ANLY ELECTRONICS

FUNDAMENTAL OF AUTOMATION

40+ years

Main Product

Temperature Controller
Solid State Relay & Power Relay
Proximity Sensor & Photo Sensor
Counter
Timer
Weekly Programmable Timer
Controller Unit
Floatless Relay,Controller
Level Control Relay
Voltage Relay /Protection Relay
Digital Voltage Controller
Motion Detector
Monitoring&Protection Relay

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สารบัญ

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อุปกรณ์พื้นฐานเครื่องจักรอุตสาหกรรม

ANLY

- 1 Output 1 Alarm
- Easy-to-use
- PID function selectable
- เลือก Relay หรือSSR output ได้โดยการ DIP switch
- Accepts thermocouple and platinum RTD inputs
- Heating or cooling control selectable

AT 02 PID TEMPERATURE CONTROLLER
PID TEMPERATURE CONTROLLER (DIP switch)

Dimension ขนาด (mm.)	รูป	รุ่น	Input / Output	Operating voltage
48x48x83		**AT-502**	**Input : J,K,R or PT100** **Output : Relay or SSR**	
72x72x83		**AT-702**	**Input : J,K,R or PT100** **Output : Relay or SSR**	
96x96x83		**AT-902**	**Input : J,K,R or PT100** **Output : Relay or SSR**	**100 ~ 240** **AC / DC** **50 /60 Hz**
48x96x83		**AT-402**	**Input : J,K,R or PT100** **Output : Relay or SSR**	
96x48x83		**AT-602**	**Input : J,K,R or PT100** **Output : Relay or SSR**	

SPECIFICATIONS :

Type	AT-402 / AT-502 / AT-602 / AT-702 / AT902	
Operating voltage	AC/DC(V) : 100 ~ 240	
Rated frequency	50 / 60 Hz	
Power consumption	Approx. 3.5VA	
Sensor input (DIP SW. Setting)	Thermocouple	K, J, R
	RTD	Pt100
Control output (DIP SW. Setting)	Relay	240VAC 3A
	SSR	DC 24V
Alarm output	240VAC 3A	
Alarm function	See figure 1	
Control method	PID, PI, P, ON/OFF, Dead Band	
Setting	Digital setting using front panel keys	
Indicator	7-segment-display and LED	
Ambient temperature	-10 ~ +50°C	
Storage temperature	-25 ~ +65°C	
Ambient humidity	35 ~ 80%RH (with no icing or condensation)	
Storage humidity	35 ~ 95%RH (with no condensation)	
Weight	AT-402 / 602 Approx. 187g, AT-502 Approx. 145g, AT-702 Approx.200g , AT-902 Approx. 241g	

FEATURES :

Type	AT-402 / AT-502 / AT-602 / AT-702 / AT902
Measuring accuracy	Within ±0.3% of present value or ± 2°C whichever is greater
Proportional band (P)	0.0 ~ 300.0sec (0.1-second units)
Integral time (I)	0 ~ 7200sec (1-second units)
Derivative time (D)	0 ~ 1800sec (1-second units)
Control period	0 ~ 65sec (1-second units)
Sampling period	250ms
Memory protection	EEPROM non-volatile memory (writing times : Approx. 100,000times)

FIGURE 1 (ALARM FUNCTION) :

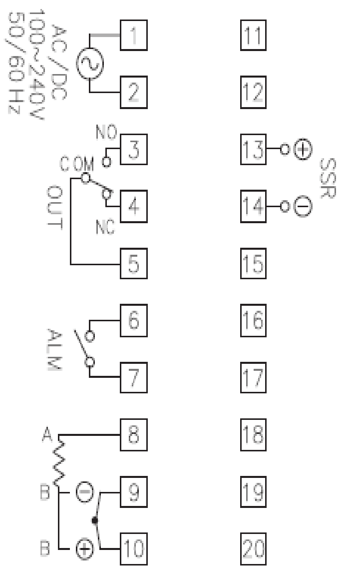
AF1	Alarm function selection
1	Deviation high alarm
2	Deviation low alarm
3	Process high alarm
4	Process low alarm
5	Deviation high/low alarm
6	Band alarm
7	Deviation high alarm (standby)
8	Deviation high alarm (standby)
9	Process high alarm (standby)
10	Process low alarm (standby)
11	Deviation high/low alarm (standby)
12	Band alarm (standby)

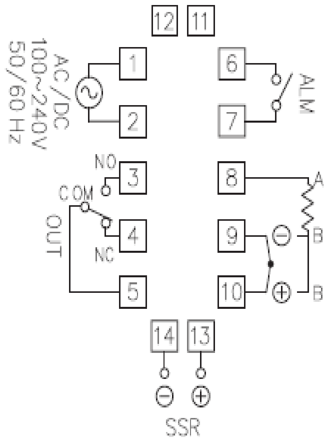
RATED SCALE :

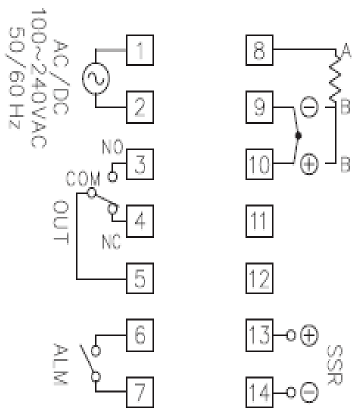
Input type	°C	°F
K	0~1200	32~2192
J	0~500	32~932
R	0~1700	32~3092
PT-100	-50~400	-122~752

CONNECTION :

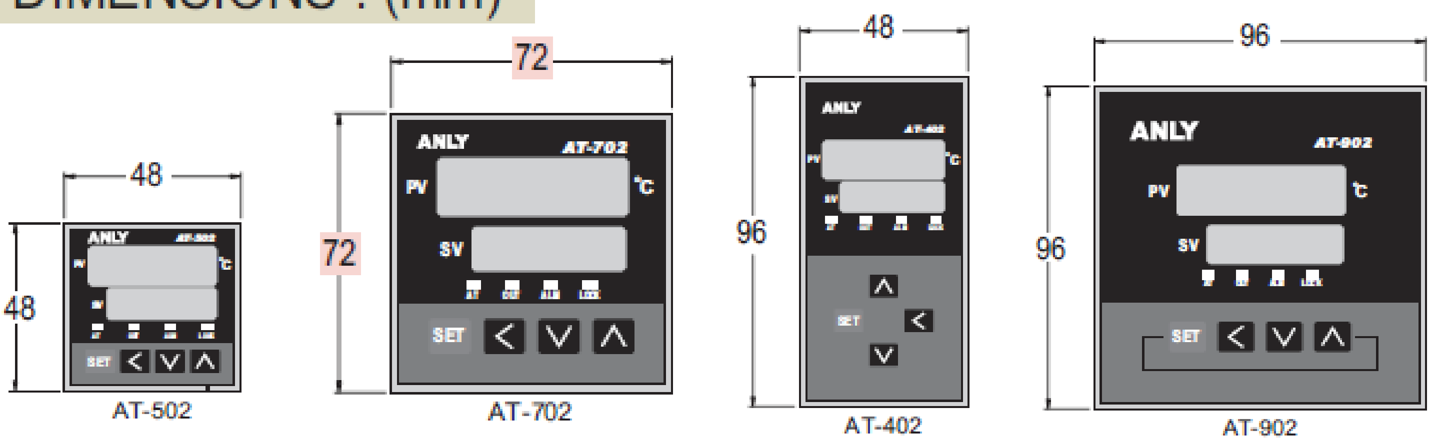
AT-402 / 602 / 902 | AT-502 | AT-702

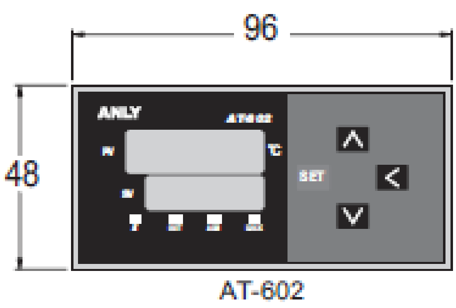


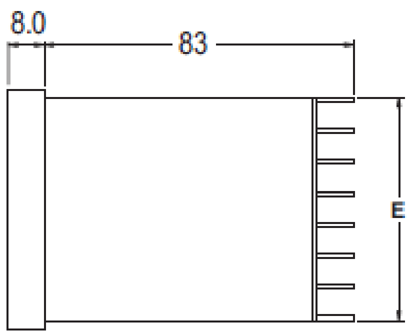




DIMENSIONS : (mm)







	E
AT - 402	90
AT - 502	44.5
AT - 602	44.5
AT - 702	66.5
AT - 902	90

ANLY

AT03 PID TEMPERATURE CONTROLLER

Guiding of Model

EX. AT- [1] 03 - [2][3][4][5] - [6][7][8]

1 **Outline** / (W x H) mm. x mm.

403 = (48 x 96)
503 = (48 x 48)
603 = (96 x 48)
703 = (72 x 72)
903 = (96 x 96)

2 **Input**

1 = Thermocouple or RTD
2 = 0~100 mV
3 = 0~20 mA
4 = 4~20 mA
5 = 0~5 V
6 = 0~10 V
7 = 1~5 V
8 = 2~10 V
9 = 0~1 V

4 **Output 2**

0 = None	A = Trans (0~20 mA)
1 = Relay	B = Trans (4~20 mA)
2 = Pulsed (SSR)	C = Trans (0~5 V)
3 = 0~20 mA	D = Trans (0~10 V)
4 = 4~20 mA	E = Trans (1~5 V)
5 = 0~5 V	F = Trans (2~10 V)
6 = 0~10 V	
7 = 1~5 V	
8 = 2~10 V	

7 **Communication**

0 = None
1 = RS - 485
2 = RS - 232

3 **Output 1**

1 = Relay
2 = Pulsed (SSR)
3 = 0~20 mA
4 = 4~20 mA
5 = 0~5 V
6 = 0~10 V
7 = 1~5 V
8 = 2~10 V
9 = Motor control (not availiable with (Output 2)

5 **Alarm**

1 = Alarm x 1
2 = Alarm x 2
3 = Alarm x 3

6 **Other**

0 = None
1 = DC 24 V
2 = CT
A = R-SP (0~20 mA)
B = R-SP (4~20 mA)
C = R-SP (0~5 V)
D = R-SR (0~10 V)
E = R-SP (1~5 V)
F = R-SP (2~10 V)

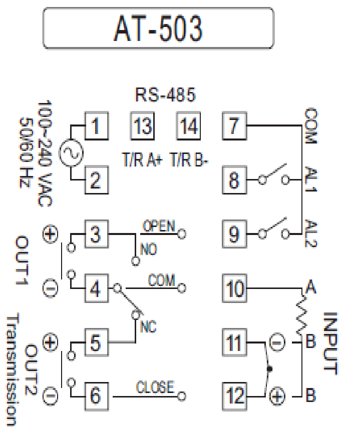
8 **Program control**

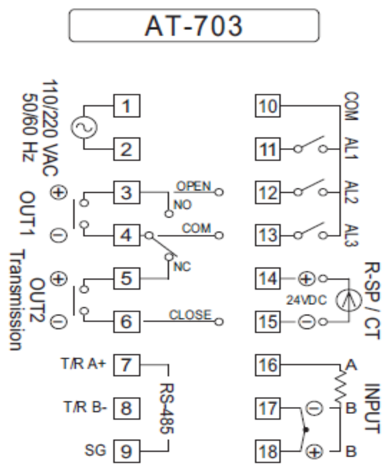
0 = None
1 = Program

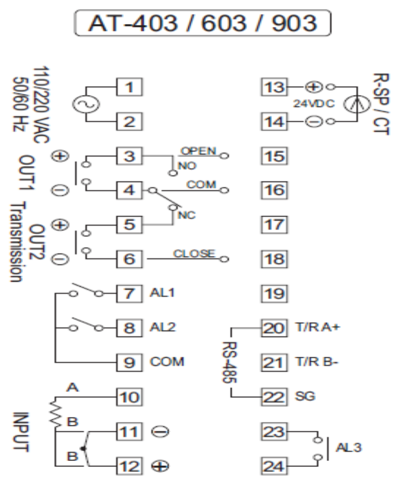
PID TEMPERATURE CONTROLLER

Dimension ขนาด (mm.)	รูป	รุ่น	Control Output
48x48x83		**AT-503-1102-000**	**Relay (240VAC 3A)**
		AT-503-1202-000	**Voltage Pulse**
		AT-503-1402-000	**Linear (4 ~20 mA ,1 ~5V)**
72x72x83		**AT-703-1102-000**	**Relay (240VAC 3A)**
		AT-703-1202-000	**Voltage Pulse**
		AT-703-1402-000	**Linear (4 ~20 mA ,1 ~5V)**
96x96x83		**AT-903-1102-000**	**Relay (240VAC 3A)**
		AT-903-1202-000	**Voltage Pulse**
		AT-903-1402-000	**Linear (4 ~20 mA ,1 ~5V)**
48x96x83		**AT-403-1102-000**	**Relay (240VAC 3A)**
		AT-403-1202-000	**Voltage Pulse**
		AT-403-1402-000	**Linear (4 ~20 mA ,1 ~5V)**
96x48x83		**AT-603-1102-000**	**Relay (240VAC 3A)**
		AT-603-1202-000	**Voltage Pulse**
		AT-603-1402-000	**Linear (4 ~20 mA ,1 ~5V)**

CONNECTION







SPECIFICATIONS :

Type	AT-403 / AT-503 / AT-603 / AT-703 / AT903	
Operating voltage	AC(V) : 90 ~ 260	
Rated frequency	50 / 60 Hz	
Power consumption	Approx. 3.5VA	
Sensor input	Thermocouple	K, J, T, R, E, S, B, N
	RTD	Pt100, JPt100
	Linear	Current(4~20mA), Voltage(1~5V)
Control output	Relay	240VAC 3A
	Voltage	Voltage Pulse
	Linear	4~20mA, 1~5V
	Motor Control	Open loop motor valve
Alarm output	240VAC 3A(3 Channels Optional)	
Alarm function	See figure 1	
Control method	PID, PI, P, ON/OFF, Dead Band	
Communication	RS-232, RS-485	
Setting	Digital setting using front panel keys	
Indicator	7-segment-display and LED	
Ambient temperature	-10 ~ +50℃	
Storage temperature	-25 ~ +65℃	
Ambient humidity	35 ~ 80%RH (with no icing or condensation)	
Storage humidity	35 ~ 95%RH (with no condensation)	
Weight	AT-403 / 603 Approx. 170g , AT-503 Approx. 125g , AT-703 Approx. 200g , AT-903 Approx. 250g	

FEATURES :

Type	AT-403 / AT-503 / AT-603 / AT-703 / AT903
Measuring accuracy	Within ±0.3% of present value or ± 2℃ whichever is greater
Proportional band (P)	0.0 ~ 3000sec (0.1-second units)
Integral time (I)	0 ~ 3600sec (1-second units)
Derivative time (D)	0 ~ 900sec (1-second units)
Control period	0 ~ 150sec (1-second units)
Sampling period	300ms
Memory protection	EEPROM non-volatile memory (writing times : Approx. 100,000times)

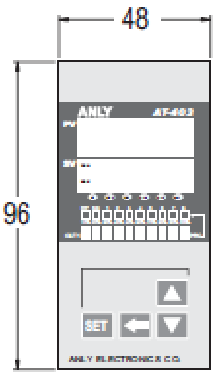
FIGURE 1 (ALARM FUNCTION) :

AL1F	AL2F	AL3F	Alarm function selection
0	0	0	No alarm
1	1	1	Deviation high alarm
2	2	2	Deviation low alarm
3	3	3	Absolute high alarm
4	4	4	Absolute low alarm
5	5	5	Deviation high/low alarm
6	6	6	Band alarm
7	7	7	System failure alarm (when error information happen)
8	8	8	Loop break alarm
9	9	9	Heater break alarm
10	10	10	Segment ending alarm in program control
11	11	11	Program ending alarm in program control
12	12	--	Time signal alarm in program control
13	13	--	Program running alarm in program control

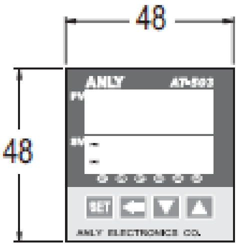
RATED SCALE :

Input type	°C	°F
K1	0~200	32~392
K2	0~400	32~752
K3	0~800	32~1472
K4	0~1000	32~1832
K5	0~1200	32~2192
j1	0~200	32~392
j2	0~400	32~752
j3	0~800	32~1472
j4	0~1000	32~1832
j5	0~1200	32~2192
t1	-50~50	-58~122
t2	-100~100	-148~212
t3	-200~400	-328~752
r	0~1700	32~3092
E	0~1000	32~1832
S	0~1700	32~3092
b	0~1800	32~3272
n	-200~1300	-328~2372
Pt1	-50~50	-58~122
Pt2	0~100	32~212
Pt3	0~200	32~392
Pt4	0~400	32~752
Pt5	-200~600	-328~1112
jPt	-200~500	-328~932
Lin	-1999~9999	

DIMENSIONS : (mm)



AT-403



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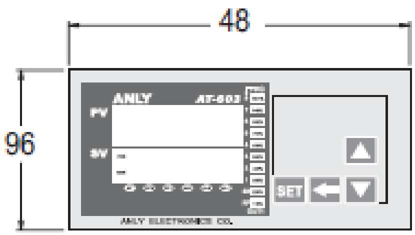
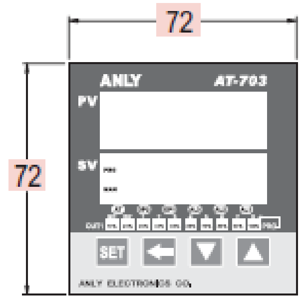
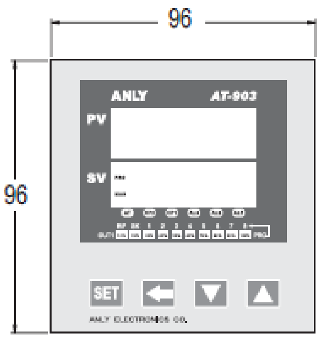


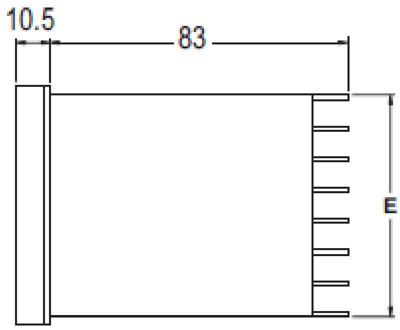
AT-603



AT-703



AT-903



	E
AT - 403	90.5
AT - 503	45
AT - 603	45
AT - 703	67.5
AT - 903	90.5

ANLY SOLID STATE RELAY

รูป	Model รุ่น	INPUT CONTROL VOLTAGE	MAX Load Current	LOAD VOLTAGE RANGE	SWITCHING TYPE
DC → AC SINGLE PHASE					
	ASR-10DA	4 ~ 32 VDC	10A	24 ~ 280 VAC	ZERO-CROSS
	ASR-15DA		15A		
	ASR-25DA		25A		
	ASR-40DA		40A		
	ASR-50DA		50A		
	ASR-75DA		75A		
	ASR-90DA		90A		
	ASR-100DA		100A		
	ASR-125DA		125A		
	ASR-10DA-H		10A	48 ~ 480 VAC	
	ASR-15DA-H		15A		
	ASR-25DA-H		25A		
	ASR-40DA-H		40A		
	ASR-50DA-H		50A		
	ASR-75DA-H		75A		
	ASR-90DA-H		90A		
	ASR-100DA-H		100A		
	ASR-125DA-H		125A		
AC → AC SINGLE PHASE					
	ASR-10AA	80 ~ 280VAC	10A	24 ~ 280 VAC	ZERO-CROSS
	ASR-15AA		15A		
	ASR-25AA		25A		
	ASR-40AA		40A		
	ASR-50AA		50A		
	ASR-75AA		75A		
	ASR-90AA		90A		
	ASR-100AA		100A		
	ASR-125AA		125A		
	ASR-10AA-H		10A	48 ~ 480 VAC	
	ASR-15AA-H		15A		
	ASR-25AA-H		25A		
	ASR-40AA-H		40A		
	ASR-50AA-H		50A		
	ASR-75AA-H		75A		
	ASR-90AA-H		90A		
	ASR-100AA-H		100A		
	ASR-125AA-H		125A		

