

The Heat Tracing Authority

www.heat-trace.com
www.istaoil.com



HEAT TRACE

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HEAT TRACETM
SETTING THE STANDARDS LEADING THE WAY



IODÉC

SOLE AGENT OF HEATTRACE IN IRAN



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The History

When Neil Malone founded Heat Trace Limited in 1974, electric heat tracing was still in its formative years. In the three plus decades since, it has developed into a significant industry based on quality principals.

Throughout this time, Heat Trace Limited has been at the forefront, deeply involved in the development of BS6351 - Electric Surface Heating, the first European standard published in 1982, through to IEC62086 - a harmonised World Standard launched in 2000 - now IEC30-60079.

From the start, Heat Trace developed products and systems not only satisfying the new standards, but also meeting Heat Trace's own corporate objectives of improving...

"safety, efficiency, reliability and performance".

These highly focused objectives engendered a corporate culture within the company that remains to this day. The result has been a stream of novel, patented products - both heating cables and control and monitoring equipment - that have seriously influenced the direction and focus of the heat tracing industry.

Heat Trace's ground breaking "EVOLUTION" Heat Tracing System Design Software enables engineers, either within the Heat Trace organisation, or in Engineering Houses, to quickly, accurately and competitively design and engineer heat tracing systems of the highest calibre - with emphasis on safety, efficiency and lowest cost of ownership for the end user.

Today Heat Trace Limited is a global company providing complete heat tracing solutions. In addition to systems manufacture, services include consultancy, system design, installation and commissioning, project management, maintenance and training.

Heat Trace Limited has become

The Heat Tracing AuthorityTM



MAXIMUM TEMPERATURE	Un-energised	125°C (257°F)
MINIMUM INSTALLATION TEMPERATURE		-40°C (-40°F)
POWER SUPPLY	up to 600V 3 phase according to design requirements	
POWER OUTPUT	up to 23W/m by design according to application requirements	

1 Phase 3 Phase

HEATING CONDUCTOR THICKNESSES (4mm WIDE)	0.3mm 0.4mm 0.5mm 0.6mm	0.7mm 0.8mm 1.00mm 1.25mm
HEATING CONDUCTOR THICKNESSES	i) 16mm wide 1.0, 1.25, 1.5mm ii) 20mm wide 1.75, 2.0mm	

MAXIMUM TEMPERATURE	Power OFF Power ON	230°C (446°F) 208°C (407°F) ↑
MINIMUM OPERATING TEMPERATURE		-80°C (-112°F)

MINIMUM INSTALLATION TEMPERATURE	HTS1F-xS HTS1F-xF	HTS3F-xS HTS3F-xF	-40°C (-40°F) -20°C (-4°F)
TEMPERATURE CLASSIFICATION	205°C (T2) 230°C (T2) T3 (200°C) T4 (135°C) T5 (100°C) T6 (85°C)	Devices are classified according to rated output and the conditions of use. ie. limited pipe temp.	

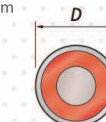
MAXIMUM CONTINUOUS EXPOSURE TEMPERATURE (Power OFF): 230°C (446°F)

MINIMUM INSTALLATION TEMPERATURE: -60°C (-76°F)

RATED VOLTAGE: up to 6.6kV/3.81kV 31/ phase

DIMENSIONS/ELECTRICAL RESISTANCE:

Type Ref	Diameter (mm) 'D'	Nominal Res.@ 20°C Ω/km
HTS1F 7.0A	14.6	0.75
HTS1F 9.0A	16.6	0.45



MAXIMUM EXPOSURE continuous 350°C (644°F)
TEMPERATURE: intermittent 425°C (797°F)

MINIMUM INSTALLATION TEMPERATURE: -65°C (-85°F)

POWER SUPPLY: 230 or 115VAC (nominal)
(voltages also available to order 24V to 1000V AC or DC)

WEIGHTS & DIMENSIONS:

Type Ref	Dimensions (mm)+/-0.5	Weight kg/100m	Min Bending radius	Gland Size
RHT	10 x 7	16.5	25mm	M20

ORDERING INFORMATION:

Example:

Output 220W/m
Rail heater RHT
Supply Voltage 230V AC
Fluoropolymer overjacket - (optional)*

220 RHT 2 - F

LONGLINE
High Efficiency Series Resistance

125°C
HTP3F / HTP1F

Electrical heating tape for the heating of moderately long pipelines

230°C

HTS3F / HTS1F

Electrical heating tape for the heating of moderately long pipelines

230°C

LLR-HV

Electrical heating tape for cross country pipelines.

