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SUBMITTAL COMMENT SHEET

PROJECT: Argonne Library HVAC Update
PROJECT #: 2024.119.01

SUBMITTAL #: 236400
DATE RECEIVED: May 6, 2025
DATE RETURNED: May 6, 2025

SPECIFICATION SECTION: 236400
REVIEWED BY: Tomas Rohwer

Checking is only for general conformance with the design concept of the project and general compliance with the information given in the contract documents. Any action shown is subject to the requirements of the plans and specifications. The contractor is responsible for:
✓ Dimensions, which shall be confirmed and correlated at the project site.
✓ Fabrication processes and techniques of construction.
✓ Coordination of their work with that of all other trades.
✓ Satisfactory performance of their work.

GENERAL COMMENTS:

SPECIFICATION NUMBER	ITEM DESCRIPTION	ACTION TAKEN	COMMENTS
236400	CH-1	1	

ACTION TAKEN:
1 – No Exceptions Taken
2 – Make Corrections Noted
3 – Revise and Resubmit
4 – Rejected
5 – Informational Submittal

SUBMITTAL DATA

Job Name	Argonne Library
Prepared By	Jared Haight
Date	5/6/2025

Job Information	*Technical Data Sheet*
Job Name	Argonne Library
Date	5/6/2025
Submitted By	Jared Haight
Software Version	16.80
Unit Tag	CH-1

Image may not represent ordered unit

Unit Overview

Model Number	Capacity ton	Voltage	Unit Starter Type	ASHRAE 90.1	LEED Enhanced Refrigerant Management Credit
AGZ004F	34.94	208 V / 60 Hz / 3 Ph	Across the Line	'07, '10, '13, '16 & '19	Pass

Unit Type	Platform	Unit Revision
Air-Cooled Scroll Compressor Chiller	High Efficiency Packaged	00

Display	Tubing
Door Mounted Display	EEXV, Repl FD, Liq/Disch Shutoff, Suction Shutoff, No HGBP

Fan Type	Refrigerant Type	Refrigerant Weight
DC Fan Motors / All Fans VFD - 850 RPM - DC	R32	36 lb (per unit)

Compressor	Approval
GGNNFFNN	ETL/cETL, AHRI & ASHRAE 90.1

Actual refrigerant charge depends on the final unit construction, refer to unit nameplate.

Evaporator

Evaporator Model:	PPA240H078
Fluid Volume:	2.8 gal
Connection Hand:	Universal, 1-Pass, Grooved, Standard Head
Connection Size:	2.5 in
Insulation:	Single Layer Insulation to Suction at each Compressor

Entering Fluid Temperature	Leaving Fluid Temperature	Fluid Type	Glycol Concentration	Fluid Flow	Fluid Flow (with glycol) Min / Max	Pressure Drop	Pressure Drop (with glycol) Min / Max	Fouling Factor
54.00 °F	46.00 °F	Propylene Glycol	30.0 %	111.0 gpm	56.1 / 224.3 gpm	13.1 ft H_2O	3.00 / 56.1 ft H_2O	0.000100 °F.ft².h/Btu

Note: Evaporator Pressure Drop does not include a strainer. Minimum flow is based on a Constant Flow Pumping System Type.

Condenser

Coil Fins:	MicroChannel
Guards:	Condenser Coil Louvers & Base Frame Wire Grilles

Design Ambient Air Temperature	Altitude	Fan Diameter	Minimum Design Ambient Temperature
98.0 °F	1920 ft	31.5 in	32.0 °F

Unit Performance

Design

Capacity	Input Power	Efficiency (EER)	IPLV.IP (EER)*
34.94 ton	35.79 kW	11.72 Btu/W.h	20.07 Btu/W.h

Performance Points rated at AHRI Ambient Relief - with Glycol

Unit					Evaporator				Condenser	
Point #	% Load	Capacity ton	Input Power kW	Efficiency (EER) Btu/W.h	Fluid Flow gpm	Pressure Drop ft H_2O	Entering Fluid °F	Leaving Fluid °F	Ambient Air °F	Altitude ft
1	100.0	34.94	35.79	11.72	111.0	13.1	54.00	46.00	98.0	1920
2	90.0	31.45	28.97	13.03	111.0	13.1	53.20	46.00	91.6	1920
3	80.0	27.96	22.65	14.81	111.0	13.1	52.40	46.00	85.1	1920
4	70.0	24.46	16.93	17.34	111.0	13.1	51.60	46.00	78.6	1920
5	60.0	20.97	12.60	19.97	111.0	13.1	50.80	46.00	72.2	1920
6	50.0	17.47	9.564	21.92	111.0	13.1	50.00	46.00	65.8	1920
7	40.0	13.98	6.956	24.11	111.0	13.1	49.20	46.00	59.3	1920
8	30.0	10.48	4.924	25.55	111.0	13.1	48.40	46.00	55.0	1920
9	20.0	This load point is below the chiller minimum load.								
10	10.0	This load point is below the chiller minimum load.								

