

Freeze Protection Heat Trace Panels

Features:

- Standard NEMA 4 Enclosures
- NEMA 4X Stainless Steel Enclosure Option
- Hand/Off/Auto Selector Switch
- 12, 18, 20, 30, and 42 Position Panelboards
- 15, 25, 30, and 40 Amp Single-pole and Double-pole 30mA 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 (not available for 277 Vac)
- Z-Purge Pressurization System for Class 1, Division 2 Option
- Enclosure Heater Option
- UL and cUL Third Party Approvals



Chromalox®
PRECISION HEAT AND CONTROL



FPASM Shown

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 standard housed 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 12, 18, 20, 30, and 42 position panelboards with 100 and 225 amp bus ratings in Single and Three-Phase configurations.

Branch circuit breakers are available in 20, 25, 30, and 40 amp single-pole and two-pole configurations with 30mA ground-fault equipment protection.

FPAS – Freeze Protection Ambient Sensing Series

The FPAS series controls groups of heat trace circuits with an external controller/thermostat.

The FPAS series require external ambient sensing control or thermostats. Chromalox recommended On/Off controllers include: RTAS, RTAS-EP, B100, E100 or a panel door mounted 1601E microprocessor controller.

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 Monitor Series

The FPLS series controls heat trace lines with individual Chromalox RTBC, RTBC-EP, E-100 or E121 pipe line sensing controls. Multiple sensors should be used to control the individual circuits or may be gauged based on the application and amperage.

FPASM – Freeze Protection Ambient Sensing Monitor Series

The FPASM series controls groups of heat trace circuits with an external controller/thermostat.

The FPASM series require external ambient sensing control or thermostats. Chromalox recommended On/Off controllers include: RTAS, RTAS-EP, B100, E100 or a panel door mounted 1601E microprocessor controller.

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

The FPASM WeatherTrace Sentinel 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 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.

FPLSM – Freeze Protection Line Sensing Monitor Series

The FPLSM series controls heat trace lines with individual Chromalox RTBC, RTBC-EP, E100 or E121 pipe line sensing controls. Multiple sensors should be used to control the individual circuits or may be gauged based on the application and amperage.

The FPLSM WeatherTrace Sentinel 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.

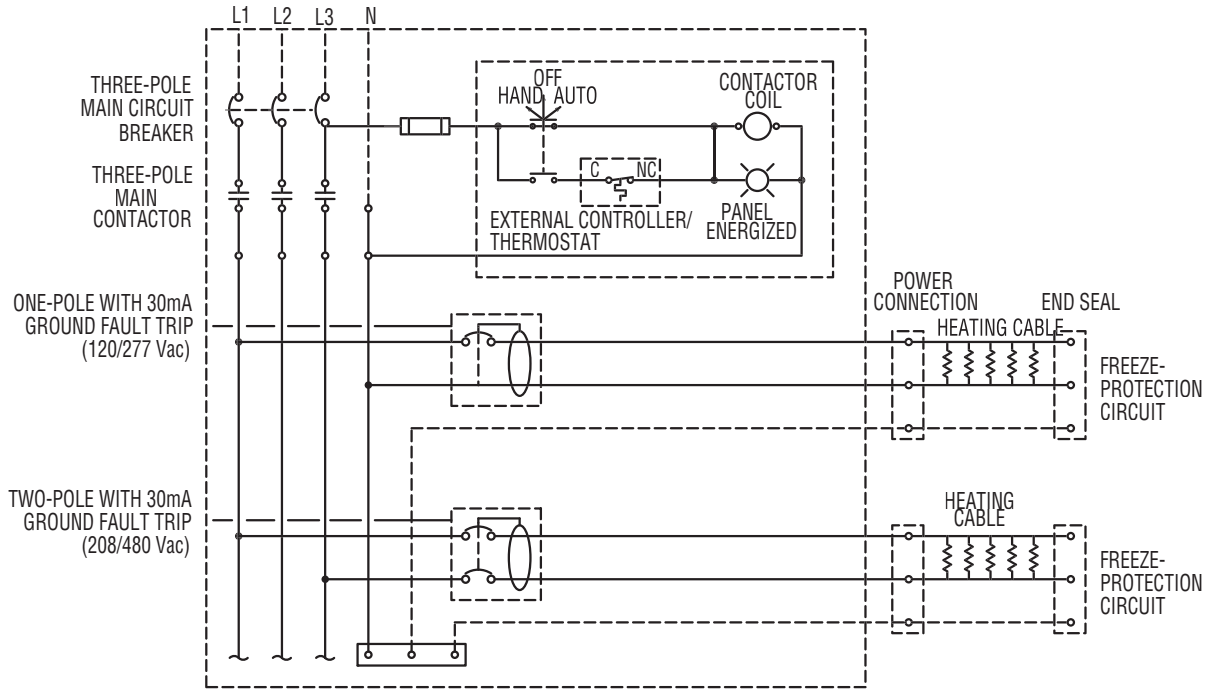
weatherTRACE™ Series Heat Trace Panels

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 (without enclosure heater option)
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	12-Position, 18-Position, 20-Position, 30-Position and 42-Position 100 Amp 30-Position and 42-Position, 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

