ADVANCED THERMAL CONTROL & OPTIMIZATION

ATCOM CATALOG – HEAT TRACE CONTROL PANEL

DESCRIPTION

The ATCOM panel is an independent control system for heat-trace applications (both freeze-protection and process-maintain). Functionalities include Power Distribution, Sensor Monitoring, Alarming, and Data Delivery.

The panel is microprocessor based, controlling up to 48 circuits at 120-480VAC. A weather-proof touchscreen allows users to select between various control methods: Line-Temperature based, Ambient based, or Manual. Up to 4 field RTDs can be assigned to each circuit, providing a thorough overview of the application status.

Alarms are generated for temperature, current, and ground fault leakage. Users can modify setpoints and other circuit data via the touchscreen. Project-specific setpoints are conveniently preassigned to each panel, in a true turn-key nature.

A Remote-Access software is also provided, allowing users to access the touchscreen directly from their computer. Communications with the plant DCS is also available for full data delivery.

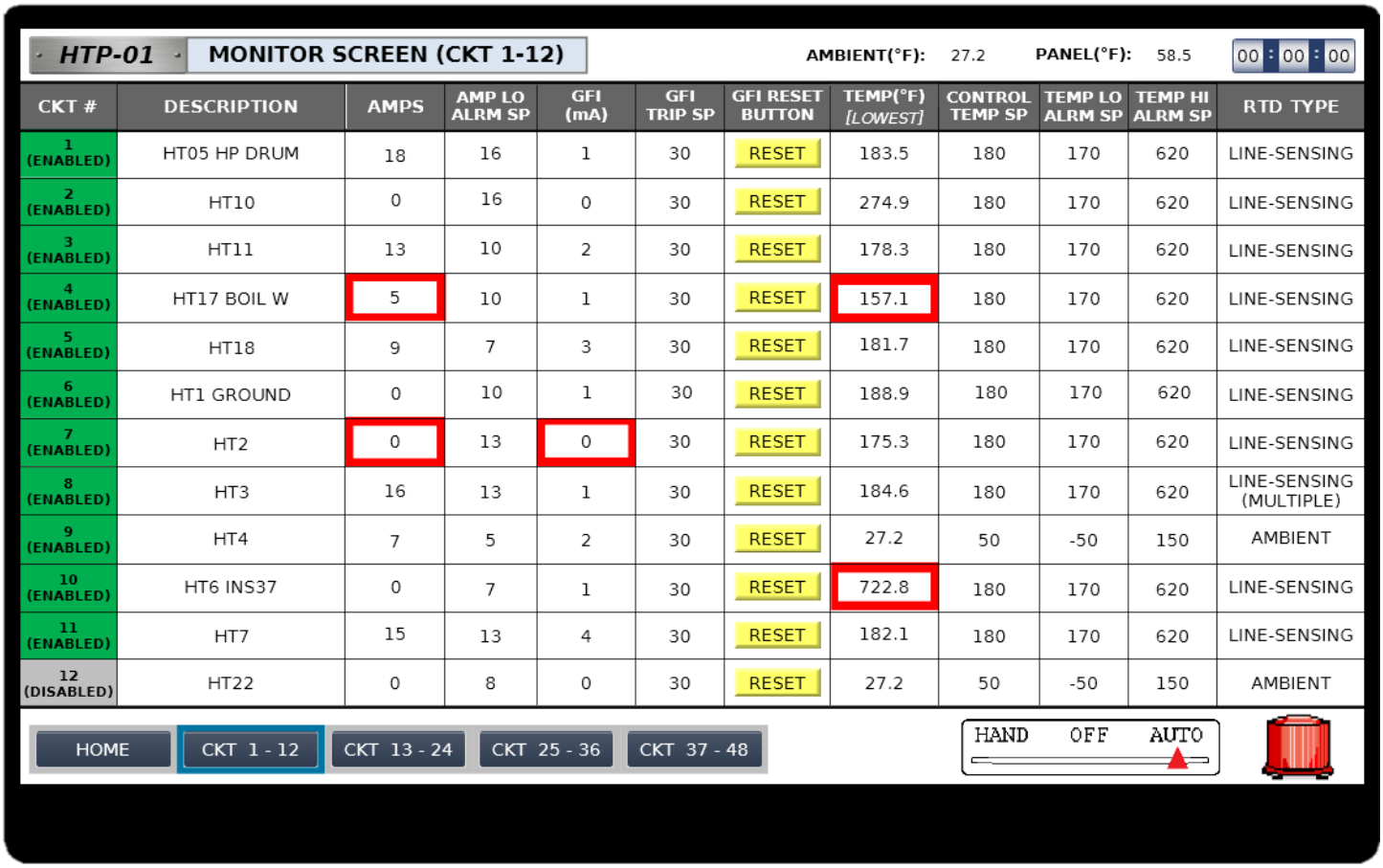
FULL SERVICE REPAIR • 3 yr WARRANTY • NO STIPULATIONS