Performance Points rated at AHRI Standard Conditions - with Water

Point #	% Load	Capacity ton	Input Power kW	Efficiency (EER) Btu/W.h
1	100	35.74	34.45	12.45
2	75	26.80	19.51	16.48
3	50	17.87	9.638	22.25
4	25	8.934	4.269	25.11

** IPLV reflects AHRI standard rating conditions with water and does not change with user defined conditions*

Supplemental IPLV Performance Points rated at AHRI Standard Condition - with Water

Unit					Evaporator			Condenser	
Point #	% Load	Capacity ton	Input Power kW	Efficiency (EER) Btu/W.h	Fluid Flow gpm	Entering Fluid °F	Leaving Fluid °F	Ambient Air °F	Altitude ft
1	100	35.74	34.45	12.45	85.5	54.00	44.00	95.0	0.000
2	75	26.80	19.51	16.48	85.5	51.50	44.00	80.0	0.000
3	50	17.87	9.638	22.25	85.5	49.00	44.00	65.0	0.000
4	25	8.934	4.269	25.11	85.5	46.50	44.00	55.0	0.000

**Unit will be configured from the factory to support glycol performance as rated. The unit must not operate with water only without consulting the factory.*

Sound (with insulation)

Sound Pressure (*at 30 feet*)

63 Hz dB	125 Hz dB	250 Hz dB	500 Hz dB	1 kHz dB	2 kHz dB	4 kHz dB	8 kHz dB	Overall dBA
40	48	52	55	56	52	47	41	**59**

Sound Power

63 Hz dB	125 Hz dB	250 Hz dB	500 Hz dB	1 kHz dB	2 kHz dB	4 kHz dB	8 kHz dB	Overall dBA
67	76	79	82	83	79	74	68	**86**

Octave band is non 'A' weighted and overall readings are 'A' weighted. Sound data rated in accordance with AHRI Standard-370.

Physical

Unit

Length*	Height	Width*	Shipping Weight*	Operating Weight*
85 in	99 in	88 in	3990 lb	4014 lb

** Shipping and operating weights are based on 'worst case' unit configuration variations but do not include the weights of any Options or Accessories. Contact Chiller Applications for additional information.*

Electrical

Unit Electrical Data

Voltage	Starter Type	Fan Motor Quantity	FLA Fan Motors (each)
208 V / 60 Hz / 3 Ph	Across the Line	4	3.2 A

Power Connection Type:	Single Point Disconnect Switch
Short Circuit Current Rating:	65 kA
Phase Voltage:	Phase & Under/Over Voltage Protection with LED

Single Point Power Connection

Minimum Circuit Ampacity (MCA):	182 A
Recommended Overcurrent Protection Size:	200 A
Maximum Overcurrent Protection Size(MOCP):	200 A
Lug Connection Size:	(1) 2 AWG to 3/0

Compressor Electrical Data

Compressor Type	Compressor Quantity	Starter Type
Scroll	4	Across the Line

Circuit #:	**1**		**2**	
Compressor #:	**1**	**3**	**2**	**4**
Rated Load Amps (RLA):	17 A	17 A	14 A	14 A
Inrush Current:	142 A	142 A	98 A	98 A

Note RLA Shown is based on 460V power. MCA & MOCP shown are based on selected voltage.

Options

Basic Unit

Control Box Ambient:	High Ambient with Exhaust Fans (125ºF maximum)
Suction Shut-off Valve:	Included
High Stage Relief Valve:	Included

Control

Communication:	Combination of Modbus, BACnet MS/TP, BACNet IP
RapidRestore®:	Included

Electrical

Water Flow Indicator:	Included

Warranty

Unit Startup	Domestic
Standard Warranty:	1st Year Entire Unit Parts & Labor
Extended Unit Warranty:	Entire Unit; Extended 4 years parts only (5 Years Total)
Refrigerant Warranty	1 Year Total

