

Darkztrip



Stylish and powerful panel heater with no visible light

Darkztrip is a range of powerful panel heaters with a stylish design in black anodised aluminum. It is ideal for elegant environments such as shopping centers, exhibition halls and markets. Darkztrip provides a pleasant heat without emitting any visible light, making it very discreet even when turned on. The range includes models for both indoor use and outdoor use in wind protected areas.

Indoor comfort

Darkztrip combines both comfort and high performance and with smart control, you can create zone and spot heating. The system operates silently without air movement, ensuring a pleasant indoor environment.

Outdoors with dimmer

Darkztrip Dimmer is perfect for providing comfort in wind-protected outdoor areas. It comes with a remote control, and can be operated at 1/3, 2/3 or full power.

Discreet design

Darkztrip has an elaborate housing in aluminum painted black. High protection class (IP55) makes it possible to use the heater in almost any environment.



Product specifications

- Unique design in anodised aluminium with black finish.
- No visible light.
- Mounting brackets are included.
- The range includes models from 1,5 to 4,5 kW, suitable for indoor use and outdoor use in wind-protected areas.
- In order to fulfil the requirements of Ecodesign, Regulation (EU) 2015/1188, the device must be installed with control system FC or thermostat TAP16R/TPT16(WF) when used indoors.
- Darkztrip Dimmer comes with a remote control.
- Installation height up to 15 m.
- High protection class, IP55.

Technical specifications

Darkztrip (IP55)

Item number	Type	Output	Voltage	Amperage	Max. surface temperature	WxHxD	Weight
		[W]	[V]	[A]	[°C]	[mm]	[kg]
477702	DKZ15	1500	220-240V~	6,5	340	1150x205x70	6,1
477703	DKZ18	1800	220-240V~	7,8	340	1290x205x70	6,7
476797	DKZ24	2400	220-240V~	10,5	340	1580x205x70	8,1
477704	DKZ32	3200	220-240V~	14	340	1730x205x70	10

Darkztrip 400V3N~ (IP55)

