

# Hawk 3 Digital Panel Meter/Controller



- All parameters set from easy to understand front panel access
- One, two or four 5-amp relays optional
- Five user-selectable brightness levels
- 1/8 DIN, shallow depth case, 3.24"
- RS485 digital communications optional (H345)
- 12 or 24 DCV power supply output optional
- 4-20mA or 0-10 DCV analog transmission optional
- NEMA 4X rated front panel

## Specifications

<b>DISPLAY</b>	
Type	7-segment, red LED
Quantity	4 or 5
Brightness	5 user-selectable levels
Height	0.56" (14.2mm)
Decimal point	4 or 5 position, user programmable
Overrange indication	Display flashes "EEEE" indicating Maximum Value Exceeded
Underrange indication	Display flashes "-EEEE" indicating Minimum Value Exceeded
Alarm Indicators	4 LED indicators for up to four independent setpoints

## POWER REQUIREMENTS

AC	120, 85-250 VAC @ 10VA
DC	9-36 DCV @ 10VA
ISOLATION	250V RMS MAX

ACCURACY @ 25°C as % of rdg	4-1/2 digit	3-1/2 digit
<b>DC Current</b>		
High (5A, 2A)	0.2% ± 1 count	0.3% ± 1 count
All Others	0.05% ± 1 count	0.1% ± 1 count
<b>DC Volts</b>		
High (600 V)	0.1% ± 1 count	0.2% ± 1 count
All others	0.05% ± 1 count	0.1% ± 1 count
<b>Resistance</b>		
All ranges	0.1% ± 2 counts	0.1% ± 2 counts
<b>*AC Current</b>		
High (2A, 5A)	0.2% ± 2 counts	0.3% ± 2 counts
All others	0.1% ± 2 counts	0.2% ± 2 counts
<b>*AC Volts</b>		
High (600V)	0.1% ± 1 count	0.2% ± 1 count
All others	0.05% ± 1 count	0.1% ± 1 count

\* AC functions measured at 50 Hz, include ± 1 count for each additional 100 Hz above 50 Hz

## ENVIRONMENTAL

Operating Temperature	0 to 50°C
Storage Temperature	-10 to +60°C
Relative Humidity	<80%
Ambient Temperature	25°C
Temperature Drift	100 ppm/°C
Warmup Time	10 minutes
Noise Rejection	
NMRR	60 dB @ 50-60 Hz
CMRR	70 dB @ 50-60 Hz

## A TO D CONVERSION

Technique	Successive approximation with oversampling
Sample Rate	10 conversions per second
Display Rate	User programmable 1-420 updates/min (240 default)

## MECHANICAL

Bezel	3.9" x 2.0" x 0.52" (99.8mm x 51.9mm x 13.2 mm)
Depth	3.24" (82.3 mm)
Panel Cutout	3.62" x 1.77" (92 mm x 45mm)
Weight	10 oz (283.5g)
Cover	NEMA 4X Rated front panel

more >>



# Hawk 3 Digital Panel Meter/Controller

## Ordering Information

Hawk 3 Indicators can be configured by making an entry into each section. Example: H335-3-71-0-4-1



