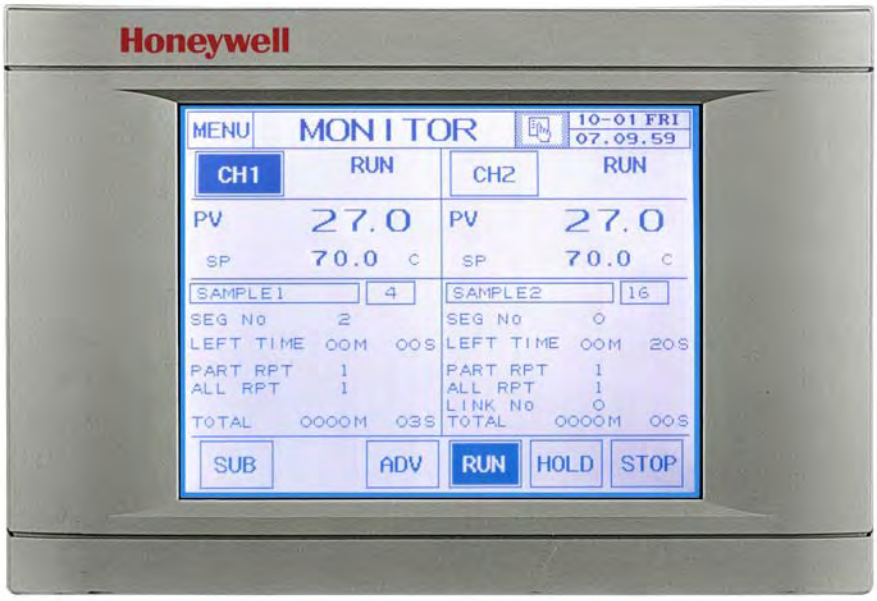
Universal Programmer Specification

Overview

The IPC5000 is a high-functional Single or Dual loop programmer retaining all the reliability, simplicity, and compatibility.

This programmer is operated by touch-screen in 5.7 inch LCD monitors and controls in various kinds of applications such as:

- Furnace & Industrial Oven
- Autoclave
- Test Chamber
- Environmental Room / Clean Room
- Retort Oven
- Pressure Cooker
- Dyeing Machine
- Reactor



Features

- **5.7 inch LCD Touch Screen**

Configuration & operation will be done by touch screen function keys in LCD display.

- **Universal Input(s)**

Analog input(s) is a low-level type (s), which accepts Thermocouple, RTD, mA, voltage type. (See Table 1)

- **0.1% Input Accuracy**

Analog input(s) has typical accuracy of ± 0.1% of full-scale input.

- **12 DIs/12 Dos**

12 points of digital inputs can be connected to non-voltage contact (relay contact) or open collector (sink current toward 0V), and they are allocated to pre-defined actions. 12 digital outputs can be assigned to 4 different types of events (MODE, Alarm, Time and PV)

- **100 Programs, 2000 segments**

100 Programs can be programmed within 100 segments for each and 2000 segments in total. 10 Links are offered, and each Link can link up to 6 programs.

- **Heat/Cool Capability**

Each control loop provides split range control with independent PID tuning constants – one for heating, one for cooling – plus mixed output forms.

- **Ethernet Communication**

A communication link is provided between IPC5000 and a host computer or PLC via RS-485 (Modbus® RTU) or Ethernet (Modbus TCP) communications option.

- **IP65 Front Face Protection**

IP65 rated front face permits use in applications where it may be subjected to moisture, dust conditions.

- **Asynchronous/Synchronous Mode**

In Dual-Channel type, two loop controls can be run independently with different program and also they can be operated simultaneously with one single program.

- **Multi-Language Prompts**

3 different languages will be selected via configuration and displayed.

- **PC Configuration**

A free-ware will be offered and IPC5000 can be configured and operated thru this software on PC.

- **Real Time Clock**

IPC5000 provides accurate time and makes it possible to schedule running operation.

- **Program data changeable**

In RUN mode, the program data are changeable.

