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**Application:**

Four series of instrument housings for use in areas made hazardous by flammable vapors, gases or dusts are listed on pages 581 through 585 as follows:

- Page 583 lists GUB instrument housings for typical 3½", 4", 4½" and 6" G.E., Westinghouse and Weston meters shown in the tables. Other makes of meters of the same physical size can be accommodated in these housings.
- Page 585 – lists EMH housings for typical 2½" and 3½" G.E., Simpson, Westinghouse and Weston meters shown in the tables. Other makes of meters of the same physical size can be accommodated in the housings.
- Page 581 and 582 – lists EIH and EIHT housings for instrumentation and control devices such as two wire transmitters, temperature controls and pressure switches. Limiting dimensions are shown.

**Considerations for Selection:**

Environmental:

- Compliance with NEC/CEC, NEMA/EEMAC material and construction to withstand adverse atmospheric conditions

Mechanical:

- Physical size required to accept instruments

## Application:

- EIH instrument enclosures are used:
- to enclose instrumentation and control devices such as two-wire transmitters, flow measurement devices, temperature controls, level detectors, pressure switches, etc.
  - as an outlet box for pulling and splicing conductors
  - in hazardous, abusive and wet locations
  - to provide access to conductors for maintenance and future system changes

## Features:

- 3/4" offset through feed hubs offer maximum interior space and greater working area
- 2" and 4" deep covers, solid or with glass lens
- Internal mounting pads for instrument mounting
- Internal ground screw for safe, continuous grounding
- Neoprene gasket provides a watertight seal for NEMA/EEMAC 4 and UL/CSA Type 4 applications.
- Wrenching lugs permit easy cover removal and tightening.
- Internal cover threads provide additional space inside body.
- External boss is suitable for drilling and tapping an additional conduit entry.

## Standard Materials:

- Body and cover – copper-free aluminum
- Glass lens – heat tempered glass
- Gasket – neoprene

## Standard Finishes:

- Corro-free™ epoxy powder coat (gray)



EIH21



EIH22

Hub Size*	Description	Cat. #
3/4	Body with 2" standard cover	EIH20
3/4	Body with 2" glass lens cover	EIH21
3/4	Body with 4" dome cover	EIH22
3/4	Body with 4" glass lens dome cover	EIH23

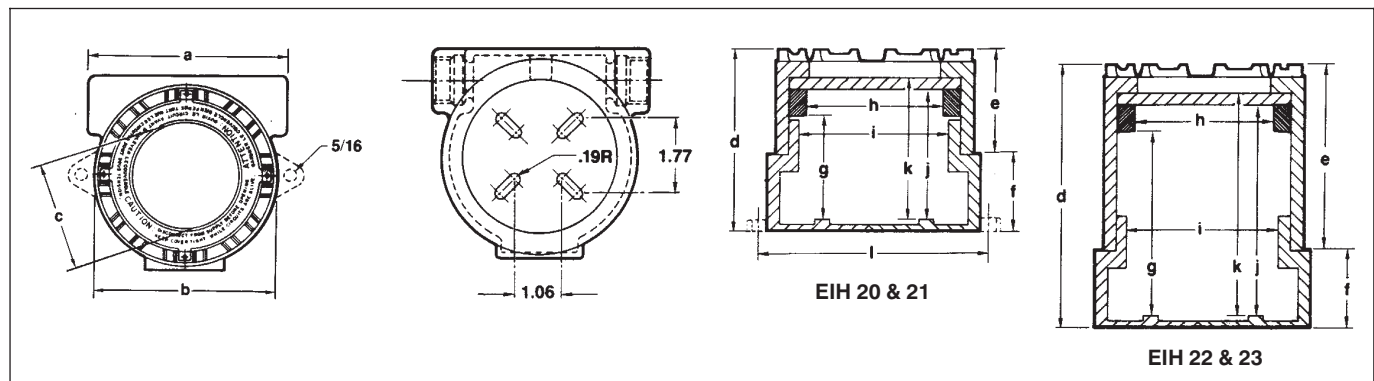
## Options:

	Suffix to be Added to Cat. #
Cast mounting feet . . . . .	MF
Natural finish . . . . .	Consult Cooper Crouse-Hinds
Additional drilled and tapped opening in external boss:	
1/2" . . . . .	-1
3/4" . . . . .	-2

## Certifications and Compliances:

- NEC/CEC:
  - Class I, Division 1 & 2, Groups B†,C,D
  - Class II, Division 1, Groups E,F,G
  - Class II, Division 2, Groups F,G
  - Class III
- NEMA/EEMAC: 3,4,7BCD,9EFG
- UL Standard: 1203
- CSA Standard: C22.2 No. 30
- FM Classification No.: 3615
- ATEX Certificate EX-95.D, 3327 U

## Dimensions



	a	b	c	d	e	f	g	h	i	j	k	l
EIH20	5.00	4.25	—	4.54	2.60	1.94	—	—	3.62	—	3.34	5.25
EIH21	5.00	4.25	2.60	4.54	2.60	1.94	2.75	2.73	3.62	3.10	—	5.25
EIH22	5.00	4.25	—	6.54	4.60	1.94	—	—	3.62	—	5.34	5.25
EIH23	5.00	4.25	2.60	6.54	4.60	1.94	4.68	2.73	3.62	5.03	—	5.25

\* For 1/2" hub size, use RE21-SA.

Dimensions are approximate, not for construction purposes.

† For Group B applications, seal within 1 1/2" of enclosure in accordance with Sections 501-5 of the National Electrical Code\* as well as any other applicable codes.

# 4A EIHT Instrument Enclosures

Cl. I, Div. 1 & 2, Groups B, C, D  
 Cl. II, Div. 1, Groups E, F, G  
 Cl. II, Div. 2, Groups F, G  
 Cl. III  
 NEMA 3, 4, 7BCD, 9EFG

Explosionproof  
 Dust-Ignitionproof  
 Raintight  
 Wet Locations  
 Watertight

## Application:

- EIHT instrument enclosures are used:
- to enclose instrumentation and control devices such as two-wire transmitters, flow measurement devices, temperature controls, level detectors, pressure switches, etc.
  - as an outlet box for pulling and splicing conductors
  - in hazardous, abusive and wet locations
  - to provide access to conductors for maintenance and future system changes



## Features:

- 3/4" offset through feed hubs offer maximum interior space and greater working area
- 2" and 4" deep covers, solid or with glass lens
- Internal mounting pads for instrument mounting
- Internal ground screw for safe, continuous grounding
- Neoprene gasket provides a watertight seal for NEMA/EEMAC 4 and UL/CSA Type 4 applications.
- Wrenching lugs permit easy cover removal and tightening.
- Internal cover threads provide additional space inside body.
- External boss is suitable for drilling and tapping an additional conduit entry.
- Two separate chambers for isolation of power supply and instrument
- 3/4" hub on instrument side
- Third party certified for drilling enclosure wall between instrument and power side.