ANLY SOLID STATE RELAY

รูป	Model รุ่น	INPUT CONTROL VOLTAGE	MAX Load Current	LOAD VOLTAGE RANGE	SWITCHING TYPE
DC → DC SINGLE PHASE					
	ASR-05DD	3 ~ 32VDC	05A	5 ~ 120 VDC	NOT / APPLICABLE
	ASR-10DD		10A		
	ASR-25DD		25A		
	ASR-40DD		40A		
	ASR-50DD		50A		
	ASR-75DD		75A		
	ASR-90DD		90A		
	ASR-10DD-H		10A	5 ~ 240 VDC	
	ASR-25DD-H		25A		
	ASR-40DD-H		40A		
	ASR-50DD-H		50A		
	ASR-75DD-H		75A		
	ASR-90DD-H		90A		
CURRENT → AC SINGLE PHASE					
	ASR-10CA	4 ~ 20 mA	10A	200 ~ 280 VAC	Phase Control
	ASR-15CA		15A		
	ASR-25CA		25A		
	ASR-40CA		40A		
	ASR-50CA		50A		
	ASR-75CA		75A		
	ASR-90CA		90A		
	ASR-10CA-H		10A	380 ~ 480 VAC	
	ASR-15CA-H		15A		
	ASR-25CA-H		25A		
	ASR-40CA-H		40A		
	ASR-50CA-H		50A		
	ASR-75CA-H		75A		
	ASR-90CA-H		90A		
VARIABLE SINGLE PHASE					
	ASR-10RA	VR 0 ~ 250K Ω	10A	24 ~280 VAC	Phase Control
	ASR-15RA		15A		
	ASR-25RA		25A		
	ASR-40RA		40A		
	ASR-50RA	VR 0 ~ 500K Ω	50A		
	ASR-75RA		75A		
	ASR-90RA		90A		
	ASR-25RA-H	VR 0 ~ 1M Ω	25A	48 ~480 VAC	
	ASR-40RA-H		40A		
	ASR-50RA-H		50A		
	ASR-75RA-H		75A		
	ASR-90RA-H		90A		

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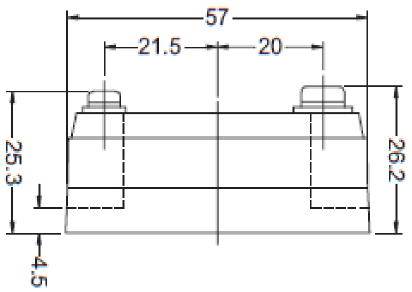
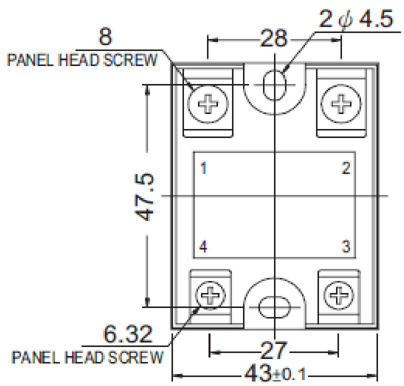
GENERAL DATA :

Type	DC→AC	DC→AC(H)	AC→AC	AC→AC(H)	DC→DC	DC→DC(H)
Must Turn Off Voltage	MAX 1.0VDC	MAX 1.0VDC	MAX 10VAC	MAX 10VAC	MAX 1.0VDC	MAX 1.0VDC
Input Impedance	1.5K Ω	1.5K Ω	1.5K Ω	1.5K Ω	1.5K Ω	1.5K Ω
Min Blocking Voltage	600VAC peak	1200VAC peak	600VAC peak	1200VAC peak	02~04DD:80VDC 05~75DD:140VDC	300VDC
Max Off-State Leakage	2-6DA:LESS 5mA 10~125DA:LESS 7.5mA	2-6DAH:LESS 5mA 10-125DAH:LESS 15mA	LESS 5mA	LESS 15mA	02~04DD:LESS 1mA 05DD:LESS 3mA 10DD:LESS 5mA 25-75DD:LESS 7mA	10DD-H:LESS 7mA 25~75DD-H:LESS 15mA
Frequency Range	47~70Hz	47~70Hz	47~70Hz	47~70Hz	47~70Hz	47~70Hz
Max Off-State dv/dt	2~4DA:100V/ μ Sec 6-100DA:200V/ μ Sec	200V/ μ Sec	2~4AA:100V/ μ Sec 6~100AA:200V/ μ Sec	200V/ μ Sec	200V/ μ Sec	200V/ μ Sec
Max On-State Voltage Drop	02~03DA:1.5VACrms 04~100DA:2.0VACrms	2.0VACrms	02AA:1.5VACrms 04-100AA:2.0VACrms	2.0VACrms	02~04DD:1.2Vrms 05~75DD:2.0Vrms	2.0VACrms
Isolate Impedance	$10^9\Omega$	$10^9\Omega$	$10^9\Omega$	$10^9\Omega$	$10^9\Omega$	$10^9\Omega$
Dielectric Strength Input -Output	4000VACrms	4000VACrms	4000VACrms	4000VACrms	02~04DD:2500Vrms 05~100DD:4000VACrms	4000VACrms
Dielectric Strength Input, Output-Case	02~06DA:N/A 10~100DA:2500VACrms	02-06DA-H:N/A 10-100DA-H:2500VACrms	02-06AA:N/A 10-100AA:2500VACrms	2500VACrms	02~04DD:N/A 05~75DD:2500VACrms	2500VACrms
Turn On Time	LESS 2mSec	LESS 2mSec	LESS 2mSec	LESS 2mSec	LESS 2mSec	LESS 2mSec
Turn Off Time	LESS 1/2 AC CYCLE	LESS 1/2 AC CYCLE	LESS 1/2 AC CYCLE	LESS 1/2 AC CYCLE	LESS 1/2 CYCLE	LESS 1/2 CYCLE
Capacitance In-Out	LESS 15 pF	LESS 15 pF	LESS 15 pF	LESS 15 pF	LESS 15 pF	LESS 15 pF

Type	Current → AC	Current→ AC(H)	Type	VARIABLE	VARIABLE(H)	AC→DC
Must Turn Off Voltage	MAX 3.0VDC	MAX 3.0VDC	Must Turn Off Voltage	N/A	N/A	MAX 10VAC
Input Impedance	150Ω	150Ω	Input Impedance	1.5K Ω	1.5K Ω	1.5K Ω
Min Blocking Voltage	600VAC peak	1200VAC peak	Min Blocking Voltage	600VAC peak	1200VAC peak	02, 04AD:80VDC 10, 25AD:140VDC 10, 25AD-H:300VDC
Max Off-State Leakage	LESS 4mA	LESS 4mA	Max Off-State Leakage	LESS 5mA	LESS 15mA	02, 04AD:LESS 1mA 10, 25AD:LESS 3mA 10, 25AD-H:LESS 3mA
Frequency Range	40~65Hz	40~65Hz	Frequency Range	47~70Hz	47~70Hz	47~70Hz
Critiacl dv/dt Off-State Min.	1000V/ μ Sec	1000V/ μ Sec	Max Off-State dv/dt	200V/ μ Sec	200V/ μ Sec	200V/ μ Sec
Critiacl dI/dt @50Hz	100A/ μ Sec	100A/ μ Sec	Max On-State Voltage Drop	2.0VACrms	2.0VACrms	1.2Vrms
Max input Current	50mA	50mA	Isolate Impedance	$10^9\Omega$	$10^9\Omega$	$10^9\Omega$
Dielectric Strength Input -Output	4000Vrms	4000Vrms	Dielectric Strength Input -Output	4000VACrms	4000VACrms	2500Vrms
Dielectric Strength Input, Output-Case	2500Vrms	2500Vrms	Dielectric Strength Input, Output-Case	2500VACrms	2500VACrms	N/A
Pick up Current	4mA	4mA	Turn On Time	LESS 2mSec	LESS 2mSec	LESS 2mSec
Drop out Current	3.5mA	3.5mA	Turn Off Time	LESS 1/2 AC CYCLE	LESS 1/2 AC CYCLE	LESS 1/2 CYCLE
Response time	10mS	10mS	Capacitance In-Out	LESS 15 pF	LESS 15 pF	LESS 15 pF

OUTLINE DIMENSIONS :mm





ANLY

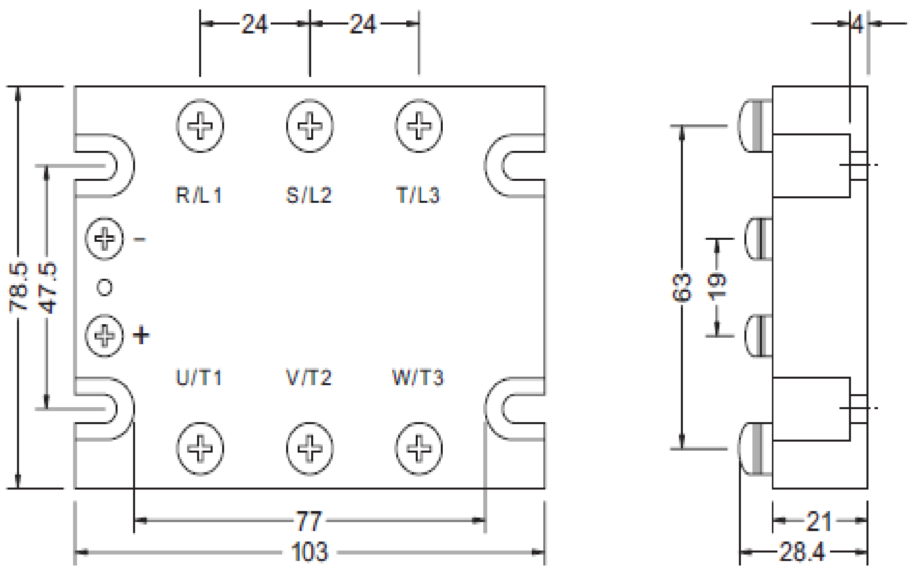
ANLY SOLID STATE RELAY 3 Phase

รูป	Model รุ่น	INPUT CONTROL VOLTAGE	MAX Load Current	LOAD VOLTAGE	SWITCHING TYPE
DC - AC 3 PHASE , Inductive (Motor) Load					
	ASR-3PI25DA	6 ~ 32 VDC	25A	24 ~ 280	RANDOM
	ASR-3PI40DA		40A		
	ASR-3PI50DA		50A		
	ASR-3PI75DA		75A		
	ASR-3PI90DA		90A		
	ASR-3PI100DA		100A		
	ASR-3PI125DA		125A		
	ASR-3PI25DA-H	12 ~ 32VDC	25A	48 ~ 480 VAC	SWITCHING
	ASR-3PI40DA-H		40A		
	ASR-3PI50DA-H		50A		
	ASR-3PI75DA-H		75A		
	ASR-3PI90DA-H		90A		
	ASR-3PI100DA-H		100A		
	ASR-3PI125DA-H		125A		
AC - AC 3 PHASE , Inductive (Motor) Load					
	ASR-3PI25AA	80 ~ 280 VAC	25A	24 ~ 280 VAC	RANDOM
	ASR-3PI40AA		40A		
	ASR-3PI50AA		50A		
	ASR-3PI75AA		75A		
	ASR-3PI90AA		90A		
	ASR-3PI100AA		100A		
	ASR-3PI125AA		125A		
	ASR-3PI25AA-H		25A	48 ~ 480 VAC	SWITCHING
	ASR-3PI40AA-H		40A		
	ASR-3PI50AA-H		50A		
	ASR-3PI75AA-H		75A		
	ASR-3PI90AA-H		90A		
	ASR-3PI100AA-H		100A		
	ASR-3PI125AA-H		125A		
DC - AC 3 PHASE , Resistive (Heater) Load					
	ASR-3PH25DA	6 ~ 32 VDC	25A	24 ~ 280 VAC	ZERO-CROSS
	ASR-3PH40DA		40A		
	ASR-3PH50DA		50A		
	ASR-3PH75DA		75A		
	ASR-3PH90DA		90A		
	ASR-3PH100DA		100A		
	ASR-3PH125DA		125A		
	ASR-3PH25DA-H	12 ~ 32VDC	25A	48 ~ 480 VAC	
	ASR-3PH40DA-H		40A		
	ASR-3PH50DA-H		50		
	ASR-3PH75DA-H		75A		
	ASR-3PH90DA-H		90A		
	ASR-3PH100DA-H		100A		
	ASR-3PH125DA-H		125A		
AC - AC 3 PHASE , Resistive (Heater) Load					
	ASR-3PH25AA	80 ~280 VAC	25A	24 ~ 280 VAC	RANDOM
	ASR-3PH40AA		40A		
	ASR-3PH50AA		50A		
	ASR-3PH75AA		75A		
	ASR-3PH90AA		90A		
	ASR-3PH100AA		100A		
	ASR-3PH125AA		125A		
	ASR-3PH25AA-H		25A	48 ~ 480 VAC	SWITCHING
	ASR-3PH40AA-H		40A		
	ASR-3PH50AA-H		50A		
	ASR-3PH75AA-H		75A		
	ASR-3PH90AA-H		90A		
	ASR-3PH100AA-H		100A		
	ASR-3PH125AA-H		125A		

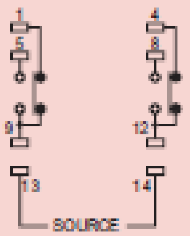
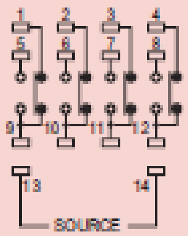
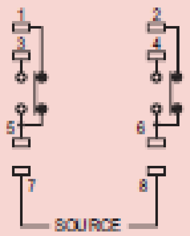
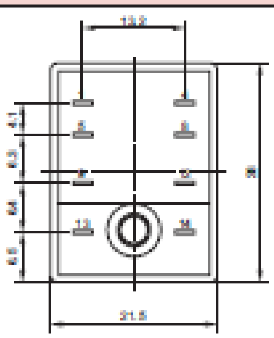
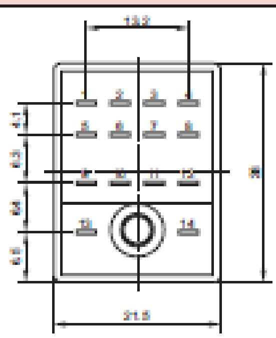
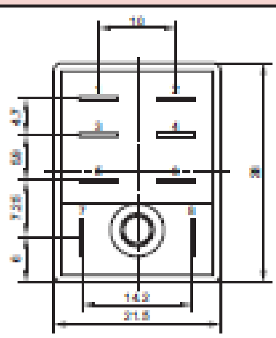
GENERAL DATA :

Type	DC→AC/AC(H) (HEATER LOAD ONLY)	AC→AC/AC(H) (HEATER LOAD ONLY)	DC→AC/AC(H) (INDUCTIVE LOAD ONLY)	AC→AC/AC(H) (INDUCTIVE LOAD ONLY)
Must Turn Off Voltage	MAX 3/9.5VDC	MAX 3/9.5VDC	MAX 3/9.5VDC	MAX 3/9.5VDC
Input Impedance	1.5KΩ	1.5KΩ	1.5KΩ	1.5KΩ
Min Blocking Voltage	600/1200VAC	600/1200VAC	600/1200VAC	600/1200VAC
Max Off-State Leakage	LESS 10mA	LESS 10mA	LESS 10mA	LESS 10mA
Frequency Range	47~63Hz	47~63Hz	47~63Hz	47~63Hz
Max Off-State dv/dt	250/500 V/ μ sec	250/500 V/ μ sec	250/500 V/ μ sec	500 V/ μ sec
Max On-State Voltage Drop	1.6Vrms	1.6Vrms	1.6Vrms	1.6Vrms
Isolate Impedance	$10^9\Omega$	$10^9\Omega$	$10^9\Omega$	$10^9\Omega$
Dielectric Strength Input - Output	2500Vrms	2500Vrms	2500Vrms	2500Vrms
Dielectric Strength Input , Output-Case	2500Vrms	2500Vrms	2500Vrms	2500Vrms
Turn On Time	LESS 1/2mSec	LESS 1/2mSec	LESS 1/2 AC CYCLE	LESS 1/2 AC CYCLE
Turn Off Time	LESS 1/2 CYCLE	LESS 1/2 CYCLE	LESS 1/2 AC CYCLE	LESS 1/2 AC CYCLE
Capacitance In-Out	LESS 473 pF	LESS 473 pF	LESS 473 pF	LESS 473 pF

OUTLINE DIMENSIONS : mm

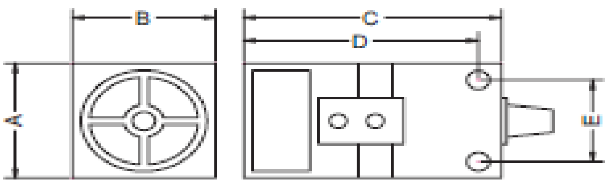


Power Relay					
รูปร่าง	รุ่น	บอกสถานะการทำงาน	หน้าสัมผัส	ความต้านทาน	Operating Voltage
	AHC2	ไม่มี	2P	10A	DC(V): 12, 24 AC(V):100/110, 220/240
	AHC2N	มี LED			
	AHC2NT	มี LED & Test			
	AHC4	ไม่มี	4P		
	AHC4N	มี LED			
	AHC4NT	มี LED & Test			
	AHL2	ไม่มี	2P ขาใหญ่		
	AHL2N	มี LED			
	AHL2NT	มี LED & Test			

Connection Diagram			
Dimensions(mm)			
Relay Socket	PYF-08AE	PYF-14AE	PTF-08AE

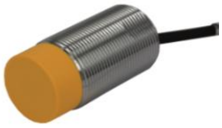
INDUCTIVE PROXIMITY SENSOR (SQUARE)

รูป	Model รุ่น	Output Method	Output Status	ระยะจับ	Operating Voltage	Response frequency
	HQ-1705-N1	NPN	NO	5 mm	10 ~ 30 VDC	600Hz
	HQ-1705-N2		NC			
	HQ-1705-P1	PNP	NO			
	HQ-1705-P2		NC			
	HQ-1805-N1	NPN	NO	5 mm	10 ~ 30 VDC	600Hz
	HQ-1805-N2		NC			
	HQ-1805-P1	PNP	NO			
	HQ-1805-P2		NC			
	HQ-1805-A1	SCR	NO		24 ~ 240 VAC	20Hz
	HQ-1805-A2		NC			
	HQ-2507-N1	NPN	NO	7 mm	10 ~ 30 VDC	500Hz
	HQ-2507-N2		NC			
	HQ-2507-P1	PNP	NO			
	HQ-2507-P2		NC			
	HQ-2507-A1	SCR	NO		24 ~ 240 VAC	20Hz
	HQ-2507-A2		NC			
	HQ-3010-N1	NPN	NO	10 mm	10 ~ 30 VDC	500Hz
	HQ-3010-N2		NC			
	HQ-3010-P1	PNP	NO			
	HQ-3010-P2		NC			
	HQ-3010-A1	SCR	NO		24 ~ 240 VAC	20Hz
	HQ-3010-A2		NC			
	HQ-3015-N1	NPN	NO	15 mm	10 ~ 30 VDC	500Hz
	HQ-3015-N2		NC			
	HQ-3015-P1	PNP	NO			
	HQ-3015-P2		NC			
	HQ-3015-A1	SCR	NO		24 ~ 240 VAC	20Hz
	HQ-3015-A2		NC			
	HQ-4020-N1	NPN	NO	20 mm	10 ~ 30 VDC	100Hz
	HQ-4020-N2		NC			
	HQ-4020-P1	PNP	NO			
	HQ-4020-P2		NC			
	HQ-4020-A1	SCR	NO		24 ~ 240 VAC	20Hz
	HQ-4020-A2		NC			



	A	B	C	D	E
HQ-1705	17	17	29	25	10.5
HQ-1805	18	18	35	32	10.5
HQ-2507	25	25	45	41	17.8
HQ-3010	30	30	52	48	22
HQ-4020	40	40	52	46	30

INDUCTIVE PROXIMITY SENSOR (SCREW)

