weather TRACE

Freeze Protection Heat Trace Panels

- 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 Singlepole 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



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 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 30 mA ground-fault equipment protection.

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

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 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.

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. Each circuit should be controlled by and individual sensor/controller. Depending on the application, controllers can switch more that 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.*



^{*} The re-ring feature allows the WeatherTrace panel to communicate additional alarm condidtions 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.

weather TRACE

Freeze Protection

Heat Trace Panels

(cont'd.)

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 Stainles 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

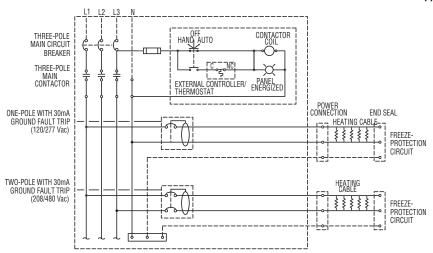
with through Door Rotary Handle

Pressurization System

Type Z Purge Pressurization System for Class 1

Division 2 Area

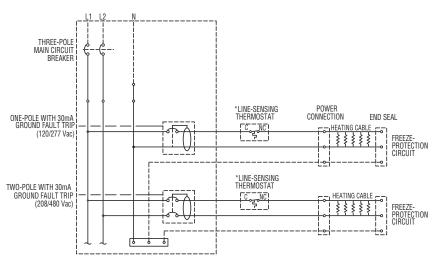
Approvals UL and cUL



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

* EXTERNAL CONTROLLER/THERMOSTAT SOLD SEPARATELY

Line Sensing Single Phase 240/120



*EXTERNAL CONTROLLER/THERMOSTAT SOLD SEPARATELY



weather TRACE

FPAS

Freeze Protection Heat Trace Panels (cont'd.)

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

Ordering Information

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

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	Panelb	oard				Available	e Breake	er Poles	
	12 20 30 42	20 Pos 30 Pos	itions (100 itions (100 itions (225 itions (225	Amp M Amp M	ain Rating ain Rating	g) g)	(20) 1-po (30) 1-po	ole break ole break	ers or (6) 2-pole Bre ers or (10) 2-pole Br ers or (14) 2-pole Br ers or (20) 2-pole Br	reakers reakers
		Code	Line Vol			,	. , .	ater Loa	. , ,	Breaker Poles
		1 2 3 4		Vac 3-P Vac 3-P Vac 3-P Enclos i	ire 48"H	Vire x 36"V	120 208 240 V x 10"D (C) Vac ` odes 12		1 1 2 2 2 1 x 10"D (Codes 30 & 42)
			1 2 3	NEMA 4	4X Single	Door,		teel Wall	:losure -Mount Enclosure (C -Mount Enclosure (C	
				Code	Ground	Fault	Branch Circ	uit Breal	ker (see table for maxi	mum number of circuit breakers allowed)
				1(*) 2(*) 3(*) 4(*) 5(*) 6(*) 7(*) 8(*) 9(*)	20 Amp 25 Amp 30 Amp 15 Amp 20 Amp 25 Amp 30 Amp	1-Pol 1-Pol 2-Pol 2-Pol 2-Pol 2-Pol 2-Pol 2-Pol	e GFI Circui e GFI Circui e GFI Circui e GFI Circui e GFI Circui e GFI Circui e GFI Circui	t Breake t Breake t Breake t Breake t Breake t Breake t Breake t Breake	r for 120 Vac load r for 120 Vac load r for 120 Vac load r for 120 Vac load r for 208/240 Vac loa r for 208/240 Vac loa r for 208/240 Vac loa r for 208/240 Vac loa r for 208/240 Vac loa	ad ad ad
					0		Amp with 65		Protection (Code 12	
					2	Code		ok Fault i	Protection (Code 30	& 42 Uniy)
						0 5	None (9 1601E-	See Acce 11030 1	ssories) /16 DIN Controller (F	Panel Door Mounted)
							Code 0 1	None	ostat Controlled Enc	
								0 1	None Type Z Class 1, Di	
FPAS	42	2	1	1(20)	2	5	0	0	Typical Model Nu	ımber (FPAS-42211(20)2500)

Technical Notes:

(*) Enter number of circuit breakers in parenthesis

Remote Mounted Control Accessories	PCN
RTAS Thermostat	389589
RTAS-EP Division 2 Thermostat	389597
B-100 NEMA 4X Thermostat	305365
E-100 NEMA Division 1 Thermostat	305322
LCD-1 Snow Switch	389781