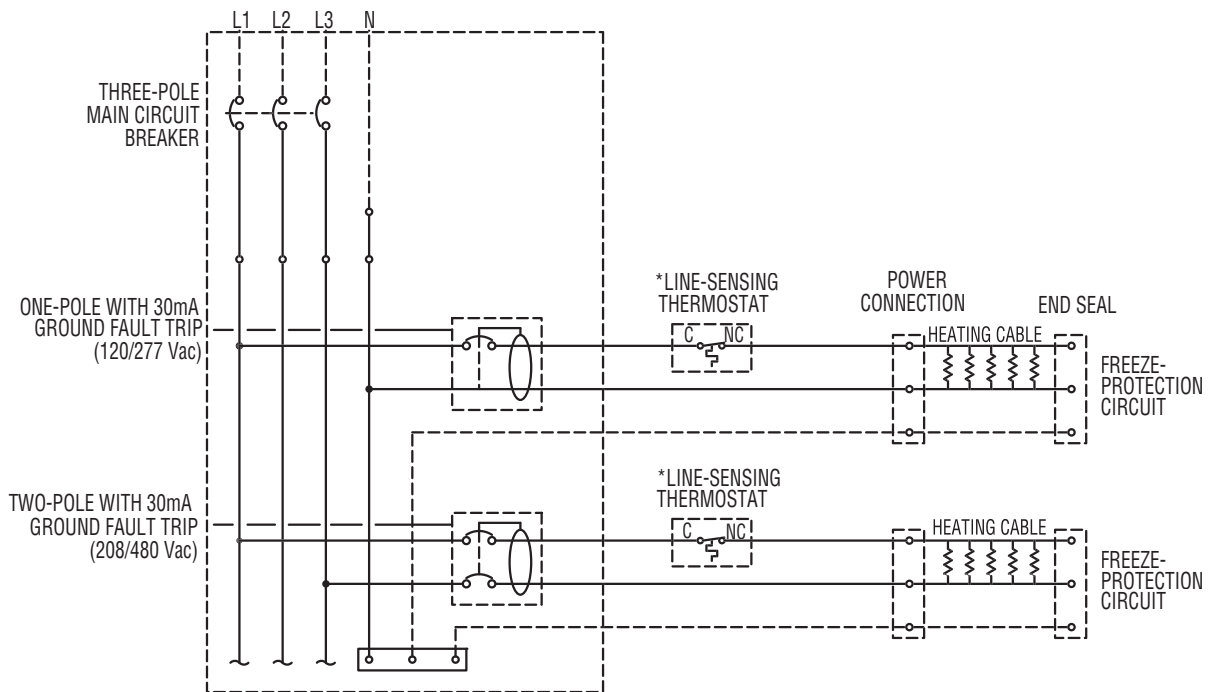
weatherTRACE™ Series Heat Trace Panels

Ambient Sensing Specifications



*EXTERNAL CONTROLLER/THERMOSTAT SOLD SEPARATELY

Line Sensing Specifications



*EXTERNAL CONTROLLER/THERMOSTAT SOLD SEPARATELY

weatherTRACE™ Series Heat Trace Panels

Ordering Information

Model 240/120 Vac Single-Phase, 208/120 Vac Three-Phase 4-Wire

FPAS FPAS Series Ambient Sensing Heat Trace Panels are designed for use in industrial Freeze Protection and Snow Melt applications. The Chromalox FPAS series offers the following standard features: NEMA 4 enclosure, Hand/Off/Auto Selector Switch, Load Energized Indicator Lamp, Main Power On Lamp, Main Contactor, and Thermal Magnetic Branch Circuit Breakers with 30mA Ground Fault Equipment Protection. Options include: NEMA 4X 304 Stainless Steel Enclosures, Main Disconnect Switch, Remote or Local Ambient Temperature Controller, Enclosure Heater, and Type Z Pressurization System. The FPAS series panels have UL and cUL Third Party Approvals.

