DC1010/DC1020/DC1030/DC1040/Compact type DIGITAL CONTROLLERS Specification

Overview

The DC1000 Series are microprocessor-based controllers designed with a high degree of functionality and reliability at a competitive price. The controllers are available in different formats: 48x48 (1/16 DIN), 48x96 (1/8 DIN), 72x72 (3/16 DIN), 96x96 (1/4 DIN). This controller series is ideal for the control of temperature, humidity, pressure, flow etc. in a variety of applications including:

- Plastic Processing(Injection)
- Package Machinery
- Painting and coating
- Semiconductor packaging / Testing
- Dryers
- Food and Beverage

Features

- **Easy to Configure**

Different configuration levels provide easy access to parameters.

- **High Accuracy and sampling time**

High accuracy of 0.1% FS and up to 50msec sampling time for main input(INP1) with TC, RTD and Linear signal.

- **Various Control Algorithm**

Several different algorithms are available as follows:

- PID or ON/OFF Control
- Heat/Cool Control with 2 PID sets
- Motor Position Control (without slidewire feedback)

- **Auto-Tuning Capability**

Advanced auto-tuning function calculates the optimized PID values for your specific control system.

- **Dual Display and Bar graph**

Two large 4 digits display PV, SP and configuration parameters.
One 10 LED bar-graph displays the control output (MV).

- **Displays for status**

Up to 8 LEDs display the status of the different outputs (Control, Alarm, …) displays on front face and also provide indication of the A/M(Auto/Manual) and programmer status.

- **Setpoint Programming**

Two programs are available with a max. 18 programs of 8 segments per pattern. The 18 programs can be linked together and perform as a single 144 segments program.

- **Extended Alarm Capability**

Up to three different alarm outputs are available per instrument and 19 kinds of event modes can be assigned to each of alarm output.
Heater-Break alarm, can be accepted AC current over CT and make an alarm.

- **Communications**

RS485 (with Modbus RTU Protocol, Legacy-old) is optionally available with a maximum communication speed of 115200 bps.

- **IP65 Front Face Protection**

IP65 rated front face permits use in applications where it may be subjected to moisture, dust conditions. (it's available with DC1014, DC1024, DC1034, DC1044 / DC1015, DC1025, DC1035 DC1045.)

- **Remote Setpoint Capability**

The setpoint can be defined from a remote PLC or other controller. TTL option

- **Manual & Automatic Modes**

The control mode can be switched between Automatic and manual by clicking A/M key. (The A/M key is available with DC1020, DC1030 and DC1040)

- **Global Approvals – CE & cUL**

All models are CE certified as a standard, and UL approved version for all models are available optionally.

- **Parameter Lock**

A 4-digit security code prevents any unauthorized changes of parameters or configurations. Parameters can be hidden to user to prevent any mis-configuration of the unit.

Specifications					
General					
Rated power supply voltage		100 to 240V AC 50/60Hz, 8VA max. 15 to 50V DC, 10VA max.			
Insulation Resistance		Over 10㏁ under DC500V megger between input terminal and case(ground). Over 10㏁ under DC500V megger between output terminal and case(ground).			
Withstand voltage		1000V AC 50/60Hz for 1min across input terminal and case(ground) 1500V AC 50/60Hz for 1min across output terminal and case(ground)			
Operating Conditions	Ambient Temp.	0 to 50°C			
	Ambient Humi.	20 to 90%RH (non-condensing)			
	Rated Power Supply	100 to 240V AC 20 to 50V DC			
	Allowable Power Supply	85 to 264V AC 15 to 55VDC			
	Power Frequency	50 ± 2Hz or 60 ± 2Hz			
	Vibration Resistance	10m/s^2 (approx. 1G), 10 to 55Hz for 10min each X, Y, Z directions			
Transportation and storage conditions	Ambient Temp.	-25 to +65 °C			
	Ambient Humi.	10 to +95% RH (non-condensing)			
	Vibration Resistance	20m/s^2 (Approx. 2G), 10 to 55Hz for 2 hours each in X, Y, Z directions			
Exterior		Double insulation, Case and front panel : plastic			
Indication	PV/SP indication	4-digit, 7-segment display			
	Const value storage	Non-volatile memory(EEPROM)			
Mounting		Panel-mount			
Model		DC1010	DC1020	DC1030	DC1040
Exterior Size (unit: $\frac{mm}{inch}$) : W X H X D		50 X 50 X 97 (1.97X1.97X 3.82)	50 X 96 X 97 (1.97X3.78X3.82)	74 X 74 X 97 (2.91X2.91X3.82)	96 X 96 X 97 (3.78X3.78X3.82)
Panel Cutout (unit: $\frac{mm}{inch}$) : W X H		44.5 X 44.5 (1.75 X 1.75)	44.5 X 90.5 (1.75 X 3.56)	68.5 X 68.5 (2.97 X 2.97)	90.5 X 90.5 (3.56 X 3.56)
Global Approvals		CE, cUL			

Interval = 20.5mm (0.807 in)

Honeywell

DC1050/60, DC1070

DIGITAL CONTROLLERS Specification

Overview

The DC1000 Series are microprocessor-based controllers designed with a high degree of functionality and reliability at a competitive price. Here, DC1050 and DC1060 are compact size and installed on DIN rail. This controller series is ideal for the control of temperature, humidity, pressure, flow etc. in a variety of applications including:

- Plastic Processing
- Package Machinery
- Painting and coating
- Semiconductor packaging / Testing
- Dryers
- Food and Beverage

Features

- **Compact size and Easy to install**

Short-body and compact size, installed on DIN rail easily.

- **Various Control Algorithm**

Several different algorithms are available as follows:

- PID or ON/OFF Control
- Heat/Cool Control with 2 PID sets
- Motor Position Control (without slidewire feedback)

- **Auto-Tuning Capability**

Advanced auto-tuning function calculates the optimized PID values for your specific control system.

- **Two types of model**

Advanced and Economic models. dual 4 digits display PV, SP and configuration parameters. Up to 5 LEDs display the status of the different outputs (Control, Alarm, …). Economic model provides to configure parameters.

- **Setpoint Programming**

Two programs are available with a maximum of 144 segments. The 18 programs can be linked together and perform as a single 144 segment program.

- **Extended Alarm Capability**

Up to three different alarm outputs are available per instrument and 17 kinds of event modes can be assigned to each of alarm output.(DC1050 : upto two alarms)

- **Communications**

RS485 (Modbus RTU Protocol) is optionally available with a maximum communication speed of 115200 bps and advanced communication capability, 1 to 31.

- **Remote Setpoint Capability**

The setpoint can be defined from a remote PLC or other controller. (For only DC1050.)

- **Manual & Automatic Modes**

The control mode can be switched between Automatic and manual by clicking A/M key.

- **Global Approvals – CE**

All models are CE certified as a standard.

- **Parameter Lock**

A 4-digit security code prevents any unauthorized changes of parameters or configurations. Parameters can be hidden to user to prevent any mis-configuration of the unit.

- **Aux. tool**

Aux. tool(KA301) is available and ease to copy or backup the parameters via one USB port.

