

FSM

Electrical heating cable for frost protection or temperature maintenance of instrument lines and pipe-work in safe or hazardous locations

FREEZSTOP MICRO

Self-Regulating Heating Tape

- Automatically adjusts heat output in response to increasing or decreasing pipe temperature
- Can be cut-to-length with no wastage
- Will not overheat or burnout, even when overlapped
- Full range of controls and accessories
- Approved for use in non-hazardous, hazardous and corrosive environments
- Ideal for fitting to instrument lines and small diameter pipes
- Available up to 277VAC

FEATURES

FREEZSTOP MICRO is an industrial grade self-regulating heating cable that can be used for freeze protection or temperature maintenance of pipework and vessels.

It is particularly suited to small diameter pipes and instrument tubing such as impulse or analyser lines.

It can be cut-to-length at site and exact piping lengths can be matched without any complicated design considerations.

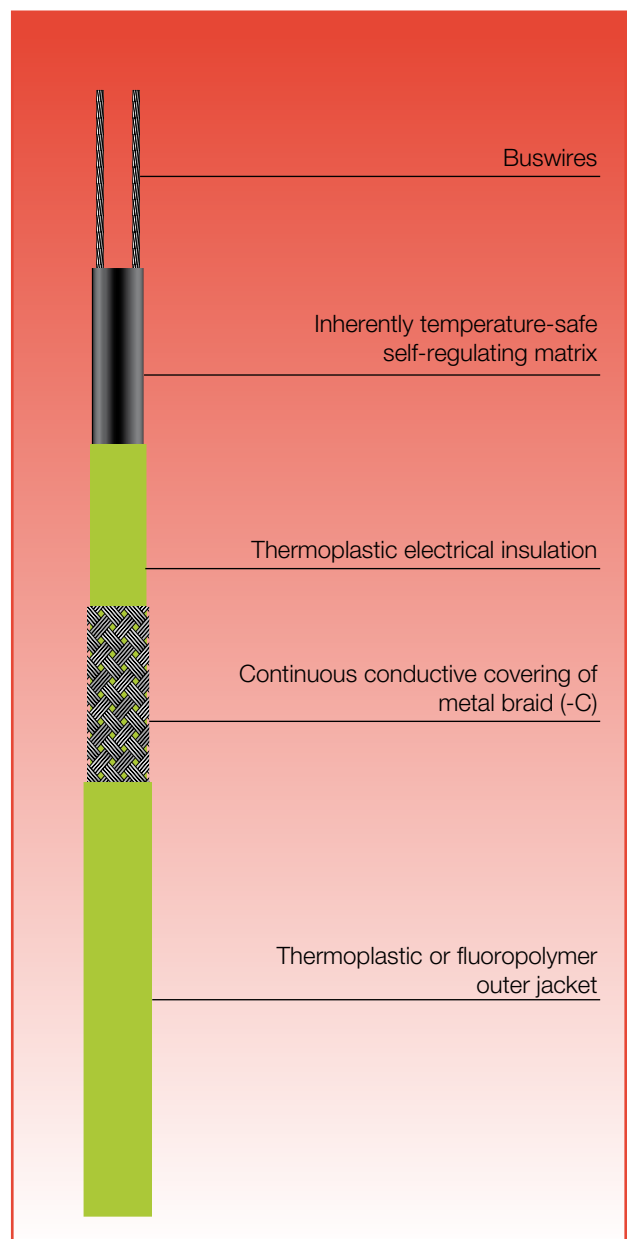
FREEZSTOP MICRO is approved for use in non-hazardous and hazardous areas to world wide standards.

Its self-regulating characteristics improve safety and reliability. FREEZSTOP MICRO will not overheat or burnout, even when overlapped upon itself. Its power output is self-regulated in response to the pipe temperature.

The installation of FREEZSTOP MICRO is quick and simple and requires no special skills or tools. Termination, splicing and power connection components are all provided in convenient kits.

OPTIONS

- FSM-C** Continuous conductive covering of metal braid.
- FSM-CT** Thermoplastic outer jacket over a metal braid provides additional protection.
- FSM-CF** Fluoropolymer outer jacket over a metal braid provides protection where corrosive chemical solutions or vapours may be present.



SPECIFICATION

MAXIMUM CONTINUOUS EXPOSURE TEMPERATURE (Power ON) 65°C (149°F)

MAXIMUM PERMISSIBLE EXPOSURE TEMPERATURE (Power OFF) 85°C (185°F)

MINIMUM OPERATING TEMPERATURE -65°C* (-85°F)

MIN INSTALLATION TEMPERATURE -40°C (-40°F)

POWER SUPPLY 0 – 277VAC


TEMPERATURE CLASSIFICATION T6 (85°C)

MAXIMUM RESISTANCE OF PROTECTIVE BRAIDING 18.2 Ohm/km


WEIGHTS AND DIMENSIONS


Type Ref	Nominal Dimensions (mm)	Weight kg/100m	Min. Bending radius	Gland Size
FSM-CT	10.5 x 5.9	10.2	20mm	M20
FSM-CF	10.5 x 5.9	9.9	25mm	M20

APPROVAL DETAILS

Testing Authority Certificate No.
ATEX  Sira 02ATEX3075

IECEX  SIR 11.0128

FM  3009080

CSA  1295278
1547590

EAC*  TC RU C-GB.ГБ05.В.00186

ORDERING INFORMATION

Example 17FSM2-CT
 Output 17W/m at 5°C
 FREEZSTOP MICRO
 Supply Voltage 220 – 277VAC
 Metal Braid
 Thermoplastic Outerjacket

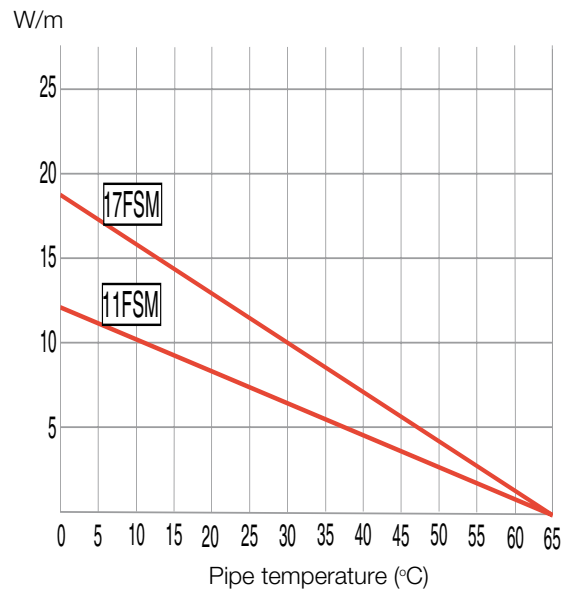
MAXIMUM LENGTH (m) vs. CIRCUIT BREAKER SIZE

Cat Ref	Start-up Temperature	230V			
		6A	10A	16A	20A
11FSM	5°C	76	126	128	-
	0°C	70	118	128	-
	-20°C	46	78	124	128
	-40°C	36	60	96	120
17FSM	5°C	54	88	102	-
	0°C	50	84	102	-
	-20°C	34	56	88	102
	-40°C	26	42	68	86

Using circuit breaker Type C to IEC 60898

THERMAL RATINGS

Nominal power output at 230V when FSM is installed on insulated metallic pipes and as outlined in the procedures within IEC 62395 and IEC 60079-30.



Note: Please refer to Evolution for more precise power output values as a function of pipe temperature.

ACCESSORIES

We supply a complete range of accessories including termination/splice kits, end seals, junction boxes and controls. These items are recommended for the correct operation of FSM products.

FSLe

Electrical heating cable for frost protection or temperature maintenance of instrument lines and pipework in safe or hazardous locations

FREEZSTOP LITE

Self-Regulating Heating Tape

- Automatically adjusts heat output in response to increasing or decreasing pipe temperature
- Can be cut to length with no wastage
- Will not overheat or burnout, even when overlapped
- Approved for use in non-hazardous, hazardous and corrosive environments
- Full range of controls and accessories
- Available up to 277 VAC

FEATURES

FREEZSTOP LITE is a light industrial/commercial grade self-regulating heating cable that can be used for freeze protection or temperature maintenance of pipework and vessels in the construction and refrigeration industries.

It can be cut-to-length at site and exact piping lengths can be matched without any complicated design considerations.

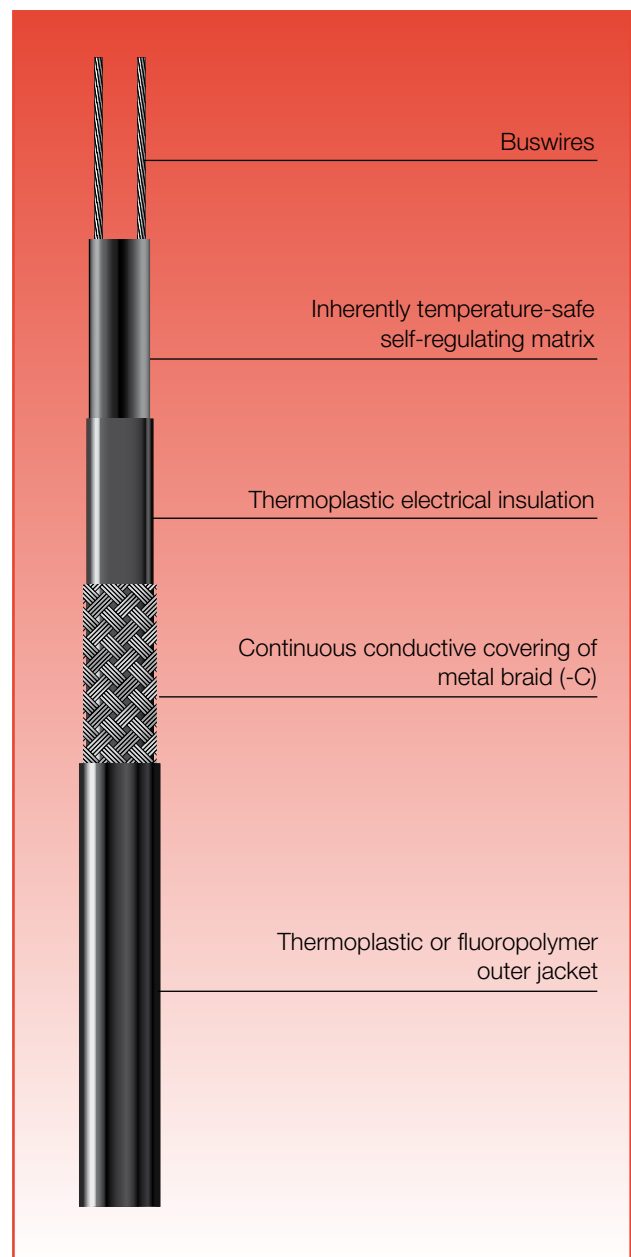
FREEZSTOP LITE is approved for use in non-hazardous, hazardous and corrosive environments to world wide standards.

Its self-regulating characteristics improve safety and reliability. FREEZSTOP LITE will not overheat or burnout, even when overlapped upon itself. Its power output is self-regulated in response to the pipe temperature.

The installation of FREEZSTOP LITE is quick and simple and requires no special skills or tools. Termination, splicing and power connection components are all provided in convenient kits.

OPTIONS

- FSLe - C** Continuous conductive covering of metal braid providing mechanical protection or where traced equipment does not provide an effective earth path. eg. plastic pipework.
- FSLe - CT** Thermoplastic overjacket over metal braid provides additional protection.
- FSLe - CF** Fluoropolymer overjacket over metal braid provides protection where corrosive chemical solutions or vapours may be present.



