

The Heat Tracing Authority

www.petroswetechnology.se
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2026 Technical Edition



Heat Trace Ltd is a leading manufacturer of Heat Tracing systems and cables, hence why it is referred to as Heat Tracing:

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 IEC60079-30.

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

In this brochure, we wish to introduce you to Heat Trace Limited and their products.

Products and systems presented in this brochure are supplied to regional markets through authorized commercial channels in full compliance with applicable international regulations.

The Heat Tracing System Authority



MAXIMUM TEMPERATURE	Un-energised	125°C (257°F)
MINIMUM INSTALLATION TEMPERATURE		-40°C (-40°F)

POWER SUPPLY	up to 600V AC/DC single phase up to 1000V AC/DC 3 phase	
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POWER OUTPUT	up to 23W/m by design according to application requirements	
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HEATING CONDUCTOR THICKNESSES (4mm WIDE)	0.3mm	0.7mm
	0.4mm	0.8mm
	0.5mm	1.00mm
	0.6mm	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	200°C (392°F)
	Power ON	200°C (392°F) †

MINIMUM OPERATING TEMPERATURE	-80°C (-112°F)	
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MINIMUM INSTALLATION TEMPERATURE	HTS1F-xS	HTS3F-xS	-40°C (-40°F)
	HTS1F-xF	HTS3F-xF	-20°C (-4°F)

TEMPERATURE CLASSIFICATION	200(T1)	} Devices are classified according to rated output and the conditions of use. ie. Max. pipe temp.
	200(T2)	
	181(T3)	
	112(T4)	
	73(T5)	
	57(T6)	

MAXIMUM CONTINUOUS EXPOSURE TEMPERATURE (Power OFF):	230°C (446°F)
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MINIMUM INSTALLATION TEMPERATURE:	-40°C (-40°F)
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MINIMUM OPERATING TEMPERATURE:	-60°C (-76°F)
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RATED VOLTAGE:	up to 10kV 3 phase
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DIMENSIONS/ELECTRICAL RESISTANCE:

Type Ref	Diameter	Nominal Res. @ 20°C	
		'D' (mm)	Ω/km
HTS1FAR-A 40	14.9	150mm	0.740
HTS1FAR-A 60	16.5	170mm	0.458



MAXIMUM WITHSTAND:	800°C (1472°F)
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INSTALLATION TEMPERATURE:	-80°C to +40°C (-112°F to +104°F)
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APPROVAL DETAILS:

ATEX	- CML 18ATEX3391
IECEX	- CML 18.0208
CCC	- 2022312312000163

ATEX & IECEX MARKINGS:

Ex	II 2 G D
Ex	60079-30-1 IIC T1 to T6 Gb
Ex	60079-30-1 IIIC T450°C to T85°C Db

EN IEC 60079-0:2018

EN 60079-30-1:2017

IEC 60079-0: 2017

IEC/IEEE 60079-30-1: 2015



125°C HTP3F / HTP1F

Electrical heating tape for the heating of moderately long pipelines



200°C HTS3F / HTS1F

Electrical heating tape for the heating of moderately long pipelines



230°C LLR-HV

Electrical heating tape for cross country pipelines.

NO COMPETITION



MINERAL INSULATED High Temperature

800°C MAL

Mineral Insulated Heating Cable
For Higher Terminations

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	8.2 x 5.0	9.6	25	M16
EMTF.CF	9.0 x 5.8	12.0	30	M16

MAXIMUM TEMPERATURE	Un-energised	200°C (392°F)
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MINIMUM INSTALLATION TEMPERATURE	-40°C (-40°F)
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POWER SUPPLY	208 - 277 VAC or 120 - 110 VAC
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WEIGHTS & DIMENSIONS:

Type Ref	Dimensions (mm)+/-0.5	Weight kg/100m	Min Bending radius	Gland Size
MTF..C	10.0 x 6.0	11.0	30mm	M20
MTF..CF	10.8 x 6.7	15.0	35mm	M20