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Specifications

Model		IPC5000S	IPC5000D
Display			
Digital Indication & Display	Display Type	5.7 inch LCD (STN Negative, Blue)	
	Screen Size (Unit: mm/inch)	$\frac{115.17}{4.534}(W) \times \frac{86.37}{3.4}(H)$	
	Resolution	320(W) x 240(H)	
	Back Light	LED, White (Luminous Intensity: 20cd/m^2)	
	Display Size	40 lines x 30 lines (8x8 dots characters)	
	Display Color	Blue characters on white background	
	Display Language Cap.	Up to 3 languages	
	Operation	Analog touch panel (Actuation force: 10g – 80g)	
General			
Rated Power Supply Voltage		100 to 240V AC 50/60Hz, 37VA Max.	
Inrush Current when power supply turns on		Lower than 50 A	
Insulation Resistance		Higher than 50MΩ under DC 500V megger during power terminal and PE terminal	
Withstand Voltage		1500V AC 50/60Hz for 1min across power terminal and PE terminal	
Reference	Ambient Temperature	23 ± 2 ℃	
	Relative Humidity	60 ± 5% RH	
	Power Voltage (Vac)	110V AC	
	Power Frequency	50 ± 1Hz or 60 ± 1HZ	
	Vibration Resistance	0 m/s^2	
Operative Limits	Ambient Temperature	0 to 50℃	
	Relative Humidity	10 to 90%RH (non-condensing)	
	Power Voltage (Vac)	85 to 264V AC	
	Power Frequency	50 ± 2Hz or 60 ± 2Hz	
	Vibration Resistance	0 to 1.96m/s^2 (10 to 60Hz in X, Y, Z directions for 2 hours each)	
Transportation & Storage	Ambient temperature	-20 to +70 ℃	
	Relative Humidity	10 to +95% RH (non-condensing)	
	Vibration Resistance	0 to 1.96m/s^2 (10 to 60Hz in X, Y, Z directions for 2 hours each)	
Exterior		Case and front panel: plastic	
Mounting		Panel-mount	
Exterior Size (unit: $\frac{mm}{inch}$)		$\frac{196}{7.717}(W) \times \frac{131}{5.157}(H) \times \frac{154}{6.063}(D)$	
Panel Cutout (unit: $\frac{mm}{inch}$)		$\frac{185.5}{7.303}\ \frac{\pm 0.5}{\pm 0.02}(W) \times \frac{120.5}{4.744}\ \frac{\pm 0.5}{\pm 0.02}(H)$	

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Specifications			
Model		**IPC5000S**	**IPC5000D**
Input & Output			
Analog Input	Number of point	1 point (Universal input)	2 points (Universal input)
	Type	TC : K, J, R, S, B, E, T, N (JIS/IEC), W, C RTD : Pt100 (JIS/IEC), JPt100 (JIS) Linear : VOLTAGE 0~10V, 0~5V, 1~5V CURRENT 0 ~ 20mA, 4 ~ 20mA (For details, refer to Table 1-1)	
	Sampling Rate	100 ms	
	Indication Accuracy	±0.1%FS ± 1digit (Accuracy is variable according to input type or range)	
	Cold junction accuracy	±1.0 ºC (under standard conditions)	
	Input bias	-99.9 ~ +99.9 variable	
	Digital filter	0 ~ 120 sec (0: filter off)	
	Square-root Extraction	Low-cut: 0.1~5.0% of input (in case of voltage input from orifice or pressure sensor)	
	Compensation	Linearity / Approximation (1) Segment break-point: 1 to 10 of total range (2) Linearity Bias : -10000.0 ~ 10000.0 Compensation Set : -5.0~105.0% of input range span (3) Approximation Bias : -5.0~105.0% of input range span Compensation Set : -5.0~105.0% of input range span	
Analog Output (Transmission output) : Optional	Object	PV1, SP1, MV1, DEV1	PV1, SP1, MV1, PV2, SP2, MV2, DEV 1/ 2
	Output type	4~20mA DC	
	Output accuracy	+/- 0.1% of span	
	Update Rate	100 ms	
Digital Inputs (External switch input)	Number of point	12 points	
	Connectable type	No-Voltage contact (relay contact) Open collector (sink current toward 0V)	
	Allocation (Fixed)	RUN/STOP, HOLD, ADV, Trouble inputs, Program number (For details, refer to Table 1-2)	
	Trouble input	4 points	2 points
	Trouble message	32 messages (Each trouble can have its message), Max. 22 characters	
	Sampling cycle	100 ms	

Specifications				
Model			**IPC5000S**	**IPC5000D**
Input & Output				
Digital Output (Event Output)	Number of point		12 points	
	Output Type		Open collector	
	External supply voltage		MAX DC30V	
	Max. load current		MAX 100mA/1ch	
	Time Event			
	Event Code		Code 0 (OFF), Code 1 (ON), Code 2 (On-Delay & Cut-Back)	
	Object		Segment Time	
	PV Event			
	Event code		Code 11 – Code 38	
	Object		Set Point (SP) / Process Variable(PV) Destination(Target) Value (DV) / Manipulated value (MV)	
	Operating point		Absolute value (ABS) / Deviation (DEV) / MAX, MIN value	
	Operating Condition		Band / LOW/HIGH	
	Range	Absolute	-19999.0~20000.0 Unit	
		Deviation	-19999.0~20000.0 Unit	
		Differential	0 ~ 1000.0 Unit	
	On delay time		0 ~ 99 sec	
	Mode Event			
	Event code		Code 41 – Code 60	
	Object		RUN, HOLD, ADV, WAIT, MAN, TUNE, READY, FIX, STOP, END, TRBL, DOWN, UP	
	Alarm Event			
	Event Code		Code 61 – Code 80	
	Object		INNER : Object = PV, SP, DV, MV Operating point = ABS, DEV, MAX & MIN value Operating condition = Band/LOW/HIGH Range : Same with PV Event DIAGNOSIS : PV input burn-out FAIL : Instrument fail (Type: Memory, Power failure)	
	Action		RUN: Operation in RUN mode ALL: Operation in all cases	
Auxiliary Analog Input : Optional	Number of point		1 point	
	Input type		mA (4~20mA), V (0~10V, 1~5V)	
	Sampling Rate		200 ms	
	Input accuracy		±0.3%FS ± 1digit	