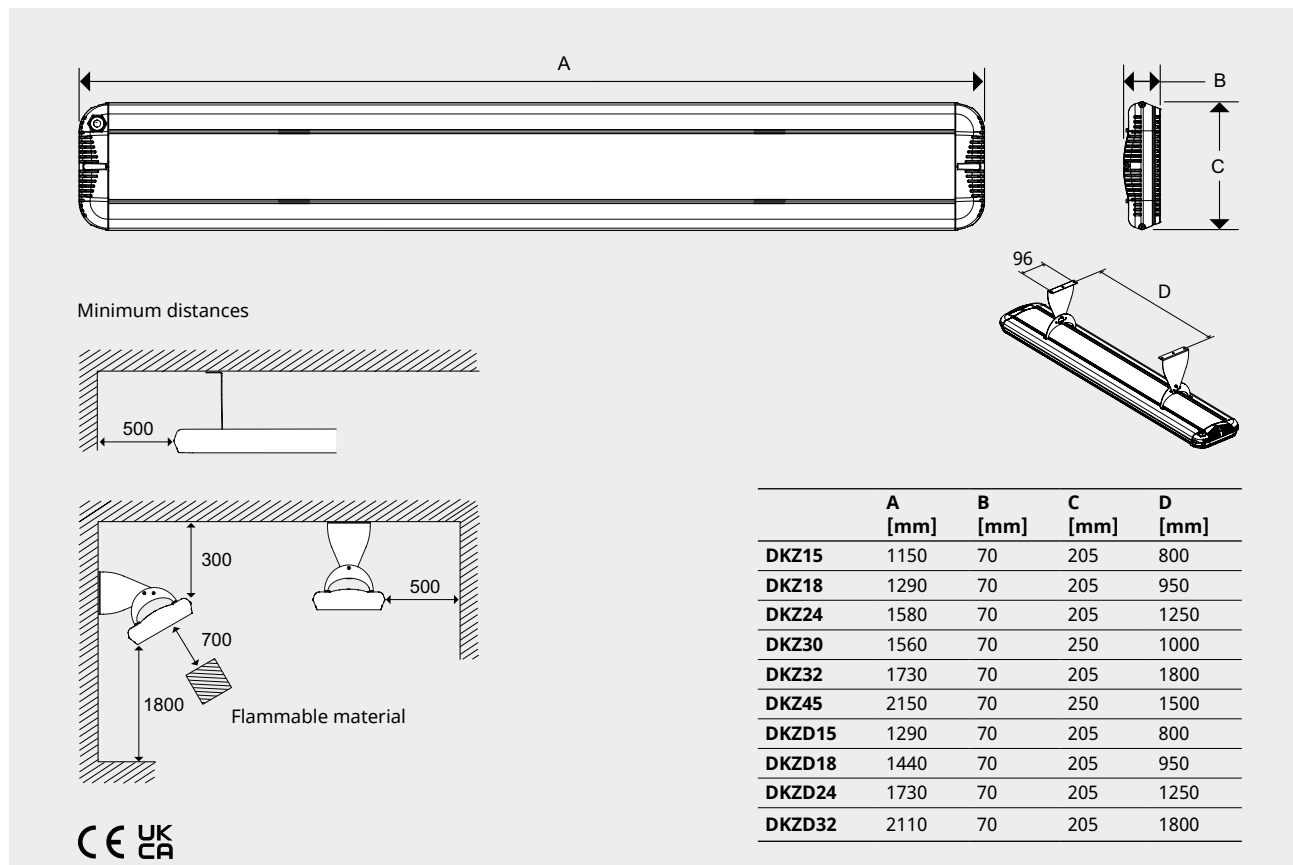
Item number	Type	Output	Voltage	Amperage	Max. surface temperature	WxHxD	Weight
		[W]	[V]	[A]	[°C]	[mm]	[kg]
477839	DKZ303	3000	380-415V3N~	3×4,3	340	1560x250x70	11
476798	DKZ453	4500	380-415V3N~	3×6,5	340	2150x250x70	14

Darkztrip Dimmer with remote control. For outdoors. (IP55)

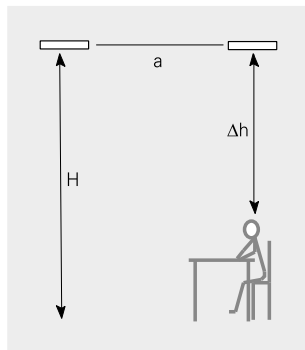
Item number	Type	Output steps	Voltage	Amperage	Max. surface temperature	WxHxD	Weight
		[W]	[V]	[A]	[°C]	[mm]	[kg]
476799	DKZD15	500/1000/1500	220-240V~	6,5	340	1290x205x70	6,7
476800	DKZD18	600/1200/1800	220-240V~	7,8	340	1440x205x70	7,3
476801	DKZD24	800/1600/2400	220-240V~	10,5	340	1730x205x70	8,9
476802	DKZD32	1100/2100/3200	220-240V~	14	340	2110x205x70	11

Heating panel and back cover in anodised aluminium. Ends in powder-coated aluminium. Colour: black RAL9005.

Dimensions



Darkztrip provides excellent comfort and high performance in any indoor environment. For outdoor applications, see end of chapter.



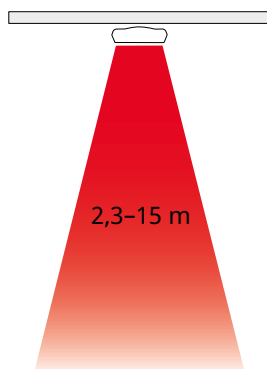
Positioning

The heaters must be placed so that they cover the area to be heated. To estimate approximately how many radiant heaters are needed to cover an area the formula is:

$$\text{Min. number of heaters} = \frac{\text{Area of the premises [m}^2\text{]}}{\text{Installation height [m]} \times \text{Installation height [m]}}$$

This formula is a basic estimation of the minimum number of radiant heaters needed to maintain the comfort. To calculate the right output for each heater, the total heating requirement must be calculated, see the Technical handbook.

