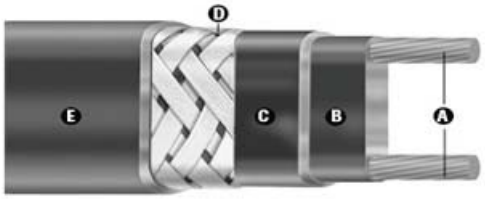
MSR - Self Regulating Heating Cable

MSR Heating Cables are designed for Freeze Protection and Process Temperature maintenance of metal pipes and tanks. The semiconductive polymer core changes its power output versus pipe temperature to optimize power usage and prevent overheating. The cables are designed for extended service life, are third party tested and approved to strict industry standards for ordinary and hazardous area use. Cables are available from stock for same day shipment.

SPECIFICATIONS

- Self-Regulating Power Output
- Continuous Maintenance Temperature
  - •250°F (120°C) Max
- Intermittent Exposure Temperature
  - •366°F (185°C) Max
- Output Wattage
  - •5,10,15 W/FT @ 50°F
  - •16,33,49 W/M @ 10°C
- Supply Voltage
  - •120, 208-277 VAC
- T-Ratings
  - •5,10,15 W/FT = T3
- Size = 3/8" W x 1/8" H
- Minimum Bend Radius = 1 1/8"
- Minimum Install Temperature
  - •40°F (40°C)
- Cut to Length and terminate in the field
- Can be overlapped without burnout



CONSTRUCTION

A. 16 AWG Nickel Plated Copper Buss Wires
B. Modified Fluoropolymer heater core
C. Modified Fluoropolymer insulating jacket
D. Tinned Copper Braid
E. Optional Fluoropolymer Outer Jacket
   •Protects against organic, inorganic and corrosive chemicals

APPROVALS

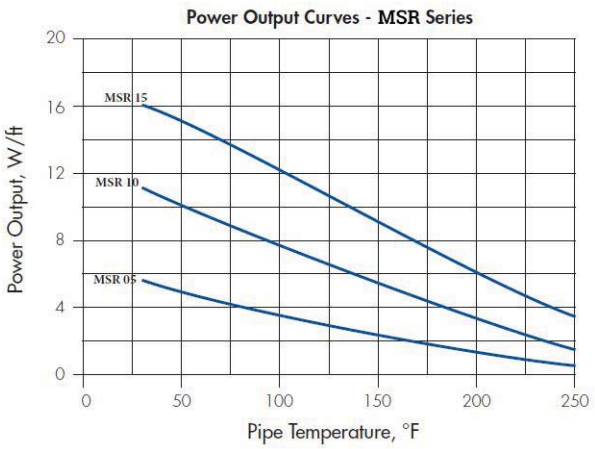
FM Approvals
Ordinary Locations
Hazardous Locations
Class I Div 2 Groups B,C,D
Class II Div 2 Groups F,G
Class III

Ordinary Locations
Hazardous Locations
Class I Div2 A,B,C,D
Class II Div 2 Groups E, F, G
Class III

II 2 GD
EX e IIC T3 Gb
EX tb IIIC 195°C Db

POWER OUTPUT CURVES

Power Output Curves shown below apply to cables used at service voltages shown below on insulated metal pipes. For other applications contact Indeeco.



Power Adjustment Factor		
Model	208 Volts	277 Volts
MSR05-2	0.78	1.25
MSR10-2	0.86	1.16
MSR15-2	0.92	1.09

CONNECTION ACCESSORIES

All Cables require power connection and end seal terminations as a minimum to comply with third party requirements. Indeeco offers accessories to provide trouble free easy installation and maximum cable circuit life.

Accessories - Ordinary Area / Div 2 Hazarous Area			
Type	Ord Area	Div 2	Model
Power Connection	x	x	PCA-40J / 40P
Splice/Tee Connection	x	x	SPTA-1
End Seal	x	x	ESA-ES
Lighted End Seal 120 V	x	x	LESA-1
Lighted End Seal 208-240V	x	x	LESA-2
Thermostat - Ambient Sense	x		THL-L1S-X-Q10
Thermostat - Line Sense	x		THR-L2S-10X-Q10
Thermostat - Ambient Sense	x	x	TXL-L1S-Q10
Thermostat - Line Sense	x	x	TXR-L2S-10-Q10
Application Tape	x	x	HTFT-1
Aluminum Foil Tape	x	x	HTAT-1
Pipe Strap	x	x	HTPS-6/10
Caution Label	x	x	HTCL-1