425°C

RHT / RHT / U

Cut To Length - Parallel Resistance
RAIL & SWITCH
POINT HEATER

MAXIMUM TEMPERATURE	Un-energised Energised	200°C (392°F) See Table
MINIMUM INSTALLATION TEMPERATURE		-40°C (-40°F)
POWER SUPPLY	208 - 277 VAC or 110 - 120 VAC	

WEIGHTS & DIMENSIONS

Type Ref	Nom. Dims. (mm)	Weight kg/100m	Min. Bending radius (mm)	Gland Size
EMTF	7.0 x 4.3	6.4	20	M16
EMTF.C	7.8 x 5.1	9.6	25	M16
EMTF.CF	9.0 x 6.3	12.0	30	M16

MAXIMUM TEMPERATURE	Un-energised	200°C (392°F)
MINIMUM INSTALLATION TEMPERATURE		-40°C (-40°F)

TEMPERATURE CLASSIFICATION	200°C (T3) T4 (135°C) T5 (100°C) or T6 (85°C)	Devices are classified to rated output and conditions of use. ie. limited pipe temp.
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POWER SUPPLY: 208 - 277 VAC
or 120 - 110 VAC

MAXIMUM TEMPERATURE	Power off 285°C (545°F)
MINIMUM INSTALLATION TEMPERATURE	-40°C (-40°F)

TEMPERATURE CLASSIFICATION	285°C (T2) T3 (200°C) T4 (135°C) T5 (100°C) or T6 (85°C)	Devices are classified according to rated output and the conditions of use. ie. limited pipe temp.
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POWER SUPPLY: 12 - 277 VAC
or 120 - 110 VAC

MAXIMUM EXPOSURE TEMPERATURE	Continuous Intermittent	350°C (644°F) 425°C (797°F)
MINIMUM OPERATING TEMPERATURE		-65°C * (-85°F)

MINIMUM INSTALLATION TEMPERATURE: -40°C (-40°F)

TEMPERATURE CLASSIFICATION	350°C (T1) T2 (300°C) T3 (200°C) T4 (135°C) T5 (100°C) or T6 (85°C)	Devices are classified according to rated output and the conditions of use. ie. limited pipe temp
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POWER SUPPLY: 12 - 277 VAC
IP67

CONSTANT WATTAGE
Heating Tape

200°C
EMTF

Electrical heating tape for freeze protection or process heating of pipework and vessels

200°C
MTF

Electrical heating tape for frost protection or process heating of pipework and vessels

285°C
PHT

Electrical heating cable for Process Temperature Maintenance of pipework and vessels in safe or hazardous areas

425°C
AHT

Electrical heating cable for Process Temperature Maintenance of pipework and vessels in safe or hazardous areas

MAXIMUM CONTINUOUS EXPOSURE TEMPERATURE (Power ON):

65°C (149°F)

MAXIMUM PERMISSABLE EXPOSURE TEMPERATURE (Power OFF):

85°C (185°F)

MINIMUM OPERATING TEMPERATURE:

-65°C (-85°F)

MINIMUM INSTALLATION TEMPERATURE:

-40°C (-40°F)

POWER SUPPLY:

12-277V AC

TEMPERATURE CLASSIFICATION:

T6 (85°C)

MAXIMUM RESISTANCE OF PROTECTIVE BRAIDING:

18.2 Ohm/km

65°C

FSM

(Freez Stop Micro)

Electrical heating cable for frost protection or temperature maintenance

MAXIMUM CONTINUOUS EXPOSURE TEMPERATURE (Power ON):

85°C (185°F)

MAXIMUM PERMISSABLE EXPOSURE TEMPERATURE (Power OFF):

85°C (185°F)

MINIMUM OPERATING TEMPERATURE:

-65°C (-85°F)

MINIMUM INSTALLATION TEMPERATURE:

-40°C (-40°F)

POWER SUPPLY:

12-277V AC

TEMPERATURE CLASSIFICATION:

up to 31W/m @ nom voltage - T6 (85°C)
up to 25W/m @ nom 230V powered to 277V - T6 (85°C)
>31W/m @ nom voltage - T4 (135°C)
>25W/m @ nom 230V powered up to 277V - T4 (135°C)

85°C

FSLe

(Freez Stop Lite)

Electrical heating cable for frost protection or temperature maintenance

MAXIMUM CONTINUOUS EXPOSURE TEMPERATURE (Power ON):

85°C (185°F)

MAXIMUM PERMISSABLE EXPOSURE TEMPERATURE (Power OFF):

85°C (185°F)

MINIMUM OPERATING TEMPERATURE:

-65°C (-85°F)