MAXIMUM CONTINUOUS EXPOSURE TEMPERATURE (Power OFF)	285°C (545°F)
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MAXIMUM PERMISSIBLE EXPOSURE TEMPERATURE (Power ON)	See workpiece Temperature table
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MINIMUM INSTALLATION TEMPERATURE:	-40°C (-40°F)
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POWER SUPPLY:	12 - 277 V AC/DC
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WEIGHTS & DIMENSIONS:

Type Ref	Dimensions (mm) +/-0.5	Weight kg/100m	Min Bend Radius	Gland Size
PHT..N	10.23 X 7.1	15	45mm	M20
PHT..NF	11.13 X 8.0	17	50mm	M20

MAXIMUM EXPOSURE TEMPERATURE:	Continuous Intermittent	350°C (644°F) 425°C (797°F)
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MINIMUM INSTALLATION TEMPERATURE:	-65°C (-85°F)
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POWER SUPPLY:	230 or 115V AC/DC (nominal) (voltages also available to order 24V to 1000V AC or DC)
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WEIGHTS & DIMENSIONS:

Type Ref	Dimensions (mm)+/-0.5	Weight kg/100m	Min Bending radius	Gland Size
RHT	10.0 x 7.0	16.5	25mm	M20

MAXIMUM EXPOSURE TEMPERATURE	Continuous	500°C (932°F) IP67
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MINIMUM OPERATING TEMPERATURE	-40°C (-40°F)
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MINIMUM INSTALLATION TEMPERATURE	-40°C (-40°F)
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POWER SUPPLY	12 - 277 VAC
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WEIGHTS & DIMENSIONS:

Type Ref	Dimensions (mm) +/-0.5	Weight kg/100m	Min Bend radius	Gland Size
AHT	10.7 x 7.7	16.5	50mm	M20

CONSTANT WATTAGE Heating Tape

200°C EMTF

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

200°C MTF

Constant Wattage Heating Cable with Large Busbars for long Circuit Lengths.

285°C PHT

Electrical heating cable for process temperature maintenance of pipework and vessels in safe or hazardous areas

350°C RHT

Electrical heating cable for freeze protection of rails, switch points, tramways and monorails.

500°C AHT

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

NO COMPETITION

MAXIMUM CONTINUOUS EXPOSURE TEMPERATURE (Power ON):	85°C (185°F)
MAXIMUM PERMISSIBLE EXPOSURE TEMPERATURE (Power OFF):	85°C (185°F)
MINIMUM OPERATING TEMPERATURE:	-40°C (-40°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)	



SELF-REGULATING HEATING CABLE

85°C
FSR (*Freez Stop Regular*)
 Electrical heating cable for freeze protection or temperature maintenance

MAXIMUM CONTINUOUS EXPOSURE TEMPERATURE (Power ON):	100°C (212°F)
MAXIMUM PERMISSIBLE EXPOSURE TEMPERATURE (Power OFF):	100°C (212°F)
MINIMUM OPERATING TEMPERATURE:	-40°C (-40°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)

INHERENTLY TEMPERATURE SAFE HEATING CABLE

100°C
FSE & FSEW
(Freez Stop Extra)
 Electrical heating cable for freeze protection or temperature maintenance

MAXIMUM CONTINUOUS EXPOSURE TEMPERATURE: (ENERGISED OR SWITCHED OFF)	225°C (437°F)
MINIMUM OPERATING TEMPERATURE:	-40°C (-40°F)
MINIMUM INSTALLATION TEMPERATURE:	-40°C (-40°F)
POWER SUPPLY:	12 - 277V AC (other voltages available on request)



225°C
FSS (FS+)
(Fail Safe Super)

Very high temperature self-regulating heating cable

MAXIMUM EXPOSURE TEMPERATURE: 250°C (482°F) (ENERGISED OR SWITCHED OFF)	
MINIMUM OPERATING TEMPERATURE:	-40°C (-40°F)
MINIMUM INSTALLATION TEMPERATURE:	-40°C (-40°F)
POWER SUPPLY:	12 - 277V AC

