

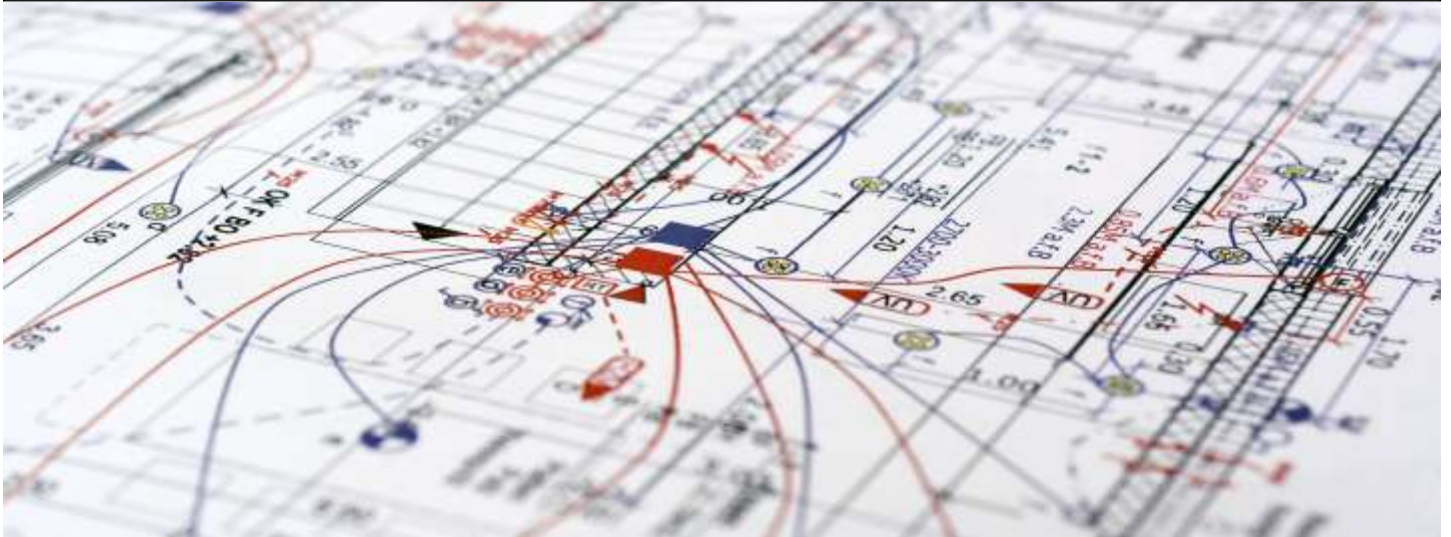
Heat Tracing

**SELF-REGULATING PARALLEL
HEATING CABLES**



THE MASTERED DEGREE





Important information

The information contained in this catalog is provided for informational purposes. Images, diagrams, drawings, descriptions, information relating to quality, characteristics, composition, power, consumption, applications as well as dimensions and weight are not binding unless otherwise indicated by **ELTRACE**. They do not in any way constitute a promise or a guarantee.

ELTRACE expressly reserves the right to correct any errors and to modify the technical data without prior notice.

- √ The equipment offered in this catalog must be connected and put into service by a qualified professional electrician in compliance with the electrical and safety regulations in force in the region where it applies.
- √ The use of a temperature controller is recommended for reasons of energy consumption and for economic reasons. This will ensure more pre-

cise temperature maintenance and substantial energy savings.

- √ It is essential to provide residual current circuit breakers (according to standard EN 62395-1, EN 60519-10) in order to protect users and electrical installations in the event of an incident.

ELTRACE SAS reserves the right to change specifications without notice. All **ELTRACE** brands and logos are the property of **ELTRACE SAS**. All other trademarks are the property of their respective owners.

At the end of the catalogue, you will find a project design guide to help you collect important information. Examples are available to help you design your own heat tracing system.

Our products are normally available in stock, we invite you to contact us or contact your distributor to be sure.

Our technical design office and our project engineers are at your disposal to help you design and size your facilities.

NEED ADVICE ON CHOOSING YOUR CABLE? CONTACT US NOW!



- √ By phone: +33 164 620 440
- √ By fax: +33 164 620 054
- √ By mail: info@eltrace.com

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Self-Regulating Heating Cable

WHAT DOES SELF-REGULATING HEATING CABLE MEAN?

It is a heating cable which is formed of a crosslinked semiconductor matrix inserted between two parallel conductors, to which an electrical voltage is applied.

As the matrix heats up, its resistance increases until the cable reaches thermal equilibrium with its environment. When it cools down, this process is reversed and output increases.

When stabilized, resistance is maximum and power dissipation is minimum.

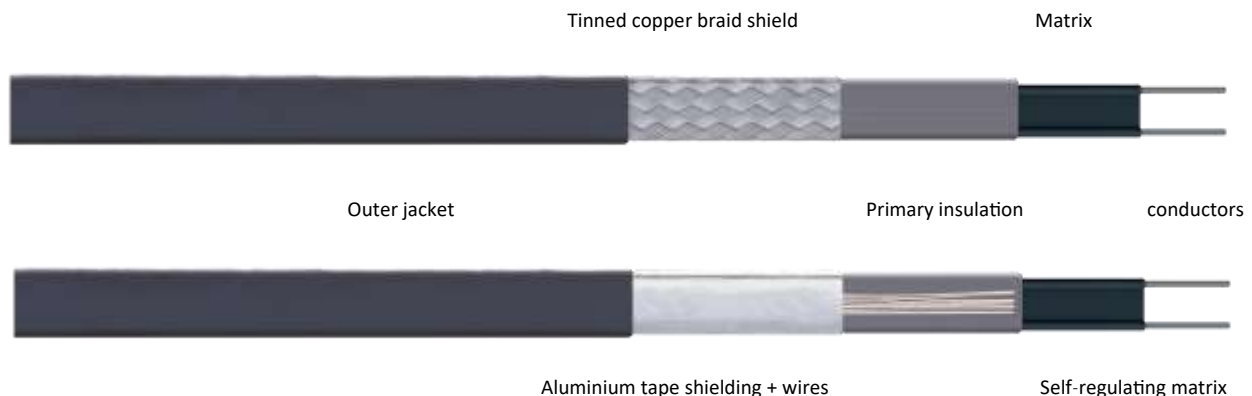
Its constitution is akin to resistors, power supplied in parallel. The heat output is independent of the length of the cable.

ADVANTAGES

- ✓ Energy saving,
- ✓ Power independent of the length of the cable.
- ✓ Cut to length.
- ✓ Ease of use (the cables are cut to the exact length desired without modifying the power per meter).
- ✓ Robustness and longevity (test of age, impact, stretching, etc...).
- ✓ Safety, it is not possible to exceed the maximum temperature for which they are designed.
- ✓ Valid for all self-regulating **ELTRACE** heating cables.

APPLICATIONS

- ✓ TRACECO™ and ESR™ (**EL**trace **S**elf-**R**egulating) heating cables are electrical cables that have been developed to protect against freezing and maintain the desired temperature of pipes, tanks, flanges, valves, pumps, etc.
- ✓ They can be submerged (except for connections) when IP68 is indicated on the cable. Fluoropolymer self-regulating heating cables (type ESR™-BOT and ESR™-H-BOT) are particularly resistant and can be used in corrosive environments (chemical and petrochemical industry).



FABRICATION RANGES

There are five main classes or ranges of self-regulating heating cables, each catering to different applications. Each of them can be customized according to needs and applications.

T-Type	T-type for Typical tracer, the standard in terms of frost protection or low temperature maintenance such as tanks, water pipes, cold water, or other fluids.
W-Type	W-type for Warm, in other words maintaining an average temperature. For example, maintaining warm water, hot water and other fluids requiring medium temperature maintenance.
S-Type	S-type for Small section cable to meet commercial requirements in small pipe frost protection applications.
R-Type	T-type for Refrigeration, this is a particularly flexible round cable that can be housed in the seals of cold room doors.
H-Type	H-type for High Temperature, developed to withstand temperatures up to 200 °C and to maintain surfaces up to 120 °C.
SH--Type	SH-type for Super High temperature. Can withstand up to 250 °C and can reach a power of 100 W/m at 10 °C.

Each of these ranges can be adapted to your needs. With **ELTRACE**, you have the possibility of choosing your shielding: by braid or aluminium tape; your fluoropolymer sheath for corrosive areas, or food compatible, or halogen-free polyethylene for optimal environmental protection or simply for standard use in thermoplastic.

References	Construction and Option
B	With an grounding braid
BO	With an grounding braid and outer jacket
BO-P	With an grounding braid and halogen-free outer jacket
AO	With aluminium foil and outer jacket
AO-P	With aluminium foil and halogen-free outer jacket
BO-T	With an grounding braid and fluoropolymer outer jacket
BO-A	With an grounding braid and food approved outer jacket

Example of cable: TRACECO™ **T-20-AO**

The T-range (our standard tracer for frost protection of piping) in 20w / m with an aluminium tape and a protective sheath. Reference: **T-20-AO**

NEED ADVICE ON CHOOSING YOUR CABLE? CONTACT US NOW!



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- ✓ By mail: info@eltrace.com

GENERAL FEATURES OF SELF-REGULATING CABLES

Our self-regulating heating cables come in five different ranges to suit your projects.

- ✓ **T-Range:** the best-seller of self-regulating cables, a standard recognized for its thermal qualities and its longevity. Ideal for the protection against freezing of pipes, gutters and tanks.
- ✓ **W-Range:** for domestic hot water, heating and medium temperature maintenance.
- ✓ **S-Range:** a commercial, economical, small section range.
- ✓ **R-Range:** a Round cable for the Refrigeration industry more particularly for cold room doors.
- ✓ **H-Range:** for holding or reheating at High temperature.
- ✓ **SH-Range:** Super High temperature cables up to 250 °C under tension.

For more details and technical information, we invite you to consult the product data sheets or contact our « design office » engineers fully dedicated to your projects.

- T** The perfect cable for frost protection and low temperature maintenance.
- W** Like "Warm" Water, maintaining warm sanitary water, fat water, and many other heating.
- S** The "Small", a small section cable, ideal for small pipes, very economical.
- R** For Refrigeration, Round, with special dimensions suitable for cold room doors.
- H** High temperature, up to 200 °C off with maintains up to 120 °C energized.
- SH** The Super High temperature, up to 250 °C energized.

Type	Self Regulating	Moisture proof	UV-resistant	Highest chemical resistance	Food compatibility	Low Temperature	Medium temperature	High temperature	Halogen free	Approved for hazardous areas
TRACECO™ T-AO	✓	✓	✓			✓				
TRACECO™ T-BO	✓	✓	✓			✓				
TRACECO™ T-AOP	✓	✓	✓			✓			✓	
TRACECO™ W-AO	✓	✓	✓			✓	✓			
TRACECO™ W-BO	✓	✓	✓			✓	✓			
TRACECO™ S-AO	✓	✓	✓			✓				
TRACECO™ S-BO	✓	✓	✓			✓				
TRACECO™ S-BOA	✓	✓	✓		✓	✓				
TRACECO™ R	✓	✓	✓			✓				
TRACECO™ R-B	✓	✓	✓			✓				
ESR™ BOT	✓	✓	✓	✓	✓	✓				✓
ESR™ H-BOT	✓	✓	✓	✓	✓	✓	✓	✓		✓
ESR™ SH-BOT	✓	✓	✓	✓	✓	✓	✓	✓		✓



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ELTRACE OFFER



Our heating cables

We provide you with a wide range of heating products with our self-regulating heating cables, our constant power heating cords, resistive heating wires, heating cords, as well as electric heating resistors.



Our heated hoses

We design heating hoses to ensure the transport of liquid or gaseous fluids without any loss of temperature. Gas analysis, portable measurement systems for industrial applications such as chemical, petrochemical, food industry, automotive industry, etc ...



Our heating panels

Particularly flexible and easy to install, they adapt to all shapes and sizes. They consist of a heating element fixed to a frame between two vulcanized silicone panels. They are resistant to bad weather, to multiple chemicals such as fats, oils, acids (pH4) etc ...



Our heated jackets

Adaptable to all forms of support, extremely flexible and easy to install, our jackets allow excellent contact with the surface to be heated. The main applications are: fittings, valves, flowmeters, meters, ice levels, manometers, distribution clarifiers, filters, flanges, fittings, etc...



Our thermostats and controllers

We offer thermostats for the residential, building and industrial market with a very wide temperature range in healthy or explosive areas. Frost protection, snow detectors, monitoring systems, controls and electrical cabinets adapted to your needs.



Our connection kits and junction

Electrical connections and junctions are the most sensitive points of a heating cable installation. We offer you a comprehensive range of connectors. The ultra fast and secure **DOMOCLICK™** system, the **TRASSACLIP** system for industry and high-risk areas, we cover all possible configurations (power supply, X or T connection, termination, etc.).

YOUR NEEDS, YOUR REQUIREMENTS, OUR SOLUTIONS

Much more than a heating cable manufacturing and supply company, **ELTRACE** does everything it can to provide you a complete "turnkey" solutions. A team of highly qualified project engineers will answer all your questions to develop, in complete transparency, with you, solutions according to your specifications and our experience.



Vines protection

VINOCABLE™: From the largest vineyards to « small » family producers, all wine lovers trust us to protect their vines against the damage of black frost. Much more ecological than candles, more efficient than wind turbines, **VINOCABLE™** has proven its effectiveness down to -7°C . Deploys very easily and quickly in complete safety. UV resistant.

ELK™-SOL: Specialist for more than 10 years in the heating of football, rugby, tennis and golf stadiums, we successfully ensure the protection of lawns. As such, we offer an irreproachable quality of the lawn (thickness, color, homogeneity).



Stadium



Refrigeration

R-Cable: The refrigeration industry requires the best heating cables. We have developed a self-regulating **TRACECO™-Round** cable for cold room doors. As well as a whole range for thresholds and floors of cold rooms as well as for condensate evacuation pipes.

TERRACABLE: Save time, don't let the competition take over your markets because of the climate or more restrictive regulations. **TERRACABLE** the heating cord for crops, sowing. You will save several weeks on your crops.



Horticultural Heating



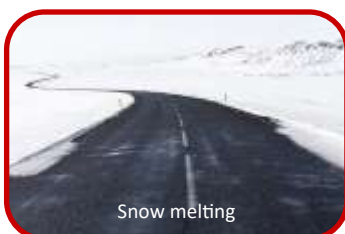
Food Industry

ELK™-L: Our job: ensure ultra-precise temperatures for your containers, tanks, pipes, drums, flanges, pumps. Whether in the petrochemical, agro-food or other industries: perfectly control your temperature.

MX, SWEET-UP and THINTHERM: a complete range for your underfloor heating needs in homes, hotels, office buildings. We have a department dedicated to this type of application, from layout to implementation.



Floor Heating



Snow melting

The **ELRAMP system**: Heating mats for access ramps, driveways, roads, walkways, disabled access ramps against ice, snow or frost. Very widely used in hospitals, car parks, individuals, supermarkets, hotels, etc ... Whatever your coating: bitumen, asphalt, concrete, **ELTRACE** on the road ...

TRACECO™ AND ESR™ APPLICATION OPTIONS

TRACECO™ and **ESR™** self-regulating heating cables provide frost protection and temperature maintenance of pipes and tanks. Our **TRACECO™-T** model is a standard and will respond perfectly to most of your applications.

Other low temperature models such as the **TRACECO™-S** and **TRACECO™-R**, as well as fins of different dimensions can meet more specific needs such as heating the door seals of cold rooms. Models up to self-regulating cables are also available in higher temperatures, such as the **TRACECO™-W** for medium temperatures and the **ESR™-H** range for temperatures up to 200 °C.

We offer a wide range of suitable accessories with connection kits, quick connections and complete connectors.

OUR CABLE CONSTRUCTION ALLOW 8 OPTIONS:

Our heating cables offer you a large choice: you will find the right model for each application and every problem.

AO: Aluminium foil and a thermoplastic Outer-jacket

Particularly easy to handle. Thanks to its aluminium tape and its TPE outer-jacket, you will make your connections and terminations very quickly. This option is available for all our low and medium temperature tapes.

BO: Braid and thermoplastic Outer-jacket

With a protective braid, the -BO models are available for all low and medium temperature cables.

AOA et BOA: an Aluminium foil or a protective Braid with food-compatible Outer-jacket

This option allows the heating cables to be placed directly in drinking water pipes. The BOA version with its braid allows high mechanical resistance and the AOA version with its aluminium tape allows for great flexibility.

AOP et BOP: an aluminium foil or a protective braid with guaranteed halogen-free outer casing

Some environments and / or regulations require halogen-free cables. We offer heating cables with guaranteed halogen-free jacket.

BOT: a protective Braid and fluoropolymer Outer-jacket (Teflon®)

Fluoropolymer outer-jackets allow heating cables to become extremely strong. They will resist chemicals, oils.