### Hub Size\*

Hub Size*	Description	Cat. #
3/4	2" Blank Cover - Power side	
	2" Blank Cover - Instrument side	EIHT200
3/4	2" Blank Cover - Power side	
	2" Glass lens Cover - Instrument side	EIHT210
3/4	2" Blank Cover - Power side	
	4" Blank Cover - Instrument side	EIHT220
3/4	2" Blank Cover - Power side	
	4" Glass lens Cover - Instrument side	EIHT230

## Options:

Description	Suffix
Additional drilled and tapped opening in external boss:	
1/2" .....	-1
3/4" .....	-2
With CENELEC Certification .....	ATEX
Natural finish .....	Consult Cooper Crouse-Hinds

## Certifications and Compliances:

- NEC/CEC:
  - Class I, Division 1 & 2, Groups B, C, D
  - Class II, Division 1, Groups E, F, G
  - Class II, Division 2, Groups F, G
  - Class III
- NEMA/EEMAC: 3, 4, 7BCD, 9EFG
- UL Standard: 1203
- CSA Standard: C22.2 No. 30
- FM Classification No.: 3615

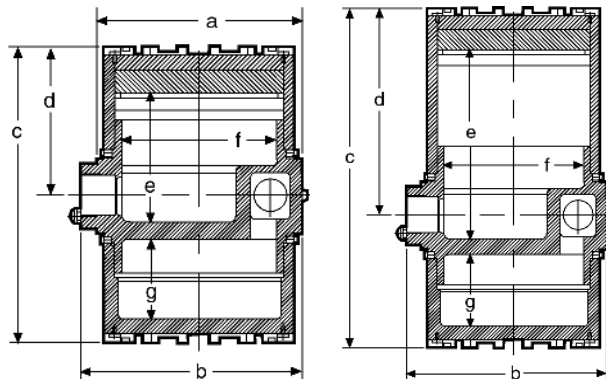
## Standard Materials:

- Body and cover – copper-free aluminum
- Glass lens – heat tempered glass
- Gasket – neoprene

## Standard Finishes:

- Corro-free™ epoxy powder coat (gray)

## Dimensions (Inches):



	a	b	c	d	e	f	g
EIHT200	4.75	5.19	6.95	3.48	3.15	3.56	1.87
EIHT210	4.75	5.19	6.95	3.48	3.15	3.56	1.87
EIHT220	-	5.19	8.95	5.48	5.15	3.56	1.87
EIHT230	-	5.19	8.95	5.48	5.15	3.56	1.87

Cl. I, Div. 1 & 2, Group D  
 Cl. II, Div. 1, Groups E,F,G  
 Cl. II, Div. 2, Groups F,G  
 Class III  
 NEMA 3,7D,9EFG,12

Explosionproof  
 Dust-Ignitionproof  
 Raintight/Wet Locations  
 Watertight

## Application:

GUB instrument housings are used:

- to enclose ammeters, voltmeters, wattmeters, varimeters, power-factor meters, tachometer indicators, pressure controls, temperature control etc., in a threaded rigid metallic conduit system
- in specific hazardous atmospheres such as encountered in oil refineries, chemical plants, paint and varnish manufacturing plants, certain hazardous metal finishing areas, coal processing locations, granaries and grain processing plants

## Features:

- Threaded covers have glass windows for viewing scale, dial or setting of enclosed instrument.
- Mounting plates, brackets or pillars for mounting a wide variety of instruments not shown on pages 583 and 584 are available on special order. Instrument to be used must be specified by make, complete identification data and dimensions.

## Standard Materials:

- Body – *Feraloy*® iron alloy
- Cover – copper-free aluminum
- Window – heat strengthened plate glass

## Standard Finishes:

- *Feraloy* iron alloy – electrogalvanized and aluminum acrylic paint
- Copper-free aluminum – natural

## Options:

- Other conduit opening sizes and arrangements can be furnished
- Add suffix “-22” to catalog number for 3/4” hub top and bottom

## Certifications and Complies:

- NEC/CEC:
  - Class I, Division 1 & 2, Group D
  - Class II, Division 1, Groups E,F,G
  - Class II, Division 2, Groups F,G
  - Class III
- NEMA/EEMAC: 3,7D,9EFG,12
- UL Standard: 886
- CSA Standard: C22.2 No. 30



GUB01 shown with GUB0110 glass cover



GUB04 shown with GUB0109 glass cover



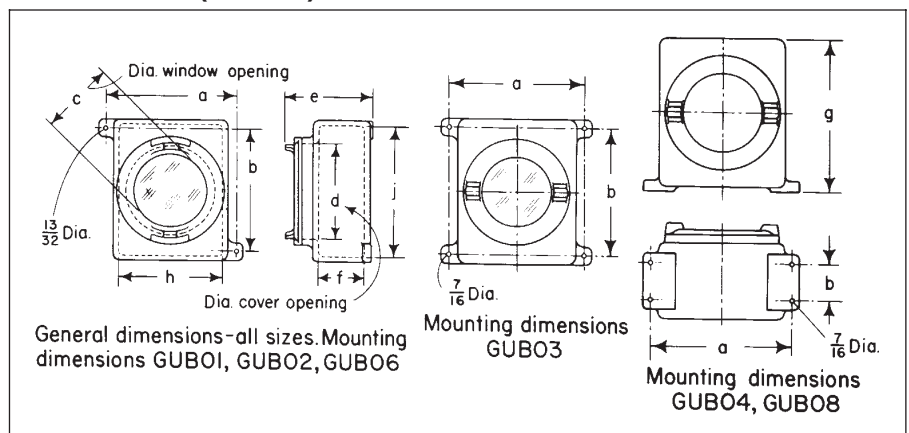
GUB03 shown with GUB0109 glass cover

## Instrument Housings

Basic Housing	Conduit Opening Size	Conduit Opening Position	Cat. #
GUB01	3/4	Top	GUB110-1-20
	3/4	Bottom	GUB110-1-02
GUB02	3/4	Top	GUB218-1-20
	3/4	Bottom	GUB218-1-02
GUB06	3/4	Top	GUB619-1-20
	3/4	Bottom	GUB619-1-02
GUB03	3/4	Top	GUB319-1-20
	3/4	Bottom	GUB319-1-02
GUB08	3/4	Top	GUB819-1-20
	3/4	Back	GUB819-5-02
GUB04	3/4	Top	GUB419-1-20
	3/4	Back	GUB419-5-02

4A Instruments

## Dimensions (inches)



Dimensions are approximate, not for construction purposes.

GUB	a	b	c	d	e	f	g	h	j
01	7-1/2	5-3/4	3-5/8	5-1/2	5-3/4	3		5-7/8	6-1/2
02	9	8-3/4	4-3/4	7	6	3		7-1/8	9-1/8
03	12-1/8	10-3/4	6-13/16	9-5/8	8-5/16	5		9-3/4	10-3/4
04	12-1/8	3-1/2	6-13/16	9-5/8	8-13/16	5	12-1/4	9-3/4	10-3/4
06	9-1/2	8-3/4	4-3/4	7	7	4		7-5/8	9-1/8
08	9-5/8	2-1/2	4-3/4	7	6-15/16	4	10-1/4	7-5/8	9-1/8

**Instrument Housings**

Inst. Size	Basic Housing	Cat. #
3½	GUB01	GUB1103-1-20† GUB11031-1-20
4	GUB06	GUB6191-1-20 GUB6192-1-20 GUB6193-1-20
4½	GUB02	GUB2184-1-20†
6	GUB03	GUB3190-1-20† GUB3191-1-20

NOTE: These standard instrument housings are furnished with one top feed ¾" drilled and tapped opening.

