

WeatherTrace Freeze Protection Heat Trace Panels

- Standard NEMA 4 Enclosures
- NEMA 4X Stainless Steel Enclosure Option
- Hand/Off/Auto Selector Switch
- 6,12,18,24,30,36,42 Circuit Options
- 15, 20, 30, and 50 Amp Single-pole and Double-pole 30 mA Ground Fault Thermal-Magnetic Circuit Breakers
- 100 and 225 Amp Main Bus
- Single-phase 120/240 VAC
- Three-phase 120/208 VAC 4-Wire
- Three-phase 277 VAC 4-Wire
- 100 and 250 Amp Main Disconnect Switch Option
- Ambient and Line Sensing Control
- WeatherTrace Sentinel Monitoring with Common Alarm and Re-Ring Feature*
- Z-Purge Pressurization System for Class 1, Division 2 Option
- Enclosure Heater Option for Subzero Ambients
- UL and cUL Third Party Approvals

* The re-ring feature allows the WeatherTrace panel to communicate additional alarm conditions in the system by momentarily clearing and resetting the alarm output contact. The customer's monitoring device such as a PLC or DCS would interpret this condition to alert the operators of an additional alarm occurring.



FPAS, FPLS

Description

The Chromalox FPAS, FPLS, FPASM and FPLSM series freeze protection heat trace panels offer power-distribution, ground-fault protection, individual circuit alarming, line and ambient sensing control.

The panels are housed in NEMA 4 enclosures for indoor/outdoor applications. NEMA 4X 304 stainless steel enclosures may be selected as an option for more harsh environments.

The standard models are available in 16, 12, 18, 24, 30, 36, 42 circuit options with 100 and 225 amp bus ratings in Single and Three-Phase configurations.

Branch circuit breakers are available in 15, 20, 30, 40 and 50 amp single-pole and two-pole configurations with 30 mA ground-fault equipment protection. Only available up to 30A single-pole and two-pole configurations for 480/277V.

FPAS – Freeze Protection Ambient Sensing Series

The FPAS series controls multiple heat trace circuits via an ambient sensing external thermostat, external electronic controller or via an ambient sensing, door mounted 1601E controller. Chromalox recommended controllers include: RTAS, RTAS-EP, B100, E100 or the THL, TXL.

The FPAS may be operated in two modes; automatically with the external controller, or in manual override via the Hand/Off/Auto selector switch.

FPLS – Freeze Protection Line Sensing Series

The FPLS series controls each heat trace line with individual Chromalox RTBC, RTBC-EP, E-100, E121, THR or TXR pipe line sensing controls. Each circuit should be controlled by an individual sensor/controller. Depending on the application, controllers can switch more than one circuit.



FPASM, FPLSM

FPASM – Freeze Protection Ambient Sensing Monitor Series

The FPASM WeatherTrace with the Sentinel System, continually monitors the supply voltage to each individual heat trace circuit. Loss of voltage or a ground fault condition will trigger an automatic alarm condition, alerting plant personnel of critical process problems and reducing downtime. An annunciator panel then identifies the faulted zone and a Common Alarm is activated with the re-ring feature.*

The FPASM series controls multiple heat trace circuits via an ambient sensing external thermostat, external electronic controller or via an ambient sensing, door mounted 1601E controller. Chromalox recommended controllers include: RTAS, RTAS-EP, B100, E100 or the THL, TXL.

The FPASM may be operated in two modes; automatically with the external controller or in manual override via the Hand/Off/Auto selector switch.

FPLSM – Freeze Protection Line Sensing Monitor Series

The FPLSM series controls heat trace lines with individual Chromalox RTBC, RTBC-EP, E100, E121, THR or TXR pipe line sensing controls. Each circuit should be controlled by and in individual sensor/controller. Depending on the application, controllers can switch more than one circuit.