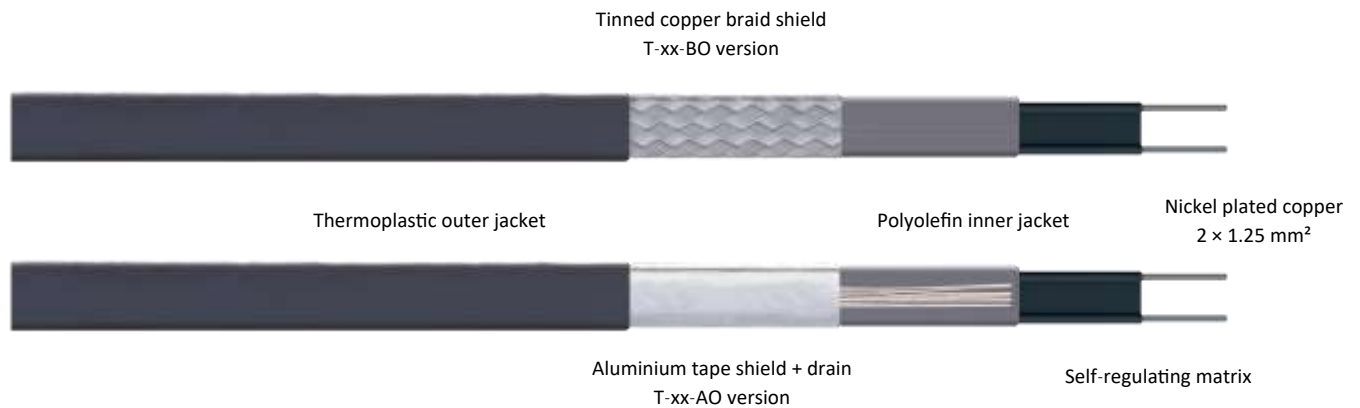
This type of jacket is available for low, medium or high temperature heating cables.

B: protective Braid only

On request, we can manufacture cables with protective braid.

TRACECO™ - T Class

SELF-REGULATING HEATING CABLES FROST PROTECTION FOR PIPE AND TANK



PRODUCT OVERVIEW

ELTRACE TRACECO™-T self-regulating electric heating cables protect pipes and tanks against frost damage and keep them at low temperature.

The **TRACECO™-T** range can maintain processes up to 65 °C (150 °F) and can withstand temperatures up to 80 °C (185 °F) off intermittently.

The **ELTRACE TRACECO™-T** Self-regulating heating cables are installed on a pipe or tank under thermal insulation.

They have been designed for indoor or outdoor installations. The **TRACECO™-T** range is available in several powers ranging from 10 W/m to 40 W/m at 10 °C (3 W/ft. to 12 W/ft. at 50 °F).

APPLICATION

Traced surface type	Metallic and plastic
Chemical resistance	Consult your ELTRACE representative
Area classification	Non-hazardous (Consult ELTRACE for hazardous or corrosives locations)

ADVANTAGES OF SELF-REGULATING CABLES

- ✓ The “parallel” heating cable technology allows cutting to the desired length.
- ✓ Long circuit length from a single power supply.
- ✓ Low installation cost.
- ✓ Energy saving through self-regulation, power self-limitation.
- ✓ No risk of overheating.
- ✓ Resistant to temperatures up to 65 °C with power on (150 °F) / 80 °C with power off (180 °F).
- ✓ Can be used with **DOMOCLICK™** connection systems.
- ✓ The Box type reel storage system allows simple, quick and practical handling.
- ✓ This product is available on stock.

TRACECO™ - T Class

TECHNICAL CHARACTERISTICS

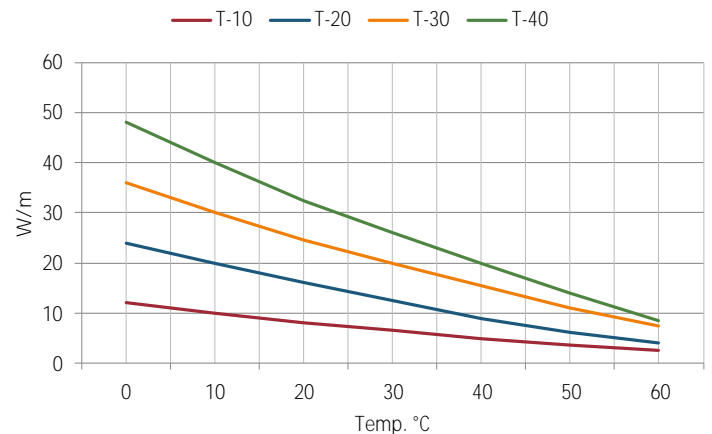
Supply voltage	230 V (110 V on demand)
Maximum exposure temperature - power on	65 °C (150 °F)
Maximum exposure temperature - power off	80 °C (180 °F)
Temperature class (T-RATING)	T6
Minimum bend radius	25 mm à 20 °C (70 °F)
Minimum installation temperature	-25 °C (-10 °F)
Weight (aluminium and outer jacket version T-xx-AO)	90 kg/km (0.6 lb per 10 ft.)
Weight (braid and outer jacket version T-xx-BO)	110 kg/km (0.7 lb per 10 ft.)
Matrix dimensions ^①	10.3 mm × 2.0 mm (0.40 in × 0.08 in)
Inner jacket dimensions ^①	11.8 mm × 3.5 mm (0.46 in × 0.14 in)
Cable dimensions (T-xx-AO version) ^①	12.5 mm × 5.0 mm (0.50 in × 0.20 in)
Cable dimensions (T-xx-BO version) ^①	13.5 mm × 5.5 mm (0.53 in × 0.22 in)

^①Tolerance: ±0.5 mm (± 0.02 in)

THERMAL CHARACTERISTICS

Nominal power supplied at 230 V on insulated metal pipe

REFERENCE	POWER AT 10 °C	MAX CIRCUIT
T-10-xx	10 W/m (3 W/ft.)	200 m
T-20-xx	20 W/m (6 W/ft.)	155 m
T-30-xx	30 W/m (9 W/ft.)	120 m
T-40-xx	40 W/m (3 W/ft.)	100 m



CONSTRUCTION AND OPTIONS

RÉFÉRENCE	CONSTRUCTION AND OPTIONS
TRACECO T-xx	Base cable, without earth connection, without outer jacket
TRACECO T-xx-B	With an grounding braid
TRACECO T-xx-BO	With an grounding braid and outer jacket
TRACECO BO-P	With an grounding braid and halogen-free outer jacket
TRACECO AO	With aluminium foil and outer jacket (standard version)
TRACECO AO-P	With aluminium foil and halogen-free outer jacket
TRACECO BO-T	With an grounding braid and fluoropolymer outer jacket
TRACECO BO-A	With an grounding braid and food approved outer jacket

PRODUCT QUALIFICATION

CSTB, EAC, UE Declaration (CE), IP66/68, RoHS, REACH, UV-resistant

TRACECO™ - T Class

MAXIMUM CIRCUIT LENGTHS BASED ON CIRCUIT BREAKER SIZE

REFERENCE	STARTING TEMPERATURE	MAX. CIRCUIT LENGTHS		
		16 A	20 A	25 A
T-10	-20 °C	128 m	143 m	150 m
	0 °C	160 m	162 m	164 m
	10 °C	200 m	200 m	200 m
T-20	-20 °C	79 m	100 m	107 m
	0 °C	118 m	125 m	125 m
	10 °C	140 m	147 m	155 m
T-30	-20 °C	62 m	76 m	88 m
	0 °C	78 m	98 m	103 m
	10 °C	100 m	113 m	120 m
T-40	-20 °C	36 m	45 m	57 m
	0 °C	46 m	58 m	73 m
	10 °C	52 m	63 m	100 m

Circuit length with C curve circuit breaker.

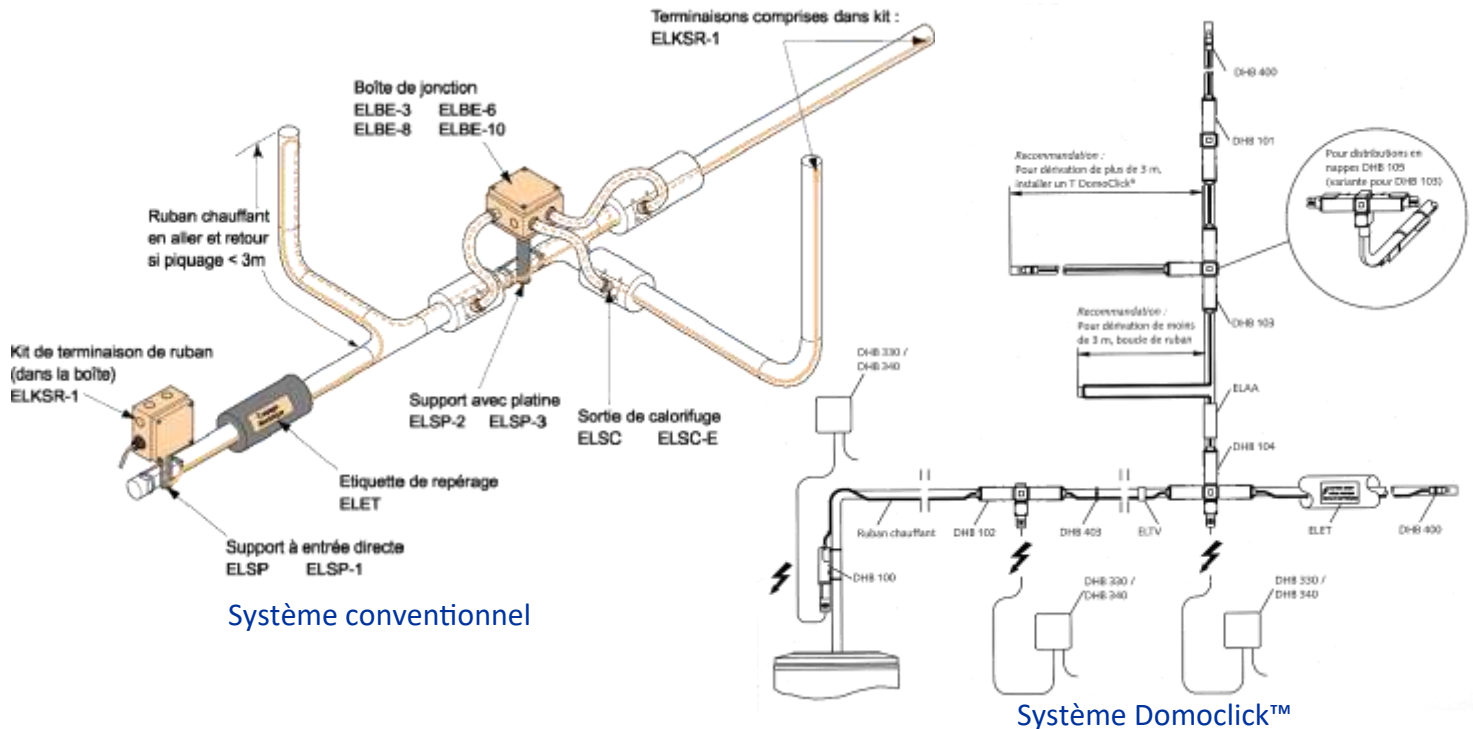
The protection of each circuit must comply with NF C 15-100.

Personal protection is ensured by a residual current device of 30 mA maximum in increments of 7.5 kW maximum, if the heating elements are supplied at 230 volts.

ELECTRIC HEAT TRACING ACCESSORIES

REFERENCE	COMMERCIAL	INDUSTRIAL
Connection	DOMOCLICK™ ELQC ELKSR-x	TRASSACLIP ELKSR-1-« e »
Junction box	DOMOCLICK™ ELBE-6, ELBE-8, ELBE-10	TRASSACLIP ELBA-x-« e »
Support leg	ELSP-x, ELSP-P2/F, ELSP-3, ELSP-PU	ELSP-2, ELSP-3, ELSP-4, ELSP-5 ELSP-PU
Thermostat	ELTE-x ELTH-A2, ELTH-A3, ELTH-A4, ELTH-A5	ELTH-THERM-ATx
Fixing tape	ELAA (aluminium adhesive tape)	ELAA (aluminium adhesive tape)
Insulation entry	ELSC, ELSC-E, ELSC-B	ELSC-E
Warning signs	ELET	ELET

TRACECO™ - T Class



INSTALLATION OF HEATING CABLES

ELTRACE self-regulating cables must be installed in accordance with the standards in force on the day of installation (specifications for common technical implementation of CSTB, NF C 15-100, VDE, etc.) for the points where they apply, as well as the recommendations for use.

SELF-REGULATION PRINCIPLE

The colder it is, the more the polymer contracts and thus facilitates the flow of current and the more the cable heats up. Conversely, the hotter it is, the more the polymer expands and prevents the passage of current, the less the cable heats up.

Thanks to its so-called "parallel" technology, the heating cable can be cut to the desired length directly on site.

For more information, contact your **ELTRACE** distributor or representative now.

CONDITIONING

Standard lengths on reel: 500 m (+/-5 %). Other lengths are available, please contact your **ELTRACE** representative.

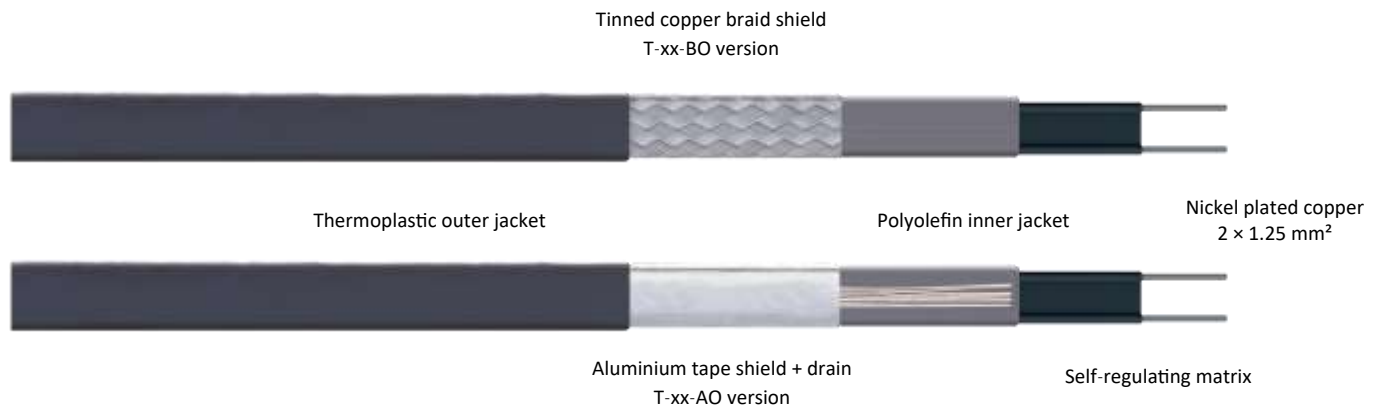
MARKING

All **ELTRACE** self-regulating cables are marked [YYMMDD] (year, month, day) to ensure the traceability of our productions.

Personalized markings can be made in accordance with the regulations..

TRACECO™ - W Class

SELF-REGULATING HEATING CABLES LOW AND MEDIUM TEMPERATURE



PRODUCT OVERVIEW

ELTRACE TRACECO™-W self-regulating electric heating cables protect pipes and tanks against frost damage and keep them at low temperature.

The **TRACECO™-W** range can maintain processes up to 80 °C (185 °F) and can withstand temperatures up to 100 °C (210 °F) off intermittently.

The suitable ideal cable for Domestic Hot Water, Fat Water and other piping that needs to be maintained at medium temperature.

They have been designed for indoor or outdoor installations. The **TRACECO™-W** range is available in several powers from 9 W/m at 55 °C and 13 W/m at 65 °C (3 W/ft. at 130 °F and 4 W/ft. at 150 °F).

APPLICATION

Traced surface type	Metallic
Chemical resistance	Consult your ELTRACE representative
Area classification	Non-hazardous (Consult ELTRACE for hazardous or corrosives locations)

ADVANTAGES OF SELF-REGULATING CABLES

- ✓ The “parallel” heating cable technology allows cutting to the desired length.
- ✓ Long circuit length from a single power supply.
- ✓ Low installation cost.
- ✓ Energy saving through self-regulation, power self-limitation.
- ✓ No risk of overheating.
- ✓ Resistant to temperatures up to 80 °C with power on (180 °F) / 100 °C with power off (210 °F).
- ✓ Can be used with **DOMOCLICK™** connection systems.
- ✓ The Box type reel storage system allows simple, quick and practical handling.
- ✓ This product is available on stock.

TRACECO™ - W Class

PRODUCT QUALIFICATION

CSTB, EAC, UE Declaration (CE), IP66/68, RoHS, REACH, UV-resistant

TECHNICAL CHARACTERISTICS

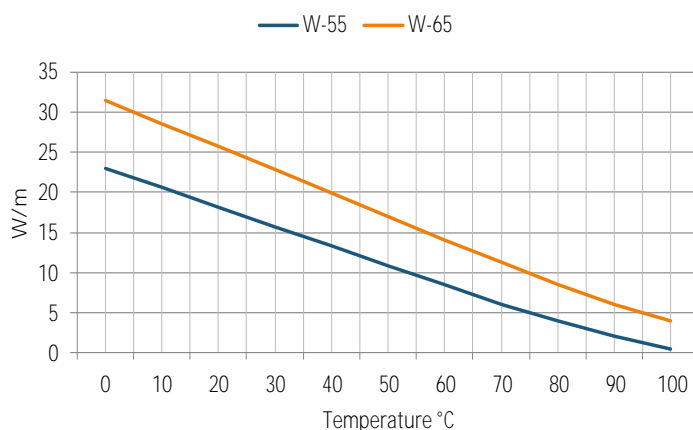
Supply voltage	230 V (110 V on demand)
Maximum exposure temperature - power on	80 °C (180 °F)
Maximum exposure temperature - power off	100 °C (210 °F)
Temperature class (T-RATING)	T6
Minimum bend radius	27 mm à 20 °C (70 °F)
Minimum installation temperature	-25 °C (-10 °F)
Weight (aluminium and outer jacket version W-xx-AO)	90 kg/km (0.6 lb per 10 ft.)
Weight (braid and outer jacket version W-xx-BO)	110 kg/km (0.7 lb per 10 ft.)
Matrix dimensions ^①	9.3 mm × 2.1 mm (0.36 in × 0.08 in)
Inner jacket dimensions ^①	10.7 mm × 3.7 mm (0.40 in × 0.08 in)
Cable dimensions (W-xx-AO version) ^①	12.0 mm × 5.1 mm (0.42 in × 0.15 in)
Cable dimensions (W-xx-BO version) ^①	13.0 mm × 6.1 mm (0.51 in × 0.24 in)

^①Tolerance: ±0.5 mm (± 0.02 in)

THERMAL CHARACTERISTICS

Nominal power supplied at 230 V on insulated metal pipe

REFERENCE	POWER
W-55-xx	9 W/m at 55 °C
W-65-xx	13 W/m at 65 °C
W-55-xx	(3 W/ft.) at (130 °F)
W-65-xx	(4 W/ft.) at (150 °C)



MAXIMUM HEATING CIRCUIT LENGTH

REFERENCE	MAXIMUM CIRCUIT LENGTH
W-55-xx	130 m (426 ft.)
W-65-xx	110 m (360 ft.)