NOTE: Meters are not included

**Standard Meters**

**Housed in GUB Enclosures†**

Manufacturer	Model	Inst. Size	Type Flange	Cat. #	Max. Inst. Depth§
G.E.	Type 250	3½	Rect. Flush	GUB1103-1-20	
Westinghouse	R-351 Series	3½	Rect. Flush		
	N-351 Series	3½	Round Flush		
Weston	301 Series	3½	Rect. Flush		
	301 Series	3½	Round Flush		
	723	3½	Rect. Flush		
G.E.	KT-11	3½	Round Flush	GUB11031-1-20	
	Elapsed Time Meter Without Reset		or Rect.Flush		
	236	3½	Round Flush		
	Elapsed Time Meter Without Reset		or Rect. Flush		
Westinghouse	BH351	3½	Rect. Flush		
	Elapsed Time Meter Without Reset				
G.E.	Type 250	4½	Rect. Flush	GUB2184-1-20	
Westinghouse	R-371 Series	4½	Rect. Flush		
	N-371 Series	4½	Round Flush		
Weston	1900 Series	4½	Rect. Flush		
Westinghouse	KX-251	6	Rect.	GUB3190-1-20	
	KA-251	6	Rect.		
	KY-25	6	Rect.		
Weston	271	7	Fan	GUB3191-1-20	
	273	9	Fan		
G.E.	AB-14 Series	4	Rect. Flush		
	DB-14 Series	4	Rect. Flush		
	AB-18 Series	4	Rect. Flush		
	DB-18 Series	4	Rect. Flush		
	AB-30 Series	4	Rect. Flush	GUB6191-1-20	4 <sup>9</sup> / <sub>16</sub>
	DB-30 Series	4	Rect. Flush	GUB6192-1-20	6 <sup>1</sup> / <sub>16</sub>
	AB-40 Series	4	Rect. Flush	GUB6193-1-20	7 <sup>1</sup> / <sub>16</sub>
	DB-40 Series	4	Rect. Flush		
Westinghouse	K-241 Series	4½	Rect. Flush		

† These boxes available for use in Class I, Division 1 and 2, Group B and C hazardous areas. Add suffix GB to Cat. No. Seals must be installed within 1½" of each conduit opening for Group B & C usages.

‡ Standard meters are to be purchased separately from manufacturers listed.

§ Select housing based on depth of instrument to be enclosed.

## Application:

EMH instrument housings are used:

- to enclose 2½" or 3½" diameter round, flush rim-mounting meters, whose scale or dial would be visible in the 2½" diameter glass window. Typical types of instruments or meters are ammeters, voltmeters, etc.
- in specific hazardous atmospheres such as encountered in oil refineries, chemical plants, paint and varnish manufacturing plants, certain hazardous metal finishing areas, coal processing locations, granaries and grain processing plants

## Features:

- Sight-glass in cover permits viewing of instrument dial or setting.
- Enclosures are non-magnetic, available in surface mounting and flush panel mounting. The cylindrical extension of the cover opening on the flush bodies will project through a hole in panel. Thickness of panel must not exceed ¼" to insure flamtight assembly of cover threads with body threads.
- Mounting plates and posts in bodies support the instrument close to the heavy glass window in cover. Maximum depth of instrument extending from outboard end of posts towards the back wall of enclosure body is 3". There is ample wiring space in back of instruments.
- Bodies have bosses on all four sides and back for drilling and tapping of conduit entrances.
- Dead end and through feed arrangements for ¾" rigid conduit are standard listings.

## Standard Materials:

- Bodies – copper-free aluminum
- Covers – copper-free aluminum
- Windows – heat strengthened plate glass

## Standard Finishes:

- Natural

## Options:

- Other conduit hub sizes and arrangements can be furnished.

## Certifications and Compliances:

- NEC/CEC:
  - Class I, Division 1 & 2, Group D
  - Class II, Division 1, Groups E,F,G
  - Class II, Division 2, Groups F,G
  - Class III
- NEMA/EEMAC: 3,7D,9EFG,12
- UL Standard: 886
- CSA Standard: C22.2 No. 30

\* Dimensions are approximate, not for construction purposes.

## Instrument Housings

Style	Conduit Openings	Size	Cat. #
Surface	One in Side (Dead End)	¾"	EMH521-20000
	Two in Sides (Through Feed)	¾"	EMH533-20000
			EMH521-20200
Flush	One in Side (Dead End)	¾"	EMH511-20000
	Two in Sides (Through Feed)	¾"	EMH511-20200
			EMH534-20200

## Standard Meters

### Housed in EMH511, EMH521 †

Manufacturer	Model	Size
Weston	201 Series	2½"
	301 Series	3½"
Westinghouse	N-351 Series	3½"
Simpson	125 Series	2½"
	135 Series	2½"
	145 Series	2½"
	155 Series	2½"
	25 Series	3½"
	35 Series	3½"
	45 Series	3½"
	55 Series	3½"
	75 Series	3½"
	3222 Series	2½"
3282 Series	2½"	
3223 Series	3½"	
3283 Series	3½"	

## Standard Meters

### Housed in EMH533, EMH534

Manufacturer	Model	Size	Type
G.E.	AW-91 Series	2½"	Rect. Flush
	DW-91 Series	2½"	Rect. Flush
Weston	201 Series	2½"	Square Flush
	1721 Series	2½"	Rect. Flush



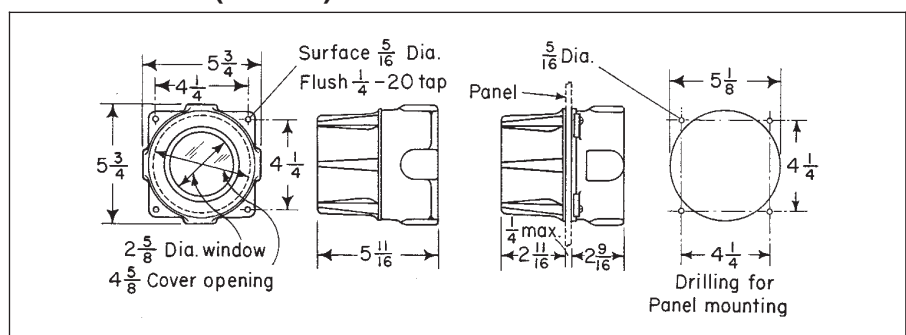
Flush



Surface

† Type-Round Flush

## Dimensions\* (inches)



## Application:

EXH explosionproof electric heaters are used:

- in areas made hazardous by the presence of flammable gases and vapors, and combustible dusts.
- for rugged locations including: oil refineries, petrochemical plants, rigs, pumping stations, turbine compressors, pulp and paper mills, coal mines, grain elevators, etc.
- in areas where flammable vapors or gases or highly combustible dusts may be present due to accidental or abnormal conditions.
- for standby heat to prevent process heat loss, or for personnel comfort during maintenance/repair operations.