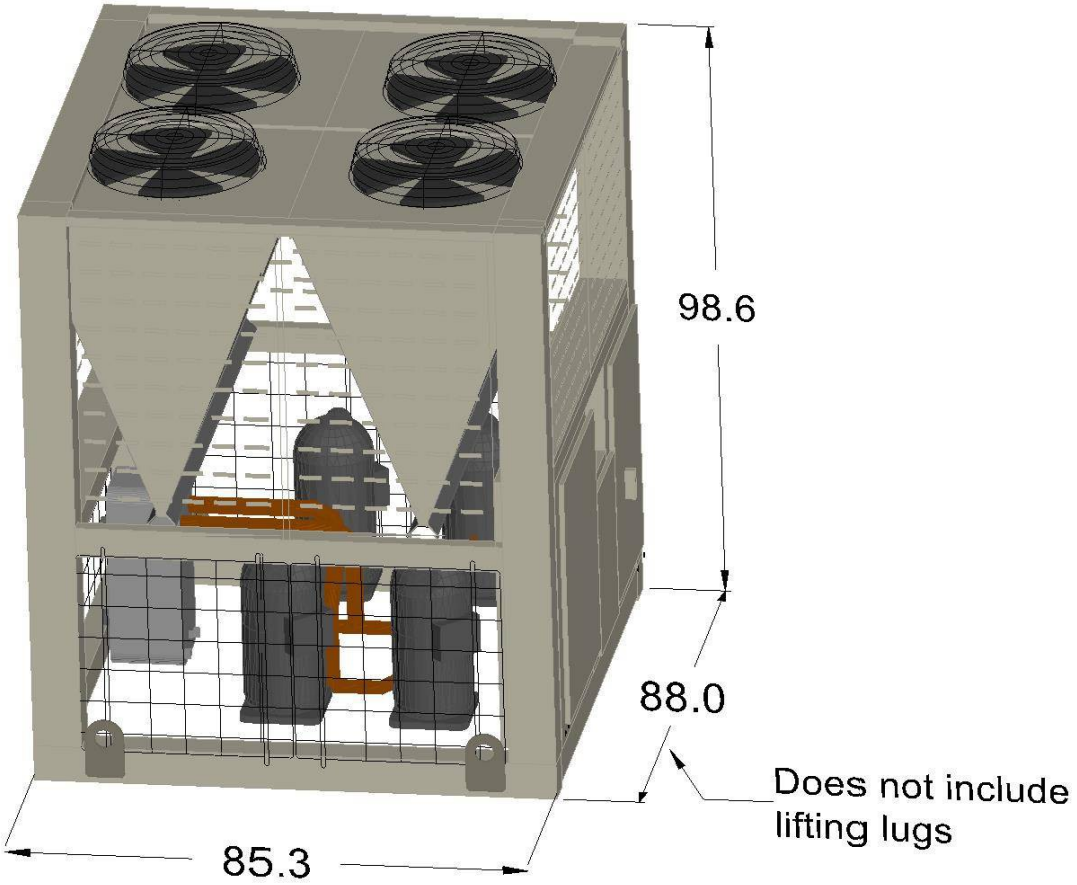
AHRI Certification

Certified in accordance with the AHRI Air-Cooled Water-Chilling Packages Certification Program, which is based on AHRI Standard 550/590 (I-P) and AHRI Standard 551/591 (SI). Certified units may be found In the AHRI Directory at www.ahridirectory.org. Unit contains freeze protection liquids in the evaporator and is certified when rated per the Standard with water.

Performance at AHRI Standard Condition – with Water

Unit					Evaporator				Condenser	
% Load	**Capacity** ton	**Input Power** kW	**Efficiency (EER)** Btu/W.h	**IPLV.IP* (EER)** Btu/W.h	**Fluid Flow** gpm	**Pressure Drop** ft H_2O	**Entering Fluid** °F	**Leaving Fluid** °F	**Ambient Air** °F	**Altitude** ft
100	35.74	34.45	12.45	20.07	85.50	5.90	54.00	44.00	95.0	0.000

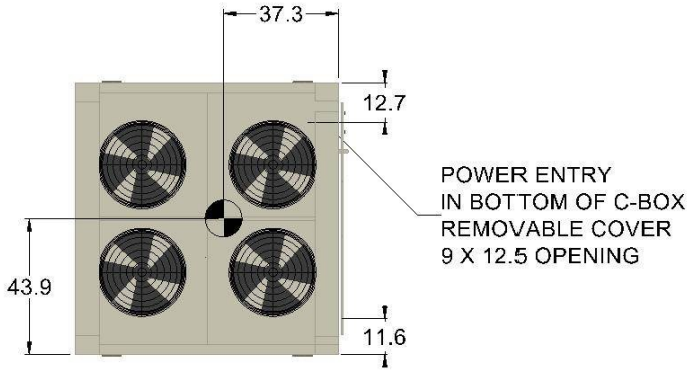
Note: Performance with water given as reference only to show compliance with AHRI Standard 550/590. Unit will be configured from the factory to support glycol performance as rated. The unit must not operate with water only without consulting the factory.

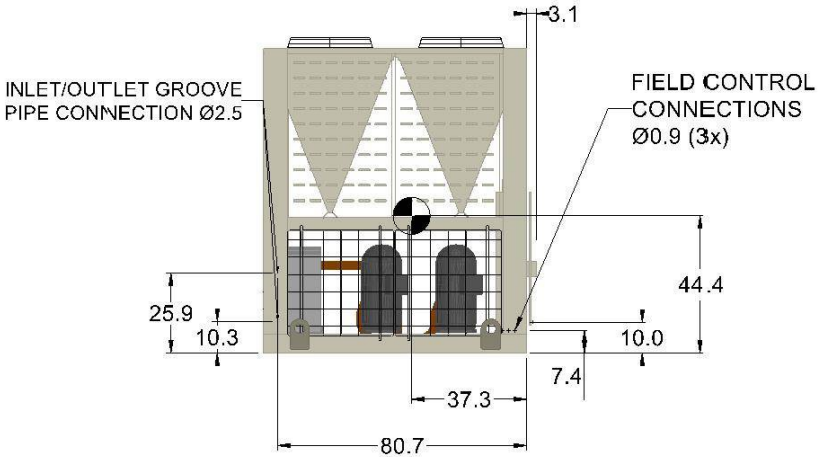


NOTE: A water strainer must be installed at the inlet of the evaporator to protect it from damage. Please refer to the IOM for additional details.