TRACECO™ - W Class

MAXIMUM CIRCUIT LENGTHS BASED ON CIRCUIT BREAKER SIZE

REFERENCE	STARTING TEMPERATURE	MAX. CIRCUIT LENGTHS		
		16 A	20 A	25 A
W-55	0 °C	130 m	-	-
	20 °C	130 m	-	-
	55 °C	130 m	-	-
W-65	0 °C	110 m	-	-
	20 °C	110 m	-	-
	55 °C	110 m	-	-

Circuit length with C curve circuit breaker.

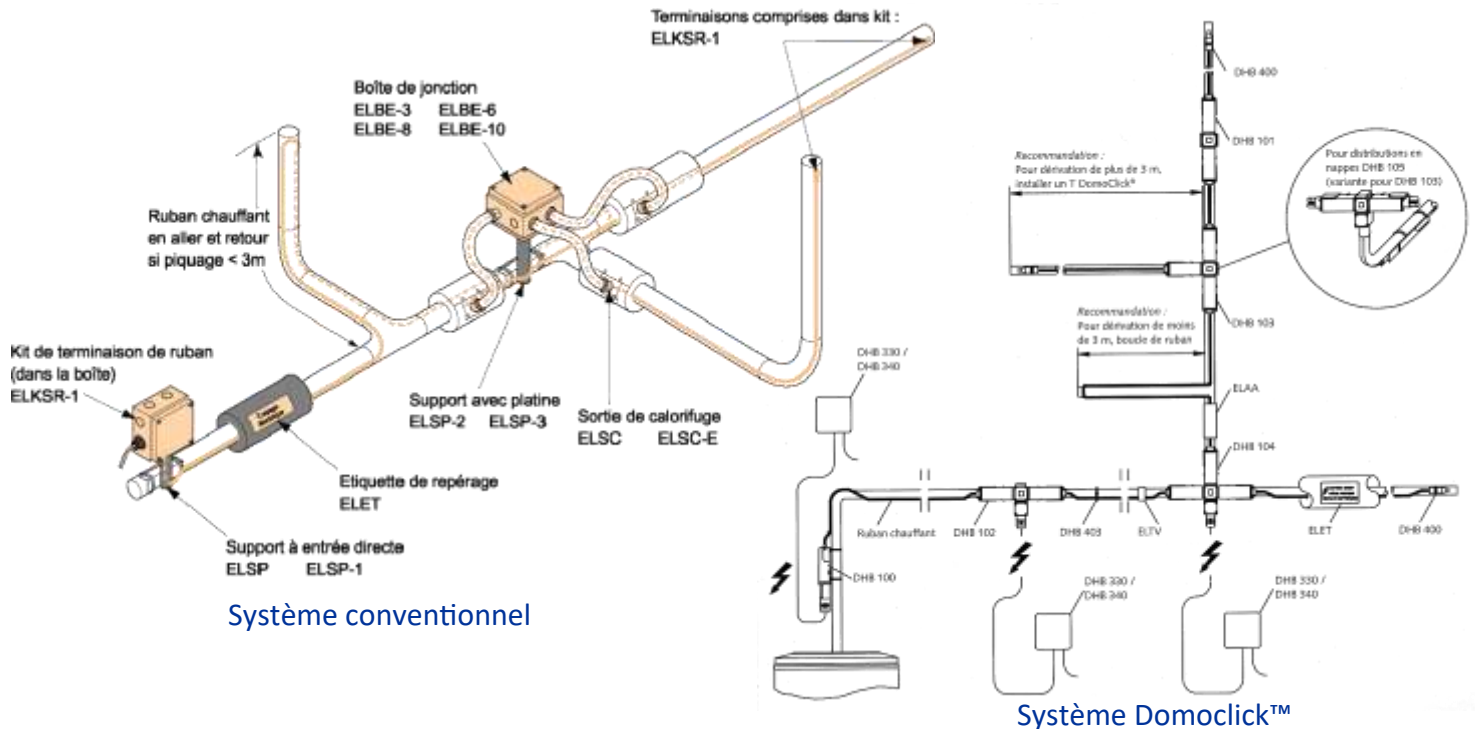
The protection of each circuit must comply with NF C 15-100.

Personal protection is ensured by a residual current device of 30 mA maximum in increments of 7.5 kW maximum, if the heating elements are supplied at 230 volts.

ELECTRIC HEAT TRACING ACCESSORIES

REFERENCE	COMMERCIAL	INDUSTRIAL
Connection	DOMOCLICK™ ELQC ELKSR-x	TRASSACLIP ELKSR-1-« e »
Junction box	DOMOCLICK™ ELBE-6, ELBE-8, ELBE-10	TRASSACLIP ELBA-x-« e »
Support leg	ELSP-x, ELSP-P2/F, ELSP-3, ELSP-PU	ELSP-2, ELSP-3, ELSP-4, ELSP-5 ELSP-PU
Thermostat	ELTE-x ELTH-A2, ELTH-A3, ELTH-A4, ELTH-A5	ELTH-THERM-ATx
Fixing tape	ELAA (aluminium adhesive tape) ELTV (fiberglass adhesive tape)	ELAA (aluminium adhesive tape) ELTV (fiberglass adhesive tape)
Insulation entry	ELSC, ELSC-E, ELSC-B	ELSC-E
Warning signs	ELET	ELET

TRACECO™ - W Class



INSTALLATION OF HEATING CABLES

ELTRACE self-regulating cables must be installed in accordance with the standards in force on the day of installation (specifications for common technical implementation of CSTB, NF C 15-100, VDE, etc.) for the points where they apply, as well as the recommendations for use.

SELF-REGULATION PRINCIPLE

The colder it is, the more the polymer contracts and thus facilitates the flow of current and the more the cable heats up. Conversely, the hotter it is, the more the polymer expands and prevents the passage of current, the less the cable heats up.

Thanks to its so-called “parallel” technology, the heating cable can be cut to the desired length directly on site.

For more information, contact your **ELTRACE** distributor or representative now.

CONDITIONING

Standard lengths on reel: 500 m (+/- 5 %). Other lengths are available, please contact your **ELTRACE** representative.

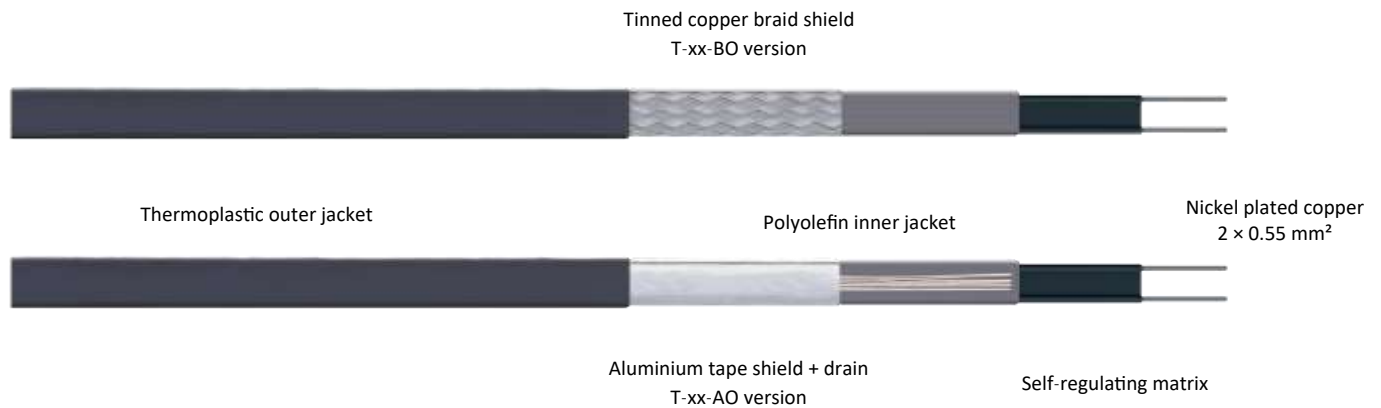
MARKING

All **ELTRACE** self-regulating cables are marked [YMMDD] (year, month, day) to ensure the traceability of our productions.

Personalized markings can be made in accordance with the regulations..

TRACECO™ - S Class

SELF-REGULATING HEATING CABLES FROST PROTECTION FOR PIPE AND TANK, SMALL SECTION



PRODUCT OVERVIEW

ELTRACE TRACECO™-S self-regulating electric heating cables protect pipes and tanks against frost damage and keep them at low temperature.

The **TRACECO™-S** range can maintain processes up to 65 °C (150 °F) and can withstand temperatures up to 80 °C (185 °F) maximum intermittent exposure temperature.

The **ELTRACE TRACECO™-S** Self-regulating heating cables are installed on a pipe or tank under thermal insulation.

They have been designed for indoor or outdoor installations. The **TRACECO™-S** range is available in several powers ranging from 12 W/m and 17 W/m at 10 °C (4 W/ft. and 5 W/ft. at 50 °F).

APPLICATION

Traced surface type	Metallic and plastic
Chemical resistance	Consult your ELTRACE representative
Area classification	Non-hazardous (Consult ELTRACE for hazardous or corrosives locations)

ADVANTAGES OF SELF-REGULATING CABLES

- ✓ The “parallel” heating cable technology allows cutting to the desired length.
- ✓ Long circuit length from a single power supply.
- ✓ Low installation cost.
- ✓ Energy saving through self-regulation, power self-limitation.
- ✓ No risk of overheating.
- ✓ Resistant to temperatures up to 65 °C with power on (150 °F) / 80 °C with power off (180 °F).
- ✓ The Box type reel storage system allows simple, quick and practical handling.
- ✓ This product is available on stock.

TRACECO™ - S Class

PRODUCT QUALIFICATION

CSTB, EAC, UE Declaration (CE), IP66/68, RoHS, REACH, UV-resistant

TECHNICAL CHARACTERISTICS

Supply voltage	230 V (110 V on demand)
Maximum exposure temperature - power on	65 °C (150 °F)
Maximum exposure temperature - power off	80 °C (180 °F)
Temperature class (T-RATING)	T6
Minimum bend radius	25 mm at 20 °C (70 °F)
Minimum installation temperature	-20 °C (-10 °F)
Weight (S-xx-AO version)	66 kg/km (0.4 lb per 10 ft.)
Weight (S-xx-BO version)	72 kg/km (0.5 lb per 10 ft.)
Matrix dimensions ^①	5.1 mm × 2.3 mm (0.20 in × 0.09 in)
Inner jacket dimensions ^①	6.5 mm × 3.7 mm (0.25 in × 0.15 in)
Cable dimensions (S-xx-AO version) ^①	8.2 mm × 5.3 mm (0.32 in × 0.21 in)
Cable dimensions (S-xx-BO version) ^①	9.2 mm × 6.3 mm (0.36 in × 0.25 in)

^①Tolerance: ±0.5 mm (± 0.02 in)

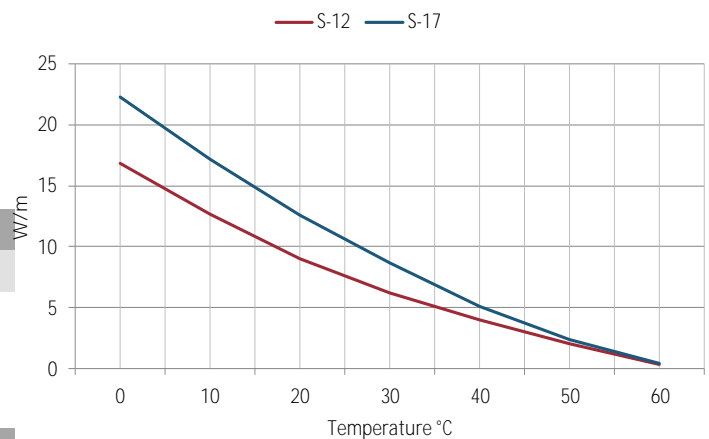
THERMAL CHARACTERISTICS

Nominal power supplied at 230 V on insulated metal pipe

REFERENCE	POWER AT 10 °C - (50 °F)
S-12-xx	12 W/m (4 W/ft.)
S-17-xx	17 W/m (5 W/ft.)

MAXIMUM HEATING CIRCUIT LENGTH

REFERENCE	MAXIMUM CIRCUIT LENGTH
S-12-xx	100 m
S-17-xx	100 m



TRACECO™ - S Class

MAXIMUM CIRCUIT LENGTHS BASED ON CIRCUIT BREAKER SIZE

REFERENCE	STARTING TEMPERATURE	MAX. CIRCUIT LENGTHS		
		16 A	20 A	25 A
S-12	-20 °C	100 m	-	-
	0 °C	100 m	-	-
	10 °C	100 m	-	-
S-17	-20 °C	100 m	-	-
	0 °C	100 m	-	-
	10 °C	100 m	-	-

Circuit length with C curve circuit breaker.

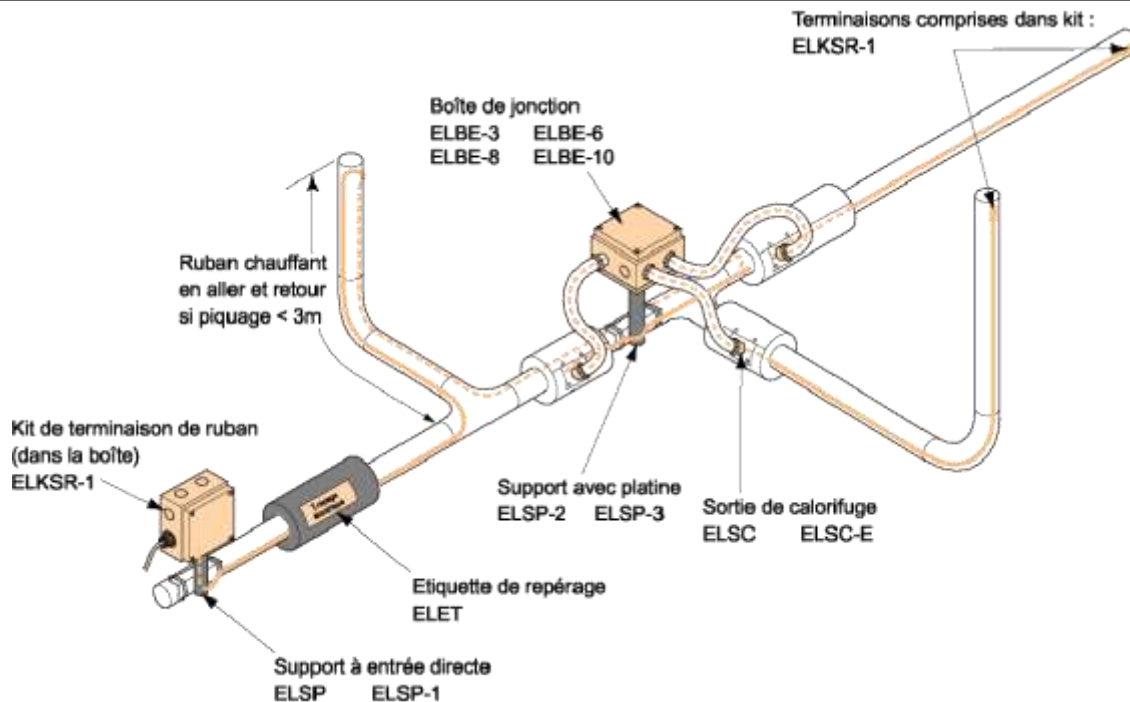
The protection of each circuit must comply with NF C 15-100.

Personal protection is ensured by a residual current device of 30 mA maximum in increments of 7.5 kW maximum, if the heating elements are supplied at 230 volts.

ELECTRIC HEAT TRACING ACCESSORIES

REFERENCE	COMMERCIAL
Connection	ELQC ELKSR-x
Junction box	ELBE-6, ELBE-8, ELBE-10
Support leg	ELSP-x, ELSP-P2/F, ELSP-3, ELSP-PU
Thermostat	ELTE-x ELTH-A2, ELTH-A3, ELTH-A4, ELTH-A5
Fixing tape	ELAA (aluminium adhesive tape) ELTV (fiberglass adhesive tape)
Insulation entry	ELSC, ELSC-E, ELSC-B
Warning signs	ELET

TRACECO™ - S Class



INSTALLATION OF HEATING CABLES

ELTRACE self-regulating cables must be installed in accordance with the standards in force on the day of installation (specifications for common technical implementation of CSTB, NF C 15-100, VDE, etc.) for the points where they apply, as well as the recommendations for use.

SELF-REGULATION PRINCIPLE

The colder it is, the more the polymer contracts and thus facilitates the flow of current and the more the cable heats up. Conversely, the hotter it is, the more the polymer expands and prevents the passage of current, the less the cable heats up.

Thanks to its so-called "parallel" technology, the heating cable can be cut to the desired length directly on site.

For more information, contact your **ELTRACE** distributor or representative now.

CONDITIONING

Standard lengths on reel: 500 m (+/- 5%). Other lengths are available, please contact your **ELTRACE** representative.

MARKING

All **ELTRACE** self-regulating cables are marked [YMMDD] (year, month, day) to ensure the traceability of our productions.

Personalized markings can be made in accordance with the regulations..