## Features:

- Split fan guard for easy access to fan.
- Compact design makes handling during installation easy.
- Evacuated cores heat up quickly with even heat distribution.
- Larger models offer greater kilowatt range providing more economical means to heat large areas.
- Permanently sealed cores improve reliability and make field servicing easier.
- Control box provides easy access for installation and maintenance.

## Standard Materials and Finishes:

Fan – Aluminum blade. Steel spider and hub with  $\frac{5}{8}$  in. (15.875 mm.) bore.

Core – Steel with integral aluminum fins, vacuum charged and hermetically sealed.

Heating Elements – Three long life, low watt-density, high grade metal sheathed elements.

Heat Transfer Fluid – Long life formulated ethylene glycol and water, freeze protected to  $-49^{\circ}\text{F}$  ( $-45^{\circ}\text{C}$ ).

Cabinet Material – 14 gauge (0.075 in.) (1.90 mm) steel. Epoxy coated with 5 stage pre-treatment including iron phosphate.

Conduit Material – Heavy walled, 0.122 in. (3.1 mm.) steel cadmium plated.

## Certifications and Compliances:

- Class I, Division 1 & 2, Groups C, D
- Class II, Division 1, Groups E,F,G
- Class II, Division 2, Groups F,G
- NEMA: 7CD, 9EFG
- UL Standard: 823
- CSA Standard: C22.2 Nos. 25, 30, 46

## Accessories & Options:

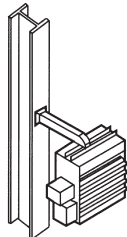
- Basic mounting kit – suitable for applications where the support arm can be bolted or welded directly to structural steel or concrete. (Cat. No. BMK-EXH\_\_\_(insert fan size: 12, 16 or 20))
- Wall mounting kit – suitable for mounting on Z sections. (Cat. No. WMK-EXH\_\_\_(insert fan size: 12, 16 or 20))



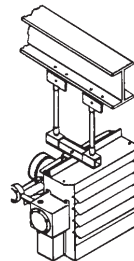
Heater shown has optional built-in thermostat.

- Hanging mounting kit – simple and economical if adequate overhead structure exists. Requires  $\frac{1}{2}$ " pipe, cut and threaded — not supplied. (Cat. No. HMK-EXH4)
- Swivel hanging mount kit — swivels  $360^{\circ}$ . Requires  $\frac{1}{2}$ " pipe, cut and threaded — not supplied. (Cat. No. SHMK-EXH\_\_\_insert for size 12, 16 or 20)
- Pipe mounting kit – useful in buildings with insufficient strength to use other types of mounts. requires 3" pipe. (Cat. No. PMK-EXH\_\_\_(insert fan size: 12, 16 or 20))
- HRC1 explosionproof thermostat – using bi-metal control for  $36^{\circ}$ - $82^{\circ}\text{F}$  heating range. Order separately or add suffix "HRC" for factory installation on heater. See page 592.

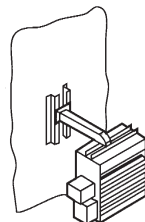
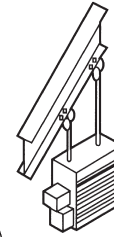
### BMK Basic Mounting Kit



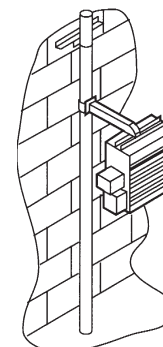
### SHMK Swivel Hanging Mounting Kit



### HMK Hanging Mounting Kit



WMK Wall Mounting Kit



PMK Pipe Mounting Kit



# EXH Series Explosionproof Electric Air Heaters

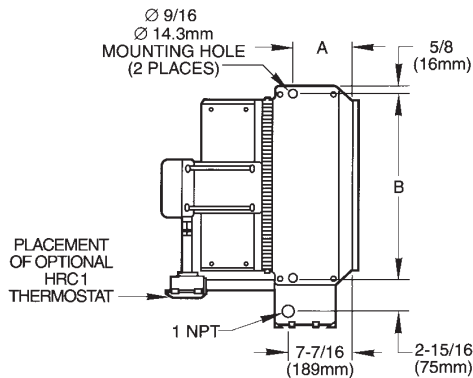
Cl. I, Div. 1 & 2, Group C,D  
Cl. II, Div. 1, Groups E,F,G  
Cl. II, Div. 2, Groups F,G  
NEMA 7CD, 9EFG

Explosionproof  
Dust-Ignitionproof

**4A**

## Dimensions

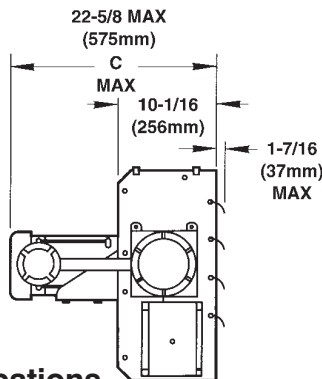
Top View



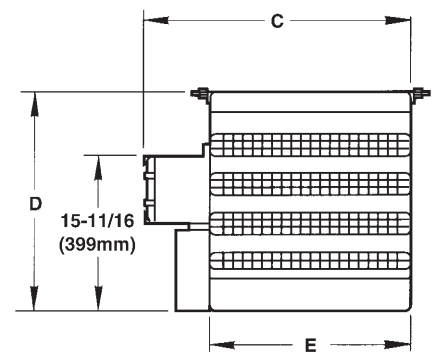
DIM		EXH412	EXH416	EXH420
A	in.	8 <sup>1</sup> / <sub>16</sub>	6 <sup>1</sup> / <sub>16</sub>	7 <sup>1</sup> / <sub>16</sub>
	mm	204	170	179
B	in.	18 <sup>3</sup> / <sub>16</sub>	22 <sup>3</sup> / <sub>16</sub>	26 <sup>3</sup> / <sub>16</sub>
	mm	462	564	665
C	in.	24 <sup>1</sup> / <sub>2</sub>	28 <sup>1</sup> / <sub>2</sub>	32 <sup>1</sup> / <sub>2</sub>
	mm	622	724	825
D	in.	18 <sup>1</sup> / <sub>2</sub>	22 <sup>1</sup> / <sub>2</sub>	26 <sup>1</sup> / <sub>2</sub>
	mm	470	572	674
E	in.	16 <sup>5</sup> / <sub>16</sub>	20 <sup>5</sup> / <sub>16</sub>	24 <sup>5</sup> / <sub>16</sub>
	mm	414	516	617

DIMENSIONAL TOLERANCES  
±1/8" (3.2MM)

