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***
- ***DIN Rail adapter available*** ***(page C1)***

Specifications

DISPLAY

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 "EEEEE" 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

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

Ordering Information

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

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

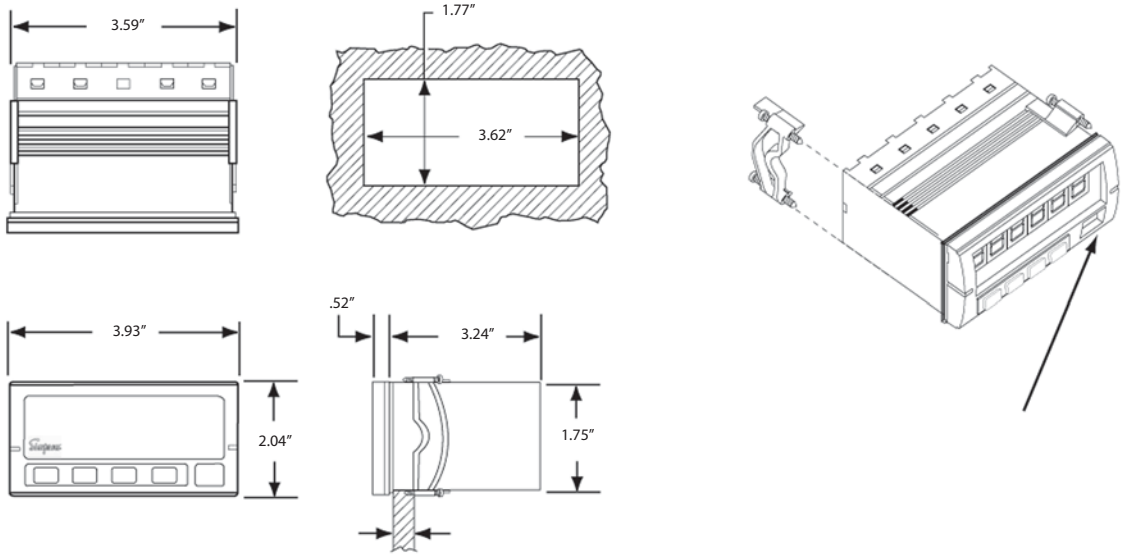
Selection	Description
	Basic Unit
H335	3-1/2 digit, Red LED
H345	4-1/2 digit, Red LED
	Power Supply
1	120 ACV (3-1/2 only)
2	85-250 ACV (4-1/2 only)
3	9-36 DCV
4	85-250 ACV (3-1/2 only)
	Function/Range
11	200 DCmv
12	2 DCV
13	20 DCV
14	200 DCV
15	600 DCV*
21	200 DCµA
22	2 DCmA
23	20 DCmA
24	200 DCmA
25	2 DCA
26	5 DCA
31	200 ACmV
32	2 ACV
33	20 ACV
34	200 ACV
35	600 ACV*
41	200 ACµA
42	2 ACmA
43	20 ACmA
44	200 ACmA
45	2 ACA
46	5 ACA

Continued on next column

* Awaiting UL approval

Selection	Description
	Function/Range continued
51	200 ACmV TRMS
52	2 ACV TRMS
53	20 ACV TRMS
54	200 ACV TRMS
55	600 ACV* TRMS
61	200 ACµA TRMS
62	2 ACmA TRMS
63	20 ACmA TRMS
64	200 ACmA TRMS
65	2 ACA TRMS
66	5 ACA TRMS
71	4-20 DCmA Process
72	0-10 DCV Process
81	200 Ohm
82	2K Ohm
83	20K Ohm
84	200K Ohm
	Output
0	None
1	4-20 DCmA
2	0-10 DCV
6	RS-485 (4-1/2 only)
	5A Relays
0	None
1	One
2	Two
4	Four
	Excitation
0	None
1	12 DCV
2	24 DCV

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	.1 mV	1 MΩ	10DCV
2 V	.1mV	1 mV	1 MΩ	100DCV
20 V	1mV	10 mV	2 MΩ	100DCV
200 V	10 mV	.1 V	2 MΩ	300DCV
600 V	.1 V	1V	2 MΩ	1K DCV

DC Current

Range	Resolution 4.5	Resolution 3.5	Input Impedance	Overload
200µA	10 nA	.1 mA	1KΩ	11mA DC
2 mA	.1µA	1 mA	100Ω	35mA DC
20 mA	1µA	10 mA	10Ω	111mA DC
200mA	10 µV	.1 mA	1Ω	353 mA DC
2 A	.1 mA	1 mA	.013Ω	7A DC
5 A	.1 mA	1 mA	.013Ω	7A DC

AC Current

Range	Resolution 4.5	Resolution 3.5	Input Impedance	Overload
200µA	10 nA	.1 mA	1KΩ	11mA AC
2 mA	.1µA	1 mA	100Ω	35mA AC
20 mA	1µA	10 mA	10Ω	111mA AC
200mA	10 µV	.1 mA	1Ω	353mA AC
2 A	.1 mA	1 mA	.013Ω	7A AC
5 A	.1 mA	1 mA	.013Ω	7A AC

AC Voltage

Range	Resolution 4.5	Resolution 3.5	Input Impedance	Overload
200mV	10µV	.1 mV	200KΩ	10DCV
2 V	.1mV	1 mV	200KΩ	100DCV
20 V	1mV	10 mV	2 MΩ	300DCV
200 V	10 mV	.1 V	2 MΩ	300DCV
600 V	.1 V	1V	2 MΩ	1K DCV

Resistance

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