100 Amp Panel Board		Bre	aker Ra	ting		225 Panel Board		Breaker Rating			
	Ma	aximum	Number	of Break	ers		Ma	Maximum Number of Breakers			
Line Voltage	15 Amp	20 Amp	25 Amp	30 Amp	40 Amp	Line Voltage	15 Amp	20 Amp	25 Amp	30 Amp	40 Amp
Code 1 (1 Pole CB)	16	12	10	8		Code 1 (1 Pole CB)	37	28	22	18	
Code 2 (1 Pole CB)	20	18	15	12		Code 2 (1 Pole CB)	42	42	33	28	
Code 3 (2 Pole CB)	10	10	8	7	5	Code 3 (2 Pole CB)	20	20	19	16	14
Code 4 (2 Pole CB)	8	6	5	4	3	Code 4 (2 Pole CB)	18	14	11	9	7



weather TRACE

Freeze Protection Heat Trace Panels

(cont'd.)

Ordering Information

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

Model	240/	120 Vac Sir	ngle-Phase, 208	3/120 Vac Three	e-Phase 4-Wire		
FPLS	The (Magi Steel	Chromalox f netic Branch Enclosures	FPLS series offe h Circuit Breake s, Main Disconn	rs the following rs with 30mA G ect Switch, Encl	standard features: NE round Fault Equipment	MA 4 enclosure, Mai Protection. Options	ction and Snow Melt applications. in Power On Lamp and Thermal include: NEMA 4X 304 Stainless stem. The FPLS series panels have
			rd Party Approva	ais.	Aveilable Dreeker	Dalaa	
	Code	Panelboa 10 Docitie	aru ons (100 Amp N	Ioin Doting)	Available Breaker	rs or (6) 2-pole Brea	Irawa
	12 20		ons (100 Amp N			rs or (6) 2-pole Brea	
	30		ons (225 Amp N			rs or (14) 2-pole Bre	
	42	42 Position	ons (225 Amp N	/lain Rating)		rs or (20) 2-pole Bre	
		Code	Line Voltage		Heater Load		Breaker Poles
			120 Vac	DI 4.14"	120 Vac		1
			208/120 Vac 3- 208/120 Vac 3-		120 Vac 208 Vac (240	\\/oo Coblo\	1 2
			240-120 Vac 3-		240 Vac (240	vac Gable)	2
		1 .				20). 60"H x 36"W x	10"D (Codes 30 & 42)
					Steel Wall-Mount Enclo		(00000000000000000000000000000000000000
					, Stainless Steel Wall-N		
					, Stainless Steel Wall-N		
			Code				um number of circuit breakers allowed)
			1(*)		ble GFI Circuit Breaker i ble GFI Circuit Breaker i		
			2(*) 3(*)		ole GFI Circuit Breaker		
			4(*)		ole GFI Circuit Breaker		
			5(*)		ole GFI Circuit Breaker		
			6(*)		ole GFI Circuit Breaker		
			7(*) 8(*)		ble GFI Circuit Breaker i ble GFI Circuit Breaker i		
					n Disconnect Switch S		<u> </u>
				0 Non		,010011011	
					Amp with 65k Fault Pr	otection (Code 12 &	20 Only)
				2 250	Amp with 65k Fault Pr	· · · · · · · · · · · · · · · · · · ·	42 Only)
				Cod	e Enclosure Heate	<u> </u>	
				0	None		
				1		rolled Enclosure Hea	
						ization Control Syst	em
					0 None 1 Type 7 (Class 1, Division 2	
					199023	7, DIVIDION 2	
FPLS	20	1	1 1(4)	1 0	0 Typical	Model Number (FPL	_S-20111(4)100)
			• •(•)	. 0	o iypidai		-0 -0 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -

Technical Notes:

(*) Enter number of circuit breakers in parenthesis

100 Amp Panel Board		Breake	r Rating		225 Panel Board	Breaker Rating			
	Maxi	imum Num	ber of Brea	akers		Maximum Number of Breakers			
Line Voltage	15 Amp	20 Amp	25 Amp	30 Amp	Line Voltage	15 Amp	20 Amp	25 Amp	30 Amp
Code 1 (1 Pole CB)	16	12	10	8	Code 1 (1 Pole CB)	37	28	22	18
Code 2 (1 Pole CB)	20	18	15	12	Code 2 (1 Pole CB)	42	42	33	28
Code 3 (2 Pole CB)	10	10	8	7	Code 3 (2 Pole CB)	20	20	19	16
Code 4 (2 Pole CB)	8	6	5	4	Code 4 (2 Pole CB)	18	14	11	9



weather TRACE

Freeze Protection Heat Trace Panels (cont'd.)

