

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 "EEEEEE" 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

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Ordering Information

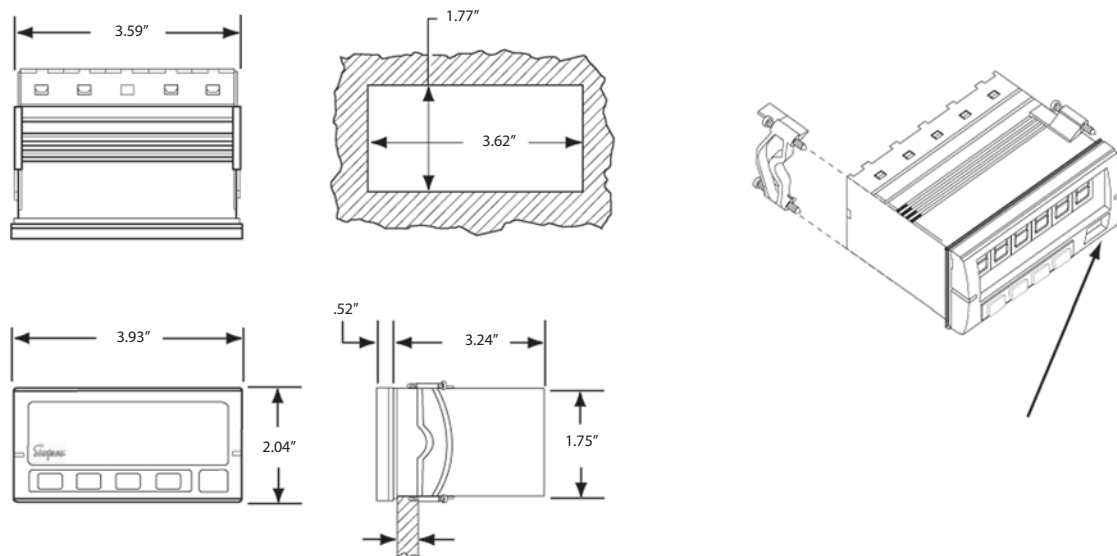
Hawk 3 Indicators can be configured by making an entry into each section. Example: H335-3-71-0-4-1



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

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

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