รูป	Model รุ่น	Output Method	Output Status	ระยะจับ	Operating Voltage	Response frequency
	IS-0801-N1	NPN	NO	1 mm	10 ~ 30 VDC	1000Hz
	IS-0801-N2		NC			
	IS-0801-P1	PNP	NO			
	IS-0801-P2		NC			
	IS-0802-N1	NPN	NO	2 mm	10 ~ 30 VDC	1000Hz
	IS-0802-N2		NC			
	IS-0802-P1	PNP	NO			
	IS-0802-P2		NC			
	IS-1202-N1	NPN	NO	2 mm	10 ~ 30 VDC	800Hz
	IS-1202-N2		NC			
	IS-1202-P1	PNP	NO			
	IS-1202-P2		NC			
	IS-1202-A1	SCR	NO		24 ~ 240 VAC	20Hz
	IS-1202-A2		NC			
	IS-1204-N1	NPN	NO	4 mm	10 ~ 30 VDC	600Hz
	IS-1204-N2		NC			
	IS-1204-P1	PNP	NO			
	IS-1204-P2		NC			
	IS-1204-A1	SCR	NO		24 ~ 240 VAC	20Hz
	IS-1204-A2		NC			
	IS-1805-N1	NPN	NO	5 mm	10 ~ 30 VDC	600Hz
	IS-1805-N2		NC			
	IS-1805-P1	PNP	NO			
	IS-1805-P2		NC			
	IS-1805-A1	SCR	NO		24 ~ 240 VAC	20Hz
	IS-1805-A2		NC			
	IS-1808-N1	NPN	NO	8 mm	10 ~ 30 VDC	500Hz
	IS-1808-N2		NC			
	IS-1808-P1	PNP	NO			
	IS-1808-P2		NC			
	IS-1808-A1	SCR	NO		24 ~ 240 VAC	20Hz
	IS-1808-A2		NC			
	IS-3010-N1	NPN	NO	10 mm	10 ~ 30 VDC	200Hz
	IS-3010-N2		NC			
	IS-3010-P1	PNP	NO			
	IS-3010-P2		NC			
	IS-3010-A1	SCR	NO		24 ~ 240 VAC	20Hz
	IS-3010-A2		NC			
	IS-3015-N1	NPN	NO	15 mm	10 ~ 30 VDC	100Hz
	IS-3015-N2		NC			
	IS-3015-P1	PNP	NO			
	IS-3015-P2		NC			
	IS-3015-A1	SCR	NO		24 ~ 240 VAC	20Hz
	IS-3015-A2		NC			

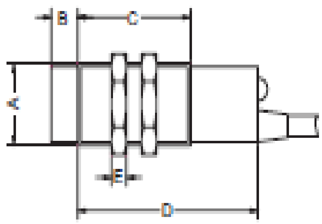
Capacitive Type

รูป	Model รุ่น	Output Method	Output Status	ระยะจับ	Operating Voltage	Response frequency
	KS-1810-N1	NPN	NO	10 mm	10 ~ 30 VDC	60Hz
	KS-3025-N1	NPN	NO	25 mm	10 ~ 30 VDC	60Hz
	CS-3020-N1	NPN	NO	20 mm	10 ~ 30 VDC	60Hz

Sensing object	Ferrous metals
Differential travel	≦10% max. of Sn
Leakage current	DC type: 1.1mA / AC type: 3mA
Max. switching current	DC type: ≦200mA / AC type: 5~300mA
Inverse polarity proof	Yes (DC type only)
Protection	IP-67
Operating temperature	-25 ~ +70℃
Voltage drop	2V max.

	A	B	C	D	E
IS-0801	M8 x 1	- -	- -	40	4
IS-0802	M8 x 1	5	- -	40	4
IS-1202	M12 x 1	- -	35	53	4
IS-1204	M12 x 1	5	30	48	4
IS-1805	M18 x 1	- -	35	53	4
IS-1808	M18 x 1	7	30	48	4
IS-3010	M30 x 1.5	- -	35	53	5
IS-3015	M30 x 1.5	8	30	48	5

Screw type



	A	B	C	D	E
HS-1805	M18 x 1	7	57	77	8.5
CS-1205	M12 x 1	5	30	48	4
CS-3020	M30 x 1.5	8	50	70	5
KS-1808	M18 x 1	7	57	77	8.5
CS-1202	M12 x 1	- -	35	53	4
CS-1204	M12 x 1	5	30	48	4
CS-1805	M18 x 1	- -	35	53	4
CS-1808	M18 x 1	7	30	48	4
CS-3010	M30 x 1.5	- -	35	53	5
CS-3015	M30 x 1.5	8	30	48	5

<table>
<tr><th>รูป</th><th>Model
รุ่น</th><th>Output Method</th><th>Output Status</th><th>ระยะจับ</th><th>Operating Voltage</th><th>Response frequency</th></tr>
<tr><td colspan="7">PHOTO SENSOR (Diffuse Reflective)</td></tr>
<tr><td rowspan="4"></td><td>PS-10D-NH</td><td>NPN</td><td rowspan="4">NO/NC</td><td rowspan="2">10 cm</td><td rowspan="4">10 ~ 30 VDC</td><td rowspan="4">80Hz</td></tr>
<tr><td>PS-10D-PH</td><td>PNP</td></tr>
<tr><td>PS-40D-NH</td><td>NPN</td><td rowspan="2">40 cm</td></tr>
<tr><td>PS-40D-PH</td><td>PNP</td></tr>
<tr><td colspan="7">PHOTO SENSOR (Mirror Relective)</td></tr>
<tr><td rowspan="2"></td><td>PS-300M-NH</td><td>NPN</td><td rowspan="2">NO/NC</td><td rowspan="2">3 m</td><td rowspan="2">10 ~ 30 VDC</td><td rowspan="2">60Hz</td></tr>
<tr><td>PS-300M-PH</td><td>PNP</td></tr>
<tr><td colspan="7">PHOTO SENSOR (Through Beam)</td></tr>
<tr><td rowspan="2"></td><td>PS-2000T-NH</td><td>NPN</td><td rowspan="2">NO/NC</td><td rowspan="2">20 m</td><td rowspan="2">10 ~ 30 VDC</td><td rowspan="2">80Hz</td></tr>
<tr><td>PS-2000T-PH</td><td>PNP</td></tr>
<tr><td colspan="7">PHOTO SENSOR (Diffuse Reflective)</td></tr>
<tr><td rowspan="4"></td><td>PS-10D-N</td><td>NPN</td><td rowspan="4">NO/NC</td><td rowspan="2">10 cm</td><td rowspan="4">10 ~ 30 VDC</td><td rowspan="4">80Hz</td></tr>
<tr><td>PS-10D-P</td><td>PNP</td></tr>
<tr><td>PS-30D-N</td><td>NPN</td><td rowspan="2">30 cm</td></tr>
<tr><td>PS-30D-P</td><td>PNP</td></tr>
<tr><td colspan="7">PHOTO SENSOR (Mirror Relective)</td></tr>
<tr><td rowspan="2"></td><td>PS-300M-N</td><td>NPN</td><td rowspan="2">NO/NC</td><td rowspan="2">3 m</td><td rowspan="2">10 ~ 30 VDC</td><td rowspan="2">60Hz</td></tr>
<tr><td>PS-300M-P</td><td>PNP</td></tr>
<tr><td colspan="7">PHOTO SENSOR (Through Beam)</td></tr>
<tr><td rowspan="2"></td><td>PS-2000T-N</td><td>NPN</td><td rowspan="2">NO/NC</td><td rowspan="2">20 m</td><td rowspan="2">10 ~ 30 VDC</td><td rowspan="2">60Hz</td></tr>
<tr><td>PS-2000T-P</td><td>PNP</td></tr>
</table>

รูป	Model รุ่น	Output Method	Output Status	ระยะจับ	Operating Voltage	Response frequency
PHOTO SENSOR (Diffuse Reflective)						
	PF-100D-R	Relay	NO/NC	1 m	AC / DC 24 ~ 240	30Hz
	PF-200D-R			2 m		
	PF-300D-R			3 m		
	PF-400D-R			4 m		
PHOTO SENSOR (Mirror Relective)						
	PF-300M-R	Relay	NO/NC	3 m	AC / DC 24 ~ 240	30Hz
	PF-500M-R			5 m		
	PF-700M-R			7 m		
	PF-800M-R			8 m		
PHOTO SENSOR (Through Beam)						
	PF-1000T-R	Relay	NO/NC	10 m	AC / DC 24 ~ 240	30Hz
	PF-2000T-R			20 m		
PHOTO SENSOR (Diffuse Reflective)						
	PM-10D-1	NPN/PNP	NO	10 cm	10 ~ 30 VDC	100Hz
	PM-10D-2		NC			
	PM-40D-1		NO	40 cm		
	PM-40D-2		NC			
PHOTO SENSOR (Mirror Relective)						
	PM-200M-1	NPN/PNP	NO	2 m	10 ~ 30 VDC	80Hz
	PM-200M-2		NC			
PHOTO SENSOR (Through Beam)						
	PM-500T-1	NPN/PNP	NO	5 m	10 ~ 30 VDC	80Hz
	PM-500T-2		NC			

รูป	Model รุ่น	Output Method	Output Status	ระยะจับ	Operating Voltage	Response frequency
PHOTO SENSOR (Diffuse Reflective)						
	PQ-10D-H	NPN	NO	10 cm	10 ~ 30 VDC	80Hz
PHOTO SENSOR (Mirror Relective)						
	PQ-100M-H	NPN	NO	1 m	10 ~ 30 VDC	60Hz
PHOTO SENSOR (Through Beam)						
	PQ-100T-H	NPN	NO	1 m	10 ~ 30 VDC	60Hz
PHOTO SENSOR (Diffuse Reflective)						
	PT-15D-N	NPN	NO/NC	15 cm	10 ~ 30 VDC	100Hz
	PT-15D-P	PNP				
	PT-30D-N	NPN		30 cm		
	PT-30D-P	PNP				
PHOTO SENSOR (Mirror Relective)						
	PT-200M-N	NPN	NO/NC	2 m	10 ~ 30 VDC	80Hz
	PT-200M-P	PNP				
PHOTO SENSOR (Through Beam)						
	PT-200T-N	NPN	NO/NC	2 m	10 ~ 30 VDC	80Hz
	PT-200T-P	PNP				

MULTI-FUNCTION DIGITAL	H8DA ระบุ COUNTER / TIMER
	รุ่น H8DA ระบุ TIMER
	รุ่น H8DA ระบุ COUNTER

72x72mm 6 digits

CHARACTERISTICS :

- Counter or Timer function selectable
- Scroll-through menu for all parameters
- Proximity and photoelectric switches compatible
- High-speed response allows 10k counts per second
- Online change of set value possible
- 4 levels of key protection provided
- 3 user selectable mode : Count Up, Count Down and Count Up/Down
- Memory function available
- CE certified

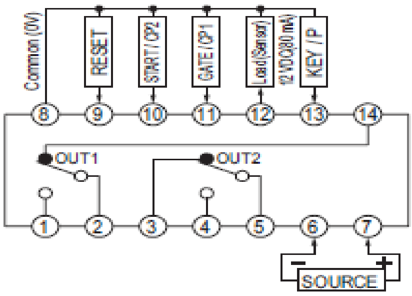
SPECIFICATION :

Operating voltage	AC/DC(V): 12~48 AC/DC(V): 100~240
Allowable operating voltage range	85~110% of rated operating voltage
Rated frequency	50 / 60 Hz
Contact rating	250VAC 5A (resistive load)
Count speed	MAX 30, 1k, 5k or 10k cps
Reset time	MAX 0.1s
Power consumption	Approx. 3.5VA
Life	Mechanical: 5,000,000 times Electrical: 100,000 times
Ambient temperature	-10 ~ +50℃
Ambient humidity	MAX 85%RH
Weight	Approx. 260g

TIME RANGE :

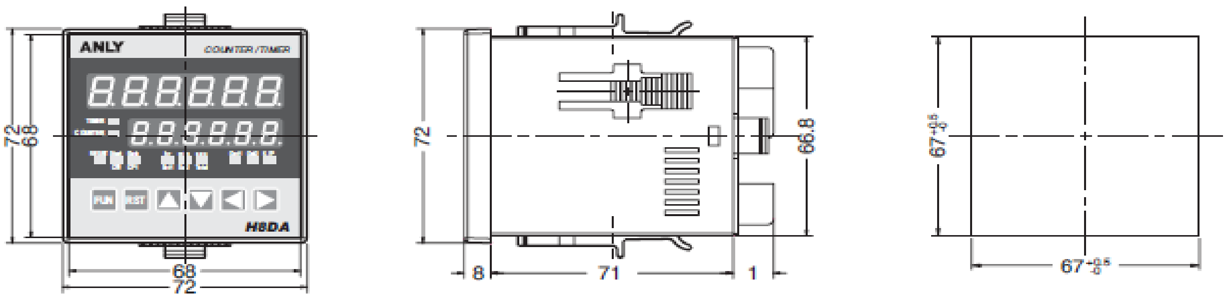
1	0.001s ~ 999.999s	7	0.1m ~ 99999.9m
2	0.01s ~ 9999.99s	8	1m ~ 999999m
3	0.1s ~ 99999.9s	9	1s ~ 99h59m59s
4	1s ~ 999999s	10	1m ~ 9999h59m
5	0.01s ~ 99m59.99s	11	0.1h ~ 99999.9h
6	0.1s ~ 999m59.9s	12	1h ~ 999999h

CONNECTION :



DIMENSIONS : (mm)

Flush Mounting : Using Clamp



MULTI-FUNCTION DIGITAL

H5DA ระบุ COUNTER / TIMER

รุ่น H5DA ระบุ TIMER

รุ่น H5DA ระบุ COUNTER

48x48mm 6 digits

CHARACTERISTICS :

- Counter or Timer function selectable
- Scroll-through menu for all parameters
- Proximity and photoelectric switches compatible
- High-speed response allows 10k counts per second
- Online change of set value possible
- 4 levels of key protection provided
- 3 user selectable mode : Count Up, Count Down and Count Up/Down
- Memory function available
- CE certified

SPECIFICATION :

Operating voltage	AC/DC(V): 12~48 AC/DC(V): 100~240
Allowable operating voltage range	85~110% of rated operating voltage
Rated frequency	50 / 60 Hz
Contact rating	250VAC 5A (resistive load)
Count speed	MAX 30, 1k, 5k or 10k cps
Reset time	MAX 0.1s
Power consumption	Approx. 2.5VA
Life	Mechanical: 5,000,000 times Electrical: 100,000 times
Ambient temperature	-10 ~ +50℃
Ambient humidity	MAX 85%RH
Weight	Approx. 118g

TIME RANGE :

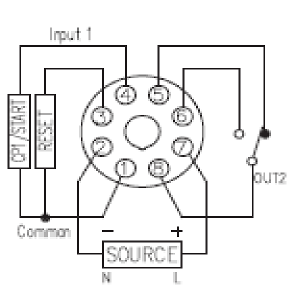
1	0.001s ~ 999.999s
2	0.01s ~ 9999.99s
3	0.1s ~ 99999.9s
4	1s ~ 999999s
5	0.01s ~ 99m59.99s
6	0.1s ~ 999m59.9s
7	0.1m ~ 99999.9m
8	1m ~ 999999m
9	1s ~ 99h59m59s
10	1m ~ 9999h59m
11	0.1h ~ 99999.9h
12	1h ~ 999999h

TYPE SELECTION :

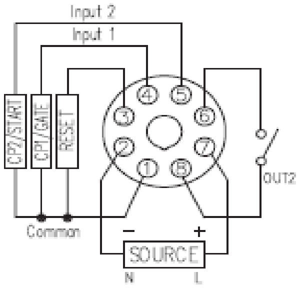
Type	H5DA-8	H5DA-8B	H5DA-8M	H5DA-11	H5DA-11D	H5DA-11M
Count speed	Max 30, 1k, 5k or 10k cps(user program selectable)					
Output contact	1C	1a	1a	2C	1a1C	1C
Memory	○	○	○	○	○	○
External Reset	○	○	○	○	○	○
Count Up	○	○	○	○	○	○
Count Down	○	○	○	○	○	○
Count Up/Down	- - -	○	○	- - -	○	○

CONNECTION :

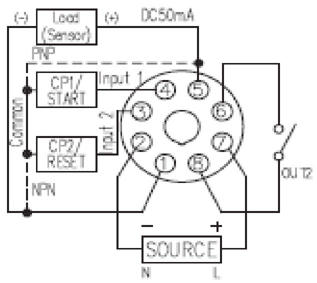
H5DA-8



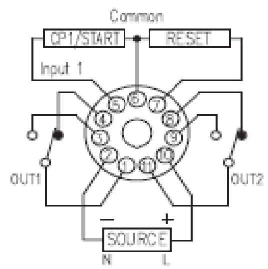
H5DA-8B



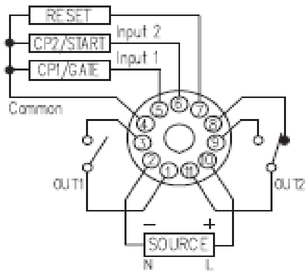
H5DA-8M



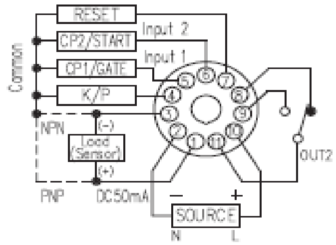
H5DA-11



H5DA-11D



H5DA-11M

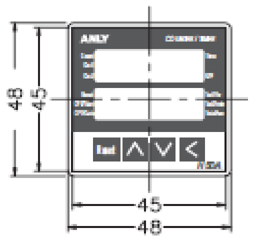


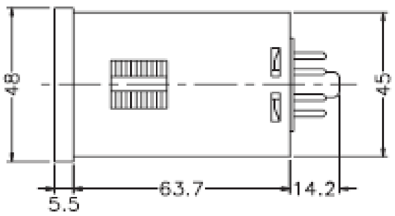
Note 1: When using NPN type Proximity, Common = 0V

Note 2: When using PNP type Proximity, Common = +V

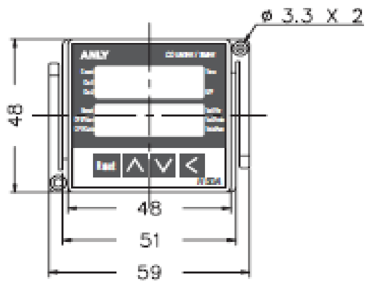
DIMENSIONS : (mm)

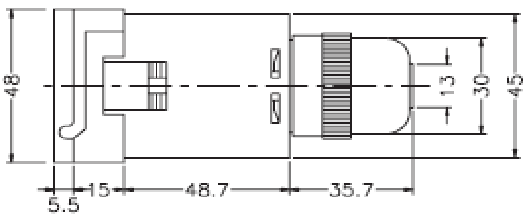
N type(Surface Mounting): Using P2CF-08 , PF085A Socket or PF113A Socket(for H5DA-11/11D/11M use only)

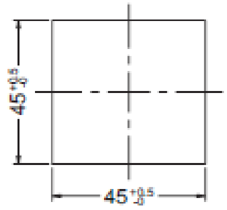




Y type(Flush Mounting): Using Y50 Frame & US-08 Socket , P3G-08 Socket or P3G-11 Socket(for H5DA-11/11D/11M use only)







H5KLR MULTI-FUNCTION DIGITAL COUNTER

CHARACTERISTICS :

- Proximity and photoelectric switch compatible
- Protection against power surge and high frequency interference
- High-speed response allows 1,000 counts per second
- Online change of set value possible
- Four levels of key protection provided
- Count Up, Count Down or Count Up/Down mode user selectable
- Memory function available
- UL, C-UL recognized and CE certified

SPECIFICATION :

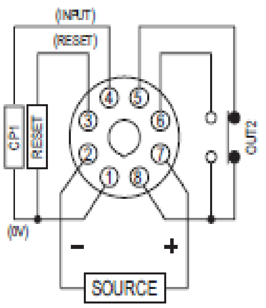
Operating voltage	AC/DC(V): 12~48 or 100~240
Allowable operating voltage range	85~110% of rated operating voltage
Rated frequency	50 / 60 Hz
Contact rating	250VAC 5A (resistive load)
Count speed	MAX 30 cps or 1,000 cps
Reset time	MAX 0.1s
Power consumption	Approx. 2.5VA
Life	Mechanical: 5,000,000 times Electrical: 100,000 times
Ambient temperature	-10 ~ +50℃
Ambient humidity	MAX 85%RH
Weight	Approx. 120g

TYPE SELECTION :