When planning a Darkztrip installation, the distance between the heaters should not be greater than the height between heater and floor, that means (a) should be less than (H). See Fig. In rooms not often used, the comfort demands are usually lower and the distance between the heaters can be increased. In rooms frequently used, the distance between a stationary person and heater should be at least between 1.5 to 2 metres (Δh).



Installation height indoors

Mounting

Darkztrip is installed in the ceiling with the included brackets. Wall mounting is possible, but not recommended due to reduced efficiency. The heater can be angled in several fixed positions. Brackets for special mountings are available as accessories.

Connection

DKZD15, DKZD18 and DKZD24 are equipped with a 1.9 metre cord with plug for connection to an earthed outlet socket. Other models are equipped with a 3-meter cord without a plug.

For mounting, connection and other technical information, please see the manual.

Accessories



DKZEB, extension brackets

A pair of extension brackets in stainless steel to allow for a lower installation height of a Darkztrip panel. The brackets are mounted on to the standard brackets included in delivery of the heater.



DKZTB, twin brackets

A pair of brackets allowing to mount two Darkztrip panels next to each other. Made of stainless steel. The brackets are mounted on to the standard brackets included in delivery of the heater.

Item number	Type	Description	HxWxD [mm]
477352	DKZEB	Extension brackets (2x)	263x75x15
477705	DKZTB	Twin brackets (2x)	80x400x30

When using Darkztrip as a local space heater according to Ecodesign Regulation (EU) 2015/1188, it must be supplemented with one of the following approved controls.

The FC control system provides sophisticated control with many options. A simpler thermostat control is also available.

The product can be controlled in a different way, e.g. by an overall control system (BMS) as long as the requirements of Ecodesign Regulation are met. For indoor applications where Ecodesign Regulation does not apply, Darkztrip Dimmer can also be used.

Control system FC



- Adaptive start
- Weekly program
- Heating blocking with outdoor sensor
- Smart output control by temperature
- Open window detection
- Timer

FCPOBH



The control system has many smart functions such as adaptive start, weekly program, heating blocking with outdoor sensor, open window detection and timer. The FC control system includes the FCCH control panel and FCPOB(3)H control unit.

FCBB



Heaters can be grouped in the system, allowing local control of the temperature. Each group includes a control unit as well as sensors, where applicable. The control panel has a built-in temperature sensor, which is used for control when external sensors are not used.

FCRTX



FCOTX



The temperature-controlled output regulation (periodised) is a stepless control that precisely adapts the energy output to the current demand.

With accessories, such as black bulb sensors and outdoor sensors, several energy saving functions are achieved. Black bulb sensors measure the operative temperature, i.e. temperature experienced which means the heaters provide the exact amount of heat required in order to achieve a comfortable temperature.

FCBC



Outdoor temperature sensors disable the heating depending on the outdoor air temperature. Protection class: IP44.

Item number	Type	Description	HxWxD [mm]
74680	FC111	Control system FC111, 16A, 230V~/400V2N~, incl. 5 m cable, IP44	89x89x26 (FCCH)
74681	FC113	Control system FC113, 3x13A, 400V3N~, incl. 5 m cable, IP44	89x89x26
74692	FCPOBH	Control box for system extension, 16A, 230V~/400V2N~, incl. 10 m cable, IP44	105x105x38
74693	FCPOB3H	Control box for system extension, 3x13A, 400V3N~, incl. 10 m cable, IP44	149x149x43
74696	FCBB	Black bulb sensor, incl. 10 m sensor cable, IP44	89x89x43
74694	FCRTX	External room temperature sensor, incl. 10 m sensor cable, IP20	39x39x23
74695	FCOTX	Outdoor temperature sensor, incl. 10 m sensor cable, IP44	39x39x23
74718	FCBC05	Extra communication cable, 5 m	
74719	FCBC10	Extra communication cable, 10 m	
74720	FCBC25	Extra communication cable, 25 m	
74721	FCSC10	Extra sensor cable, 10 m	
74722	FCSC25	Extra sensor cable, 25 m	



Control by thermostat TPT16

- Adaptive start
- Customised daily schedules
- Weekly program
- Open window detection
- WiFi model available

TPT16 is a programmable thermostat for improved energy efficiency, equipped with a modern and easy to use touch panel. Statistics of energy consumption is easily displayed.

