

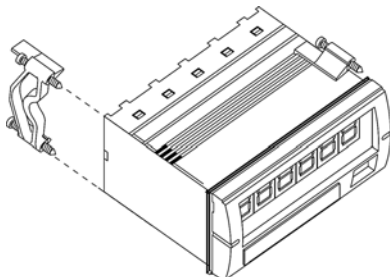
Falcon F35 & F45 Digital Panel Meters



- **1/8 DIN Indicator**
- **3-1/2 or 4-1/2 digit bright red LED display**
- **Front panel pops off for easy decimal point setting and display scaling**
- **Only 3.12" (79mm) required behind panel**
- **Optional excitation output**
- **NEMA 4X enclosure optional**
- **Din Rail Adapter available (page C1)**

Mounting Requirements

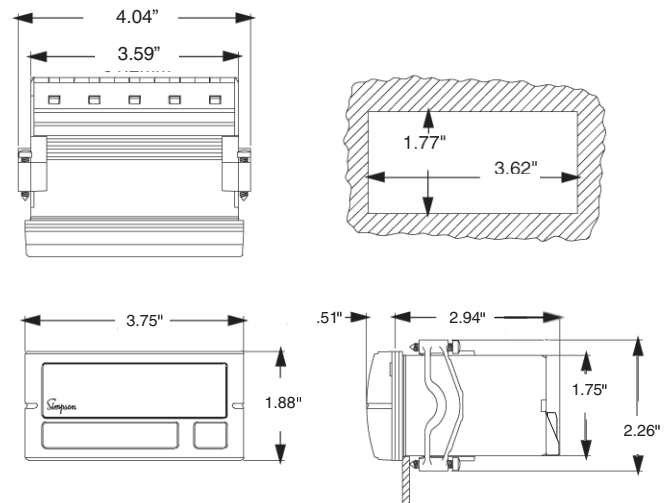
The Falcon series 1/8 DIN indicators require a panel cutout of 1.77" (45mm) high by 3.62" (92mm) wide. To install the Falcon into a panel cutout, remove the clips from the side of the meter. Slide the meter through your panel cutout, then slide the mounting clips back on the meter. Press evenly to ensure a proper fit. Tighten screws.



Specifications

DISPLAY	
Type	7-segment, red LED
Height	0.56" (14.2mm)
Decimal Point	3 or 4 position user-programmable, internally or on the terminal block most significant digit = "1"; other digits blank
Overrange indication	Automatic, with "-" indication, "+" indication implied
Polarity	
POWER REQUIREMENTS	
AC Voltages	120 or 220VAC, $\pm 10\%$ 50/60Hz
DC Voltages	9-32DCV, $\pm 1\%$
Power Consumption	F35: 3VA, F45: 2VA
ACCURACY @25°C	
F45 DC Process/Voltage	$\pm 0.02\%$ of reading ± 1 count 750 ± 2 count
F35 DC Process/Voltage	$\pm 0.1\%$ of reading ± 1 count 750 ± 2 count
F45 DC Current	$\pm 0.05\%$ of reading ± 1 count 2A ± 5 counts 5A ± 5 counts
F35 DC Current	$\pm 0.1\%$ of reading ± 1 count 2A ± 5 counts (45Hz-1KHz)
F45 AC Voltage/Current	$\pm 0.5\%$ of reading ± 35 counts (45Hz-1KHz)
F35 AC Voltage/Current	$\pm 1\%$ of reading ± 5 counts (45Hz-1KHz)
ENVIRONMENTAL	
Operating Temperature	0 to 55°C
Storage Temperature	-10 to 60°C
Relative Humidity	0 to 85% non-condensing
Temperature Coefficient	($\pm 0.1\%$ of input ± 0.5 count)/°C
Warm-up Time	Less than 15 minutes
Response Time	Less than 3 seconds
NOISE REJECTION	
NMRR	50dB, 50/60Hz
CMRR	(w/1K Ω unbalanced @ 60Hz) 90dB min.
A TO D CONVERSION	
Technique	Dual slope integration
Rate	3 samples per second, nominal
MECHANICAL	
Bezel	3.75" x 1.88" x .51"
Depth	2.94"
Panel Cutout	3.62" X 1.77"
Case Material	94V-1, UL rated Noryl®
Weight	9.0oz (255.1g)