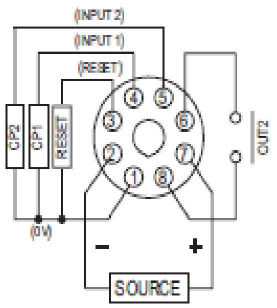
Type	H5KLR-8	H5KLR-8B	H5KLR-8M	H5KLR-11	H5KLR-11M
Count speed	Max 30 cps or 1,000 cps(user program selectable)				
Output contact	1C	1a	1a	2C	1C
Memory	○	○	○	○	○
External Reset	○	○	○	○	○
Count Up	○	○	○	○	○
Count Down	○	○	○	○	○
Count Up/Down		○	○		○

CONNECTION :

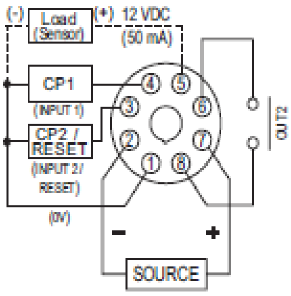
H5KLR-8



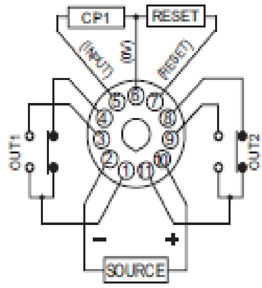
H5KLR-8B



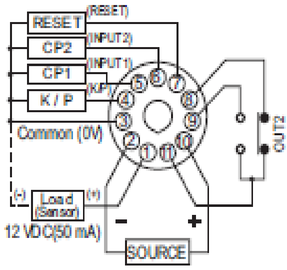
H5KLR-8M



H5KLR-11



H5KLR-11M



Note: **H5KLR-8□** : When using Proximity(Type NPN) or photoelectric switch, connect (+) to external 12VDC, (-) to pin (1) and (OUT) to pin (4). (OUT2) to pin (5) for H5KLR-8B only. Connect (+) to pin (5) and (OUT) to pin (4), (OUT2) to pin (3) for H5KLR-8M only.
H5KLR-11 : When using Proximity(Type NPN) or photoelectric switch, connect (+) to external 12VDC, (-) to pin (6) and (OUT) to pin (5)
H5KLR-11M: When using Proximity(Type NPN) or photoelectric switch, connect (+) to pin (1), (-) to pin (3), (OUT) to pin (5) and (OUT2) to pin (6)

TIMING CHART :

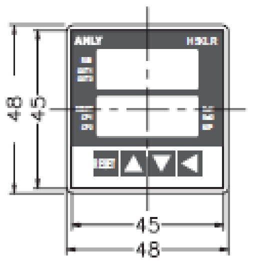
Input Modes and Count Value

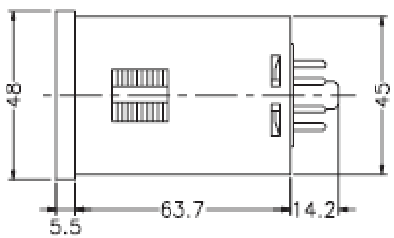
Please note: 1. "A" indicates minimum signal width; "B" indicates 1/2 of minimum signal width. Signals may not be counted if the minimums for A and B are not met.
2. H and L

Signal	No-voltage input	Voltage input
H	Short circuit	4.5 ~ 30 VDC
L	Open circuit	0 ~ 2 VDC

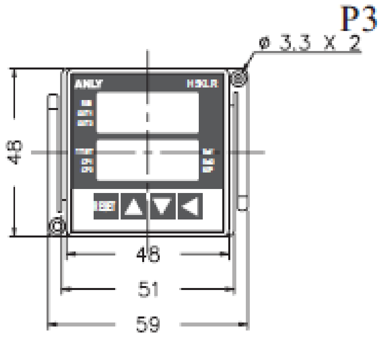
DIMENSIONS : (mm)

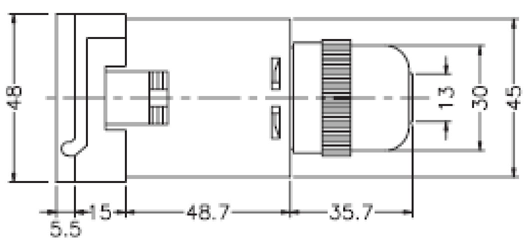
N type(Surface Mounting): Using P2CF-08 , PF085A Socket or PF113A Socket(for H5KLR-11/11M use only)

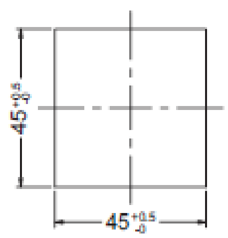




Y type(Flush Mounting): Using Y50 Frame & US-08 Socket , P3G-08 Socket or P3G-11 Socket(for H5KLR-11/11M use only)

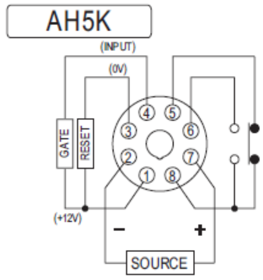




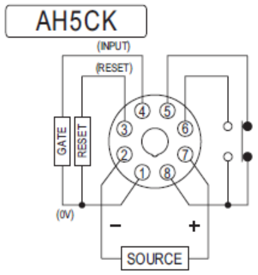


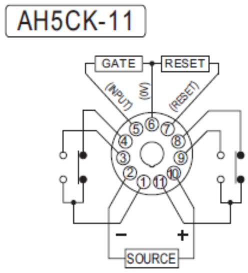
PRESET COUNTER (48x48)mm. 4 digits

Display	4Digits(0~9999)	3Digits(0~999)	2Digits(0~99)
Memory	- - - -	- - - -	- - - -
Output contact	1C	1C	1C
Standard (under 60 cps)	AH5K-4D	AH5K-3D	AH5K-2D
High speed (under 200 cps)	AH5K-4DH	AH5K-3DH	AH5K-2DH
Count down	AH5K-4DD	AH5K-3DD	AH5K-2DD
Auto reset	AH5K-4DR	AH5K-3DR	AH5K-2DR



Display	4Digits(0~9999)	
Memory	○	○
Output contact	1C	2C
Standard (under 60 cps)	AH5CK	AH5CK-11
High speed (under 200 cps)	AH5CK-H	AH5CK-11H
Count down	AH5CK-D	AH5CK-11D
Auto reset	AH5CK-R	AH5CK-11R

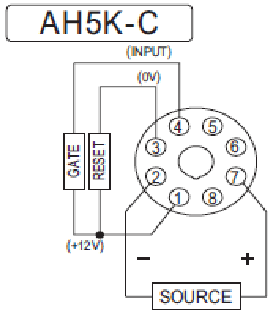




SPECIFICATION :

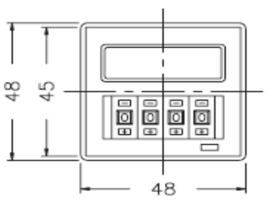
Operating voltage	AH5CK	AC/DC(V): 12~48 AC/DC(V): 100~240
	AH5K	DC(V): 12, 24 AC(V): 12, 24, 110, 220, 240
Allowable operating voltage range	85~110% of rated operating voltage	
Rated frequency	50 / 60 Hz	
Contact rating	250VAC 5A (resistive load)	
Count speed	MAX 60 cps or 200 cps	
Reset time	MAX 0.1S	
Power consumption	AH5CK Approx. 2.5VA AH5K,AH5K-C Approx. 2VA	
Life	Mechanical: 5,000,000 times Electrical: 100,000 times	
Ambient temperature	-10 ~ +50℃	
Ambient humidity	MAX 85%RH	
Weight	AH5CK Approx. 130g AH5K Approx. 170g AH5K-C Approx. 160g	

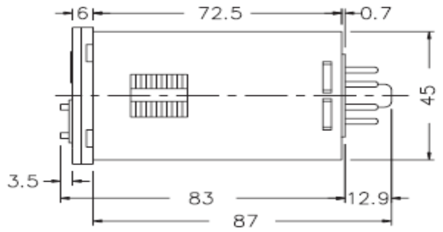
Display	4Digits(0~9999)
Memory	- - - -
Output contact	1C
Standard (under 60 cps)	AH5K-C
High speed (under 200 cps)	AH5K-CH
Count down	AH5K-CD
Auto reset	AH5K-CR



DIMENSIONS : (mm)

N type(Surface Mounting): Using P2CF-08 , PF085A Socket or PF113A Socket(for AH5CK-11 use only)





Note: AH5K, AH5K-C: When using Proximity(Type PNP) or photoelectric switch, connect (+) to pin (1), (-) to pin (3) and (OUT) to pin (4)
AH5CK: When using Proximity(Type NPN) or photoelectric switch, connect (+) to external 12VDC, (-) to pin (1) and (OUT) to pin (4)
AH5CK-11: When using Proximity(Type NPN) or photoelectric switch, connect (+) to external 12VDC, (-) to pin (6) and (OUT) to pin (5)

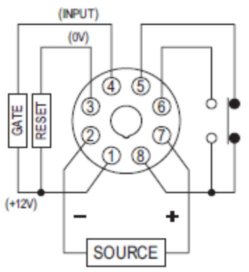
PRESET COUNTER

Model	PRESET COUNTER			TWIN COUNTER	
	ASK-☐DN	ASK-☐D		ACK-N	ACK-Y
รูป					

TYPE SELECTION :

Display	1Digit(0~9)	2Digits(0~99)	3Digits(0~999)
STD.(under 60 cps)	ASK-1D	ASK-2D	ASK-3D
H.Speed(under 200 cps)	ASK-1DH	ASK-2DH	ASK-3DH
Count down	ASK-1DD	ASK-2DD	ASK-3DD
Auto reset	ASK-1DR	ASK-2DR	ASK-3DR

CONNECTION :

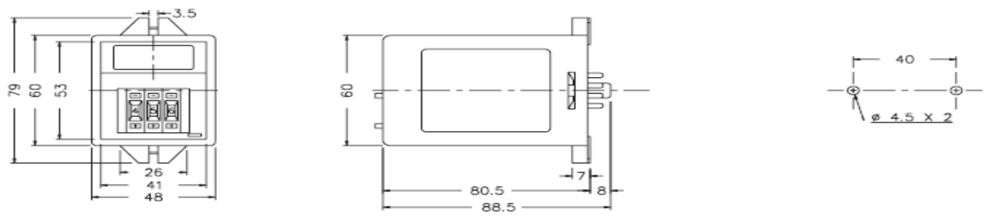


SPECIFICATION :

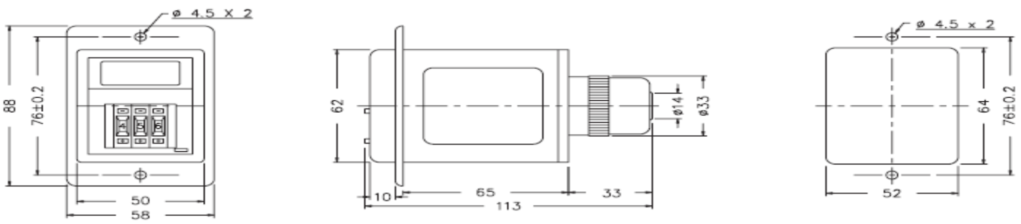
Operating voltage	DC(V): 12, 24 AC(V): 12, 24, 110, 220, 240
Allowable operating voltage range	85~110% of rated operating voltage
Rated frequency	50 / 60 Hz
Contact rating	250VAC 5A (resistive load)
Count speed	MAX 60 cps or 200 cps
Reset time	MAX 0.5S
Power consumption	Approx. 3VA
Life	Mechanical: 5,000,000 times Electrical: 100,000 times
Ambient temperature	-10 ~ +50℃
Ambient humidity	MAX 85%RH
Weight	Approx. 230g

DIMENSIONS : (mm)

N type(Surface Mounting): Using 8PFA Socket

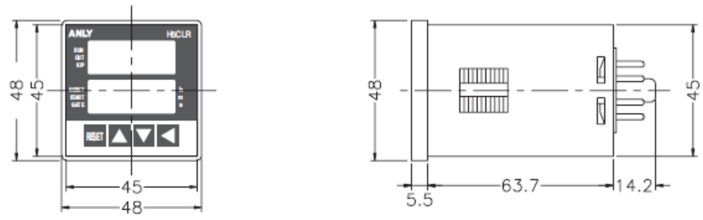


Y type(Flush Mounting): Using US-08 Socket or P3G-08 Socket



H5CLR MULTI-FUNCTION DIGITAL TIMER

DIMENSIONS : (mm)



CHARACTERISTICS :

- Eleven field-selectable output modes accommodate a wide variety of applications
- 7-segment-display for clear display and effective monitoring
- All parameters set by scrollthrough menus accessed from the front panel
- Field-selectable time ranges from 0.001 second to 9999 hours
- Precision control possible to 0.001 second
- Four levels of key protection provided
- Count Up or Count Down mode user selectable
- Memory function available
- UL, C-UL recognized and CE certified

SPECIFICATION :

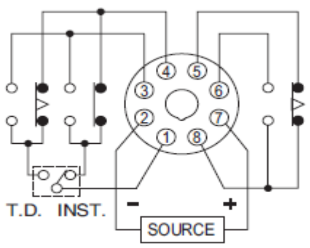
Operating voltage	AC/DC(V): 12~48 or 100~240
Allowable operating voltage range	85~110% of rated operating voltage
Rated frequency	50 / 60 Hz
Contact rating	250VAC 5A (resistive load)
Reset time	MAX 0.1s
Reset time	Approx. 2.5VA
Life	Mechanical: 5,000,000 times Electrical: 100,000 times
Ambient temperature	-10 ~ +50℃
Ambient humidity	MAX 85%RH
Weight	Approx. 120g

TYPE SELECTION :

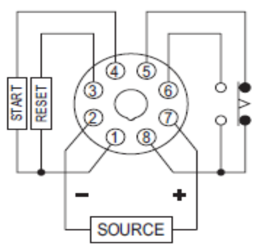
Type	H5CLR-8	H5CLR-8G	H5CLR-11	H5CLR-11M
Time range	9.999s / 99.99s / 999.9s / 9999s / 999.9m / 9999m / 999.9h / 9999h / 99m59s / 99h59m			
Output contact	2C or 1A1C	G Type	2C(1A1C) + G Type	M Type
Memory		○	○	○
External Reset		○	○	○
External Start		○	○	○
External Gate				○
Key protect(K/P)				○

CONNECTION :

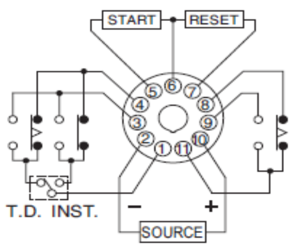
H5CLR-8



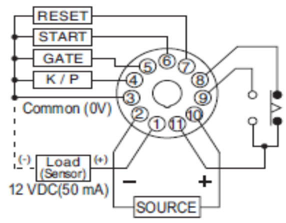
H5CLR-8G



H5CLR-11



H5CLR-11M

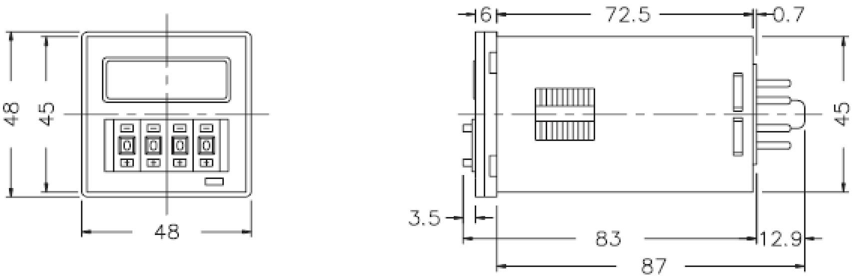


ANLY

AH5CN DIGITAL TIMER (Memory switch & Manual reset)

เลือกช่วงเวลาได้ 8 Range

DIMENSIONS : (mm)



CHARACTERISTIC :

- 7-segment-display for clear display and effective monitoring
- Protection against power surge and high frequency interference
- Base-10 (99.99S ~ 99990H) and Base-60 (99M59S or 99H59M) time ranges available
- Memory switch allows users to enable or disable memory function
- Manual reset button on faceplate
- 2 modes selectable via slide switch: Mode A (2C) for DPDT time-limiting output contacts and Mode B (1A1C) for SPDT instantaneous and time-limiting output contacts
- Can be used as a "Hour Meter"
- External pause contact available on G type
- UL, C-UL recognized and CE certified

SPECIFICATION :

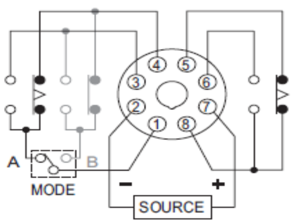
Operating voltage	AC/DC(V): 12~48 or 100~240
Allowable operating voltage range	85~110% of rated operating voltage
Rated frequency	50 / 60 Hz
Contact rating	250VAC 5A (resistive load)
Reset time	MAX 0.1S
Power consumption	Approx. 2.5VA
Life	Mechanical: 5,000,000 times Electrical: 100,000 times
Ambient temperature	-10 ~ +50℃
Ambient humidity	MAX 85%RH
Weight	Approx. 130g

TYPE SELECTION :

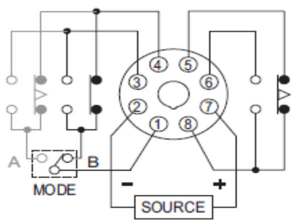
Output contact	Mode A / B	G Type	Mode A / B + G Type
Type	AH5CN-R	AH5CN-RG	AH5CN-R11
Time range	8 Ranges: 99.99S / 999.9S / 9999S / 999.9M / 9999M / 999.9H / 9999H / 99990H		

CONNECTION :

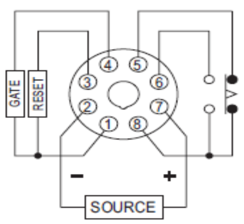
2C, Mode A



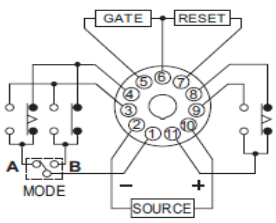
1A1C, Mode B



G Type



AH5CN-11, AH5CN-R11



AH4CN-R MULTI-RANGE DIGITAL TIMER

CHARACTERISTIC :

- 7-segment-display for clear display and effective monitoring
- Protection against power surge and high frequency interference
- 9.99 second ~ 9990 hour time range
- 2 modes selectable via a slide switch: Mode A (2C) for DPDT time-limiting output contacts and Mode B (1A1C) for SPDT instantaneous and time-limiting output contacts
- External pause contact available on G type
- UL, C-UL recognized and CE certified

SPECIFICATION :

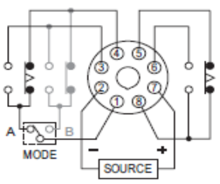
Operating voltage	AC/DC(V): 12~48 or 100~240
Allowable operating voltage range	85~110% of rated operating voltage
Rated frequency	50 / 60 Hz
Contact rating	250VAC 5A (resistive load)
Reset time	MAX 0.1S
Power consumption	Approx. 2.5VA
Life	Mechanical: 5,000,000 times Electrical: 100,000 times
Ambient temperature	-10 ~ +50℃
Ambient humidity	MAX 85%RH
Weight	Approx. 130g

TYPE SELECTION :

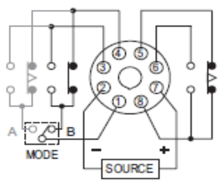
Type	AH4CN-R	AH4CN-RG
Time range	8 Ranges: 9.99S / 99.9S / 999S / 99.9M / 999M / 99.9H / 999H / 9990H	
Output contact	Mode A / B	G Type

CONNECTION :

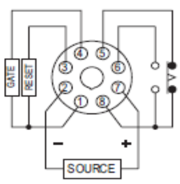
2C, Mode A



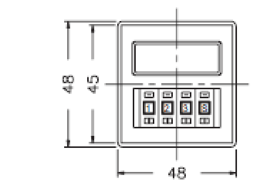
1A1C, Mode B

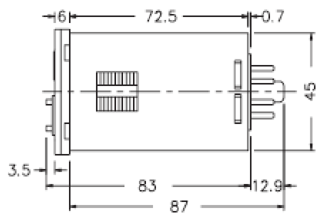


G Type



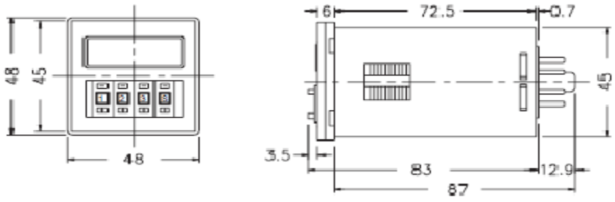
DIMENSIONS : (mm)