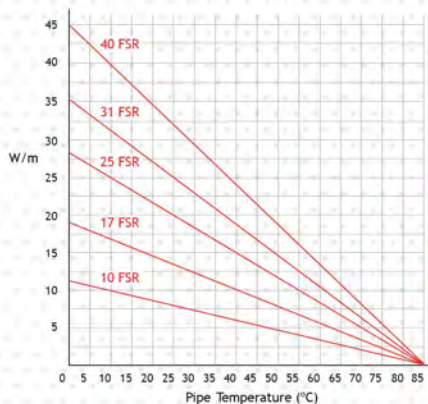
WEIGHTS & DIMENSIONS:

Type Ref	Dimensions (mm) +/- 0.5	Weight kg/100m	Min Bending radius	Gland Size
FSU-N	11.3 x 4.6	11.3	30mm	M20
FSU-NF	12.5 x 5.8	14.6	35mm	M20
FSUw-N	13.6 x 4.8	15.8	30mm	M25
FSUw-NF	14.8 x 6.0	19.5	35mm	M25



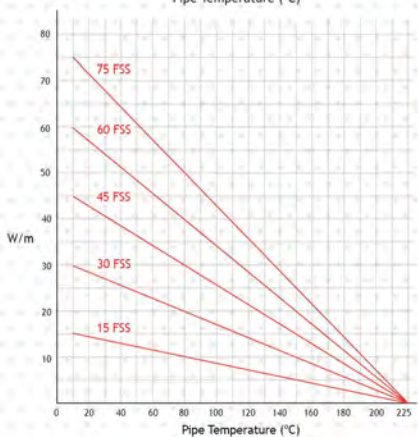
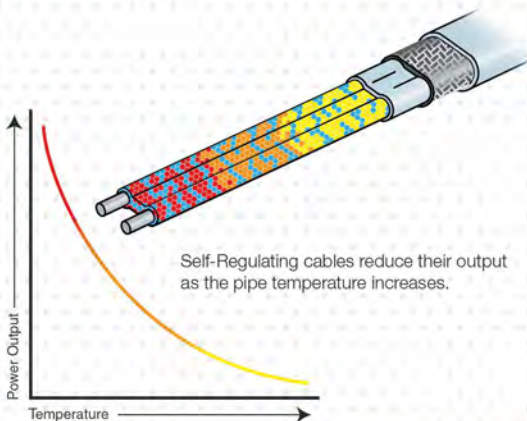
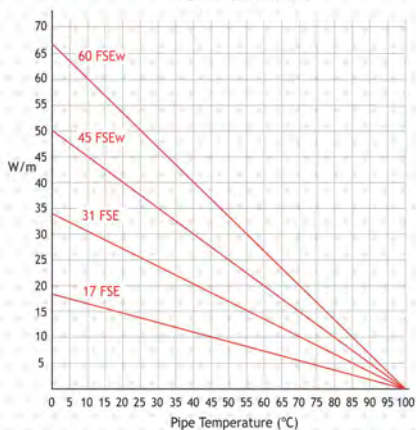
250°C
FSU & FSUW
(Fail Safe Ultimo)