* The analog input option has no functional assignment, available for future purpose only.

Specifications			
Model		**IPC5000S**	**IPC5000D**
Program			
Max. Program Number		100 programs (No. 0 ~ No. 99)	
Max. Segment Number		100 segments/1 program & total 2000 segments	
Segment Setting		Segment Time : Setting by set points (SP) and time (Max. 99hours59min or 99min59sec) Segment Ramp-rate : Soaking-segment ramp rate (hr.min/min.sec) Ascending/descending ramp (Slope per hour/min) Ramp rate: 0.0 to 99.99 * Time unit is switcheable	
PID Group Setting		(1) Segment PID (2) Zone PID Group No.: 1 to 8	
Junction Code		0: Shifting to next segment 1: Holding when the segment completed 2: Transmitting to FIX control when last segment completed in the program	
EVENT setting		It is available for TIME and PV event setup in program pattern. For details, refer to 'Event output'. * Number of events : Max. 2000 items	
WAIT Function		Type (Front, rear, all) and WAIT width	
Repeat		1 pattern all repeat x 1 (Maximum repeat is 999 cycle) Part repeat x 5 (Maximum repeat is 999 cycle)	
Program Start Mode		- SSP Start from a preset point (SSP1 or SSP1/SSP2) to the target set point of the first segment - SPV Start from the point determined by the PV position compared with the target set points of program - Time Start from PV to the target set point of the first segment	
Program Link		Maximum 6 patterns Link program registration: Maximum 10 links	
Program Name		100 programs (Each program can have its name), Max. 12 characters	
FIX Control	Ramp (Slope)	Ramp Time : Max. 9999 hours 59minutes or 9999 minutes 59 seconds Ramp Rate : 0.0 to 9.9	
	G. SOAK	Type (Front, Rear, All) and WAIT width	
	Event Set	PV Event Set : 11 to 38	
Power Failure		Controls right away after recovery of power failure, if the power failure lasts less than 7 seconds. For power failure that lasts longer than 4 seconds, setup modes below will be followed. BREAK: Stops program HOT START: Controls at the state just before power failure COLD START: It starts again at the beginning of program **(Note)** In fix control, it is HOT START if the TIMER is off.	

Specifications

Model			IPC5000S	IPC5000D
Control				
PID		Algorithm	PID-A / PID-B / DUP-A / DUP-B	
		Proportional Band (P)	Proportional Band: 0.1 ~ 9999% GAIN: 0.001 ~ 1000	
		Integral Time (I)	0.00 ~ 10.00 min	
		Derivative Time (D)	0.02 ~ 50.00 min	
		Manipulated Value Limit (MV)	Low-limit: -5.0 to High-limit% High-limit: Low-limit to +105.0%	
		Manual Reset	–100 to +100	
		Maximum PID groups	8 groups	Loop 1 : 0 groups, 8 groups Loop 2 : 0 groups, 8 groups
		PID Group Selection	Segment specified, Automatic zone selectable during program run	
		Auto Tuning	Accutune II: Automatic setting of PID value by limit cycle method. * Single Auto tuning Auto tuning with specified PID group number * Automatic Auto tuning Zone PID 1 to Zone number Segment PID 1 to 8 PID group number	
		Fuzzy Control Function	Fuzzy Control function	
		On-off Control Diff.	0 ~ 1000	
Control Direction			Selection is settable (Direct/Reverse)	
HEAT/COOL Control			HEAT/COOL available	HEAT/COOL available for each CH
Operation Mode			Auto/Manual operation is switcheable *Manual Output: i) Bumpless ii) Preset value: -5.0~105.0%	
Output	Output Set	TYPE	Provided with 9 types (refer to Table1-3)	
	Current	Signals	4~20mA DC	
		Accuracy	+/-0.1% of span	
		Update cycle	100 msec	
	Voltage Pulse (PWM)	Open Time Terminal Voltage	Lower than 15V DC (20mA)	
		Time Proportional Cycle	1 ~ 240 sec	
	Relay Contact	Signal	NC, NO, and common terminals (SPDT)	
		Contact Rating	250VAC, 3A or 30VDC, 3A (Resistance load)	
	Open Collector	External Supply Voltage	MAX DC30V	
		Max. Load Current	MAX 100mA/1ch	