SPECIFICATION

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

MAXIMUM PERMISSIBLE EXPOSURE TEMPERATURE (Power OFF) 85°C (185°F)

MINIMUM OPERATING TEMPERATURE -65°C* (-85°F)

MINIMUM INSTALLATION TEMP. -40°C (-40°F)

POWER SUPPLY 0 – 277VAC








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)

MAXIMUM RESISTANCE OF PROTECTIVE BRAIDING 18.2 Ohm/km

WEIGHTS AND DIMENSIONS

Type Ref	Nominal Dimensions (mm)	Weight kg/100m	Min. Bending radius	Gland Size
FSLe	8.5 x 3.9	4.6	25mm	M20
FSLe .. C	9.3 x 4.7	9.2	30mm	M20
FSLe .. CT	10.5 x 5.9	10.2	35mm	M20
FSLe .. CF	10.1 x 5.9	9.9	35mm	M20

APPROVAL DETAILS

Testing Authority	Certificate No.
ATEX 	Sira 02ATEX3074
IEC 	SIR 11.0129
FM 	3009080
VDE 	114665
CSA 	1295278 1547590
DNV-GL 	E12832
EAC* 	TC RU C-GB.ГБ05.В.00186

ORDERING INFORMATION

Example
Output 12W/m at 5°C _____ 12FSLe2-CT
FREEZSTOP LITE _____
Supply Voltage 220 – 277VAC _____
Metal Braid _____
Thermoplastic Outerjacket _____

ACCESSORIES

We supply a complete range of accessories including termination/splice kits, end seals, junction boxes and controls. These items are recommended for the correct operation of FSLe products.

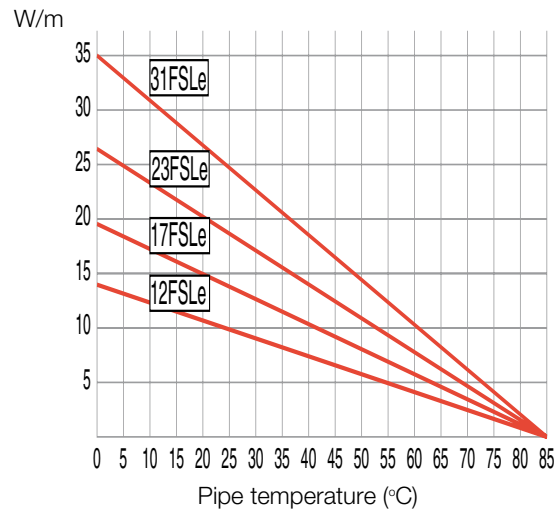
MAXIMUM LENGTH (m) vs. CIRCUIT BREAKER SIZE

Cat Ref	Start-up Temperature	230V			
		6A	10A	16A	20A
12FSLe	5°C	78	132	180	-
	0°C	74	124	180	-
	-20°C	56	94	150	180
	-40°C	46	76	124	154
17FSLe	5°C	62	104	146	-
	0°C	60	100	146	-
	-20°C	48	82	130	146
	-40°C	42	70	112	138
23FSLe	5°C	46	76	124	-
	0°C	42	70	114	124
	-20°C	34	56	88	110
	-40°C	28	46	72	90
31FSLe	5°C	34	58	92	102
	0°C	32	52	84	102
	-20°C	24	40	56	66
	-40°C	20	34	54	66

For use with Type C circuit breakers to IEC 60898

THERMAL RATINGS

Nominal output at 115V or 230V when FSLe is installed on insulated metallic pipes and as outlined in the procedures within IEC 62395 and IEC 60079-30.



Note: Please refer to Evolution for more precise power output values as a function of pipe temperature.

FSR

Electrical heating cable for freeze protection of pipework and vessels in safe or hazardous locations

FREEZSTOP

REGULAR

Self-Regulating Heating Tape

- Automatically adjusts heat output in response to increasing or decreasing pipe temperature
- Can be cut to length with no wastage
- Will not overheat or burnout, even when overlapped
- Approved for use in non-hazardous, hazardous and corrosive environments
- Full range of controls and accessories
- Available up to 277VAC

FEATURES

FREEZSTOP REGULAR is an industrial grade, self-regulating heating cable that can be used for freeze protection or temperature maintenance to 85°C.

It can be cut to length on site and exact piping lengths can be matched without any complicated design considerations.

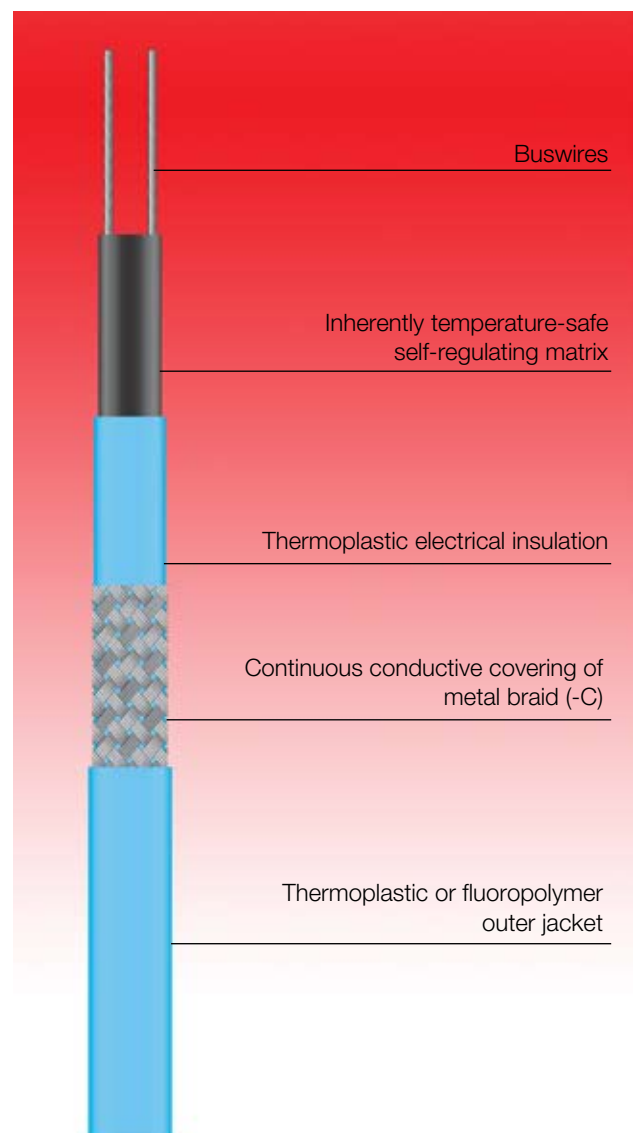
FREEZSTOP REGULAR is approved for use in non-hazardous, hazardous and corrosive environments to world wide standards.

Its self-regulating characteristics improve safety and reliability. FREEZSTOP REGULAR will not overheat or burnout, even when overlapped upon itself.

The installation of FREEZSTOP REGULAR heating tape is quick and simple and requires no special skills or tools. Termination, splicing and power connection components are all provided in convenient kits.

OPTIONS

- | | |
|----------|--|
| FSR - C | Continuous conductive covering of metal braid for non-hazardous areas, hazardous areas or where traced equipment does not provide an effective earth path, eg. plastic pipework. |
| FSR - CT | Thermoplastic overjacket over metal braid provides additional protection. |
| FSR - CF | Fluoropolymer overjacket over metal braid provides protection where corrosive chemical solutions or vapours may be present. |



SPECIFICATION

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

MAXIMUM PERMISSIBLE EXPOSURE TEMPERATURE (Power OFF) 85°C (185°F)

MINIMUM OPERATING TEMPERATURE -65°C* (-85°F)

MINIMUM INSTALLATION TEMP. -40°C (-40°F)

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







POWER SUPPLY 0 – 277VAC

MAXIMUM RESISTANCE OF PROTECTIVE BRAIDING 18.2 Ohm/km

WEIGHTS & DIMENSIONS

Type Ref	Nom. Dims. (mm)	Weight kg/100m	Min. Bending radius	Gland Size
FSR	10.9 x 3.8	5.8	25 mm	M20
FSR .. C	11.8 x 4.7	11.2	30 mm	M20
FSR .. CT	13.1 x 6.0	13.1	35 mm	M20
FSR .. CF	13.1 x 6.0	13.4	35 mm	M20

APPROVAL DETAILS

Testing Authority	Certificate No.
ATEX 	Sira 02ATEX3070
IECEX 	SIR 11.0121
FM 	3009080
VDE 	114665
CSA 	1295278 1547590
EAC* 	TC RU C-GB.ГБ05.B.00186

ORDERING INFORMATION

Example	17FSR2-CT
Output 17W/m at 10°C	_____
FREESTOP REGULAR	_____
Supply Voltage 220 - 277V AC	_____
Metal Braid	_____
Thermoplastic Outerjacket	_____

ACCESSORIES

We supply a complete range of accessories including termination/splice kits, end seals, junction boxes and controls. Such items carry separate approvals from the heating tapes. When used in hazardous areas, only use approved components.

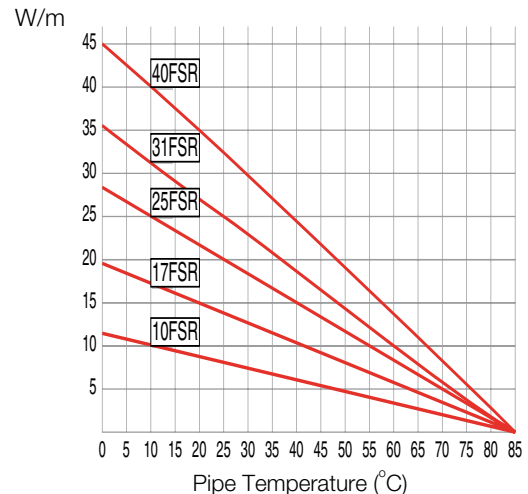
MAXIMUM LENGTH (m) vs. CIRCUIT BREAKER SIZE

Cat Ref	Start-up Temperature	230V				
		6A	10A	16A	20A	25A
10FSR	10°C	90	152	198	-	-
	0°C	74	122	196	198	-
	-20°C	50	84	136	170	198
	-40°C	44	74	118	148	184
17FSR	10°C	60	102	154	-	-
	0°C	48	82	130	154	-
	-20°C	40	66	106	132	154
	-40°C	30	50	80	100	124
25FSR	10°C	46	76	122	124	-
	0°C	36	62	98	122	124
	-20°C	20	34	56	70	88
	-40°C	20	32	50	64	80
31FSR	10°C	28	46	74	92	110
	0°C	20	34	54	66	84
	-20°C	16	26	40	50	64
	-40°C	14	24	38	48	60
40FSR	10°C	20	34	56	70	88
	0°C	14	24	40	50	62
	-20°C	12	20	30	38	48
	-40°C	10	18	30	36	46

For use with Type C circuit breakers to IEC 60898

THERMAL RATINGS

Nominal output at 115V or 230V when FSR is installed on insulated metallic pipes and as outlined in the procedures within IEC 62395 and IEC 60079-30.



Note: Please refer to Evolution for more precise power output values as a function of pipe temperature.

FSE(w)

Electrical heating cable for freeze protection or temperature maintenance of pipework and vessels in safe or hazardous locations

FREEZSTOP

EXTRA

Self-Regulating Heating Tape

- Automatically adjusts heat output in response to increasing or decreasing pipe temperature
- Can be cut to length with no wastage
- Will not overheat or burnout, even when overlapped
- Approved for use in non-hazardous, hazardous and corrosive environments
- Full range of controls and accessories
- Available up to 277VAC

FEATURES

FREEZSTOP EXTRA is an industrial grade, self-regulating heating cable that can be used freeze protection or temperature maintenance to 100°C.

It can be cut to length on site and exact piping lengths can be matched without any complicated design considerations.