MINIMUM INSTALLATION TEMPERATURE:

-40°C (-40°F)

POWER SUPPLY:

12-277V AC

TEMPERATURE CLASSIFICATION:

up to 40W/m @ nom voltage - T6 (85°C)
up to 31W/m @ nom 230V powered to 277V - T6 (85°C)
>40W/m @ nom voltage - T4 (135°C)
>31W/m @ nom 230V powered up to 277V - T4 (135°C)

85°C

FSR

(Freez Stop Regular)

Electrical heating cable for frost protection or temperature maintenance

MAXIMUM CONTINUOUS EXPOSURE TEMPERATURE (Power ON):

100°C (212°F)

MAXIMUM PERMISSABLE EXPOSURE TEMPERATURE (Power OFF):

100°C (212°F)

MINIMUM OPERATING TEMPERATURE:

-65°C (-85°F)

MINIMUM INSTALLATION TEMPERATURE:

-40°C (-40°F)

POWER SUPPLY:

12-277V AC

TEMPERATURE CLASSIFICATION:

up to 45W/m @ nom voltage - T4 (135°C)
>45W/m @ nom 230V powered to 277V - T3 (200°C)

MAXIMUM RESISTANCE OF PROTECTIVE BRAIDING:

18.2 Ohm/km

FSE

FSE(w)

100°C

FSE(w)

(Freez Stop Extra)

Electrical heating cable for frost protection or temperature maintenance

MAXIMUM CONTINUOUS EXPOSURE TEMPERATURE: (ENERGISED OR SWITCHED OFF)

225°C (437°F)

MINIMUM OPERATING TEMPERATURE:

-65°C (-85°F)

MINIMUM INSTALLATION TEMPERATURE:

-40°C (-40°F)

POWER SUPPLY:

12-277V AC

225°C

FS+

(Fail Safe)

A high temperature self-regulating heating cable

MAXIMUM CONTINUOUS EXPOSURE TEMPERATURE: (ENERGISED OR SWITCHED OFF)

225°C (437°F)

MINIMUM OPERATING TEMPERATURE:

-65°C (-85°F)

MINIMUM INSTALLATION TEMPERATURE:

-40°C (-40°F)

POWER SUPPLY:

12-277V AC
(other voltages available on request)

225°C

FSS

(Fail Safe Super)

Very high temperature self-regulating heating cable

MAXIMUM EXPOSURE TEMPERATURE: (ENERGISED OR SWITCHED OFF)

250°C (482°F)

MINIMUM OPERATING TEMPERATURE:

-65°C (-85°F)

MINIMUM INSTALLATION TEMPERATURE:

-40°C (-40°F)

POWER SUPPLY:

12-277V AC

WEIGHTS & DIMENSIONS:

Type Ref	Dimensions (mm) +/-0.5	Weight kg/100m	Min Bending radius	Gland Size
FSU	10.2 x 3.5	7.6	20mm	M20
FSU-N	11.2 x 4.5	11.3	25mm	M20
FSU-NF	12.1 x 5.4	14.6	30mm	M20
FSUw	12.5 x 3.7	11.4	30mm	M25
FSUw-N	13.5 x 4.7	15.8	30mm	M25
FSUw-NF	14.4 x 5.6	19.5	30mm	M25

250°C

FSU

(Fail Safe Ultimo)

Extremely high temperature self-regulating heating cable

MAXIMUM EXPOSURE TEMPERATURE: (ENERGISED OR SWITCHED OFF)

275°C (527°F)

MINIMUM OPERATING TEMPERATURE:

-65°C (-85°F)

MINIMUM INSTALLATION TEMPERATURE:

-40°C (-40°F)

POWER SUPPLY:

12-277V AC

WEIGHTS & DIMENSIONS:

Type Ref	Dimensions (mm) +/-0.5	Weight kg/100m	Min Bending radius	Gland Size
FSU+A	11.9 x 5.2	11.1	50mm	M25
FSU+AF	12.7 x 6.0	14.4	50mm	M25
FSU+w-A	14.3 x 5.5	19.6	50mm	M25
FSU+w-AF	14.8 x 5.6	22.0	50mm	M25

275°C

FSU+

(Fail Safe Ultimo +)

Ultra high temperature self-regulating heating cable

MAXIMUM EXPOSURE TEMPERATURE: (ENERGISED OR SWITCHED OFF)

300°C (572°F)

* Limited to 275°C when optional fluoropolymer jacket is fitted.