Code	Panelboard	Available Breaker Poles
12	12 Positions (100 Amp Main Rating)	(12) 1-pole breakers or (6) 2-pole Breakers
20	20 Positions (100 Amp Main Rating)	(20) 1-pole breakers or (10) 2-pole Breakers
30	30 Positions (225 Amp Main Rating)	(30) 1-pole breakers or (14) 2-pole Breakers
42	42 Positions (225 Amp Main Rating)	(42) 1-pole breakers or (20) 2-pole Breakers

Code	Power Source
1	1 Phase Power, 240/120 Vac (Code 12 & 20 Only)
2	3 Phase Power, 208/120 Vac 4-Wire

Code	Enclosure
1	NEMA 4 Single-Door, Wall-Mount Steel Enclosure
2	NEMA 4X 304 Stainless Steel Wall-Mount Enclosure; 48"H x 36"W x 10"D (Code 12 & 20)
3	NEMA 4X 304 Stainless Steel Wall-Mount Enclosure; 60"H x 36"W x 10"D (Code 30 & 42)

Code	Branch Circuit Breaker Selection (DO NOT EXCEED MAIN RATING)
1(*)	1-Pole Breaker, 120 Vac, 15 Amps, 30mA Ground Fault Equipment Protection.
2(*)	1-Pole Breaker, 120 Vac, 20 Amps, 30mA Ground Fault Equipment Protection.
3(*)	1-Pole Breaker, 120 Vac, 25 Amps, 30mA Ground Fault Equipment Protection.
4(*)	1-Pole Breaker, 120 Vac, 30 Amps, 30mA Ground Fault Equipment Protection.
5(*)	2-Pole Breaker, 120/240 Vac, 15 Amps, 30mA Ground Fault Equipment Protection.
6(*)	2-Pole Breaker, 120/240 Vac, 20 Amps, 30mA Ground Fault Equipment Protection.
7(*)	2-Pole Breaker, 120/240 Vac, 25 Amps, 30mA Ground Fault Equipment Protection.
8(*)	2-Pole Breaker, 120/240 Vac, 30 Amps, 30mA Ground Fault Equipment Protection.
9(*)	2-Pole Breaker, 120/240 Vac, 40 Amps, 30mA Ground Fault Equipment Protection.

Code	Main Disconnect Switch Selection
0	None
1	100 Amp with 65k Fault Protection (Code 12 & 20 Only)
2	250 Amp with 65k Fault Protection (Code 30 & 42 Only)

Code	Ambient Controller
0	None (Customer Supplied)
1	RTAS Ambient Sensing Thermostat (Remote Mounted)
2	RTAS-EP Ambient Sensing Thermostat (Remote Mounted Division 2 Hazardous Area)
3	B-100 NEMA 4X Ambient Sensing Thermostat (Remote Mounted)
4	E-100-EP Ambient Sensing Thermostat (Remote Mounted Division 1 Hazardous Area)
5	1601E-11030 1/16 DIN Temperature Controller (Panel Door Mounted)
6	LCD-1 Snow Switch (Remote Mounted)

Code	Cabinet Heater
0	None
1	Thermostat Controlled Enclosure Heater

Code	Pressurization Control System
0	None
1	Type Z Class 1, Division 2

FPAS 42 2 1 1(*) 1 1 0 0 **Typical Model Number**

Technical Notes:

NEMA 4 Enclosure Dimensions:

Codes: 12 & 20 – 48"H x 36"W x 10"D Single Door, Wall Mount Enclosure

Codes: 30 & 42 – 60"H x 36"W x 10"D Single Door, Wall Mount Enclosure

(*) Enter number of circuit breakers in parenthesis

weatherTRACE™ Series Heat Trace Panels

Ordering Information

Model 240/120 Vac Single-Phase, 208/120 Vac Three-Phase 4-Wire

FPLS FPLS Series Line Sensing Heat Trace Panels are designed for use in industrial Freeze Protection and Snow Melt applications. The Chromalox FPLS series offers the following standard features: NEMA 4 enclosure, Main Power On Lamp and Thermal Magnetic Branch Circuit Breakers with 30mA Ground Fault Equipment Protection. Options include: NEMA 4X 304 Stainless Steel Enclosures, Main Disconnect Switch, Enclosure Heater, and Type Z Pressurization System. The FPLS series panels have UL and cUL Third Party Approvals.

Code	Panelboard	Available Breaker Poles
12	12 Positions (100 Amp Main Rating)	(12) 1-pole breakers or (6) 2-pole Breakers
20	20 Positions (100 Amp Main Rating)	(20) 1-pole breakers or (10) 2-pole Breakers
30	30 Positions (225 Amp Main Rating)	(30) 1-pole breakers or (14) 2-pole Breakers
42	42 Positions (225 Amp Main Rating)	(42) 1-pole breakers or (20) 2-pole Breakers

Code	Power Source
1	1 Phase Power, 240/120 Vac (Code 12 & 20 Only)
2	3 Phase Power, 208/120 Vac 4-Wire

