

Heating Cables



HSR

Self-regulating heating cable for commercial and construction industries Freeze protection and temperature maintenance applications

Use	Freeze protection of water pipelines Temperature maintenance for schools, hospitals, commercial venues etc. OEM option available to suit diverse applications
Specification	Max. maintain temperature (Power-on) 65°C (150°F) Max. withstand temperature (Power-off) 85°C (185°F) Temperature Classification (T-rating) : T6 (85°C) Rated voltage : 200 ~ 277 Vac, (110 ~ 120 Vac available) Rated power output : 10, 16, 24 & 30 watt/m Approx dimension HSR102 ~ HSR242 : 11.4mm x 5.4mm HSR302 : 13.4mm x 5.4mm Conductor/Bus wire – ASTM B355 Class 2 NPC, 16 AWG, 1.5mm ² Outer Jacket FR polyolefin (CP) : Exposure to aqueous inorganic chemicals Fluoropolymer (CF) : Exposure to organic chemicals or corrosives
Features	It will not overheat or burn out even when overlapped It self-regulates thermal performance in response to temperature It can be cut to any length to suit any installation condition Independent heat output control along the length Soft power switching (which improves energy savings and efficiency) and gives a longer service life Easy termination for power connection, end seal and splicing
Selection Code	HSR 30 2 - C P (a) (b) (c) (d) (a) Model (b) Rated Output 10, 16, 24, 30watt/m@10°C (c) (b) Rated Output 2:200 ~ 277 Vac (d) (d) (d) Outer Jacket P : FR Polyolefin, F : Fluoropolymer (f)
Certification	S CE 1180 (EX) APPROVED Llovds Legister UK



Power Output Graph



Circuit Breaker Selection

Breaker Size(A)	Start-up Temp20°C	Start-up Temp. 0°C	Start-up Temp. 10℃
Product code	10A 16A 20A 25A 32A 40A	10A 16A 20A 25A 32A 40A	10A 16A 20A 25A 32A 40A
HSR102-CP(F)	84 134 155 155 155 155	101 162 169 169 169 169	131 193 193 193 193 193
HSR162-CP(F)	59 94 118 129 129 129	71 113 141 142 142 142	92 147 162 162 162 162
HSR242-CP(F)	42 67 84 104 111 111	36 57 71 89 114 117	50 81 101 126 126 126
HSR302-CP(F)	32 51 64 80 101 101	32 51 64 80 102 113	41 66 82 102 124 124

Max. circuit length(m) at 230Vac based on starting temp. (°C) and typical Type C circuit breaker size (Amps).



Self-regulating heating cable for hot water maintenance applications

Use	Temperature maintenance of hot water services in commercial buildings HWS-R and HWS-P is designed to maintain the pipe temperature at 50°C to 60°C and 40°C to 70°C respectively HWS-P allows a periodic disinfection feature against the risks of legionella bacteria species
Specification	Max. maintain temperature (Power-on) 80°C (176°F) Max. withstand temperature (Power-off) 100°C (212°F) Rated voltage : 200 ~ 240 Vac Rated power output : HWS-R (9W/m@55°C) , HWS-P (9.5W/m@70°C) Dimension 13.4mm x 5.4mm Conductor/Bus wire - ASTM B355 Class 2 NPC, 16 AWG, 1.5mm ²
Features	It will not overheat or burn out even when overlapped Maintains hot water at desired temperature. No need to install re-circulation pipework and pumps. Instant hot water supply from water tap Soft power switching (which improves energy saving and efficiency) and gives a longer service life Independent heat output control along the length
Selection Code	HWS - R (a) Hot water heating cable (b) Rated Output : HWS-R 9.0 watt/m@55°C Rated Output : HWS-P 9.5 watt/m@70°C
Certification	CER



Power Output Graph



Circuit Breaker Selection

Breaker Size(A)		Sta	rt-up Temp	o. 5℃						
Product code	6A	10A	16A	20A	32A	6A	10A	16A	20A	32A
HWS-R	32	53	85	107	122	45	74	119	137	137
HWS-P	21	36	57	71	112	32	53	85	107	126