AH5E DIGITAL TIMER (ต้องระบุช่วงเวลา)

DIMENSIONS : (mm)



CHARACTERISTIC :

- 7-segment-display for clear display and effective monitoring
- Protection against power surge and high frequency interference
- Base-10 (99.99S~99990H) and Base-60 (99M59S or 99H59M) time ranges available
- Available on Count Up model or Count Down model

SPECIFICATION :

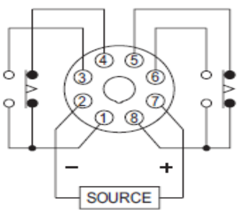
Operating voltage	DC(V): 12, 24 AC(V): 12, 24, 110, 220, 240
Allowable operating voltage range	85~110% of rated operating voltage
Rated frequency	50 / 60 Hz
Contact rating	250VAC 5A (resistive load)
Reset time	MAX 0.1S
Power consumption	Approx. 2VA
Life	Mechanical: 5,000,000 times Electrical: 100,000 times
Ambient temperature	-10 ~ +50℃
Ambient humidity	MAX 85%RH
Weight	AH5E Approx. 180g AH5E-C Approx. 160g

TYPE SELECTION :

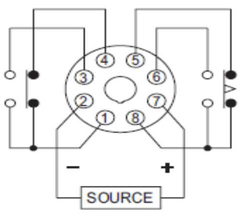
Display \ Output contact	2C	1A1C	G Type
2digits	AH5E-2D	AH5E-2DA	AH5E-2DG
	9.9S , 99S , 9.9M , 99M , 9.9H or 99H		
3digits	AH5E-3D	AH5E-3DA	AH5E-3DG
	9.99S , 99.9S , 999S , 99.9M , 999M , 99.9H or 999H		
4digits	AH5E-4D	AH5E-4DA	AH5E-4DG
	99.99S , 999.9S , 9999S , 999.9M , 9999M , 999.9H , 9999H , 99M59S or 99H59M		

CONNECTION :

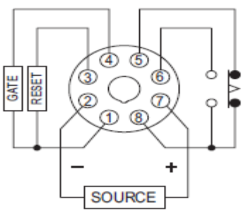
2C



1A1C



G Type



ASY DIGITAL TIMER

รูป

ปรับช่วงเวลาได้โดย เลื่อน switch

MODE

2C	1A1C
ASY-2DN	ASY-2DA
ASY-3DN	ASY-3DA

ต้องระบุช่วงเวลาที่ใช้

9.9S , 99S , 9.9M , 99M , 9.9H or 99H
9.99S, 99.9S, 999S, 99.9M, 999M, 99.9H or 999H

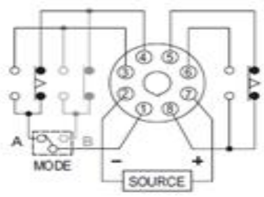
Mode A / B	Mode A / B
ASY-2SMN	ASY-2SM
9.9S / 99S / 9.9M / 99M	9.9S / 99S / 9.9M / 99M
ASY-2MHN	ASY-2MH
9.9M / 99M / 9.9H / 99H	9.9M / 99M / 9.9H / 99H
ASY-3SMN	ASY-3SM
99.9S / 999S / 99.9M / 999M	99.9S / 999S / 99.9M / 999M
ASY-3MHN	ASY-3MH
99.9M / 999M / 99.9H / 999H	99.9M / 999M / 99.9H / 999H

SPECIFICATION :

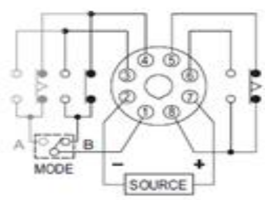
Operating voltage	DC(V): 12, 24 AC(V): 12, 24, 110, 220, 240
Allowable operating voltage range	85~110% of rated operating voltage
Rated frequency	50 / 60 Hz
Contact rating	250VAC 5A (resistive load)
Reset time	MAX 0.3S
Power consumption	Approx. 3VA
Life	Mechanical: 5,000,000 times Electrical: 100,000 times
Ambient temperature	-10 ~ +50℃
Ambient humidity	MAX 85%RH
Weight	Approx. 240g

CONNECTION :

2C, Mode A

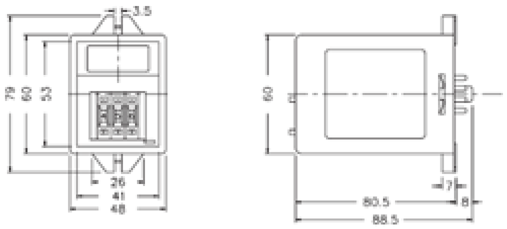


1A1C, Mode B

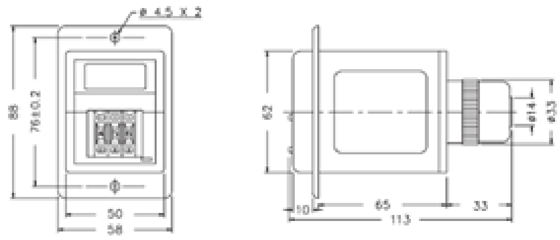


DIMENSIONS : (mm)

N type(Surface Mounting) : Using PF085A Socket



Y type(Flush Mounting) : P3G-08 Socket



ASY-4DR MULTI-FUNCTION DIGITAL TIMER

CHARACTERISTICS :

- Eleven field-selectable output modes accommodate a wide variety of applications
- 7-segment-display for clear display and effective monitoring
- All parameters set by scrollthrough menus accessed from the front panel
- Field-selectable time ranges from 0.001 second to 9999 hours
- Precision control possible to 0.001 second
- Four levels of key protection provided
- Count Up or Count Down mode user selectable
- Memory function available
- CE certified

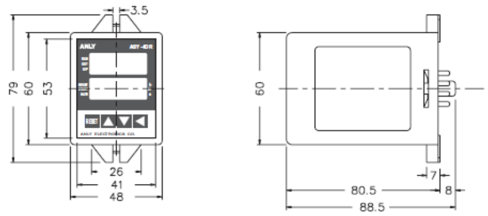
Type	ASY-4DRN	ASY-4DRGN	ASY-4DRY	ASY-4DRGY
Time range	9.999s / 99.99s / 999.9s / 9999s / 999.9m / 9999m / 999.9h / 9999h / 99m59s / 99h59m			
Output contact	2C or 1A1C	G Type	2C or 1A1C	G Type
Memory		○		○
External Reset		○		○
External Start		○		○

SPECIFICATION :

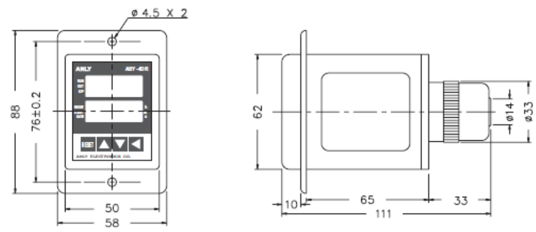
Operating voltage	AC/DC(V): 12~48 or 100~240
Allowable operating voltage range	85~110% of rated operating voltage
Rated frequency	50 / 60 Hz
Contact rating	250VAC 5A (resistive load)
Reset time	MAX 0.1s
Reset time	Approx. 2.5VA
Life	Mechanical: 5,000,000 times Electrical: 100,000 times
Ambient temperature	-10 ~ +50℃
Ambient humidity	MAX 85%RH
Weight	Approx. 150g

DIMENSIONS : (mm)

N type(Surface Mounting): Using 8PFA Socket

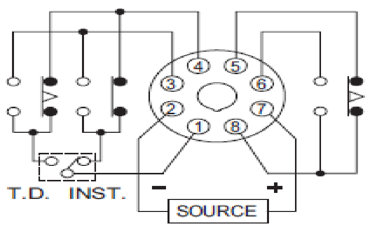


Y type(Flush Mounting): P3G-08 Socket

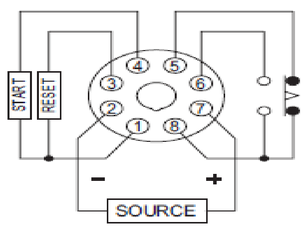


CONNECTION :

ASY-4DR☐



ASY-4DRG☐



Weekly Programmable Timer

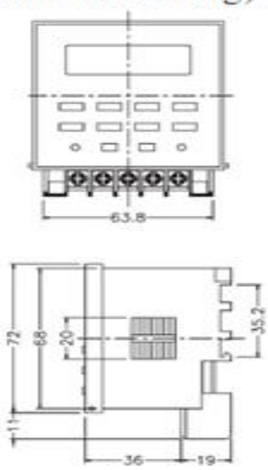
Figure			
Model	**APT-6S / APT-6SB**	**APT-8S**	**APT-9S**
	Note: "*" indicates applicable to APT-6SB	**Function**	**Function**
	Function		
	1. 8 different timing setting per day 2. 15 different weekly combination 3. Built-in Lithium battery backup 4. Backlit LCD (APT-6SB ONLY)	**1. 8 different timing setting per day** **2. 15 different weekly combination** **3. Built-in Lithium battery backup** **4. Up to 99 days holiday suspension** **5. Daylight-saving-time function** **6. Backlit LCD**	1. 80 different timing setting per day 2. Different weekday combinations 3. Built-in Lithium battery backup 4. Up to 99 days holiday suspension 5. Daylight-saving-time function 6. Backlit LCD

SPECIFICATION :

Operating voltage	AC/DC(V): 12~48 AC/DC(V): 100~240
Allowable operating voltage range	85~110% of rated operating voltage
Rated frequency	50 / 60 Hz
Contact rating	250VAC 7A (resistive load)
Indicator operating	ON - Green OFF - Red
Power consumption	Approx. 3.3VA
Life	Mechanical: 5,000,000 times Electrical: 100,000 times
Ambient temperature	-10 ~ +50℃
Ambient humidity	MAX 65%RH
Weight	Approx. 170g

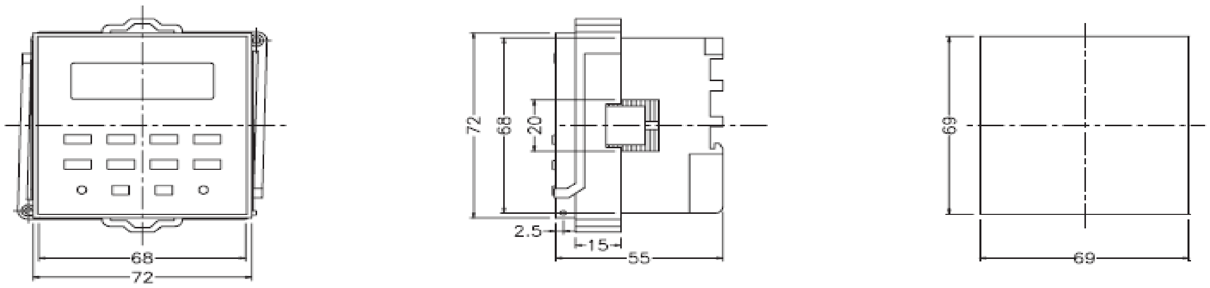
DIMENSIONS : (mm)

N type(Surface Mounting):



DIMENSIONS : (mm)

Y type(Flush Mounting): Using Y70 Adapter



AMY/AMY-N MULTI-RANGE ANALOGUE TIMER

CHARACTERISTIC :

- 8 field-selectable time range, from 1 second to 600 hour*
- Customized CMOS IC for low power consumption, high operation stability and extreme timing accuracy
- SMD components for miniature size
- Flush mount with Type Y-20 adapter and surface mount without adapter
- 2 poles or 4 poles output contacts available
- MY relay socket compatible
- CE certified

Note: "*" indicates applicable to AMY-N multi-range series only

ต้องระบุช่วงเวลา // เลือกปรับเวลาการใช้งานโดย DIP Switch

Model	Variable		Multi-Range Variable	
Type	AMY-2	AMY-4	AMY-N2	AMY-N4
Output contact	2C	4C	2C	4C
Time range	1, 3, 6, 10, 30 or 60s 3, 6, 10, 30 or 60m 3h		8 Ranges: 1s / 10s / 1m / 10m / 1h / 10h / 60h / 600h	

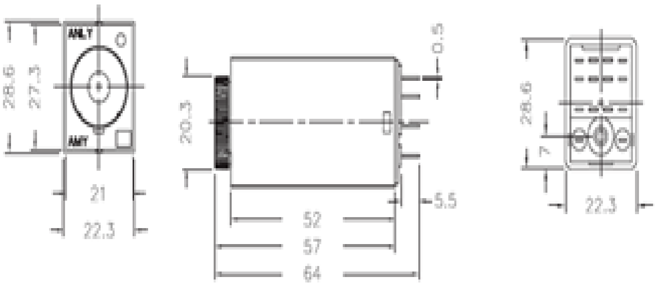
SPECIFICATION :

Operating voltage	DC(V): 12, 24 AC(V): 12, 24, 110, 220, 240
Allowable operating voltage range	85~110% of rated operating voltage (90~110% for DC12V only)
Rated frequency	50 / 60 Hz
Contact rating	250VAC 5A (resistive load)
Reset time	MAX 0.2S
Power consumption	DC(W): 1.4, 1.1, 1.2, 1.6 AC(VA):1.3, 1.6, 1.9, 2.1, 2.6, 2.9
Life	Mechanical: 5,000,000 times Electrical: 100,000 times
Ambient temperature	-10 ~ +50℃
Ambient humidity	MAX 85%RH
Weight	Approx. 45g

DIMENSIONS : (mm)

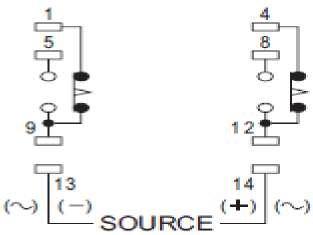
N type : AMY-2, AMY-N2 Using PYF08A(E) Socket

AMY-4, AMY-N4 Using PYF14A(E) Socket

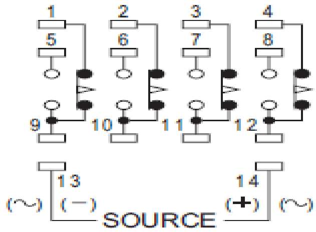


CONNECTION :

AMY-2, AMY-N2



AMY-4, AMY-N4



AH2 MULTI-RANGE ANALOGUE TIMER

CHARACTERISTIC :

- Customized CMOS IC for low power consumption, high operation stability and extreme timing accuracy
- Large transparent knob for easy adjustment and monitoring
- 15 different time ranges available, from 0.1sec to 24hour
- 5(A, B, C, D, E) timing series available*
- Each timing series has 4 time ranges, selectable via DIP switch*
- CE certified

Note: "*" indicates applicable to AH2 multi-range series only

SPECIFICATION :

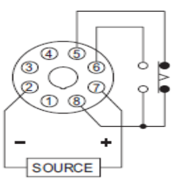
Operating voltage	DC(V): 12, 24 AC(V): 12, 24, 110, 220, 240
Allowable operating voltage range	85~110% of rated operating voltage
Rated frequency	50 / 60 Hz
Contact rating	250VAC 5A (resistive load)
Reset time	MAX 0.1S
Power consumption	Approx. 3VA
Life	Mechanical: 5,000,000 times Electrical: 100,000 times
Ambient temperature	-10 ~ +50℃
Ambient humidity	MAX 85%RH
Weight	Approx. 200g

TYPE SELECTION :

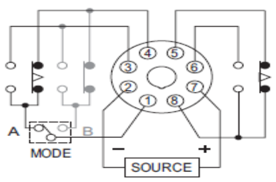
Model	Single Range Variable			Multi-Range Variable		
Output contact	1C	2C	1A1C	Mode A / B		
Type	AH2-N1	AH2-N2	AH2-N	AH2-NA / YA	AH2-NB / YB	AH2-NC / YC
Time range	1 , 3 , 6 , 10 , 30 or 60S 3 , 6 , 10 , 30 or 60M , 3 , 6 , 10 or 24H			1S / 10S / 1M / 10M	3S / 30S / 3M / 30M	6S / 60S / 6M / 60M
Type	AH2-Y1	AH2-Y2	AH2-Y	AH2-ND / YD	AH2-NE / YE	
Time range	1 , 3 , 6 , 10 , 30 or 60S 3 , 6 , 10 , 30 or 60M , 3 , 6 , 10 or 24H			1M / 10M / 1H / 10H	3M / 30M / 3H / 30H	

CONNECTION :

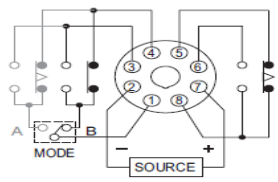
1C



2C, Mode A

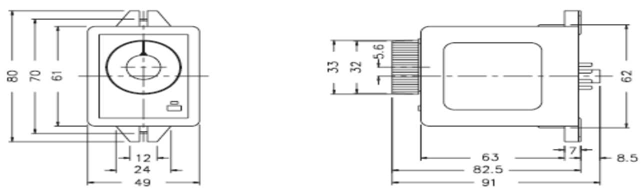


1A1C, Mode B

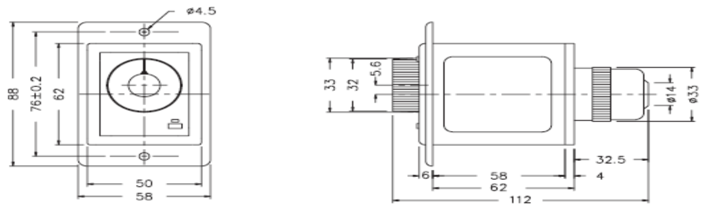


DIMENSIONS : (mm)

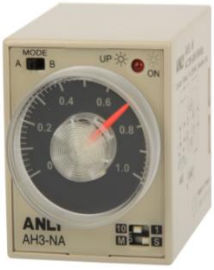
N type(Surface Mounting): Using 8PFA Socket



Y type(Flush Mounting): P3G-08 Socket

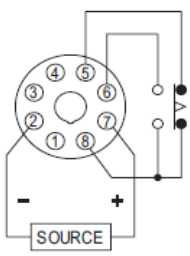


ON DELAY TIMER

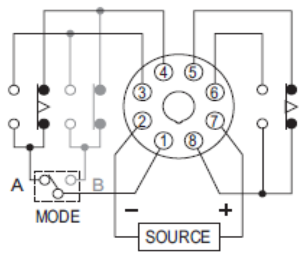
Figure					
Model	**AH3-1**	**AH3-2**	**AH3-3**	**AH3-N□**	**AH3-R□**
Range	**1, 3, 6, 10, 30, 60s 3, 6, 10, 30, 60m 3, 6, 10, 24h**			**A: 1s/10s/1m/10m B: 3s/30s/3m/30m C: 6s/60s/6m/60m D: 1m/10m/1h/10h E: 3m/30m/3h/30h □**	
Power Supply	**DC(V): 12, 24 AC(V): 100~120, 200~240**				**AC/DC(V)24~240**
Output contact	**1C**	**2C**	**1A1C**	**Mode A/B**	

CONNECTION :

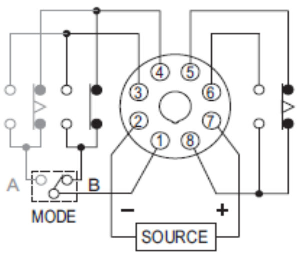
1C



2C, Mode A

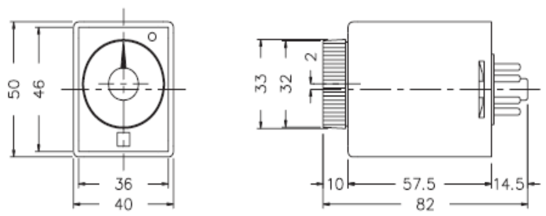


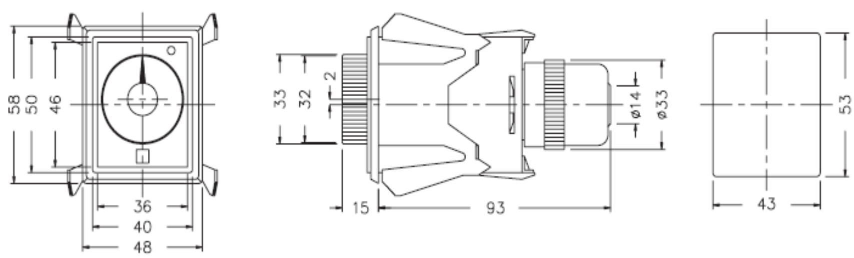
1A1C, Mode B



DIMENSIONS : (mm)

