**IntelliTrace**

**ITC-FS**

Digital Heat Trace Controller

1 & 2 Circuit

- 1 & 2 Circuit Models
- 22 Amps per Circuit
- SSR Control
- 100 – 277 VAC, 50/60 Hz
- UL Approved for Freeze Protection of Fire Sprinkler Mains and Branch Lines (VGNJ)
- Soft Start Feature
- Operating Temperature: -40°F to 104°F (-40˚C to 40˚C)
- Modbus RTU/RS485, RS422 & TCP/Ethernet
- 10” x 8” x 6” (26cm x 21cm x 15cm) NEMA 4X FG Wall Mount Enclosure
- High Resolution Color TFT Display
- LED Indication for Power, Load & Alarm per Circuit
- Front Panel Capacitive Touch Switches
- PID, On/Off or Manual Control Modes
- 2 RTD’s per circuit
  - 1 RTD for Ambient Control
  - 1 RTD for Alarms
- Full Monitoring & Alarms
  - High / Low Temperature & Current, GFEP & Sensor Failure
- Programmable Duty Cycle On Sensor Failure
- Audible Alarm Annunciation
- AC & DC Alarms
- Password Protected Security Levels
- UL/cUL

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**Description**

The Chromalox intelliTRACE ITC-FS is designed for Freeze Protection of Fire Sprinkler Mains and Branch Lines. The ITC-FS is offered in either a single circuit or an independently controlled and monitored dual circuit platform. They provide a unique, industry-leading combination of heating capacity, application flexibility and technology.

You must employ two RTD sensors to control both circuits and alarms, use one RTD to control both circuits and individual RTD’s for alarms, or two individual RTD’s per circuit to control each circuit independently and alarms independently. This provides the owner with flexibility and redundancy to help meet their ever-varying demands.

The ITC-FS employs a soft start feature that uses a proprietary software algorithm which eliminates the inherent self-regulating in-rush current, resulting in less nuisance tripping at cold temperatures.

All process conditions may be monitored and managed both locally and remotely. All process variable, communication and alarm settings and security codes are user-adjustable via simple page menu navigation.

In terms of system supervision, the ITC-FS controller monitors temperature, current load and ground fault equipment protection leakage current (GFEP). Additionally, the alarms on the ITC-FS consist of high and low temperature, high and low current, high GFEP current and sensor failure. For GFEP see next page for specifics.

Should the ITC-FS unit realize a failed sensor, the controller automatically switches into a user adjustable manual output duty cycle. To eliminate abrupt current spikes, the Chromalox ITC-FS employs bumpless transfer power switching when switching over from either manual or auto mode.

The ITC-FS unit is housed in a compact wall mountable, NEMA 4X FG or optional 316 SS enclosure and it features a high resolution color TFT display, LED indication of Load, Power & Alarm status for each circuit and front panel capacitive touch user interface buttons which are mounted on a hinged door.

The ITC-FS enclosure provides electrical connections for the heating cable, the AC Power and the RTD Sensors and it comes complete with stainless steel mounting brackets.

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To comply with the UL approval for Fire Sprinklers the power connection between the cable and the ITC-FS must be made with an RTBC (PCN 389699). The bulb of the RTBC must be placed on one of the sprinkler sprig pipes nearest the sprig head. One RTBC per ITC-FS circuit is required. Example: A 2 circuit ITC-FS must have 2 RTBC’s and use one for each circuit.
ITC-FS
Digital Heat Trace Controller
1 & 2 Circuit (cont’d.)

To comply with NEC code one of the following must apply:

1. Customer supplied 2 pole GFEP breaker in branch circuit breaker box upstream of the controller.

2. Requirement shall not apply in industrial establishments where there is alarm indication of ground faults and the following conditions apply:
   a. Conditions of maintenance and supervision ensure that only qualified person(s) service the installed system
   b. Continued circuit operation is necessary for safe operation of equipment or process
ITC-FS
Digital Heat Trace Controller
1 & 2 Circuit (cont’d.)

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

Model Product Description
ITC-FS
The Chromalox ITC-FS series IntelliTRACE Controller will control 1 or 2 circuits and is designed for Freeze Protection of Fire Sprinkler Mains and Branch lines. The ITC-FS is a wall mounted device that operates at 100-277 VAC and rated at 22A per circuit in a -40°F to 104°F (-40˚C to 40˚C) Ambient. Standard features: NEMA 4X FG enclosure, 3.5” High Resolution TFT Display with integral display heater, front panel capacitive touch switches & LED Indication of Power, Load & Alarm. ON/OFF, PID or Manual SSR power control with a selectable Soft Start program. The ITC-FS accepts 2 RTD sensors per circuit using one for Ambient Control and the other for alarms. Other standard features include: 2 x common alarm outputs (1 x AC, 1 x DC), Alarms for Low/High Temperature & Current, GFEP (Ground Fault Equipment Protection) & Sensor Failure, ModBus RTU/RS485 (or /RS422) Communications and user selectable manual output on failed sensor. 16 gage Stainless Steel wall mounting brackets are included. UL/cUL Optional features include: NEMA 4X 316 SS Enclosure, ModBus TCP/Ethernet, Webserver/Ethernet or BACnet communications. Standard 1 year warranty.

Code Number of Circuits
1 1 Circuit
2 2 Circuits

Code Communications
0 ModBus RTU/RS485 (& RS422)
1 ModBus TCP/Ethernet
2 Webserver/Ethernet
3 BACnet/Ethernet
9 Other Communications

Code       Enclosure Size H x W x D, ln (cm)
0 NEMA 4X Fiberglas 10 x 8 x 8 (25 x 21 x 20)
1 NEMA 4X 316 SS 12 x 10 x 8 (30 x 25 x 19)

Code Add to Complete Model Number
1

ITC-FS

Note: The ITC-FS comes complete with one set of 16 gauge stainless steel wall mounting brackets.

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<th>Model</th>
<th>Description</th>
<th>PCN</th>
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<tr>
<td>ITC-FS2-001</td>
<td>ITC-FS 2 Loop, FG ENC, RS485</td>
<td>390256</td>
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