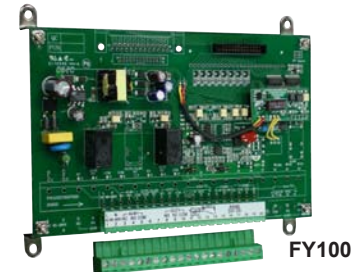
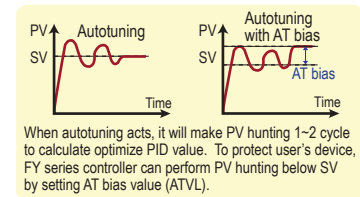
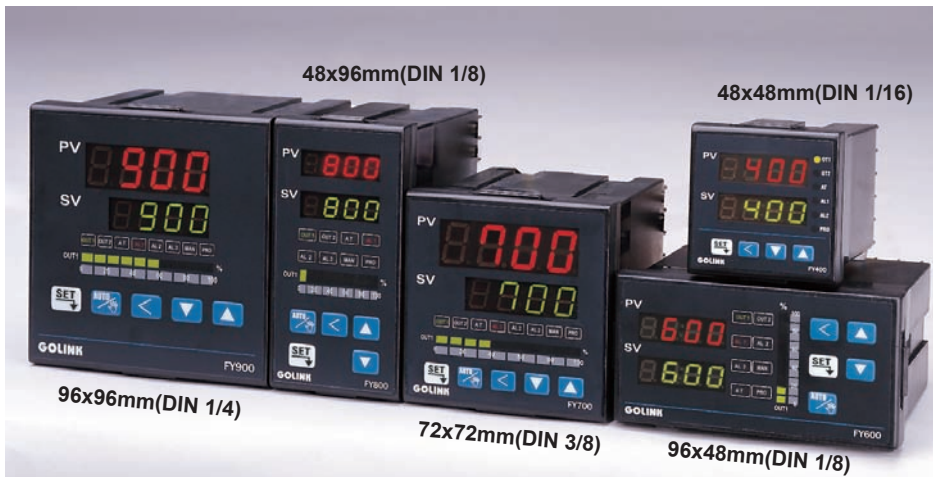


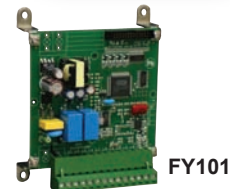
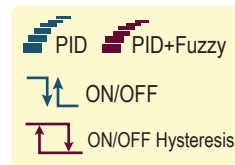
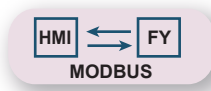
# Digital PID Temperature / Process Controller

FY900 / FY800 / FY700 / FY600 / FY400 / FY100 / FY101

Applicable for controlling Temperature, Humidity, Pressure, Flow and PH



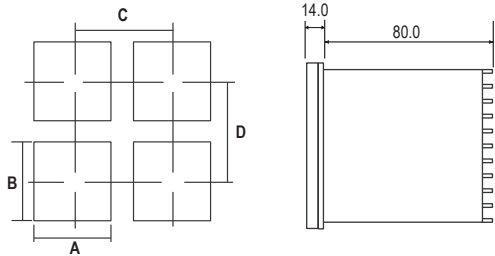
- Auto/Manual operation and excellent PID+Fuzzy control
- Multi range and various input (TC, RTD, mV, mA) selectable
- Free Power Range AC85~265V / DC15~50V or 24VDC/VAC
- Built with "Bar-Graph" display for output status
- Multi alarm function, and new optional Heater Break Alarm (HBA)
- Advanced optional output "Motor Valve Control", "SCR/TRIAC Trigger" or "Programmable RAMP/SOAK" (Option)
- MODBUS RTU or ASCII protocol for RS232 and RS485 communication (Option)
- 2 patterns each 8 segments programming procedure available (Option)



