FS+

225ºC

A high temperature
self-regulating heating cable.

FailSafe +
Inherently Temperature-Safe Heating Cable

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

DESCRIPTION

FS+ is a high temperature self-regulating heating cable, having an exposure limit of 225ºC, 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.
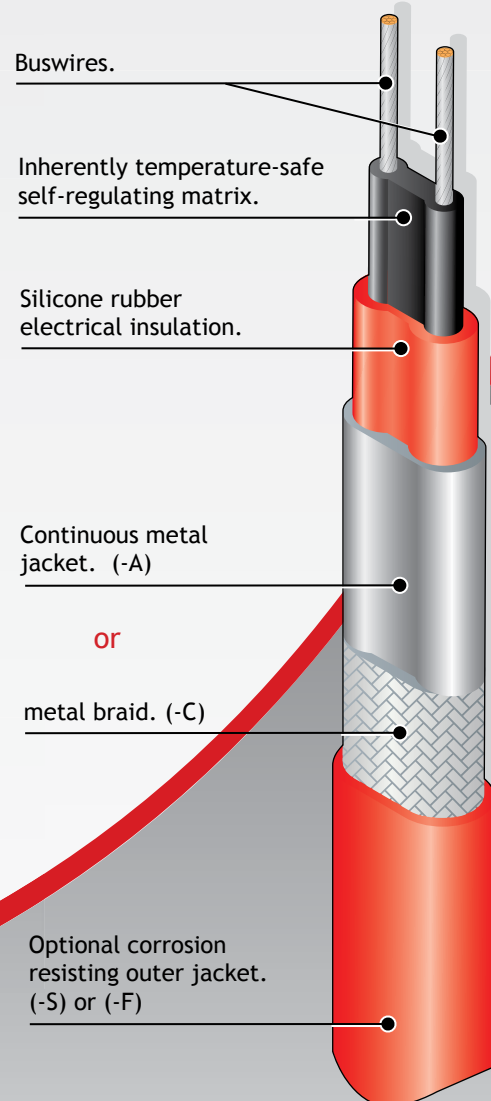
Easy terminations, cut-to-length.

Safest ever self-regulating product range for high temperature exposure; will not overheat even when exposed to 225ºC 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 120ºC 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.

Buswires.

Inherently temperature-safe self-regulating matrix.

Silicone rubber electrical insulation.

Continuous metal jacket. (-A)

or

metal braid. (-C)

Optional corrosion resisting outer jacket. (-S) or (-F)

HEAT TRACE™
SETTING THE STANDARDS LEADING THE WAY

40 Years
1974 - 2014

The **Heat Tracing Authority**™

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: 12 - 277V AC

TEMPERATURE CLASSIFICATION: T3 (200°C)

WEIGHTS & DIMENSIONS:

Type Ref	Dimensions (mm) +/-0.5	Weight kg/100m	Min Bending radius	Gland Size
FS+A	12.45 x 6.25	11.9	50mm	M20
FS+AS	14.45 x 8.25	15.1	50mm	M20
FS+AF	13.35 x 7.15	15.0	50mm	M20
FS+C	11.65 x 5.45	9.9	35mm	M20
FS+CS	13.65 x 7.45	12.9	45mm	M20
FS+CF	12.55 x 6.35	12.8	40mm	M20

APPROVAL DETAILS:

ATEX - Sira 12ATEX3136
IECEx - SIR 12.0054
DNV-GL - E12834
EAC* - TC RU C-GB.AA87.B.00610
Japanese - CML 17JPN3007X - 1 to 2

ORDERING INFORMATION:

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

Output 45W/m at 10°C
FS+ Heating Cable
Supply Voltage 220 - 277V AC
Continuous Metal Jacket
Metal Braid
Outer Sheath, Silicone Rubber
Outer Sheath, Fluoropolymer

ACCESSORIES:

Heat Trace 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.

INGRESS PROTECTION: IP67

ATEX & IECEx MARKINGS:

⟨Ex⟩ II 2 GD
Ex e IIC T3 Gb
Ex tb IIIC T200°C Db

EN 60079-0: 2012+A11:2013
EN 60079-31: 2014
EN 60079-30-1: 2007

MAXIMUM LENGTH (m) vs. CIRCUIT BREAKER SIZE:

The following circuit details relate specifically for the trace heating of pipework and equipment. For any other application consult Heat Trace.
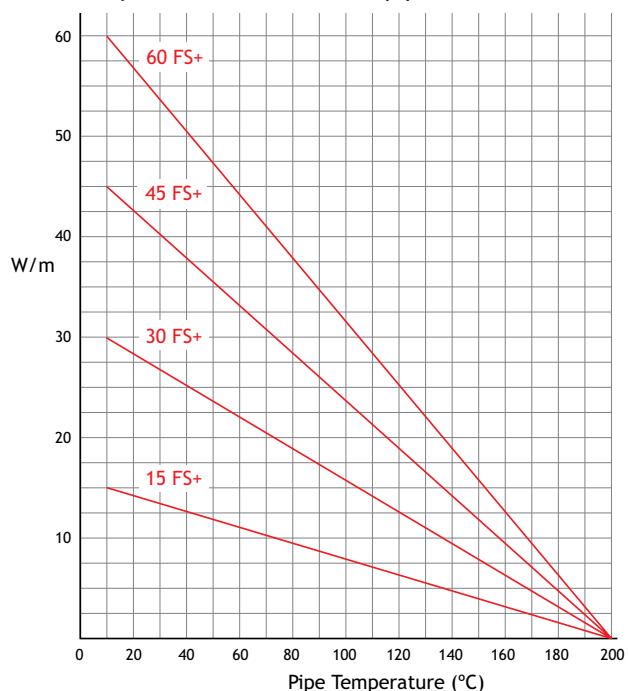
Cat Reference	Environmental Start-up Temp.	230V 10A	16A	20A	32A	50A
15FS+	10°C	76	122	154	172	172
	0°C	70	112	140	172	172
	-20°C	62	98	122	172	172
	-40°C	52	82	102	164	172
30FS+	10°C	52	82	102	122	122
	0°C	46	74	92	122	122
	-20°C	40	66	82	122	122
	-40°C	34	54	68	110	122
45FS+	10°C	38	62	76	100	100
	0°C	34	56	70	100	100
	-20°C	30	50	62	98	100
	-40°C	22	34	44	70	100
60FS+	10°C	30	50	62	86	86
	0°C	28	44	56	86	86
	-20°C	20	32	40	62	86
	-40°C	12	18	24	38	60

For use with Type C circuit breakers to IEC60898

These circuit lengths may be exceeded dependant on specific design parameters.

THERMAL RATINGS:

Nominal output at 230V when FS+ is installed on thermally insulated carbon steel pipes.

FURTHER INFORMATION:

Please consult the appropriate termination instructions and the Heat Trace Design, Installation and Maintenance Manual (HTDIMM 010) for further details.

SRDS0108 (Sep 17)