Self-regulating heating cable for the commercial and construction industries Freeze protection and medium temperature maintenance

Use	Freeze protection of water pipelines Temperature maintenance for petrochemical and gas plants OEM heating appliances Flexible heating appliance for medical use Non hazardous locations
Specification	Max. maintain temperature (Power-on) 80°C (176°F) Max. withstand temperature (Power-off) 100°C (212°F) Rated voltage : 100 ~ 240 Vac Rated power output : 16, 24, 30 & 40 watt/m Approx dimension : 13.4mm ~ 5.4mm Conductor/Bus wire – ASTM B355 Class 2 NPC, 16 AWG, 1.5mm ² Outer Jacket FR polyolefin (CP) : Exposure to aqueous inorganic chemicals Fluoropolymer (CF) : Exposure to organic chemicals or corrosives
Features	It will not overheat or burn out even when overlapped It self-regulates thermal performance in response to temperature It can be cut to any length to suit any installation condition Independent heat output control along the length Soft power switching (which improves energy savings and efficiency) and gives a longer service life Easy termination for power connection, end seal and splicing
Selection Code	MSR 40 2 - C E (a) (b) (c) (d) (a) Model (b) Rated Output 16, 24, 30, 40 watt/m@10°C (b) Rated Output 16, 24, 30, 40 watt/m@10°C (c) (c) Rated Voltage 1 : 100 ~ 120 Vac, 2 : 200 ~ 240 Vac (d) Outer Jacket P : FR Polyolefin, F : Fluoropolymer
Certification	CE RR



Power Output Graph



Circuit Breaker Selection

Breaker Size(A)	Start-u	up Temp20°C	Start-up Temp. 0°C	Start-up Temp. 10℃
Product code	10A 16A	20A 25A 32A 40A	10A 16A 20A 25A 32A 40A	10A 16A 20A 25A 32A 40A
MSR162-CP(F)	46 64	83 106 119 119	50 71 107 114 129 129	55 82 126 131 141 141
MSR242-CP(F)	36 58	73 91 108 108	38 61 77 96 120 120	43 68 85 106 126 126
MSR302-CP(F)	27 43	54 67 86 99	32 51 63 79 101 110	41 65 82 102 115 115
MSR402-CP(F)	20 32	40 50 64 80	23 38 47 59 75 94	30 48 61 76 97 101

Max. circuit length(m) at 230Vac based on starting temp. (°C) and typical Type C circuit breaker size (Amps).

lcSR(e)

Self-regulating heating cable for snow melting and icicle prevention applications

Use	Snow melting of leisure resort, highway, road and airports Icicle prevention of outdoor buildings Anti-icing of roof, gutters and drain pipes
Specification	Max. maintain temperature (Power-on) 80°C(176°F) Max. withstand temperature (Power-off) 100°C(212°F) Rated voltage : 200 ~ 240 Vac Rated power output : 30, 40 watt/m @0°C (Ice water) Approx dimension : 13.4mm ~ 5.4mm Conductor/Bus wire – ASTM B355 Class 2 NPC, 16 AWG, 1.5mm ² Outer Jacket Polyolefin (CP) : Water resistance Fluoropolymer (CF) : Corrosive area
Features	It will not overheat or burn out even when overlapped It self-regulates thermal performance in response to temperature It can be cut to any length to suit any installation condition Independent heat output control along the length Soft power switching (which improves energy savings and efficiency) and gives a longer service life Easy termination for power connection, end seal and splicing Flexible and flat to suit complicated shape of workpiece Weather-proof e.g. UV heat and rain resistant
Selection Code	IcSR (e) 40 2 - C P (a) (b) (c) (d) (e) (a) Model (b) Economy (b) Economy (c) Rated Output watt/m@0°C (d) Rated Voltage 200 ~ 240 Vac (e) (e) Outer Jacket P : UV resist, Polyolefin, F : Fluoropolymer
Certification	CE RR

Product Drawing



Thermal Output Graph



Circuit Breaker Selection

Max. circuit length(m) at 230Vac based on starting temp. (°C) and typical Type C circuit breaker size (Amps).