Dimensions



more >>



Falcon F35 & F45 Digital Panel Meters

Specifications for F35 Frequency Meters

DISPLAY

Type 7-segment, red LED
Height 0.56" (14.2mm)

Overrange indication Most significant digit = "1"; other digits blank

POWER REQUIREMENTS

AC Voltages 120 or 220VAC, $\pm 10\%$ 50/60Hz
Power Consumption 2.5VA min./4VA max.

ACCURACY @25°C

200 Hz: $\pm 0.2\%$ of input ± 0.2 Hz
2 kHz: $\pm 0.2\%$ of input ± 2 Hz

INPUT LEVEL

500mV to 750V RMS at 1.0MW impedance OR 5V to 24V Square Wave (DC offset 2V maximum)

Resolution: 200Hz = 0.1Hz
2kHz = 1Hz

ENVIRONMENTAL

Operating Temperature 0 to 55°C
Storage Temperature -10 to 60°C
Relative Humidity 0 to 85% non-condensing @ 40°C
Temperature Coefficient ($\pm 0.05\%$ of input ± 0.5 count)/°C
Warm-up Time Less than 15 minutes
Response Time Less than 3 seconds

CONVERSION

Technique Frequency-to-voltage
Rate 3 samples per second, nominal

ACCURACY @ 25°C

F35 ACA $\pm 1\%$ of reading ± 5 counts (45Hz - 1 kHz)
F45 ACA $\pm 0.5\%$ of reading ± 35 counts (45Hz - 1kHz)
F35 ACV $\pm 0.1\%$ of reading ± 5 counts (45Hz - 1kHz)
F45 ACV $\pm 0.5\%$ of reading ± 35 counts (45Hz - 1kHz)
F35 DCA & DC Process $\pm 0.1\%$ of reading ± 1 count
2A ± 5 counts (45Hz - 1 kHz)
F45 DCA $\pm 0.05\%$ of reading ± 1 count
2A ± 5 counts 5A ± 5 counts
F35 DCV $\pm 0.1\%$ of reading ± 1 count 750 ± 2 counts
F45 DCV & DC Process $\pm 0.02\%$ of reading ± 1 count 750 ± 2 counts
F35 Frequency **200 Hz:** $\pm 0.2\%$ of input ± 0.2 Hz
2kHz: $\pm 0.2\%$ of input ± 2 Hz

Specifications for F45 Temperature Meters

DISPLAY

Type 7-segment, red LED
Height 0.56" (14.2mm)
Decimal Point Jumper-selectable 2-position (corresponding to resolution desired)

Overrange indication Most significant digit = "1"; other digits blank

Polarity Automatic, with "-" indication, "+" indication implied

POWER REQUIREMENTS

AC Voltages 120 or 220 ACV, $\pm 10\%$ 50/60Hz
DC Voltages 9-32 DCV, $\pm 1\%$
Power Consumption 3VA

ENVIRONMENTAL

Operating Temperature 0 to 55°C
Storage Temperature -10 to 60°C
Relative Humidity 0 to 85% non-condensing
Warm-up Time Less than 20 minutes

INPUTS

Thermocouple J, K, E, T, R, and S
RTD Platinum 100 (.00385 alpha), 2, 3 or 4 wire
Millivolt ± 84 mV reading of uncompensated mV
Cold Junction Compensation Error 0.1°C/°C
Input Impedance 10MW(typical)
Lead Resistance Effect 4.0 μ V/100W
Conversion Rate 2-1/2 times per second
Open Thermocouple Detection -1 on display, -40nA bias on thermocouple

Inputs

DC Process

Range	Resolution	Voltage Drop	Max Input (Unfused)
4-20mA	1 μ A	0.2V	100mA
Range	Resolution	Input Impedance	Maximum Input
1-5 DCV 0-10DCV	10mV 10mV	10 M Ω 10 M Ω	100 V 100 V