Code	Enclosure
1	NEMA 4 Single-Door, Wall-Mount Steel Enclosure
2	NEMA 4X 304 Stainless Steel Wall-Mount Enclosure; 48"H x 36"W x 10"D (Code 12 & 20)
3	NEMA 4X 304 Stainless Steel Wall-Mount Enclosure; 60"H x 36"W x 10"D (Code 30 & 42)

Code	Branch Circuit Breaker Selection (DO NOT EXCEED MAIN RATING)
1(*)	1-Pole Breaker, 120 Vac, 15 Amps, 30mA Ground Fault Equipment Protection.
2(*)	1-Pole Breaker, 120 Vac, 20 Amps, 30mA Ground Fault Equipment Protection.
3(*)	1-Pole Breaker, 120 Vac, 25 Amps, 30mA Ground Fault Equipment Protection.
4(*)	1-Pole Breaker, 120 Vac, 30 Amps, 30mA Ground Fault Equipment Protection.
5(*)	2-Pole Breaker, 120/240 Vac, 15 Amps, 30mA Ground Fault Equipment Protection.
6(*)	2-Pole Breaker, 120/240 Vac, 20 Amps, 30mA Ground Fault Equipment Protection.
7(*)	2-Pole Breaker, 120/240 Vac, 25 Amps, 30mA Ground Fault Equipment Protection.
8(*)	2-Pole Breaker, 120/240 Vac, 30 Amps, 30mA Ground Fault Equipment Protection.

Code	Main Disconnect Switch Selection
0	None
1	100 Amp with 65k Fault Protection (Code 12 & 20 Only)
2	250 Amp with 65k Fault Protection (Code 30 & 42 Only)

Code	Cabinet Heater
0	None
1	Thermostat Controlled Enclosure Heater

Code	Pressurization Control System
0	None
1	Type Z Class 1, Division 2

FPLS 42 2 1 1(*) 1 1 0 Typical Model Number

Technical Notes:

NEMA 4 Enclosure Dimensions:

Codes: 12 & 20 – 48"H x 36"W x 10"D Single Door, Wall Mount Enclosure

Codes: 30 & 42 – 60"H x 36"W x 10"D Single Door, Wall Mount Enclosure

(*) Enter number of circuit breakers in parenthesis

weatherTRACE™ Series Heat Trace Panels

Ordering Information

Model 240/120 Vac Single-Phase, 208/120 Vac Three-Phase 4-Wire

FPASM FPASM Series Ambient Sensing Heat Trace Panels are designed for use in industrial Freeze Protection and Snow Melt applications. The Chromalox FPASM series offers the following standard features: NEMA 4 enclosure, Hand/Off/Auto Selector Switch, Load Energized Indicator Lamp, Main Power On Lamp, Main Contactor, and Thermal Magnetic Branch Circuit Breakers with 30mA Ground Fault Equipment Protection. The FPASM WeatherTrace Sentinel continually monitors the supply voltage to each individual heat trace circuit. Loss of voltage or a ground fault condition triggers and automatic alarm condition to an annunciator panel which identifies the faulted zone and a common alarm is activated with the re-ring feature. Options include: NEMA 4X 304 Stainless Steel Enclosures, Main Disconnect Switch, Remote or Local Ambient Temperature Controller, Enclosure Heater, and Type Z Pressurization System. The FPASM series panels have UL and cUL Third Party Approvals.

Code	Panelboard	Available Breaker Poles
12	12 Positions (100 Amp Main Rating)	(12) 1-pole breakers or (6) 2-pole Breakers
20	20 Positions (100 Amp Main Rating)	(20) 1-pole breakers or (10) 2-pole Breakers
30	30 Positions (225 Amp Main Rating)	(30) 1-pole breakers or (14) 2-pole Breakers
42	42 Positions (225 Amp Main Rating)	(42) 1-pole breakers or (20) 2-pole Breakers

Code	Power Source
1	1 Phase Power, 240/120 Vac (Code 12 & 20 Only)
2	3 Phase Power, 208/120 Vac 4-Wire

Code	Enclosure
1	NEMA 4 Single-Door, Wall-Mount Steel Enclosure
2	NEMA 4X 304 Stainless Steel Wall-Mount Enclosure; 48"H x 36"W x 10"D (Code 12 & 20)
3	NEMA 4X 304 Stainless Steel Wall-Mount Enclosure; 60"H x 36"W x 10"D (Code 30 & 42)

Code	Branch Circuit Breaker Selection (DO NOT EXCEED MAIN RATING)
1(*)	1-Pole Breaker, 120 Vac, 15 Amps, 30mA Ground Fault Equipment Protection.
2(*)	1-Pole Breaker, 120 Vac, 20 Amps, 30mA Ground Fault Equipment Protection.
3(*)	1-Pole Breaker, 120 Vac, 25 Amps, 30mA Ground Fault Equipment Protection.
4(*)	1-Pole Breaker, 120 Vac, 30 Amps, 30mA Ground Fault Equipment Protection.
5(*)	2-Pole Breaker, 120/240 Vac, 15 Amps, 30mA Ground Fault Equipment Protection.
6(*)	2-Pole Breaker, 120/240 Vac, 20 Amps, 30mA Ground Fault Equipment Protection.
7(*)	2-Pole Breaker, 120/240 Vac, 25 Amps, 30mA Ground Fault Equipment Protection.
8(*)	2-Pole Breaker, 120/240 Vac, 30 Amps, 30mA Ground Fault Equipment Protection.
9(*)	2-Pole Breaker, 120/240 Vac, 40 Amps, 30mA Ground Fault Equipment Protection.