Breaker Size(A)		St	art-up T	emp2()°C		Start-up Temp. 0°C						
Product code	10A	16A	20A	25A	32A	40A	10A	16A	20A	25A	32A	40A	
IcSR302-CP(F)	30	48	60	75	78	78	40	64	80	91	91	91	
IcSR402-CP(F)	23	37	46	58	70	70	28	45	57	70	76	76	



Self-regulating heating cable for high temperature process flow control

Use	Freeze protection or process temperature maintenance of pipework subject to steam cleaning Temperature maintenance for petrochemical and gas plants Medium or heavy duty heat-up process e.g. hopper heaters
Specification	 Max. maintain temperature (Power-on) 150 °C (302°F) Max. withstand temperature (Power-off) 200 °C (392°F) Min. installation temperature -60 °C Temperature classification (T- rating) - FBX15x, 30x, 45x : T3 (200 °C) - FBX60x : T2 (220 °C) Rated voltage : 200 ~ 277 Vac Rated power output : 15, 30, 45 and 60 watt/m@10 °C Dimension(nom.) : 12.2mm x 4.8mm Conductor/Bus wire - ASTM B355 Class 2 NPC, 16 AWG, 1.5mm² Outer jacket - Fluoropolymer(CT) : Exposure to organic chemicals or corrosives
Features	It will not overheat or burn out even when overlapped It self-regulates thermal performance in response to temperature It can be cut to any length to suit any installation condition Independent heat output control along the length Soft power switching (which improves energy savings and efficiency) and gives a longer service life Easy termination for power connection, end seal and splicing
Selection Code	FBX 30 2 - C I (a) (b) (c) (d) (a) Model (d) (b) Rated Output 15, 30, 45 and 60 watt/m@10°C (d) (c) Rated Voltage 200 ~ 277 Vac (d) (d) Outer Jacket T : Fluoropolymer (d)
Certification	

Product Drawing



Power Output Graph



Circuit Breaker Selection

Breaker Size(A)		Start	-up Te	emp.	-50°C			Start	-up Te	emp.	-20°C			Star	t-up∃	Temp	. 0°C			Start	-up T	emp.	10°C	
Product code	10A	16A	20A	25A	32A	40A	10A	16A	20A	25A	32A	40A	10A	16A	20A	25A	32A	40A	10A	16A	20A	25A	32A	40A
FBX152-CT	58	93	117	129	129	129	67	107	134	138	138	138	78	125	149	149	149	149	80	128	151	151	151	151
FBX302-CT	38	61	76	95	104	104	44	70	88	110	112	112	46	74	92	114	114	114	48	77	97	117	117	117
FBX452-CT	27	44	55	68	87	88	31	50	63	79	94	94	33	53	66	83	97	97	35	56	69	87	99	99
FBX602-CT	22	34	43	54	69	78	25	39	49	61	79	84	26	42	52	65	83	86	27	43	54	68	87	88

Max. circuit length(m) at 230Vac based on starting temp. ($^{\circ}$ C) and typical Type C circuit breaker size (Amps).

IPSR

Self-regulating heating cable for fire sprinkler freeze protection applications and for applications with restricted installation space

Use	Freeze protection of water pipework at holiday parks including cabins, caravans & camping vehicles Freeze protection for fire sprinkler pipework system & small bore pipes								
Specification	Max. maintain temperature (Power-on) 50°C (122°F) Max. withstand temperature (Power-off) 85°C (185°F) Rated voltage : 230 Vac Rated power output : 13 watt/m @10°C Approx dimension : 8.3mm x 6.0 mm Conductor/Bus wire – ASTM B355 Class 2 NPC, 19 AWG, 0.65mm ² Outer Jacket : FR Polyolefin								
Features	It will not overheat or burn out even when overlapped It self-regulates thermal performance in response to temperature It can be cut to any length to suit any installation condition Independent heat output control along the length Soft power switching (which improves energy savings and efficiency) and gives a longer service life Easy termination for power connection, end seal and splicing								
Selection Code	IPSR - C P a b c a Model b b Tin plated copper wire braid c Outer Jacket P : Polyolefin								
Certification	CE CA								