Specifications					
General					
Rated power supply voltage		100 to 240V AC 50/60Hz, 8VA max.			
Insulation Resistance		Over 10㏁ under DC500V megger between input terminal and case(ground). Over 10㏁ under DC500V megger between output terminal and case(ground).			
Withstand voltage		1000V AC 50/60Hz for 1min across input terminal and case(ground) 1500V AC 50/60Hz for 1min across output terminal and case(ground)			
Operating Conditions	Ambient Temp.	0 to 50°C			
	Ambient Humi.	20 to 90%RH (non-condensing)			
	Rated Power Supply	100 to 240V AC Approx. 4VA			
	Allowable Power Supply	85 to 264V AC			
	Power Frequency	50 ± 2Hz or 60 ± 2Hz			
	Vibration Resistance	10m/s^2 (approx. 1G), 10 to 55Hz for 10min each X, Y, Z directions			
Transportation and storage conditions	Ambient Temp.	-25 to +65 °C			
	Ambient Humi.	10 to +95% RH (non-condensing)			
	Vibration Resistance	20m/s^2 (Approx. 2G), 10 to 55Hz for 2 hours each in X, Y, Z directions			
Exterior		Double insulation, Case and front panel : plastic			
Indication	PV/SP indication	4-digit, 7-segment display			
	Const value storage	Non-volatile memory(EEPROM)			
Mounting		DIN Rail mount			
Model		DC1050	DC1060		
Exterior Size (unit: $\frac{mm}{inch}$) : W X L X H		40 X 107 X43 (1.57X4.21X 1.69)	40 X 107 X43 (1.57X4.21X 1.69)		
Global Approvals		CE			

Interval = 20.5mm (0.807 in)

Specifications			
Model		**DC1010/1020/1030/1040**	**DC1050, DC1060**
Input/Output			
PV Input	Number of Point	1 point (TC, RTD or Linear)	
	Type of input	TC: K, J, R, S, B, E, N, T, W, PLII, L RTD : Pt100 Linear : 4~20mA / 1~5V / 2~10V * Note 1 0~20mA / 0~5V / 0~10V * Note 1	TC : K, J, R, E, T RTD : Pt100 Linear : 4~20mA *Note1
	Range	Refer to Table 1-1. * Temperature unit : °C, °F (switchable)	
	Sampling Time	Upto 50 ms	
	Indication Accuracy	± 0.1% FS ± 1digit (for details Table1-1)	
	Cold junction accuracy	±1.0°C (under standard conditions)	
	Input bias (offset)	LSPL ~ USPL	
	Digital Filter	0.00 – 99.59 min.sec (0: filter off)	
	Decimal Point	0000, 000.0, 00.00, 0.000	
2nd Input (RSP)	Type of input	0~20mA / 0~5V / 0~10V 4~20mA / 1~5V / 2~10V	
	Sampling Time	50ms	
CT Input	Type	Measure AC current of single phase SC-80T : 0.0~80.0A	
	Sampling Time	50msec	
	Indication Accuracy	1% FS	
	Resolution	0.1A ac	
	Weight	12g	
	Dielectric strength	2500Vac, for 1 min between terminal and case	

NOTE 1. When OUT1 is ON and CT input value is less than HBA set value for 5 seconds, AL1 is activated. Otherwise, AL1 is not activated.

Specification								
Model			**DC1010**	**DC1020**	**DC1030**	**DC1040**	**DC1050**	**DC1060**
Input/Output								
Output 1	Relay output		SPST	SPDT	SPST	SPDT	SPDT	SPST
			3A, 220Vac, Resistive Load(100,000 time electrical life)					
	Voltage Pulse		PWM(SSR drive), ON: 20 Vdc, OFF: 0 V (max. load current 20mA) Open Time Terminal Voltage: 20 Vdc or less Time Proportional Cycle Time: 0-150 sec					
	Linear output		DC Current (mA) : 0~20mA, 4~20mA (load resistance 500Ω) DC Voltage (V) : 0~5V, 0~10V, 1~5V, 2~10V (max. load current 20mA) Accuracy ± 5% of Span Update Cycle 500m sec					
Output 2 (* Note 1)	Relay		SPST	SPST	SPST	SPST	SPST	SPST
			3A, 220Vac, Resistive Load(100,000 time electrical life)					
	Voltage pulse		PWM(SSR drive), ON: 20 Vdc, OFF: 0 V (max. load current 20mA) Open Time Terminal Voltage: 20 Vdc or less Time Proportional Cycle Time: 0-150 sec					
	Linear		DC Current (mA) : 0~20mA, 4~20mA (load resistance 500Ω) DC Voltage (V) : 0~5V, 0~10V, 1~5V, 2~10V (max. load current 20mA) Accuracy ± 5% of Span Update Cycle 500m sec					
Output Direction (OUD)			HEAT(Direct)/COOL(Reverse) (Selectable)					
Control Mode			Auto/Manual operation is switchable.					
Aux. output	Output signal		SP, PV retransmission					
	No. of point		1 point					
	Type of output		4-20mA, 0~20mA, 0~5V, 0~10V, 1~5V, 2~10V					
	Accuracy		+/- 0.1% of span					
	Sampling time		50 ms					
Alarm output	Relay	AL1	SPST	SPDT	SPST	SPDT	SPDT	SPST
		AL2	SPST	SPDT	SPST	SPDT	SPST	SPST
		AL3	-	SPST	SPST	SPST	-	SPST
		Rate	3A, 220Vac, Resistive Load(100,000 time electrical life)					

* For Heat/Cool Control Output only.

Specification							
Model			**DC1010**	**DC1020**	**DC1030**	**DC1040**	**DC1050**	**DC1060**
PID Control & Auto-Tuning							
Proportional Band (P1,P2)			Proportional Band: 0.0 ~ 200.0%					
Integral time (I1, I2)			Integral time : 0 ~ 3600 sec					
Derivative time (D1, D2)			0 ~ 900 sec					
Auto-Tuning Value			0 ~ USPL					
HYS1, HYS2			0 ~ 1000 (for ON/OFF control)					
Dead Band (DB1)			Not defined.					
GAP1, GAP2			0 ~ 1000(for HEAT/COOL control)					
Cycle Time			0 ~ 150 sec					
Communication							
Speed			1200, 2400, 4800, 9600, 19200, 38400 bps					
Protocol			ModBus RTU, ModBus ASCII					
Parity check			Odd / Even					
Bit length / Start / Stop bit			8 / 1 / 1 or 2					
Communication			RS485					
ALARMS(EVENTS)							
Channel			Max. 3 channels(optional)with HBA					
Mode	Code	01 / 11	Deviation-High alarm (inhibit / no-inhibit)					
		02 / 12	Deviation-Low alarm (inhibit / no-inhibit)					
		03 / 13	Deviation High/Low Limit alarm (inhibit / no-inhibit)					
		04 / 14	Deviation High/Low Limit range alarm (inhibit / no-inhibit)					
		05 / 15	Absolute High alarm by PV (inhibit / no-inhibit)					
		06 / 16	Absolute Low alarm by PV (inhibit / no-inhibit)					
	SET VALUE		-1999~ USPL (Absolute value, Deviation value)					
	Activation Hysterisis		0 ~ 1000					
	Timer		0 : Flicker 99M 59S : Continued alarm 00M 01S to 99M 58S : on delay Timer alarm					
Program	Code	07	Segment End alarm(in progress of program)					
		17	Program RUN					
System	Code	08	System Error ON					
		18	System Error OFF					
TIME	Code	19	Delaying timer (00Hours 00Min ~ 99Hour 59Min)					
HBA	Code	09	Heater Break Alarm for only AL1					

