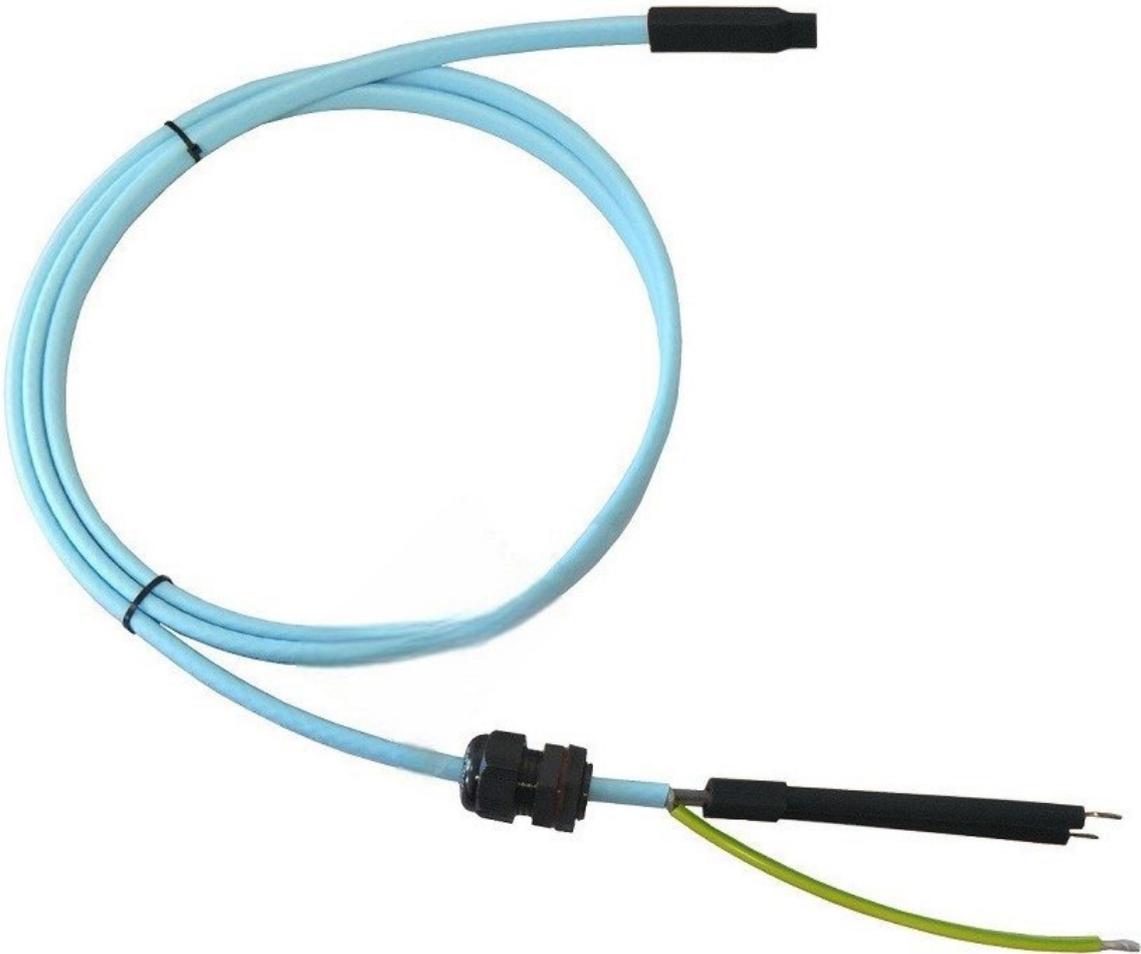


## Operation manual Heating Circuit DS



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**RESERVATION:**

Technical data subject to change without notice. Changes, errors, and misprints may not be used as a basic for any claim for damages.