CIRCUIT BREAKER SIZING

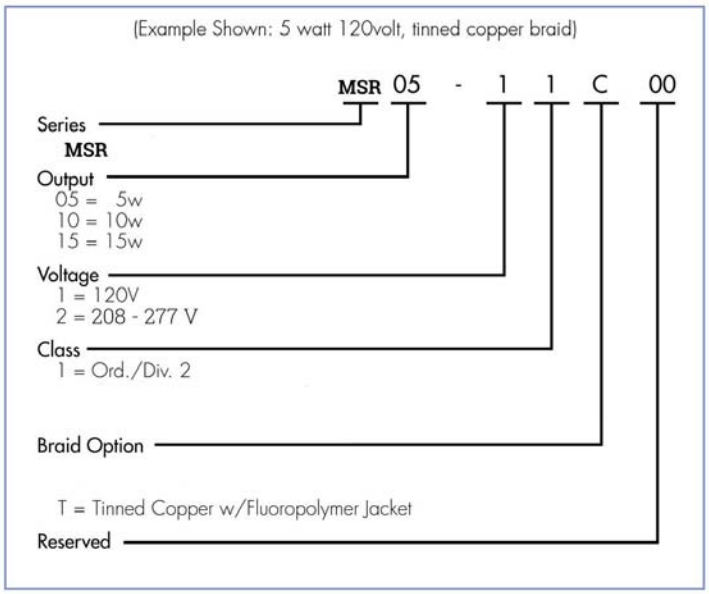
Maximum Circuit Lengths per start up temperature and circuit breaker size are shown below. Use local electrical codes to select appropriate branch circuit breakers. Ground Fault circuit breakers are required for heat trace branch circuits – typical minimum trip level is 30mA. Thermal magnetic circuit breakers are recommended to reduce nuisance tripping.

Maximum Circuit Length vs Breaker Size & Start-Up Temp (FT/M)					
Model	Start-Up Temperature Deg F Deg C	15 A	20 A	30 A	40 A
MSR05-1	50 (10)	150 (45)	200 (60)	240 (73)	240 (73)
	0 (-18)	135 (41)	180 (55)	220 (67)	220 (67)
	-40 (-40)	130 (40)	170 (52)	210 (64)	210 (64)
MSR05-2	50 (10)	250 (76)	330 (100)	480 (146)	480 (146)
	0 (-18)	230 (70)	305 (93)	440 (134)	440 (134)
	-40 (-40)	220 (67)	295 (90)	420 (128)	420 (128)
MSR10-1	50 (10)	90 (27)	120 (37)	180 (55)	180 (55)
	0 (-18)	85 (26)	110 (34)	165 (50)	165 (50)
	-40 (-40)	80 (24)	105 (32)	160 (49)	160 (49)
MSR10-2	50 (10)	140 (43)	190 (58)	280 (85)	280 (85)
	0 (-18)	130 (40)	175 (53)	260 (79)	260 (79)
	-40 (-40)	125 (38)	170 (52)	250 (76)	250 (76)
MSR15-1	50 (10)	70 (21)	90 (27)	130 (40)	130 (40)
	0 (-18)	65 (20)	85 (26)	125 (38)	125 (38)
	-40 (-40)	60 (18)	80 (24)	120 (37)	120 (37)
MSR15-2	50 (10)	100 (30)	135 (41)	200 (60)	200 (60)
	0 (-18)	95 (29)	125 (38)	185 (56)	185 (56)
	-40 (-40)	90 (27)	120 (37)	180 (55)	180 (55)

Note – Circuit lengths shown above are based on trip current characteristics of Type QO and Type QOB devices. For equipment with different trip current characteristics pleasse consult Indeeco.

PRODUCT ORDERING INFORMATION

Product Ordering Information



Ordering Information				
Output W/ft	Volts	Model	Stock	LBS/1000'
5 W/FT @ 50F	120	MSR05-11T	S	80
	208-277	MSR05-21T	S	80
10 W/FT @ 50F	120	MSR10-11T	S	80
	208-277	MSR10-21T	S	80
15 W/FT @ 50F	120	MSR15-11T	S	80
	208-277	MSR15-21T	S	80

Note = To order specify model, length, and connection accessories. Cables are shipped +/- 5% of label, maximum spool length 1000 feet, minimum order is 250 feet. No fee to cut to length between 250 and 1000 feet.