Specification		
Program (Optional)		
Program section	No. of patterns	18 programs, 144 segments(totally)
	No. of segments	8 segments/1 program
	Segment time	Segment time: Setting by set points(SP) and time (Max. 99hours 59minutes)
	Control output	0~100% When TIME=END and OUT=0%, Program End.
	WAIT function	Rear Wait Time may exceed set time of the particular segment. In this case, remaining time is set as 0 and pending; if the temperature that was measured does not reach target value ± WAIT set point. It proceeds to the next segment after it is confirmed that temperature reach the range of set point (target value ± WAIT)
		Setup range: ± 0 ~ 1000 by decimal point.
	Repeat	Repeat(infinitely) / Non-repeat
	Program link	When Program number is 0, Link program 1 and 2.
	Program start	(1) Start from SP=0 (2) Start from PV
	Power Failure	Hot Start / Cold Start
	TIME UNIT	Hour. Minute / Minute. Second

Table 1-1

Analog Input Range (Thermocouple)						
Input Type		**Code**	**Temperature Range**		**Indication Accuracy**	**Remarks**
			°C	**°F**		
TC (Note1)	K	K1	-50.0~600.0°C	-58.0~999.9°F	+/-0.1%FS	
		K2	-50~1200°C	-58~2192°F		
	J	J1	-50.0~600.0°C	-58.0~999.9°F	+/-0.1%FS	
		J2	-50~1200°C	-58~2192°F		
	R	R1	-50~1760°C	-58~3200°F	+/-0.1%FS	+/-2 **°C** under 100 **°C** +/-**3.6 °F** under 212 **°F**
	S	S1	-50~1760°C	-58~3200°F	+/-0.1%FS	
	B	B1	-50~1820°C	-58~3308°F	+/-0.1%FS	No guarantee at 0 ~ 400°C
	E	E1	-50~900°C	-58~1652°F	+/-0.1%FS	
	N	N1	-50~1300°C	-58~2372°F	+/-0.1%FS	
	T	T1	-199.9~400.0°C	-199.9~752.0°F	+/-0.1%FS	+/-1 **°C** under -100 **°C** +/-1.8 **°F** under -148 **°F**
		T2	-199~400°C	-326~752°F		
	W	W1	-50~2320°C	-58~4208°F	+/-0.1%FS	W5Re/W26Re
	PLII	PL1	-50~1200°C	-58~2192°F	+/-0.1%FS	
	L	L1	-50~800°C	-58~1472°F	+/-0.1%FS	

Table 1-2

Analog Input Range (RTD)						
Input Type		**Code**	**Input Type**		**Indication Accuracy**	**Remarks**
			°C	**°F**		
RTD	DIN Pt100	DP1	-199.9~850.0°C	-199.9~999.9°F	+/-0.1%FS	+/-0.5 **°C** under -100 **°C** +/-0.9 **°F** under -148 **°F**
		DP2	-199~850°C	-326~1562°F		
		DP3	0~850°C	32~1562°F		

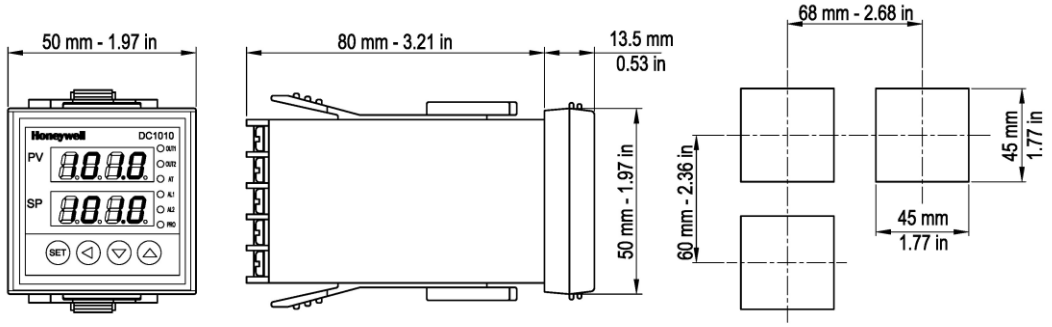
Table 1-3

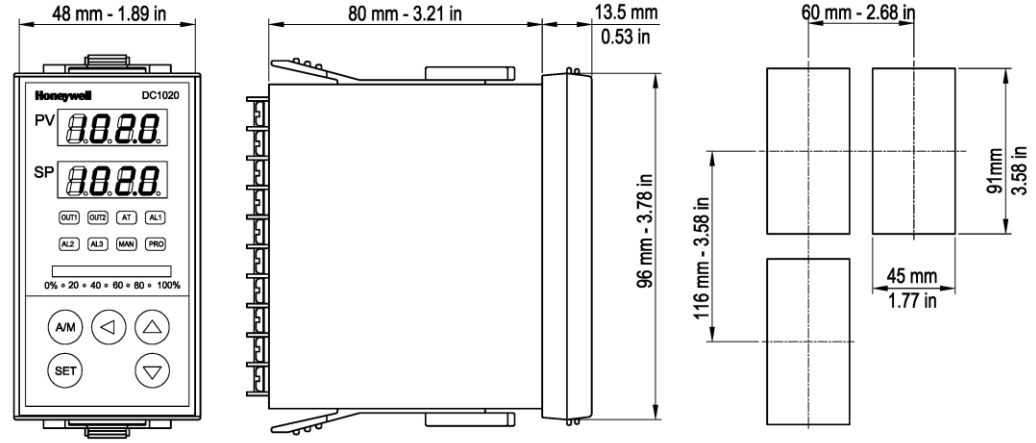
Analog Input Range (Linear)					
Input Type	**Code**	**Source**	**Range**	**Indication Accuracy**	**Remarks**
Linear	AN2	0~50mV	-1999~9999	+/-0.1% of span	0-20mA, 0-1V, 0-5V, 0-10V
	AN4	10~50mV			4-20mA, 1-5V, 2-10V

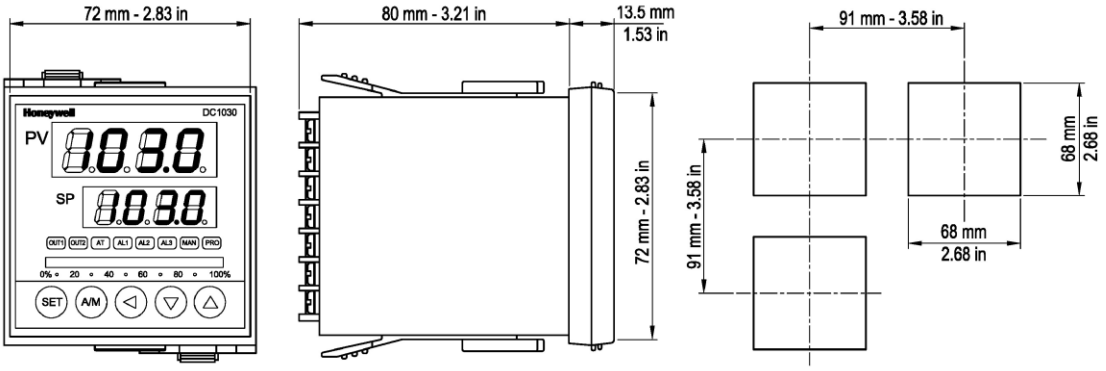
Picture 1.1

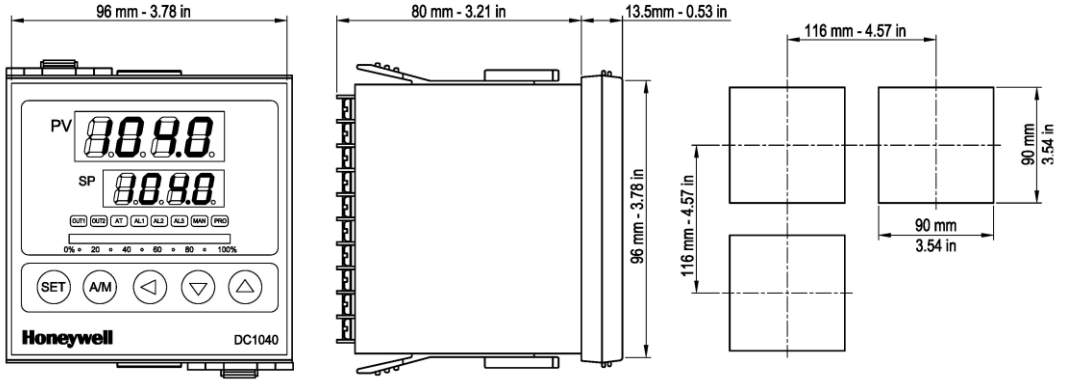
External Dimension : DC101_, DC102_, DC103_, DC104_