Trailblazer® Air-Cooled Scroll	Unit Tag: CH-1			Sales Office: Air Reps, LLC			DAIKIN
Product: Trailblazer® Air-Cooled Scroll	Project Name: Argonne Library			Sales Engineer: Jared Haight			13600 Industrial Park Blvd. Minneapolis, MN 55441
Model: AGZ004F	May 06, 2025	Ver/Rev:	Sheet: 1 of 1	Scale: NTS	Tolerance: +/- 0.25"	Dwg Units: (in)	www.DaikinApplied.com Software Version: 16.80

TOP VIEW





FRONT VIEW

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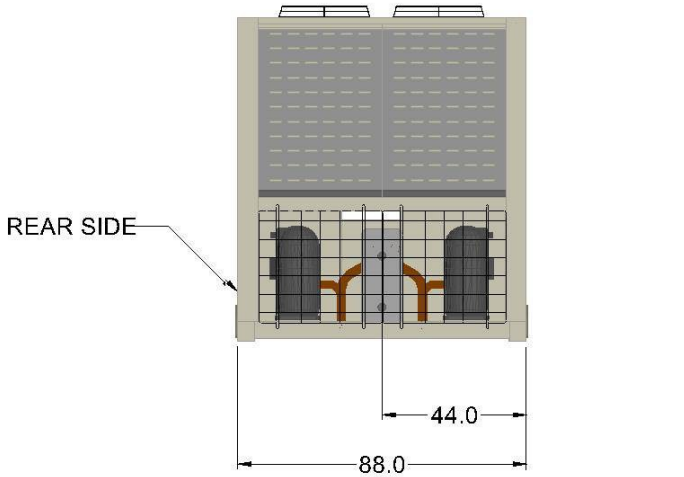
LEFT VIEW



REAR VIEW

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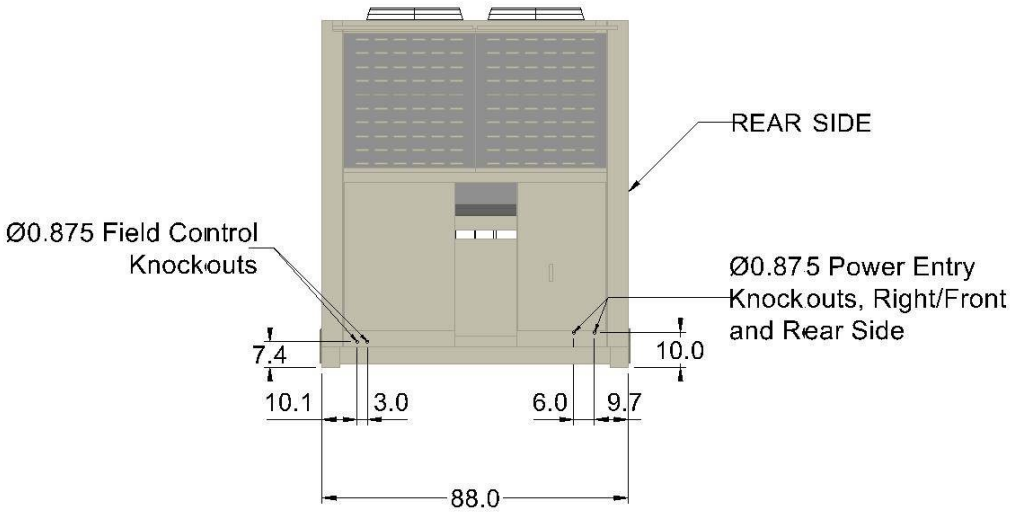
Right VIEW