Code	Main Disconnect Switch Selection
0	None
1	100 Amp with 65k Fault Protection (Code 12 & 20 Only)
2	250 Amp with 65k Fault Protection (Code 30 & 42 Only)

Code	Ambient Controller
0	None (Customer Supplied)
1	RTAS Ambient Sensing Thermostat (Remote Mounted)
2	RTAS-EP Ambient Sensing Thermostat (Remote Mounted Division 2 Hazardous Area)
3	B-100 NEMA 4X Ambient Sensing Thermostat (Remote Mounted)
4	E-100-EP Ambient Sensing Thermostat (Remote Mounted Division 1 Hazardous Area)
5	1601E-11030 1/16 DIN Temperature Controller (Panel Door Mounted)
6	LCD-1 Snow Switch (Remote Mounted)

Code	Cabinet Heater
0	None
1	Thermostat Controlled Enclosure Heater

Code	Pressurization Control System
0	None
1	Type Z Class 1, Division 2

FPASM 42 2 1 1(*) 1 1 0 0 **Typical Model Number**

Technical Notes:

NEMA 4 Enclosure Dimensions:

Codes: 12 & 20 – 48"H x 36"W x 10"D Single Door, Wall Mount Enclosure

Codes: 30 & 42 – 60"H x 36"W x 10"D Single Door, Wall Mount Enclosure

(*) Enter number of circuit breakers in parenthesis

weatherTRACE™ Series Heat Trace Panels

Ordering Information

Model 240/120 Vac Single-Phase, 208/120 Vac Three-Phase 4-Wire

FPLSM FPLSM Series Line Sensing Heat Trace Panels are designed for use in industrial Freeze Protection and Snow Melt applications. The Chromalox FPLSM series offers the following standard features: NEMA 4 enclosure, Main Power On Lamp, and Thermal Magnetic Branch Circuit Breakers with 30mA Ground Fault Equipment Protection. The FPLSM WeatherTrace Sentinel continually monitors the supply voltage to each individual heat trace circuit. Loss of voltage or a ground fault condition triggers and automatic alarm condition to an annunciator panel which identifies the faulted zone and a common alarm is activated with the re-ring feature. Options include: NEMA 4X 304 Stainless Steel Enclosures, Main Disconnect Switch, Enclosure Heater, and Type Z Pressurization System. The FPLSM series panels have UL and cUL Third Party Approvals.

Code	Panelboard	Available Breaker Poles
12	12 Positions (100 Amp Main Rating)	(12) 1-pole breakers or (6) 2-pole Breakers
20	20 Positions (100 Amp Main Rating)	(20) 1-pole breakers or (10) 2-pole Breakers
30	30 Positions (225 Amp Main Rating)	(30) 1-pole breakers or (14) 2-pole Breakers
42	42 Positions (225 Amp Main Rating)	(42) 1-pole breakers or (20) 2-pole Breakers

Code	Power Source
1	1 Phase Power, 240/120 Vac (Code 12 & 20 Only)
2	3 Phase Power, 208/120 Vac 4-Wire

Code	Enclosure
1	NEMA 4 Single-Door, Wall-Mount Steel Enclosure
2	NEMA 4X 304 Stainless Steel Wall-Mount Enclosure; 48"H x 36"W x 10"D (Code 12 & 20)
3	NEMA 4X 304 Stainless Steel Wall-Mount Enclosure; 60"H x 36"W x 10"D (Code 30 & 42)

Code	Branch Circuit Breaker Selection (DO NOT EXCEED MAIN RATING)
1(*)	1-Pole Breaker, 120 Vac, 15 Amps, 30mA Ground Fault Equipment Protection.
2(*)	1-Pole Breaker, 120 Vac, 20 Amps, 30mA Ground Fault Equipment Protection.
3(*)	1-Pole Breaker, 120 Vac, 25 Amps, 30mA Ground Fault Equipment Protection.
4(*)	1-Pole Breaker, 120 Vac, 30 Amps, 30mA Ground Fault Equipment Protection.
5(*)	2-Pole Breaker, 120/240 Vac, 15 Amps, 30mA Ground Fault Equipment Protection.
6(*)	2-Pole Breaker, 120/240 Vac, 20 Amps, 30mA Ground Fault Equipment Protection.
7(*)	2-Pole Breaker, 120/240 Vac, 25 Amps, 30mA Ground Fault Equipment Protection.
8(*)	2-Pole Breaker, 120/240 Vac, 30 Amps, 30mA Ground Fault Equipment Protection.