(Unit : mm)





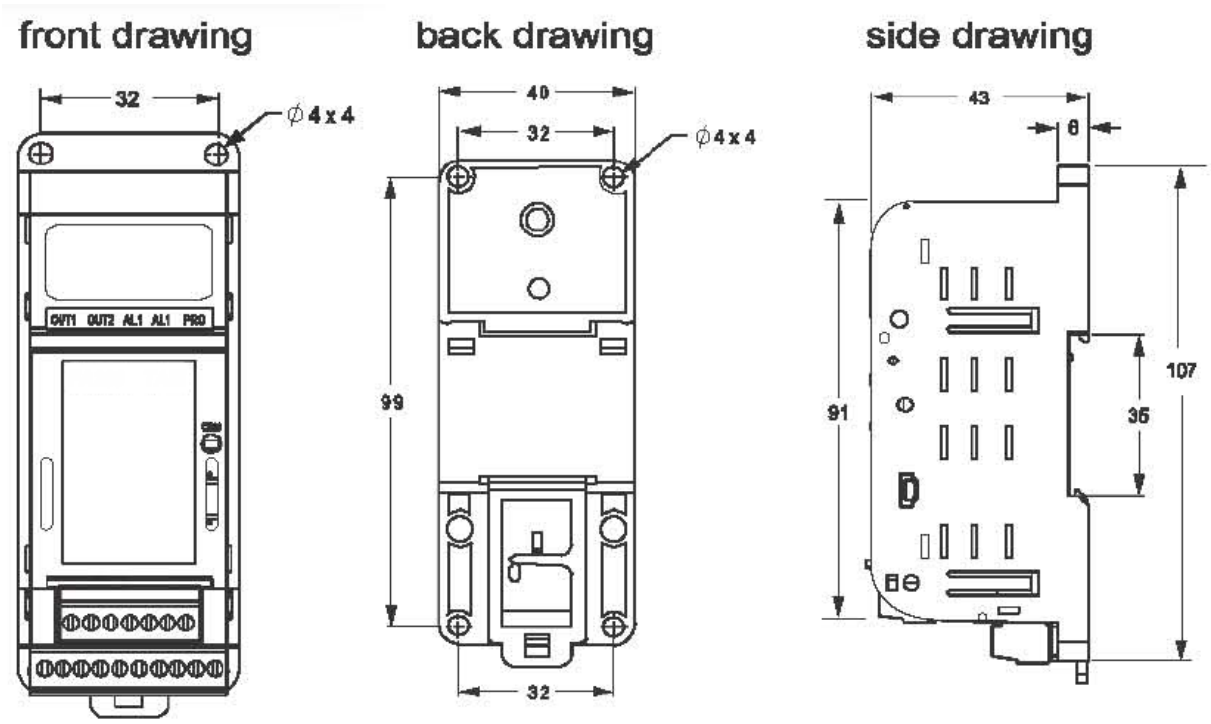




Picture 1.2

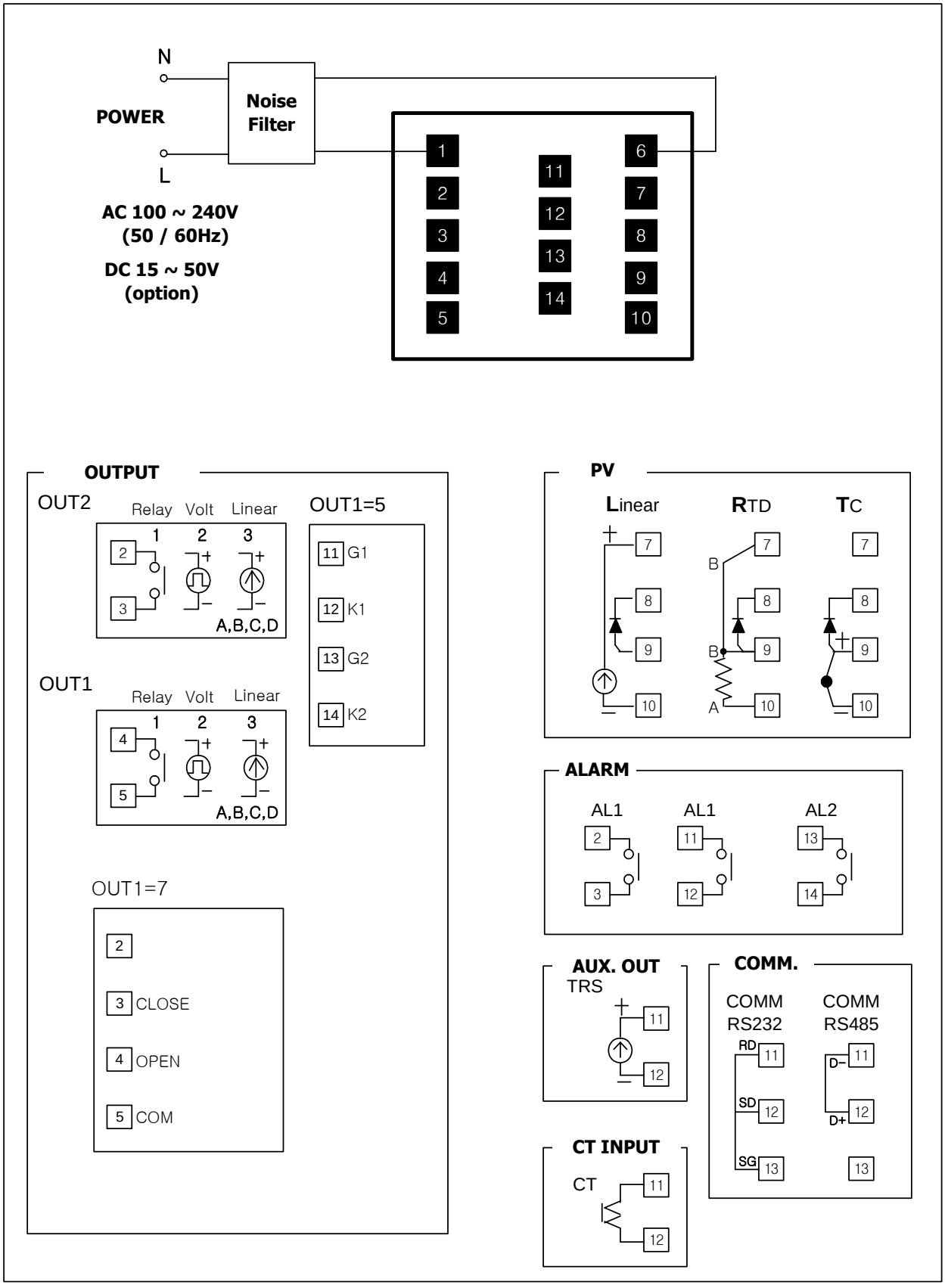
External Dimension : DC105_, DC106_

(Unit : mm)