Specifications				
Model			**IPC5000S**	**IPC5000D**
Control Operation				
Program	READY		Stand-by status before program start (Control stop)	
	RUN		Program running status * Program Start Quick Start by RUN/STOP key or external contact relay input Timer Start by scheduled time	
	HOLD		Status to hold program run by force	
	WAIT		Waiting status during the WAIT function enabled	
	END		Status after program completed (Control stop)	
	BREAK		POWER FAILURE or Stop status (Control stop)	
	TUNE		AUTO-TUNING status	
Fix Control	READY		Stand-by status before program start (Control stop)	
	RUN		Program running status * Program Start Quick Start by RUN/STOP key or external contact relay input Timer Start by scheduled time	
	HOLD		Status to hold program run by force	
	TUNE		AUTO-TUNING status	
Communication				
Communication	RS-232 (Basic)	Speed	9600 or 19200	
		Parity check	NONE	
		Bit length	8	
		Stop Bits	1	
	RS-485 (Option)	Data Bits per Character	Bit transfer order	LSB first
			End of message	Idle line for three or more characters (>1.82 msec).
	Ethernet (Option)	Protocol	Modbus TCP	
		Port	One 10Base-T(RJ-45 connector)	
		Cabling Type	UTP category 2 or better Note) UTP: Unshielded Twisted Pair cable	

Table 1 – Input Actuations

Input type		Input Code	Range		Measurement Accuracy	
			°C	°F		
Thermocouples	K (CA)	K1	-200.0~200.0	-328.0~392.0	+/-0.1%FS	Below 0°C: +/-0.2%FS
		K2	0.0 ~ 1200.0	32.0~2192.0	+/-0.1%FS	
		K3	0.0~800.0	32.0~1472.0	+/-0.1%FS	
		K4	0.0~400.0	32.0~752.0	+/-0.1%FS	
	J (IC)	J	0.0~800.0	32.0~1472.0	+/-0.1%FS	
	R	R	0.0~1600.0	32.0~2912.0	+/-0.1%FS	
	S	S	0.0~1600.0	32.0~2912.0	+/-0.1%FS	
	B	B	0.0~1800.0	32.0~3272.0	+/-0.1%FS	+/-4.0%FS at 0 to 260°C +/-0.15%FS at 260 to 800°C
	E (CRC)	E	0.0~800.0	32.0~1472.0	+/-0.1%FS	
	T (CC)	T	-200.0~300.0	-328~572	+/-0.1%FS	+/-0.3%FS at –200 to -45°C
	N	N	0.0~1300.0	32~2372	+/-0.1%FS	
	W	W1	0.0~1200.0	32~2192	+/-0.1%FS	
		W2	0.0~2300.0	32~4172	+/-0.1%FS	
	C	C	0.0~2300.0	32~4172	+/-0.1%FS	
RTD	Pt100 (JIS/IEC)	Pt1	-200.0~500.0	-328.0~932.0	+/-0.1%FS	
		Pt2	-200.0~200.0	-328.0~392.0	+/-0.1%FS	
		Pt3	-100.0~150.0	-148.0~302.0	+/-0.1%FS	
		Pt4	-50.0~200.0	-58.0~392.0	+/-0.1%FS	
		Pt5	-40.0~60.0	-40.0~140.0	+/-0.2%FS	
		Pt6	0.0~100.0	32.0~212.0	+/-0.2%FS	
		Pt7	0.0~300.0	32.0~572.0	+/-0.1%FS	
		Pt8	0.0~500.0	32.0~932.0	+/-0.1%FS	
	JPt100 (JIS)	JPt1	-200.0~500.0	-328.0~932.0	+/-0.1%FS	
		JPt2	-200.0~200.0	-328.0~392.0	+/-0.1%FS	
		JPt3	-100.0~150.0	-148.0~302.0	+/-0.1%FS	
		JPt4	-50.0~200.0	-58.0~392.0	+/-0.1%FS	
		JPt5	-40.0~60.0	-40.0~140.0	+/-0.2%FS	
		JPt6	0.0~100.0	32.0~212.0	+/-0.2%FS	
		JPt7	0.0~300.0	32.0~572.0	+/-0.1%FS	
		JPt8	0.0~500.0	32.0~932.0	+/-0.1%FS	
DC Voltage	0~10V	DCV1	Configurable Range -19999 ~ 20000 (DP position is configurable)		+/-0.1%FS	
	0~5V	DCV2			+/-0.1%FS	
	1~5V	DCV3			+/-0.1%FS	
DC Current	0~20mA	MA1			+/-0.1%FS	
	4~20mA	MA2			+/-0.1%FS	

Table 2 – The Function Table of External Switch Input (Digital Input)