TRACECO™ - R Class

SELF-REGULATING HEATING CABLES COLD ROOMS DOORS FREEZE PROTECTION



Base version: R-xx
 Braid version: T-xx-B
 Braid and outer jacket version: R-xx-BO

Polyolefin inner jacket

Self-regulating
 matrix

Bus
 2 × 0.55 mm²

PRODUCT OVERVIEW

TRACECO™-R protects sliding doors and opening doors from freezing up. They slide into opening or sliding doors of cold rooms. It prevents the ice blocking the opening of the door.

The **TRACECO™-R** replaces all your references and resistances. Whatever the dimensions of the doors, you only need one cable. **TRACECO™-R** heating cords are placed on opening or sliding doors. As a "self-regulating" and by its "parallel" technology, **TRACECO™-R** heating cord connects to the desired length directly in the junction box. Then you do not need to prepare a cold lead and therefore you win time and cost savings.

TRACECO™-R is available in 30 W/m and 40 W/m at 10 °C (9 W/ft. and 12 W/ft. at 50 °F).

APPLICATION

Traced surface type	Metallic and plastic
Chemical resistance	Consult your ELTRACE representative
Area classification	Non-hazardous (Consult ELTRACE for hazardous or corrosives locations)

ADVANTAGES OF SELF-REGULATING CABLES

- ✓ The "parallel" heating cable technology allows cutting to the desired length.
- ✓ An oblong self-regulating heating cord suitable for doors, even in corners.
- ✓ A single reference which replaces all resistances and lengths.
- ✓ Low installation cost.
- ✓ Energy saving through self-regulation, power self-limitation.
- ✓ No risk of overheating.
- ✓ The Box type reel storage system allows simple, quick and practical handling.
- ✓ This product is available on stock.

PRODUCT QUALIFICATION

EAC, IP66/68, RoHS, REACH

TRACECO™ - R Class

TECHNICAL CHARACTERISTICS

Supply voltage	230 V (110 V on demand)
Maximum exposure temperature - power on	65 °C (150 °F)
Maximum exposure temperature - power off	80 °C (180 °F)
Temperature class (T-RATING)	T6
Minimum bend radius	25 mm à 20 °C (70 °F)
Minimum installation temperature	-20 °C (-10 °F)
Weight (R-xx-AO version)	41 kg/km (0.27 lb per 10 ft.)
Weight (R-xx-BO version)	52 kg/km (0.35 lb per 10 ft.)
Matrix dimensions ^①	4.4 mm × 4.1 mm (0.17 in × 0.16 in)
Inner jacket dimensions ^①	6.1 mm × 5.8 mm (0.24 in × 0.23 in)
① Tolerance: ±0.5 mm (± 0.02 in)	

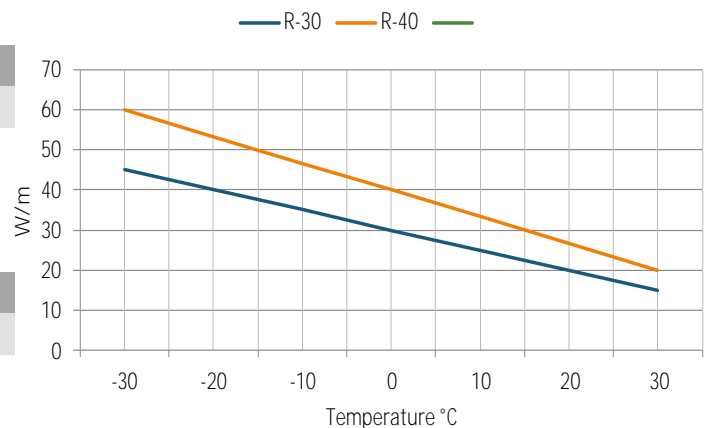
THERMAL CHARACTERISTICS

Nominal power supplied at 230 V

REFERENCE	POWER AT 10 °C - (50 °F)
R-30-xx	30 W/m (9 W/ft.)
R-40-xx	40 W/m (12 W/ft.)

MAXIMUM HEATING CIRCUIT LENGTH

REFERENCE	MAX CIRCUIT LENGTH
R-30-xx	50 m
R-40-xx	50 m



GELTRACE™ - S Class

SELF-REGULATING HEATING CABLES WITH INTEGRATED THERMOSTAT AND ELECTRICAL OUTLET

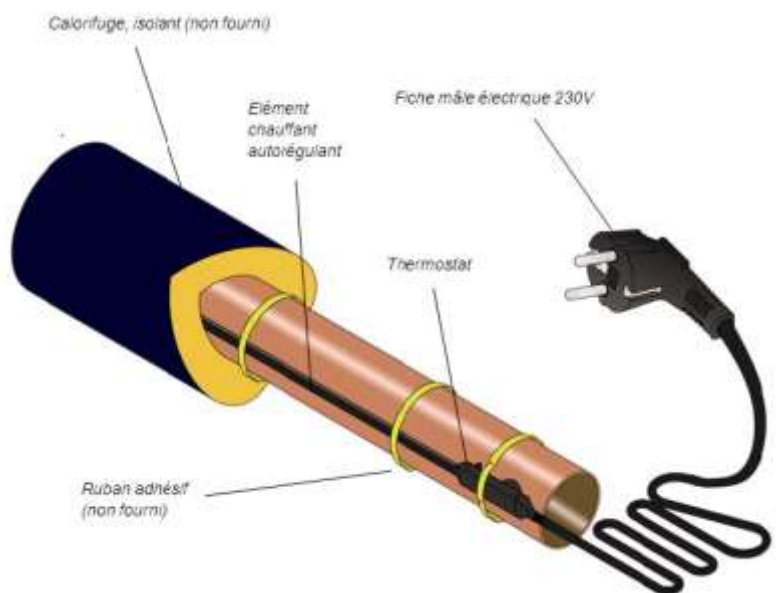
GELTRACE SYSTEM OVERVIEW

The **GELTRACE** system, fully equipped and immediately operational, responds to requests for frost protection of small-length pipes with small diameters.

The heating cable of the **GELTRACE** system is a self-regulating heating element of the **TRACECO™-S** type, the dissipated power of which decreases when the temperature of the piping increases. This limits energy consumption.

This equipment is fitted with a thermostat which switches on automatically at 5 ° C. The system has a moulded plug for secure cable connection.

Available in several lengths from 1 to 30 meters, this system will easily adapt to your needs for frost protection of condensate trays and protection against freezing of piping.



PRODUCT ADVANTAGES

- √ Ready to use.
- √ Integrated thermostat and electrical outlet.
- √ No risk of overheating.
- √ The so-called "parallel" heating cable technology allows you to cut to the desired length.
- √ Low installation cost.
- √ Energy saving thanks to self-regulation, self-limitation of power.
- √ High temperature resistant 65 °C on (150 °F) / 80 °C off (180 °F).
- √ This product is available from stock.
- √

PRODUCT QUALIFICATION

CSTB, EAC, UE-Declaration (CE), IP66/68 (cable), RoHS, REACH, UV-resistant.

GELTRACE™ - S Class

TECHNICAL CHARACTERISTICS

Supply voltage	230 V (110 V on demand)
Maximum exposure temperature - power on	65 °C (150 °F)
Maximum exposure temperature - power off	80 °C (180 °F)
Temperature class (T-RATING)	T6
Minimum bend radius	25 mm at 20 °C (70 °F)
Minimum installation temperature	-20 °C (-10 °F)
Type of power outlet	CEE 7/7
Trigger point ON / OFF	+5 °C / +11°C
Power at 10 °C	12 W/m
Electrical Protection ^①	10 A mini - Curve
Cold lead	1 m (3G1.5 mm ²)

^① Circuit breaker compliant with standard NF C 61-410, EN 60898 and IEC 947.2. 30mA differential protection to be provided on the installation in accordance with NF C 15-100

THERMAL CHARACTERISTICS

REFERENCE	DESIGNATION	POWER AT 10 °C - (50 °F)
GELTRACE-1	Self-regulating cable 1 m with plug & thermostat	12 W at 10 °C
GELTRACE-xx	Self-regulating cable xx m with plug & thermostat	12 W/m at 10 °C
GELTRACE-30	Self-regulating cable 30 m with plug & thermostat	360 W at 10 °C

Nominal power supplied at 230 V on insulated metal piping

INSTALLATION

The cable should be placed along the lower generator of the piping. Do not install **GELTRACE™** on pipes with temperatures reaching 65 °C. **GELTRACE™** can only be used for the protection against freezing of metal or plastic pipes (we recommend placing an aluminium adhesive on the plastic pipes beforehand).

Choose the cable whose heating length covers that of the piping. The piping must be clean and dry. Secure the **GELTRACE™** cable using PVC or aluminium tape. We recommend the use of an aluminium adhesive type ELAA-50. It allows better heat distribution for plastic pipes.

The thermostat (black sheath with eltrace marking) will be fixed to the piping. The thermostat will power up when the temperature of the piping is below + 5 °C.

It will be covered with an insulation (see our « design guide » minimum thickness 13 or 19 mm) in order to save energy as much as possible. Make sure there is sufficient insulation thickness. The connection cable consists of 3 wires (Phase / Neutral + earth). Check that your installation is correctly earthed to ensure maximum protection.

VINOCABLE™ - GREENTRACE™

ELECTRIC HEATING CABLE FOR VINES PROTECTION OF BUDS AGAINST SPRING FROSTS



PRODUCT OVERVIEW

ELTRACE VINOCABLE™ self-regulating electric heating cables have been used for nearly twenty years by the Grands Crus de Chablis. they give complete satisfaction and almost total safety against frost down to minus 7 degrees.

In the Charentes and the largest Châteaux of Bordeaux, major installations are planned following the conclusive tests which were carried out during periods of frost.

The **VINOCABLE™** range can protect your plants and particularly the vine shoots from the risk of frost. The **VINOCABLE™** range is available in 20 W / m and 30 W / m and we have the possibility, on request, to manufacture it in 40 W/m.

APPLICATION

Type of crop	Vines
Chemical resistance	Contact ELTRACE
Areas of use	Normal area

PRODUCT ADVANTAGES

- √ The « parallel » technology allows the length to be adjusted over the vineyard.
- √ The long circuit lengths make it possible to have only one power supply per row.
- √ Low installation cost.
- √ Energy saving thanks to self-regulation, self-limitation of power.
- √ No risk of overheating.
- √ UV resistant.
- √ Halogen free.



VINOCABLE™

QUALIFICATION PRODUIT

UE-Declaration (CE), IP66/68, RoHS, REACH, UV-resistant

TECHNICAL CHARACTERISTICS

Supply voltage	230 V (110 V on demand)
Maximum exposure temperature - power on	65 °C (150 °F)
Maximum exposure temperature - power off	80 °C (180 °F)
Temperature class (T-RATING)	T6
Minimum bend radius	25 mm at 20 °C (70 °F)
Minimum installation temperature	-25 °C (-10 °F)
Weight (VINOCABLE-xx-AO version)	90 kg/km (0.6 lb per 10 ft.)
Weight (VINOCABLE-BO version)	110 kg/km (0.7 lb per 10 ft.)
Matrix dmensions ^①	10.3 mm × 2.0 mm (0.40 in × 0.08 in)
Dimensions sous blindage ^①	11.8 mm × 3.5 mm (0.46 in × 0.14 in)
Cable dimensions (VINOCABLE-AO version) ^①	12.5 mm × 5.0 mm (0.50 In × 0.20 In)
Cable dimensions (VINOCABLE-BO version) ^①	13.5 mm × 5.5 mm (0.53 In × 0.22 In)

^①Tolerance: ±0.5 mm (± 0.02 in)

THERMAL CHARACTERISTICS

Nominal power supplied at 230 V

REFERENCE	POWER AT 10 °C - (50 °F)
VINOCABLE-20	20 W/m (6 W/ft.)
VINOCABLE-30	30 W/m (9 W/ft.)
VINOCABLE-40	40 W/m (12 W/ft.)

MAXIMUM HEATING CIRCUIT LENGTH

REFERENCE	MAXIMUM CIRCUIT LENGTH
VINOCABLE-20	160 m
VINOCABLE-30	120 m
VINOCABLE-40	100 m

ESR™ BOT

SELF-REGULATING HEATING CABLE FROST PROTECTION IN HAZARDOUS AND CORROSIVE AREAS



PRODUCT OVERVIEW

Provide protection against freezing and maintain low temperature pipes, tanks, gutters, valves, in hazardous areas. The self-regulating ESR™-BOT heating cables are designed to prevent any risk of bursting pipes due to freezing.

Its fluoropolymer outer sheath features high resistance to solvents, acids and bases. As such, it makes it possible to keep industrial processes, such as welded pipes, free of freezing or at low temperature. It is also perfectly suited for food products thanks to its fluorinated outer jacket.

Equipped with "self-regulating" technology, our electric heating cables are cut to length on site and have no risk of overheating.

APPLICATION

Surface type	Metallic or plastic (we aluminium adhesive)
Chemical resistance	Consult your ELTRACE representative
Areas of use	Normal, corrosive or explosive area (contact us)

PRODUCT ADVANTAGES

- √ An outer sheath in fluoropolymer resistant to chemicals (contact us).
- √ The so-called "parallel" heating cable technology allows you to cut to the desired length.
- √ A self-regulating heating cable suitable for hazardous and corrosive atmospheres.
- √ Saving energy through self-regulation consumes only what is necessary.
- √ No risk of overheating.
- √ The Box type reel storage system allows simple, fast and practical handling.
- √ This product is available on stock.

ESR™ BOT

PRODUCT QUALIFICATION

ATEX, EAC, UE-Declaration (CE), IP66/68, RoHS, REACH, UV-resistant

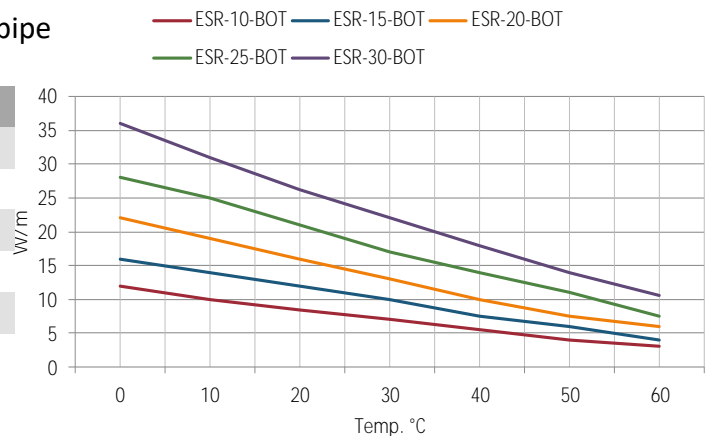
TECHNICAL CHARACTERISTICS

Supply voltage	230 V (110 V on demand)
Maximum exposure temperature - power on	65 °C (150 °F)
Maximum exposure temperature - power off	80 °C (180 °F)
Temperature class (T-RATING)	T6 (T5 pour le 30 W/m)
Minimum bend radius	25 mm à 20 °C (70 °F)
Minimum installation temperature	-35 °C (-30 °F)
Weight (braided version T-xx-BOT)	120 kg/km
Outer jacket dimensions (braided version ESR-xx-BOT) ^①	10.5 mm × 5.5 mm (0.41 in × 0.21 in)
^① Tolerance: ±0.5 mm (± 0.02 in)	

THERMAL CHARACTERISTICS

Nominal power supplied at 230 V on insulated metal pipe

REFERENCE	POWER AT 10 °C - (50 °F)
ESR-10-BOT	10 W/m (3 W/ft.)
ESR-15-BOT	15 W/m
ESR-20-BOT	20 W/m (6 W/ft.)
ESR-25-BOT	25 W/m
ESR-30-BOT	30 W/m (9 W/ft.)