Side View



Front View



## Specifications

	Nominal kW	EXH412				EXH416		EXH420		
		3	5	7.5	10	15	20	25	30	35
Maximum Altitude	(ft.)	12,000	8,000	10,000	7,000	10,000	7,000	10,000	7,000	6,000
	(m.)	3,658	2,438	3,048	2,134	3,048	2,134	3,048	2,134	1,829
Air Delivery @ 70°F	(CFM)	500	500	850	850	1750	1750	3600	3600	3,950
	@ 21°C (m³/hr)	850	850	1444	1444	2973	2973	6116	6116	6,711
Horizontal Throw	(ft.)	15	15	30	30	40	40	70	70	70
	(m.)	4.6	4.6	9.1	9.1	12.2	12.2	21.3	21.3	21.3
Max. Mounting Height	(ft.)	7	7	10	10	10	10	20	20	20
	(m.)	2.1	2.1	3.0	3.0	3.0	3.0	6.1	6.1	6.1
Motor Power	(HP)	1/4	1/4	1/4	1/4	1/4	1/4	1/2	1/2	1/2
	(kW)	0.187	0.187	0.187	0.187	0.187	0.187	0.373	0.373	0.373
Fan Diameter	(in.)	12	12	12	12	16	16	20	20	20
	(mm.)	305	305	305	305	406	406	508	508	508
Net Weight	(lbs.)	111	111	111	111	133	133	154	154	154
	(kg.)	50	50	50	50	61	61	70	70	70
Shipping Weight	(lbs.)	151	151	151	151	173	173	204	204	204
	(kg.)	69	69	69	69	79	79	93	93	93

<b>Motor Type</b>	Explosionproof. Thermally protected. Permanently lubricated ball bearings. 1725 RPM.
<b>Fan Guard</b>	Split design with close wiring spacing. 1/4 in. (6.3mm.) probe will not enter.
<b>Heating Elements</b>	Three long-life, low watt-density, high grade metal-sheathed elements.
<b>Temperature High-Limit</b>	Automatic reset type, snap-action bimetal, open on temperature rise. Rated 100,000 cycles at 10 amps, handles 0.128 amps.
<b>Control Circuit</b>	120 Volts, 0.128 amps, 15 VA.
<b>Control Transformer</b>	Multi-tap primary, 120V secondary, 25 VA.
<b>Contactors</b>	40 or 75 amp. rated 500,000 cycles at maximum capacity, operating at not more than 84% full load. 120V, 15 VA fuse protected coil.
<b>Overpressure Protection</b>	Fusible alloy plug 170 psi (1.17 MPa).
<b>Temperature Code Rating</b>	T3B 165°C (329°F) Class I & II.
<b>Temperature Limitations</b>	Operational; -49°F to 176°F (-45°C to 80°C), short term to 248°F (120°C).

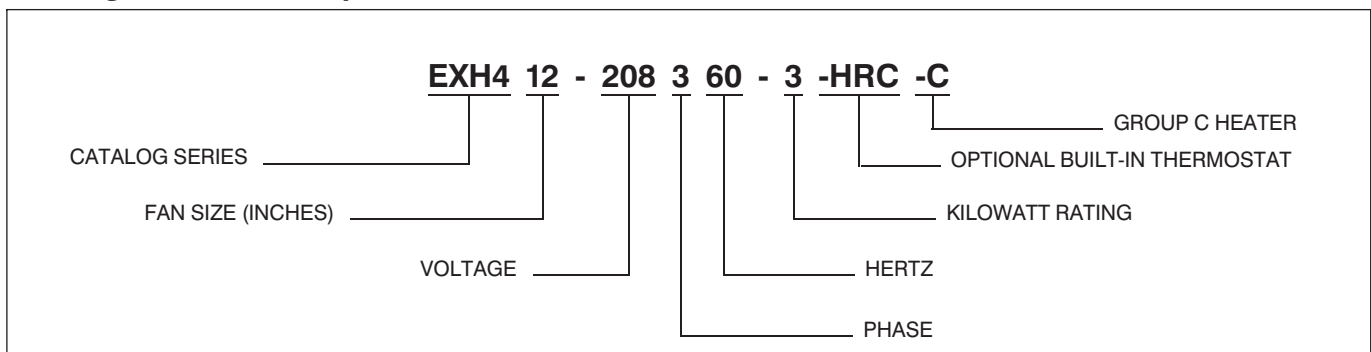
# EXH Series Explosionproof Electric Air Heaters

Cl. I, Div. 1 & 2, Group C,D  
 Cl. II, Div. 1, Groups E,F,G  
 Cl. II, Div. 2, Groups F,G  
 NEMA 7CD, 9EFG

Explosionproof  
 Dust-Ignitionproof

Nominal Wattage (kW)	Voltage	Phase	Catalog Number	Maximum Total Current (Amperes)	Temperature Rise °F	Temperature Rise °C	Heat Output BTU/Hr.
3	208	1	EXH412-208160-3	15.7	19.0	10.5	10,250
3	240	1	EXH412-240160-3	13.9	19.0	10.5	10,250
3	208	3	EXH412-208360-3	8.9	19.0	10.5	10,250
3	240	3	EXH412-240360-3	7.9	19.0	10.5	10,250
3	480	1	EXH412-480160-3*	6.3	19.0	10.5	10,250
3	480	3	EXH412-480360-3	3.9	19.0	10.5	10,250
3	600	3	EXH412-600360-3	2.9	19.0	10.5	10,250
5	208	1	EXH412-208160-5	25.3	31.6	17.6	17,100
5	240	1	EXH412-240160-5	22.3	31.6	17.6	17,100
5	208	3	EXH412-208360-5	14.4	31.6	17.6	17,100
5	240	3	EXH412-240360-5	12.7	31.6	17.6	17,100
5	480	1	EXH412-480160-5*	10.4	31.6	17.6	17,100
5	480	3	EXH412-480360-5	6.4	31.6	17.6	17,100
5	600	3	EXH412-600160-5	4.8	31.6	17.6	17,100
7.5	208	1	EXH412-208160-7.5	37.3	27.9	15.5	25,600
7.5	240	1	EXH412-240160-7.5	32.7	27.9	15.5	25,600
7.5	208	3	EXH412-208360-7.5	21.4	27.9	15.5	25,600
7.5	240	3	EXH412-240360-7.5	18.7	27.9	15.5	25,600
7.5	480	1	EXH412-480160-7.5*	15.6	27.9	15.5	25,600
7.5	480	3	EXH412-480360-7.5	9.4	27.9	15.5	25,600
7.5	600	3	EXH412-600360-7.5	7.2	27.9	15.5	25,600
10	240	1	EXH412-240160-10	43.1	37.2	20.7	34,150
10	208	3	EXH412-208360-10	28.3	37.2	20.7	34,150
10	240	3	EXH412-240360-10	24.7	37.2	20.7	34,150
10	480	1	EXH412-480160-10*	20.8	37.2	20.7	34,150
10	480	3	EXH412-480360-10	12.4	37.2	20.7	34,150
10	600	3	EXH412-600360-10	9.6	37.2	20.7	34,150
15	208	3	EXH416-208360-15	41.6	27.1	15.1	51,200
15	240	3	EXH416-240360-15	36.1	27.1	15.1	51,200
15	480	1	EXH416-480160-15*	31.3	27.1	15.1	51,200
15	480	3	EXH416-480360-15	18.0	27.1	15.1	51,200
15	600	3	EXH416-600360-15	14.4	27.1	15.1	51,200
20	480	1	EXH416-480160-20*	41.7	36.1	20.1	68,300
20	480	3	EXH416-480360-20	24.1	36.1	20.1	68,300
20	600	3	EXH416-600360-20	19.2	36.1	20.1	68,300
25	480	3	EXH420-480360-25	30.1	22.0	12.2	85,400
25	600	3	EXH420-600360-25	24.1	22.0	12.2	85,400
30	480	3	EXH420-480360-30	36.1	26.3	10.6	102,360
30	600	3	EXH420-600360-30	28.9	26.3	10.6	102,360
35	480	3	EXH420-480360-35	42.1	28.0	15.6	119,450
35	600	3	EXH420-600360-35	33.7	28.0	15.6	119,450