## MANUFACTURER

DIRAC INDUSTRIES S.R.O.  
K AUTOMOBILGE 585  
28002, KOLÍN - SENDRAŽICE

TEL.: +420 323 040 700  
EMAIL: INFO@DIRACINDUSTRIES.COM  
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## NOTES FOR MANUAL

Working in hazardous areas safety of personnel and material depends on the adherence of all relevant safety rules. Persons who are responsible for installation and maintenance have got a special responsibility. Precondition is an exact knowledge of all actual rules and regulations. This manual summarizes all important safety rules and has to be read by all persons working with this product to be familiar with the handling. The manual must be kept over the complete life span of the product.

## MARKING

Important sections in this manual are marked with a symbol.



**DANGER**  
DANGER signs a risk which can result in death or severe injury if not avoided.



**WARNING**  
WARNING signs a risk which can result in death or severe injury if not avoided.



**CAUTION**  
CAUTION signs a risk which can result in injury if not avoided.



**ATTENTION / NOTE**  
ATTENTION / NOTE signs an action to prevent material damage.

## EX TERMINATION SYSTEMS FOR THE FOLLOWING HEATING CABLE TYPES:

DLT...2CT; DMT...2CT; DHT...2CT; DUT...2NT

## APPLICATION

The electrical heating circuit DS... is used for the electrical heating of pipes, containers, protective boxes, electric motors, etc. to protect temperature-sensitive products from frost, to maintain certain temperatures of these products or to prevent condensation. The heating circuit can be assembled at the factory or on site.

## CERTIFICATION & LABELLING

**Manufacturer:** DIRAC Industries s.r.o.  
**Type:** DS \_ \_ \_ \_ \_ / \_ \_ \_ \_ \_  
**Certifications:** EPS 23 ATEX 1 230 X  
**Marking:** II 2G Ex 60079-30-1 eb IIC T6...T2 Gb  
 II 2D Ex 60079-30-1 tb IIIC T85°C...T300°C Db



**CE:** 1026

If the heating circuit is assembled at the factory, the heating circuit label is filled in completely by DIRAC Industries with all the specific data of the respective heating circuit. If the heating circuit is assembled by the installer, the heating circuit label must be filled in by the installer with the enclosed pen (Staedler Lumocolor) as shown in the example below. The type label must be attached clearly visible to the connection cable.

**DIRAC Industries s.r.o**

K Automobilce 585  
280 02 Kolín  
Czech Republic

YOUR GLOBAL SOLUTION PARTNER

**DIRAC INDUSTRIES**

ELECTRIC HEATING - CONTROL&WIRING - METALWORKS

Dirac Industries Heating Circuit Ex

Type: DS \_ - \_ - \_ - \_ - \_ / \_ - \_ - \_



EPS 23 ATEX 1 230 X

⊕ Ex II 2G Ex 60079-30-1 eb IIC T6...T2 Gb

⊕ Ex II 2G Ex 60079-30-1 tb IIIC T85°C...T300°C Db

Circuit Length: \_\_, \_\_ m -60°C ≤ Ta ≤ + \_\_ °C

Rated Voltage: \_\_ V

Rated Power Output: \_\_ W/m

SN: \_ Number Year: 2023

1026



**TECHNICAL DATA**

Rated voltage:

12V up to 277V

(acc. to the EC type examination certificate of the respective heating cable)

Rated power:

10W/m up to 120W/m

Temperature range

Connection and termination:

DLT...2CT	-60...+85°
	-60...+85°
	-60...+100°
DMT...2CT	-60...+200°
DHT...2CT	-60...+200°
DUT...2CT	-60...+200°
IPL...CF	-60...+200°
IPH...NF	-60...+200°
IPS...A	-60...+200°

Fuse protection,

heating circuit lengths:

according to the data sheet of the respective heating cable.

Supplementary information can be found in the EC type examination certificate.



## ADVICES FOR INSTALLATION & OPERATION



The following Dirac Industries installation instructions must be observed for the professional assembly of the heating circuit: "Connection technology ETK4..Ex.." A test report must be prepared for each heating circuit and attached to the heating circuit documentation.

The minimum and maximum ambient temperatures of the connection technology must be observed.