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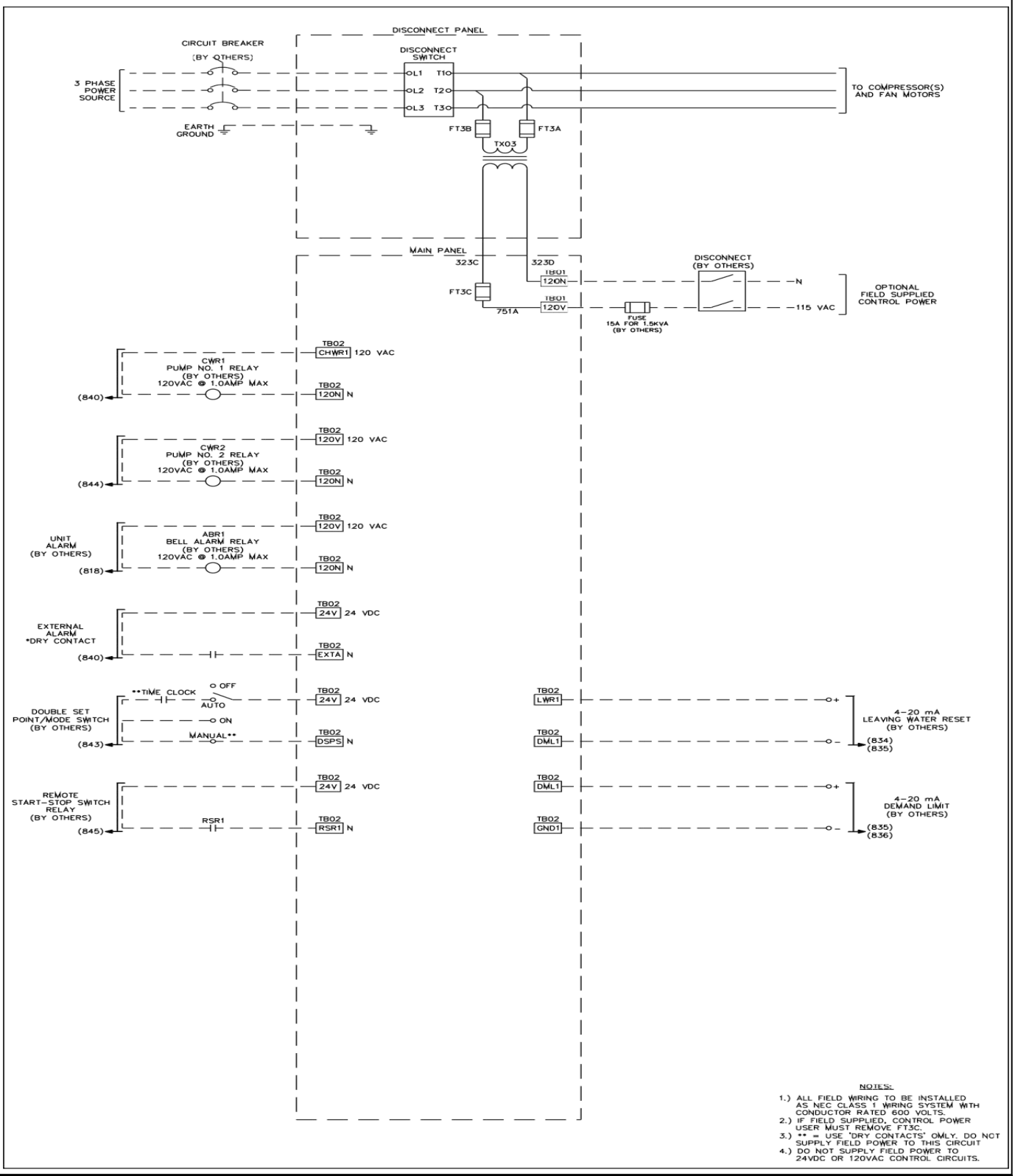
AGZ-F Single-Point Connection Field Wiring Diagram

0B



Field Wiring Diagram	Unit Tag: CH-1			DAIKIN		
Product: Trailblazer® Air-Cooled	Project Name: Argonne Library			13600 Industrial Park Blvd. Minneapolis, MN 55441		
Model :AGZ004F Single-Point Connection	Sales Office: Air Reps, LLC			www.DaikinApplied.com	Software Version: 16.80	
Sales Engineer: Jared Haight	May 06, 2025	Ver/Rev:	Sheet 1 of 1	Scale: N/A	Tolerance: N/A	Dwg Units: N/A

00

Trailblazer® Air-Cooled Scroll AGZ-F Service Clearance

Recommended Minimum Clearances			Distance "C"	Unit Operation	Service Clearance	
# of	Coil Side "A"	Distance "B"	ft. (m)	Opposite End	Opposite End	Coil Removal
Fans	ft. (m)	ft. (m)	Operational/Service	ft. (m)	ft. (m)	Service area
4-14	4 (1.2) / 8 (2.4)	8 (2.4)	4 (1.2) / 8 (2.4)	4 (1.2)	4 (1.2)	Either Side

Note (1): One Side for Compressor removal and the other side for Compressor/Coil removal

Note (1): One Side for Compressor removal and the other side for Compressor/Coil removal.

Coil Side "A" — This is the dimension from the side of the unit for air clearance to coil and for service access to the compressors and major components - See Note (1) above.

Distance "B" — This is the dimension between two units mounted side by side
Clearance to the opposite side of the units must be also this distance or greater.
Provide air space at each end of unit also equal to this distance or use partially open wall.

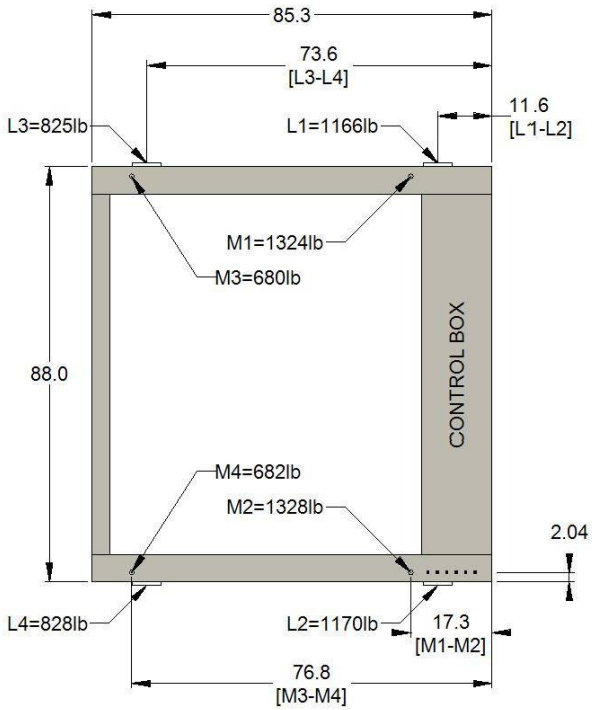
Distance "C" — This is the dimension from the side of the unit to a enclosure wall
If wall height exceeds the unit height - more distance or open wall must be provided
Provide air space at each end of unit also equal to this distance or use partially open wall.