MAXIMUM HEATING CIRCUIT LENGTH

REFERENCE	MAXIMUM CIRCUIT LENGTH
ESR-10-BOT	200 m
ESR-15-BOT	160 m
ESR-20-BOT	140 m
ESR-25-BOT	130 m
ESR-30-BOT	110 m

ESR™ BOT

MAXIMUM CIRCUIT LENGTHS BASED ON CIRCUIT BREAKER SIZE

REFERENCE	STARTING TEMPERATURE	MAX. CIRCUIT LENGTHS		
		16 A	20 A	25 A
ESR-10-BOT	-20 °C	123 m	165 m	195 m
	-15 °C	140 m	186 m	195 m
	10 °C	205 m	205 m	205 m
ESR-15-BOT	-20 °C	82 m	111 m	160 m
	-15 °C	93 m	125 m	160 m
	10 °C	145 m	160 m	160 m
ESR-20-BOT	-20 °C	62 m	85 m	115 m
	-15 °C	75 m	93 m	140 m
	10 °C	116 m	140 m	140 m
ESR-25-BOT	-20 °C	50 m	70 m	105 m
	-15 °C	60 m	75 m	117 m
	10 °C	88 m	117 m	130 m
ESR-30-BOT	-20 °C	45 m	58 m	85 m
	-15 °C	50 m	65 m	95 m
	10 °C	70 m	90 m	110 m

Circuit length with C curve circuit breaker

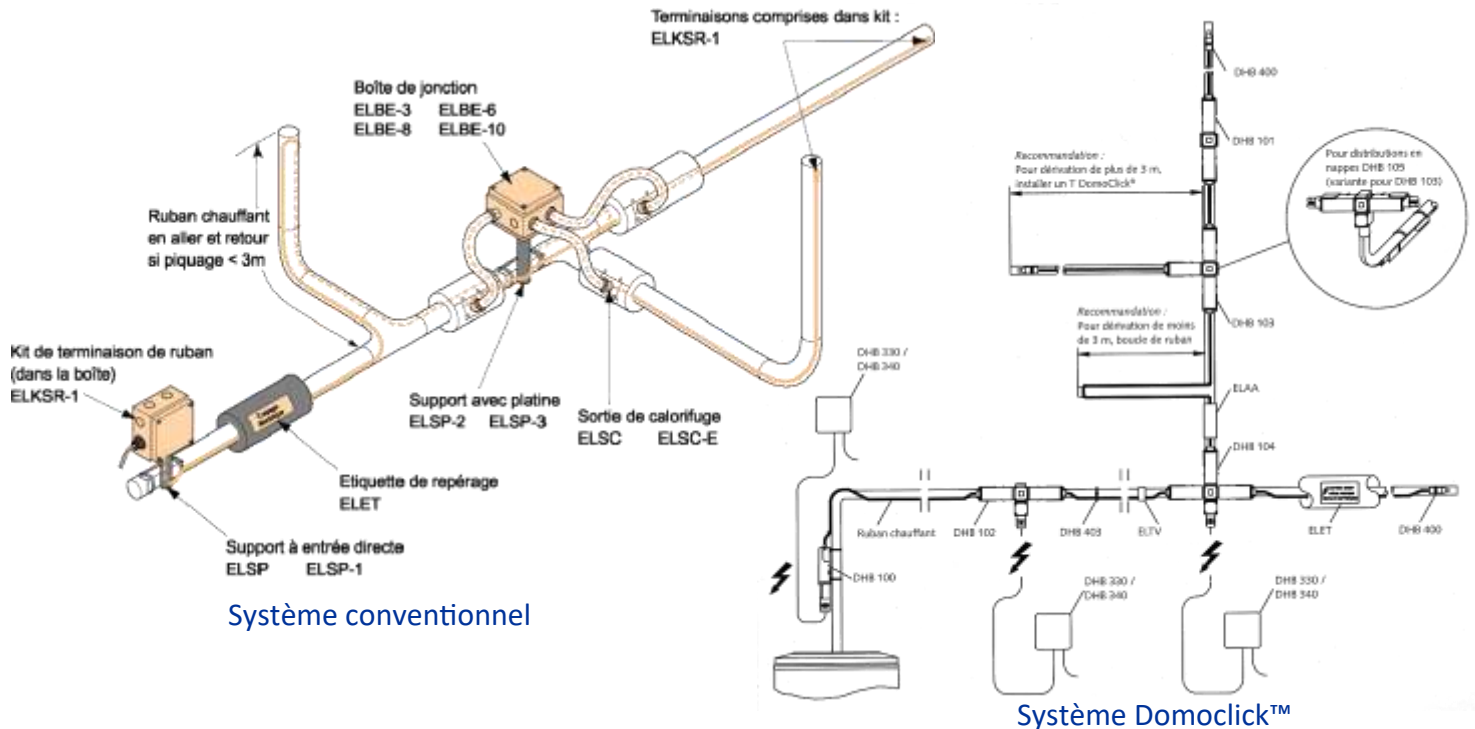
The protection of each circuit must comply with NF C 15-100.

Personal protection is ensured by a residual current device of 30 mA maximum in increments of 7.5 kW maximum, if the heating elements are supplied at 230 volts.

ELECTRIC HEAT TRACING ACCESSORIES

REFERENCE	CONSTRUCTION	INDUSTRY
Connection	DOMOCLICK™ ELQC, ELKSR-1, ELKSR	TRASSACLIP ELKSR-1-e
Junction box	ELBE-6, ELBE-8, ELBE-10	ELBA-5-e, ELBA-1-e-v, ELBA-4-e-v
Support leg	ELSP-x, ELSP-P3	ELSP-2, ELSP-3, ELSP-4, ELSP-5, ELSP-PU, ELSP-P3
Thermostat	ELTE-x, ELTH-Ax, ELTH-1S, ELTH-2	ELTH-THERM-ATx
Fixing tape	ELAA (aluminium adhesive tape) ELTV (fiberglass adhesive tape)	ELAA (aluminium adhesive tape) ELTV (fiberglass adhesive tape)
Insulation entry	ELSC, ELSC-E, ELSC-B	ELSC-E
Warning signs	ELET	ELET

ESR™ BOT



INSTALLATION OF HEATING CABLES

ELTRACE self-regulating cables must be installed in accordance with the standards in force on the day of installation (specifications for common technical implementation of CSTB, NF C 15-100, VDE, etc.) for the points where they apply, as well as the recommendations for use.

SELF-REGULATION PRINCIPLE

The colder it is, the more the polymer contracts and thus facilitates the flow of current and the more the cable heats up. Conversely, the hotter it is, the more the polymer expands and prevents the passage of current, the less the cable heats up.

Thanks to its so-called "parallel" technology, the heating cable can be cut to the desired length directly on site.

For more information, contact your **ELTRACE** distributor or representative now.

CONDITIONING

Standard lengths on reel: 500 m (+/- 5%). Other lengths are available, please contact your **ELTRACE** representative.

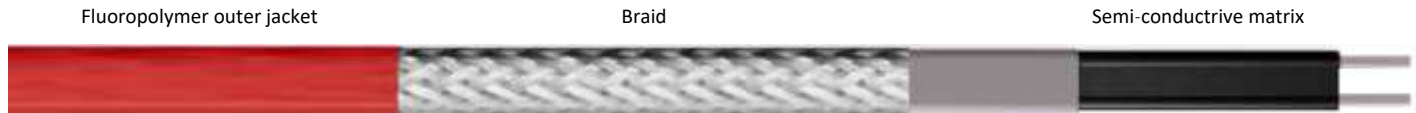
MARKING

All **ELTRACE** self-regulating cables are marked [YYMMDD] (year, month, day) to ensure the traceability of our productions.

Personalized markings can be made in accordance with the regulations..

ESR™ H-BOT

SELF-REGULATING HEATING CABLE HIGH TEMPERATURE



Naked type: H-xx

Braided type: H-xx-B

Braid and outer jacket: H-xx-BOT

First insulation

Bus wire:
 2 × 1.25 mm²

HEATING CABLE OVERVIEW

ESR™-H-BOT self-regulating heating cables are designed for high temperature applications for processes up to +200 °C (+392°F). They are designed for industrial applications.

Ils s'adaptent à une large gamme de services industriels.

Approved for hazardous, explosive, corrosive and healthy areas, the fluoropolymer outer sheath provides maximum protection in the harshest environments. **ESR™-H-BOT** is resistant to organic chemicals and corrosive in the oil, gas or petrochemical industries.

APPLICATION

Surface type	Metallic
Chemical resistance	Consult your ELTRACE representative
Areas	Normal, corrosive or explosive area (contact us)

ADVANTAGES

- √ A highly chemical resistant fluoropolymer outer sheath.
- √ The so-called "parallel" heating cable technology allows you to cut to the desired length.
- √ A self-regulating heating cable suitable for hazardous and corrosive atmospheres.
- √ Saving energy through self-regulation.
- √ No risk of overheating.
- √ The Box type reel storage system allows simple, fast and practical handling.
- √ Different powers available.
- √ A product available in stock.

ESR™ H-BOT

QUALIFICATION PRODUIT

ATEX, EAC, UE-Declaration (CE), IP66/68

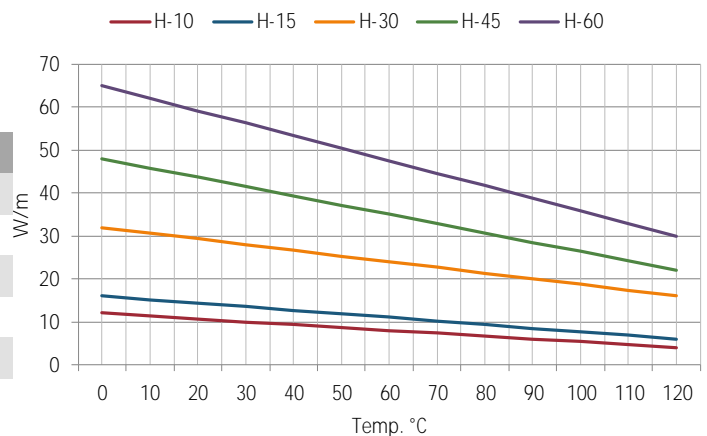
CARACTÉRISTIQUES TECHNIQUES

Supply voltage	230 V (110 V on demand)
Maximum exposure temperature - power on	120 °C (248 °F)
Maximum exposure temperature - power off	200 °C (392 °F)
Temperature class (T-RATING)	T3 (T2 with the 60 W/m)
Minimum bend radius	25 mm à 20 °C (70 °F)
Minimum installation temperature	-45 °C (-49 °F)
Weight (braided version T-xx-BOT)	120 kg/km (0.8 lb per 10 ft.)
Outer jacket dimensions (braided version H-xx-BOT) ^①	10.2 mm × 4.8 mm (0.41 In × 0.21 In)
^① Tolerance: ±0.5 mm (± 0.02 in)	

THERMAL CHARACTERISTICS

Nominal power supplied at 230 V on insulated metal pipe

REFERENCE	POWER @ 10 °C - (50 °F)
H-10-BOT	10 W/m (3 W/ft.)
H-15-BOT	15 W/m (5 W/ft.)
H-30-BOT	30 W/m (9 W/ft.)
H-45-BOT	45 W/m (14 W/ft.)
H-60-BOT	60 W/m (18 W/ft.)



MAXIMUM HEATING CIRCUIT LENGTH

REFERENCE	MAXIMUM CIRCUIT LENGTH
H-10-BOT	200 m
H-15-BOT	190 m
H-30-BOT	115 m
H-45-BOT	85 m
H-60-BOT	65 m

ESR™ H-BOT

MAXIMUM CIRCUIT LENGTHS BASED ON CIRCUIT BREAKER SIZE

DESIGNATION	STARTING TEMPERATURE	MAX. CIRCUIT LENGTHS (m)		
		16 A	20 A	25 A
H-10-BOT	-20	175	205	205
	0	198	205	205
	10	205	205	205
H-15-BOT	-20	120	152	190
	0	154	181	190
	10	165	190	190
H-30-BOT	-20	70	92	115
	0	81	109	115
	10	85	114	115
H-45-BOT	-20	50	66	85
	0	65	80	85
	10	70	85	85
H-60-BOT	-20	38	52	65
	0	47	62	65
	10	50	65	65

Circuit length with C curve circuit breaker. The protection of each circuit must comply with NF C 15-100. Personal protection is ensured by a residual current device of 30 mA maximum in increments of 7.5 kW maximum, if the heating elements are supplied at 230 volts.

ELECTRIC HEAT TRACING ACCESSORIES

REFERENCE	BUILDING	INDUSTRY
Connection	ELQC, ELKSR, ELKSR-1	TRASSACLIP ELKSR-1-e
Junction box	ELBE-6, ELBE-8, ELBE-10	ELBA-5-e, ELBA-1-e-v, ELBA-4-e-v
Support leg	ELSP-x, ELSP-P3	ELSP-2, ELSP-3, ELSP-4, ELSP-5, ELSP-PU, ELSP-P3
Thermostat	ELTE-x,	ELTH-THERM-ATx
Fixing tape	ELAA (aluminium adhesive tape)	ELAA (aluminium adhesive tape)
Insulation entry	ELSC, ELSC-E, ELSC-B	ELSC-E
Warning signs	ELET	ELET



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Type: Technical Datasheet
Document: FT-SRCable

Self-Regulating Heating Cable
ESR-H-BOT

Date: 10/01/2022
Version: En-Rev.2.082

ESR™ H-BOT

INSTALLATION OF HEATING CABLES

ELTRACE self-regulating cables must be installed in accordance with the standards in force on the day of installation (specifications for common technical implementation of CSTB, NF C 15-100, VDE, etc.) for the points where they apply, as well than the recommendations for use.

SELF-REGULATION PRINCIPLE

The colder it is, the more the polymer contracts and thus facilitates the flow of current and the more the cable heats up. Conversely, the hotter it is, the more the polymer expands and prevents the passage of current, the less the cable heats up.

Thanks to its so-called “parallel” technology, the heating cable can be cut to the desired length directly on site.

For more information, contact your **ELTRACE** distributor or representative now.

CONDITIONING

Standard lengths on reel: 500 m (+/- 5%). Other lengths are available, please contact your **ELTRACE** representative.

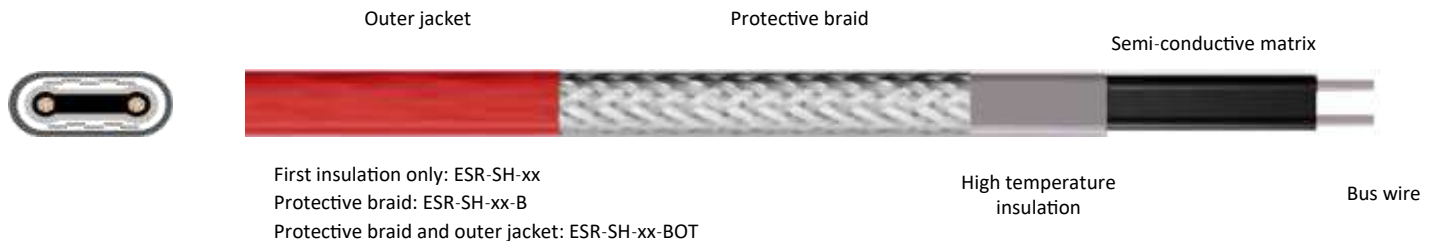
MARKING

All **ELTRACE** self-regulating cables are marked [YMMDD] (year, month, day) to ensure the traceability of our productions.

Personalized markings can be made in accordance with the regulations.

ESR™ SH-BOT

SELF-REGULATING HEATING CABLE ULTRA HIGH TEMPERATURE



HEATING CABLE OVERVIEW

ESR™-SH-BOT self-regulating heating cables are designed for very high temperature holding applications for processes up to +250 °C (483°F).

It is offered in different powers ranging from 100 W/m at 10 °C, which offers exceptional possibilities for industrial processes.

Approved for hazardous, explosive, corrosive and healthy areas, the anti-corrosion outer jacket provides maximum protection in the harshest environments.

The **ESR™-SH-BOT** is resistant to organic and corrosive chemicals whether in the oil, gas or petrochemical industries.

APPLICATION

Surface type	Metallic
Chemical resistance	Very good, contact your ELTRACE representative
Areas of use	Normal, corrosive or explosive area (contact us)

ADVANTAGES

- √ A highly chemical resistant outer jacket.
- √ The so-called "parallel" heating cable technology allows you to cut to the desired length.
- √ A self-regulating heating cable suitable for hazardous and corrosive atmospheres.
- √ Saving energy through self-regulation consumes only what is necessary.
- √ There is no risk of overheating.
- √ The Box type reel storage system allows simple, fast and practical handling.
- √ Several powers available up to 100 W/m @ 10 °C
- √ A product available in stock.

ESR™ SH-BOT

PRODUCT QUALIFICATION

ATEX, UE-declaration (CE), IP67

TECHNICAL CHARACTERISTICS

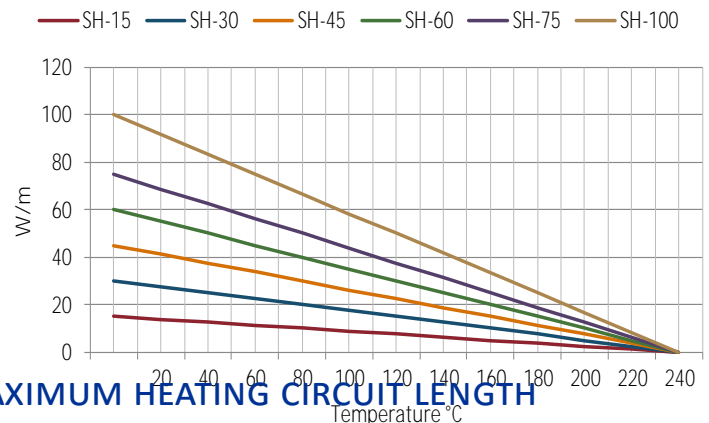
Supply voltage	230 V (110 V on demand)
Maximum exposure temperature - power on	250 °C (482°F)
Maximum exposure temperature - power off	250 °C (482°F)
Temperature class (T-RATING)	T3 (T2 pour le 75 W/m et 100 W/m)
Minimum bend radius	35 mm à 20 °C (70 °F)
Minimum installation temperature	-40 °C (-40 °F)
Weight (BOT version)	146 kg/km (15-75W) - 195 kg/km (100W)
Dimensions ^①	12.1 mm × 5.4mm (15-75 W/m)

^①Tolérance: ±0.5 mm (± 0.02 in)

THERMAL CHARACTERISTICS

Nominal power supplied at 230 V on insulated metal pipe

REFERENCE	POWER AT 10 °C - (50 °F)
SH-15-BOT	15 W/m
SH-30-BOT	30 W/m
SH-45-BOT	45 W/m
SH-60-BOT	60 W/m
SH-75-BOT	75 W/m
SH-100-BOT	100 W/m



REFERENCE	MAXIMUM CIRCUIT LENGTH
SH-15-BOT	170 m
SH-30-BOT	120 m
SH-45-BOT	100 m
SH-60-BOT	85 m
SH-75-BOT	75 m
SH-100-BOT	80 m

ESR™ SH-BOT

MAXIMUM CIRCUIT LENGTHS BASED ON CIRCUIT BREAKER SIZE

DESIGNATION	STARTING TEMPERATURE	MAX. CIRCUIT LENGTHS				
		10 A	16 A	20 A	32 A	50 A
SH-15-BOT	-20 °C	62 m	98 m	122 m	172 m	172 m
	0 °C	70 m	112 m	140 m	172 m	172 m
	10 °C	76 m	122 m	154 m	172 m	172 m
SH-30-BOT	-20 °C	40 m	66 m	82 m	122 m	122 m
	0 °C	46 m	74 m	92 m	122 m	122 m
	10 °C	52 m	82 m	102 m	122 m	122 m
SH-45-BOT	-20 °C	30 m	50 m	62 m	98 m	100 m
	0 °C	34 m	56 m	70 m	100 m	100 m
	10 °C	38 m	62 m	76 m	100 m	100 m
SH-60-BOT	-20 °C	20 m	32 m	40 m	62 m	86 m
	0 °C	28 m	44 m	56 m	86 m	86 m
	10 °C	20 m	32 m	40 m	62 m	86 m
SH-75-BOT	-20 °C	12 m	18 m	24 m	38 m	60 m
	0 °C	16 m	26 m	34 m	54 m	76 m
	10 °C	22 m	34 m	44 m	70 m	76 m
SH-100-BOT	-20 °C	16 m	24 m	30 m	50 m	76 m
	0 °C	18 m	28 m	34 m	56 m	84 m
	10 °C	18 m	30 m	36 m	58 m	84 m

Circuit length with C curve circuit breaker.