### Catalog Number Example



\* Not available with Group C rating (suffix C)

### Application:

Single phase XC explosionproof electric heaters are used:

- in areas where flammable liquids, gases or vapors are present
- for rugged locations including:
  - petroleum refineries, gasoline storage and dispensing areas
  - wastewater treatment plants
  - areas that use flammable liquids for cleaning parts in dip tanks
  - petrochemical plants
  - paint spraying areas
  - aircraft hangars and fuel servicing areas
  - hydrogen fuel cell and battery storage facilities
  - natural gas plants
- in areas where flammable vapors or gases may be present due to accidental or abnormal conditions
- for standby heat to prevent process heat loss or for personnel comfort during maintenance/repair operations

### Standard Features:

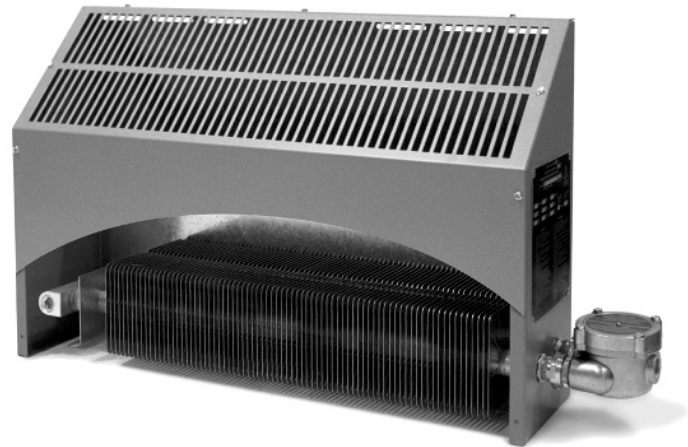
- Sloped-top cabinet prevents objects that restrict airflow from being set on top
- Corrosion-resistant design with no exposed copper or brass – suitable for H<sub>2</sub>S environments
- High-velocity airflow heats up area faster with better heat distribution
- 14-gauge steel cabinet for rugged reliability
- Short cabinet lengths take up less wall and floor space
- Optional built-in thermostat (Class I, Division 1, Groups C & D, and Zone 1, Group IIB models) reduces field installation costs
- Incoloy® 840 heating elements have longer life expectancy
- Radial-embossed aluminum plate fins warp less for better heat transfer
- Galvanized steel mounting brackets for quick installation

### Standard Materials & Finishes

- Heating elements – resistance wire embedded in a magnesium oxide refractory and sheathed in an Incoloy® 840 tube
- Finned tube assembly – aluminum tube with radial-embossed aluminum plate fins
- Cabinet – 14-gauge (0.075"/1.90 mm) steel, green-gray epoxy powder-coated front and side panels, galvanized steel back panel

### Accessories & Options

- Built-in thermostat for 120-, 208-, 240-, 277- or 480-volt applications (see Ordering Information on page 590)
- Remotely mounted HRC85 explosionproof thermostat using Honeywell® control for 45°F–85°F heating range (order separately)



### Certifications and Compliances:

NEC: Class I, Divisions 1 & 2, Groups B\*, C & D  
 IEC: Class I, Zones 1 & 2, Group IIB + H<sub>2</sub>\*  
 NEMA: 7B\*CD  
 UL Standard: 823  
 CSA Standard: C22.2 Nos. 25, 30, 46  
 Temperature Code: T2A – 280°C (536°F)

\* Hydrogen applications only apply to heaters without built-in thermostats.

### Specifications:

	1.2	1.8	3.6	4.8	7.6
<b>Nominal kW</b>	1.2	1.8	3.6	4.8	7.6
<b>Shipping Weight (lbs.)</b>	61.3	61.3	61.3	88.4	104.3
<b>(kg)</b>	27.8	27.8	27.8	40.1	47.3
<b>Enclosures</b>	NEMA Type 7. For dry indoor use only. Do not immerse in water. Do not store or use in areas exposed to rain or snow.				
<b>Mounting Brackets</b>	Two 14-gauge galvanized steel brackets.				
<b>Heating Elements</b>	Two Incoloy® 840-sheathed elements.				
<b>Optional Built-In Thermostat</b>	Explosionproof room thermostat with 10 settings.				
<b>Cabinet Material</b>	14-gauge (0.075"/1.90 mm) steel. Rear panel is galvanized. Front and side panels are baked green-gray epoxy powder-coated with five-stage pretreatment, including iron phosphate. T2A – 280°C (536°F)				
<b>Temperature Code Rating</b>	T2A – 280°C (536°F)				
<b>Temperature Limitations</b>	–45°C to 40°C (–49°F to 104°F)				
<b>Operational Storage</b>	–45°C to 80°C (–49°F to 176°F)				

# 4A Explosionproof Electric Heaters

## XC Series

NEC: Class I, Divisions 1 & 2, Groups B\*, C & D  
 IEC: Class I, Zones 1 & 2, Group IIB & H<sub>2</sub>\*  
 NEMA: 7B\*CD

### Ordering Information:

Without built-in room thermostat – Class I, Div. 1 & 2, Groups B, C & D;  
 Zones 1 & 2, Group IIB + H<sub>2</sub>