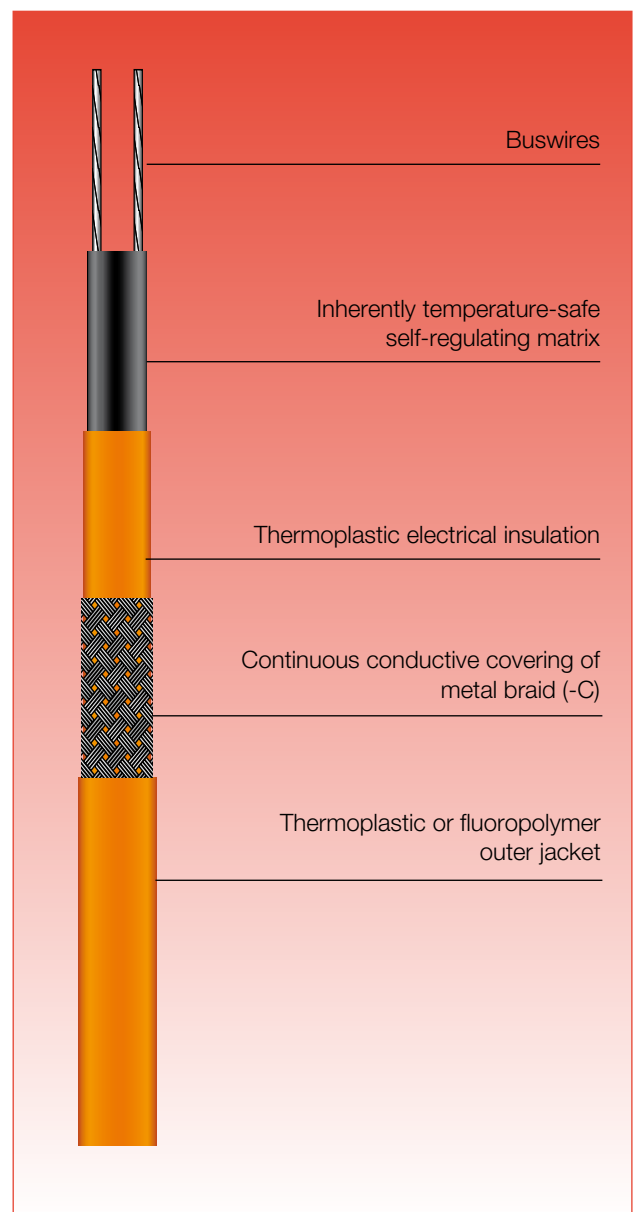
FREEZSTOP EXTRA is approved for use in non-hazardous and hazardous areas to world wide standards.

Its self-regulating characteristics improve safety and reliability. FREEZSTOP EXTRA will not overheat or burnout, even when overlapped upon itself.

The installation of FREEZSTOP EXTRA heating tape is quick and simple and requires no special skills or tools. Termination, splicing and power connection components are all provided in convenient kits.

OPTIONS

- FSE(w) - C Continuous conductive covering of metal braid for where traced equipment does not provide an effective earth path, eg. plastic pipework
- FSE(w) - CT Thermoplastic overjacket over metal braid provides additional protection.
- FSE(w) - CF Fluoropolymer overjacket over metal braid provides protection where corrosive chemical solutions or vapours may be present.



SPECIFICATION

MAXIMUM CONTINUOUS EXPOSURE TEMPERATURE (Power ON) 100°C (212°F)

MAXIMUM PERMISSIBLE EXPOSURE TEMPERATURE (Power OFF) 100°C (212°F)

MINIMUM OPERATING TEMPERATURE -65°C* (-85°F)

MINIMUM INSTALLATION TEMP. -40°C (-40°F)

POWER SUPPLY 0 - 277 VAC

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





MAXIMUM RESISTANCE OF PROTECTIVE BRAIDING 18.2 Ohm/km

WEIGHTS & DIMENSIONS

Type Ref	Nominal Dimensions (mm)	Weight kg/100m	Minimum Bending radius	Gland Size
FSE	10.9 x 3.8	5.8	20mm	M20
FSE - C	11.8 x 4.7	11.2	25mm	M20
FSE - C*	12.3 x 5.6	13.2	30mm	M20
FSEw	12.5 x 3.9	11.5	20mm	M20
FSEw - C	13.5 x 5.0	18.4	25mm	M20
FSEw - C*	15.0 x 6.5	18.9	30mm	M25

* Denotes (T)hermoplastic, or (F)luoropolymer outerjacket

APPROVAL DETAILS

Testing Authority	Certificate No.
ATEX 	FSE: Sira 02ATEX3076 FSEw: Sira 12ATEX3114
IECEX 	FSE: SIR 11.0126 FSEw: SIR 11.0127
EAC* 	TC RU C-GB.Г505.B.00186
DNV-GL 	E12833

ORDERING INFORMATION

Example 45FSEw2-CF
 Output 45W/m at 10°C _____
 FREEZSTOP EXTRA _____
 Wide version (45 and 60W/m only) _____
 Supply Voltage 220 - 277V AC _____
 Metal Braid _____
 Fluoropolymer Outerjacket _____

ACCESSORIES

We supply a complete range of accessories including termination/splice kits, end seals, junction boxes and controls. Such items carry separate approvals from the heating tapes.

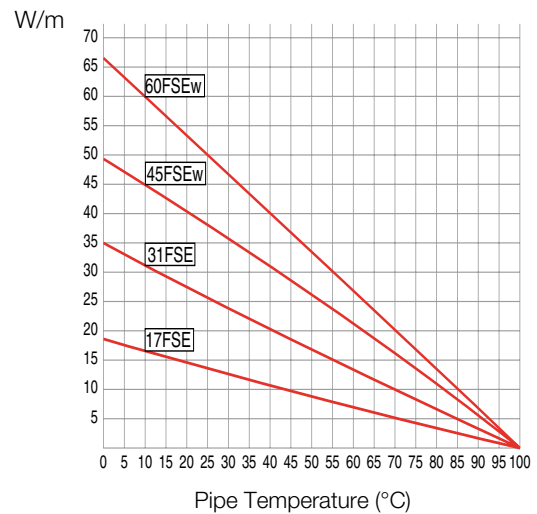
MAXIMUM LENGTH (m) vs. CIRCUIT BREAKER SIZE

Cat Ref	Start-up Temperature	230V				
		6A	10A	16A	20A	25A
17FSE	10°C	46	76	120	148	-
	0°C	36	62	98	122	148
	-20°C	24	42	66	82	102
	-40°C	16	28	44	56	68
31FSE	10°C	32	52	82	104	110
	0°C	26	42	68	84	106
	-20°C	16	28	46	56	70
	-40°C	12	18	30	38	48
45FSEw	10°C	24	38	62	76	96
	0°C	20	32	50	64	80
	-20°C	12	22	34	42	52
	-40°C	8	14	22	28	34
60FSEw	10°C	20	35	52	66	82
	0°C	16	28	44	56	70
	-20°C	12	20	32	40	50
	-40°C	8	14	22	28	34

For use with Type C circuit breakers to IEC 60898

THERMAL RATINGS

Nominal output at 115V or 230V when FREEZSTOP EXTRA is installed on insulated metallic pipes and as outlined in the procedures within IEC 62395 and IEC 60079-30.



Note: Please refer to Evolution for more precise power output values as a function of pipe temperature.

G-Trace

Self-Regulating Heating Tape

Roof and gutter protection
from snow and ice build up

- Ambient temperature range +40°C to -40°C
- Can be cut-to-length with no wastage
- Will not overheat or burnout, even when overlapped
- Inherently temperature-safe. (ITS)
- External temperature controls not necessary

THE PROBLEM

Snow that has built up on a roof will start to melt as a result of either exposure to the sun or from heat rising from the building below.

As the melted snow runs from the roof into cold gutters and drain pipes, it can re-freeze forming layers of ice that can continue to build up until the flow is blocked. This can result in damaged drains and gutters.

In addition, water can get into the roof and walls of the building, leading to expensive structural damage such as broken roof tiles, damaged plaster and facades, etc.

THE SOLUTION

We have the solution in the form of G-Trace.

This self-regulating heating cable is available in two specifications, standard GTe and GT giving increased mechanical resistance for use in more arduous conditions. As for choice please refer to the 'selection guide' on the back page of this data sheet.

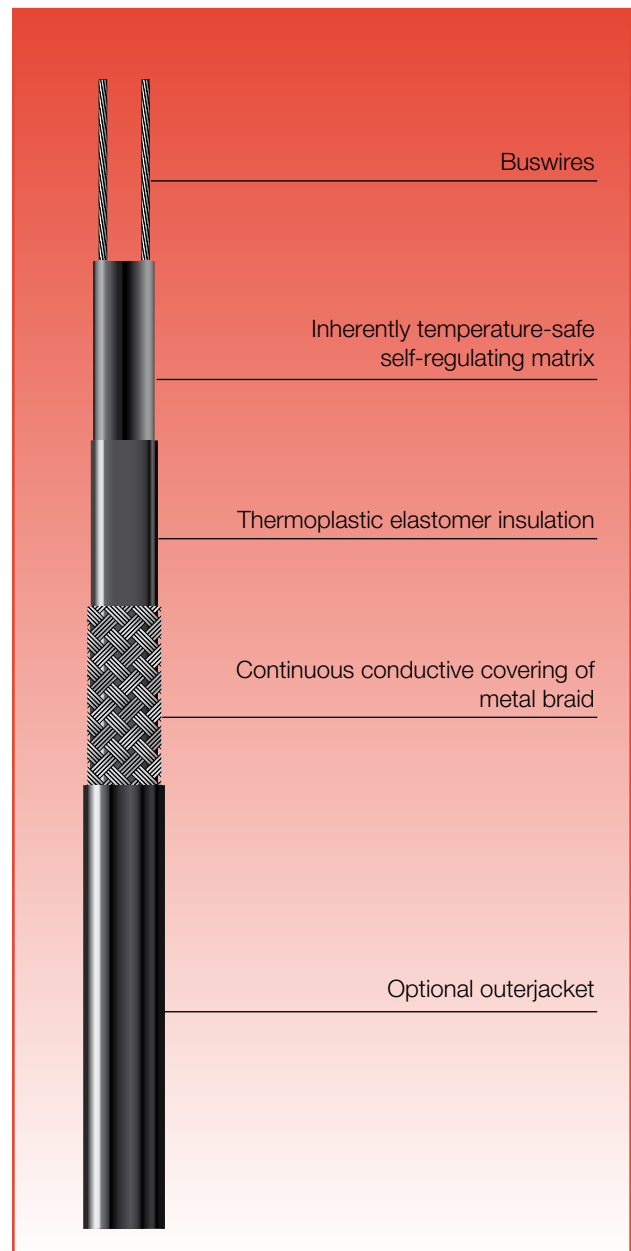
The self-regulating characteristics of the heating tape means that the cable can adjust its heat output in accordance with the ambient temperature.

In snow and icy water, the heating cable operates at full power. As the snow melts and the water drains away, G-Trace self-regulates to half power while it dries. As it gets warmer, so G-Trace gradually reduces its output.

The G-Trace system is safe and reliable, as self-regulation prevents overheating, G-Trace can even be installed in plastic gutters and with the UV resistant outer jacket, the heating cable is protected from the sun's harmful rays – thus making it totally durable and reliable. G-Trace provides a cost effective, preventive maintenance solution to damaged roof tops and gutters and the system consumes no more power than it takes to prevent ice formation.

Design and installation of a G-Trace system is simple as there are no fixed lengths. The heating tape can be cut to length during installation. G-Trace is cut off the reel and placed in the gutter. The heating tape is suspended within the downpipe without the need for spacers.

All systems - from the simplest to the most elaborate – use the same components, thereby providing maximum flexibility and ease of design.



SPECIFICATION

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

AMBIENT TEMPERATURE RANGE +40°C to -40°C
(+104°F to -40°F)

MINIMUM INSTALLATION TEMP. -40°C (-40°F)

POWER SUPPLY 208 – 277VAC
(other voltages available on request)

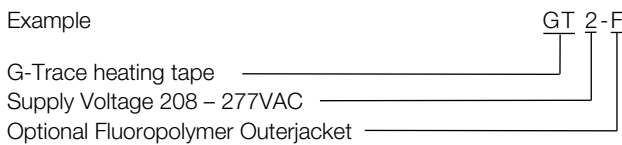
WEIGHTS AND DIMENSIONS

Type Ref	Nominal Dimensions (mm)	Weight kg/100m	Min. Bending radius
GT	13.1 x 6.0	13.1	35mm
GTe	10.5 x 5.9	10.0	50mm

SELECTION GUIDE

Considerations for Fitting and Use	GTe	GT
Complex Systems	*	**
Abrasive Environments	*	**
Gutter Applications	***	***
Downspout Applications	*	***
Elevated Tensile Load	*	**
Resistance to Torsional Force	*	***
Resistance to Cutting	**	***

ORDERING INFORMATION



POWER OUTPUT

In ice at 0°C	36W/m
In air at 0°C	18W/m

COLD START DATA (300 Second Rating)

GT		GTe	
Start at °C	Start Current (A/m)	Start at °C	Start Current (A/m)
	230V		230V
-15°C	0.295	-15°C	0.295
0°C	0.259	0°C	0.259
+15°C	0.236	+15°C	0.236

ACCESSORIES

We supply a complete range of accessories including termination/splice kits, end seals, junction boxes and controls. These items are recommended for the correct operation of G-Trace heaters.