UL Listed
Ordinary & C1D2

ATCOM CATALOG – HEAT TRACE CONTROL PANEL

FEATURES

- **NEMA 4/4X Enclosure**
- **Power Distribution**
  - *Main Breaker*
  - *Panel Board*
  - *Circuit Breakers*
- **Circuit Count: 12-48**
- **Circuit Rating: 30-40A @ 120-480VAC**
- **Ground Fault Tripping**
- **Through-Door Main Disconnect**
- **Solid State Relay Control**
  - *Line-Temperature Based*
  - *Ambient Based*
- **16” Industrial Touchscreen HMI**
- **Sensor Mapping, Monitoring, & Alarming**
  - *Current (A)*
  - *Ground Fault Leakage (mA)*
  - *Temperate (°F)*
- **System Audit Test Feature**
- **Remote Access Software & Phone App**
- **DCS Data Delivery & Dry Contact Alarm**
  - *Optional Fiberoptic Converter*
- **Optional Enclosure Heating/Cooling**
- **UL 508A Listed**
- **Optional C1D2**
  - *Type Z Air Purge & Pressurization*



HTP-01 MONITOR SCREEN (CKT 1-12)

AMBIENT(°F): 27.2 PANEL(°F): 58.5 00 : 00 : 00

CKT #	DESCRIPTION	AMPS	AMP LO ALRM SP	GFI (mA)	GFI TRIP SP	GFI RESET BUTTON	TEMP(°F) [LOWEST]	CONTROL TEMP SP	TEMP LO ALRM SP	TEMP HI ALRM SP	RTD TYPE
1 (ENABLED)	HT05 HP DRUM	18	16	1	30	RESET	183.5	180	170	620	LINE-SENSING
2 (ENABLED)	HT10	0	16	0	30	RESET	274.9	180	170	620	LINE-SENSING
3 (ENABLED)	HT11	13	10	2	30	RESET	178.3	180	170	620	LINE-SENSING
4 (ENABLED)	HT17 BOIL W	5	10	1	30	RESET	157.1	180	170	620	LINE-SENSING
5 (ENABLED)	HT18	9	7	3	30	RESET	181.7	180	170	620	LINE-SENSING
6 (ENABLED)	HT1 GROUND	0	10	1	30	RESET	188.9	180	170	620	LINE-SENSING
7 (ENABLED)	HT2	0	13	0	30	RESET	175.3	180	170	620	LINE-SENSING
8 (ENABLED)	HT3	16	13	1	30	RESET	184.6	180	170	620	LINE-SENSING (MULTIPLE)
9 (ENABLED)	HT4	7	5	2	30	RESET	27.2	50	-50	150	AMBIENT
10 (ENABLED)	HT6 INS37	0	7	1	30	RESET	722.8	180	170	620	LINE-SENSING
11 (ENABLED)	HT7	15	13	4	30	RESET	182.1	180	170	620	LINE-SENSING
12 (DISABLED)	HT22	0	8	0	30	RESET	27.2	50	-50	150	AMBIENT

HOME | CKT 1 - 12 | CKT 13 - 24 | CKT 25 - 36 | CKT 37 - 48

HAND OFF AUTO

SELECTION

A-Series: PLC Operated
B-Series: Mechanically Operated

Advanced Series

PLC operated. Individual circuit control. Line & ambient sensing. Alarming of temperature, current, & ground-fault.

A – 36 – 120 – A – 2 – XS

Heat Trace Voltage
120: 120 VAC
208: 208 VAC
240: 240 VAC
277: 277 VAC
480: 480 VAC
CMB: Combination

Field RTD
0: No Field RTDs (Ambient Only)
1: Single RTD Per CKT
2: Multiple RTDs Per CKT

Circuit Count
##: Between 12 to 48

Line Voltage
A: 208/120V 3-phase
B: 240/120V 1-phase
C: 480/277V 3-phase

Options (combinable)
0: No Options
4: 40A BRKs *(default = 30A)*
X: Nema 4X Stainless Steel
Z: C1D2 - Type Z Air Purge
H: Enclosure Heater
A: Enclosure AC/Cooling
S: Sun-Shield for HMI
F: Fiber Optic Converter

***Note 1**: Main BRK size determined by engineering (typically 225A for a 36 circuit system).*
***Note 2**: Enclosure size determined by engineering (typically 60"x44"x12" for a 36 ckt system).*

Basic Series

Mechanically operated.