Model FPASM Featuring WeatherTrace Sentinel (120, 208, 240 Vac)

FPASI

Ordering

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

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 an 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 III and CIII Third Party Approvals

		es panels h								0100010110	ator, and Typo	21100001120	don dystom.	
Code	Panelbo	oard					Ava	ilabl	e Breake	r Poles				
12		tions (100									2-pole Break			
20		tions (100) 2-pole Brea			
30		tions (225) 2-pole Brea			
42		tions (225		/lain F	kating,)	(42	, .		<u> </u>) 2-pole Brea			
	Code	Line Vol	tage						ater Loa	d		Break	er Poles	
	1	120 Vac						. –	0 Vac				1	
	2	208/120							0 Vac	40.14 0.1			1	
	3	208/120				ire				10 Vac Cat	oie)		2	
	4	240-120							0 Vac	0.00\ 00				
		Code						_			"H x 36"W x 1	IU"D (Codes	30 & 42)	
		1			9 .	,			ount End			40 0 00)		
		2									nclosure (Cod nclosure (Cod			
		3 									`	,		
			Code									m number of d	ircuit breakers allow	aa)
			1(*)							r for 120 V				
			2(*) 3(*)							r for 120 V r for 120 V				
			3() 4(*)							r for 120 V				
			5(*)								240 Vac load			
			6(*)								240 Vac load			
			7(*)								240 Vac load			
			8(*)	30	Amp :	2-P	ole GFI	Circu	t Breake	r for 208/2	240 Vac load			
			9(*)	40	Amp :	2-P	ole GFI	Circu	t Breake	r for 208/2	240 Vac load			
				Co	de	Ma	in Disco	onne	t Switch	Selection	1			
				0	1	Nor	пе							
				1							(Code 12 & 2			
				2							(Code 30 & 4	12 Only)		
						Coc	de A	mbie	nt Contro	ller				
						0				ssories)				
						5	_				ontroller (Pan	el Door Mou	inted)	
							C	ode	Enclos	ure Heate	er			
								0	None					
								1			trolled Enclos			
									Code	Pressu	rization Cont	rol System		
									0	None				
									1	Type Z	Class 1, Divis	ion 2		

Technical Notes:

FPASM

(*) Enter number of circuit breakers in parenthesis

1

Note: Maximum number of circuit breakers is dependent on the panelboard size (see panelboard selection) and the current capacity of the panelboard (see table below)

5(20)

Remote Mounted Control Accessories	PCN
RTAS Thermostat	389589
RTAS-EP Division 2 Thermostat	389597
B-100 NEMA 4X Thermostat	305365
E-100 NEMA Division 1 Thermostat	305322
LCD-1 Snow Switch	389781

Typical Model Number (FPASM-42215(20)2500)

		`		,							
100 Amp Panel Board		Bre	aker Ra	ting		225 Panel Board		Breaker Rating			
	Ma	aximum	Number	of Break	ers		Maximum Number of Breakers				ers
Line Voltage	15 Amp	20 Amp	25 Amp	30 Amp	40 Amp	Line Voltage	15 Amp	20 Amp	25 Amp	30 Amp	40 Amp
Code 1 (1 Pole CB)	16	12	10	8		Code 1 (1 Pole CB)	37	28	22	18	
Code 2 (1 Pole CB)	20	18	15	12		Code 2 (1 Pole CB)	42	42	33	28	
Code 3 (2 Pole CB)	10	10	8	7	5	Code 3 (2 Pole CB)	20	20	19	16	14
Code 4 (2 Pole CB)	8	6	5	4	3	Code 4 (2 Pole CB)	18	14	11	9	7



weather TRACE

FPLSM

Freeze Protection Heat Trace Panels (cont'd.)

Model FPLSM featuring WeatherTrace Sentinel (120, 208; 240 Vac)

Ordering Information

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

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 an 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, Cabinet Heater, and Type Z Pressurization System. The FPLSM series panels have UL and cUL Third Party Approvals.