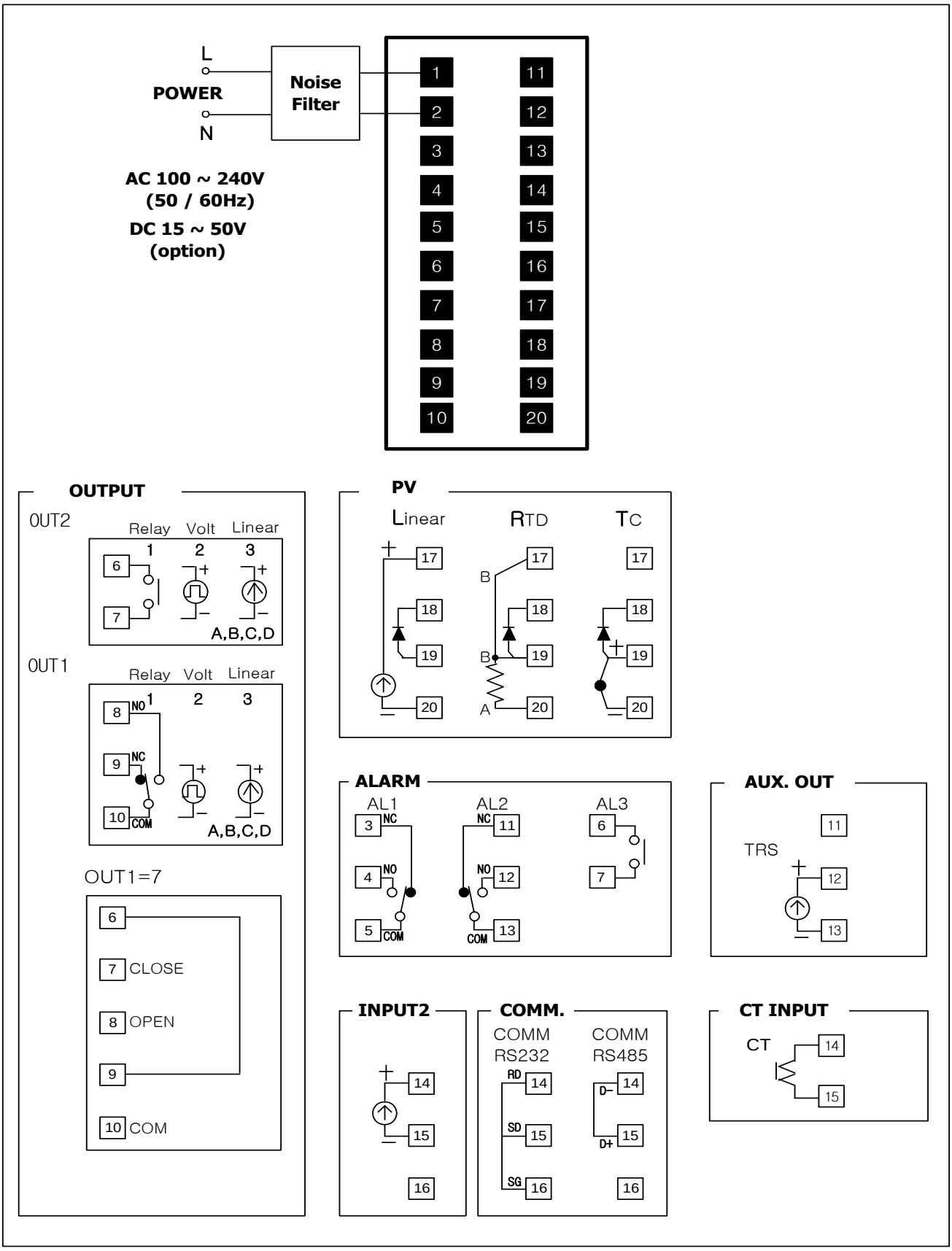
Picture 1.3

Wiring Diagram – DC1010



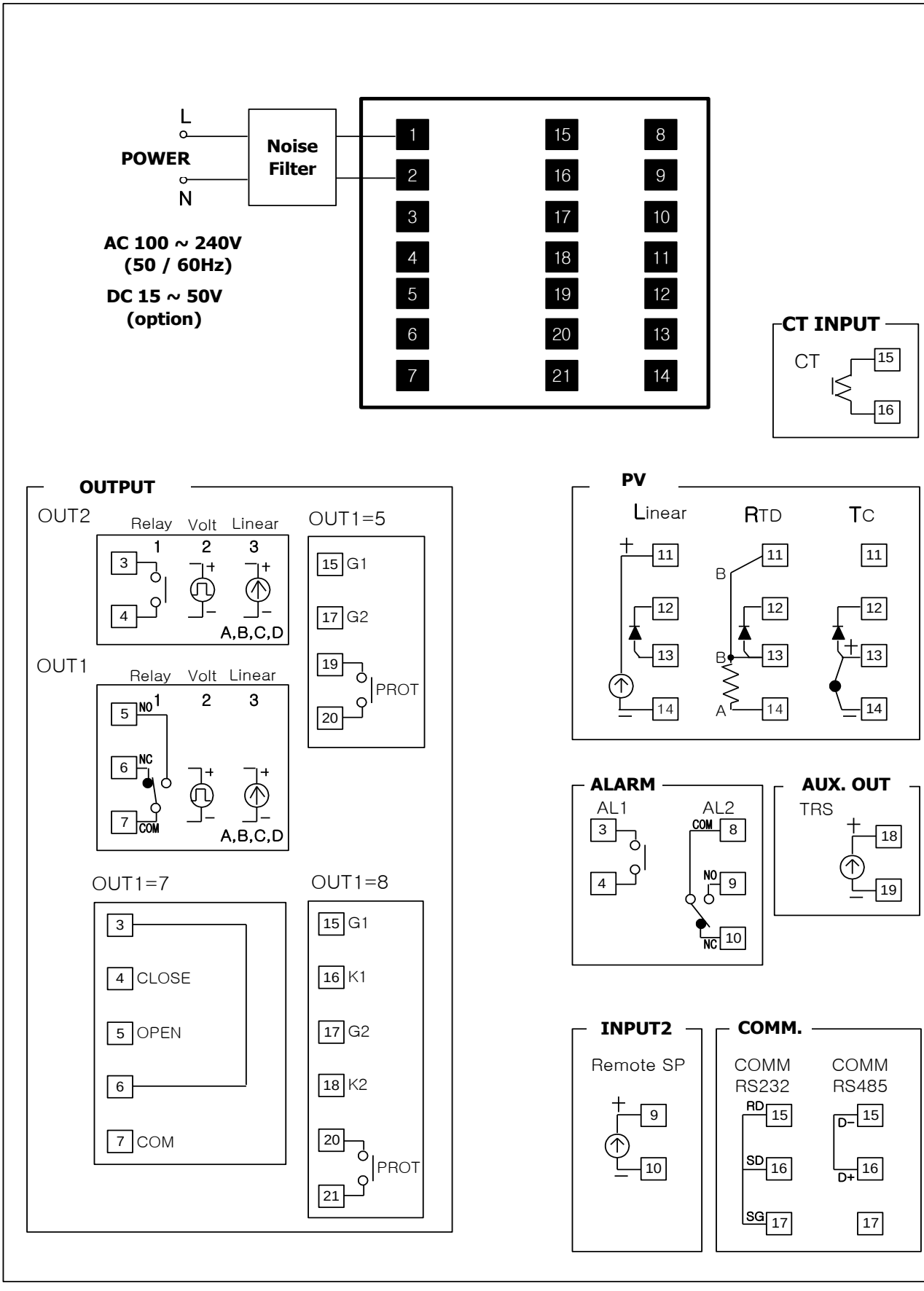
Picture 1.4

Wiring Diagram – DC1020



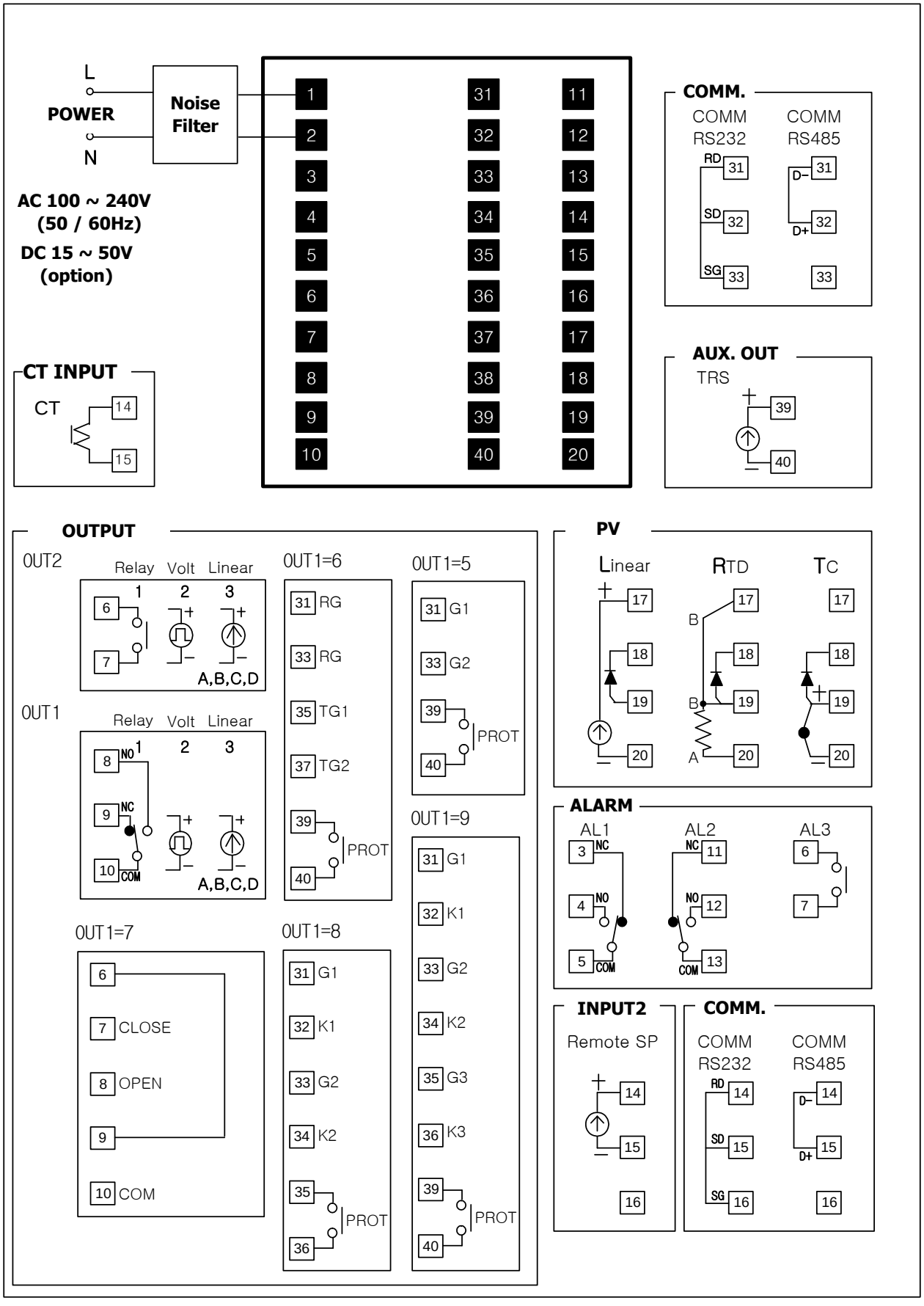
Picture 1.6

Wiring Diagram – DC1030



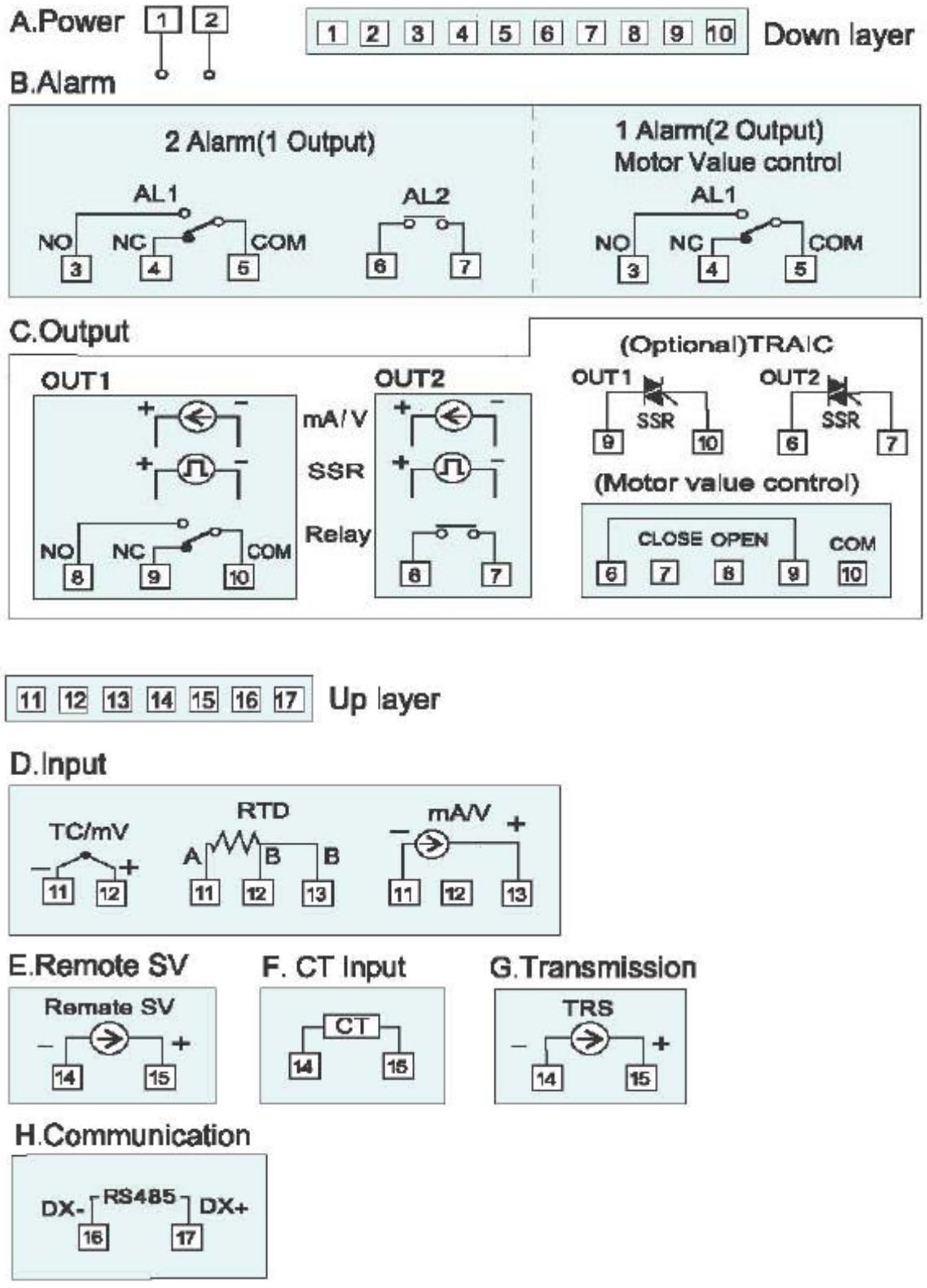
Picture 1.7

Wiring Diagram – DC1040



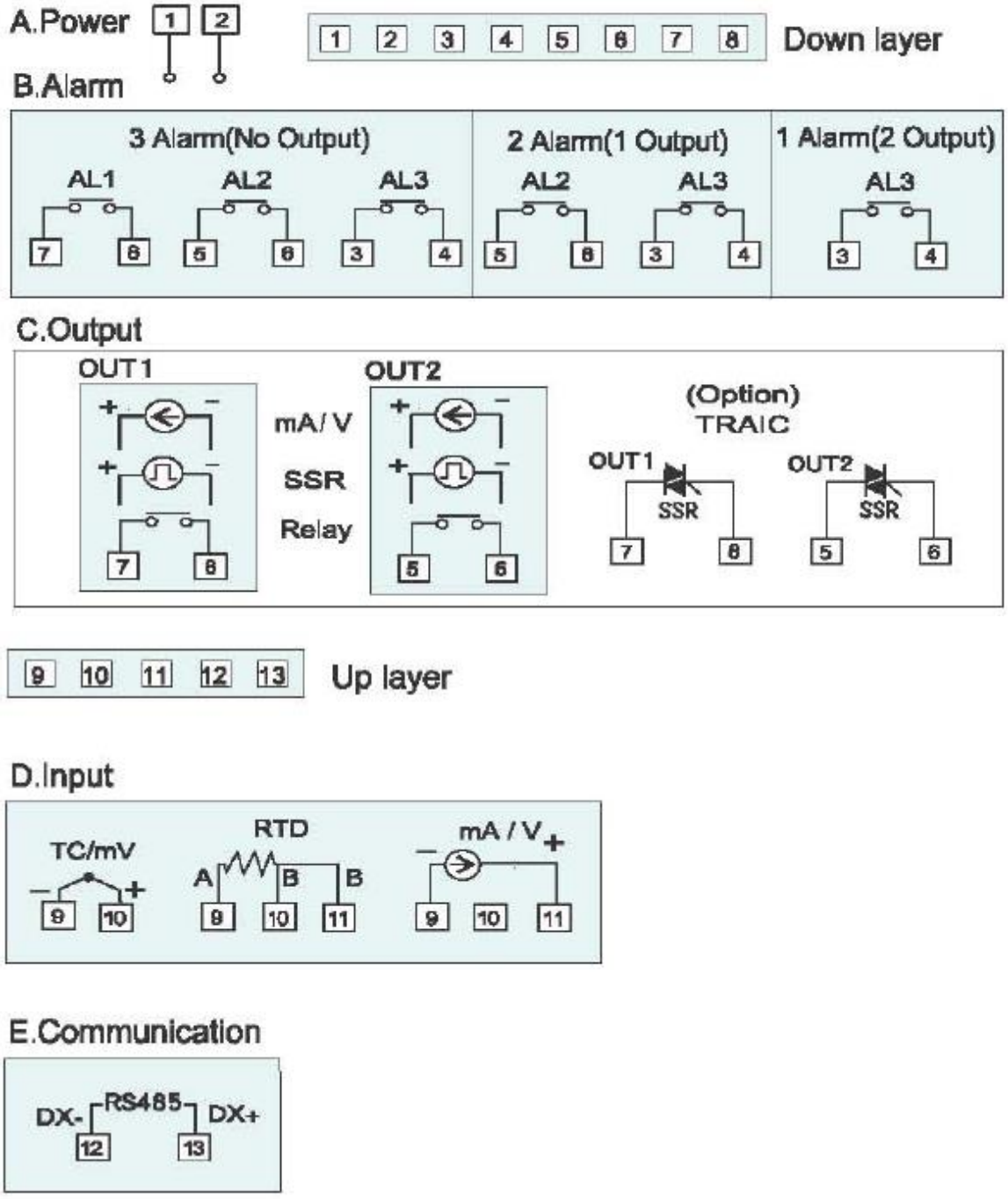
Picture 1.8

Wiring Diagram – DC1050 (pitch=3.5mm/0.138inch)



Picture 1.9

Wiring Diagram – DC1060 (pitch=5.0mm/0.197inch)



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Model Interpretation – DC101_,DC102_,DC103_,DC104_

DC1000 Digital Controller

Instructions

- **Select the desired Key Number. The arrow to the right marks the selections available.**
- **Make one selection each from Tables I through III using the column below the proper arrow.**
- **A dot (•) denotes unrestricted availability. A letter denotes restricted availability.**