DI No.	Function	Detection way
DI 01	RUN/STOP (RUN ←→ STOP)	Leading edge
DI 02	HOLD	ON status
DI 03	ADV	Leading edge
DI 04	Trouble Message Input 1	ON status
DI 05	Trouble Message Input 2	ON status

- IPC5000 Single Channel Type

DI No.	Function	Detection way
DI 06	Trouble Message Input 3	ON status
DI 07	Trouble Message Input 4	ON status

- IPC5000 Dual Channel Type

DI 06	DI 07	Channel Selection
OFF	OFF	Both CH1 and CH2 Disabled
OFF	ON	CH1 Disabled, but CH2 Enabled
ON	OFF	CH1 Enabled, but CH2 Disabled
ON	ON	Both CH1 and CH2 Enabled

- Program Selection

DI 08	DI 09	DI 10	DI 11	DI 12	Pattern Selection
OFF	OFF	OFF	OFF	OFF	Select Program No. 00
OFF	OFF	OFF	OFF	ON	Select Program No. 01
OFF	OFF	OFF	ON	OFF	Select Program No. 02
OFF	OFF	OFF	ON	ON	Select Program No. 03
OFF	OFF	ON	OFF	OFF	Select Program No. 04
OFF	OFF	ON	OFF	ON	Select Program No. 05
OFF	OFF	ON	ON	OFF	Select Program No. 06
OFF	OFF	ON	ON	ON	Select Program No. 07
OFF	ON	OFF	OFF	OFF	Select Program No. 08
OFF	ON	OFF	OFF	ON	Select Program No. 09
OFF	ON	OFF	ON	OFF	Select Program No. 10
OFF	ON	OFF	ON	ON	Select Program No. 11
OFF	ON	ON	OFF	OFF	Select Program No. 12
OFF	ON	ON	OFF	ON	Select Program No. 13
OFF	ON	ON	ON	OFF	Select Program No. 14
OFF	ON	ON	ON	ON	Select Program No. 15
ON	OFF	OFF	OFF	OFF	Select Program No. 16
ON	OFF	OFF	OFF	ON	Select Program No. 17
ON	OFF	OFF	ON	OFF	Select Program No. 18
ON	OFF	OFF	ON	ON	Select Program No. 19
ON	OFF	ON	OFF	OFF	Select Program No. 20
ON	OFF	ON	OFF	ON	Select Program No. 21
ON	OFF	ON	ON	OFF	Select Program No. 22
ON	OFF	ON	ON	ON	Select Program No. 23
ON	ON	OFF	OFF	OFF	Select Program No. 24
ON	ON	OFF	OFF	ON	Select Program No. 25
ON	ON	OFF	ON	OFF	Select Program No. 26

DI 08	DI 09	DI 10	DI 11	DI 12	Pattern Selection
ON	ON	OFF	ON	ON	Select Program No. 27
ON	ON	ON	OFF	OFF	Select Program No. 28
ON	ON	ON	OFF	ON	Select Program No. 29
ON	ON	ON	ON	OFF	Select Program No. 30
ON	ON	ON	ON	ON	Select Program No. 31

Model Interpretation

Instruction

- Select the desired key number.
  The arrow to the right marks the selection available.
- Make one desired selection each from Table I through III.
  A dot (•) denotes unrestricted availability.

KEY NUMBER **Table I** **Table II** **Table III**

IPC5000 _ - [_ _] - [_ _] - [_]

KEY NUMBER

Description		Selection	Availability	
Control Loop	Single Loop Control	IPC5000S	↓	
	Dual Loop Control	IPC5000D		↓

TABLE I - Input & Outputs

Input	Standard Input (2 Analog Inputs + 12 Digital Inputs)	0 _	•	•
Output	Standard Output (2 Analog Outputs + 12 Digital Outputs)	_ 0	•	•
	Standard Output + 2 Analog Outputs	_ 1		•