Opposite End — Service access is required to both ends of the unit.
Safety codes require a minimum of 4 ft clearance at the control box end
End opposite the control box requires clearance for access to unit components

Product Drawing	Unit Tag: CH-1			DAIKIN		
Product: Trailblazer® Air-Cooled	Project Name: Argonne Library			13600 Industrial Park Blvd. Minneapolis, MN 55441		
Model: AGZ004F	Sales Office: Air Reps, LLC			www.DaikinApplied.com	Software Version: 16.80	
Sales Engineer: Jared Haight	May 06, 2025	Ver/Rev:	Sheet 1 of 1	Scale: NTS	Tolerance: +/-1.0"	Dwg Units: in [mm]

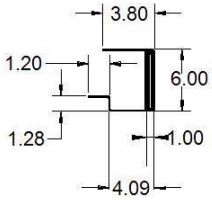
Mounting and Lifting

BASE FRAME TOP VIEW



NOTES:
1) L = LIFTING WEIGHT
2) M = MOUNTING LOAD
3) UNIT SHIPPING WEIGHT = 3990lb
4) UNIT OPERATING WEIGHT = 4014lb
5) MOUNTING HOLE SIZE = .75"
6) MOUNTING HOLES ONLY ON BOTTOM OF BASE
7) UNIT WIDTH DIMENSION DOES NOT INCLUDE 1 INCH THICKNESS OF THE LIFTING LUG ASSEMBLIES ON BOTH SIDES, WHICH MAY BE REMOVED AFTER INSTALLATION BUT MUST BE RETAINED FOR FUTURE LIFTING / UNIT REMOVAL

Base Rail
Cross Section



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PART 1: GENERAL

1.01 SUMMARY

A. Section includes design, performance criteria, refrigerants, controls, and installation requirements for air-cooled scroll compressor chillers.

1.02 REFERENCES

A. Comply with applicable Standards/Codes of AHRI 550/590, ANSI/ASHRAE 15, ETL, cETL, NEC, and OSHA as adopted by the State.

B. Units shall meet the efficiency standards of the current version of ASHRAE Standard 90.1, and FEMP standard 2012.

1.03 SUBMITTALS

A. Submit shop drawings and product data in accordance with the specifications.

B. Submittals shall include the following:

1. Dimensioned plan and elevation view drawings, required clearances, and location of all field connections
2. Summary of all auxiliary utility requirements such as electricity, water, etc. Summary shall indicate quality and quantity of each required utility.
3. Single line schematic drawing of the field power hookup requirements, indicating all items that are furnished.
4. Schematic diagram of control system indicating points for field interface/connection.
5. Diagram shall fully delineate field and factory wiring.
6. Installation and operating manuals.

1.04 QUALITY ASSURANCE

A. Qualifications: Equipment manufacturer must specialize in the manufacture of the products specified and have five years experience with the type of equipment and refrigerant offered.

B. Regulatory Requirements: Comply with the codes and standards specified.

C. Chiller manufacturer plant must be ISO Registered.

1.05 DELIVERY AND HANDLING

A. Chiller shall be delivered to the job site completely assembled and charged with refrigerant and oil by the manufacturer.

B. Comply with the manufacturer's instructions for rigging and handling equipment.

1.06 WARRANTY

A. 1st Year Labor Warranty: Parts & Compressor

B. Extended Compressor Warranty: None.

C. Extended Unit Warranty: Entire unit, four (4) years parts only.

D. Refrigerant Warranty: One (1) year R32 refrigerant.

E. Delay Warranty Start: None.

1.07 MAINTENANCE

A. Maintenance of the chillers shall be the responsibility of the owner and performed in accordance with the manufacturer’s instructions.

PART 2: PRODUCTS

2.01 UNIT DESCRIPTION

A. Provide and install as shown on the plans factory-assembled, factory-charged air-cooled scroll compressor packaged chillers in the quantity specified. Each chiller shall consist of hermetic tandem scroll compressor sets, brazed plate evaporator, air-cooled condenser section, microprocessor-based control system and all components necessary for controlled unit operation.

B. Chiller shall be functionally tested at the factory to ensure trouble free field operation

2.02 DESIGN REQUIREMENTS

A. Flow Range: The chiller shall have the ability to support variable flow range down to 40% of nominal design (based on AHRI conditions).

B. Operating Range: The chiller shall have the ability to control leaving chilled fluid temperature from 15F to 65F.

C. General: Provide a complete scroll compressor packaged chiller as specified herein and as shown on the drawings. The unit shall be in accordance with the standards referenced in section 1.02 and any local codes in effect.

D. Refer to the schedule of performance on the drawings. The chiller shall be capable of stable operation to a minimum percentage of full load (without hot gas bypass) of 25%. Performance shall be in accordance with AHRI Standard 550/590.

E. Acoustics: Sound pressure levels for the unit shall not exceed the following specified levels. All manufacturers shall provide the necessary sound treatment (parts and labor) to meet these levels if required. Sound data shall be provided with the quotation. Test shall be in accordance with AHRI Standard 370.