B – 36 – 120 – A – 2 – 4A

Heat Trace Voltage
120: 120 VAC
208: 208 VAC
240: 240 VAC
277: 277 VAC
480: 480 VAC
CMB: Combination

Control Method
1: Main Disconnect Handle Only (ON/OFF)
2: HOA Switch (Hand/OFF/Auto) with Ambient T.S.

Circuit Count
##: Between 12 to 48

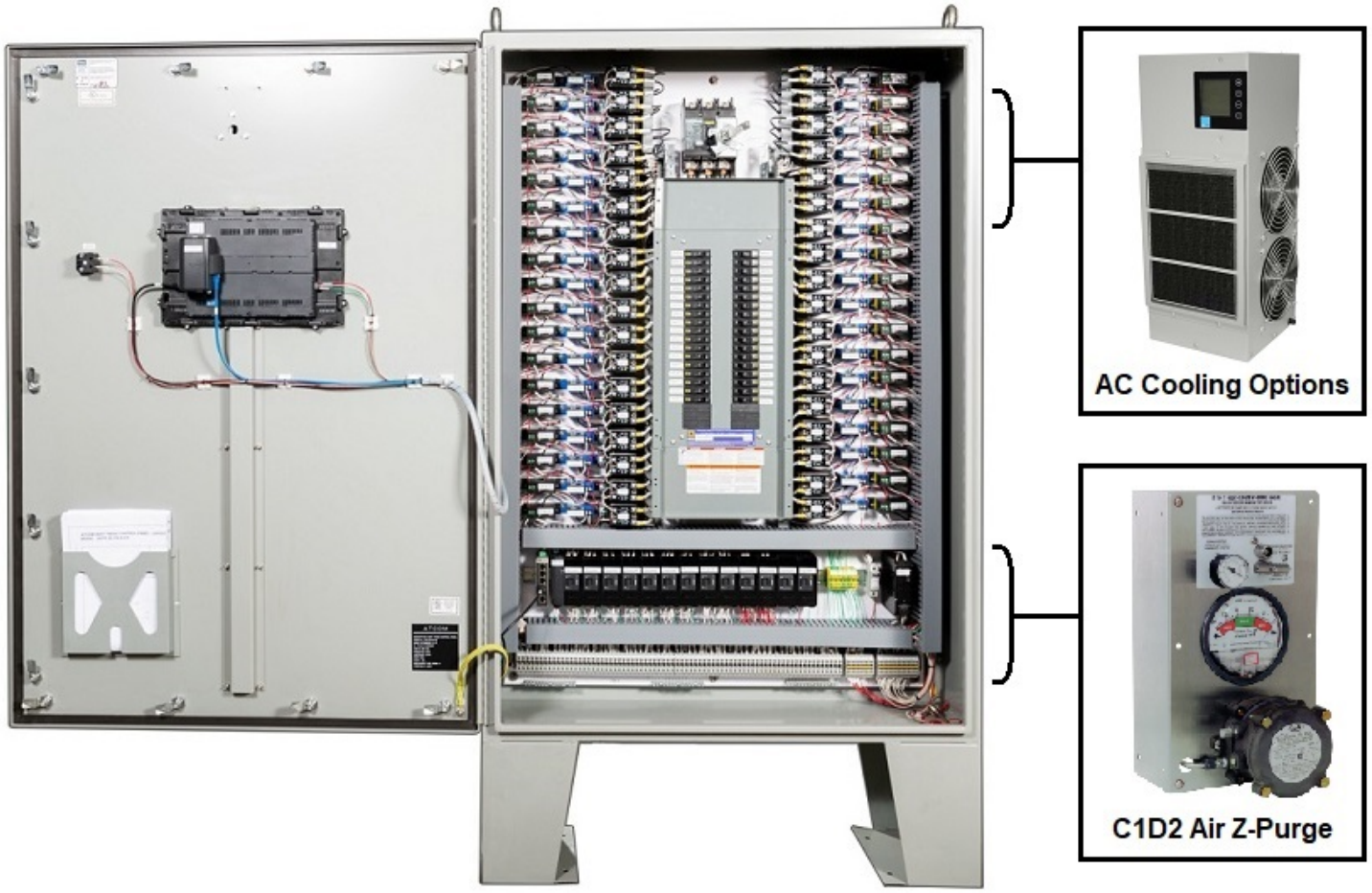
Line Voltage
A: 208/120V 3-phase
B: 240/120V 1-phase
C: 480/277V 3-phase