TABLE II - Options

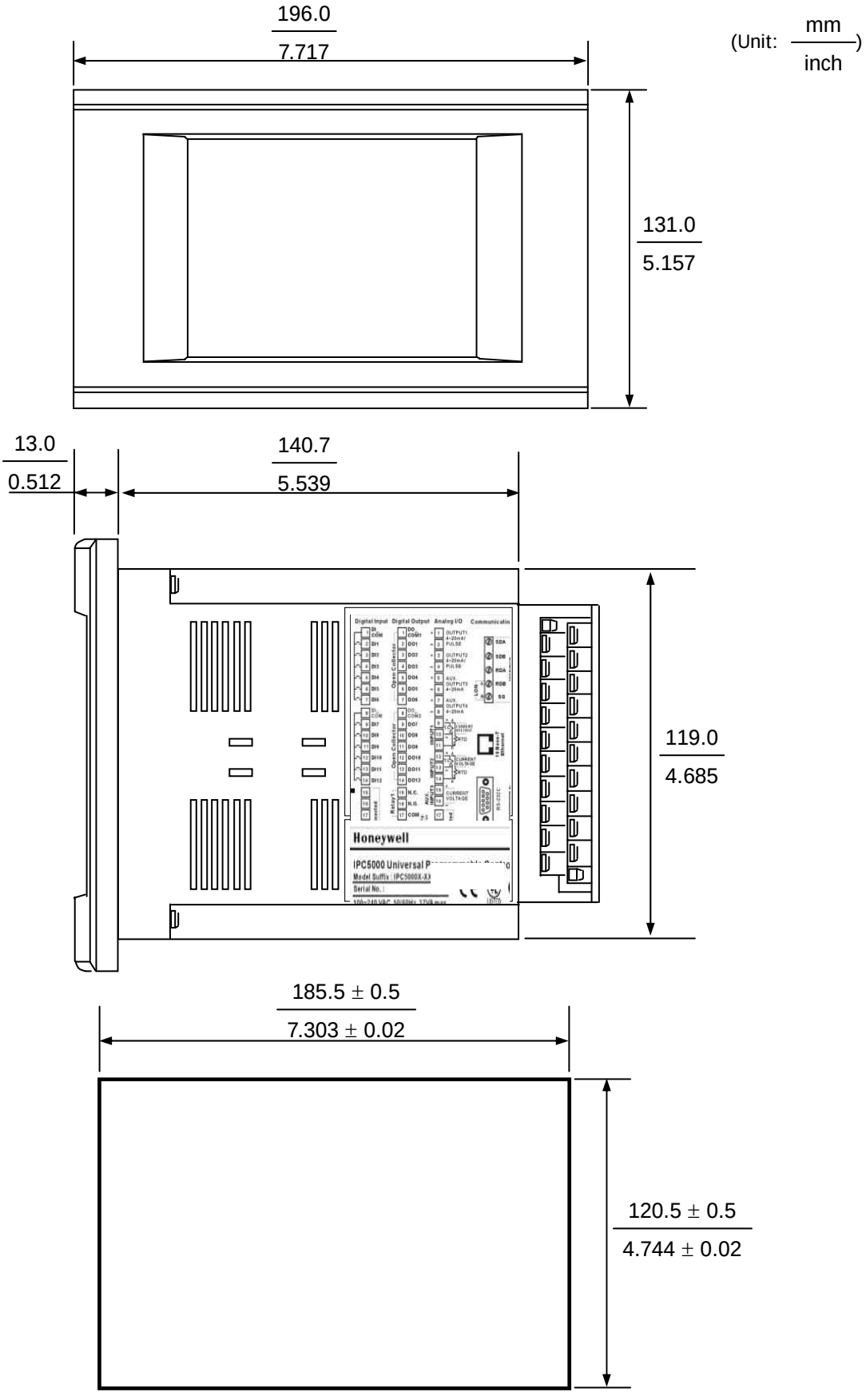
Communication	RS-232C	0 _	•	•
	RS-232C, RS-485 (Modbus RTU)	1 _	•	•
	RS-232C, Ethernet (Modbus TCP)	2 _	•	•
Manual & Cable	None	_ 0	•	•
	Manual CD	_ 1	•	•
	Manual CD, RS-232C Cable (connection with PC)	_ 2	•	•

TABLE III - Language

Display Language	English/Korean	0	•	•

External Dimension

(Unit: mm / inch)