MAXIMUM LENGTH (m) vs. CIRCUIT BREAKER SIZE

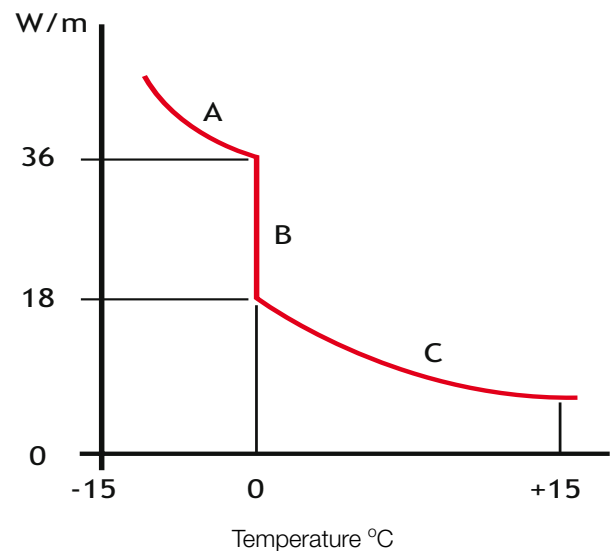
CAT REF	START UP TEMP	230V				
		6A	10A	16A	20A	32A
GT	10°C	26	42	68	84	90
	0°C	24	38	62	78	86
	-15°C	20	34	54	68	80

CAT REF	START UP TEMP	230V				
		6A	10A	16A	20A	32A
GTe	10°C	34	56	88	92	-
	0°C	28	48	76	92	-
	-15°C	22	36	58	74	92

Note: Cable shall not be energised below 0°C.
For use with Type C circuit breakers to IEC 60898

THERMAL RATINGS

Nominal output at rated voltage



Notes

- In snow and ice water, the heating tape will operate at full power.
- As the snow begins to melt and the water drains away, the heating tape self-regulates to half power while it dries.
- As it gets warmer, the heating tape will reduce its power output.

HW

Electrical heating cable for temperature maintenance of hot water services in domestic and commercial buildings

HOTWAT

Self-Regulating Heating Cable

- Maintains hot water at desired temperature
- Eliminates the need for return pipework and re-circulating pumps
- Hot water instantly available at each outlet
- Highly economical
- Full range of controls and accessories
- Available for 220/240VAC
- Self-regulating heater cannot overheat or burn out

FEATURES

When hot water taps are infrequently used, the water that stays in the distribution pipework cools and is usually run to waste before hot water from the storage cylinder arrives at the tap.

The use of re-circulating systems usually only maintains the water temperature in the main pipes and doubles the amount of pipework from which heat, and therefore energy, is lost.

HOTWAT is a parallel resistance, self-regulating heating cable designed to compensate for heat losses from hot water distribution systems.

The heater comprises a semi-conductive self-regulating heating element which automatically reduces its power output as the pipe temperature increases. Thus, the heater cannot overheat or burn out.

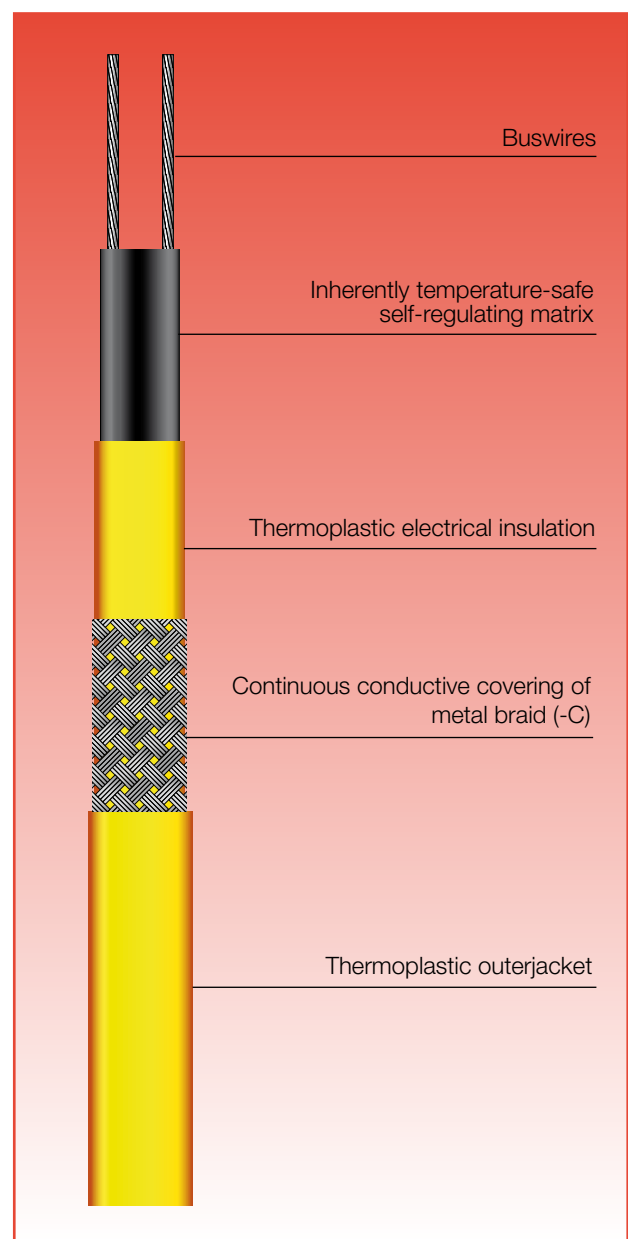
By applying HOTWAT to the pipework (beneath the thermal insulation) heat losses are eliminated and the water is maintained at the required temperature. Further savings are achieved by removing the need for recirculating pipework together with pumps, valves, etc.

There are two HOTWAT systems available. HW-R is simply used to maintain the pipework at approximately 50-60°C, whilst HW-P is used to maintain 45 – 70°C during normal operation with an extra disinfection feature at timed intervals to reduce risks of legionella.

The application of HOTWAT to insulated hot water pipework enables hot water to be available at each tap and dramatically improves the system efficiency compared with un-insulated re-circulating pipework systems.

OPTIONS

- HW-R .. T** HOTWAT REGULAR heating cable with a thermoplastic overjacket for maintaining the pipework at approximately 50-60°C.
- HW-P .. T** HOTWAT PLUS is a higher power output heating cable with a thermoplastic overjacket for maintaining the pipework between 45 - 70°C with the added benefit of thermal disinfection.



SPECIFICATION

MAX. PERMISSIBLE TEMPERATURE (ON or OFF) 100°C (212°F)

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

POWER SUPPLY 220 – 240VAC (on demand 110 – 120VAC)

MAXIMUM RESISTANCE OF PROTECTIVE BRAIDING 18.2 Ohm/km

WEIGHTS & DIMENSIONS

Tape Type	Nom. Dims. (mm)	Weight kg/100m	Min. Bending Radius
HW-x..T	13.1 x 6.0	13.2	30mm

x Denotes HOTWAT (R)EGULAR, or HOTWAT (P)LUS

APPROVAL DETAILS

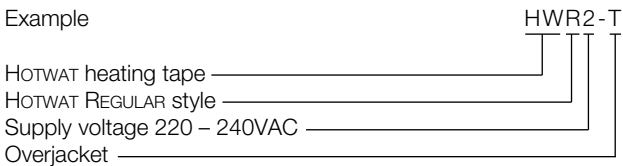
Testing Authority Certificate No.

FM  3009080

VDE  114665

ORDERING INFORMATION

Example



ACCESSORIES

We supply a complete range of accessories including termination/splice kits, end seals, junction boxes and controls. These items are recommended for the correct operation of HOTWAT products.

MAXIMUM LENGTH (m) vs. CIRCUIT BREAKER SIZE

Cat Reference	Start-up Temperature	230V			
		6A	10A	16A	20A
HW-R	18°C	56	92	128	-
	0°C	38	64	102	128
HW-P	18°C	34	56	90	94
	0°C	24	40	64	80

For use with Type C circuit breakers to IEC 60898

RECOMMENDED INSULATION THICKNESS (mm)

Cat Ref	Maintain Temperature	Pipe Size (mm)					
		15	22	28	35	42	54
HW-R	60°C	25	30	40	50	60	75
	55°C	20	25	30	40	50	60
	50°C	15	20	25	30	40	50
HW-P	45-70°C	30	40	50	60	75	75

The above figures are based on the thermal insulation having a K-value of 0.038W/mK at 36°C mid-point temperature.

SYSTEM FEATURES

	HW-R	HW-P
Hot Water Supply System	Localised or Centralised	Centralised
Temperature Control System	Fixed temperature	Variable temperature setting by POWERTRIM
Thermal Pasteurisation	Not Available	D-BUG timer unit or BMS (Building Management System)
Circuit Temp. Scanning	Not Available	Contact Heat Trace
Electrical Supply	230V	230V
Typical Maintain Temperature	50, 55, or 60°C	45°C - 70°C
Nominal Output	9W/m at 55°C	9.5W/m at 70°C

SNOMELT

Self-Regulating Heating Cable

Electrical heating cable for snow melting and ice prevention of roads, ramps and walkways

- Systems suited to the size of installation
- Automatically adjusts heat output in response to increasing or decreasing surface temperature
- Will not overheat or burnout, even when overlapped
- Controls can provide high power for melting, or reduced power for ice prevention
- Simple installation in concrete
- Can be cut-to-length with no wastage

FEATURES

SNOMELT is a self-regulating heating cable that can be used for snow melting and ice prevention of surfaces such as concrete roads, ramps and paths. It may also be used on stairways, walkway gratings or loading docks.

It can be cut to length at site and exact lengths can be matched without any complicated design considerations.

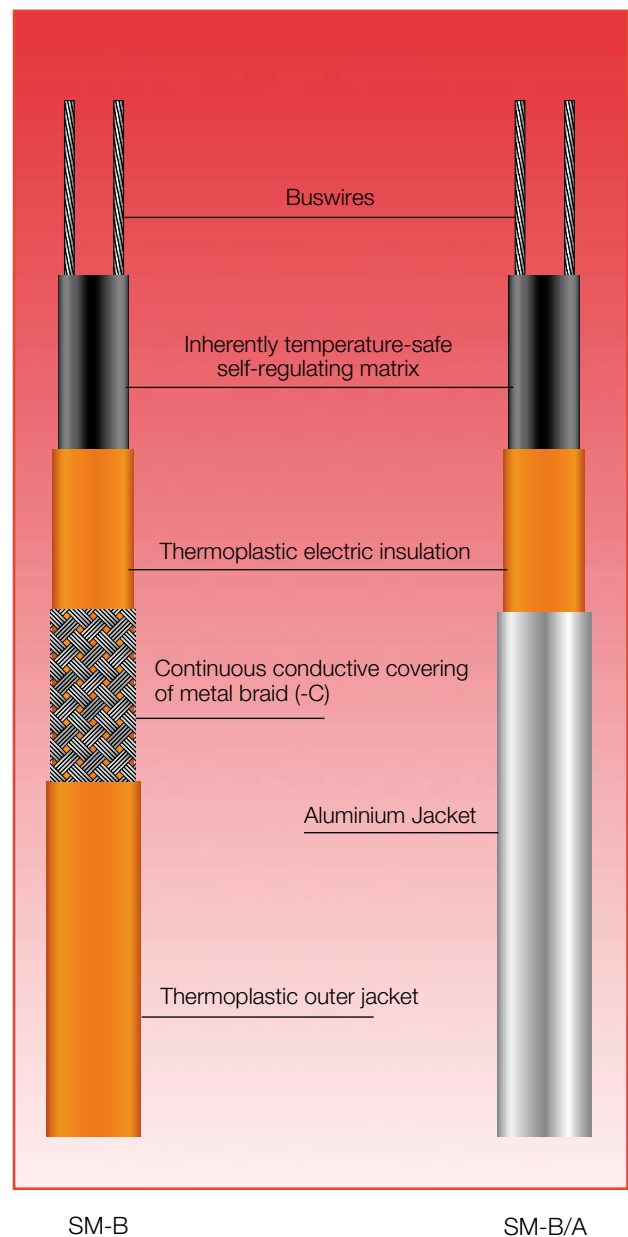
Power output is self-regulated in response to surface temperature. SNOMELT cannot overheat and tends to reduce power when not needed.