The FPLSM is identical to the FPLS Plug. It features the WeatherTrace Sentinel which continually monitors the supply voltage to each individual heat trace circuit without the need for additional staff. Loss of voltage or a ground fault condition triggers an automatic alarm condition, alerting plant personnel of critical process problems and reducing downtime. An annunciator panel then identifies the faulted zone and a Common Alarm is activated with the re-ring feature.*



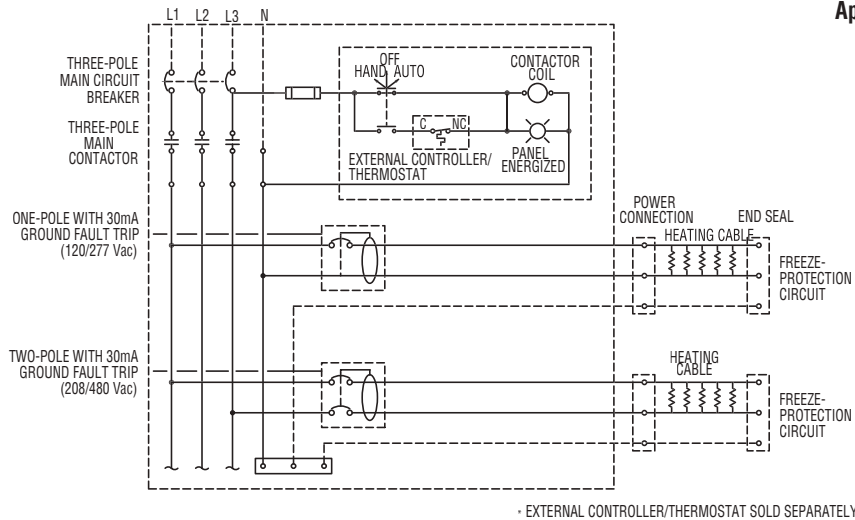
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Freeze Protection Heat Trace Panels

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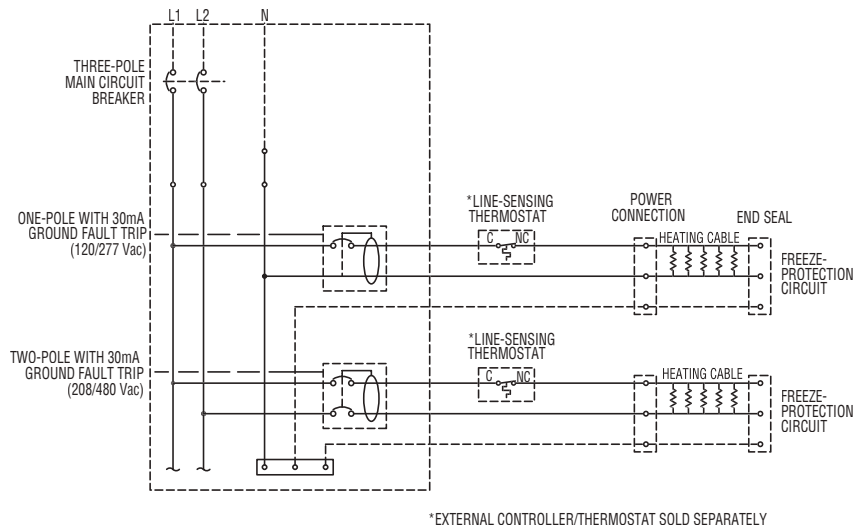
Specifications

Power Source	120/240 VAC Single Phase 120/208 VAC Three-Phase 4-Wire 277/480 VAC Three-Phase 4-Wire
Ambient Operating Temperature	-32°F to 122°F (With Enclosure Heater)
Field Wire Size	14 - 18 AWG (15 - 30 Amp C.B), 8 - 4 AWG (40 Amp C.B)
Ground Fault Breaker Type	30mA Ground Fault Equipment Protection
Enclosure	NEMA 4 or NEMA 4X 304 Stainless Steel (option)
Main Bus Size	100 Amp and 225 Amp
Main Breaker Size	100 Amp Two-Pole Main Disconnect Switch with through Door Rotary Handle 250 Amp Three-Pole Main Disconnect Switch with through Door Rotary Handle
Pressurization System	Type Z Purge Pressurization System for Class 1 Division 2 Area
Approvals	UL and cUL