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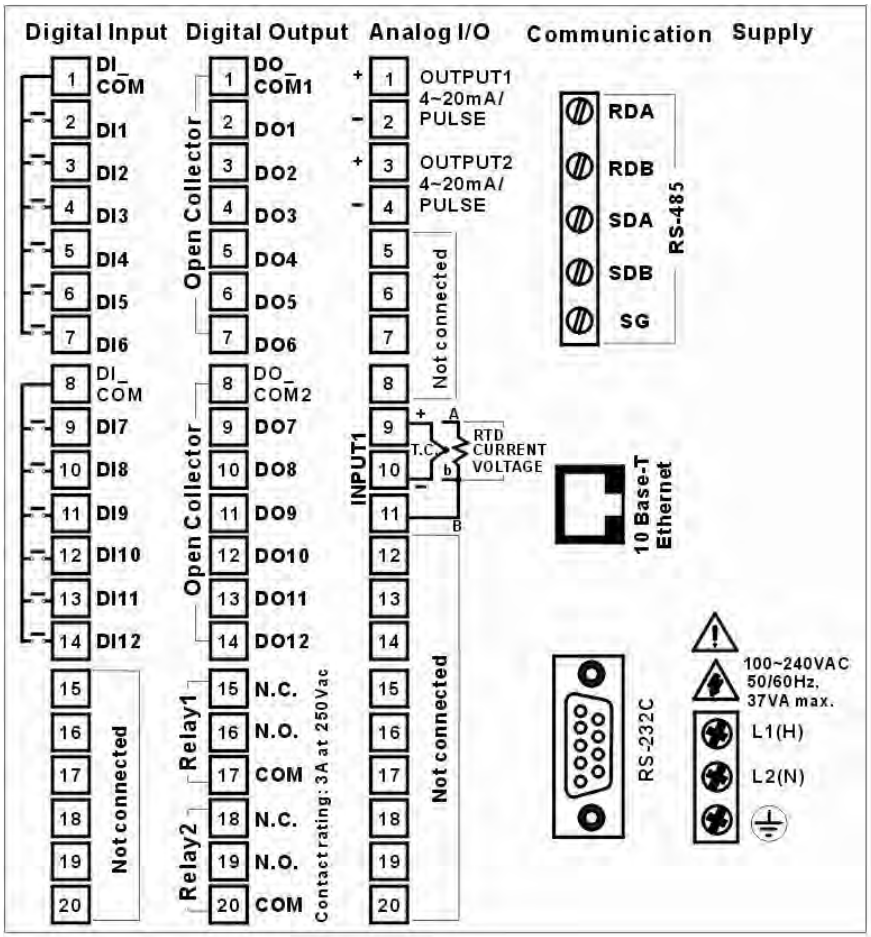
Wiring Diagram

- Single Channel (IPC5000S)



No.	Terminal name	Function
1	DI_COM	
2	DI1	Digital input1
3	DI2	Digital input2
4	DI3	Digital input3
5	DI4	Digital input4
6	DI5	Digital input5
7	DI6	Digital input6
8	DI_COM	
9	DI7	Digital input7
10	DI8	Digital input8
11	DI9	Digital input9
12	DI10	Digital input10
13	DI11	Digital input11
14	DI12	Digital input12
15	Not Connected	
16		
17		
18		
19		
20		

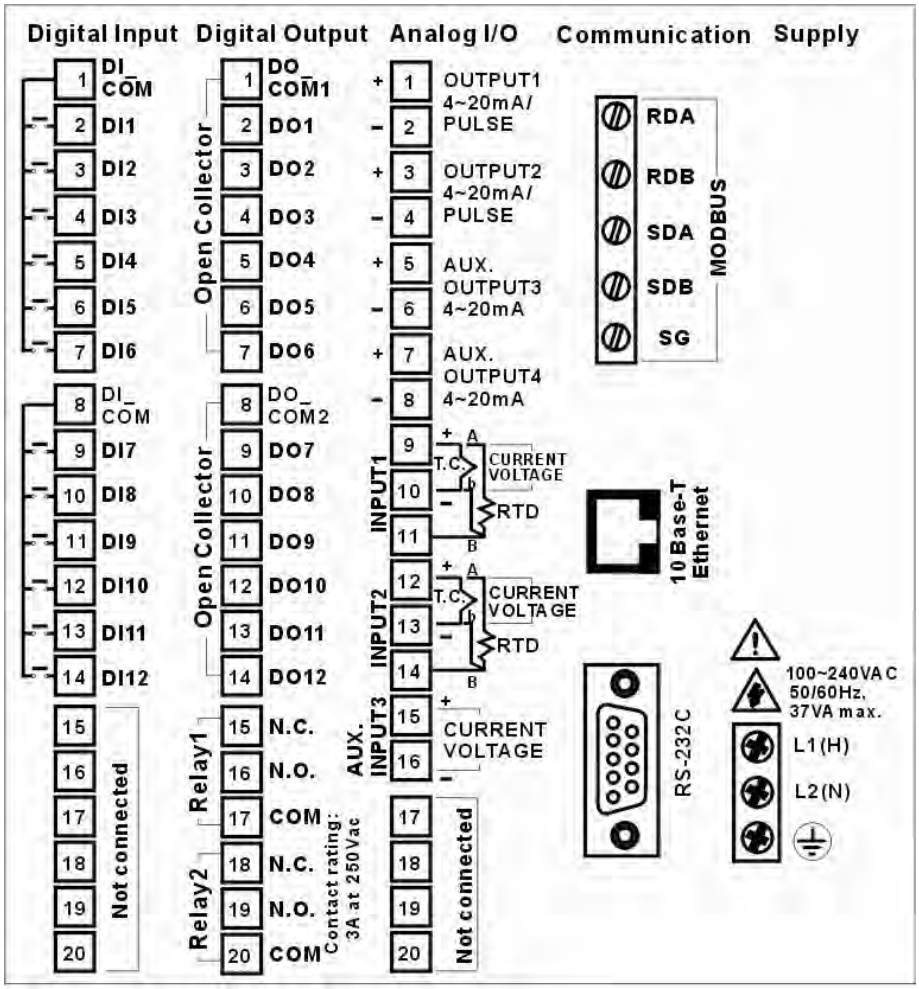
No.	Terminal name	Function
1	DO_COM1	
2	DO1	Digital output1
3	DO2	Digital output2
4	DO3	Digital output3
5	DO4	Digital output4
6	DO5	Digital output5
7	DO6	Digital output6
8	DO_COM2	
9	DO7	Digital output7
10	DO8	Digital output8
11	DO9	Digital output9
12	DO10	Digital output10
13	DO11	Digital output11
14	DO12	Digital output12
15	N.C.	Relay 1
16	N.O.	
17	COM	
18	N.C.	Relay 2
19	N.O.	
20	COM	