The protection of each circuit must comply with NF C 15-100.

Personal protection is ensured by a residual current device of 30 mA maximum in increments of 7.5 kW maximum, if the heating elements are supplied at 230 volts.

ELECTRIC HEAT TRACING ACCESSORIES

We supply a full range of accessories for our self-regulating heating cables. Connection kits, quick connection boxes, junction and branch boxes. Our products have different certifications depending on your applications. We recommend that you contact our engineers to ensure system compliance.



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Self-Regulating Heating Cable
ESR-SH-BOT

Date: 10/01/2022
Version: En-Rev.2.082

ESR™ SH-BOT

INSTALLATION OF HEATING CABLES

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Thanks to its so-called “parallel” technology, the heating cable can be cut to the desired length directly on site.

For more information, contact your **ELTRACE** distributor or representative now.

CONDITIONING

Standard lengths on reel: 500 m (+/- 5%). Other lengths are available, please contact your **ELTRACE** representative.

MARKING

All **ELTRACE** self-regulating cables are marked [YYMMDD] (year, month, day) to ensure the traceability of our productions.

Personalized markings can be made in accordance with the regulations..

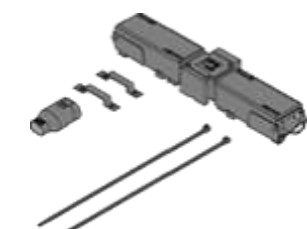
DOMOCLICK™

QUICK CONNECTIONS AND JUNCTIONS FOR THE BUILDING INDUSTRY

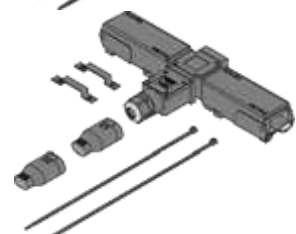
TRACECO-T and **TRACECO-W** self-regulating heating cables can be supplied and connected to each other with a minimum of handling thanks to the **DOMOCLICK™** range. Simple, fast and safe: only one knife is needed to strip the ribbons. It only takes a few minutes to assemble the Click, all you have to do is strip the outer sheath of the tape, insert the heating tape into the Click, press the lever and close the cover. The upper and lower double blades guarantee you a secure contact. .



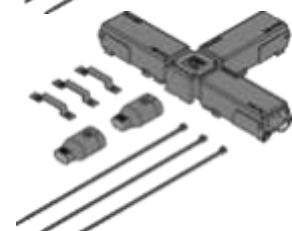
DOMOCLICK™ DHB-100 is a connection set with an integrated power supply box for the connection between heating tape and power cable. It contains a termination, two heat resistant ligatures, two brackets for wall mounting, Stickers "power supply" and "termination"



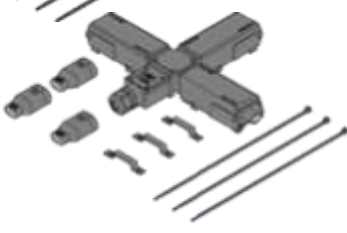
DOMOCLICK™ DHB-101 is a junction set for connecting two heating cables (for example for extending a circuit). It contains the junction, a termination, two heat resistant ligatures, two brackets for wall mounting and the "power supply" and « termination » stickers.



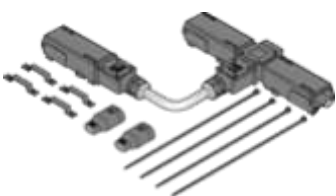
DOMOCLICK™ DHB-102 junction set with an integrated power supply box for the junction between two heating cables and power cable. It contains two terminations, two heat resistant ligatures, two wall mounting brackets and the « power supply » and « termination » stickers.



DOMOCLICK™ DHB-103 is a T-connection for the junction between three heating cables (for example for taps or a circuit extension). It contains the T-lead, two terminations, three heat resistant ligatures, three wall mounting brackets and the « power supply » and « termination » stickers.



DOMOCLICK™ DHB-104 is a T-branch with an additional power supply box for the junction between three heating cables and the power cable. The pack includes the bypass / power supply, three terminations, three heat resistant ligatures, three wall mounting brackets and the « power supply » and « termination » stickers.



DOMOCLICK™ DHB-105 is a T-branch for the junction between three heating cables for distribution in sheets. It includes the T-lead, two terminations, four heat resistant ligatures and the « power supply » and « termination » stickers.

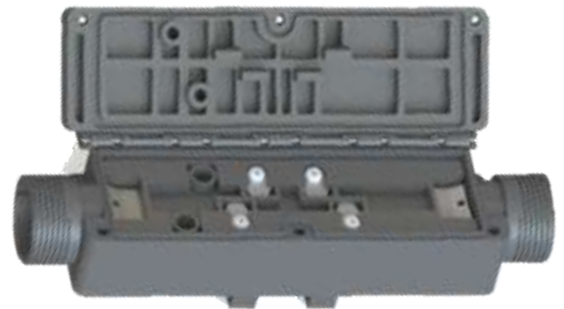
TRASSACLIP

INDUSTRIAL CONNECTORS FOR HEATING CABLES - **TRASSACLIP**

The **TRASSACLIP** range is a set of connectors, branches and terminations for self-regulating heating cables for the **TRACECO™-T**, **TRACECO™-W** and **ESR™** series. These connectors are also approved for hazardous areas.

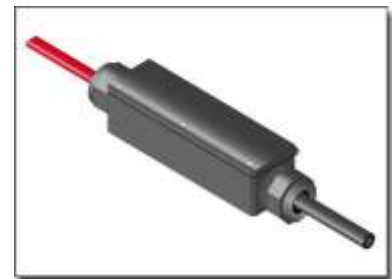
The set is fully equipped and ready for use. The kit includes

- ✓ Cable gland
- ✓ Sealing gasket for power cable
- ✓ Seal suitable for **TRACECO™** cable
- ✓ **TRASSACLIP** box
- ✓ Aluminium adhesive tape
- ✓ Cable locking element



TRASSACLIP-A - Power supply

- ✓ Area of use: indoor and outdoor
- ✓ IP 66
- ✓ Max voltage 275 VAC
- ✓ Max Intensity 16A
- ✓ Max temperature operating temperature 60 °C



TRASSACLIP-D - the Derivation

The TRASSACLIP-D allows you to make an in-line junction or a T-junction

- ✓ Area of use: indoor and outdoor
- ✓ IP 66
- ✓ Max voltage 275 VAC
- ✓ Max Intensity 16A
- ✓ Max temperature operating temperature 60 °C



TRASSACLIP-T - the Termination

The TRASSACLIP-T allows you to insulate the end of the cable with a waterproof cap.

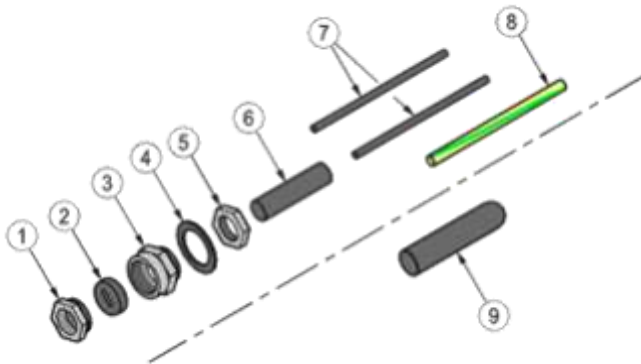
- ✓ Area of use: indoor and outdoor
- ✓ IP 67
- ✓ Max voltage 275 VAC
- ✓ Max Intensity 16A
- ✓ Max temperature operating temperature 60 °C



Connection & end termination kits

ELKSR-1: Termination and connection kit for self regulating cable « low temperature »

Compatible with « low temperature » self limiting cable TRACECO-T, TRACECO-W, TRACECO-S, TRACECO-R, ESR-R, ESR-BOT. It allow efficient connection in our junction boxes type: ELBE-8, ELBE-8-V, ELBE-8-B, ELBE-6, ELBE-6-V, ELBE-10, ELBE-10-V, ELBE-10-SP.

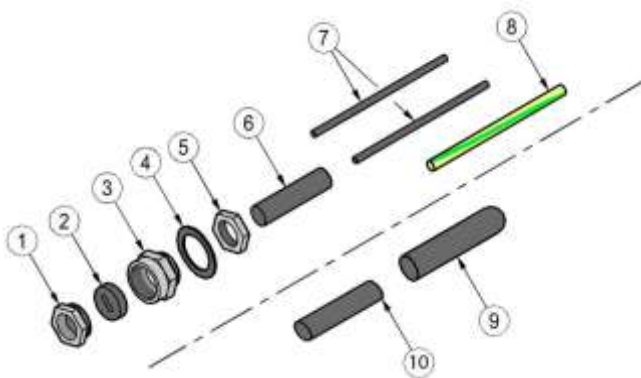


1. Hat
2. Seal (silicone)
3. Polyamide cable gland M25
4. Seal
5. Lock nut
6. Polyolefin heat-shrinkable sleeve Ø12: 4 Lg 5cm
7. Polyolefin heat shrinkable sleeves Ø3: 1 Lg 10cm
8. Polyolefin heat shrinkable sleeve Ø3: 1 Lg 10cm
9. Heat-shrinkable cap

ELKSR-H-1: Termination and connection kit for self regulating cable « high temperature »

Compatible with « high temperature » self limiting cable ESR-H-BOT.

It allow efficient connection in our junction boxes type: ELBE-8, ELBE-8-V, ELBE-8-B, ELBE-6, ELBE-6-V, ELBE-10, ELBE-10-V, ELBE-10-SP.



1. Hat
2. Seal (silicone)
3. Polyamide cable gland M25
4. Seal
5. Lock nut
6. Polyolefin heat-shrinkable sleeve Ø12: 4 Lg 5cm
7. Polyolefin heat shrinkable sleeves Ø3: 1 Lg 10cm
8. Polyolefin heat shrinkable sleeve Ø3: 1 Lg 10cm
9. Heat-shrinkable cap
10. Teflon heat shrinkable sleeve Ø4:1 Lg 5cm

ELKSR-1-e: Termination and connection kit for self regulating cable for « e »-zone

Notre kit de raccordement et terminaison pour traceurs en zone Ex « e ».



1. Hat
2. Seal
3. cable gland
4. Seal
5. Lock nut
6. Polyolefin heat shrinkable sleeve Ø3: 1 Lg 10cm
7. Phase silicone sleeve
8. Silicone end sleeve
9. Silicone tube (sleeves)
10. Silicone cap

THERMOSTATS AND CONTROLLER



Mechanical room or surface thermostats

The economical thermostats in the **ELTH-Ax** range are mechanical capillary bulb thermostats. Each of them will give you the ideal temperature range for your needs. From $-20\text{ }^{\circ}\text{C}$ to $+90\text{ }^{\circ}\text{C}$, they will cover most of your needs at ultra competitive prices.



Electronic surface thermostats

The **ELTE** range are compact electronic thermostats. They are intended for the regulation of heating cables and ribbons. Electronic regulation will allow you to combine precision and ease of adjustment over temperature ranges from $0\text{ }^{\circ}\text{C}$ to $200\text{ }^{\circ}\text{C}$.



DHB-3xx electronic regulators

The **DHB-3xx** range is available in three versions with the **DHB-331** (power limiter for hot water pipes), the **DHB-340** called "Frost Control" with starting current limiter for cold water piping and the **DHB-350** "Ice Control" for frost detection.



Intelligent regulators

From frost detection with the **ETO** and its temperature and humidity probes for soil or gutters to the **BLUETRACE** type regulation and monitoring module, we offer you precision controllers dedicated to energy savings.



Industrial thermostats

We offer a wide range of thermostats dedicated to industrialists. With temperature ranges that can exceed $300\text{ }^{\circ}\text{C}$, they will adapt to the needs of these very demanding markets. Available in ATEX version with **ELTH-THERM**. consult our specialists for recommendations in hazardous areas.



Dual display thermostats

Our **ELTH-B390** is part of our range of "All or Nothing" electronic thermostats with a double digital display, two setpoints, a regulation output and an Alarm output. Very easy to use, they are available in standard version or in boxes pre-equipped with circuit breakers and relay type.

Ambiant and Surface Thermostat

THERMOSTAT OVERVIEW - ELTH-A5

The temperature controller type ELTH-A5 is used as a surface thermostat or as an ambient thermostat with a remote sensor.

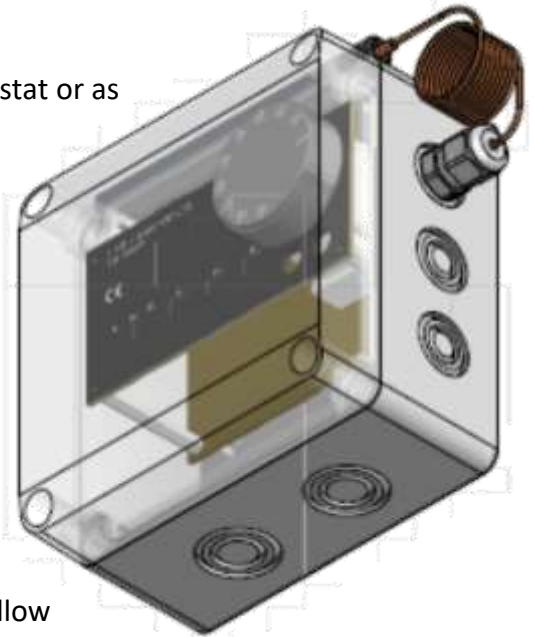
It allows the direct connection at the output of one (1) or two (2) heating cables or one (1) or two (2) electric cables (type RVFV-U1000-3G2.5) plus the direct connection of a power supply (type RVFV-U1000-3G2.5).

The device is delivered in its case with a transparent cover which protects it from splashes and can be used in assembly wall.

It can be used in an industrial environment (cold industry, maturation, etc.). It is perfectly suited to the building, construction and industrial market.

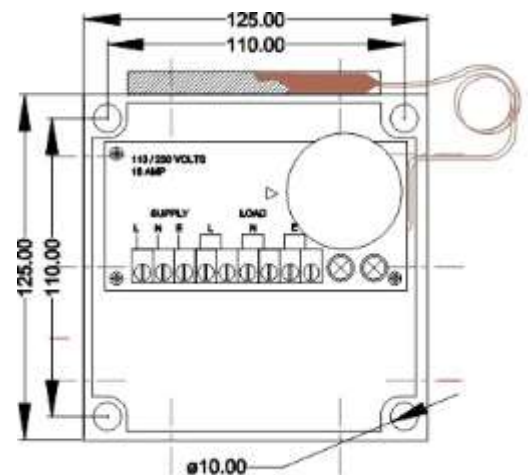
The thermostat is a liquid expansion type. It is a tinned copper bulb sensing element with a stainless steel diaphragm.

Depending on the type of cable and the number of cables, please follow the appropriate option.



TECHNICAL CHARACTERISTICS

Plage de réglage	+0 °C à +90 °C
Pouvoir de coupure:	16A / 230 V
Dimension du boîtier	125×125×70
Couvercle transparent pour boîtier	125×125×25
Indice de Protection (IP)	IP65
Matériau du boîtier	Thermoplastique Antichoc
Sonde et Capillaire	Cuivre
Température maximale du bulbe	120 °C
Voyant	Blanc: présence tension

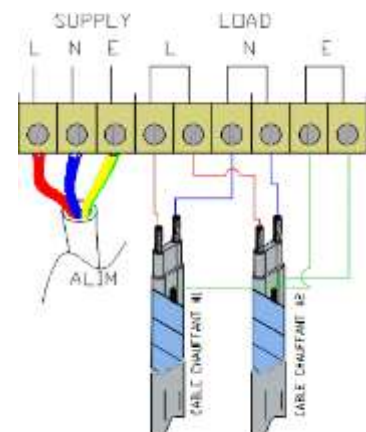


HOUSING OPENINGS

- √ 2 × M16/M25
- √ 2 × M16/M25
- √ 3 × M12/M20
- √ 3 × M12/M20

Additional products

- ⇒ Direct entry bracket type ELSP-1
- ⇒ Support with plate type ELSP-P3



Ambient and Surface Thermostat

THERMOSTAT OVERVIEW - *ELTH-A2, ELTH-A3, ELTH-A4*

This range of thermostat can be used in applications such as Building, Industry, Refrigeration. The adjustment is very simple, all you have to do is set the desired setpoint temperature. They work with liquid expansion. The base and the cover are made of shockproof thermoplastic with an IP65 degree of protection. A G ½ cable gland for the cable outlet. Free of tension.

