

CONTACT WIRE DE-ICING SYSTEM



NO
INTERRUPTIONS
OPERATING SPEED
UP TO 65 km/h / 40.4 miles/h
PREVENTIVE
PROTECTION

KUPRO



The combination of air humidity and cold during winter causes contact wires to ice up. Icing is a problem that has to be taken seriously as the ice can negatively affect the power supply to the vehicles, or could even cut the power off altogether. This leads to the formation of electric arcs that increase wear on the contact elements and contact wires,

and may even cause interruptions to operation. Operators can be saddled with enormously high costs due to these interruptions. To **prevent outages** of this sort and ensure **smooth operation**, we recommend that the contact lines be protected against icing as a preventive measure when weather conditions become less favourable. The contact

wire de-icing system KUPRO from Kummeler+Matter Ltd. contains all the important components for preventing contact wire icing in one compact system. This system can be installed in a vehicle or wagon body and operated directly from the cockpit by means of radio remote control.

Kummeler+Matter

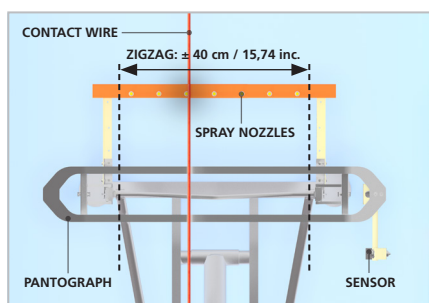
KUPRO CONTACT WIRE DE-ICING SYSTEM

Article no. B1588-01 - De-icing system

Article no. E4267-01 - Mixed de-icing fluid 40/60

THE COMPACT DE-ICING SYSTEM

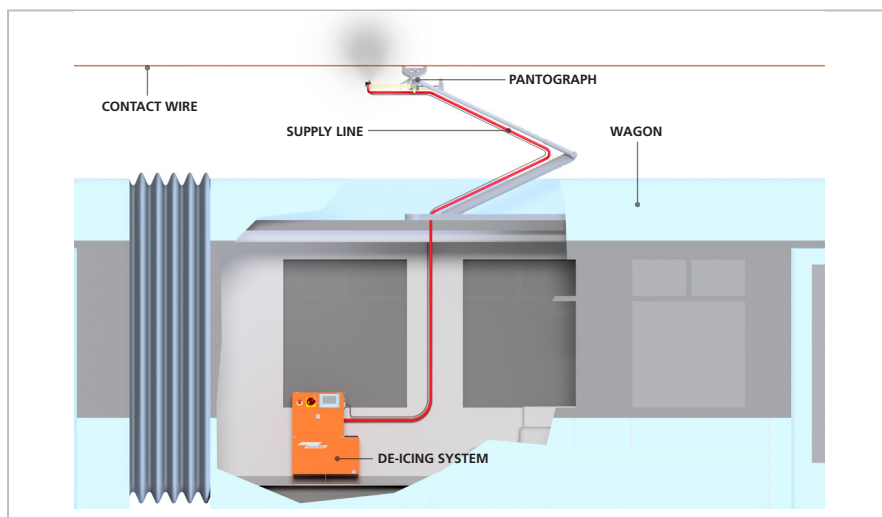
All the components in our improved **contact wire de-icing system KUPRO** are accommodated in one compact de-icing system that is installed inside a vehicle or wagon superstructure; operation is simple with the help of remote radio control from the cockpit.



Function of the spray module

TAKE PREVENTIVE ACTION – STAY SAFE THROUGHOUT THE WINTER

The de-icing system is connected via the supply line to a spray module mounted on the current collector (pantograph) on the roof of the wagon. The sprinkler module is equipped with spray nozzles and a sensor to detect the precise position of the contact wire. This sensor continuously determines the precise position of the contact wire, which is then transmitted to the control. The control activates the spray nozzles at the shortest distance from the contact wire, depending on its position. The result: de-icing fluid is applied **contact-less**, uniformly and economically to the contact wire.



Schematic showing the structure of the contact wire de-icing system KUPRO

YOUR ADVANTAGES AT A GLANCE

- ✓ Environmentally compatible and 100% biodegradable de-icing fluid
- ✓ No interruptions to operation
- ✓ Operating speed: Good impregnation up to 65 km/h / 40.4 miles/h

- ✓ Fewer contact interruptions and operating outages caused by contact wire icing
- ✓ Less wear on contact wires and abrasives
- ✓ Easy, low-maintenance operation and use
- ✓ Standalone operation is possible for up to 10 hours with battery

SPECIFICATIONS:

- ✓ Zigzag: ± 40 cm / 15.74 inc.
- ✓ Voltage range for contact line: up to 3kV DC
- ✓ Ideal application range at temperatures from -20 °C to 5 °C / -4 °F to 37 °F
- ✓ Consumption of de-icing fluid: approx. 0.9–1.3 l/km / 49–70 fl oz/mile (depending on speed and adjustment)
- ✓ Pressure range: 0 to 45 psi
- ✓ De-icing remains effective for about 5–7 days (depending on weather conditions)
- ✓ Dimensions (device): 750 x 600 x 1000 mm / 29.6 x 23.7 x 39.4 inch (W x D x H)

TESTS AND STANDARDS

- ✓ Machine directive 2006-42-EG
- ✓ EN 50124-1:2004
- ✓ EN 50121-3-2
- ✓ IEC 60060-01
- ✓ UL 508A



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FOR YOUR OVERHEAD CONTACT LINES