

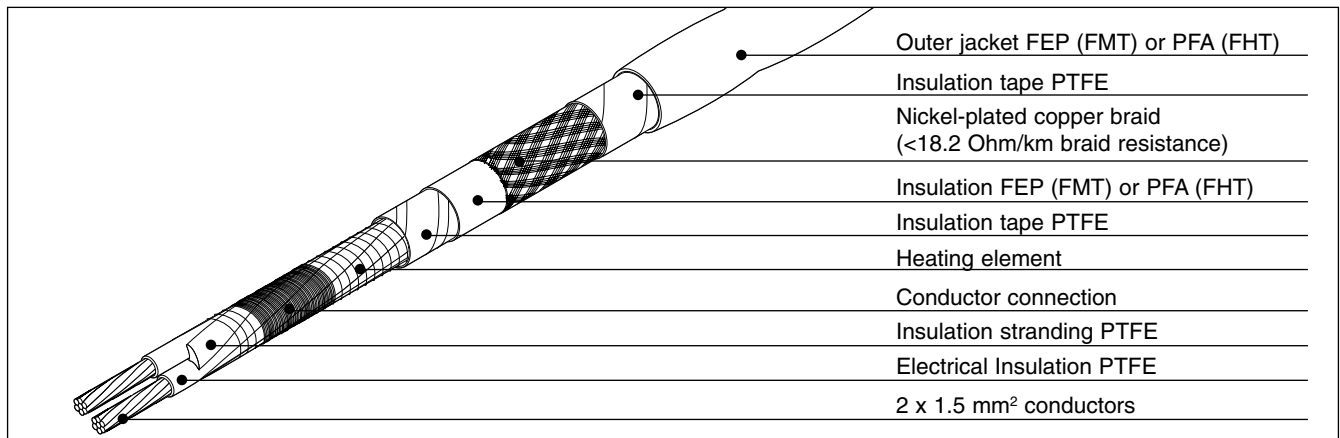
Constant wattage parallel circuit heating cable

FMT and FHT are constant wattage parallel circuit heating cables designed for pipe and equipment heat-tracing in industrial applications. This family offers an economical alternative to our self-regulating heating cables but requires more skill for installation and also requires more advanced control and monitoring systems. Its unique round geometry provides excellent flexibility during installation as it allows for bending in every direction. The heating element which is the most fragile part of any constant wattage parallel circuit heating cable is protected by a PTFE insulation

tape that eliminates shear stresses during flexing and also acts as a shock absorber, thereby providing a high level of protection. The heating cables can be used for frost protection and process temperature maintenance requiring high power output. The heating cables are zone parallel heaters constructed from a heating element wrapped around two parallel conductors. The distance between conductor contact points forms the heating zone length. The parallel construction allows it to be cut-to-length and terminated in the field. FMT heating cables

can withstand routine steam purges and temperature exposure to 200°C power off. They can be used to maintain temperatures up to 150°C and are only available in a 230 V a.c. version. FHT heating cables can withstand routine steam purges and temperature exposure to 260°C power off. They can be used to maintain temperatures up to 230°C and are available for 230 V a.c. and 400 V a.c. supplies. The 400 V a.c. version offers a further advantage of long circuit lengths reducing the cost of the electrical installation.


Heating cable construction



Application

Area classification	Hazardous, Zone 1, Zone 2 (Gas), Zone 21, Zone 22 (Dust) Ordinary
Traced surface type	Carbon steel Stainless steel Painted or unpainted metal
Chemical resistance	Organics and corrosives For aggressive organics and corrosives consult your local Tyco Thermal Controls representative

Approvals

The FMT and FHT heating cables are approved for use in hazardous areas by Baseefa for ATEX and IECEx	
Baseefa08ATEX0050X	IECEX BAS 08.0019X
 II 2 GD Ex e II T*	Ex e II T*
Ex tD A21 IP66	Ex tD A21 IP66
* By design	* By design

Specifications

	FMT2	FHT2	FHT4
Supply voltage	230 - 277 V a.c.	230 - 277 V a.c.	385 - 415 V a.c.
Max. exposure temperature continuous power off	200°C	260°C	260°C
Cold lead / heating zone length	1.5 m	1.5 m	2.5 m
Minimum installation temperature	-40°C	-60°C	-60°C
Size	Ø 7.5 mm	Ø 7.5 mm	Ø 7.5 mm
Minimum bend radius	25 mm	25 mm	25 mm
Minimum clearance	50 mm	50 mm	50 mm
Colour	White	Green	Violet

Maximum circuit lengths table

Maximum circuit length based on 16 A type 'C' circuit breakers according to EN 60898. The use of larger circuit breaker sizes (up to 40 A) is permitted provided that the lengths of individual continuous lengths do not exceed the numbers below.

Voltage / Heating cable	10FxT2	20FxT2	30FxT2	40FHT2	10FHT4	20FHT4	30FHT4
230 V a.c.	200	150	120	85	-	-	-
400 V a.c.	-	-	-	-	330	235	190

The above numbers are for circuit length estimation only. For more detailed information please use the Tyco Thermal Controls' TraceCalc software or contact your local Tyco Thermal Controls representative.