Extremely high temperature self-regulating heating cable

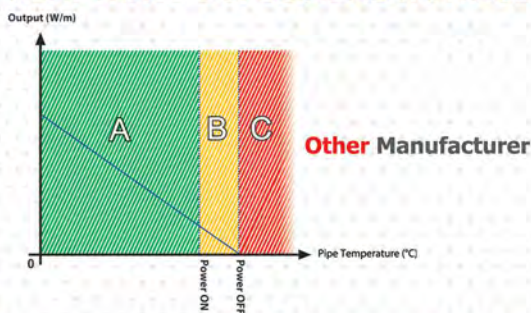


Inherent Temperature Safety - Definition

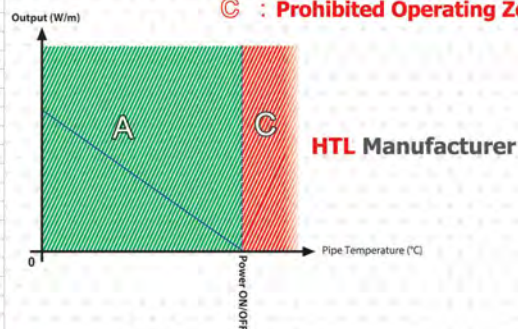
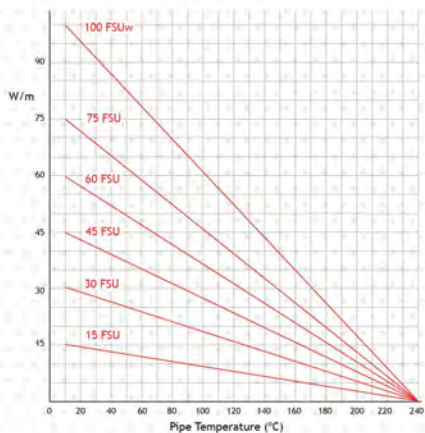
"The inherent ability to self-regulate at a temperature level below the maximum product rating and withstand temperature of the insulating materials, without the use of temperature control."



HEAT TRACE'S SPECIAL ADVANTAGE



- A : Operating Zone / ON
- B : Standby Zone / OFF
- C : Prohibited Operating Zone



**MAXIMUM TEMPERATURE:
ENERGISED OR UN-ENERGISED:** 250°C (482°F)

**MINIMUM INSTALLATION
TEMPERATURE:** -40°C (-4°F)

POWER OUTPUT (nominal): up to 130W/m @ 0°C

POWER SUPPLY: up to 1000 Volts (AC or DC)

CONSTRUCTION:

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

WEIGHTS & DIMENSIONS:

Type Ref	Dimensions (mm)+/-0.5	Weight kg/100m	Min Bending radius
CRH	13.6 x 4.8	11.5	30mm

**MAXIMUM CONTINUOUS EXPOSURE
TEMPERATURE (Power ON):** 85°C (185°F)

**MAXIMUM PERMISSABLE EXPOSURE
TEMPERATURE (Power OFF):** 85°C (185°F)

**MINIMUM OPERATING
TEMPERATURE:** -40°C (-40°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

**OPERATING ENVIRONMENTAL
RANGE:** +15°C to -15°C
(+59°F to +5°F)

**AMBIENT TEMPERATURE
RANGE:** +60°C to -40°C
(+140°F to -40°F)

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

POWER SUPPLY: 1 - 277V AC/DC



**CUT TO LENGTH
PARALLEL RESISTANCE
SELF-REGULATING
HEATING CABLE**

250°C

CRH (Conductor Rail Heater)

Self-regulating electric heating cable for contact or conductor rail, 3rd rail & points heating.



12/17 FLV 30FLVw

**SELF-REGULATING
HEATING CABLE**

85°C

FLV(W) (Freeze Stop Low Voltage)

Electrical heating cable for frost protection or temperature maintenance



60°C

GT (G-Trace)

Roof and gutter protection from snow and ice build up.



STRIPFREE

SF-P/SF-T/SF-E

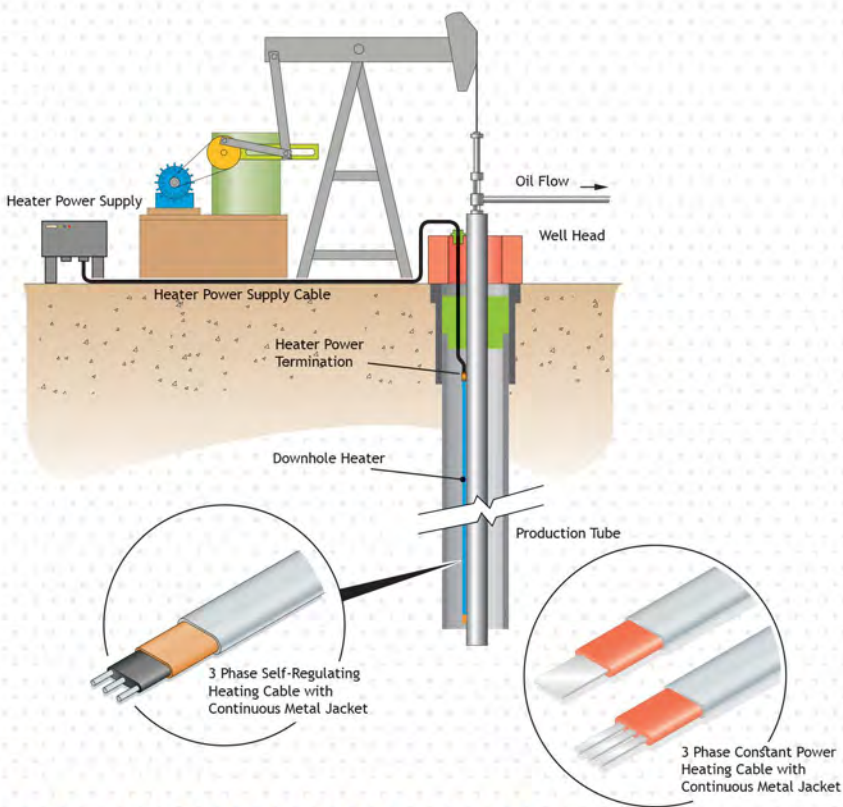
Universal system for termination of Heat Trace's self-regulating heating tapes