- √ Breaking capacity: 15A / 230 V - 10 A / 380 V
- √ Protection: IP 65
- √ Boxe: Shockproof thermoplastic

Surface thermostat - *ELTH-A2*

Temperature adjustment range (°C)	-20 °C à +40 °C
Differential (°K)	2 ± 0,5 (K)
Sensor and capillary	Inox
Maximum bulb temperature	+60 °C
Capillary length	1 m
Bulb length	95 mm



Surface thermostat - *ELTH-A3*

Temperature adjustment range (°C)	+10 °C à +90 °C
Differential (°K)	6 ± 1 (K)
Sensor and capillary	Copper
Maximum bulb temperature	+120 °C
Capillary length	1,50 m
Bulb length	142 mm



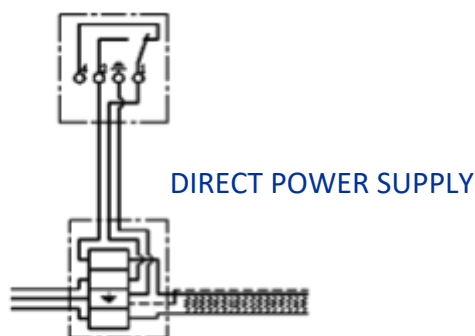
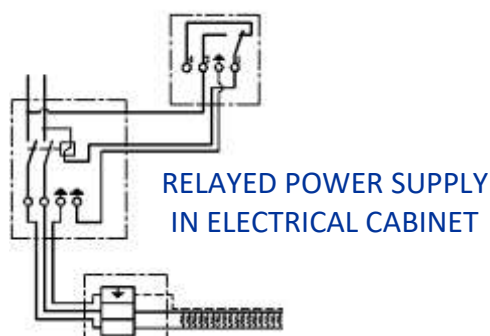
Ambient thermostat - *ELTH-A4*

Temperature adjustment range (°C)	-20 °C à +40 °C
Differential (°K)	± 2 (K)
Sensor and capillary	Copper
Maximum bulb temperature	+120 °C



Additional products

- √ Terminaison kit: ELKSR-1, ELKSR-H-1
- √ Support box: ELSP-1, ELSP-2, ELSP-4, ELSP-P3



Electronic Temperature Controller

THERMOSTAT OVERVIEW - ELTE

The **ELTE** series (**EL**trace **T**hermostat **E**lectronic) electronic controller is equipped with a particularly precise PT100 type temperature sensor.

The information is processed by a microcontroller which compares the actual values with set values. The output relays are triggered according to the configuration.

The electronic regulator is provided with connectors and connection terminals for the electrical connection of cables, a waterproof case and a transparent cover.

The device is delivered in its case with a transparent cover that protects it against splashing and can be used for wall mounting. It can be used in an industrial environment (refrigeration industry, maturation, etc.). It is perfectly suited to the building, construction and industrial market.



TECHNICAL CHARACTERISTICS

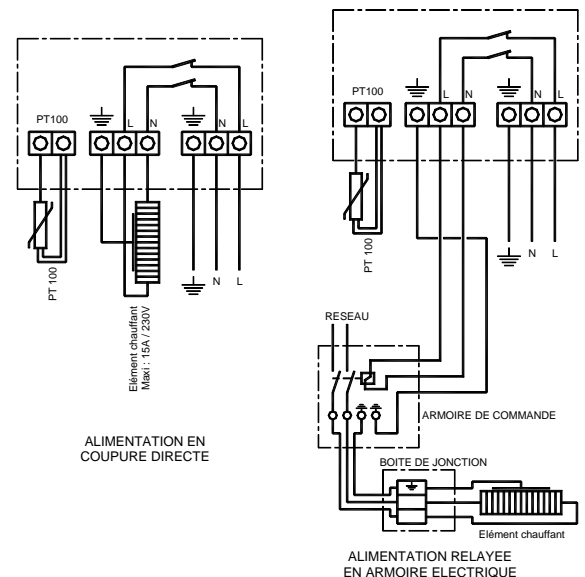
Temperature adjustment range (°C)	ELTE-1: +0 °C à +100 °C ELTE-2: +0 °C à +200 °C
Breaking capacity	15A / 230 V
Box dimension	125 × 125 × 75
Power supply	230 V +/- 10% - 50/60Hz
Protection Index (IP)	IP66
Housing material	Shockproof thermoplastic
Sensor	PT100 3m (2 ou 3 wires)
Temperature resistance of the case	-30 °C / +80 °C
Indicator light	Green: heating on Red: sensor fault

HOUSING OPENINGS

- √ 1 × M12
- √ 1 × M20
- √ 1 × M25

Additional products

- √ Terminaison kit: ELKSR-1, ELKSR-H-1
- √ Support box: ELSP-1 (direct entry), ELSP-P3



Digital Display Thermostat

ELECTRONIC REGULATOR "ALL OR NOTHING" WITH DIGITAL DISPLAY - *ELTE-4*

The *ELTE-4* is a compact field thermostat, intended for the regulation of heating cables and cables, allowing resistive load control up to 3.5 kilowatts. The digital regulation combines precision and ease of adjustment, the temperature is displayed on a 3-digit LED indicator.

Technical characteristics

Temperature adjustment range (°C)	-50 °C to 250 °C
Breaking capacity	16A / 230 V
Box dimension	125 × 125 × 75
Power supply	230 V +/- 10% - 50/60Hz
Protection Index (IP)	IP66
Housing material	Polycarbonate
Sensor	PT100 3m (2 wires)
Temperature resistance of the case	Up to +75 °C
Indicator light	Green: heating on

- Temperature display: LED 3 green digits 10 mm / 7 segments
- Heating indicator: by LED diode incorporated in the display
- Threshold setting fully configurable by 2 push buttons
- Transparent cover
- Terminal block: to screw (up to 4 mm²)

Correction of sensors

- Linearization of the sensor and line compensation (adjustable offset) for long sensor

Front face

- Display Measurement: 3 digits (1100 pts) 7 segments with green LED, digit height: 10 mm
- Resolution 1°C from -50 °C to +250 °C
- Detection of sensor breakage or scale overshoot
- Display: "Err LO" if the sensor is short circuited,
- Display: "Err HI" if the sensor is open.
- A green LED indicates the state of the relay
- Two front pushbuttons allow the regulation temperature to be adjusted

Relay

- Heating element output switched on both lines (phase, neutral) to completely isolate the load.
- "Heating mode" control with load under voltage for a measured temperature below the set threshold, hysteresis 2°C.

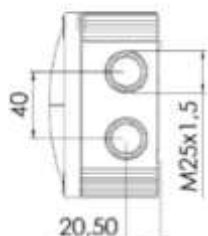
Realization, assembly and connection:

- Electronics fully protected by tropicalization varnish
- Mounting in waterproof IP66 polycarbonate box (transparent front)
- Connection:
 - Temperature sensor by spring terminals maximum section: 1 mm²
 - Heating element with screw terminals, maximum section: 4 mm²
 - Cable entry by cable gland
- Isolation: power / input / relay



Junction Boxes

FIBERGLASS REINFORCED THERMOPLASTIC JUNCTION BOX - *ELBE-6*

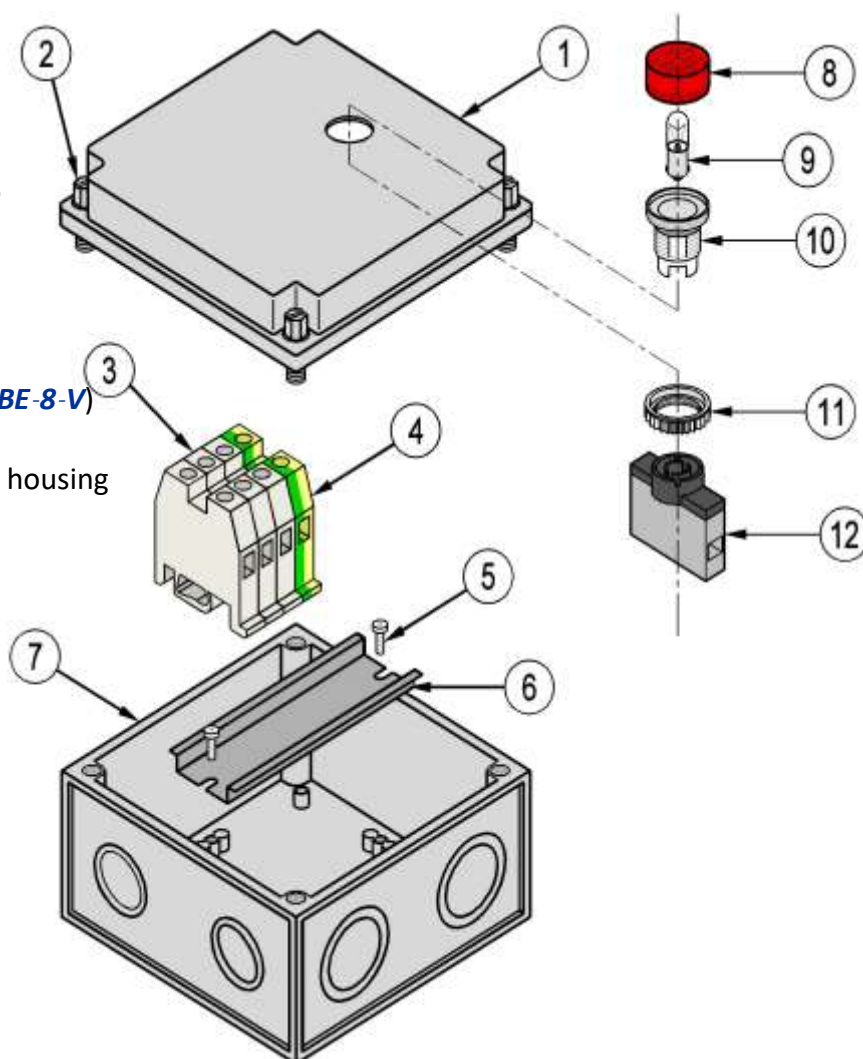


- √ 6 mm² - 690 V
- √ Protection Index (Waterproof): IP 66 / 67
- √ Operating temperature: -5 °C à +60 °C
- √ Dimensions: 110 x 110 x 66 mm
- √ Closure: 4 plastic screws ¼ turn
- √ Fixing: 4 pre-drilled holes
- √ Available with indicator light (réf. *ELBE-6-V*)



REINFORCED POLYCARBONATE JUNCTION BOX - *ELBE-8*

- √ Maximum temperature
 - √ In continuous use: +80 °C
 - √ Material: -40 °C to +120 °C
- √ Dimensions: 125 × 125 × 75 mm
- √ Weight: 420 g
- √ Protection Index (Waterproof): IP 65
- √ Chemical resistance: good
- √ Impact resistance: excellent
- √ 4 knockouts Ø 15,5 et Ø 21
- √ 4 knockouts Ø 23 et Ø 29
- √ Available with indicator light (réf. *ELBE-8-V*)



Standard version: *ELBE-8*

1. Glass fiber reinforced polycarbonate housing
2. Polycarbonate cover
3. Polyamide clamping screw
4. 10 mm² phase terminals
5. Earth terminal G/Y 6 mm²
6. Steel screws
7. Galvanized steel omega DIN rail
- 8.

Version with indicator light: *ELBE-8-V*

8. Cap (*)
9. Lightbulb (**)
10. Head
11. Clamping nut
12. Light body

Additional product

- √ Terminaison kit: ELKSR-1, ELKSR-H-1
- √ Box support:: ELSP-1, ELSP-2, ELSP-4, ELSP-P3

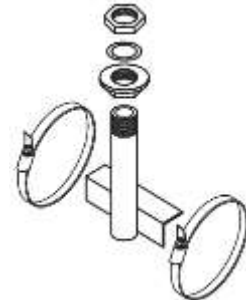
Pipe Mounting Fittings

MOUNTING BRACKET TYPE ELSP-1

Direct entry zinc-plated steel support for box type:

ELBE-6 et ELBE-6-V
ELBE-8, ELBE-8-V, ELBE-8-B, ELBE-10

Dimensions: Tube \varnothing 27 Height 150 mm
Square 20 x 20 x Length 80 mm
Thread M25



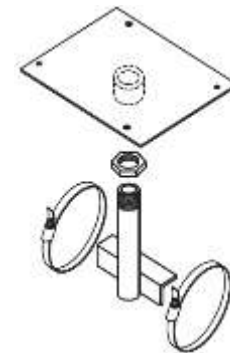
MOUNTING BRACKET TYPE ELSP-2

Support foot in bichromate zinc-plated steel with horizontal plate

For box: ELBE-8, ELBE-8-V, ELBE-8-B
ELBA-5-E

For thermostat: ELTE 1, ELTE-2
ELTH-THERM-AT
ELTH-A5

Dimensions: Tube \varnothing 27 x hauteur 150 mm
Square 20 x 20 Long. 80 mm
Plate 140 x 140mm
Thread M25



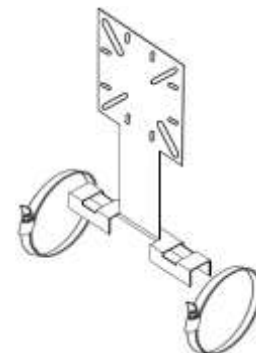
MOUNTING BRACKET TYPE ELSP-P3

316L stainless steel support foot with vertical plate

For box: ELBE-8, ELBE-8-V, ELBE-8-B
ELBA-5-E, ELBA-1-E-V

For thermostat: ELTE 1, ELTE-2
ELTH-THERM-AT, ELTH-1/S
ELTH-A5

Dimensions: Foot: 58 mm x height 130 mm sur « U » 20/20 x 160 mm
Plate: 140 x 140 mm



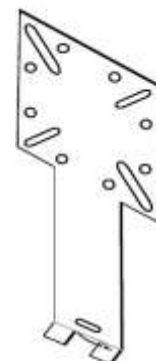
SUPPORT DE BOÎTE TYPE ELSP-P2/F

Support foot in bichromate zinc-plated steel with vertical plate

For box: ELBE-8, ELBE-8-V, ELBE-8-B
ELBA-5-E, ELBA-1-E-V

For thermostat: ELTE 1, ELTE-2
ELTH-THERM-AT, ELTH-1/S
ELTH-A5

Dimensions: Foot: larg. 60 mm x height 130 mm
Plate 140 x 140 mm



Pipe Mounting Fittings

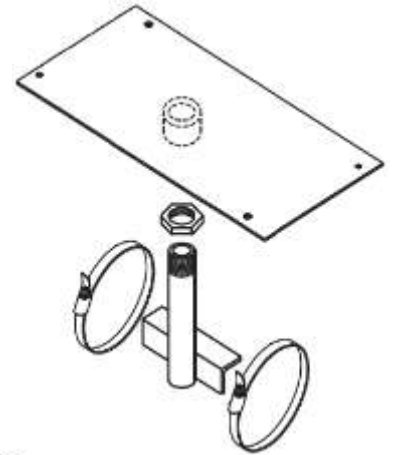
MOUNTING BRACKET TYPE ELSP-3

Zinc bichromate steel support foot with horizontal plate

For box: ELBE-10, ELBE-10-SP, ELBE-10-V

For thermostat: ELTH-2

Dimensions: Tube $\varnothing 27$, Height 150 mm
 Square 20 x 20 Long. 80 mm
 Plate 140 x 175 mm
 Filetage M25



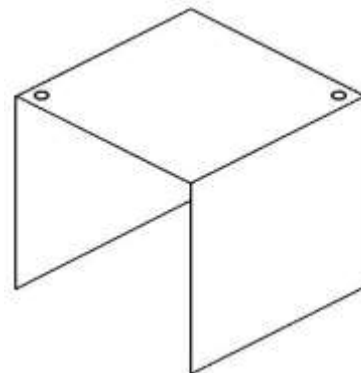
MOUNTING BRACKET TYPE ELSP-4

Support foot in 304 L stainless steel in "U" to weld

For box: ELBE-8, ELBE-8-V, ELBE-8-B
 ELBA-5-E

For thermostat: ELTE 1, ELTE-2
 ELTH-THERM-AT
 ELTH-1/S
 ELTH-A5

Dimensions: Height 140 mm
 Plate 130 x 130 mm



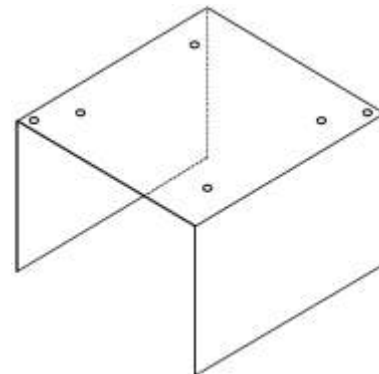
MOUNTING BRACKET TYPE ELSP-P5

Support foot in 304 L stainless steel in "U" to weld

For box: ELBE-10, ELBE-10-SP, ELBE-10-V

For thermostat: ELTH-2

Dimensions: Height 140 mm
 Plate 185 x 235 mm



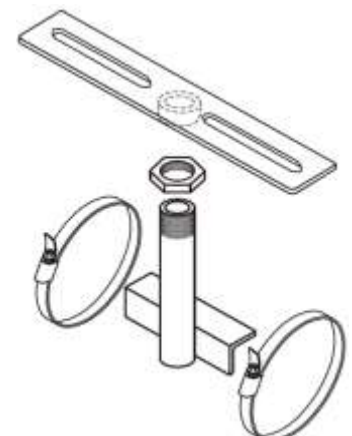
MOUNTING BRACKET TYPE ELSP-PU

Universal zinc-plated steel support foot

For box: ELBE-10, ELBE-10-SP, ELBE-10-V

For thermostat: ELTH-2

Dimensions: Tube $\varnothing 27 \times$ Height 150 mm
 Support 310 x 50 mm - 2 trous oblongs $\varnothing 6$ mm
 Filetage M25



Insulation entry - ELSC

INSULATION ENTRIES

The heat insulator outlets provide mechanical protection for the heating cables and seal at the heat insulator entries. They are fixed locally. They can also be used for thermostat capillary outputs or regulation probes.