## Specification

Model	FY400	FY600	FY700	FY800	FY900	FY100	FY101
Dimension	48X48mm	96X48mm	72X72mm	48X96mm	96X96mm	175X110mm	90X90mm
Supply voltage	AC 85~265V, DC24V (Optional)					AC 85~265V	
Frequency	50/60 HZ						
Power Consumption	approx 3VA	approx 4VA	approx 3VA	approx 4VA	approx 4VA	approx 4VA	approx 3VA
Memory	Non-volatile memory E <sup>2</sup> PROM						
Input	Accuracy : 0.2%FS, Sample time : 250ms						
TC	K, J, R, S, B, E, N, T, W5Re/W26Re, PL2, U, L						
RTD	PT100, JPT100, JPT50						
mA dc	4~20mA, 0~20mA						
Voltage dc	0~1V, 0~5V, 0~10V, 1~5V, 2~10V -10~10mV, 0~10mV, 0~20mV, 0~50mV, 10~50mV						
DP Position	0000, 000.0, 00.00, 0.000 (available for mA or Voltage dc input)						
Output 1	Main control output						
Relay	SPST type	SPDT type	SPDT type	SPDT type	SPDT type	SPDT type	SPDT type
Voltage Pulse	8A, 220V, electrical life : 100,000 times or more(under the rated load).						
mA dc	For SSR drive. ON:24V, OFF:0V, maximum load current:20mA.						
Voltage dc	4~20mA, 0~20mA ◦ maximum load resistance: 560Ω.						
Alarm 1	SPST type	SPDT type	SPST type	SPDT type	SPDT type	SPDT type	SPST type
Control algorithms	3A, 220V, electrical life : 100,000 times or more(under the rated load).						
PID range	PID, P, PI, PD, ON/OFF(P=0), FUZZY						
Isolation	P : 0~200%, I : 0~3600 Secs, D : 0~900 Secs						
Isolated resistance	Output terminal (control output, alarm, transmission) and Input terminal are isolated separately.						
Dielectric strength	10M Ω or more between input terminals and case(ground) at DC 500V 10M Ω or more between output terminals and case(ground) at DC 500V						
Operating temperature	1000V AC for 1 minute between input terminals and case(ground) 1500V AC for 1 minute between output terminals and case(ground)						
Humidity range	0~65°C / 0~50°C						
Weight (approx)	approx 150g	approx 225g	approx 225g	approx 225g	approx 300g	approx 130g	approx 80g
Display Height	PV:8mm SV:8mm	PV:7mm SV:7mm	PV:14mm SV:10mm	PV:8mm SV:8mm	PV:14mm SV:10mm	External Interface Unit.	External Interface Unit.

Panel Cutout (unit: mm)



Model No.	SIZE	Outline (W x H)	A	B	C	D
FY900	1/4 DIN	96.0x96.0	90.5+0.5	90.5+0.5	111	116
FY800	1/8 DIN	50.0x96.0	44.5+0.5	90.5+0.5	65	116
FY700	68x68mm	72.0x72.0	68.5+0.5	68.5+0.5	89	94
FY600	1/8 DIN	96.0x50.0	90.5+0.5	44.5+0.5	111	70
FY400	1/16 DIN	50.0x50.0	44.5+0.5	44.5+0.5	65	70

HOW TO ORDER

**FY400 - 1 0 1 0 0 0 - 02**

Specified Input Type / Range:  Water/Dust Proof:  Power:  IP 65:  None

Model / Dimension	Output 1	Output 2	Alarm	Remote SV	Re-transmission	Communication
FY400 48x48mm	0 None	0 None	0 None	0 None	0 None	0 None
FY600 96x48mm	1 Relay	1 Relay	1 1 set	1 4~20mA	1 4~20mA	3 TTL
FY700 72x72mm	2 Voltage Pulse (SSR Drive)	2 Voltage Pulse	2 2 sets	2 0~20mA	2 0~20mA	A RS232-MODBUS
FY800 48x96mm	3 4~20mA	3 4~20mA	3 3 sets	A 0~5V	A 0~5V	B RS485-MODBUS
FY900 96x96mm	4 0~20mA	A 0~5V	A HBA	B 0~10V	B 0~10V	
PFY400 48x48mm	5 1 φSCR (zero cross control)	B 0~10V	B HBA + AL2	C 1~5V	C 1~5V	
PFY600 96x48mm	6 3 φSCR (zero cross control)	C 1~5V	C HBA+AL2+AL3	D 2~10V	D 2~10V	
PFY700 72x72mm	7 Motor Valve control	D 2~10V				
PFY800 48x96mm	8 1 φSCR (phase angle control)					
PFY900 96x96mm	9 3 φSCR (phase angle control)					
(Board Type)	A 0~5VDC					
FY100 175x110mm	B 0~10VDC					
FY101 90x90mm	C 1~5VDC					
PFY100 175x110mm	D 2~10VDC					
PFY101 90x90mm						

AC 85~265V  
 D Power DC24V  
 E Excitation Supply DC24V  
 B Puggable terminal block & only AC power (85~265V) for FY100/FY101

Standard is 02 (for K2; K/type, 0.0~400.0°C)

\* Block means option functions with additional charge.  
 \* HBA : Heater Break Alarm (HBA must use AL1 as alarm relay if option for HBA).