Code	Main Disconnect Switch Selection
0	None
1	100 Amp with 65k Fault Protection (Code 12 & 20 Only)
2	250 Amp with 65k Fault Protection (Code 30 & 42 Only)

Code	Cabinet Heater
0	None
1	Thermostat Controlled Enclosure Heater

Code	Pressurization Control System
0	None
1	Type Z Class 1, Division 2

FPLSM 42 2 1 1(*) 1 1 0 Typical Model Number

Technical Notes:

NEMA 4 Enclosure Dimensions:

Codes: 12 & 20 – 48"H x 36"W x 10"D Single Door, Wall Mount Enclosure

Codes: 30 & 42 – 60"H x 36"W x 10"D Single Door, Wall Mount Enclosure

(*) Enter number of circuit breakers in parenthesis

weatherTRACE™ Series Heat Trace Panels

Ordering Information

Model 277 Vac 4-Wire

FPLS FPLS Series Line Sensing Heat Trace Panels are designed for use in industrial Freeze Protection and Snow Melt applications. The Chromalox FPLS series offers the following standard features: NEMA 4 enclosure, Main Power On Lamp, and Thermal Magnetic Branch Circuit Breakers with 30mA Ground Fault Equipment Protection. Options include: NEMA 4X 304 Stainless Steel Enclosures, Main Disconnect Switch, Enclosure Heater, and Type Z Pressurization System. The FPLS series panels have UL and cUL Third Party Approvals.

Code	Panelboard	Available Breaker Poles
181	18 Positions (100 Amp Main Rating)	(8) 1-pole breakers
301	30 Positions (100 Amp Main Rating)	(14) 1-pole breakers
421	42 Positions (100 Amp Main Rating)	(20) 1-pole breakers
302	30 Positions (225 Amp Main Rating)	(14) 1-pole breakers
422	42 Positions (225 Amp Main Rating)	(20) 1-pole breakers

Code	Power Source
1	3 Phase Power, 277/480 Vac 4-Wire

Code	Enclosure
1	NEMA 4 Single-Door, Wall-Mount Steel Enclosure
2	NEMA 4X 304 Stainless Steel Wall-Mount Enclosure; 48"H x 36"W x 10"D (Code 181, 301 & 302)
3	NEMA 4X 304 Stainless Steel Wall-Mount Enclosure; 60"H x 36"W x 10"D (Code 421 & 422)

Code	Branch Circuit Breaker Selection (DO NOT EXCEED MAIN RATING)
1(*)	1-Pole Breaker, 277 Vac, 15 Amps, 30mA Ground Fault Equipment Protection.
2(*)	1-Pole Breaker, 277 Vac, 20 Amps, 30mA Ground Fault Equipment Protection.
3(*)	1-Pole Breaker, 277 Vac, 30 Amps, 30mA Ground Fault Equipment Protection.

Code	Main Disconnect Switch Selection
0	None
1	100 Amp with 25k Fault Protection (Code 181, 301 & 421 Only)
2	250 Amp with 35k Fault Protection

Code	Cabinet Heater
0	None
1	Thermostat Controlled Enclosure Heater

Code	Pressurization Control System
0	None
1	Type Z Class 1, Division 2

FPLS 181 2 1 1(*) 1 1 0 **Typical Model Number**

Technical Notes:

NEMA 4 Enclosure Dimensions:

Codes: 181, 301 & 302 – 48"H x 36"W x 10"D Single Door, Wall Mount Enclosure

Codes: 421 & 422– 60"H x 36"W x 10"D Single Door, Wall Mount Enclosure

(*) Enter number of circuit breakers in parenthesis

weatherTRACE™ Series Heat Trace Panels

Ordering Information

Model 277 Vac 4-Wire

FPAS FPAS Series Ambient Sensing Heat Trace Panels are designed for use in industrial Freeze Protection and Snow Melt applications. The Chromalox FPAS series offers the following standard features: NEMA 4 enclosure, Hand/Off/Auto Selector Switch, Load Energized Indicator Lamp, Main Power On Lamp, Main Contactor, and Thermal Magnetic Branch Circuit Breakers with 30mA Ground Fault Equipment Protection. Options include: NEMA 4X 304 Stainless Steel Enclosures, Main Disconnect Switch, Remote or Local Ambient Temperature Controller, Enclosure Heater, and Type Z Pressurization System. The FPAS series panels have UL and cUL Third Party Approvals.