	Code	Panelb					Availabl	e Breaker Poles	
	12 20 30 42	20 Pos 30 Pos	itions (100 itions (100 itions (225 itions (225	O Amp IV 5 Amp IV	lain Ratin Iain Ratin	g) g)	(20) 1-p (30) 1-p	ole breakers or (6) 2-pole ole breakers or (10) 2-pole ole breakers or (14) 2-pole ole breakers or (20) 2-pole	e Breakers e Breakers
		Code	Line Vo			37	(/ !	ater Load	Breaker Poles
		1	120 Vac				12	O Vac	1
		2	208/120) Vac 3-F	hase, 4-\	Nire	12	0 Vac	1
		3			Phase, 4-\	Nire		8 Vac (240 Vac Cable)	2
		4	240-120					0 Vac	2
			Code	Enclos	ure 48"H	x 36"W	x 10"D (C	odes 12 & 20), 60"H x 36	5"W x 10"D (Codes 30 & 42)
			1					ount Enclosure	
			2					teel Wall-Mount Enclosure	
			3					teel Wall-Mount Enclosure	,
				Code					naximum number of circuit breakers allowed)
				1(*)				t Breaker for 120 Vac load	
				2(*)				t Breaker for 120 Vac load t Breaker for 120 Vac load	
				3(*) 4(*)				t Breaker for 120 Vac load	
				5(*)				t Breaker for 208/240 Vac	
				6(*)				t Breaker for 208/240 Vac	
				7(*)				t Breaker for 208/240 Vac	
				8(*)				t Breaker for 208/240 Vac	
) '	Code	Main	Disconne	t Switch Selection	
					0	None			
					1	100 A	mp with 6	5k Fault Protection (Code	12 & 20 Only)
					3	250 A	mp with 6	5k Fault Protection (Code	30 & 42 Only)
						Code	Enclos	ure Heater	
						0	None		
						1	Therm	ostat Controlled Enclosure	e Heater
							Code	Pressurization Control	System
							0	None	
							1	Type Z Class 1, Division	12
FPLSM	30	2	1	2(30)	3	0	0	Typical Model Number	(FPLSM-30212(30)300)

Technical Notes:

(*) Enter number of circuit breakers in parenthesis

100 Amp Panel Board		Breake	r Rating		225 Panel Board		Breaker Rating			
	Maxi	mum Num	ber of Brea	akers		Maximum Number of Breakers				
Line Voltage	15 Amp	20 Amp	25 Amp	30 Amp	Line Voltage	15 Amp	20 Amp	25 Amp	30 Amp	
Code 1 (1 Pole CB)	16	12	10	8	Code 1 (1 Pole CB)	37	28	22	18	
Code 2 (1 Pole CB)	25	18	15	12	Code 2 (1 Pole CB)	54	42	33	28	
Code 3 (2 Pole CB)	14	10	8	7	Code 3 (2 Pole CB)	32	24	19	16	
Code 4 (2 Pole CB)	8	6	5	4	Code 4 (2 Pole CB)	18	14	11	9	



weather TRACE

Freeze Protection Heat Trace Panels (cont'd.)

Ordering Information

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

Model	FPLA 277 Vac 4-Wire
FPLS	FPLS Series Line Sensing Heat Trace Panels are designed for use in Freeze Protection and Snow Melt applications. The
	malox FPLS series offers the following standard features: NEMA 4 enclosure, Main Power On Lamp, and Thermal Magne

Chronetic 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	Panell	oard				Av	ailable Breaker Poles
181	18 Pos	sitions (1	00 Amp N	/lain Rati	ng)	(8)	1-pole breakers
301	30 Pos	sitions (1	00 Amp N	/lain Rati	ng)	(14	4) 1-pole breakers
421		,			0,	(20	0) 1-pole breakers
302						,	4) 1-pole breakers
422	42 Pos	itions (2	25 Amp N	/lain Rati	ng)	(20	0) 1-pole breakers
	Code	Power	Source				Load Voltage
	1	3 Phas	se Power,	277/480) Vac 4-W	ire	277 Vac (240 Vac Cable)
		Code	Enclos	ure 48"H	1 x 36"W z	(10"D (C	odes 12 & 20), 60"H x 36"W x 10"D (Codes 30 & 42)
		1		-	,		
		2					eel Wall-Mount Enclosure (Codes 12 & 20)
		3	NEMA 4	4X Single	-Door, Sta	inless Ste	eel Wall-Mount Enclosure (Codes 30 & 42)
			Code	Ground	d Fault Br	anch Circ	uit Breaker (see table for maximum number of circuit breakers allowed
			1(*)				it Breaker for 277 Vac load
			2(*)				it Breaker for 277 Vac load
			3(*)	30 Am	p 1-Pole (3FI Circui	it Breaker for 277 Vac load
				Code	Main D	isconnec	ct Switch Selection
				0	None		
				1	100 An	np with 2	5k Fault Protection (Code 181, 301 & 421 Only)
				2	250 An	np with 3	5k Fault Protection (Code 302 & 422)
					Code	Enclos	ure Heater
					0	None	
					1	Therm	ostat Controlled Enclosure Heater
						Code	Pressurization Control System
						0	None
						1	Type Z Class 1, Division 2
181	2	1	1(4)	1	1	0	Typical Model Number (FPLS-181211(4)110)
	181 301 421 302 422	181	181	181	181	181	181