Thermal Output Graph



Circuit Breaker Selection

Breaker Size(A)	Start-up Temp20°C	Start-up Temp. 0°C	Start-up Temp. 10°C
Product code	10A 16A 20A 25A 32A 40A	10A 16A 20A 25A 32A 40A	10A 16A 20A 25A 32A 40A
IPSR	66 105 124 124 124 124	97 150 150 150 150 150	101 162 169 169 169 169

Monitoring & Control



Smart-ECO

Electronic Thermostat

Air/surface sensing electronic temperature controller with BMS fault alarm relay. For electronic temperature control in commercial heating applications.

Description	The Smart-ECO air/surface sensing thermostat is designed to provide user friendly measurement and control for SOLCO PYROELEC heating cables. Parameter and eventual alarm conditions are shown on the digital display and settings can be programmed easily. The Smart-ECO thermostat is supplied with an NTC thermistor type sensor probe. The Smart-ECO can be wall mounted or alternatively can be mounted on the pipe using a SOLCO PYROELEC support bracket. The unit is designed to work easily with SOLCO PYROELEC heating cable termination kits.		
Technical Specification	Model: Smart-ECO v.02 Supply voltage: 100 Vac (min.) – 270 Vac (max.), 50/60 Hz Load current (max.): 20 A (Max. Power 4000 W) Ambient operating temperature range: -20°C to +60°C Ingress Protection (IP) rating: IP66/67 Enclosure material, size: Body, ABS/lid, polycarbonate – size 125 x 175 x 75 mm Mounting: Brackets provided for wall/pipe mounting Terminals (push–pull): 14 x 2.5mm ² max. conductor size (24 AWG – 14 AWG) Inputs: 1 x mains supply, 1 x temperature sensor (factory wired) Outputs: 2 x heating circuits, 1 x volt free relayoutput, 2.0 A SPDT		
Initial setup and programming	STARTPress 'ENTER'111Temperature Set Display111Select a different control temperature setting (°C) by pushing UP/DOWN buttons for increasing/decreasing the value.11 <trr>111<</trr>		
Approval	CE 😪 K		

SOLCO. PYROELEC



1. The Smart-ECO can be mounted on a wall or support bracket supplied by SOLCO PYROELEC. Simply undo the 4 screws in the clear lid to reveal through holes for mounting to the wall or bracket.

For cable entries, drill out the appropriate size and number of entries using the knockout guides on the bottom of the enclosure.

2. Finally, insert terminated heating cables and connect into correct terminal entries in accordance with the wiring layout diagram below. The terminals are push-pull connection types and are operated by pushing the orange button just above each.





Smart ECO

Installation Guide

Smart-GUARD

Electronic Thermostat

Air/surface sensing electronic temperature controller with soft-start, fault monitoring and auto switchover features.

Description	The Smart-GUARD is an electronic temperature controller designed specifically to meet the requirements of BS EN 12845 as described in the LPC regulations and RC38 recommendations published by the FPA. The regulations require the duplication of trace heating cables with each being separately switched and monitored. The Smart-GUARD actively monitors the 2 independent circuits continuously 24 hrs / 365 days per year on a duty/standby basis. If a fault is detected in the duty heater it will alarm alert and auto switch to the standby heater.
Technical Specification	Model: Smart-GUARD v.01 Supply voltage: 100 Vac (min.) – 270 Vac (max.), 50/60 Hz Load current (max.): 20 A (Max. Power 4000 W) Ambient operating temperature range: -20°C to +60°C Ingress Protection (IP) rating: IP66/67 Enclosure material, size: Body, ABS/lid, polycarbonate – size 170 x 228 x 110 mm Mounting: Brackets provided for wall/pipe mounting Terminals (push–pull): 8 x 2.5mm ² max. conductor size (24 AWG – 14 AWG) 9 x 4mm ² max. conductor size (24 AWG – 12 AWG) Inputs: 1 x mains supply, 1 x temperature sensor (factory wired) Outputs: 2 x heating circuits, 2 x volt free relay output, 2.0 A SPDT
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Smart GUARD