**Basic Unit    Power Supply    Function/Range    Output Signal    5A Relay    Excitation**

Selection	Description	Selection	Description
<b>Basic Unit</b>		<b>Function/Range continued</b>	
H335	3-1/2 digit, Red LED	51	200 ACmV TRMS
H345	4-1/2 digit, Red LED	52	2 ACV TRMS
<b>Power Supply</b>		53	20 ACV TRMS
1	120 ACV (3-1/2 only)	54	200 ACV TRMS
2	85-250 ACV (4-1/2 only)	55	600 ACV* TRMS
3	9-36 DCV	61	200 ACμA TRMS
4	85-250 ACV (3-1/2 only)	62	2 ACmA TRMS
<b>Function/Range</b>		63	20 ACmA TRMS
11	200 DCmv	64	200 ACmA TRMS
12	2 DCV	65	2 ACA TRMS
13	20 DCV	66	5 ACA TRMS
14	200 DCV	71	4-20 DCmA Process
15	600 DCV*	72	0-10 DCV Process
21	200 DCμA	81	200 Ohm
22	2 DCmA	82	2K Ohm
23	20 DCmA	83	20K Ohm
24	200 DCmA	84	200K Ohm
25	2 DCA	<b>Output</b>	
26	5 DCA	0	None
31	200 ACmV	1	4-20 DCmA
32	2 ACV	2	0-10 DCV
33	20 ACV	6	RS-485 (4-1/2 only)
34	200 ACV	<b>5A Relays</b>	
35	600 ACV*	0	None
41	200 ACμA	1	One
42	2 ACmA	2	Two
43	20 ACmA	4	Four
44	200 ACmA	<b>Excitation</b>	
45	2 ACA	0	None
46	5 ACA	1	12 DCV
Continued on next column		2	24 DCV

\* Awaiting UL approval



# Hawk 3 Installation Instructions

## Installation and Panel Cutout - H335, H340, H345



### Mounting Requirements

The Hawk 3 Advanced Digital Controller 1/8 DIN meters require a panel cutout of 1.77" (45mm) high and 3.62" (92 mm wide). To install the Hawk 3 meter into the panel cutout, remove the clips from the side of the meter. Slide the meter through the panel cutout, then slide the mounting clips back on the meter. Press evenly to ensure a proper fit. Tighten screws.

### Engineering Label Placement

To replace the engineering unit label, place the tip of a ballpoint pen into the small hole at the base of the engineering label in the bezel. Slide the label up until it pops out. Grasp and remove. Slide the new label half the distance in, then use the ballpoint pen to slide it into place.

## Inputs

### DC Voltage

Range	Resolution 4.5	Resolution 3.5	Input Impedance	Overload
200mV	10µV	.1mV	1MΩ	5DCV
2V	.1mV	1mV	1MΩ	5DCV
20V	1mV	10mV	1MΩ	300DCV
200V	10mV	.1mV	1MΩ	300DCV
600V	.1V	1V	1MΩ	1KDCV

### DC Current

Range	Resolution 4.5	Resolution 3.5	Input Impedance	Overload
200µA	10nA	.1µA	1KΩ	45mADC
2mA	.1µA	1µA	100Ω	45mA DC
20mA	1µA	10µA	10Ω	200mADC
200mA	10µA	.1mA	1Ω	600mA DC
2A	.1mA	1mA	.013Ω	5.5A DC
5A	.1mA	1mA	.013Ω	5.5A DC

### AC Current

Range	Resolution 4.5	Resolution 3.5	Input Impedance	Overload
200µA	10nA	.1µA	1KΩ	45mA DC
2mA	.1µA	1µA	100Ω	45mA DC
20mA	1µA	10µA	10Ω	200mA DC
200mA	10µA	.1mA	1Ω	600mA DC
2A	.1mA	1mA	.013Ω	5.5A DC
5A	.1mA	1mA	.013Ω	5.5A DC

### AC Voltage

Range	Resolution 4.5	Resolution 3.5	Input Impedance	Overload
200mV	10µV	.1mV	200KΩ	5DCV
2V	.1mV	1mV	200KΩ	5DCV
20V	1mV	10mV	1MΩ	300DCV
200V	10mV	.1V	1MΩ	300DCV
600V	.1V	1V	1MΩ	1KDCV

### Resistance

Range	Resolution 4.5	Resolution 3.5	Input Impedance	Overload
200Ω	10mΩ	.1Ω	1.2KΩ	± 5DCV
2KΩ	.1Ω	1Ω	12KΩ	± 5DCV
20KΩ	1Ω	10Ω	121K	± 5DCV
200KΩ	10Ω	100Ω	1.2MΩ	± 5DCV

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