Cat. No.	Unit Wattage (kW)	Unit Output (BTU/Hr)	Unit Voltage (Volts)	Unit Current (Amps)	Maximum Circuit Fuse (Amps)*
XC-A1-N0	1.2	4097	120	10.0	15
XC-A2-N0	1.2	4097	208	5.8	15
XC-A3-N0	1.2	4097	240	5.0	15
XC-A4-N0	1.2	4097	480	2.5	15
XC-A5-N0	1.2	4097	600	2.0	15
XC-A6-N0	1.2	4097	277	4.3	15
XC-B1-N0	1.8	6146	120	15.0	20
XC-B2-N0	1.8	6146	208	8.7	15
XC-B3-N0	1.8	6146	240	7.5	15
XC-B4-N0	1.8	6146	480	3.8	15
XC-B5-N0	1.8	6146	600	3.0	15
XC-B6-N0	1.8	6146	277	6.5	15
XC-C2-N0	3.6	12292	208	17.3	20
XC-C3-N0	3.6	12292	240	15.0	20
XC-C4-N0	3.6	12292	480	7.5	15
XC-C5-N0	3.6	12292	600	6.0	15
XC-C6-N0	3.6	12292	277	13.0	15
XC-D2-N0	4.8	16389	208	23.1	25
XC-D3-N0	4.8	16389	240	20.0	25
XC-D4-N0	4.8	16389	480	10.0	15
XC-D5-N0	4.8	16389	600	8.0	15
XC-D6-N0	4.8	16389	277	17.3	20
XC-E2-N0	7.6	25950	208	36.5	40
XC-E3-N0	7.6	25950	240	31.7	35
XC-E4-N0	7.6	25950	480	15.8	20
XC-E5-N0	7.6	25950	600	12.7	15
XC-E6-N0	7.6	25950	277	27.4	30

With built-in room thermostat – Class I, Div. 1 & 2, Groups C & D;  
 Zones 1 & 2, Group IIB

Cat. No.	Unit Wattage (kW)	Unit Output (BTU/Hr)	Unit Voltage (Volts)	Unit Current (Amps)	Maximum Circuit Fuse (Amps)*
XC-A1-B1	1.2	4097	120	10.0	15
XC-A2-B2	1.2	4097	208	5.8	15
XC-A3-B3	1.2	4097	240	5.0	15
XC-A4-B4	1.2	4097	480	2.5	15
XC-A6-B6	1.2	4097	277	4.3	15
XC-B1-B1	1.8	6146	120	15.0	20
XC-B2-B2	1.8	6146	208	8.7	15
XC-B3-B3	1.8	6146	240	7.5	15
XC-B4-B4	1.8	6146	480	3.8	15
XC-B6-B6	1.8	6146	277	6.5	15
XC-C2-B2	3.6	12292	208	17.3	20
XC-C3-B3	3.6	12292	240	15.0	20
XC-C4-B4	3.6	12292	480	7.5	15
XC-C6-B6	3.6	12292	277	13.0	15
XC-D3-B3	4.8	16389	240	20.0	25
XC-D4-B4	4.8	16389	480	10.0	15
XC-D6-B6	4.8	16389	277	17.3	20
XC-E4-B4	7.6	25950	480	15.8	20

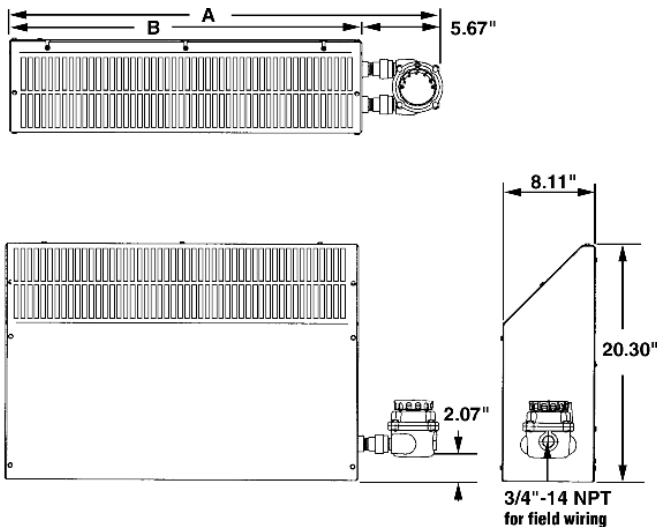
4A Instruments

\*Or equivalent breaker as per National Electrical Code and Canadian Electrical Code

Notes:

1. Remote-mounted explosionproof room thermostats are not suitable for Group B & IIC applications. Remote contactors are also required on all 600-volt heaters and heaters with a current draw greater than 22 amps (supplied and installed by others).
2. Remote mounted explosionproof room thermostats suitable for Group B, IIB + H<sub>2</sub> applications are a special-order item.
3. Operation at lower than rated voltages will result in reduced kW output and amp draw.  
 Actual Output (kW) = [(Supply Voltage)<sup>2</sup> ÷ (Rated Voltage)<sup>2</sup>] × Rated Unit Wattage (kW)

### Dimensions (inches):



Heater kW Rating	A Dimensions	B Dimensions
1.2 - 3.6	37.0" (940mm)	31.34" (796mm)
4.8	55.125" (1400mm)	49.45" (1256mm)
7.6	65.125" (1654mm)	59.49" (1511mm)

# HRC Thermostats with Honeywell Control

Cl. I, Div. 1 & 2, Groups C,D  
 Cl. II, Div. 1, Groups E,F,G  
 Cl. II, Div. 2, Groups F,G  
 Cl. III  
 NEMA 7CD,9EFG,12

Explosionproof  
 Dust-Ignitionproof  
 Raintight  
 Wet Locations

4A

4A Instruments

## Application:

HRC thermostats with Honeywell control are used:

- for heavy duty line voltage thermostats to control fan coils, fans, motor starters, valves, contactors, and circulator motors in heating and/or cooling systems. If larger motors than listed are to be controlled, relays or magnetic motor starters must be interconnected between motors and thermostats
- in specific hazardous atmospheres such as encountered in oil refineries, chemical plants, paint and varnish manufacturing plants, certain hazardous metal finishing areas, coal processing locations, granaries and grain processing plants

## Features:

- A heavy duty snap switch is mounted in the enclosure. The temperature sensitive element is mounted on the external surface of the cover and actuates the switch through a shaft and bearing mechanism.
- An external knob permits temperature setting within calibrated range. The knob is removable to prevent unauthorized adjustment. Room ambient is indicated on thermometer at front.

## Standard Materials:

- Feraloy® iron alloy

## Standard Finishes:

- Electrogalvanized and aluminum acrylic paint

## Size Ranges:

- Hubs – 3/4" through feed

## Certifications and Compliances:

- NEC/CEC:
  - Class I, Division 1 & 2, Groups C,D
  - Class II, Division 1, Groups E,F,G
  - Class II, Division 2, Groups F,G
  - Class III
- NEMA/EEMAC: 7CD,9EFG,12
- UL Standard: 886
- CSA Standard: C22.2 No. 30



**Non-Adjustable  
 Operating  
 Differential  
 (approx.)**  
 1° F

**Temperature  
 Range**  
 45-85° F

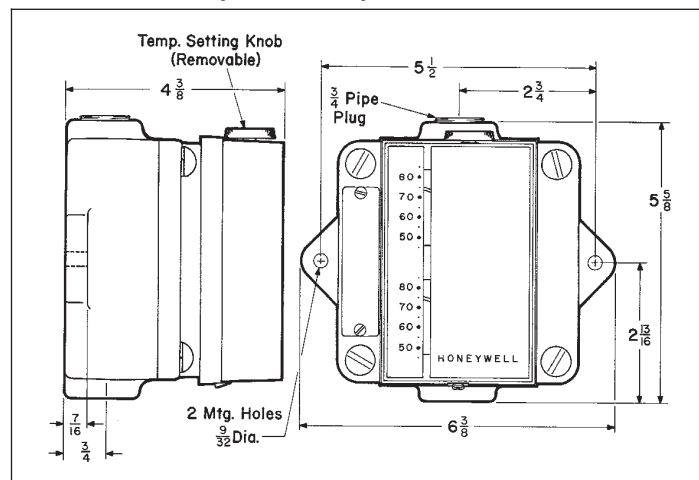
**Cat. #†**  
 HRC85

## Electrical Rating Ranges:

- 120/240 VAC
  - 50/60 hertz
  - Full load current in amperes:
- |         | 120 VAC | 240 VAC |
|---------|---------|---------|
| Heating | 10.2    | 6.5     |
| Cooling | 7.4     | 4.0     |

† Furnished with thermostat and thermometer.