2.03 CHILLER COMPONENTS

A. Compressor

1. The compressors shall be sealed hermetic, scroll type with crankcase oil heater and suction strainer. The compressor motor shall be refrigerant gas cooled, high torque, hermetic induction type, two-pole, with inherent thermal protection on all three phases and shall be mounted on RIS vibration isolator pads. The compressors shall be equipped with an internal module providing compressor protection and communication capability.

B. Evaporator

1. The evaporator shall be a compact, high efficiency, dual circuit, brazed plate-to-plate type heat exchanger consisting of parallel stainless steel plates. Vent and drain connections shall be provided in the inlet and outlet chilled water piping by the installing contractor.

2. The evaporator shall be protected with an external, electric resistance heater plate. The evaporator and suction piping to the compressors shall be insulated with 3/4" (19 mm) thick CFC and HCFC-free closed-cell flexible elastomeric foam insulation material with 100% adhesive coverage. The insulation shall have an additional outer protective layer of 3mm thick PE embossed film to provide superior damage resistance. Insulation without the protective outer film shall not be acceptable. UV resistance level shall meet or exceed a rating of 'Good' in accordance with the UNI ISO 4892 - 2/94 testing method. This combination of a heater plate and insulation shall provide freeze protection down to -20°F (-29°C) ambient air temperature.

3. The water-side maximum design pressure shall be rated at a minimum of 469 psig (3235 kPa). Evaporators shall be designed and constructed according to, and listed by, Underwriters Laboratories (UL).

C. Condenser

1. Condenser fans shall be propeller type arranged for vertical air discharge and individually driven by direct-drive fan motors. The fans shall be equipped with a heavy-gauge vinyl-coated fan guard. Fan motors shall be TEAO type with permanently lubricated ball bearings, inherent overload protection, three-phase, direct-drive, 1140 rpm. Each fan section shall be partitioned to avoid cross circulation.

2. Coil shall be microchannel design and shall have a series of flat tubes containing multiple, parallel flow microchannels layered between the refrigerant manifolds. Tubes shall be 9153 aluminum alloy. Tubes

made of 3102 alloy or other alloys of lower corrosion resistance shall not be accepted. Coils shall consist of a two-pass arrangement. Each condenser coil shall be factory leak tested with high-pressure air under water. Coils shall withstand 1000+ hour acidified synthetic sea water fog (SWAAT) test (ASTM G85-02) at 120°F (49°C) with 0% fin loss and develop no leaks.

D. Refrigerant Circuit

1. Each of the two refrigerant circuits shall include a replaceable-core refrigerant filter-drier, sight glass with moisture indicator, liquid line solenoid valve (no exceptions), expansion valve, and insulated suction line.

E. Construction

1. Unit formed sheet metal components shall be painted using a corrosion resistant paint system, for aesthetics and long-term durability. Paint system will include a base primer with a high-quality polyester resin topcoat. Painted galvanized parts shall be G60 or greater and finished, unabraded panel surfaces shall be capable to be exposed to an ASTM B117 salt spray environment and exhibit no visible red rust at a minimum of 3,000 hours exposure. Finished, abraded surfaces shall be tested per ASTM D1654, having a mean scribe creepage not exceeding 1/16" at 1,000 hours minimum exposure to an ASTM B117 salt spray environment.

2. Upper section of unit shall have protective and decorative louvers covering the coils and unit end; base section of unit shall have protective, 12 GA, PVC-coated, wire grille guards and have painted steel wraps enclosing the coil end sections and piping.

F. Control System

1. A centrally located weatherproof control panel shall contain the field power connection points, control interlock terminals, and control system. Box shall be designed in accordance with NEMA 3R rating. Power and starting components shall include factory circuit breaker for fan motors and control circuit, individual contactors for each fan motor, solid-state compressor three-phase motor overload protection, inherent fan motor overload protection and two power blocks (one per circuit) for connection to remote, contractor supplied disconnect switches. Hinged access doors shall be lockable. Barrier panels or separate enclosures are required to protect against accidental contact with line voltage when accessing the control system.

2. Shall include high short circuit current rating of 65,000 amps with single-point disconnect switch

G. Unit Controller

1. An advanced DDC microprocessor unit controller with a 5-line by 22-character liquid crystal display provides the operating and protection functions. The controller shall take preemptive limiting action in case of high discharge pressure or low evaporator pressure. The controller shall contain the following features as a minimum:

2. The unit shall be protected in two ways: (1) by alarms that shut the unit down and require manual reset to restore unit operation and (2) by limit alarms that reduce unit operation in response to some out-of-limit condition. Shut down alarms shall activate an alarm signal.

3. Shutdown Alarms
   a. No evaporator water flow (auto-restart)
   b. Sensor failures
   c. Low evaporator pressure
   d. Evaporator freeze protection
   e. High condenser pressure
   f. Outside ambient temperature (auto-restart)
   g. Motor protection system
   h. Phase voltage protection (Optional)

4. Limit Alarms
   a. Condenser pressure stage down, unloads unit at high discharge pressures.
   b. Low ambient lockout, shuts off unit at low ambient temperatures.
   c. Low evaporator pressure hold, holds stage #1 until pressure rises.

d. Low evaporator pressure unload, shuts off one compressor.