DC Current

Input Range	Resolution	Voltage Drop	Maximum Overload
200 μ A	10nA	200mV	20mA
2 mA	100nA	200mV	20mA
20 mA	1 μ A	200mV	100mA
200 mA	10 μ A	200mV	500mA
2 A	100 μ A	200mV	2.2A

AC/AC TRMS Voltage

Input Range	Resolution	Input Impedance	Maximum Overload
200 mV	10 μ V	≥ 100 M Ω	50V
2 V	100 μ V	10M Ω	100V
20 V	1mV	10M Ω	100V
200 V	10mV	10M Ω	250V
750 V	100mV	1M Ω	750V

AC/AC TRMS Current

Input Range	Resolution	Voltage Drop	Maximum Overload
200 μ A	10nA	200mV	20mA
2 mA	100nA	200mV	20mA
20 mA	1 μ A	200mV	100mA
200 mA	10 μ A	200mV	500mA
2 A	100 μ A	200mV	2.2A
5 A	1mA	200mV	2.2A

DC Voltage

Input Range	Resolution	Input Impedance	Maximum Overload
200 mV	10 μ A	≥ 100 M Ω	50V
2 V	100 μ A	10M Ω	100V
20 V	1mV	10M Ω	100V
200 V	10mV	10M Ω	250V
750 V	100mV	1M Ω	750V

Falcon F35 & F45 Digital Panel Meters



Ordering Information

Falcon Indicators can be configured by making an entry in each section. Example: F35-1-52-0.

Basic Unit		Power Supply		Function/Range		Excitation Output		Display Scaling (temp. units only)	
Selection	Description	Selection	Description	Selection	Description	Selection	Description	Selection	Description
Basic Unit					Function/Range cont'd				
F35	3 1/2 digit LED					61	200 AC μ A TRMS •		
F45	4 1/2 digit LED					62	2 ACmA TRMS •		
Power Supply						63	20 ACmA TRMS •		
1	120 ACV					64	200 ACmA TRMS •		
2	220 ACV*					65	2 ACA TRMS •		
3	9-32 DCV†					66	5 ACA TRMS •		
4	120 ACV*								
Function/Range									
11	200 DCmV					71	4-20 DCmA Process		
12	2 DCV					72	1-5 DCV Process		
13	20 DCV					73	0-10 DCV Process		
14	200 DCV								
15	750 DCV								
21	200 DC μ A					80 (F45)	J T/C		
22	2 DCmA					81 (F45)	K T/C		
23	20 DCmA					82 (F45)	S T/C		
24	200 DCmA					83 (F45)	T T/C		
25	2 DCA					84 (F45)	E T/C		
26	5 DCA					85 (F45)	R T/C		
31	200 ACmV					86 (F45)	DCmV		
32	2 ACV					90 (F45)	RTD Pt100 Ohm		
33	20 ACV								
34	200 ACV					91 (F35)	20-199.9 Hz RMS		
35	750 ACV					92 (F35)	20-1999 Hz RMS		
41	200 AC μ A					93 (F35)	20-199.9 Hz Sq. Wave		
42	2 ACmA					94 (F35)	20-1999 Hz Sq. Wave		
43	20 ACmA								
44	200 AC mA					Excitation Output			
45	2 ACA					(not available with AC, temperature, or frequency inputs)			
46	5 ACA					0	None		
51	200 ACmV TRMS •					1	12 DCV @ 25mA max. current		
52	2 ACV TRMS •					2	24 DCV @ 25mA max. current		
53	20 ACV TRMS •								
54	200 ACV TRMS •					Display Scaling			
55	750 ACV TRMS •					(Temperature units only)			
						C	°C		
						F	°F		

† Not available for use with frequency meters

• Only available with F35

* Meets CE EMI EN-50082-1, EN-55022, EN-61000-3-2, EN-61000-3-3

For more information, visit www.simpsonelectric.com