Technical Notes:

(*) Enter number of circuit breakers in parenthesis

Breaker Rating								
Maximum Number of Breakers								
277 Vac	15 Amp	20 Amp	30 Amp					
100 amp Panel B	20	18	12					
225 amp Panel B	20	20	20					



weather TRACE

Freeze Protection Heat Trace Panels

(cont'd.)

Ordering Information

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

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	Panelb	oard				Availab	e Breake	r Poles										
181 301 421 302 422	30 Pos 42 Pos 30 Pos	itions (10 itions (10 itions (22	0 Amp N 0 Amp N 5 Amp N	lain Rating lain Rating lain Rating lain Rating lain Rating	a) a)	(14) 1-p (20) 1-p (14) 1-p	le breaker ole breake ole breake ole breake ole breake	ers ers ers										
	Code	Power	Source				Load Vo	oltage										
	1	3 Phas	e Power,	277/480	Vac 4-Wir	е	277 Vac	c (240 Vac Cable)										
		Code	Enclos	ure 48"H	x 36"W x	10"D (Cod	les 12 & 2	20), 60"H x 36"W x 10"D (Codes 30 & 42)										
		1 2 3	NEMA	4X Single-	Door, Stai		Wall-Mou	re int Enclosure (Codes 12 & 20) int Enclosure (Codes 30 & 42)										
			Code	Ground Fa	ult Branc	h Circuit E	reaker (se	ee table for maximum number of circuit breakers allowed										
			2(*) 3(*)	20 Amp 1 30 Amp 1	-Pole GFI -Pole GFI -Pole GFI	Circuit Bre Circuit Bre	aker for 2 aker for 2 aker for 2	77 Vac load 77 Vac load 77 Vac load 77 Vac load election										
				0 1 2		otection (Code 181, 301 & 421 Only) otection												
					Code	Ambie	nt Controll	ler										
															0 5		ee Access 11030 1/16	ories) 5 DIN Controller (Panel Door Mounted)
						Code	Enclosu	re Heater										
						0 1	None Thermo	stat Controlled Enclosure Heater										
							Code 0 1	None Type Z Class 1, Division 2										
	1	1	2(10)	2	5	1	0	Typical Model Number (FPAS-302112(10)2510										

Technical Notes:

(*) Enter number of circuit breakers in parenthesis

Breaker Rating									
Maximum Number of Breakers									
277 Vac 15 Amp 20 Amp 30 Amp 40 Am									
100 amp Panel Board	20	18	12	9					
225 amp Panel Board	20	20	20	20					

Remote Mounted Control Accessories	PCN
RTAS Thermostat	389589
RTAS-EP Division 2 Thermostat	389597
B-100 NEMA 4X Thermostat	305365
E-100 NEMA Division 1 Thermostat	305322
LCD-1 Snow Switch	389781



weather TRACE

Freeze Protection Heat Trace Panels

(cont'd.)

Ordering Information

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

Model FPASM featuring the WeatherTrace Sentinel 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 Pro

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. The FPASM WeatherTrace Sentinel continually monitors the supply voltage to each individual heat trace circuit. Loss of voltage or a ground fault condition triggers an automatic alarm condition to an annunciator panel which identifies the faulted zone and a commom 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	Panelb	oard				Availab	le Breake	r Poles		
181 301 421 302 422	30 Pos 42 Pos 30 Pos	sitions (10 sitions (10 sitions (22	O Amp M O Amp M S Amp M	ain Rating ain Rating ain Rating ain Rating ain Rating)))	(14) 1-p (20) 1-p (14) 1-p	le breake ole break ole break ole break ole break	ers ers ers		
	Code	Power	Source				Heater	Load		
	1	3 Phas	e Power,	277/480 \	/ac 4-Wir	е	277 Va	c (240 Vac Cable)		
		Code	Enclos	ure 48"H	x 36"W x	10"D (Cod	les 12 & 2	20), 60"H x 36"W x 10"D (Codes 30 & 42)		
		1 2 3	NEMA 4	4X Single-I	Door, Stai	, Steel Wall-Mount Enclosure or, Stainless Steel Wall-Mount Enclosure (Codes 12 & 20) or, Stainless Steel Wall-Mount Enclosure (Codes 30 & 42)				
			Code (Ground Fa	ult Branc	h Circuit E	reaker (s	ee table for maximum number of circuit breakers allowed		
			2(*) 3(*)	20 Amp 1- 30 Amp 1-	0 None					
						np with 35		otection (Code 181, 301 & 421 Only) otection		
							Code	Ambier	nt Control	ler
						0 5	`	See Access 11030 1/1	sories) 6 DIN Controller (Panel Door Mounted)	
						Code	Enclosu	ıre Heater		
						0 1	None Thermo	stat Controlled Enclosure Heater		
							Code	Pressurization Control System		
							0	None		
							1	Type Z Class 1, Division 2		