Key Numbers I II III
DC10_ _ _ _ - _ _ _ - _ _ _ - _

KEY NUMBER

Description		Selection	Availability ↓	↓	↓	↓
Size	48 x 48 mm (DIN) 1/16)	DC101_ _ _				
	48 x 96 mm (DIN 1/8)	DC102_ _ _		↓		
	72 x 72 mm	DC103_ _ _			↓	
	96 x 96 (DIN 1/4)	DC104_ _ _				↓
Power & Approvals	90-240 Vac Power / CE	DC10_0_ _	•	•	•	•
	15-50 Vdc Power / CE	DC10_1_ _	**b**	**b**	**b**	**b**
	90-240 Vac Power / IP 65 / CE	DC10_2_ _	•	•	•	•
	15-50 Vdc Power / IP65 / CE	DC10_3_ _	**b**	**b**	**b**	**b**
	90-240 Vac Power / IP65 / CE / UL Agency Approval	DC10_4_ _	•	•	•	•
	15-50 Vdc Power / IP65 / CE / UL Agency Approval	DC10_5_ _	**b**	**b**	**b**	**b**
Program	None	DC10_ _C_	•	•	•	•
	Program (2 patterns, 8 segments per 1 pattern)	DC10_ _P_	•	•	•	•
Input	RTD	DC10_ _ _R	•	•	•	•
	TC	DC10_ _ _T	•	•	•	•
	Linear	DC10_ _ _L	•	•	•	•

TABLE I

Control Output 1	None	0 _ _	•	•	•	•
