

Future Design's analog series controllers provide low cost on/off or proportional control for 1/16 DIN through 1/4 DIN requirements. Built in "Laser Trim" ASIC technology offers reliable and repeatable control for industrial applications. A wide selection of control outputs and input ranges make the FDC analog series a perfect choice for low cost applications.

DIN	MODEL	SETPOINT METHOD	DISPLAY INDICATION
1/16	FDC 901/902	ANALOG POTENTIOMETER	NONE
1/16	FDC 905	THUMBWHEEL	DIGITAL DISPLAY
1/8	FDC 805	THUMBWHEEL	DIGITAL DISPLAY
1/4	FDC 401	ANALOG POTENTIOMETER	NONE
1/4	FDC 402	ANALOG POTENTIOMETER	DEVIATION METER
1/4	FDC 404	ANALOG POTENTIOMETER	DIGITAL DISPLAY
1/4	FDC 405	THUMBWHEEL	DIGITAL DISPLAY
72MM	FDC 705	THUMBWHEEL	DIGITAL DISPLAY


**FDC ANALOG CONTROLLERS**

## ANALOG SPECIFICATIONS

### POWER

*Models 901/902/401/402:* 110 or 220VAC, 50/60Hz. +15%  
*Models 404/405/705/805/905:* 90-264VAC, 50/60Hz.

### INPUT

*Type J or K or RTD DIN (.385)*  
*Upscale sensor break protection*  
*Input Accuracy:* 2% of scale (901/902/401/402 models)  
*Input Accuracy:* 1% of scale (404/405/705/805/905 models)  
*Sample Rate:* 3 scans per second (all models)

### OUTPUTS

*Relay:* SPDT 3 amps@120VAC Resistive (N.O/N.C)  
*SSR Driver:* 3-32VDC@20mA max  
*Milliamp:* 4/20 mA into 500 ohm load  
*Deviation Alarm Relay:* SPST (N.O) 2 amps @240VAC Resistive  
*Note: Dev alarm available on models 404/405/705/805 only*

### CONTROL MODE

*On/Off:* Hysteresis set at 1.0% of scale.  
*Proportional Band:* fixed at 2.2% of scale.  
*Relay cycle time:* fixed at 20 seconds  
*SSR driver cycle time:* fixed at 1 second  
*Man Reset:* 0 to 2.6% of scale (Models 404/405/705/805/905)  
*Dev Alm:* +- 10%of scale (Models 404/405/705/805 only)

### PROCESS INDICATION

*Models 901/902/401/402:* None  
*Models 705/805/905:* 1/2" Red LED  
*Models 404/405:* 5/8" Red LED

### DISPLAY ACCURACY

*Models 404/405/705/805/905:*  
 +- 1%of span for T/C inputs +- .03 deg C for RTD

### SETPOINT METHOD

*Models 901/902/401/402/404:* Analog Potentiometer  
*Models 905/805/405/705:* Thumbwheel Setting

### SETPOINT ACCURACY/RESOLUTION

*Models 901/902/401/402/404:*  
 Accuracy: +- 2% of scale - Resolution: +- 0.2% of scale  
*Models 905/805/405/705:*  
 Accuracy: +- 1% of scale - Resolution: +- 1 least significant digit

### WIRING

*Screw terminal on rear of unit*

### ENVIRONMENTAL AND PHYSICAL

*Operating Temperature:* 14 to 22F(-10 to 50C)  
*Humidity:* 0-90% RH (non-condensing)  
*Common Mode Rejection:* 120 dB  
*Insulation:* 20M ohms minimum (500VDC)  
*Dielectric Strength:* 2000VAC, 50/60Hz for 1 minute  
*Shock Resistance:* (20G)  
*Vibration:* 10-55Hz, 10m/s<sup>2</sup> for 2 hours

### DIMENSIONS AND WEIGHT

*Models 901/902/905:* 1-7/8" X 1-7/8" X 3-3/4"(9 oz.)  
*Models 805:* 3-3/4" X 1-7/8" X 3-1/8"(8 oz.)  
*Models 401/402/404/405:* 3-3/4" X 3-3/4" X 3-1/8"(10 oz.)  
*Models 705:* 2-3/16" X 2-3/16" X 3.0"(8 oz.)

# ORDERING INFORMATION

Enter a number in each box which corresponds to the specifications you want when ordering analog controllers.

1/16 DIN: FDC-901/902/905  
1/8 DIN: FDC-805  
1/4 DIN: FDC-401/402/404/405  
72MM: FDC-705



POWER



INPUT



RANGE



CONTROL



OUT1



OUT2



ALARM



OPTION

## POWER INPUT

- 1: 100-130VAC, 50/60HZ (901/902 ONLY)
- 2: 200-230VAC, 50/60HZ (901/902 ONLY)
- 3: 100-130VAC/200-240VAC, 50/60HZ (401/402 ONLY)
- 4: 90-240VAC, 50/60HZ (404/405/705/805/905 ONLY)

## SIGNAL INPUT

- 1: Type J Thermocouple
- 2: Type K Thermocouple
- 3: RTD, PT100 Ohm (DIN)
- 9: Special Order

## TEMPERATURE RANGE

**MODELS FDC-905/805/705**

V: 0 TO 999F

**MODELS FDC-901/902/401/402/404**

B: 50 TO 850F

E: 50 TO 400F

ADDITIONAL RANGES AVAILABLE: CONSULT FACTORY

## CONTROL TYPE

- 1: ON-OFF
- 2: PROPORTIONAL

## OUTPUT 1 TYPE

- 0: None
- 1: Relay rated 3 amps@240VAC resistive, (N.O./N.C)
- 2: SSR Drive 3-32 VDC rated at 5V @ 30mA
- 3: 4-20mA linear, isolated, max load 500 ohms
- 4: 0-20mA linear, isolated, max load 500 ohms
- 5: 0-10VDC linear, isolated, max impedance 10K Ohms
- 9: Special Order

## OUTPUT 2 TYPE

- 0: None

## ALARM OUTPUT

- 0: None (use for models 901/902/905/401/402)
- 1: Relay 2 amps@240VAC Resistive (N.O./N.C.)  
Relay is for deviation alarm only on models 404/405/805/705

## OPTIONS

- 0: None

Agency Approvals:

UL Recognized: Models 901/902/905/805/404/405

CSA: Models 404/805

CE: Models 901/902/905/805/401/402/405

File# E196206

File # 20210