**Ambient Sensing
Three Phase
208/120 4-Wire or 480/277 4-Wire**

**Line Sensing
Single Phase
240/120**



WeatherTrace Freeze Protection Heat Trace Panels *(cont'd.)*

Ordering Information

To Order — Complete the Model Number using the Matrix provided.

Model

FP Chromalox FP series Heat Trace Panels are designed for use in industrial Freeze Protection applications. Chromalox FP series enclosures include a Hand/Off/Auto Selector Switch, a Main Power indicator lamp and thermal magnetic circuit breakers with 30mA Ground Fault Equipment Protection. For more information please see the FP model datasheet.

Code Panelboard

- LS** Individual circuit control
- AS** Group control with Main Contactor

Code No Breaker Monitoring

- M** 'Sentinel' breaker trip alarm monitoring

Code Circuits

- | | | | |
|-----------|-------------|-----------|-------------|
| 6 | 6 Circuits | 30 | 30 Circuits |
| 12 | 12 Circuits | 36 | 36 Circuits |
| 18 | 18 Circuits | 42 | 42 Circuits |
| 24 | 24 Circuits | | |

Code Line Voltage

- | Code | Line Voltage | Heater Load |
|----------|-----------------------------------|---------------------------------|
| 1 | 208/120 VAC, 3 Phase, 4 Wire | 120 V- 1 Pole or 208 V - 2 Pole |
| 2 | 240/120 VAC, Single Phase, 3 Wire | 120 V- 1 Pole or 240 V - 2 Pole |
| 3 | 480/277 VAC, 3 Phase, 4 Wire | 277 V- 1 Pole or 480 V - 2 Pole |

Code Cable Load Circuit Breaker Rating

Select Breaker Amperage & *1P/2P to Select Breaker Voltage 1(1P)=15A, 120V Breakers

- 1(*)** 15A Thermal Magnetic
- 2(*)** 20A Thermal Magnetic
- 3(*)** 30A Thermal Magnetic
- 4(*)** 40A Thermal Magnetic
- 5(*)** 50A Thermal Magnetic

Code Main Circuit Breaker

- | Code | Main Circuit Breaker | Applicable Voltage |
|----------|--|---------------------------------------|
| 0 | None | None |
| 1 | 50A Thermal Magnetic | 120/208V 3P, 120/240V 1P, 277/480V 3P |
| 2 | 100A Thermal Magnetic | 120/208V 3P, 120/240V 1P, 277/480V 3P |
| 3 | 150A Thermal Magnetic | 120/208V 3P |
| 4 | 200A Thermal Magnetic | 120/240V 1P, 277/480V 3P |
| 5 | 250A Thermal Magnetic | 120/208V 3P, 120/240V 1P, 277/480V 3P |
| X | Other (If Main Disconnect only is needed Contact Factory for Assistance) | |

Code Enclosure Heater (Anti-Condensation Heater Recommended at a Minimum)

- 0** No Enclosure Heater
- 1** Thermostat Controlled Enclosure Heater (Anti-Condensation Heater)
- 2** Thermostat Controlled Enclosure Heater (Needed for 0°F, -18°C Minimum Ambient Temperature)
- 3** Thermostat Controlled Enclosure Heater (Needed for 40°F, -40°C Minimum Ambient Temperature)

Code Ambient Controller (Group Control with AS version only)

- 1** None (See Accessories)
- 3** 6040-R00000 1/16 DIN Controller (Panel Door Mounted)

Code Enclosure (Size determined by table 1)