N type(Surface Mounting): Using PF085A Socket

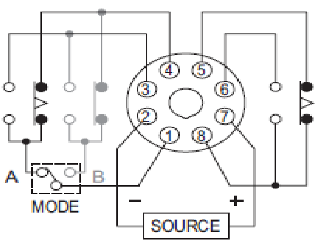


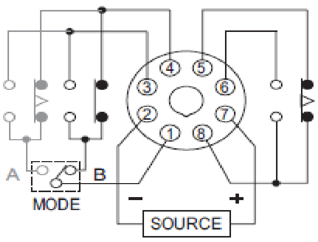


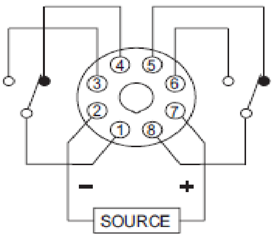
Y type(Flush Mounting): Using Y-40 Frame & P3G-08 Socket

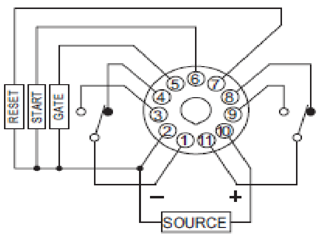
ON DELAY TIMER					
48x48 mm.					
Model	H3B-□	H3B-R□	AH5N	H3C-R	H3C-R11
Power Supply	DC(V): 12, 24 AC(V): 100~120, 200~240	AC/DC(V)24~240			
RANGE	A: 1s/10s/1m/10m B: 3s/30s/3m/30m C: 6s/60s/6m/60m D: 1m/10m/1h/10h E: 3m/30m/3h/30h		1s~600h	1.2s~300h	
			เปลี่ยนช่วงเวลา ได้โดย การกด	เปลี่ยนช่วงเวลา ได้โดย การหมุนไข	
Output contact	Mode A/B			2C or 1A1C	2C(1A1C) + G Type

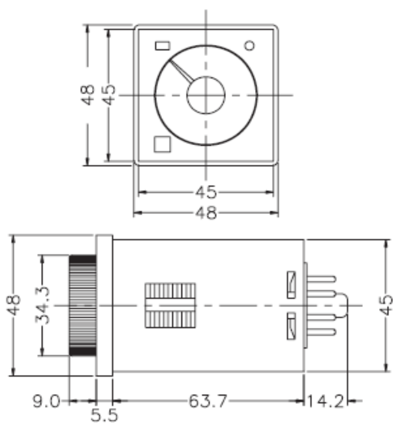
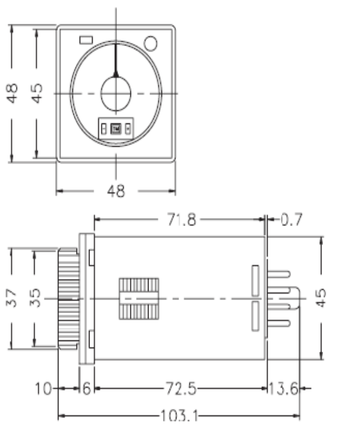
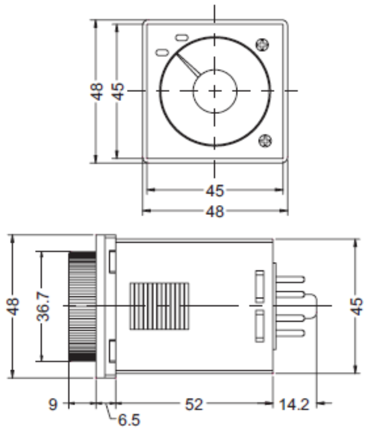
CONNECTION :









DIMENSIONS :(mm)	H3B-□ /H3B-R□	AH5N	H3C-R / H3C-R11
			

ON DELAY TIMER

CHARACTERISTIC :

- Customized CMOS IC for low power consumption, high operation stability and extreme timing accuracy
- 15 different time ranges available, from 0.1S to 24H
- CE certified

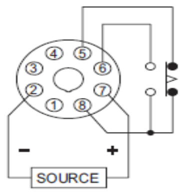
ต้องระบุช่วงเวลา

TYPE SELECTION :

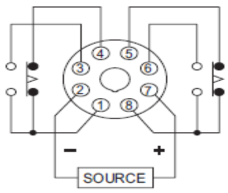
Type	ASTP-N1 / Y1	ASTP-N2 / Y2	ASTP-N / Y
Output contact	1C	2C	1A1C
Time range	1 , 2 , 6 , 12 , 30 , 60 or 180S		
	6 , 12 , 30 or 60M		
	3 , 6 , 12 or 24H		

CONNECTION :

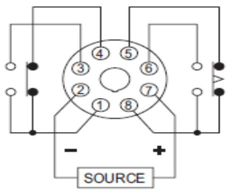
1C



2C

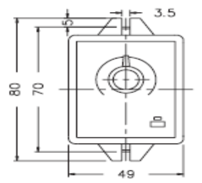


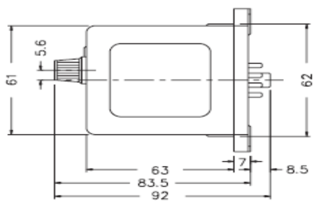
1A1C



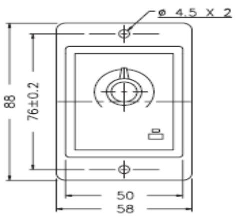
DIMENSIONS : (mm)

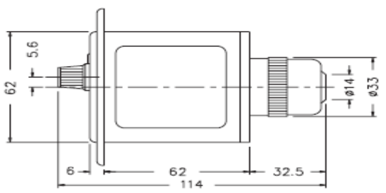
N type(Surface Mounting): Using 8PFA Socket





Y type(Flush Mounting): P3G-08 Socket





SPECIFICATION :

Operating voltage	DC(V): 12, 24 AC(V): 12, 24, 110, 220, 240
Allowable operating voltage range	85~110% of rated operating voltage
Rated frequency	50 / 60 Hz
Contact rating	250VAC 5A (resistive load)
Reset time	MAX 0.1S
Power consumption	Approx. 3VA
Life	Mechanical: 5,000,000 times Electrical: 100,000 times
Ambient temperature	-10 ~ +50℃
Ambient humidity	MAX 85%RH
Weight	Approx. 220g

ANLY

ON DELAY TIMER

รูป		
MODEL	**H3D-S**	**H3D-M**
RANGE	**1, 3, 6, 10, 30, 60s 3, 6, 10, 30, 60m 3, 6, 10, 24h**	**1.2s~100h** **Output mode 7moder**
Power Supply	**DC(V): 12, 24 AC(V): 100~120, 200~240**	**AC/DC(V)12~240**

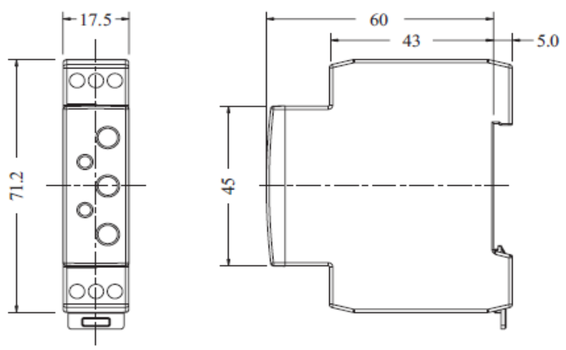
CHARACTERISTICS :

- Wide operating voltage range, AC/DC 12V~240V
- 7 output modes :
  On-delay
  Control contact OFF-delay
  Interval
  Trailing edge interval
  Flasher starting with ON
  Flasher starting with OFF
  Single shot
- 7 time range, from 1 second to 100 hour
- 17.5 mm thin body design
- UL, C-UL recognized and CE certified

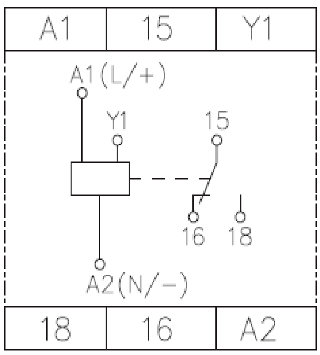
SPECIFICATION :

Allowable operating voltage range	90~110% of rated operating voltage
Rated frequency	50 / 60 Hz
Contact rating	250VAC 8A (resistive load)
Reset time	MAX 0.1s
Power consumption	Approx. 1.9VA
Life	Mechanical: 5,000,000 times Electrical: 100,000 times
Ambient temperature	-10 ~ +50°C
Ambient humidity	MAX 85%RH
Weight	Approximatly 62g

DIMENSIONS : (mm)



CONNECTION :



TWIN TIMER

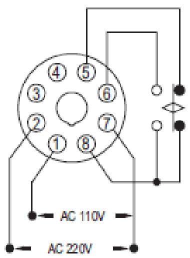
Figure		
	ATDV-N□	**ATDV-Y□**
Range	**A: 1s/10s/1m/10m** **B: 3s/30s/3m/30m** **C: 6s/60s/6m/60m** **D: 1m/10m/1h/10h** **E: 3m/30m/3h/30h**	

SPECIFICATION :

Operating voltage	DC(V): 12, 24 AC(V): 12, 24, 110, 220, 240
Allowable operating voltage range	85~110% of rated operating voltage
Rated frequency	50 / 60 Hz
Contact rating	250VAC 5A (resistive load)
Reset time	MAX 0.2S
Power consumption	Approx. 2VA
Life	Mechanical: 5,000,000 times Electrical: 100,000 times
Ambient temperature	-10 ~ +50℃
Ambient humidity	MAX 85%RH
Weight	Approx. 220g

CONNECTION :

ATDV-□□

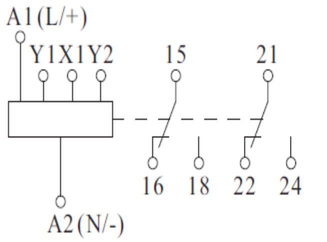


TWIN TIMER
ET2-41
B6
2C / 1A1C
1s/3s/10s/100s/300s
30m/300m
30h/300h

SPECIFICATION :

Operating voltage	AC/DC(V): 24~240
Allowable operating voltage range	85~110% of rated operating voltage
Rated frequency	50 / 60 Hz
Contact rating	250VAC 5A (resistive load)
Reset time	MAX 0.1S
Power consumption	Approx. 3VA
Life	Mechanical: 5,000,000 times Electrical: 100,000 times
Ambient temperature	-10 ~ +50℃
Ambient humidity	MAX 85%RH
Weight	Approx. 93g

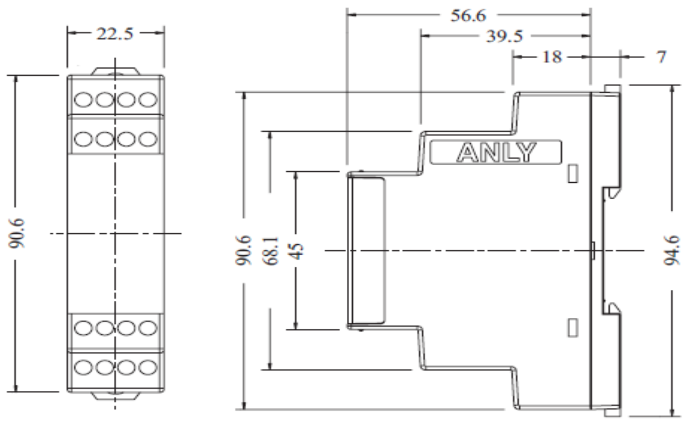
CONNECTION :



Contact	Short	Open
Y1-A1	Repeat cycle OFF start	Repeat cycle ON start
Y2-A1	2C	1A1C
X1-A1	Gate	---

DIMENSIONS : (mm)

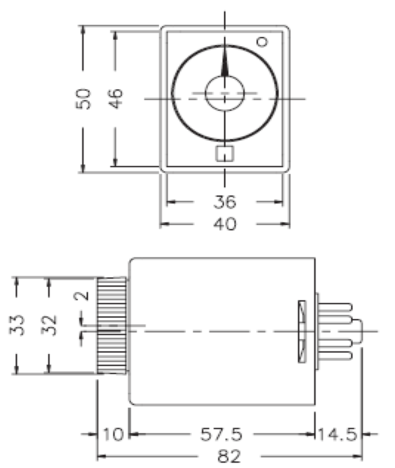
N type(Surface Mounting):

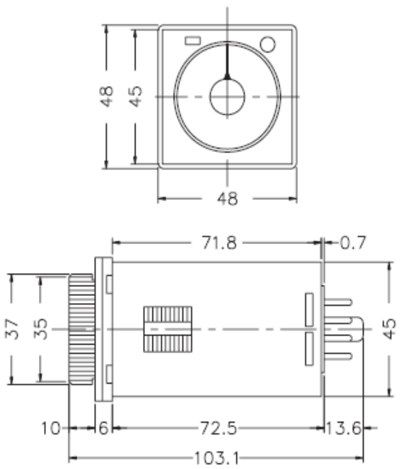


Off Delay Timer

Figure					
Model	**ATS**	**AH5F**	**AH5F-2**	**ATF-NF**	**ATF-NF2**
Range	3s,6s,10s,30s,60s	3s,6s,10s,30s,60s		3s,6s,10s,30s,60s	
	3M,6M	3M,6M,10M,30M,60M		3M,10M,30M,60M	
Contact Rated	250VAC 2A/5A (resistive load)	250VAC 5A (resistive load)		250VAC 5A (resistive load)	

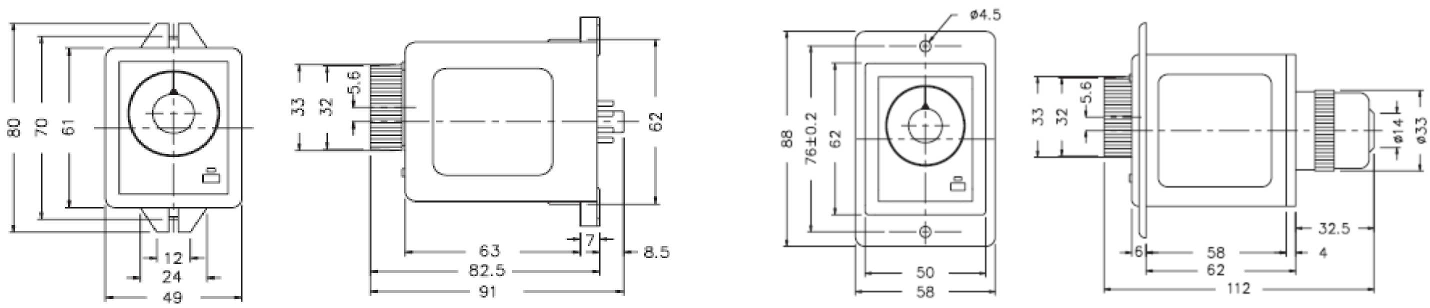
DIMENSIONS : mm.





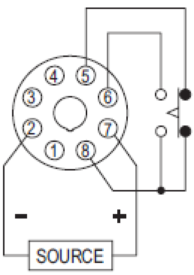
SPECIFICATION :

Operating voltage	DC(V): 12, 24 AC(V): 12, 24, 110, 220, 240
Allowable operating voltage range	85~110% of rated operating voltage
Rated frequency	50 / 60 Hz
Contact rating	250VAC 5A (resistive load)
Reset time	MAX 0.3s
Power consumption	Approx. 3VA
Life	Mechanical: 5,000,000 times Electrical: 100,000 times
Ambient temperature	-10 ~ +50°C
Ambient humidity	MAX 85%RH
Weight	Approx. 225g

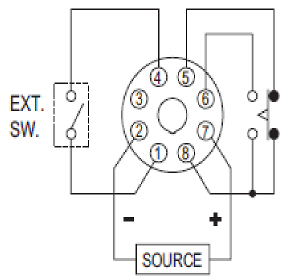


CONNECTION

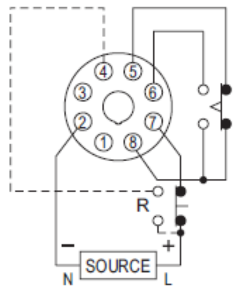
ATS



AH5F



1C(ATF)

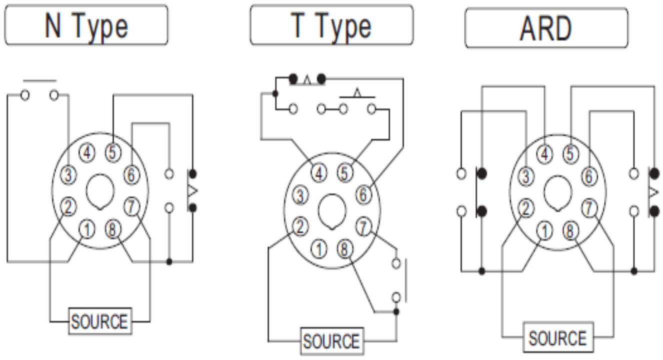


TRD / ARD STAR- DELTA TIMER

SPECIFICATION :

Operating voltage	AC(V): 110, 220, 240
Allowable operating voltage range	85~110% of rated operating voltage
Rated frequency	50 / 60 Hz
Contact rating	250VAC 5A (resistive load)
Reset time	TRD MAX 0.3s ARD MAX 0.2s
Power consumption	Approx. 3VA
Life	Mechanical: 5,000,000 times Electrical: 100,000 times
Ambient temperature	-10 ~ +50℃
Ambient humidity	MAX 85%RH
Weight	TRD-N/NT/NC Approx. 230g TRD-ND/NDT Approx. 210g ARD Approx. 160g

CONNECTION :

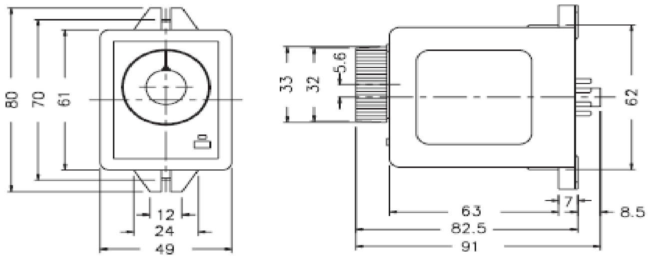


TYPE SELECTION :

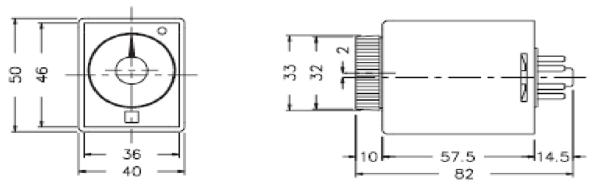
Type	TRD-N	TRD-NT	TRD-NC	ARD	TRD-ND	TRD-NDT
Time range	30s, 60s Variable				1 ~ 63s DIP switch setting	
Change time	Standard 0.1s		Variable 0~1s	Standard 0.1s	Standard 0.1s	
Connection	N Type	T Type	N Type	ARD	N Type	T Type
Dimensions	61H x 49W x 70D			50H x 40W x 57.5D	61H x 49W x 70D	

DIMENSIONS : (mm)

TRD N type : Using 8PFA Socket



ARD N type : Using PF085A Socket



TWB-N / TWB-ND FOR- REV RELAY

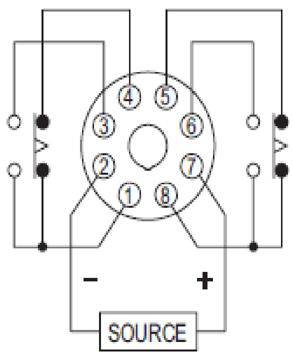
CHARACTERISTIC :

- Customized CMOS IC for low power consumption, high operation stability and extreme timing accuracy
- Symmetric repeating operation
- FOR and REV controlled by independent contact
- Made-to-order reset time intervals
- Made-to-order operating time intervals
- 2 LED indicators for operation status
- CE certified

SPECIFICATION :