No.	Terminal name	Function
1	Output1(+)	4~20mA, Voltage Pulse
2	Output1(-)	
3	Output2(+)	4~20mA, Voltage Pulse
4	Output2(-)	
5	Not Connected	
6		
7		
8		
9	Input1 (+)	RTD(A),mA,V,TC
10	Input1 (-)	RTD(b)
11	Input1(B)	RTD(B)
12	Not Connected	
13		
14		
15		
16		
17		
18		
19		
20		

No.	Terminal name	Function
9 pin	D-sub connector (9 pin)	RS232 (default)
8 pin	RJ-45 connector (8 pin)	Ethernet (option)
5 pin	RDA	RS485(Modbus) (option)
	RDB	
	SDA	
	SDB	
	SG	

Terminal name		Function
L	100Vac to 240Vac	Main Power supply
N		
⏚	Protective Earth (PE)	Connect the PE to Frame Ground

- Dual Channel Type (IPC5000D)



No.	Terminal name	Function
1	DI_COM	
2	DI1	Digital input1
3	DI2	Digital input2
4	DI3	Digital input3
5	DI4	Digital input4
6	DI5	Digital input5
7	DI6	Digital input6
8	DI_COM	
9	DI7	Digital input7
10	DI8	Digital input8
11	DI9	Digital input9
12	DI10	Digital input10
13	DI11	Digital input11
14	DI12	Digital input12
15	Not Connected	
16		
17		
18		
19		
20		

No.	Terminal name	Function
1	DO_COM1	
2	DO1	Digital output1
3	DO2	Digital output2
4	DO3	Digital output3
5	DO4	Digital output4
6	DO5	Digital output5
7	DO6	Digital output6
8	DO_COM2	
9	DO7	Digital output7
10	DO8	Digital output8
11	DO9	Digital output9
12	DO10	Digital output10
13	DO11	Digital output11
14	DO12	Digital output12
15	N.C.	Relay 1
16	N.O.	
17	COM	
18	N.C.	Relay 2
19	N.O.	
20	COM	

No.	Terminal name	Function
1	Output1(+)	4~20mA, Voltage Pulse
2	Output1(-)	
3	Output2(+)	4~20mA, Voltage Pulse
4	Output2(-)	
5	Output3(+)	AUX Output (4~20mA)
6	Output3(-)	
7	Output4(+)	AUX Output (4~20mA)
8	Output4(-)	
9	**Input1 (+)**	RTD(A),mA,V,TC
10	**Input1 (-)**	RTD(b)
11	Input1(B)	RTD(B)
12	**Input2 (+)**	RTD(A),mA,V,TC
13	**Input2 (-)**	RTD(B)
14	Input2(B)	RTD(B)
15	Input3(+)	AUX Input(mA,V)
16	Input3(-)	
17	Not Connected	
18		
19		
20		

No.	Terminal name	Function
9 pin	D-sub connector (9 pin)	RS232 (default)
8 pin	RJ-45 connector (8 pin)	Ethernet (option)
5 pin	RDA	RS485 Modbus (option)
	RDB	
	SDA	
	SDB	
	SG	

Terminal name		Function
L	100Vac to 240Vac	Main Power supply
N		
⏚	**Protective Earth**	**Connect the PE to Chassis ground**

Warranty / Remedy

Honeywell warrants goods of its manufacture as being free of defective materials and faulty workmanship. Contact your local sales office for warranty information. If warranted goods are returned to Honeywell during the period of coverage, Honeywell will repair or replace without charge those items it finds defective. The foregoing is Buyer's sole remedy and is **in lieu of all other warranties, expressed or implied, including those of merchantability and fitness for a particular purpose**. Specifications may change without notice. The information we supply is believed to be accurate and reliable as of this printing. However, we assume no responsibility for its use.

While we provide application assistance personally, through our literature and the Honeywell web site, it is up to the customer to determine the suitability of the product in the application.

Specifications are subject to change without notice.

Honeywell Process Solution
IM&C Asia Pacific
Honeywell Building
17 Changi Business Park Central 1
Singapore 486073

Honeywell
www.honeywell.com/imc