GLANDS & BOOTS

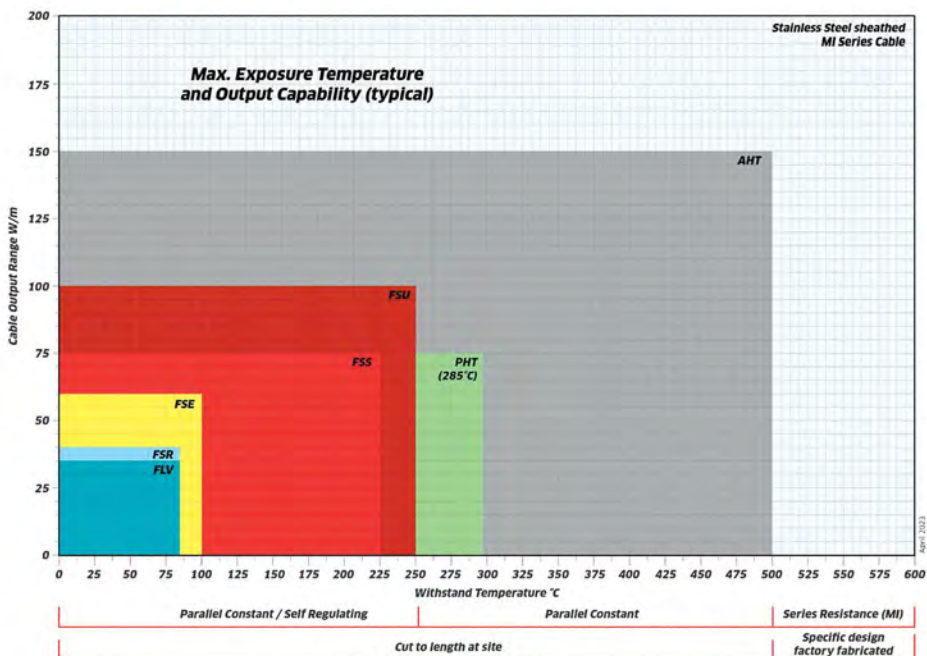
**TERMINATION
SYSTEM**

DESTU

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



HEATING CABLES - SELECTION GUIDE



CERTIFICATION



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±1.5 k	4±2 k	10±4 k
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		



ELECTRONIC THERMOSTATS

MATERIAL:	Copper Free Aluminium
PROTECTION:	Ex (db) - IP66
AREA SUITABILITY:	Zone 1 / Zone2, IIA / IIB / IIC
TEMPERATURE RANGE:	0°C - 400°C
AMPERE RATING:	25A/40A/50A
TEMPERATURE SENSOR:	RTD PT100 Sensor
SENSOR LEAD LENGTH:	1.5Mtr
CONTROLLER:	Single Point Controller

R Series Junction Box



Lighted End
JB

End
JB

Isolator Switch
JB

Lighted Heattracing
JB

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

JUNCTION BOX



JB 9000

Junction box for use with electric heat tracing systems



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