Operating voltage	DC(V): 12, 24 AC(V): 12, 24, 110, 220, 240
Allowable operating voltage range	85~110% of rated operating voltage
Rated frequency	50 / 60 Hz
Contact rating	250VAC 5A (resistive load)
Reset time	MAX 0.1S
Power consumption	Approx. 2VA
Life	Mechanical: 5,000,000 times Electrical: 100,000 times
Ambient temperature	-10 ~ +50℃
Ambient humidity	MAX 85%RH
Weight	TWB-N Approx. 210g TWB-ND Approx. 230g

CONNECTION :

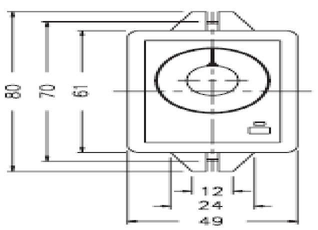


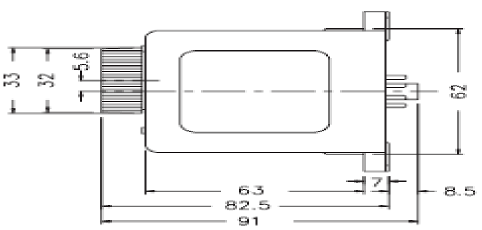
TYPE SELECTION :

Type	TWB-N	TWB-ND
Output contact	250VAC 5A	250VAC 5A
Time range	FOR/REV: 30S fixed, or upon clients' request STOP: 3S fixed, or upon clients' request	FOR/REV: 30S or 60S variable STOP: 6S variable

DIMENSIONS : (mm)

N type(Surface Mounting): Using 8PFA Socket





TFK / AFK FLICKER TIMER

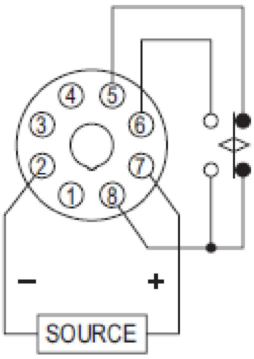
CHARACTERISTIC :

- Customized CMOS IC for low power consumption, high operation stability and extreme timing accuracy
- Equal start-up time and shut-down time
- Adjustable repeat time intervals
- High accuracy, repeat error <±1%
- CE certified

SPECIFICATION :

Operating voltage	DC(V): 12, 24 AC(V): 12, 24, 110, 220, 240
Allowable operating voltage range	85~110% of rated operating voltage
Rated frequency	50 / 60 Hz
Contact rating	250VAC 5A (resistive load)
Reset time	MAX 0.2S
Power consumption	Approx. 2VA
Life	Mechanical: 5,000,000 times Electrical: 100,000 times
Ambient temperature	-10 ~ +50℃
Ambient humidity	MAX 85%RH
Weight	TFK Approx. 200g AFK Approx. 145g

CONNECTION :

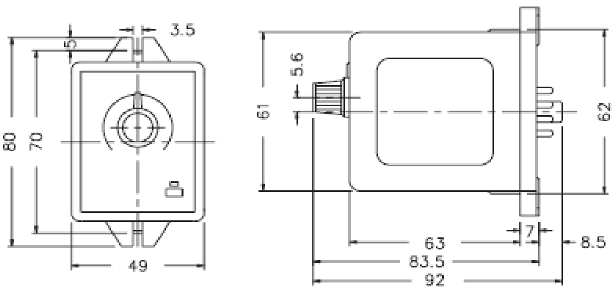


TYPE SELECTION :

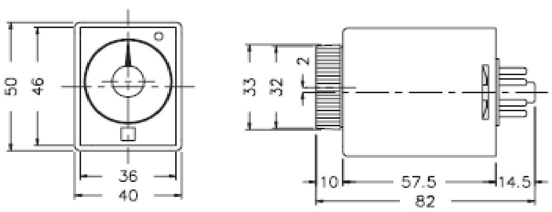
Type	TFK	AFK
Output contact	1C	1C
Time range	2S	3S

DIMENSIONS : (mm)

TFK : Using 8PFA Socket



AFK : Using PF085A Socket



TDF / ATDE DEFROST TIMER

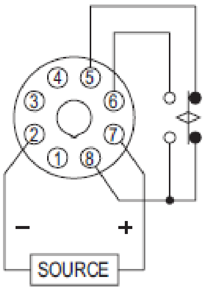
CHARACTERISTIC :

- Specialized for refrigeration equipment
- Automatic control of Cooling - Defrost cycle
- Adjustable delayed-fan-start time*
- Manual "Defrost" button in front*

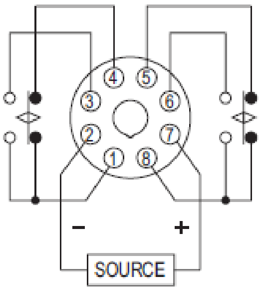
Note: "*" indicates applicable to ATDE only

CONNECTION :

TDF



ATDE



SPECIFICATION :

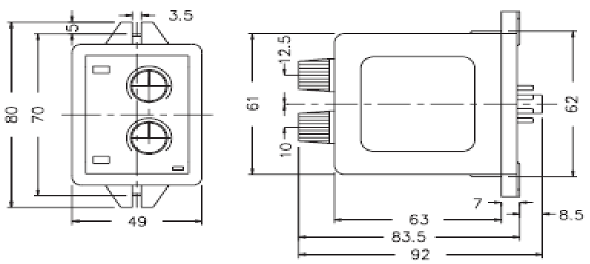
Operating voltage	AC(V): 110, 220, 240
Allowable operating voltage range	85~110% of rated operating voltage
Rated frequency	50 / 60 Hz
Contact rating	250VAC 5A (resistive load)
Reset time	MAX 0.2S
Power consumption	Approx. 2VA(AC 220V)
Life	Mechanical: 5,000,000 times Electrical: 100,000 times
Ambient temperature	-10 ~ +50℃
Ambient humidity	MAX 85%RH
Weight	TDF Approx. 225g ATDE Approx. 210g

TYPE SELECTION :

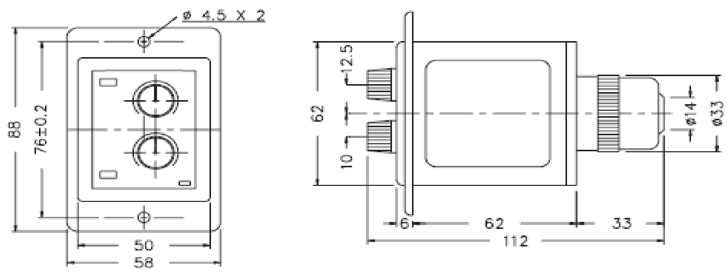
Type	TDF	ATDE
Tme setting of cooling and defrost	○	○
Time delay setting of fan	- - - -	○
Manual defrost button	- - - -	○
Time range	12H x 30M or 12H x 60M	12H x 30M or 12H x 60M

DIMENSIONS : (mm)

N type : Using 8PFA Socket



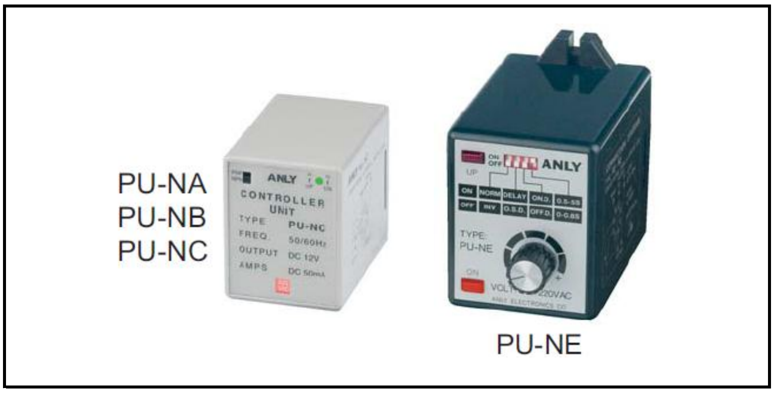
Y type : P3G-08 Socket



PU-N☐ CONTROLLER UNIT

CHARACTERISTIC :

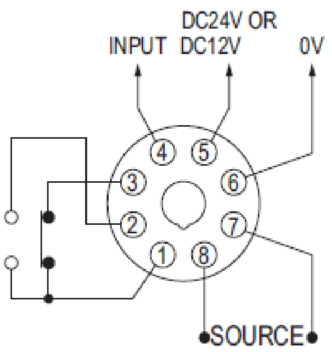
- Proximity and photoelectric swithes power supply controller
- Stabilized power source, DC 24V for PU-NA, PU-NB and DC 12V for PU-NC, PU-NE
- 1C (SPDT) output contact with 5A capacity



TYPE SELECTION :

Type	PU-NA	PU-NB	PU-NC	PU-NE
Output voltage	DC 24V	DC 24V	DC 12V	DC 12V
Connet proximity	P type	N type	P-N type	P-N type
Active	Hi active	Low active	Hi or Low active	Hi or Low active

CONNECTION :

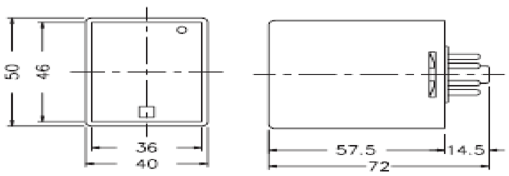


SPECIFICATION :

Operating voltage	AC(V) : 110, 220, 240 AC(V) : 110 / 220(PU-NE)
Allowable operating voltage range	85~110% of rated operating voltage
Rated frequency	50 / 60 Hz
Contact rating	250VAC 5A (resistive load)
Reset time	- - - -
Power consumption	Approx. 2VA
Life	Mechanical: 5,000,000 times Electrical: 100,000 times
Ambient temperature	-10 ~ +50℃
Ambient humidity	MAX 85%RH
Weight	PU-NA, -NB, -NC Approx. 150g PU-NE Approx. 210g

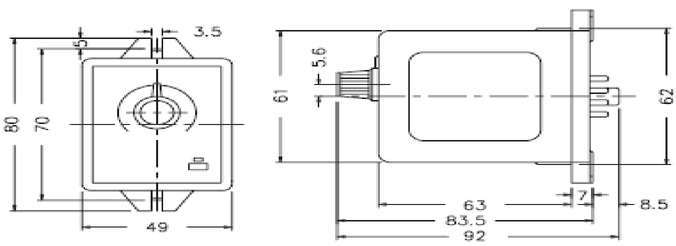
DIMENSIONS : (mm)

N type : Using PF085A Socket



(PU-NA, -NB, -NC)

Y type : Using 8PFA Socket



(PU-NE)

FLOATLESS RELAY

TYPE SELECTION :

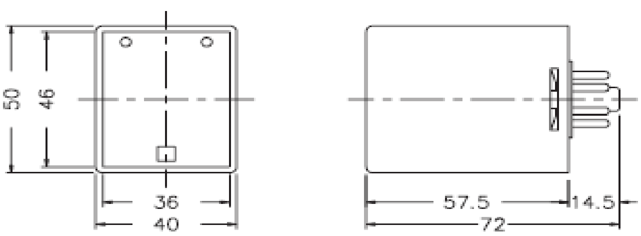
Sensing mode	Type			
General	AFS-1	AFR-1	AFR-G	A61F-GP-N
High sensing	AFS-1Y	AFR-1Y	- - - -	- - - -
Long distance	AFS-1L	AFR-1L	- - - -	- - - -
Low density	AFS-1D	AFR-1D	- - - -	- - - -
Two lines	AFS-GR	- - - -	- - - -	- - - -
Number of pins	8P	8P	8P	11P

SPECIFICATION :

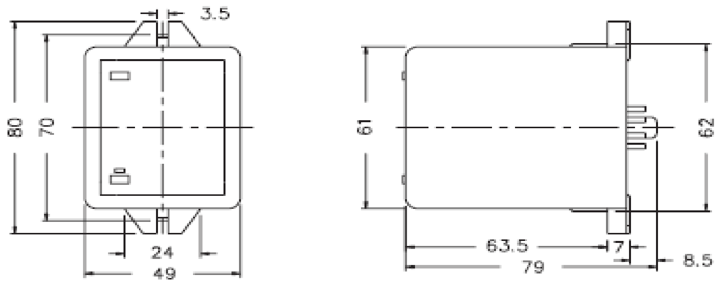
Type	AFS / AFR / A61F-GP-N
Operating voltage	AC(V): 110, 220, 240
Allowable operating voltage range	85~110% of rated operating voltage
Rated frequency	50 / 60 Hz
Contact rating	250VAC 5A (resistive load)
Second voltage	8VAC(except High sensing 24VAC)
Operate resistance	0 ~ 4K Ω
Release resistance	15K ~ ∞ Ω
Length of cable	MAX 1Km
Power consumption	AFS, AFR, A61F-GP-N and A61F-G Approx. 3.2VA
Life	Mechanical: 5,000,000 times, Electrical:100,000 times
Ambient temperature	-10 ~ +50℃
Ambient humidity	MAX 85%RH
Weight	AFS-1, A61F-GP-N Approx. 160g AFS-GR Approx. 150g, AFR Approx. 200g

DIMENSIONS : (mm)

AFS series: Using PF085A Socket



AFR series: Using 8PFA Socket



ALN / AL2N LEVEL CONTROL RELAY

CHARACTERISTIC :

- Suitable for any electrolytic fluid (NO VOLATILE FLUID)
- AC operating voltage
- Low electrodes AC voltage to prevent electrolysis for longer life expectancy
- Drainage function only avilable on ALN
- Water supply function avilable
- Sensitivity adjustable, 5KΩ~100KΩ
- 2C contacts on ALN-11, one of them can be connected to an indicator
- CE certified

SPECIFICATION :

Operating voltage	AC(V): 24, 110, 120, 220, 230, 240
Allowable operating voltage range	85~110% of rated operating voltage
Rated frequency	50 / 60 Hz
Contact rating	250VAC 5A (resistive load)
Electrode voltage	20VAC
Adjustable sensitivity	5K ~ 100KΩ
Response time (high level)	Approx. 300 ms
Response time (low level)	Approx. 500 ms
Power consumption	Approx. 3VA
Life	Mechanical: 5,000,000 times Electrical: 100,000 times
Ambient temperature	-10 ~ +50℃
Ambient humidity	MAX 85%RH
Weight	Approx. 160g

TYPE SELECTION :

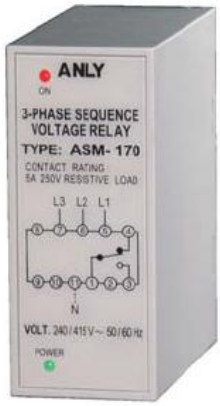
Type	ALN-08	ALN-08A	ALN-11	AL2N-11
Output contact	1C	1C	2C	1C
Auto water supply	◎	◎	◎	◎
Auto drainage	◎	◎	◎	
Single tank one step	◎	◎	◎	
Double tanks one step				◎

APR-3,-3S / ASV-4 / ASM-170 3-PHASE SEQUENCE VOLTAGE RELAY

APR-3
APR-3S

ASV-4

ASM-170



CHARACTERISTIC :

- Only operational with correct power source voltage and phase sequence
- Suitable for main power source and motor starter circuit to prevent damage from insufficient phase or phase reversal
- Out-of-phase detection while the motor operating*

Note: "*" indicates not applicable to APR-3

SPECIFICATION :

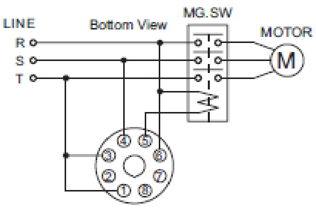
Operating voltage	AC(V) : 220, 240, 380, 415, 440(APR-3) AC(V) : 208~440 (APR-3S, ASV-4, ASM-170)
Allowable operating voltage range	85~110% of rated operating voltage
Rated frequency	50 / 60 Hz
Contact rating	250VAC 10A resistive load(APR-3) 250VAC 5A resistive load(others)
Reset time	APR-3: none, ASV-4: 300~600msec APR-3S, ASM-170: MAX 200msec
Power consumption	Approx. 2VA
Life	Mechanical: 5,000,000 times Electrical: 100,000 times
Ambient temperature	-10 ~ +50℃
Ambient humidity	MAX 85%RH
Weight	APR-3, ASV-4 Approx. 85g APR-3S Approx. 70g ASM-170 Approx. 100g

TYPE SELECTION :

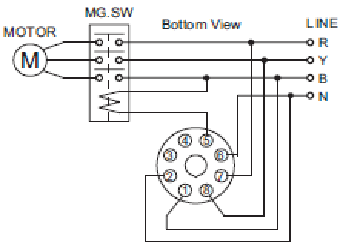
Type	APR-3	APR-3S	ASV-4	ASM-170
Source type	3-Phase 3-Wire	3-Phase 3-Wire	3-Phase 4-Wire	3-Phase 3-Wire or 4-Wire
Number of pins	8P	8P	8P	11P
Indicator operating	none	Red LED(ON) Green LED(PWR)	Red LED(TRIP) Green LED(UP)	Red LED(ON) Green LED(POWER)

CONNECTION :

APR-3,3S

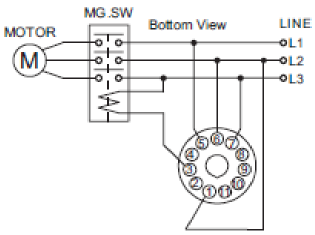


ASV-4

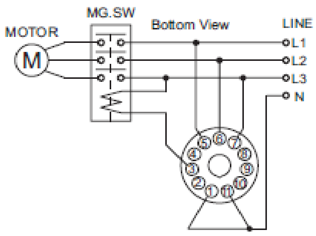


ASM-170

3-Phase 3-Wire

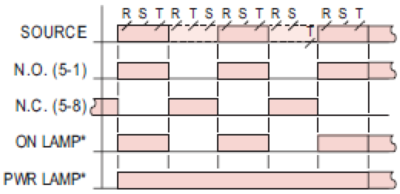


3-Phase 4-Wire



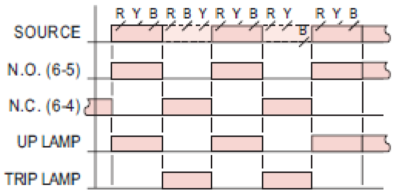
TIMING CHART :

APR-3,3S

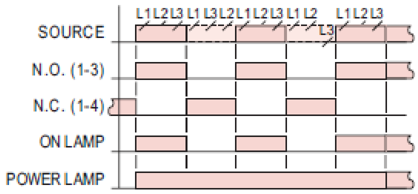


*For APR-3S only

ASV-4

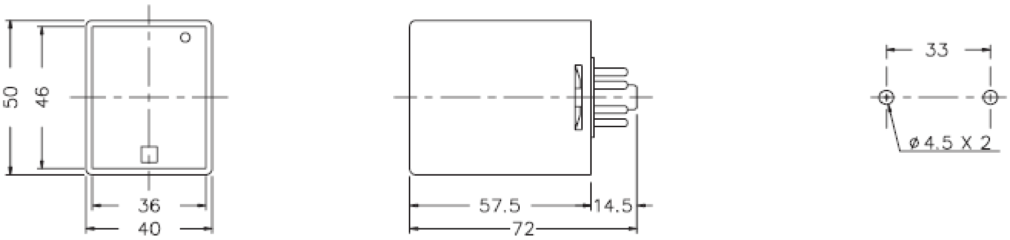


ASM-170

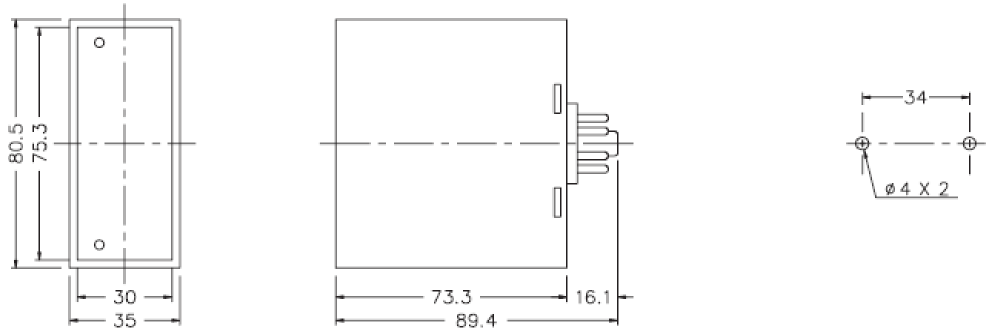


DIMENSIONS : (mm)