SNOMELT is ideally suited for most general snow and ice prevention applications. Installations can be combined with Heat Trace's specially developed high energy efficient control systems that can apply full power for melting and a reduced lower output for ice prevention.

A SNOMELT / POWERMATCH MICRO+ controlled system can reduce operating costs by as much as 80% when compared with conventionally controlled snow melting and ice prevention systems.

OPTIONS

- | | |
|--------|---|
| SM-B | SNOMELT for all applications, ideally suited for use on car park ramps, access roads, walkways, access ramps, driveways, etc. |
| SM-B/A | SNOMELT as above, but braid and outer jacket replaced with extruded aluminium outer jacket, offering greater mechanical protection when required. |



SPECIFICATION

MAXIMUM SURFACE TEMPERATURE 40°C (104°F)



MINIMUM INSTALLATION TEMPERATURE -30°C (-22°F)

POWER SUPPLY 208 - 277VAC
(other voltages available on request)

WEIGHTS & DIMENSIONS

Type Ref	Nom. Dims. (mm)	Weight kg/100m	Min. Bending Radius
SM-B	15.0 x 6.5	18.9	25mm

APPROVAL DETAILS

Testing Authority	Certificate No.
GOST R 	POCC GB.AF23.B03944
FM 	3009080

ORDERING INFORMATION

Example SM-B2/A
 SNO MELT heating cable _____
 Supply Voltage 220 – 240VAC _____
 Optional aluminium outer jacket _____

ACCESSORIES

We supply a complete range of accessories including termination/splice kits, end seals, junction boxes and controls. These items are recommended for the correct operation of SNO MELT products.

MAXIMUM LENGTH (m) vs. CIRCUIT BREAKER SIZE

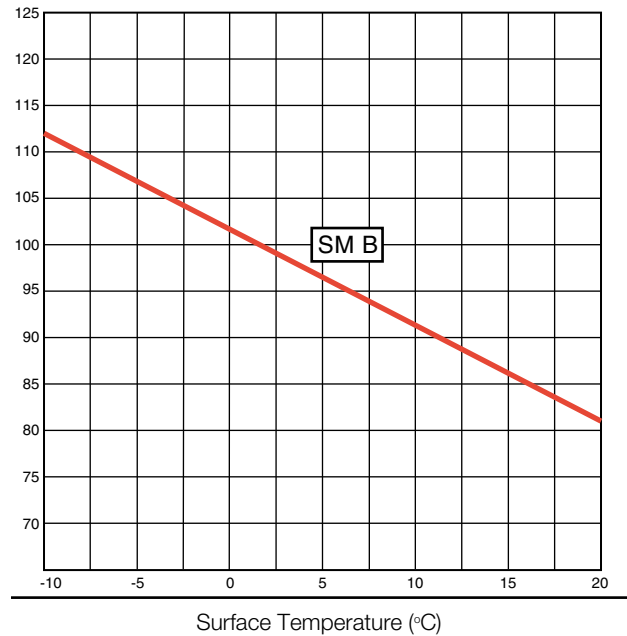
Cat Ref	Start-up Temperature	230V			
		6A	10A	16A	20A
SM-B	10°C	14	22	36	44
	0°C	12	18	30	38

For use with Type C circuit breakers to IEC 60898

POWER OUTPUT CURVE

The following graph indicates the cable performance when buried in concrete. For other conditions, refer to the Factors Table shown below.

SM-B Power Output (W/m) at 230V



FACTORS

For burial in:	Power Output Multiplying Factor
Sand (wet)	W/m in concrete x 0.9
Metal Conduit	W/m in concrete x 0.4
Plastic Conduit	W/m in concrete x 0.3

CONTACT RAIL HEATER

Cut To Length - Parallel Resistance
Self-Regulating Heating Cable

- Outputs available up to 90W/m
- CRH is supplied in pre-terminated lengths up to 152 metres
- Full range of controls and accessories
- Available up to 750 vdc
- Suitable for contact rails/live/3rd rail systems
- CRH can also be supplied on reels for cutting to length as required

FEATURES

The CRH contact rail heater has been specifically developed for contact or 3rd/live rails operating on up to 750 volt dc systems.

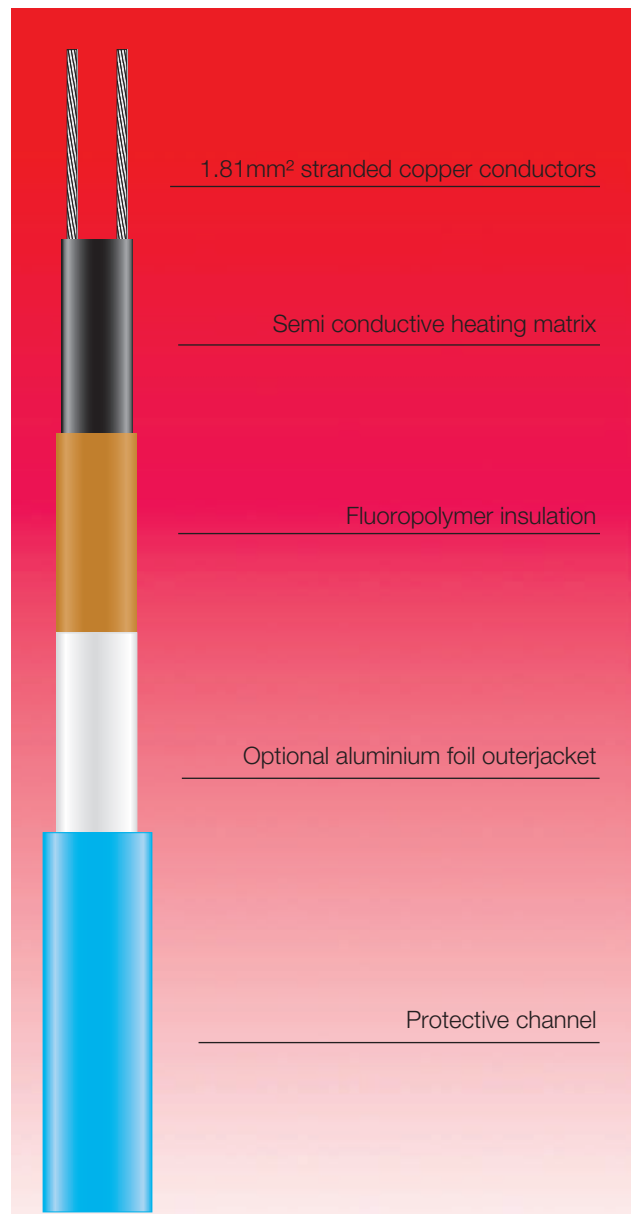
CRH rail heater is designed to maintain the operational integrity of rail networks, ensuring that contact rails are kept clear of snow and ice during adverse weather conditions.

CRH may be supplied in single lengths up to 178 metres and fitted with 1.5 metre pre-terminated cold lead and remote end seals. It is suitable for direct replacement of existing contact rail heaters and will integrate with the majority of existing contact rail or live heating systems. The heater is held in place on the rail using protective GRP angle or channel section and purpose made heavy duty rail clips.

The installation of CRH heating cables is quick and simple and requires no special tools. The fitting of new or replacement heaters can be carried out quickly and safely with minimum track possession time and therefore minimum disruption to rail traffic. All system components are modular to ensure fast and simple installation.

CRH heating cables and system components are suitable for withstanding the hazards of a rail environment - such as severe and continuous vibration due to rail traffic, immersion in icy water, snow, weed killer formulations, diesel oils, lubrication oils, oxalic acid and de-icing fluids.

CRH heating cables are able to operate in "free air", totally or partially, without affecting the working life of the heater.



SPECIFICATION

MAXIMUM TEMPERATURE Un-energised 135°C (275°F)

MINIMUM INSTALLATION TEMPERATURE -20°C (-4°F)

POWER OUTPUT 90W/m @ 0°C
(27W/ft @ 32°F)

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	Nom. Dims. (mm)	Weight kg/100m	Min. Bending radius (mm)
CRH	13.0 x 4.0	13	30

ORDERING INFORMATION

Example - pre-terminated lengths **90 CRH 6 - 152M**

Nominal Output 88W/m

Heater type CRH

Supply Voltage 600VDC

152m Heated length

ATTACHING THE HEATER TO THE RAIL

Heaters may be mounted on the rail using a channel section. For applications that use an aluminium clad contact rail, an angle section is also available.

Specially designed spring clips hold the heater and the channel, or angle, to the rail. A range of clips are available to suit a variety of different rail profiles.

Heater shown with channel section



Heater shown with angle section



ACCESSORIES

We supply a complete range of accessories including, connector blocks, anti-vibration plugs, rail clips, control systems, power cabling.

IMPORTANT NOTES

The CRH Rail Heater should only be fitted to rails using approved methods. The heating cable should only be terminated using the approved cold lead connection and the special heat shrink boot and tubing. Connections must be of an approved type.

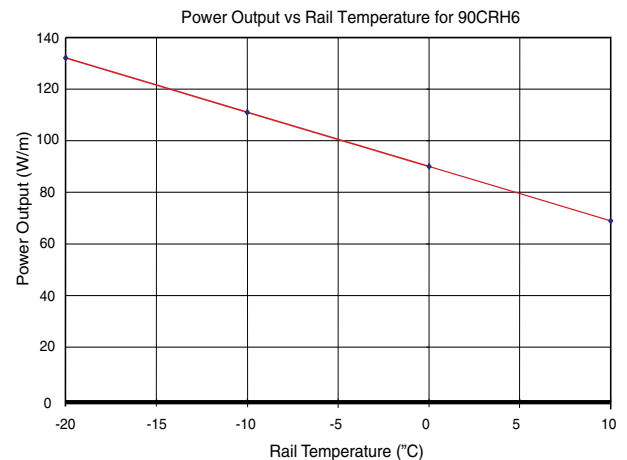
Full details of all approved ancillary and control equipment is available on request. Installation of the CRH heating cables must be carried out in accordance with Code of Practice for the Installation of Contact Rail Heating Systems.

MAX. CIRCUIT LENGTH (M) vs. CIRCUIT BREAKER AT 600VDC

Cat Ref	Start-up Temperature	16A	20A	32A	50A
90CRH6	0°C	84	104	166	208
	-10°C	68	84	136	208
	-20°C	56	72	114	178

For use with Type C circuit breakers to BS EN60898:1991

HEATER OUTPUT GRAPH



FLV / FLVw

Electrical heating tape for frost protection or temperature maintenance of pipework and vessels.

FREEZSTOP

Low Voltage Self-Regulating Heating Tape

- Automatically adjusts heat output in response to increasing or decreasing pipe temperature
- Can be cut to length with no wastage
- FLV available in outputs 12W/m & 17W/m
FLVw available in 30W/m
- Full range of controls and accessories
- Available for 22/24VAC, and 11/12VAC
- Will not overheat or burnout, even when overlapped
- ATEX & IECEX certified for hazardous areas

FEATURES

Freezstop Low Voltage is a light industrial/commercial grade self-regulating heating tape that can be used for freeze protection or temperature maintenance of pipework and vessels in the construction and refrigeration industries.

It can be cut-to-length at site and exact piping lengths can be matched without any complicated design considerations.

Its self-regulating characteristics improve safety and reliability. Freezstop Low Voltage will not overheat or burnout, even when overlapped upon itself. Its power output is self-regulated in response to the pipe temperature.