Options (combinable)
0: No Options
4: 40A BRKs *(default = 30A)*
A: LED Alarm for HT BRKs
X: Nema 4X Stainless Steel

***Note 1**: Main BRK size determined by engineering (typically 225A for a 36 circuit system).*
***Note 2**: Enclosure size determined by engineering (typically 42"x36"x10" for a 36 ckt system).*

SPECIFICATIONS

Operating Temperature	-4 to 104°F *(enclosure heater recommended for freezing temperatures)*
Area Classification	Ordinary or Class 1 Div 2
Enclosure Rating	NEMA 4 Steel or NEMA 4X Stainless Steel
Enclosure Mounting	Wall Mount or Floor Mount
Line Voltage	120 – 480VAC, 3-Phase
Main Breaker Rating	600VAC, 3-Phase, 100-250A, Thermal Magnetic
Input	RTD (100 Ohm Platinum 3-Wire)
Output	Solid State Relay (TRIAC)
Max Output Rating	40A per circuit
Short Circuit Current Rating	10kA
Alarms	Temperature (high/low), Amperage (low), Ground Fault (high/trip)
Communication	Ethernet, Modbus TCP/IP
Approvals	UL 508A, UL 698A



*Subject to change per custom design application

DEFINITIONS

- **Power Distribution**: Power is typically provided to the panel from a transformer with voltages ranging 120-480VAC. The landing occurs at the panel's thermal-magnetic Main Breaker, which will have a Disconnect Switch protruding through the door, allowing the user to safely turn the system on/off. Power is then delivered to the Panel Board, which distributes it to the heat-trace Circuit Breakers.

- **PLC & Touchscreen HMI**: The PLC software is written and supported by the ATCOM engineering team. The weather-proof HMI allows for comfortable user operation. Screens are user friendly, displaying the live operating data of the heat trace (12 circuits per page), as well as alarms, control methods, etc.
    - **Remote Access**: In addition to the touchscreen, the user may access the panel via a freely provided computer/phone software. This will simulate an exact replica of the touchscreen, navigable with a mouse & keyboard (or smart-phone screen). An ethernet/fiber cable must be wired to the panel for this to work.

- **Sensor Monitoring**: The panel will monitor the following heat-trace data in real time:
    - **Current**: Amperage from the circuit breakers is recorded via Current Transducers. This value will indicate if the heat trace is operating as expected or not.
    - **Temperature**: Field RTDs will be landed in the panel for line-temperature readings. Up to four RTDs can be assigned to a circuit. This allows for thorough monitoring of individual pipelines & equipment.
    - **GFI:** (Ground Fault Interrupt): Ground Fault is recorded in the value of milli-amperage, and will trip the circuit when it reaches a specific setpoint. This value is monitored by a more precise current transducer.

- **Alarms**: All the sensor readings will have a low/high alarm that will appear in the form of a flashing red beacon on the user interface. The user may acknowledge alarms and reset tripped circuits. Pilot LED lights will also be installed on the panel door; specifically for Primary Power Status, 24V Power, PLC Alarms, and Pressure Alarms.

- **Control Methods**: The user may select from a variety of methods to control their heat trace.
    - **Hand**: Force all circuits ON.
    - **Off**: Force all circuits OFF.
    - **Auto *(recommended)***: The circuits will be individually controlled based on their temperature setpoints. This will be accomplished by solid state relays, in conjunction with field-installed RTD sensors.

- **Audit System Test**: This button will activate all the heat-trace for a short duration, allowing the user to check on the operating status of their system during the off-season months.

- **Data Delivery**: The operating data can be readily collected by the plant DCS via Modbus TCP/IP protocol; this will require an ethernet/fiber cable wired to it. A Dry Contact alarm relay is also provided for customers who wish to land a simple 24V signal to their network.

- **Multi-Panel Alarm Manager**: In situations where a customer site may have multiple ATCOM panels in operation, a central location where all the alarms are collected and organized is offered as an option. This comes in the form of a miniature alarm panel that communicates with the other panels and generates a global alarm screen. This panel is PLC-based and more reliable than a standard desktop computer. It is used a secondary alternative to DCS data collection.