Code	Panelboard	Available Breaker Poles
181	18 Positions (100 Amp Main Rating)	(8) 1-pole breakers
301	30 Positions (100 Amp Main Rating)	(14) 1-pole breakers
421	42 Positions (100 Amp Main Rating)	(20) 1-pole breakers
302	30 Positions (225 Amp Main Rating)	(14) 1-pole breakers
422	42 Positions (225 Amp Main Rating)	(20) 1-pole breakers

Code	Power Source
1	3 Phase Power, 277/480 Vac 4-Wire

Code	Enclosure
1	NEMA 4 Single-Door, Wall-Mount Steel Enclosure
2	NEMA 4X 304 Stainless Steel Wall-Mount Enclosure; 48"H x 36"W x 10"D (Code 181, 301 & 302)
3	NEMA 4X 304 Stainless Steel Wall-Mount Enclosure; 60"H x 36"W x 10"D (Code 421 & 422)

Code	Branch Circuit Breaker Selection (DO NOT EXCEED MAIN RATING)
1(*)	1-Pole Breaker, 277 Vac, 15 Amps, 30mA Ground Fault Equipment Protection.
2(*)	1-Pole Breaker, 277 Vac, 20 Amps, 30mA Ground Fault Equipment Protection.
3(*)	1-Pole Breaker, 277 Vac, 30 Amps, 30mA Ground Fault Equipment Protection.
4(*)	1-Pole Breaker, 277 Vac, 40 Amps, 30mA Ground Fault Equipment Protection.

Code	Main Disconnect Switch Selection
0	None
1	100 Amp with 25k Fault Protection (Code 181, 301 & 421 Only)
2	250 Amp with 35k Fault Protection

Code	Ambient Controller
0	None (Customer Supplied)
1	RTAS Ambient Sensing Thermostat (Remote Mounted)
2	RTAS-EP Ambient Sensing Thermostat (Remote Mounted Division 2 Hazardous Area)
3	B-100 NEMA 4X Ambient Sensing Thermostat (Remote Mounted)
4	E-100-EP Ambient Sensing Thermostat (Remote Mounted Division 1 Hazardous Area)
5	1601E-11030 1/16 DIN Temperature Controller (Panel Door Mounted)
6	LCD-1 Snow Switch (Remote Mounted)

Code	Cabinet Heater
0	None
1	Thermostat Controlled Enclosure Heater

Code	Pressurization Control System
0	None
1	Type Z Class 1, Division 2

FPAS 422 2 1 1(*) 1 1 0 0 **Typical Model Number**

Technical Notes:

NEMA 4 Enclosure Dimensions:

Codes: 181, 301 & 302 – 48"H x 36"W x 10"D Single Door, Wall Mount Enclosure

Codes: 421 & 422– 60"H x 36"W x 10"D Single Door, Wall Mount Enclosure

(*) Enter number of circuit breakers in parenthesis

weatherTRACE™ Series Heat Trace Panels

Ordering Information

Model 277 Vac 4-Wire Ambient Rating 40°C (104°F)

FPASM FPASM Series Ambient Sensing Heat Trace Panels are designed for use in industrial Freeze Protection and Snow Melt applications. The Chromalox FPASM series offers the following standard features: NEMA 4 enclosure, Hand/Off/Auto Selector Switch, Load Energized Indicator Lamp, Main Power On Lamp, Main Contactor, and Thermal Magnetic Branch Circuit Breakers with 30 mA Ground Fault Equipment Protection. Options include: NEMA 4X 304 Stainless Steel Enclosures, Main Disconnect Switch, Remote or Local Ambient Temperature Controller, Enclosure Heater, and Type Z Pressurization System. The FPASM series panels have UL and cUL Third Party Approvals.

Code	Panelboard	Available Breaker Poles
181	18 Positions (100 Amp Main Rating)	(8) 1-pole Breakers
301	30 Positions (100 Amp Main Rating)	(14) 1-pole Breakers
421	42 Positions (100 Amp Main Rating)	(20) 1-pole Breakers
302	30 Positions (225 Amp Main Rating)	(14) 1-pole Breakers
422	42 Positions (225 Amp Main Rating)	(20) 1-pole Breakers

Code	Power Source
1	3 Phase Power, 277/480 Vac 4-Wire

Code	Enclosure
1	NEMA 4 Single-Door Wall-Mount Steel Enclosure
2	NEMA 4X 304 Stainless Steel Wall-Mount Enclosure 48"H x 36"W x 10"D (Code 181, 301, & 302)
3	NEMA 4X 304 Stainless Steel Wall-Mount Enclosure 60"H x 36"W x 10"D (Code 421 & 422)

Code	Branch Circuit Breaker Selection (DO NOT EXCEED MAIN RATING)
1(*)	1-Pole Breaker, 277 Vac, 15 Amps, 30 mA Ground Fault Equipment Protection.
2(*)	1-Pole Breaker, 277 Vac, 20 Amps, 30 mA Ground Fault Equipment Protection.
3(*)	1-Pole Breaker, 277 Vac, 30 Amps, 30 mA Ground Fault Equipment Protection.
4(*)	1-Pole Breaker, 277 Vac, 40 Amps, 30 mA Ground Fault Equipment Protection.