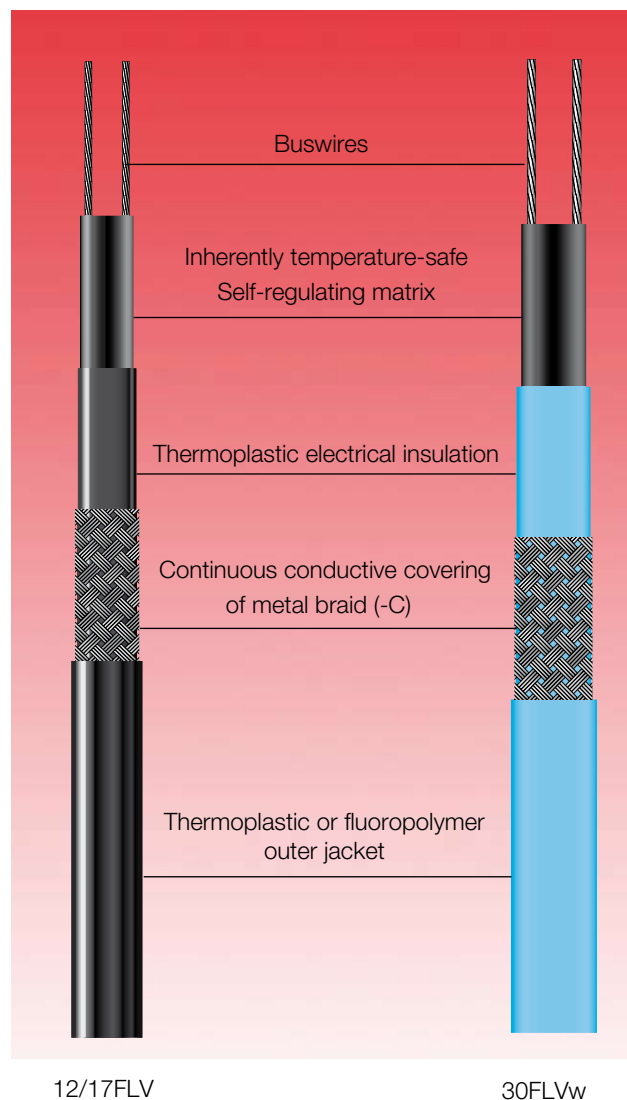
The installation of Freezstop Low Voltage is quick and simple and requires no special skills or tools. Termination, splicing and power connection components are all provided in convenient kits.

OPTIONS

- | | |
|-----------|--|
| FLV .. C | Continuous conductive covering of metal braid for non-hazardous areas, hazardous areas or where traced equipment does not provide an effective earth path. eg. plastic pipework. |
| FLV .. CT | Thermoplastic overjacket over metal braid provides additional protection. |
| FLV .. CF | Fluoropolymer overjacket over metal braid provides protection where corrosive chemical solutions or vapours may be present. |

NOTE

30FLVw is generally for use with specialist applications only.



Very high temperature self-regulating heating cable.

FailSafe Super Inherently Temperature-Safe Heating Cable

- 225°C exposure temperature withstand, (energised or switched off).
- *Inherently temperature-safe. (ITS)*
- High power outputs to 75W/m at 10°C
- External temperature controls not necessary.

DESCRIPTION

FSS is a very high temperature self-regulating heating cable, having an exposure limit of 225°C, energised or not.

It may be provided with a continuous extruded metal jacket for applications where high mechanical strength is required or a metal braid where flexibility is preferred.

The continuous metal outer jacket is ductile, yet withstands high mechanical loads, thus averting damage when being installed in arduous environments.

Easy terminations, cut-to-length.

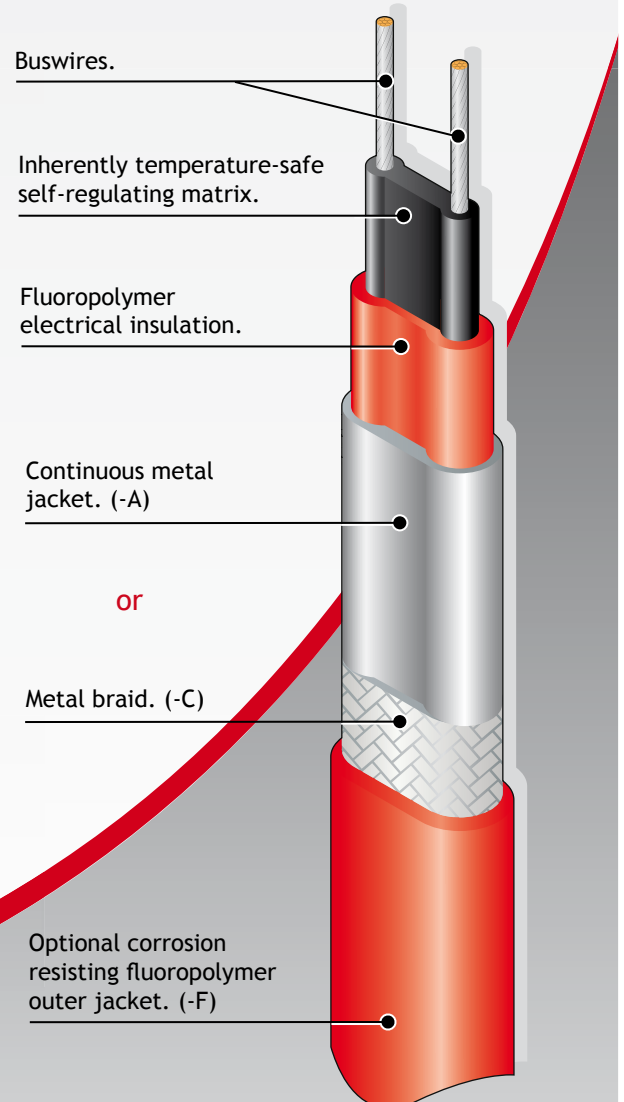
Safest ever self-regulating product range for very high temperature exposure; will not overheat even when exposed to 225°C when energised or switched off as it is *inherently temperature-safe*.

ATEX/ IECEx Approved

INHERENTLY TEMPERATURE-SAFE

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

Similar competitor self-regulating products are typically limited to a maximum energised temperature, typically 120°C at which point, their retained power output prevent the cable from self-regulating at its own limiting temperatures. All such products require temperature control to ensure their own temperature safety.



SPECIFICATION

MAXIMUM CONTINUOUS EXPOSURE

TEMPERATURE: 225°C (437°F)
(ENERGISED OR SWITCHED OFF)

MINIMUM OPERATING

TEMPERATURE: -65°C* (-85°F)

MINIMUM INSTALLATION

TEMPERATURE: -40°C (-40°F)

POWER SUPPLY: 0 - 277V AC
(other voltages available on request)

WEIGHTS & DIMENSIONS:

Type Ref	Nom. Dims. (mm)	Weight kg/100m	Min Bending radius	Gland size
FSS-A	11.25 x 5.05	12.4	20mm	M20
FSS-AF	12.05 x 5.85	15.8	20mm	M20
FSS-C	10.45 x 4.25	10.4	20mm	M20
FSS-CF	11.25 x 5.05	13.4	20mm	M20

APPROVAL DETAILS:

ATEX - Sira 02ATEX3072
IECEX - SIR 11.0120
EAC* - TC RU C-GB.ГБ05.B.00186
CSA - 1495802 + 1547590
FM - 3009080

ORDERING INFORMATION:

Example; 30 FSS 2 - A or C option F

Output 30w/m at 10°C
FSS Heating Cable
Supply Voltage 220 - 240V AC
Continuous Outer jacket
Metal Braid
Outer Sheath, Fluoropolymer

ACCESSORIES:

We supply a complete range of accessories including termination/splice kits, end seals, junction boxes and controls. Such items carry separate approvals from the heating cables. Use only approved components, as per system certification.

MAXIMUM LENGTH (m) vs. CIRCUIT BREAKER SIZE:

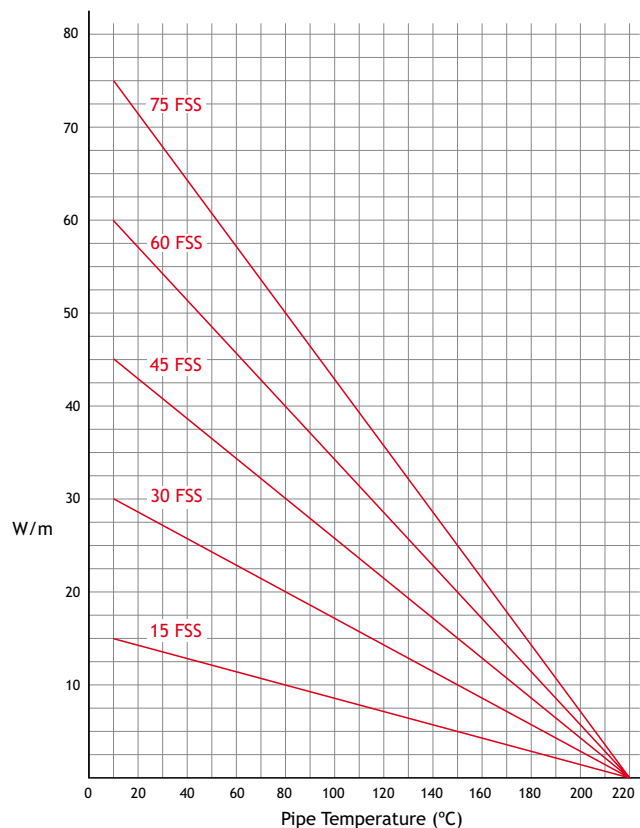
The following circuit details relate specifically for the trace heating of pipework and equipment.

Cat Reference	Start-up Temperature	230V			
		10A	16A	20A	32A
15FSS	10°C	76	122	154	154
30FSS	10°C	52	82	102	108
45FSS	10°C	38	62	76	88
60FSS	10°C	24	38	46	76
75FSS	10°C	14	24	28	46

For use with Type C circuit breakers to IEC 60898

THERMAL RATINGS:

Nominal output at 230V when FSS is installed on thermally insulated carbon steel pipes, being fixed with aluminium fixing tape.



A high temperature self-regulating heating cable.

FailSafe + Inherently Temperature-Safe Heating Cable

- 225°C exposure temperature withstand, (energised or switched off).
- *Inherently temperature-safe. (ITS)*
- Power outputs to 60W/m at 10°C
- External temperature controls not necessary.

DESCRIPTION

FS+ is a high temperature self-regulating heating cable, having an exposure limit of 225°C, energised or not.

It may be provided with a continuous extruded metal jacket for applications where high mechanical strength is required or a metal braid where flexibility is preferred.

The continuous metal outer jacket is ductile, yet withstands high mechanical loads, thus averting damage when being installed in arduous environments.

Easy terminations, cut-to-length.

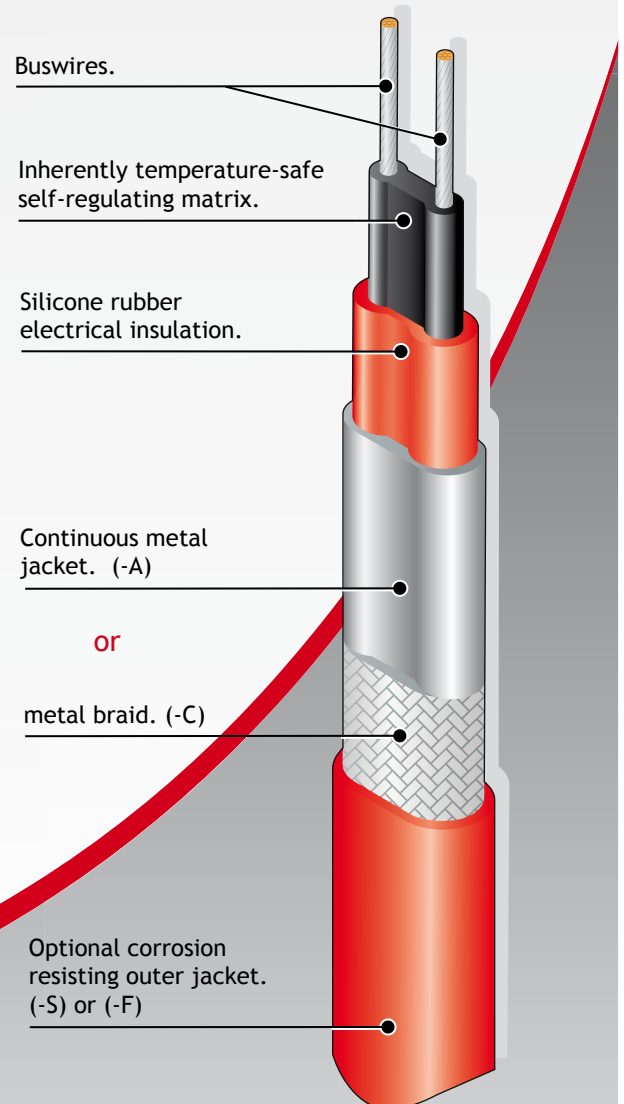
Safest ever self-regulating product range for high temperature exposure; will not overheat even when exposed to 225°C when energised or switched off as it is *inherently temperature-safe*.