5. Unit Enable Section
   a. Enables unit operation from either local keypad, digital input, or BAS
6. Unit Mode Selection
   a. Selects standard cooling, ice, glycol, or test operation mode
7. Analog Inputs:
   a. Reset of leaving water temperature, 4-20 mA\
   b. Current Limit
8. Digital Inputs
   a. Unit off switch
   b. Remote start/stop
   c. Flow switch
   d. Ice mode switch, converts operation and setpoints for ice production
   e. Motor protection
9. Digital Outputs
   a. Shutdown alarm; field wired, activates on an alarm condition, off when alarm is cleared
   b. Evaporator pump; field wired, starts pump when unit is set to start
10. Condenser fan control - The unit controller shall provide control of condenser fans based on compressor discharge pressure.
11. Building Automation System (BAS) Interface
   a. Factory mounted DDC controller(s) shall support operation on a BACnet®, Modbus® network via one of the data link / physical layers listed below as specified by the successful Building Automation System (BAS) supplier.
   b. BACnet MS/TP master (Clause 9)
   c. BACnet IP, (Annex J)
   d. BACnet ISO 8802-3, (Ethernet)
   e. The information communicated between the BAS and the factory mounted unit controllers shall include the reading and writing of data to allow unit monitoring, control and alarm notification as specified in the unit sequence of operation and the unit points list.
   f. All communication from the chiller unit controller as specified in the points list shall be via standard BACnet objects. Proprietary BACnet objects shall not be allowed. BACnet communications shall conform to the BACnet protocol (ANSI/ASHRAE135-2001). A BACnet Protocol Implementation Conformance Statement (PICS) shall be provided along with the unit submittal.

2.04 OPTIONS AND ACCESSORIES

A. The following options are to be included:

1. Rapid Restore™: The chiller shall be equipped with the capability to restart and to reach full load more quickly than standard in case of a power interruption. The chiller shall be capable of rapidly restarting after power loss duration of up to 180 seconds. The time to restart the chiller shall be a maximum of 125 seconds, and full load shall be achieved in 220 seconds from power restoration. Fast Loading Stand-By Chiller: The chiller shall be equipped with the capability to start and to reach full load more quickly than standard in the event that the primary chiller system is disabled. The chiller shall be capable of rapidly achieving full capacity. The time to full load shall be achieved in 115 seconds.
2. Low Ambient Control: Fan VFD allows unit operation from 32°F down to -4°F (-23.3 C).
3. High Ambient Control Panel for operation from 105°F up to 125°F ambient temperatures
4. Phase loss with under/over voltage protection and with LED indication of the fault type to guard against compressor motor burnout.

5. BAS interface module to provide interface with a combination of BACnet IP, BACnet MSTP, and Modbus protocols.

6. Compressor Sound Reduction - Acoustic reduction blankets shall be factory installed on each compressor.

PART 3: EXECUTION

3.01 INSTALLATION

A. Install in strict accordance with manufacturer's requirements, shop drawings, and contract documents.

B. Adjust and level chiller in alignment on supports.

C. Coordinate electrical installation with electrical contractor.

D. Coordinate controls with control contractor.

E. Install a field-supplied or optional manufacturer-supplied strainer in the chilled water return line at the evaporator inlet that meets manufacturer perforation size specifications.

3.02 START-UP

A. Provide testing and starting of machine, and instruct the Owner in its proper operation and maintenance.

Compressor Sound Blanket

Description

Compressor acoustical blankets dampen unit noise and are factory-installed on each compressor. Velcro® seams allow for easy removal for compressor access. Blankets are also available for retrofit field installation.

Features

- Reinforced vinyl envelope for durability
- 1” thick batt consisting of 2.0 – 2.7 lb. density fiberglass, 30 oz. felt, and 12 oz. loaded vinyl septum
- All open edges are sealed with a double stitch and Velcro® hook and loop closures

Phase Voltage Monitor

Part Number:

Description

The MotorSaver® 460 is a 3-phase voltage monitor that protects 190–480VAC or 475–600V, 50/60Hz motors regardless of size. The product provides a user selectable nominal voltage setpoint and the voltage monitor automatically senses line voltage.

This unique microcontroller-based voltage and phase-sensing device constantly monitors the 3-phase voltages to detect harmful power line conditions such as low, high, and unbalanced voltage, loss of any phase, and phase reversal. When a harmful condition is detected, the 460 output relay is deactivated after a specified trip delay. The output relay reactivates after power line conditions return to an acceptable level for a specified amount of time (restart delay). The trip and restart delays prevent nuisance tripping due to rapidly fluctuating power line conditions.

All 460 models feature adjustable 1–30 second trip delay, 1–500 second restart delay, 2–8% voltage unbalance trip point, and one form C contact except where noted.

Features

Auto-sensing wide voltage range	Automatically senses system voltage between 190–480VAC or 475–600VAC
Adjustable trip & restart delay settings	Prevent nuisance tripping due to rapidly fluctuating power line conditions
Microcontroller based circuitry	Improved accuracy and higher reliability
Advanced LED diagnostics	Quick visual indicator for cause of trip and relay status
Adjustable voltage unbalance trip setting	Provides reliable protection when regenerative voltage is present

Wiring Diagram