Tyco Thermal Controls requires the use of a 30 mA residual current device to provide maximum safety and protection from fire. Where design results in a higher leakage current, a maximum 300 mA residual current device may be used. All safety aspects need to be proven.

Hazardous area design tables

(for other voltages or non-hazardous areas use TraceCalc Pro or contact your Tyco Thermal Controls representative)

The shaded temperature values listed in the table below represent the maximum design surface temperature permitted for a work piece for temperature classification T6, T5, T4, T3 and 260°C (FHT only).

Minimum clearance: 50 mm

Heating Cable	Voltage (V a.c.)	Nominal Power output (W/m)	Max. Power Output (W/m)	Temperature classification				
				T6 (85°C)	T5 (100°C)	T4 (135°C)	T3 (200°C)	T2 (260°C)
10FxT2-CT	230	10	12.7	8°C	26°C	69°C	147°C	225°C
20FxT2-CT	230	20	25.5	-	-	19°C	109°C	200°C
30FxT2-CT	230	30	38.2	-	-	-	65°C	169°C
40FHT2-CT	230	40	51.0	-	-	-	8°C	131°C
10FHT4-CT	400	10	12.7	30°C	48°C	90°C	169°C	247°C
20FHT4-CT	400	20	25.5	-	-	30°C	121°C	212°C
30FHT4-CT	400	30	38.2	-	-	-	95°C	195°C

Voltage adjustment factors

	230 V a.c.	254 V a.c.	277 V a.c.	385 V a.c.	400 V a.c.	415 V a.c.
FxT2-CT						
Circuit length	1.00	1.00	1.00	-	-	-
Power output	1.00	1.22	1.45	-	-	-
FHT4-CT						
Circuit length	-	-	-	1.00	1.00	1.00
Power output	-	-	-	0.93	1.00	1.08

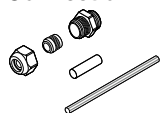
Ordering Details

Part description & Part No.	Part description & Part No.	Part description & Part No.
10FMT2-CT: 1244-006057	10FHT2-CT: 1244-006060	10FHT4-CT: 1244-006064
20FMT2-CT: 1244-006058	20FHT2-CT: 1244-006061	20FHT4-CT: 1244-006065
30FMT2-CT: 1244-006059	30FHT2-CT: 1244-006062	30FHT4-CT: 1244-006066
	40FHT2-CT: 1244-006063	

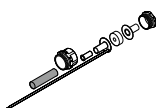
Components

Tyco Thermal Controls offers a full range of components for power connections, splices and end-seals. These products must be used to ensure proper functioning of the product and compliance with electrical- and hazardous area requirements.

Connection kits

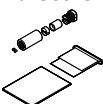


C20-01-F Hot applied connection kit, suitable for FMT2-CT, FHT2-CT and FHT4-CT heating cables. Uses a M20 plastic gland. Approved for use in hazardous areas. Part number: 1244-006949



C20-02-F Hot applied connection kit, suitable for FMT2-CT, FHT2-CT and FHT4-CT heating cables. Uses a M20 metal gland for use with junction boxes with internal earth plate. Requires crimp tool C20-02-CT. Not approved for use in hazardous areas. Part number: 1244-006952

End seals



E-150-F Cold-applied under insulation end seal for FMT2-CT, FHT2-CT and FHT4-CT heating cables. Maximum continuous exposure temperature 180°C. Uses a PTFE housing filled with silicone for electrical and mechanical sealing. Approved for use in hazardous areas. Part number: 1244-006951



E-50-F Hot-applied end seal for FMT2-CT, FHT2-CT and FHT4-CT heating cables. Part number: 1244-006950

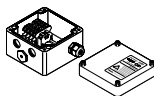
Splice

CS-150-F Cold-applied under insulation splice for FMT2-CT, FHT2-CT and FHT4-CT heating cables. Maximum continuous exposure temperature 180°C. Uses a PTFE housing filled with silicone for electrical and mechanical sealing. Approved for use in hazardous areas. Part number: 1244-005910

Crimp tools

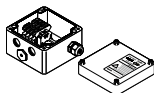
C20-02-CT Crimp tool for braid connection on FxT heating cables. Only required when using C20-02-F connections. Part number: 463026-000

Junction boxes



JB-EX-20 Junction box, 3 x M20 entries and 1 x M25 with power cable gland, approved for use in hazardous areas. For use with C20-01-F connection kits. Part number: 1244-000590

JB-EX-20-EP Junction box with internal earth plate and external earth stud, 3 x M20 entries and 1 x M25 approved for use in hazardous areas. For use with C20-02-F connection kits. Part number: 1244-006384



JB-82 Junction box, safe area, 4 x M20/M25 entries. Part number: 535679-000

Labels

LAB-EX-FxT Circuit identification label for use in hazardous areas. Part number: 1244-006953

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Thermal Controls

 Our products satisfy the requirements of the relevant European Directives.