ATEX/IECEX Approved.

INHERENTLY TEMPERATURE-SAFE

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

Similar competitor self-regulating products are typically limited to a maximum energised temperature, typically 120°C at which point, their retained power output prevent the cable from self-regulating at its own limiting temperatures. All such products require temperature control to ensure their own temperature safety.



SPECIFICATION

MAXIMUM CONTINUOUS EXPOSURE TEMPERATURE: 225°C (437°F)
(ENERGISED OR SWITCHED OFF)

MINIMUM OPERATING TEMPERATURE: -65°C* (-85°F)

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

POWER SUPPLY: 0 - 277V AC

WEIGHTS & DIMENSIONS:

Type Ref	Nom. Dims. (mm)	Weight kg/100m	Min Bending radius	Gland Size
FS+A	11.05 x 5.65	14.3	20mm	M20
FS+AS	12.05 x 6.65	14.7	25mm	M20
FS+AF	11.85 x 6.45	14.6	30mm	M20
FS+C	10.25 x 4.85	12.2	20mm	M20
FS+CS	11.25 x 5.85	12.5	25mm	M20
FS+CF	11.05 x 5.65	12.5	30mm	M20

APPROVAL DETAILS:

ATEX - Sira 12ATEX3136
IECEX - SIR 12.0054
DNV-GL - E12834
EAC* - TC RU C-GB.F505.B.00186

ORDERING INFORMATION:

Example; 45 FS+ 2 - A or C S or F

Output 45W/m at 10°C
FS+ Heating Cable
Supply Voltage 208 - 277V AC
Continuous Metal Jacket
Metal Braid
Outer Sheath, Silicone Rubber
Outer Sheath, Fluoropolymer

ACCESSORIES:

We supply a complete range of accessories including termination/splice kits, end seals, junction boxes and controls. Such items carry separate approvals from the heating cables. Use only approved components, as per system certification.

MAXIMUM LENGTH (m) vs. CIRCUIT BREAKER SIZE:

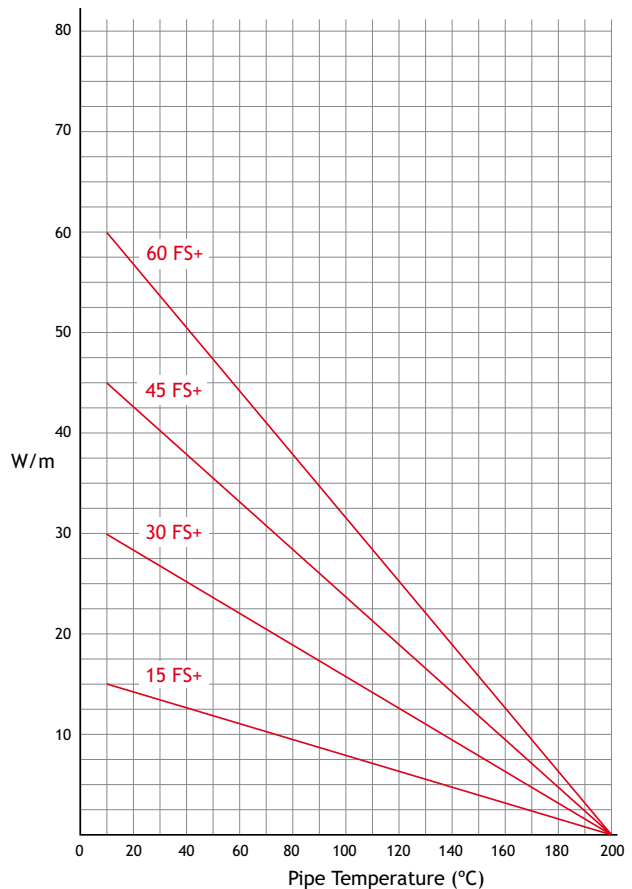
The following circuit details relate specifically to the trace heating of pipework and equipment.

Cat Reference	Start-up Temperature	230V			
		10A	16A	20A	32A
15FS+	10°C	76	122	154	154
30FS+	10°C	52	82	102	108
45FS+	10°C	38	62	76	88
60FS+	10°C	24	38	46	76

For use with Type C circuit breakers to IEC60898

THERMAL RATINGS:

Nominal output at 230V when FS+ is installed on thermally insulated carbon steel pipes, being fixed with aluminium fixing tape.



The worlds highest temperature self-regulating heating cable.

Auto FailSafe Inherently Temperature-Safe Heating Cable

- 300°C exposure temperature withstand, (energised or switched off).
- The worlds highest self-regulating heating cable, power output - 150W/m at 10°C
- *Inherently temperature-safe. (ITS)*
- External temperature controls not necessary.

DESCRIPTION

AFS is a high strength self-regulating heating cable having temperature and power capabilities beyond those of any competitor worldwide. Its limit of 300°C, energised or not, is beyond the limits of conventional polymers. Its high power capabilities (of up to 150W/m @ 10°C) makes it eminently suited to medium and high temperature applications such as bitumen melt-out. Its continuous metal jacket is ductile, yet withstands high mechanical loads, thus averting damage when being installed in arduous environments. It is easy to terminate and cut-to-length. AFS is the safest ever self-regulating product for high temperature exposure; it will not overheat even when exposed to 300°C, when energised or switched off as it is *inherently temperature-safe*.

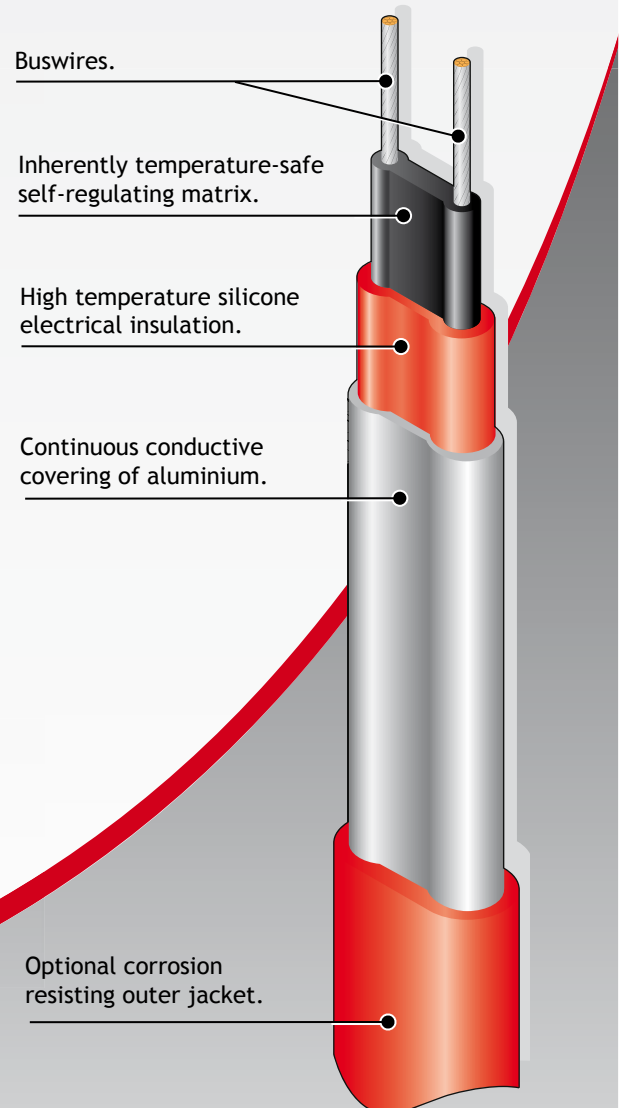
IECEX & ATEX Approval Pending.

A safer, more convenient option to traditional series resistance MI cables, which must be individually designed, are difficult to terminate and are not *inherently temperature-safe*.

INHERENTLY TEMPERATURE-SAFE

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

Similar competitor self-regulating products are typically limited to a maximum energised temperature, typically 120°C at which point, their retained power output prevent the cable from self-regulating at its own limiting temperatures. All such products require temperature control to ensure their own temperature safety.



SPECIFICATION

MAXIMUM EXPOSURE TEMPERATURE: 300°C (572°F)
(ENERGISED OR SWITCHED OFF)

* 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: 208 - 277V AC
(other voltages available on request)

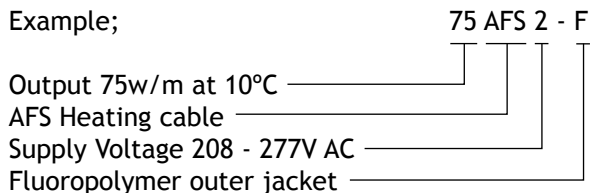
WEIGHTS & DIMENSIONS:

Type Ref	Nom. Dims. (mm)	Weight kg/100m	Min Bending radius	Gland Size
AFS	15.85 x 7.05	21.5	50mm	M25
AFS-F	16.75 x 7.95	25.5	50mm	M25

APPROVAL DETAILS: IECEx (pending)
ATEX (pending)

ORDERING INFORMATION:

Example;



ACCESSORIES:

We supply a complete range of accessories including termination/splice kits, end seals, junction boxes and controls. Such items carry separate approvals from the heating cables. Use only approved components, as per system certification.

MAXIMUM LENGTH (m) vs. CIRCUIT BREAKER SIZE:

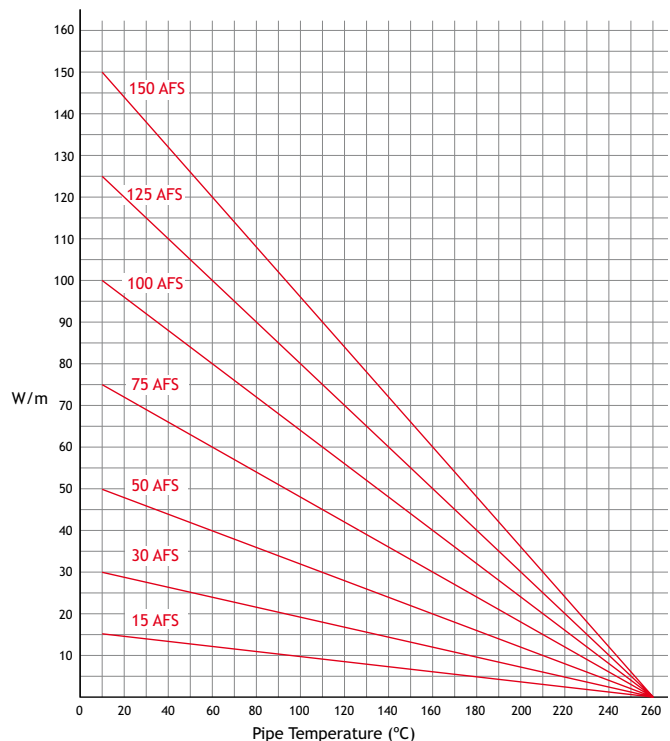
The following circuit details relate specifically for the trace heating of pipework and equipment.

Cat Reference	Start-up Temperature	230V			
		16A	20A	32A	63A
15AFS	10°C	122	154	196	196
30AFS	10°C	74	92	138	138
50AFS	10°C	50	62	98	108
75AFS	10°C	36	46	74	88
100AFS	10°C	22	28	46	76
125AFS	10°C	12	16	24	48
150AFS	10°C	8	8	14	28

For use with Type C circuit breakers to IEC 60898

THERMAL RATINGS:

Nominal output at 230V when AFS is installed on thermally insulated carbon steel pipes, being fixed with aluminium fixing tape.