MINIMUM INSTALLATION TEMPERATURE:

-40°C (-40°F)

MINIMUM AMBIENT TEMPERATURE:

-60°C (-76°F)

POWER SUPPLY:

1-277V AC

WEIGHTS & DIMENSIONS:

Type Ref	Dimensions (mm) +/-0.5	Weight kg/100m	Min Bending radius	Gland Size
AFS	16.75 x 7.95	22.0	50mm	M25
AFS-F	17.65 x 8.85	26.7	50mm	M25

300°C

AFS

(Auto Fail Safe)

The worlds highest temperature self-regulating heating cable

MAXIMUM TEMPERATURE: UN-ENERGISED:

135°C (275°F)

MINIMUM INSTALLATION TEMPERATURE:

-40°C (-40°F)

POWER OUTPUT:

90W/m @ 0°C

POWER SUPPLY:

600VDC

CONSTRUCTION:

Heating Element: Semi-conductive self-limiting matrix.
Power Conductors: Nickel plated copper 1.81mm².
Primary Insulation: Fluoropolymer.
Outer Jacket: Aluminium foil.

WEIGHTS & DIMENSIONS:

Type Ref	Dimensions (mm) +/-0.5	Weight kg/100m	Min Bending radius
CRH	13.0 x 4.0	13.0	30mm

135°C

CRH

(Conductor Rail Heater)

Self-regulating electrical for conductor rail, 3rd rail & points heating.

MAXIMUM CONTINUOUS EXPOSURE TEMPERATURE (Power ON):

85°C (185°F)

MAXIMUM PERMISSABLE EXPOSURE TEMPERATURE (Power OFF):

85°C (185°F)

MINIMUM OPERATING TEMPERATURE:

-65°C (-85°F)

MINIMUM INSTALLATION TEMPERATURE:

-40°C (-40°F)

POWER SUPPLY:

12-24V AC or DC

TEMPERATURE CLASSIFICATION:

T6 (85°C)

MAXIMUM RESISTANCE OF PROTECTIVE BRAIDING:

18.2 Ohm/km

85°C

FLV(w)

(Freez Stop Low Voltage)

Electrical heating cable for frost protection or temperature maintenance

OPERATING ENVIRONMENTAL RANGE:

+15°C to -15°C
(+59°F to +5°F)

AMBIENT TEMPERATURE RANGE:

+60°C to -40°C
(+104°F to -40°F)

MINIMUM INSTALLATION TEMPERATURE:

-40°C (-40°F)

POWER SUPPLY:

1-277V AC

MAXIMUM RESISTANCE OF PROTECTIVE BRAIDING:

18.2 Ohm/km

WEIGHTS & DIMENSIONS:

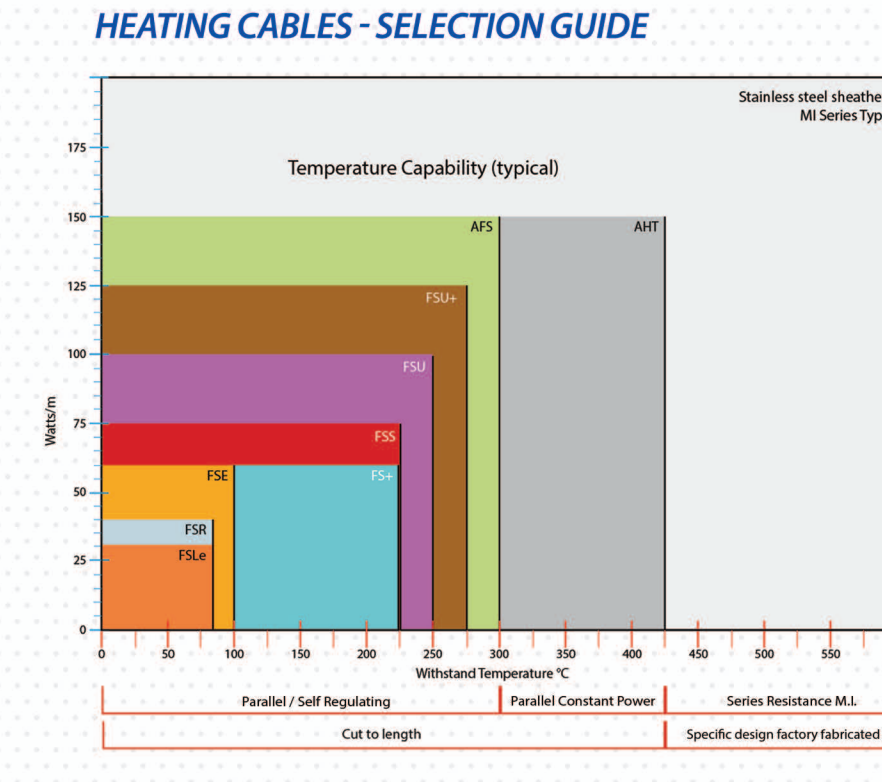
Type Ref	Dimensions (mm) +/-0.5	Weight kg/100m	Min Bending radius	Gland Size
GT	12.95 x 5.95	13.2	35mm	M20
GT-F	12.65 x 5.65	13.2	35mm	M20