Code	Main Disconnect Switch Selection
0	None
1	100 Amp with 25k Fault Protection (Code 181, 301, & 421 Only)
2	250 Amp with 35K Fault Protection

Code	Ambient Controller
0	None (Customer Supplied)
1	RTAS Thermostat (Remote Mounted)
2	RTAS-EP Division 2 Thermostat (Remote Mounted)
3	B-100 NEMA 4X Thermostat (Remote Mounted)
4	E-100 NEMA Division 1 Thermostat (Remote Mounted)
5	1601E-11030 1/16 DIN Controller (Panel Door Mounted)
6	LCD-1 Snow Switch (Remote Mounted)

Code	Enclosure Heater
0	None
1	Thermostat Controlled Enclosure Heater

Code	Pressurization Control System
0	None
1	Type Z Class 1 Division 2

FPASM 422 1 1 1(10) 2 1 0 0 Typical Model Number

Technical Notes:

NEMA 4 Enclosure Dimensions:

Codes: 181, 301 & 302 – 48"H x 36"W x 10"D Single Door, Wall Mount Enclosure

Codes: 421 & 422– 60"H x 36"W x 10"D Single Door, Wall Mount Enclosure

(*) Enter number of circuit breakers in parenthesis

weatherTRACE™ Series Heat Trace Panels

Ordering Information

Model 277 Vac 4-Wire Ambient Rating 40°C (104°F)

FPLSM FPLSM series Line Sensing Heat Trace Panels are designed for use in Freeze Protection and Snow Melt applications. The Chromalox FPLSM series offers the following standard features: NEMA 4 enclosure, Main Power On Lamp, and Thermal Magnetic Branch Circuit Breakers with 30 mA Ground Fault Equipment Protection. The FPLSM Options include: NEMA 4X 304 Stainless Steel Enclosures, Main Disconnect Switch, Enclosure Heater, and Type Z Pressurization System. The FPLSM series have UL and cUL Third Party Approvals.

Code	Panelboard	Available Breaker Poles
181	18 Positions (100 Amp Main Rating)	1(8) 1-pole Breakers
301	30 Positions (100 Amp Main Rating)	(14) 1-pole Breakers
421	42 Positions (100 Amp Main Rating)	(20) 1-pole Breakers
302	30 Positions (225 Amp Main Rating)	(14) 1-pole Breakers
422	42 Positions (225 Amp Main Rating)	(20) 1-pole Breakers

Code	Power Source
1	3 Phase Power, 277/480 Vac 4-Wire

Code	Enclosure
1	NEMA 4 Single-Door Wall-Mount Steel Enclosure
2	NEMA 4X 304 Stainless Steel Wall-Mount Enclosure 48"H x 36"W x 10"D (Code 181, 301, & 302)
3	NEMA 4X 304 Stainless Steel Wall-Mount Enclosure 60"H x 36"W x 10"D (Code 421 & 422)

Code	Branch Circuit Breaker Selection (DO NOT EXCEED MAIN RATING)
1(*)	1-Pole Breaker, 277 Vac, 15 Amps, 30 mA Ground Fault Equipment Protection.
2(*)	1-Pole Breaker, 277 Vac, 20 Amps, 30 mA Ground Fault Equipment Protection.
3(*)	1-Pole Breaker, 277 Vac, 30 Amps, 30 mA Ground Fault Equipment Protection.

Code	Main Disconnect Switch Selection
0	None
1	100 Amp with 25k Fault Protection (Code 181, 301, & 421 Only)
2	250 Amp with 35K Fault Protection

Code	Enclosure Heater
0	None
1	Thermostat Controlled Enclosure Heater

Code	Pressurization Control System
0	None
1	Type Z for Class 1 Division 2

FPLS 181 1 1 1(5) 1 0 0 **Typical Model Number**

Technical Notes:

NEMA 4 Enclosure Dimensions:

Codes: 181, 301 & 302 – 48"H x 36"W x 10"D Single Door, Wall Mount Enclosure

Codes: 421 & 422– 60"H x 36"W x 10"D Single Door, Wall Mount Enclosure

(*) Enter number of circuit breakers in parenthesis

weatherTRACE™ Series Heat Trace Panels

PK328-1
PDS FPS
DEC 04