INSULATION ENTRY DIRECTLY IN THE JUNCTION BOX - *ELSC*

ELSC type insulator entries are compatible with type boxes: ELBE-3, ELBE-8, ELBE-10

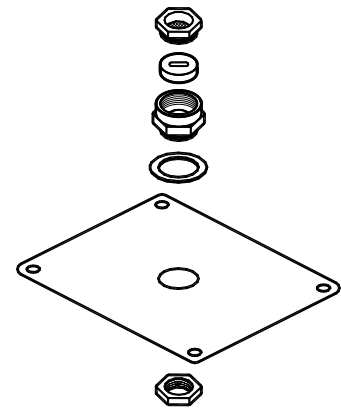
- √ Nickel-plated brass locknut PG 16
- √ Perbunan seal
- √ Nickel-plated brass fitting PG 16
- √ Galvanized steel sheath covered with gray PVC. Length 500 mm
- √ Stainless steel plate 100 × 70 mm.



INSULATION OUTLET PLATE - *ELSC-E*

Insulation entry plate intended for electric tracing to protect them from cuts due to the protective sheets of thermal insulators.

- √ Mounting plate width (mm): 70 mm
- √ Length of mounting plate (mm): 100 mm
- √ Overall height (mm): 28 mm
- √ Equipped as standard with a cable gland
- √ Weight (Kg): 0.06 Kg
- √ Storage temperature: -20 °C to + 60 °C



Advantages

- √ Adapts to all situations encountered
- √ Ease of assembly
- √ Economic
- √ Prevents cuts in the cables by the thermal insulation protection sheets
- √ Storage in blister pack with 3 flat gaskets
- √ Resistant to 130 °C continuous and 180 °C intermittent
- √ Availability from stock
- √ Good mechanical resistance

Technical characteristics

- √ AISI304L stainless steel plate support
- √ Plate thickness: 75/100
- √ PG16 cable gland + 2 flat gaskets
- √ Approval: M1
- √ Fixing by self-drilling screws (fixing screws not supplied)

Accessories

WARNING SIGNS - *ELET*

Self-adhesive warning * identification label specifying the presence of electrical tracing on the pipes and devices to be affixed to the thermal insulation covering envelopes.

Resistant to 60 °C continuously and UV resistant



Technical characteristics

Dimension:	195 mm x 70 mm
Weight (Kg):	0.002 Kg
Support:	MYLAR (yellow)
Support thickness:	40 µm
Type:	Acrylic Solvent
Totale thickness:	90 µm, without interlayer
Tear resistant:	25N/cm
Homologation:	M1

References available

ELET-En:	English
ELET-Fr:	French
ELET-Ru:	Russian
ELET-Cz:	Czech
ELET-Pt:	Portuguese
ELET-It:	Italian
ELET-Es:	Spanish
ELET-xx:	Other language on demand

SELF ADHESIVE ALUMINIUM FOIL - *ELAA*

It allows the heating cables to be fixed on clean and dry exterior walls. It helps in an optimal distribution of calories on pipes or plastic surfaces, PVC, polyethylene, in order to increase the exchange surfaces.

Technical characteristics

• Temp. resistance:	-20 °C à 150° C	
• Support:	Aluminium	
• Support thickness:	35 µM +/- 5%	✓ Standard length:
• Type:	Acrylic Solvent	✓ ELAA-50: 50m x 50mm
• Fire classification:	M1	✓ ELAA-75: 50m x 75mm
		✓ ELAA-xx: other length on demand



FIBERGLASS ADHESIVE TAPE - *ELTV*

Resistant glass fabric adhesive tape, coated with a thermosetting natural rubber adhesive. Particularly suitable for fixing heating cables on valves, pumps, flanges.

Technical characteristics

• Support thickness:	120 µM
• Total thickness:	150 µM, without spacer
• Resistance:	32 N/cm
• Homologation:	M1
• Width (mm):	19 mm, 50 mm
• Length (ml):	50 ml par roils
• Central mandrel (mm):	76.1 mm
• Weight (Kg):	19 mm: 0.150 Kg / 50 mm: 0.480 Kg



Design Guide

DETERMINATION OF THE REQUIRED POWER

This table will allow you to determine the power required to provide frost protection (+5 °C) for your pipes according to their diameter, the thickness of the insulation and the minimum ambient temperature.

Dimension	DN Inch	15 1/2	20 3/4	25 1	32 1 1/4	40 1 1/2	50 2	65 2 1/2	80 3	100 4	125 5	150 6	175 7	200 8	225 9	250 10	300 12	
<i>Insulation thickness</i>		SELF-REGULATING CABLE, TYPE SERIES TRACECO™ OU ESR™																
<i>Ambiente temp. min</i>																		
10mm	-15 °C	10	10	20	20	20	30	30	30	40	2x30	2x30	2x40	2x40	2x40	3x30	3x40	
	-20 °C	10	20	20	20	30	30	40	40	2x30	2x30	2x40	2x40	3x30	3x40	3x40	4x40	
	-25 °C	10	20	20	30	30	40	40	2x30	2x30	2x40	2x40	3x40	3x40	3x40	4x40	4x40	
20mm	-15 °C	10	10	10	10	10	20	20	20	30	30	30	40	40	40	2x30	2x30	
	-20 °C	10	10	10	10	20	20	20	30	30	30	40	2x30	2x30	2x30	2x30	2x40	
	-25 °C	10	10	20	20	30	30	30	30	40	40	2x30	2x30	2x30	2x30	2x40	2x40	
30mm	-15 °C	10	10	10	10	10	10	10	20	20	20	20	30	30	30	40	40	
	-20 °C	10	10	10	10	10	20	20	20	20	20	20	30	40	40	40	2x30	
	-25 °C	10	10	10	10	20	20	30	20	30	30	30	40	40	2x30	2x30	2x30	
40mm	-15 °C	10	10	10	10	10	10	10	10	20	20	20	20	30	30	30	30	
	-20 °C	10	10	10	10	10	10	20	20	20	20	20	30	30	30	30	40	
	-25 °C	10	10	10	10	10	20	20	20	20	20	20	30	30	40	40	2x30	
50mm	-15 °C	10	10	10	10	10	10	10	10	10	20	20	20	20	20	20	30	
	-20 °C	10	10	10	10	10	10	10	10	20	20	20	20	30	30	30	30	
	-25 °C	10	10	10	10	10	10	20	20	20	20	20	30	30	30	30	40	
60mm	-15 °C	10	10	10	10	10	10	10	10	10	10	20	20	20	20	20	20	
	-20 °C	10	10	10	10	10	10	10	10	20	20	20	20	20	20	30	30	
	-25 °C	10	10	10	10	10	10	10	20	20	20	20	20	30	30	30	30	
80mm	-15 °C	10	10	10	10	10	10	10	10	10	10	10	20	20	20	20	20	
	-20 °C	10	10	10	10	10	10	10	10	10	10	10	20	20	20	20	20	
	-25 °C	10	10	10	10	10	10	10	10	20	20	20	20	20	20	20	30	
100mm	-15 °C	10	10	10	10	10	10	10	10	10	10	10	10	10	20	20	20	
	-20 °C	10	10	10	10	10	10	10	10	10	10	10	20	20	20	20	20	
	-25 °C	10	10	10	10	10	10	10	10	10	20	20	20	20	20	20	20	

Basis: Thermal conductivity of the insulation 0.04 W/mK; increased factor of safety 20 %

Design Guide

TABLE OF EQUIVALENCES

The table below is used to determine the additional lengths you will need to ensure you have the necessary cable length depending on the number of valve, flange, pump, etc ...

EQUIVALENT LENGTHS IN METERS

DN	Ø ext.	valve	flange	elbow	instrument	pump	support
6	10,3	0,3	0,2	0,1	2	5	0,7
8	13,7	0,3	0,2	0,1	2	5	0,7
10	17,1	0,3	0,2	0,1	2	5	0,7
15	21,3	0,3	0,2	0,1	2	5	0,7
20	26,7	0,4	0,2	0,1	2	5	0,7
25	33,4	0,4	0,3	0,2	2	5	0,7
32	42,2	0,4	0,3	0,2	2	5	0,7
40	48,3	0,5	0,3	0,2	2	5	0,7
50	60,3	0,5	0,4	0,2	2	5	0,7
65	76,1	0,7	0,5	0,2	2	5	0,7
80	88,9	0,8	0,5	0,2	2	5	0,7
90	101,6	1	0,6	0,2	2	5	0,7
100	114,3	1	0,8	0,2	2	5	1
125	141,3	1,4	1	0,3	2	5,5	1
150	168,3	1,7	1,2	0,3	2	6	1
200	219,1	2	1,4	0,3	2	7	1,2
250	273	3	1,6	0,4	2	7,5	1,2
300	323,8	4	1,9	0,4	2	8	1,2
350	355,6	5	2,2	0,5	2	8,5	1,5
400	406,4	6	2,5	0,5	2	9	1,5
450	457,2	7	3	0,5	2	10	2
500	508	8	3,5	0,6	2	12	2,5
600	609,6	10	4,5	0,6	2	15	3

For non-insulated pipe supports, consider **4 × support the width** of the heating cable support.

Add **0.5 m** of heating cable for each connection to a thermostat or to a junction box.

HOW TO CALCULATE THE REQUIRED LENGTH (EXAMPLE)

For example, you want to protect **30 m** of **DN100** piping, with **3 flanges**, **1 valve**, **1 pump** and **6 supports 0.1 m** wide by **minus 15 °C** minimum ambient temperature and 40mm thermal insulation.

Pipe:	1 × 30 m	= 30 m
Flange:	3 × 0,8 m	= 2,4 m
Valve:	1 × 2.0 m	= 2.0 m
Pump:	1 × 5,0 m	= 5,0 m
Support:	5 × 1 m	= 5,0 m
Connection:	1 × 0,5 m	= 0,5 m

Total length is 44,9 m of TRACECO™ T-20-AO

TO MAKE YOUR ELECTRICAL HEAT TRACING INSTALLATIONS ON PIPES A SUCCESS

The information provided in this document is important in the definition of the products. It should be noted that all the questions asked are to be completed only according to your needs. It is not necessary to enter information in all the boxes. In some cases, values will be taken by default and reported on our quotes. It is the customer's responsibility to verify the veracity of the information taken by ELTRACE. Highlighted texts must be completed.

MECHANICAL CHARACTERISTICS

	Pipe 1	Pipe 2	Pipe 3	Pipe 4	Pipe 5
Type of Piping	Plastic/metallic				
Weight / m	Heat up case				
Density	Heat up case				
Specific heat	Heat up case				
Pipe diameter					
Straight length					
Number of valves					
Number of flange					
Number of valves					
Number of filter					
Filter type	In line / separate				
Filter dimension					
Diameter					
Height					
Number of instruments					
Manometer	In line / separate				
Flow meter	In line / separate				
Mounting bracket	Insulated or not				
Type	Collar / welded				

THERMAL INSULATION CHARACTERISTICS

Type of insulation	
Insulation thickness	
Thermal conductivity	Kcal/h/l/°C
Density	Kg/m ³

THERMAL CHARACTERISTICS

Minimum ambient temperature	°C
Maximum operating temp.	°C
Temperature to be maintained	°C
Maximum contact temperature	°C
Wind speed	m/sec
Heat up	YES / NO
Type of reheating	Static/Dynamic
Fluid flow	m ³ /h
Nature of fluide	
Volume weight	Kg/m ³
Specific heat fluid	Kcal/Kg/°C
Thermal conductivity	cal/h/m/°C

INSTALLATION CONDITIONS

Type d'installation	Normal/ATEX
Classification du matériel	IPxx / Eex e/ Eex d
Groupe de zone	Gas / Dust
Groupe de gaz	
Classe de température	

POWER SUPPLY CONDITIONS

Power supply	volts
Frequency	hertz
Intensity / start	ampère
Monitoring requested	
Circuit breaker fault	
Load break	
Isolation	
Temperature alarm	
Regulation	

Fully Dedicated Teams

WORLDTRACE , THE « MADE IN FRANCE » FACTORY

For several years, **ELTRACE** and its sister company **WORLDTRACE** have invested in manufacturing lines based in the heart of Normandy on a plot of more than two hectares with nearly 2 600 m² of “made in France” production.



From respect for the environment to high technology, we attach great importance to environmental and health standards with the objective of "zero waste".

As such, all our waste is recycled and / or recovered in order to achieve the best possible environmental footprint.

OUR SALES DEPARTMENT

Composed of women and men at your service, it represents the heart of our commitments, the link between our products and services and your needs, whether in terms of cost control, responsiveness, customer training and any other specific needs.

It will provide you with all the essential qualities for healthy business relationships and long-term partnerships.



OUR DESIGN OFFICE ENGINEERS



Our technical design office engineers are building, construction and industrial site professionals who are involved in the design phase. Our design office is made up of engineers, technicians and draftsmen. We carry out for you the complex technical studies necessary for the development of your project. As such, they support our sales and installation / supervision department to which they deliver calculation and sizing notes. Our design office is able to work on all types of buildings (industrial, residential, tertiary, etc.).

OUR LOGISTICS PLATFORMS

We attach great importance to the satisfaction of our customers and particularly to the responsiveness and proximity that you need. We have set up two logistics platforms specially adapted to the needs of our customers. With a “Key Accounts and Export” platform and a “Responsiveness and Proximity” platform for on-site deliveries in less than 48 hours.

Our sites are regularly checked by independent bodies and certified according to the latest ISO9001: 2015 standards.



Fully Dedicated Teams

THE QUALITY DEPARTMENT



This is the guarantee of perfect traceability and maximum customer satisfaction. Anyone can make mistakes, the most important thing for us is to know how to recognize them, correct them and do what is necessary so that they do not happen again.

As such, each department has very specific and constantly evolving quality improvement objectives.

Thanks to this, we have successfully obtained ISO 9001: 2015 Quality Certification on all our sites.

THE SUPERVISION DEPARTMENT

A whole dynamic and mobile team made up of a Construction Manager, site manager, business managers, high-level qualified workers. This service travels throughout France and Europe.

Your interest: we help you supervise your sites, we can assist you during the execution of the work and we facilitate the most complex tasks for the implementation of your projects.



HUMAN RESOURCES



This is the heart of our business: the organization; good management and listening to our talents. We continuously train all our employees. From recruitment to skill development, including the coordination of strategic decisions within the company. We apply it in all our businesses to ensure a better quality of life at work for our teams. This is the guarantee of a competent and united team, responsive to your needs.

ACCOUNTING AND FINANCE

We attach great importance to respecting the agreements and contracts that we have with all our partners: customers, suppliers, service providers and financial institutions.

Thanks to this, we offer our customers a quality service compatible with the notion of long-term partnership and mutual trust.

We offer the possibility, subject to acceptance by our finance department, of personalized payment facilities adapted to your profile.



IMPORTANT NOTE

All claims, technical information and product recommendations are based on tests performed in our laboratories and on our experience in heat tracing applications that we consider reliable.

However, in all cases, the user will need to determine if the product is suitable for the application to which he is going to apply this product. Application surfaces must be clean, dry and degreased before application. The user will assume all risks and liability that may result. In any case, the seller or the producer can not be held responsible for the inappropriate use of this product, or the consequences that may result.

Succes Story

ABOUT ELTRACE

The **ELTRACE** company was created almost 30 years ago, in May 1993 with the objective of marketing on the French market a complete offer for the protection against freezing of pipes and the maintenance of temperature of fluids in industry. At this time, orders amounted to nearly 50 kilometers from the early years.

Building on this development, **ELTRACE** developed in 1995, with a Swiss partner, an ultra-fast connector for self-regulating heating cables, the **DOMOCLICK**, the fastest connector on the market.

To meet a growing demand for turnkey projects, **ELTRACE** is creating its Installation department. Among its first contracts, it won the installation of more than 10 kilometers of cables for the Renault TechnoCentre. These cables are still fully operational today. In 1998, **ELTRACE** developed an ultra-thin heating cable, concentrated in nano-technologies, suitable for the industrial market as well as for the building. From the 2000s, **ELTRACE** continued its commercial development on the export markets: creation of a Russian entity in 2004, joint venture in the United Kingdom in 2006 and signature of exclusive agreements on the Chinese market in 2010.



A WIDE AND TARGETED OFFER

In 2011, **ELTRACE** launched its new range of ready-to-use products, **AQUACABLE** cables for the protection of pipelines against frost, with micro thermostat, connection to the mains and perfectly sealed cold link, as well as its equivalent the **GUTTACABLE** for protection of gutters.

Building on its success, **ELTRACE** continues its development with heating cables for outdoor floors, including a cable suitable for heating lawns. The first football stadium Abbé Deschamps of AJ Auxerre will be the first to be equipped with it, and will subsequently come from other renowned stadiums such as Stade de France, Losc, Lyon, Le Havre, etc ...

In addition to its complete solutions for outdoor heating, **ELTRACE** takes a position on the residential market. To meet French regulations following the Grenelle de l'Environnement, **ELTRACE** is developing a system combining ecology and electric heating, all compatible with the new thermal regulations.

Succes Story



A SUCCESSFUL COMPANY

ELTRACE and its 100 % French production plant **WORLDTRACE** have nearly 30 employees and are present in more than 40 countries, mainly in Europe, Russia, China, North Africa and the Middle East, thanks to its subsidiaries, joint ventures, contracts of exclusive distributions, OEMs and partnerships. They achieve a constantly growing turnover. The companies recently acquired a new building, located near CDG airport to be as close as possible to its customers.



In 2016, **WORLDTRACE** acquired a new heating cable production line that we installed on a plot of over 20 000 m² with nearly 3 000 m² entirely dedicated to production in Normandy. "Made in France" is still developing in 2022 with the acquisition of a brand new production line to cope with the growing success of our products and services.

At the same time, we have obtained certifications, approvals and technical opinions rewarding the quality of work "made in France".

We work to meet your "Quality" requirements with our numerous certifications, "Costs" with prices among the best on the market and "Responsiveness" with deadlines defying all competition.



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THE MASTERED DEGREE