Technical Notes:

(*) Enter number of circuit breakers in parenthesis

Breaker Rating									
	Maximum Number of Breakers								
277 Vac 15 Amp 20 Amp 30 Amp 40 Amp									
100 amp Panel Board	20	18	12	9					
225 amp Panel Board	20	20	20	20					

Remote Mounted Control Accessories	PCN
RTAS Thermostat	389589
RTAS-EP Division 2 Thermostat	389597
B-100 NEMA 4X Thermostat	305365
E-100 NEMA Division 1 Thermostat	305322
LCD-1 Snow Switch	389781



weather TRACE

FPLSM

Freeze Protection Heat Trace Panels

(cont'd.)

Ordering Information

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

Model FPLSM featuring WeatherTrace Sentinel 277 Vac 4-Wire Ambient Rating 40°C (104°F)

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 WeatherTrace Sentinel continually monitors the supply voltage to each individual heat trace circuit. Loss of voltage of a ground fault condition triggers an automatic alarm to an annunciator panel which identify's the faulted zone and a Common Alarm is activated with the Re-Ring Feature. 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	Panell	board				Ava	ailable Breaker Poles		
181	18 Pos	sitions (1	00 Amp N	/lain Ratii	ng)	(8)	1-pole breakers		
301	30 Pos	sitions (1	ns (100 Amp Main Rating)				(14) 1-pole breakers		
421	42 Pos	sitions (1	100 Amp Main Rating)			(20) 1-pole breakers		
302	30 Pos	sitions (2	25 Amp N	/lain Ratii	ng)	(14	1) 1-pole breakers		
422	42 Pos	sitions (2	25 Amp N	/lain Ratii	ng)	(20	1) 1-pole breakers		
	Code	Power	Source				Heater Load		
	1	3 Phas	se Power,	277/480	Vac 4-W	ire	277 Vac (240 Vac Cable)		
		Code	Enclos	ure 48"H	x 36"W x	(10"D (C	odes 12 & 20), 60"H x 36"W x 10"D (Codes 30 & 42)		
		1	NEMA -	4 Single-I	Door, Stee	l Wall-Mo	unt Enclosure		
		2	NEMA -	4X Single	-Door, Sta	inless Ste	el Wall-Mount Enclosure (Codes 12 & 20)		
		3	NEMA -	4X Single	-Door, Sta	inless Ste	el Wall-Mount Enclosure (Codes 30 & 42)		
			Code	Ground	l Fault Bra	anch Circ	uit Breaker (see table for maximum number of circuit breakers allowed		
			1(*)	15 Am	p 1-Pole (GFI Circui	t Breaker for 277 Vac load		
							Circuit Breaker for 277 Vac load		
			3(*)	30 Am	p 1-Pole (GFI Circui	t Breaker for 277 Vac load		
				Code	Main D	isconnec	t Switch Selection		
				0	None				
				1	100 An	np with 2	5k Fault Protection (Code 181, 301 & 421 Only)		
				2	250 An	np with 3	5k Fault Protection (Code 302 & 422)		
					Code	Enclos	ure Heater		
					0	None			
					1	Thermo	ostat Controlled Enclosure Heater		
						Code	Pressurization Control System		
						0	None		
						1	Type Z Class 1, Division 2		
181	1	1	1(5)	1	0	0	Typical Model Number (FPLS-18111(5)100)		

Technical Notes:

(*) Enter number of circuit breakers in parenthesis

Breaker Rating								
Maximum Number of Breakers								
277 Vac	15 Amp	20 Amp	30 Amp					
100 amp Panel Board	20	18	12					
225 amp Panel Board	20	20	20					