	Relay, Contact, SPDT, 3A / 240 VAC	1 _ _	•	•	•	•
	Volt, Voltage Pulse, 20VDC / 20 mA	2 _ _	•	•	•	•
	mA Current, 4-20mA	3 _ _	•	•	•	•
	Three Position Step Motor Control	7 _ _		**c**	**d**	**c**
	0-5 V	A _ _	•	•	•	•
	0-10 V	B _ _	•	•	•	•
	1-5 V	C _ _	•	•	•	•
	2-10 V	D _ _	•	•	•	•
Control Output 2	None	_ 0 _	•	•	•	•
(Heat/Cool)	Relay, Contact, SPDT, 3A / 240VAC	_ 1 _	•	•	•	•
	Volt, Voltage Pulse, 20VDC / 20mA	_ 2 _	•	•	•	•
	mA Current, 4-20mA	_ 3 _	•	•	•	•
	0-5V	_ A _	•	•	•	•
	0-10V	_ B _	•	•	•	•
	1-5V	_ C _	•	•	•	•
	2-10V	_ D _	•	•	•	•
Alarm Event	1 Alarm Relay	_ _ 1	**e**	•	**i**	•
& Heat Break Alarm	2 Alarm Relays	_ _ 2	**f**	**g**	**j**	•
	3 Alarm Relays	_ _ 3		**h**	**o**	**k**
	HBA	_ _ A	**e'**	**p**	**i'**	•
	HBA + 1 Alarm Relay	_ _ B		**g'**	**j'**	•
	HBA + 2 Alarm Relay	_ _ C		**h'**	**o'**	**k'**

* HBA is available only in case OUT1=1 or OUT1=2.