- 1** NEMA 4 Single-Door Wall-Mount Steel Enclosure 24 X 20 X 10
- 2** NEMA 4 Single-Door Wall-Mount Steel Enclosure 30 X 30 X 10
- 3** NEMA 4 Single-Door Wall-Mount Steel Enclosure 42 X 36 X 12
- 4** NEMA 4 Single-Door Wall-Mount Steel Enclosure 60 X 36 X 12
- 5** NEMA 4 Single-Door Wall-Mount Steel Enclosure 60 X 36 X 16
- A** NEMA 4X 304 Stainless Steel Wall-Mount Enclosure 24 X 20 X 10
- B** NEMA 4X 304 Stainless Steel Wall-Mount Enclosure 30 X 30 X 10
- C** NEMA 4X 304 Stainless Steel Wall-Mount Enclosure 42 X 36 X 12
- D** NEMA 4X 304 Stainless Steel Wall-Mount Steel Enclosure 60 X 36 X 12
- E** NEMA 4X 304 Stainless Steel Wall-Mount Steel Enclosure 60 X 36 X 16

Code Pressurization Control System

- 0** None
- 1** Type Z Class I, Division 2

Technical Notes: (*) Enter number of circuit breakers in parenthesis

FP AS- M 42 2 1 1(20) 2 5 1 0 Typical Model Number FPASM-1213(12)3212

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Model Number Note:XXXX Indicates that the design has varied from the order table parameters. This could include one or more of the following non-standard considerations: Special Software or Configuration, Private Branding, Remote Monitoring/Touch-Screen Computer, Third Party Approval, Floor Stands, Protective Covering, Heater Power and RTD Terminal Blocks, Cooper Ground Bar, Mounting Options, Special Materials (316 S) or coatings, Additional Venting or Cooling, Special Indication or Alarms.

Table 1: Enclosure Size Selection

Panel Size	NEMA 4 Enclosure Size (H" x W" x D")
6 Loop 1P	30x30x10
6 Loop 2P	30x30x10
12 Loop 1P	30x30x10
12 Loop 2P	42x36x12
18 Loop 1P	42x36x12
18 Loop 2P	42x36x12
24 Loop 1P	42x36x12
24 Loop 2P	42x36x12
30 Loop 1P	60x36x12
30 Loop 2P	60x36x16
36 Loop 1P	60x36x12
36 Loop 2P	60x36x16
42 Loop 1P	60x36x16
42 Loop 2P	Consult factory

Note: Table 1 is a general guideline for Enclosure Size Selection. Adding certain options could cause enclosure size to differ. If Panel dimensions are critical Consult Factory for exact selection.

Remote Mounted Control Accessories

	PCN
RTAS Thermostat	389589
RTAS-EP Division 2 Thermostat	389597
B-100 NEMA 4X Thermostat	305365
B-121 Division 2 Thermostat	384104
THL NEMA 4X Thermostat	387014
TXL Division 2 Thermostat	387022

Spare/ Replacement Parts List

PCN	
0017-43857	15A 1P Circuit Breaker (120V or 277V)
0017-43858	20A 1P Circuit Breaker (120V or 277V)
0017-43859	30A 1P Circuit Breaker (120V or 277V)
0017-43860	40A 1P Circuit Breaker (120V)
0017-43861	50A 1P Circuit Breaker (120V)
0017-43865	15A 2P Thermal Mag Circuit Breaker (208/240V or 480V)
0017-43866	20A 2P Thermal Mag Circuit Breaker (208/240V or 480V)
0017-43867	30A 2P Thermal Mag Circuit Breaker (208/240V or 480V)
0017-43868	40A 2P Thermal Mag Circuit Breaker (208/240V)
0017-43869	50A 2P Thermal Mag Circuit Breaker (208/240V)
0017-43761	120V, 208/240V Ground Faul Protection
0017-43762	277/480V Ground Faul Protection