APR-3, APR-3S, ASV-4 N type(Surface Mounting): Using PF085A Socket & FH-3



ASM-170 N type(Surface Mounting): Using PF113A Socket



APR-4S 3-PHASE SEQUENCE PROTECTION RELAY

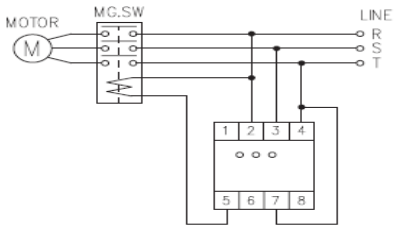
CHARACTERISTIC :

- 3-phase voltage and fault detector
- Can detect abnormal condition to prevent damages to the equipments
- Out-of-phase detection while the motor operating
- Install on DIN rail or fix with screw are available and no socket require

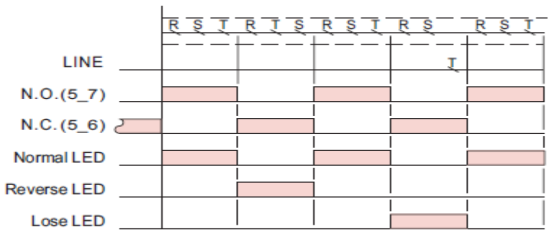
SPECIFICATION :

Operating voltage	AC(V) : 208~380, 380~480
Allowable operating voltage range	+20%, -20%
Rated frequency	50 / 60 Hz
Contact rating	250VAC 5A resistive load
Reset time	MAX 3sec
Power consumption	Approx. 2VA(AC 220V 60Hz)
Life	Mechanical: 5,000,000 times Electrical: 100,000 times
Ambient temperature	-10 ~ +50℃
Ambient humidity	MAX 85%RH
Weight	Approx. 106g

CONNECTION :

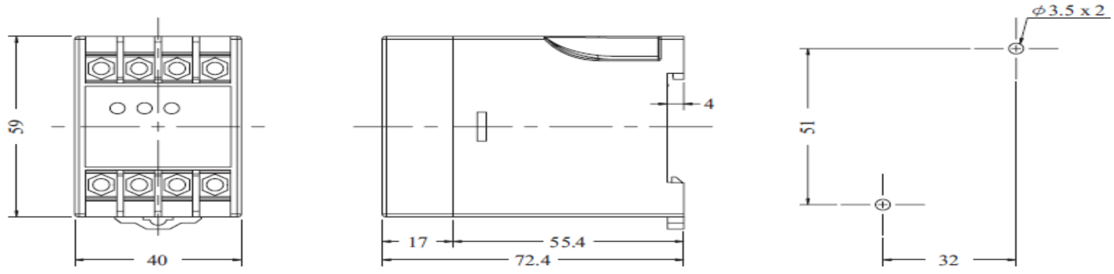


TIMING CHART :



DIMENSIONS : (mm)

N type(Surface Mounting):



APR-4V 3-PHASE SEQUENCE VOLTAGE PROTECTION RELAY

TYPE SELECTION :

Voltage Range / Operating Voltage

APR - 4V - 1010 - 220

Voltage Range	
1010=	+10%, -10%
1212=	+12.5%, -12.5%
1515=	+15%, -15%
1520=	+15%, -20%

Operating Voltage: 220V, 230V, 240V, 380V, 400V, 415V, 440V, 460V, 480V

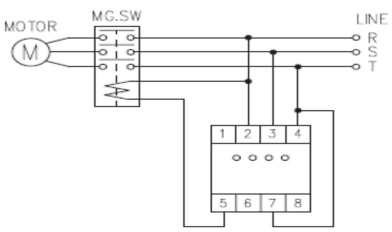
CHARACTERISTIC :

- 3-phase voltage and fault detector
- Can detect abnormal condition to prevent damages to the equipments
- Auto shut-off while detecting excessive or insufficient voltage, range from 5% to 20% available (see TYPE SELECTION for detail)
- Out-of-phase detection while the motor operating
- Install on DIN rail or fix with screw are available and no socket require

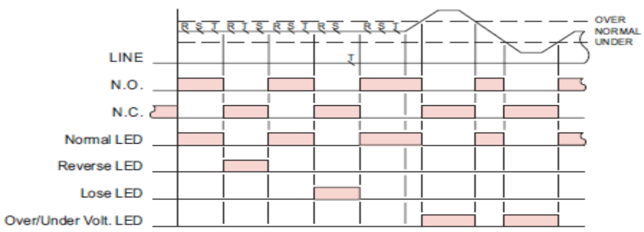
SPECIFICATION :

Operating voltage	AC(V): 220, 230, 240, 380, 400, 415, 440, 460, 480
Allowable operating voltage range	Depend on TYPE SELECTION
Rated frequency	50 / 60 Hz
Contact rating	250VAC 5A resistive load
Reset time	MAX 3sec
Power consumption	Approx. 2VA(AC 220V 60Hz)
Life	Mechanical: 5,000,000 times Electrical: 100,000 times
Ambient temperature	-10 ~ +50℃
Ambient humidity	MAX 85%RH
Weight	Approx. 106g

CONNECTION :

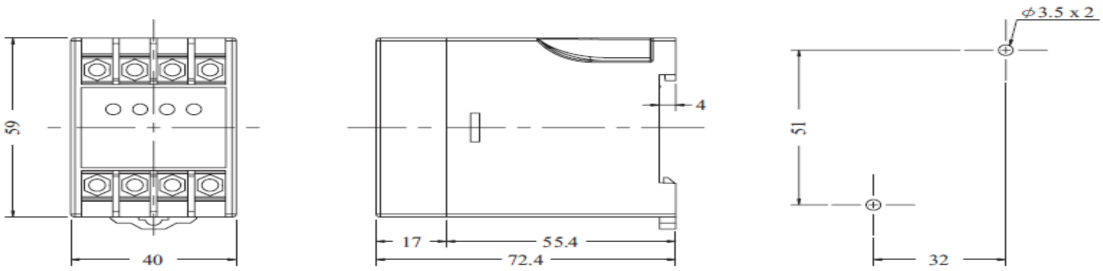


TIMING CHART :



DIMENSIONS : (mm)

N type(Surface Mounting):



AVM MONITORING & PROTECTION RELAY

CHARACTERISTIC :

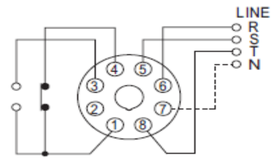
- Can detect abnormal condition to prevent damages to the equipments
- Auto shut-off while detecting excessive or insufficient voltage, range from 5% to 20% variable
- Auto shut-off while detecting insufficient phase or phase reversal

SPECIFICATION :

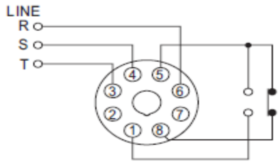
Operating voltage	AC(V): 220, 240, 380, 415, 440
Allowable operating voltage range	±5%~±20% of rated operating voltage
Rated frequency	50 / 60 Hz
Detecting method	Detect 3-phase supply voltage
Reset time	MAX 2S
Contact rating	250VAC 5A (resistive load)
Power consumption	Approx. 2VA
Life	Mechanical: 5,000,000 times Electrical: 100,000 times
Ambient temperature	-10 ~ +50℃
Ambient humidity	MAX 85%RH
Weight	Approx. 210g

CONNECTION :

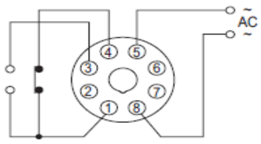
AVM-□K



AVM-□R



AVM-□S

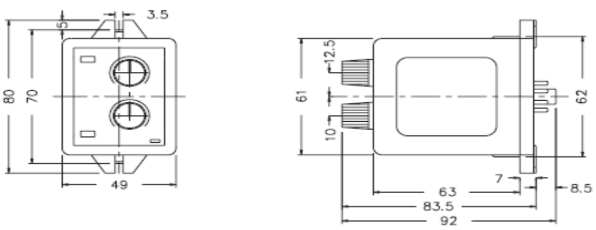


TYPE SELECTION :

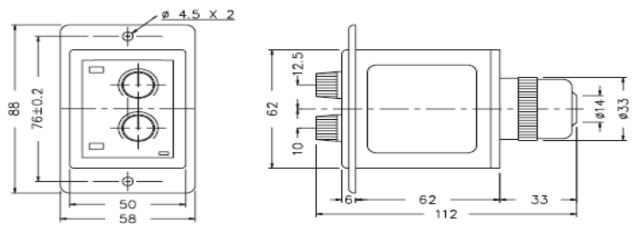
Type	3-Phase 3-Wire		1-Phase 2-Wire	
Standard	AVM-NK	- - - -	AVM-NS	AVM-YS
APR-3 Compatible	AVM-NR	AVM-YR	- - - -	- - - -

DIMENSIONS : (mm)

N type(Surface Mounting): Using 8PFA Socket

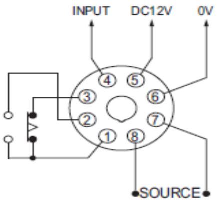


Y type(Flush Mounting): P3G-08 Socket



AMD MOTION DETECTOR

CONNECTION :



CHARACTERISTIC :

- Scanning speed ranges from 1 to 6000 rpm
- Optional shut-off feature when detecting excessive or insufficient speeds
- Abnormality and fault detection for pumps, clutches, transmissions, conveyer belts and motors
- DC 12V supplied for proximity swith or photoelectric switch
- Effective fault detections and preventions
- CE certified

SPECIFICATION :

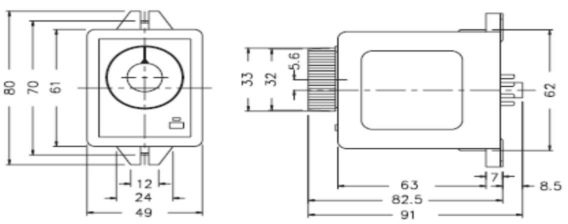
Operating voltage	AC(V): 110, 220, 240
Allowable operating voltage range	85~110% of rated operating voltage
Rated frequency	50 / 60 Hz
Contact rating	250VAC 5A (resistive load)
Reset time	MAX 0.3S
Power consumption	Approx. 4VA
Life	Mechanical: 5,000,000 times Electrical: 100,000 times
Ambient temperature	-10 ~ +50℃
Ambient humidity	MAX 85%RH
Weight	Approx. 210g

TYPE SELECTION :

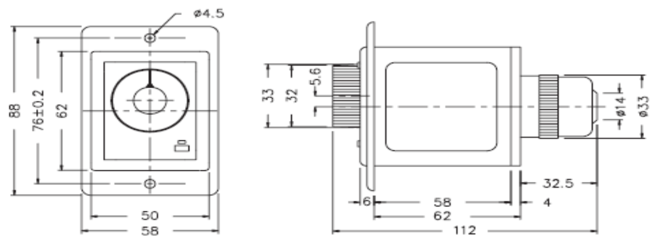
Type	AMD-N	AMD-NN	AMD-PN
Proximity switch type	NPN / PNP	NPN	PNP
Time range(Tacho)	0.1S (600~6000RPM) 1S (60~ 600RPM)	10S (6~60RPM) 60S (1~ 6RPM)	10M (0.1~1RPM)

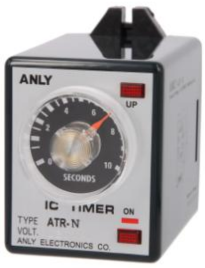
DIMENSIONS : (mm)

N type(Surface Mounting): Using 8PFA Socket



Y type(Flush Mounting): P3G-08 Socket

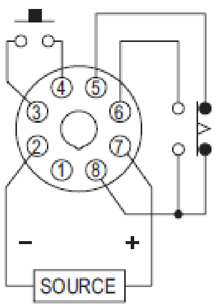


	Touch Relay Timer		SOLID STATE TIMER	
Figure				
Model	ATR-N	ATR-Y	SST-3	SST-4
Range	0.1s~10S		2M,3Mor5M FIXED	1023S /1023M DIP switch setting
			Out/Con 1a(1Amp)	Out/Con 1a(3Amp)

SPECIFICATION :

Operating voltage	AC(V): 110, 220, 240
Allowable operating voltage range	85~110% of rated operating voltage
Rated frequency	50 / 60 Hz
Contact rating	250VAC 5A (resistive load)
Reset time	MAX 0.1S
Power consumption	Approx. 2VA
Life	Mechanical: 5,000,000 times Electrical: 100,000 times
Ambient temperature	-10 ~ +50℃
Ambient humidity	MAX 85%RH
Weight	Approx. 210g

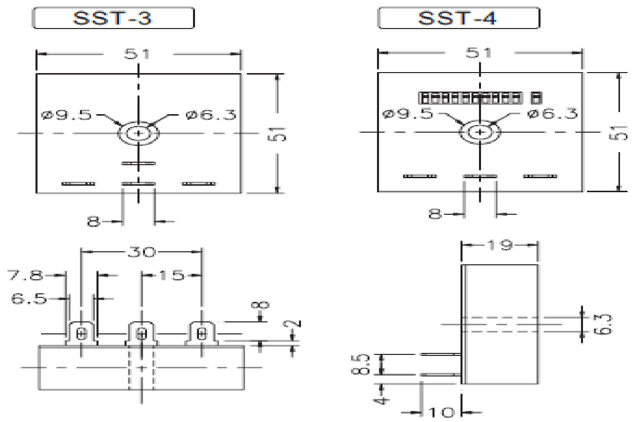
CONNECTION :



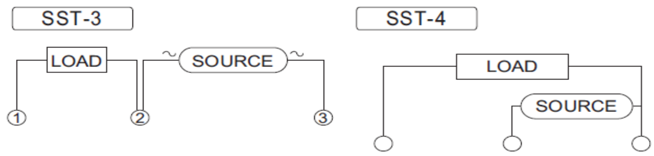
SPECIFICATION :

Operating voltage	SST-3 AC(V): 24, 120, 230 SST-4 AC(V): 80 ~ 240
Allowable operating voltage range	85~110% of rated operating voltage
Rated frequency	50 / 60 Hz
Contact rating	SST-3 250VAC 1A (resistive load) SST-4 250VAC 3A (resistive load)
Reset time	SST-3 MAX 0.2S SST-4 MAX 0.1S
Power consumption	SST-3 Approx. 2VA SST-4 Approx. 1.2VA
Life	Electrical: 100,000 times
Ambient temperature	-10 ~ +50℃
Ambient humidity	MAX 85%RH
Weight	SST-3 Approx. 55g SST-4 Approx. 63g

DIMENSIONS : (mm)



CONNECTION :



ANLY ACCESSORY

8PFA

PF113A

PYF08A-E

PF085A

PF113A-E

PYF14A

PF083A

P3G-08

PYF14A-E

PF083A-E

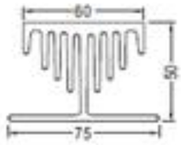
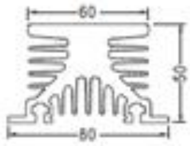
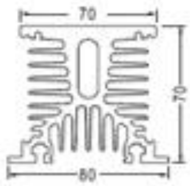
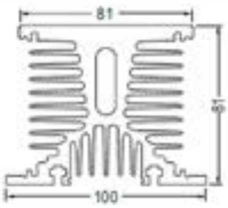
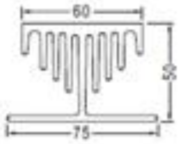
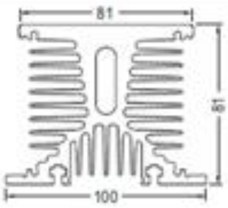
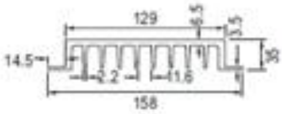
US-08

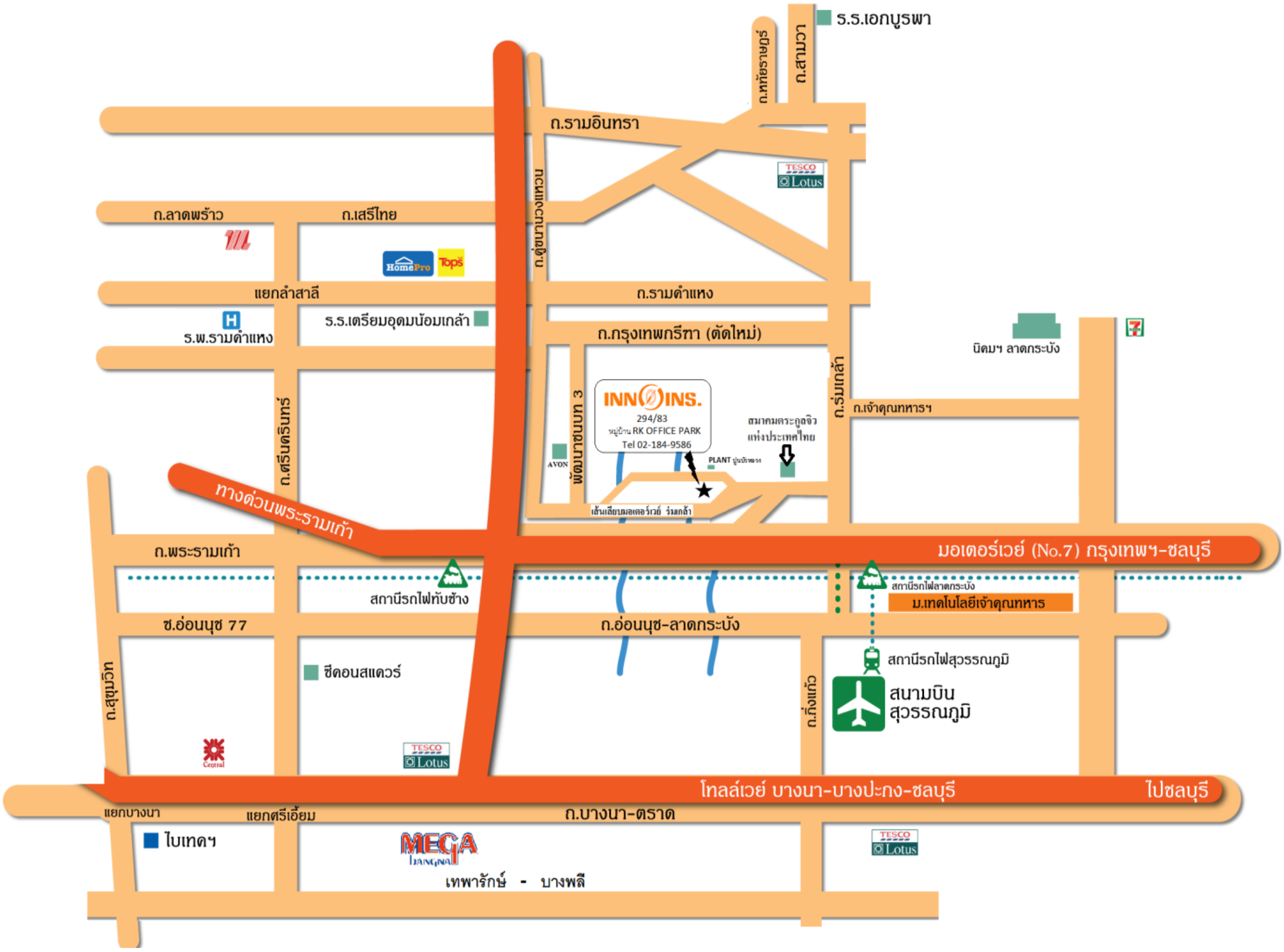
PTF08A

P2CF-08

PYF08A

PTF08A-E

Model(Heat Sink)			Description			
			Dimensions(mm)	Length(mm)	Suitable SSR	
SINGLE PHASE SSR		HS-060-50T		50	5A / 10A / 15A	
		HS-060-50		50	10A / 15A	
		HS-060-80		80	25A	
		HS-060-100		100	40A	
		HS-060-120		120	50A	
		HS-060-150		150	75A	
		HS-070-50		50	25A	
		HS-070-100		100	40A	
		HS-070-150		150	50A	
		HS-081-45		45	10A	
		HS-081-70		70	25A	
		HS-081-100		100	40A	
		HS-081-120		120	50A	
		HS-081-150		150	75A / 100A	
3 PHASE SSR		HS-060-100TP		100	25A / 40A	
		HS-081-104P		104	25A / 40A	
		HS-081-120P (Fan included)		120	50A	
		HS-081-150P (Fan included)		150	75A / 100A	
		AH197-100		100	25A / 40A	



บริษัท อินโน อินส์ จำกัด
INNO INS. CO., LTD.

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