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Table II

		Selection	DC10_ _ _ _ Availability 10	20	30	40
Transmitter	None	0 _ _	•	•	•	•
	4-20 mA	1 _ _	•	•	•	•
	0-20 mA	2 _ _	•	•	•	•
	0-5 V	A _ _	•	•	•	•
	0-10 V	B _ _	•	•	•	•
	1-5 V	C _ _	•	•	•	•
	2-10 V	D _ _	•	•	•	•
Remote SP	None	_ 0 _	•	•	•	•
	4-20 mA	_ 1 _	**q**	**l**	**l**	**l**
	0-20 mA	_ 2 _	**q**	**l**	**l**	**l**
	0-5 V	_ A _	**q**	**l**	**l**	**l**
	0-10 V	_ B _	**q**	**l**	**l**	**l**
	1-5 V	_ C _	**q**	**l**	**l**	**l**
	2-10 V	_ D _	**q**	**l**	**l**	**l**
Communication	None	_ _ 0	•	•	•	•
	RS-232	_ _ 1	**m**	**n**	•	•
	RS-485	_ _ 2	**m**	**n**	•	•
	RS-232 (Modbus RTU)	_ _ A	**m**	**n**	•	•
	RS-485 (Modbus RTU)	_ _ B	**m**	**n**	•	•

TABLE III

Manual	English	E	•	•	•	•
	Chinese	C				
	French	F				
	Korean	K	•	•	•	•

RESTRICTIONS / NOTES

Restriction Letter	Available Only With		Not Available With	
	Table	Selection	Table	Selection
b			II	X _ _
c	I	_ 0 1, _ 0 2		
d	I & II	DC10 _ _ _ _ - _ 0 1 - _ 0 _ - _		
e, e'			I & II	DC10_ _ _ _ - _ X _ - _ _ 1 - _ DC10_ _ _ _ - _ X _ - _ _ A - _
e'			I	_ X _
f	II	0 _ 0		
g, g'			I & II II	DC10_ _ _ _ - _ X _ - X _ _ - _ X X _
g'			II	_ X _
h,h'	I & II	DC10_ _ _ _ - _ 0 _ - 0 _ 0 - _		
h'			II	_ X _
i, i'			I & II	DC10_ _ _ _ - _ X _ - _ X _ - _
i'			II	X _ X
j, j'	I & II	DC10_ _ _ _ - _ 0 _ - _ 0 _ - _		
j'			II	X _ X
k, k'	I	_ 0 _		
k'			II	_ X _
l				DC10_ _ P_
			I	_ _ A, _ _ B, _ _ C
m			II	X _ _
n			II	X X _
o, o'	II	_ 0 _		
o'	I & II	DC10_ _ _ _ - _ 0 _ - _ _ 0 - _		
p			II	_ X _
q	I	_ _ 1, _ 0 _2	I & II	DC10_ _ P_
	II	0 _ B		

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Model Interpretation – DC105_,DC106_

DC1000 Digital Controller

Instructions

- **Select the desired Key Number. The arrow to the right marks the selections available.**
- **Make one selection each from Tables I through III using the column below the proper arrow.**
- **A dot (•) denotes unrestricted availability. A letter denotes restricted availability.**

Key Numbers I II III
DC10_ _ _ _ - _ _ _ - _ _ _ - _

KEY NUMBER

Description		Selection	Availability	
			↓	↓
Size	DIN RAIL Attachment	DC105_ _ _		
	DIN RAIL Attachment(Economic)	DC106_ _ _		
Power & Approvals	90-240 Vac Power / CE	DC10_0_ _	•	•
	15-50 Vdc Power / CE	DC10_1_ _	**b**	**b**
Program	None	DC10_ _C_	•	•
	Program (2 patterns, 8 segments per 1 pattern)	DC10_ _P_	•	•
Input	RTD	DC10_ _ _R	•	•
	TC	DC10_ _ _T	•	•
	Linear	DC10_ _ _L	•	•

TABLE I

Control Output 1	None	0 _ _	•	•
	Relay, Contact, SPDT, 3A / 240 VAC	1 _ _	•	•
	Volt, Voltage Pulse, 20VDC / 20 mA	2 _ _	•	•
	mA Current, 4-20mA	3 _ _	•	•
	Three Position Step Motor Control	7 _ _		**c**
	0-5 V	A _ _	•	•
	0-10 V	B _ _	•	•
	1-5 V	C _ _	•	•
	2-10 V	D _ _	•	•
Control Output 2	None	_ 0 _	•	•
(Heat/Cool)	Relay, Contact, SPDT, 3A / 240VAC	_ 1 _	•	•
	Volt, Voltage Pulse, 20VDC / 20mA	_ 2 _	•	•
	mA Current, 4-20mA	_ 3 _	•	•
	0-5V	_ A _	•	•
	0-10V	_ B _	•	•
	1-5V	_ C _	•	•
	2-10V	_ D _	•	•
Alarm Event	1 Alarm Relay	_ _ 1	•	**e**
& Heat Break Alarm	2 Alarm Relays	_ _ 2	**f**	**g**
	HBA	_ _ A	**h**	**p**

* HBA is available only in case OUT1=1 or OUT1=2.

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Table II

		DC10_ _ _ _ Selection	Availability 50	60
Transmitter	None	0 _ _	•	•
	4-20 mA	1 _ _	•	•
	0-20 mA	2 _ _	•	•
	0-5 V	A _ _	•	•
	0-10 V	B _ _	•	•
	1-5 V	C _ _	•	•
	2-10 V	D _ _	•	•
Remote SP	None	_ 0 _	•	•
	4-20 mA	_ 1 _	**q**	
	0-20 mA	_ 2 _	**q**	
	0-5 V	_ A _	**q**	
	0-10 V	_ B _	**q**	
	1-5 V	_ C _	**q**	
	2-10 V	_ D _	**q**	
Communication	None	_ _ 0	•	•
	RS-232	_ _ 1	**m**	**n**
	RS-485	_ _ 2	**m**	**n**
	RS-232 (Modbus RTU)	_ _ A	**m**	**n**
	RS-485 (Modbus RTU)	_ _ B	**m**	**n**

TABLE III

Manual	English	E	•	•
	Chinese	C		
	French	F		
	Korean	K	•	•

Accessory

DC1050-OPTOOL-	Operation Tool Panel (Cable Length=50cm, 19.68in)	EP	•	•
	-	-		
	Configuration Tool	KA301	•	•

RESTRICTIONS / NOTES

Restriction Letter	Available Only With		Not Available With	
	Table	**Selection**	**Table**	**Selection**
b			II	X _ _
c	I	_ 0 1, _ 0 2		
d	I & II	DC10 _ _ _ _ - _ 0 1 - _ 0 _ - _		
e	I	_ 0 _		
f	I	_ 0 _		
g			I	X _ _ or _ X _
h	I	_ 0 _	II	_ X _
l				DC10_ _ P_
			I	_ _ A, _ _ B
m			II	X _ _
n			II	X X _
p			II	_ X _
q	I	_ _ 1, _ 0 2	I & II	DC10_ _ P_
	II	0 _ B	I	_ _ A, _ _ B

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.

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