## SERVICE & MAINTENANCE

The operator of an electrical plant in a potentially explosive atmosphere must keep the equipment in proper condition, operate it properly, monitor it and carry out maintenance and repair work (see also EN 60079-17).

Maintenance and servicing work on the product may only be carried out by trained and qualified personnel.

Before maintenance and/or servicing, the specified safety regulations must be observed. Only original parts from the manufacturer may be used for maintenance and servicing.

Damaged heating circuits must always be replaced immediately.

The insulation test must be carried out in accordance with EN 60079-30-1, 5.1.3.

Supplementary information can be found in the EC type examination certificate.

**TEST REPORT**

**HEATING CIRCUIT TEST REPORT**

**General information**

	Customer	Constructor	Project no.:
Adress			

Order no.:	Heating Circuit Batch: _____
------------	------------------------------

Ex- design	Zone:	Temperature class: T ____
------------	-------	---------------------------

**Technical data and testing**

Circuit number:	①	②	③
Heating tape group:	<input type="checkbox"/> Self limiting		<input type="checkbox"/> Constant wattage
Total sum of heating circuit:	_____ pcs.		
Part no. Of heating cable			
Length of teating circuit	_____ m	_____ m	_____ m
Nominal output total	_____ W	_____ W	_____ W
Type of termination			
Type of supply cable			
Adjustment / Controller / Limiter	controller ____°C limiter ____°C	controller ____°C limiter ____°C	controller ____°C limiter ____°C
Supply voltage	<input type="checkbox"/> 12/24V <input type="checkbox"/> 230V AC <input type="checkbox"/> 400V AC <input type="checkbox"/> ____V	<input type="checkbox"/> 12/24V <input type="checkbox"/> 230V AC <input type="checkbox"/> 400V AC <input type="checkbox"/> ____V	<input type="checkbox"/> 12/24V <input type="checkbox"/> 230V AC <input type="checkbox"/> 400V AC <input type="checkbox"/> ____V
Visual Inspection	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Function test	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
High voltage test:	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Insulation measurement	_____ kv ≥ _____MΩ (min. 50MΩ)		
Testing date			
Signature examiner			

**To be completed by customer or constructor**

Fusing	_____ A( C-Characteristic)
RCD Residual current device	<input type="checkbox"/> Yes <input type="checkbox"/> No _____ mA

Place / Date	
Signature Constructor	
Signature Customer	

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**DECLARATION OF CONFORMITY**

**DIRAC INDUSTRIES S.R.O., K AUTOMOBILCE 585, 28002, KOLÍN - SENDRAŽICE**

# DECLARATION OF CONFORMITY

**THIS DECLARATION OF CONFORMITY IS ISSUED BY THE MANUFACTURER:**

**Business name:** DIRAC Industries s.r.o.  
**Seat:** K Automobilce 585, 28002, Kolín – Sendražice  
**CIN:** 27956628  
**VATN:** CZ27956628

**FOR THE PRODUCTS:**

Silicone termination kits for self-regulating and constant wattage heaters

**Notified body:** Bureau Veritas

**TYPE DESIGNATION:**

DS \_ \_ \_ \_ \_ / \_ \_ \_ \_ \_

**THE PRODUCT CORRESPONDS TO:**

EN 60079-0:2018	EN 60079-31:2014
EN 60079-7:2015 +A1:2018	EN 60079-30-1:2017
EPS 23 ATEX 1 230 X	FTZU 23 ATEX Q 001

**IT COMPLIES WITH THE FOLLOWING GUIDELINES:**

Directive 2014/34/EU  
 Directive 2014/35/EU  
 Directive 2011/30/EU

**PLACE OF ISSUE:**

DIRAC Industries s.r.o.  
 K Automobilce 585  
 280 02 Kolín – Sendražice

**MANUFACTURER'S REPRESENTATIVE:**

Martin Šimůnek  
 Quality manager

**STAMP, DATE, SIGNATURE**

*M. Šimůnek*  
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 Tel: +420 323 040 700, Fax: +420 323 040 796  
 DIČ: CZ27956628





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