Extremely high temperature self-regulating heating cable.

FailSafe Ultimo

Inherently Temperature-Safe Heating Cable

- 250°C exposure temperature withstand, (energised or switched off).
- High power outputs to 100W/m at 10°C
- Inherently temperature-safe. (ITS)
- External temperature controls not necessary.

DESCRIPTION

FSU is an extremely high temperature self-regulating heating cable, having an exposure limit of 250°C, energised or not.

Easy terminations, cut-to-length.

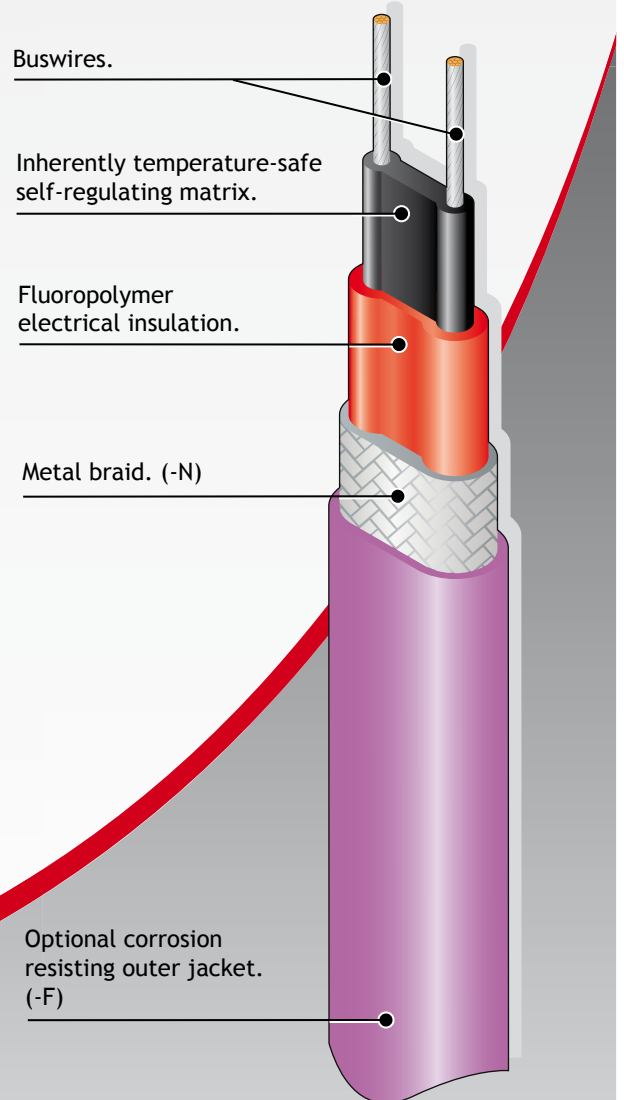
Safest ever self-regulating product range for extremely high temperature exposure; will not overheat even when exposed to 250°C when energised or switched off as it is *inherently temperature-safe*.

ATEX and IECEx Approved.

INHERENTLY TEMPERATURE-SAFE

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

Similar competitor self-regulating products are typically limited to a maximum energised temperature, typically 120°C at which point, their retained power output prevent the cable from self-regulating at its own limiting temperatures. All such products require temperature control to ensure their own temperature safety.



SPECIFICATION

MAXIMUM EXPOSURE TEMPERATURE: 250°C (482°F)
(ENERGISED OR SWITCHED OFF)

MINIMUM OPERATING TEMPERATURE: -65°C* (-85°F)

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

POWER SUPPLY: 0 - 277V AC

WEIGHTS & DIMENSIONS:

Type Ref	Nom. Dims. (mm)	Weight kg/100m	Min Bending radius	Gland Size
FSU	10.1 x 3.4	7.6	20mm	M20
FSU-N	11.4 x 4.4	11.3	25mm	M20
FSU-NF	11.9 x 5.2	14.6	30mm	M20
FSUw	12.4 x 3.5	11.4	30mm	M25
FSUw-N	13.4 x 4.5	15.8	30mm	M25
FSUw-NF	14.2 x 5.3	19.5	30mm	M25
FSUw-A	14.2 x 5.3	19.6	30mm	M25
FSUw-AF	15.0 x 6.1	21.9	30mm	M25

APPROVAL DETAILS:

ATEX - Sira 04ATEX3012, Sira 13ATEX3126
IECEX - SIR 11.0131, SIR 11.0132
DNV-GL - E12835
CSA - 1295278, 1547590
EAC* - TC RU C-GB.ГБ05.B.00186

ORDERING INFORMATION:

Example;

Output 75W/m at 10°C
FSU Heating Cable
Supply Voltage 208 - 277V AC
Metal Braid
Outer Sheath, Fluoropolymer

75 FSU 2 - N F

ACCESSORIES:

We supply a complete range of accessories including termination/splice kits, end seals, junction boxes and controls. Such items carry separate approvals from the heating cables. Use only approved components, as per system certification.

MAXIMUM LENGTH (m) vs. CIRCUIT BREAKER SIZE:

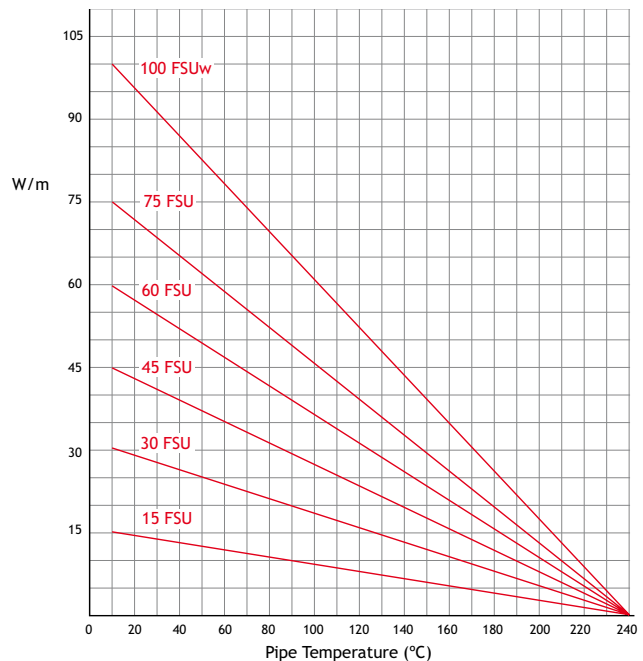
The following circuit details relate specifically for the trace heating of pipework and equipment.

Cat Reference	Start-up Temperature	230V			
		10A	16A	20A	32A
15FSU	10°C	76	122	154	154
30FSU	10°C	52	82	102	108
45FSU	10°C	38	62	76	88
60FSU	10°C	24	38	46	76
75FSU	10°C	14	24	28	46
100FSUw	10°C	14	22	28	46

For use with Type C circuit breakers to BS EN60898:1991

THERMAL RATINGS:

Nominal output at 230V when FSU is installed on thermally insulated carbon steel pipes, being fixed with aluminium fixing tape.



Ultra high temperature self-regulating heating cable.

FailSafe Ultimo + Inherently Temperature-Safe Heating Cable

- 275°C exposure temperature withstand, (energised or switched off).
- Very high power outputs to 125W/m at 10°C
- *Inherently temperature-safe. (ITS)*
- External temperature controls not necessary.

DESCRIPTION

FSU+ is an ultra high temperature self-regulating heating cable, having an exposure limit of 275°C, energised or not.

FSU+ is provided with a continuous extruded metal jacket for applications where high mechanical strength is required.

The continuous metal outer jacket is ductile, yet withstands high mechanical loads, thus averting damage when being installed in arduous environments.

Easy terminations, cut-to-length.

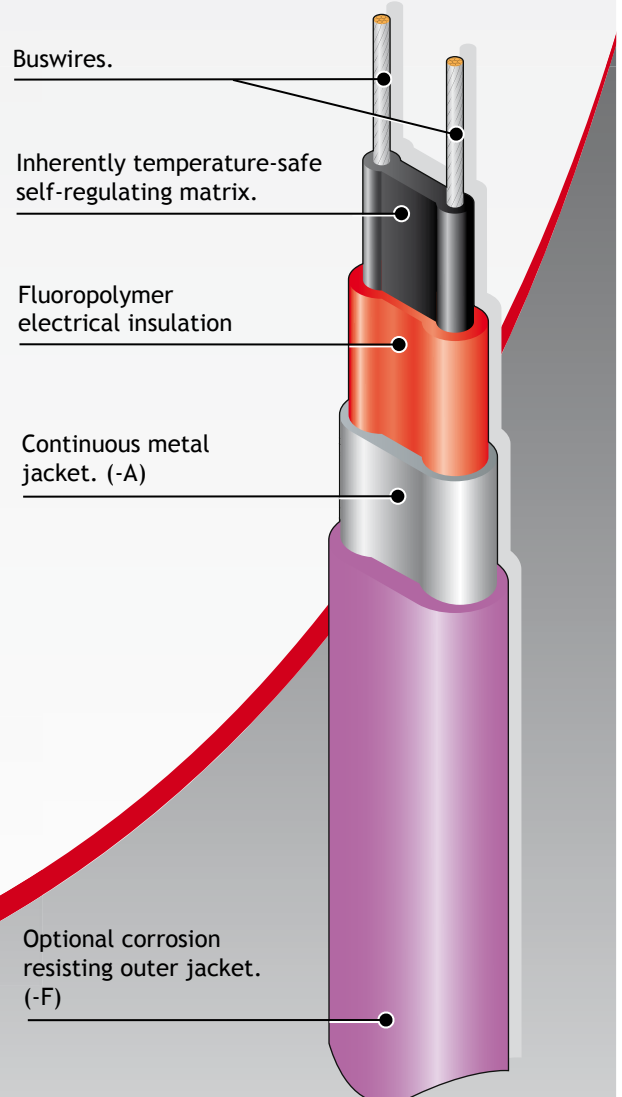
Safest ever self-regulating product range for very high temperature exposure; will not overheat even when exposed to 275°C when energised or switched off as it is *inherently temperature-safe*.

IECEX Approval Pending.

INHERENTLY TEMPERATURE-SAFE

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

Similar competitor self-regulating products are typically limited to a maximum energised temperature, typically 120°C at which point, their retained power output prevent the cable from self-regulating at its own limiting temperatures. All such products require temperature control to ensure their own temperature safety.



SPECIFICATION

MAXIMUM EXPOSURE TEMPERATURE: 275°C (527°F)
(ENERGISED OR SWITCHED OFF)

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

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

POWER SUPPLY: 0 - 277V AC

WEIGHTS & DIMENSIONS:

Type Ref	Nom. Dims. (mm)	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	14.2 x 5.3	19.6	50mm	M25
FSU+w-AF	15.0 x 6.1	22.0	50mm	M25

APPROVAL DETAILS: IECEx (pending)

ORDERING INFORMATION:

Example;

75 FSU+ 2 - A F

Output 75w/m at 10°C ————
 FSU+ Heating Cable ————
 Supply Voltage 208 - 277V AC ————
 Continuous Metal Jacket ————
 Outer Sheath, Fluoropolymer ————

ACCESSORIES:

We supply a complete range of accessories including termination/splice kits, end seals, junction boxes and controls. Such items carry separate approvals from the heating cables. Use only approved components, as per system certification.

MAXIMUM LENGTH (m) vs. CIRCUIT BREAKER SIZE:

The following circuit details relate specifically for the trace heating of pipework and equipment.

Cat Reference	Start-up Temperature	230V			
		16A	20A	32A	50A
15FSU+	10°C	122	154	154	154
30FSU+	10°C	82	102	108	108
45FSU+	10°C	62	76	88	88
60FSU+	10°C	38	46	76	76
75FSU+	10°C	24	28	46	68
100FSU+w	10°C	22	28	46	70
125FSU+w	10°C	12	16	24	38

For use with Type C circuit breakers to BS EN60898

THERMAL RATINGS:

Nominal output at 230V when FSU is installed on thermally insulated carbon steel pipes, being fixed with aluminium fixing tape.