Customised daily schedules can be set to minimise energy consumption and maximise comfort. In addition, an external signal can be used to switch between Home and Away mode to change set point.

Several energy saving features are included such as adaptive function, open window detection, energy saving, and frost protection programs. A gradual heating function is possible for a softer start-up, as well as a fixed power mode.

The thermostat TPT16WF can be remotely controlled by a user-friendly app. The current mode and set-point can be seen and changed also from a distance, to assure that the settings always are as required.

Sensor cable 3m, NTC 10kΩ is included. Setting range: +5 - +40 °C. 230V. Max. breaking current: 16A. IP21.



Control by thermostat TAP44RTX

- Adaptive start
- Weekly program
- Open window detection

Components

- TAP16R, electronic thermostat
- TEP44, protective enclosure for TAP16R
- RTX54, external room temperature sensor

TAP16R has adaptive start, week program and open window detection. Protection class IP44 is obtained by adding a protective enclosure TEP44 and an external temperature sensor RTX54 which replaces the internal sensor. Setting range: +5 - +37 °C. 230V. Max. breaking current: 16A. IP21.

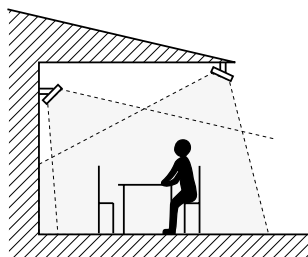


SKG, Black bulb sensor

Black bulb sensors measure the operative temperature, i.e. temperature experienced which means the heaters provide the exact amount of heat required in order to achieve a comfortable temperature.

Item number	Type	Description	HxWxD [mm]
398190	TPT16	Electronic thermostat, 16A, IP21	87x87x39
398191	TPT16WF	Electronic thermostat WiFi 16A, IP21	87x87x39
458192	TAP44RTX	Kit with electronic thermostat, protective enclosure IP44 and external temperature sensor RTX	87x87x53
205550	SKG30	Black bulb sensor, NTC10KΩ, IP30	115x85x40

Darkztrip Dimmer provides excellent comfort and high performance outdoors in wind protected areas. Other Darkztrip models can also be used outdoors, with added controls. For indoor applications, see previous pages.



Positioning

Optimum comfort is achieved if the heat is distributed from at least two directions. A rule of thumb for infrared heaters equipped with metal tubular elements is that 750–1000 W/m² increases the experienced temperature by about 10 °C.

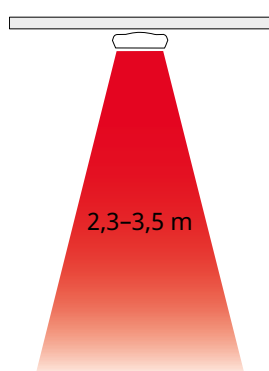
Mounting

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Connection

DKZD15, DKZD18 and DKZD24 are equipped with a 1.9 metre cord with plug for connection to an earthed outlet socket. Other models are equipped with a 3-meter cord without a plug.

For mounting, connection and other technical information, please see the manual.



Installation height outdoors



The Darkztrip Dimmer range is equipped with a dimmer that lets you adjust the heat output in three steps using the included remote control. The remote control can activate several heaters. After each restart, the product will return to the setting selected before it was turned off. Other Darkztrip models can also be used outdoors, with added controls.

Control options

Accessories

DKZEB, extension brackets

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DKZTB, twin brackets

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