Combination of options and models

Options	RAMP/SOAK PROGRAM	Output 1					Output2	Alarm2	Alarm3	HBA	Transmission	Remote SV	Communication	DC 24V Power
		1 φSCR_Z	3 φSCR_Z	Motor valve control	1 φSCR_P	3 φSCR_P								
FY400	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
FY600	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
FY700	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
FY800	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
FY900	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
FY100	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
FY101	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Available —  Not available

\* Remote SV function is not available,if HBA Function has been specified.

Input type table

Type	Code	Range	Type	Code	Range	Type	Code	Range							
TC	K	K1 01	0.0~200.0°C(392.0°F)	K2	K2 02	0.0~400.0°C(752.0°F)	K3	K3 03	0~600°C(1112°F)						
		K4 04	0~800°C(1472°F)		K5 05	0~1000°C(1832°F)		K6 06	0~1200°C(2192°F)						
	J	J1 07	0.0~200.0°C(392.0°F)	J2	J2 08	0.0~400.0°C(752.0°F)	J3	J3 09	0~600°C(1112°F)						
		J4 10	0~800°C(1472°F)		J5 11	0~1000°C(1832°F)		J6 12	0~1200°C(2192°F)						
	R	R1 13	0~1600°C(2912°F)	R2 14	0~1769°C(3216°F)										
	S	S1 15	0~1600°C(2912°F)	S2 16	0~1769°C(3216°F)										
	B	B1 17	0~1820°C(3308°F)												
	E	E1 18	0~800°C(1472°F)	E2 19	0~900°C(1652°F)										
	N	N1 20	0~1200°C(2192°F)	N2 21	0~1300°C(2372°F)										
	T	T1 22	-199.9~400.0°C(752.0°F)	T2 23	-199.9~200.0°C(392.0°F)	T3 24	0.0~350.0°C(662.0°F)								
	W	W1 25	0~2000°C(3632°F)	W2 26	0~2320°C(4208°F)										
	PLII	PL1 27	0~1300°C(2372°F)	PL2 28	0~1390°C(2534°F)										
RTD	U	U1 29	-199.9~600.0°C(999.9°F)	U2 30	-199.9~200.0°C(392.0°F)	U3 31	0.0~400.0°C(752.0°F)								
	L	L1 32	0~400°C(752°F)	L2 33	0~800°C(1472°F)										
	JPT	JP1 41	-199.9~600.0°C(999.9°F)	JP2 42	-199.9~400.0°C(752.0°F)	JP3 43	-199.9~200.0°C(392.0°F)								
	100	JP4 44	0~200°C(392°F)	JP5 45	0~400°C(752°F)	JP6 46	0~600°C(1112°F)								
	PT	DP1 47	-199.9~600.0°C(999.9°F)	DP2 48	-199.9~400.0°C(752.0°F)	DP3 49	-199.9~200.0°C(392.0°F)								
	100	DP4 50	0~200°C(392°F)	DP5 51	0~400°C(752°F)	DP6 52	0~600°C(1112°F)								
	JPT	JP1 53	-199.9~600.0°C(999.9°F)	JP2 54	-199.9~400.0°C(752.0°F)	JP3 55	-199.9~200.0°C(392.0°F)								
	50	JP4 56	0~200°C(392°F)	JP5 57	0~400°C(752°F)	JP6 58	0~600°C(1112°F)								
LINEAR	AN1	61	-10~10mV	AN2	71	0~10mV	AN3	76	0~20mV						
		62	-2~2V		AN4	81		0~50mV	AN5	91	10~50mV				
		63	-5~5V			AN5		82		0~20mA	AN5	92	4~20mA		
		64	-10~10V					AN5		83		0~1V	AN5	93	1~5V
	AN2	71	0~10mV	AN5			84			0~5V		AN5		94	2~10V
		AN3	76		0~20mV		AN5		85	0~10V				AN5	
			AN4		81	0~50mV			AN5	86	0~5K ohm				AN5
					AN5	82		0~20mA		AN5	87		0~2V		
	AN5			83		0~1V		AN5				AN5			
		AN5		84		0~5V	AN5						AN5		
			AN5	85		0~10V			AN5					AN5	
				AN5	86	0~5K ohm				AN5					AN5
AN5	87				0~2V	AN5					AN5				
	AN5	91			10~50mV		AN5					AN5			
		AN5	92		4~20mA			AN5					AN5		
			AN5	93	1~5V				AN5					AN5	
AN5				94	2~10V	AN5					AN5				