60°C

GT

(G-Trace)

Roof and gutter protection from snow and ice build up



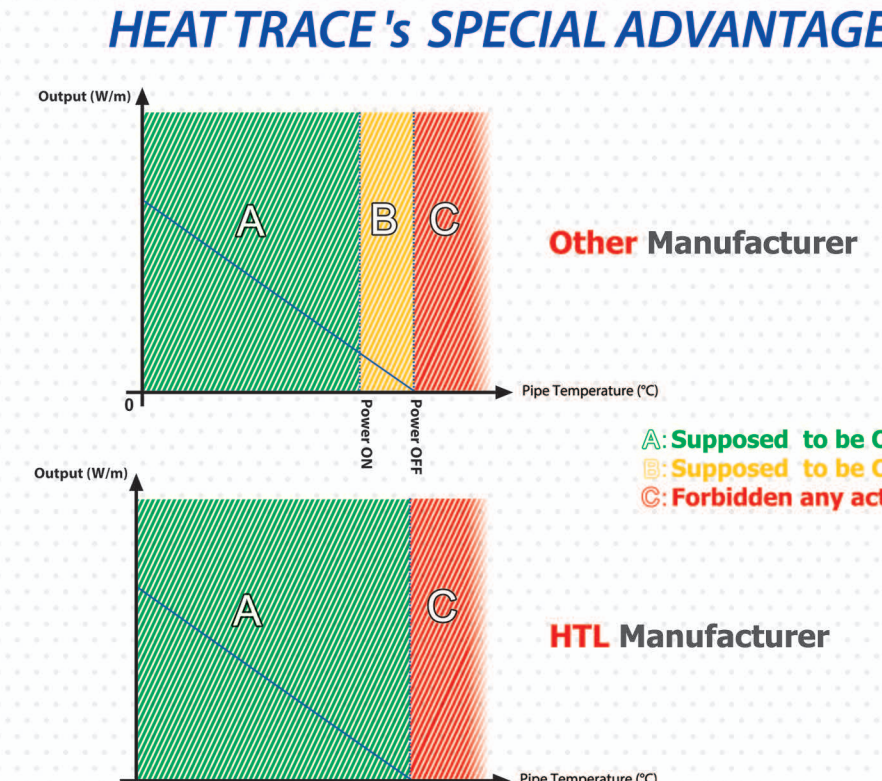
CT/CT-FL

CAPILLARY THERMOSTATS

Temperature control of heat trace circuits in safe or hazardous areas

THERMOSTAT SPECIFICATION

	Type A	Type B	Type C
Temp. range (°C)	0-40	20-110	20-300
Setting accuracy	±6	±6	±14
Switch differential (°C)	2±1.5k	4±2k	10±4k
Max. sensor temp (°C)	110	140	320
Min. sensor temp (°C)	-20	-20	-15
Capillary tube length (m)	1.5	1.5	1.5
Capillary tube material	Stainless Steel		
Capillary tube protection	Stainless Steel Conduit		
Sensor diameter (mm)	6	6	6
Sensor length (mm)	143.5	140	89.5
Sensor type	Liquid Filled		
Sensor Material	Stainless Steel		
SWITCH TYPE	Single Pole, Single Throw		
	Changeover		
SWITCH RATING	16A (Max), 230V/400V resistive load		
SWITCH LIFE	100,000 operations		
TEMPERATURE SETTING ADJUSTMENT	Internal Tamperproof Knob		



AMBIENT TEMPERATURE

-40°C to +50°C
(-40°F to +122°F)

MINIMUM OPERATING TEMPERATURE

-65°C (-85°F)

EARTH CONTINUITY PLATE

Available as extra

ENTRIES

Standard entries are 20mm and 25mm ISO metric.
Alternatives upon request are: ¾" and 1" B.S. Conduit, Pg11, 13.5, 16 and 21, ½" and ¾" N.P.T.

TERMINAL BLOCKS

Weidmuller - Klippon Terminals

JB 9000

Junction box for use with electric heat tracing systems

STRIPFREE

SF-P/SF-T/SF-E

Universal system for termination of Heat Trace's self-regulating heating tapes

DESTU

TERMINATION SYSTEM

Direct entry sealed termination unit for use with the Heat Trace range of heating cables