## Dimensions\* (in inches)



\* Dimensions are approximate, not for construction purposes.

## Applications:

HRC Bimetal thermostats are used:

- to control heating only, cooling only or ventilation systems in demanding industrial environments
- in specific hazardous atmospheres such as encountered in oil refineries, chemical plants, paint and varnish manufacturing plants, coal processing locations, waste storage facilities, pulp and paper mills, granaries and grain processing plants or any other location where specific explosive gases or dusts are present.

## Features:

- Bimetal sensing element that is fast acting, reliable and unaffected by altitude
- Compact, light weight design makes it easy to install
- No exposed copper or brass parts for excellent resistance to corrosion
- Feed-thru design for easy installation
- Durable all aluminum exterior
- Available for heating only or heating or cooling/ventilation applications

## Standard Materials:

- Copper-free aluminum

## Standard Finishes:

- Natural

## Size Ranges:

Conduit opening – 3/4" hub

## Certifications and Compliances:

- NEC/CEC:
  - Class I, Division 1 & 2, Groups C,D
  - Class II, Division 1, Groups E,F,G
  - Class II, Division 2, Groups F,G
  - Class III
- UL Standard: 886
- CSA Standard: C22.2 No. 30

## Electrical Ratings:

- 480 VAC max
- 1/2 HP @ 120 VAC
- 1 HP @ 250 VAC
- 22 amps Res.

## Temperature Range:

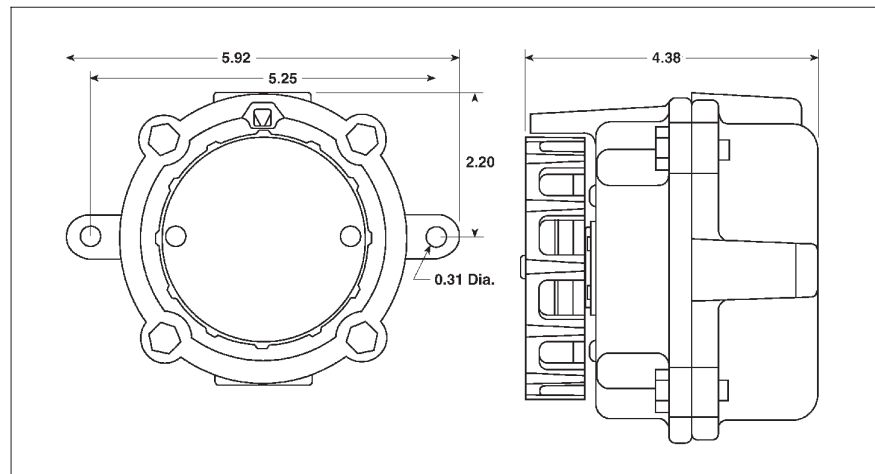
- 36°F to 82°F (2°C to 28°C)
- Temperature differential: 2.5°F (1.5°C)



## Ordering Information:

Hub Size	Description	Catalog Number
3/4"	Single Pole, Single Throw (heating only)	HRC1
3/4"	Single Pole, Double Throw (heating or cooling/ventilation applications)	HRC2

## Dimensions:



### Application:

Type TCH electric clocks are used:

- in oil refinery control rooms, hospital operating rooms, chemical plants, grain handling and processing plants and other similar locations where specific hazardous atmospheres may exist

### Features:

- Sheet steel case may be used where environmental conditions are not severe. Electric motor and connections are contained in corrosion-resistant enclosure. Dials are 13" in diameter. Reset knob protrudes from bottom of case.
- Disassembly for installation and maintenance is easily performed. The motor housing is factory sealed, with no external seals required.

### Standard Materials:

- Clock body and cover – sheet steel
- Motor housing – copper-free aluminum

### Standard Finishes:

- Aluminum – aluminum acrylic paint
- Sheet steel – baked aluminum enamel

### Options:

- The following special options are available:  
 Description  
 Sheet metal band notched for conduit, can be supplied for enclosing gap between wall surface and back of case. . . . . See listings

### Size Ranges:

- Hubs – 1" through feed

### Electrical Rating Ranges:

- 110vac, 60 hertz
- Self-starting synchronous motor – 3 watts

### Certifications and Compliances:

- NEC: Class I, Division 1 & 2, Groups C,D  
 Class II, Division 1, Groups E,F,G  
 Class II, Division 2, Groups F,G  
 Class III
- UL Standard: 886



Sheet Steel Case

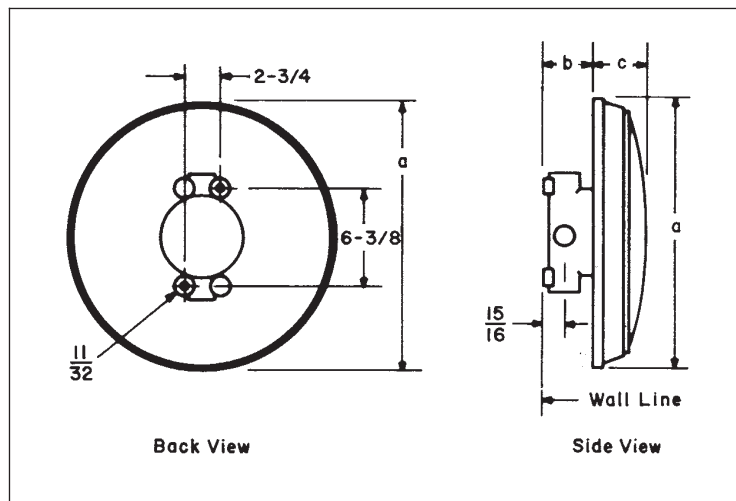
#### Enclosure with Clock

Motor	Hub Size	Style	Cat. #
110 VAC 60 hertz Self-Starting Synchronous (3 Watts)	1	With Sheet Steel Case Surface Mount	TCH2220

#### Enclosing Sheet Metal Band

Cat. #
TCH202

### Dimensions\* (inches)



Cat. #	a	b	c
TCH2220	17	2 7/8	3 7/16

\* Dimensions are approximate, not for construction purposes.