HAUG Ionization – for the elimination of electrostatic charges

III.1: EN 9 Sine

Discharging power pack EN 9 Sine

The discharging power pack **EN 9 Sine** supplies energy to HAUG ionizing units. A functional monitoring facility reports impermissible operating states in the ionizing system such as short circuit and spark formation or thermal overload. The **EN 9 Sine** can be pulsed and supplies a monitoring signal of the output high voltage.

Functional principle

The **EN 9 Sine** provides a high voltage of 7–8 kV_{AC} and supplies HAUG ionizing units with a connected length of 18 m max. (incl. HV cable). The signalling socket K1 supplies a linear monitoring signal of the output high voltage for reporting and control purposes. At an output high voltage of 7 kV_{AC}, for example, the monitoring signal has a voltage level of 7 V_{DC}.

In addition, the output high voltage of the **EN 9 Sine** can be pulsed via signalling socket K1. This means that the ionization process of the connected ionizing units can be switched on and off from a control desk or machine control unit. This allows the ionizing system to be operated very efficiently with regard to the energy input.

The function monitoring facility of the **EN 9 Sine** permanently monitors the output high voltage in the components of the ionization system – from the discharging power pack via the high voltage lines through to the connected ionizing units. In the event of a short circuit or spark formation in the ionizing system, e.g. due to faulty insulation, the **EN 9 Sine** will switch off the output high voltage and report the fault via a signalling lamp. The monitoring signal of the output high voltage drops to 0 V. Thermal overloading of the discharging power pack also results in the output high voltage being switched off. The switching off of the output high voltage protects the product, the ionizing system and machine components from consequential damage.

The discharging power pack **EN 9 Sine** has been manufactured to conform to protection type IP 54.

Properties

- 4 HV outputs for up to 18 m connected length
- Permanent function monitoring
- Signalling of impermissible operating conditions
- Integration in machine control unit or control desk
- Pulsing of output high voltage
- Monitoring signal of output high voltage

Application examples

The **EN 9 Sine** can be integrated into a multitude of applications in conjunction with HAUG ionizing units:

Plastic processing industry:
film/sheet extruders, film processing, manufacture of plastic tubes, sections, half shells and bars, blow moulders

Packaging industry:
packaging machines, filling machines, for the production of tubular bags

Graphics industry:
folding machines, post-press

Electrical engineering industry:
PCB production

HAUG GmbH & Co. KG **Germany**
Friedrich-List-Str. 18
D-70771 Leinf.-Echterdingen
Phone: +49 711 / 94 98-0
Telefax: +49 711 / 94 98-298
www.haug.de
E-mail: info@haug.de

HAUG Biel AG **Switzerland**
Johann-Renfer-Str. 60
CH-2500 Biel-Bienne 6
Phone: +41 32 / 344 96 96
Telefax: +41 32 / 344 96 97
www.haug-ionisation.com
E-mail: info@haug-biel.ch

Static Line - Power pack EN 9 Sine

HAUG®

EN 9 Sine

Contact assignment signalling socket

A: External pulse

B: External reset

Pin 1: Not assigned

Pin 2: Pulse input: By connecting pins 2 and 5 via a potential-free normally open contact, the output high voltage is switched off. The power pack can be pulsed with a frequency of 2 Hz max.

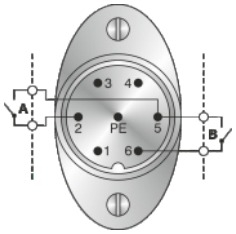
Pin 3: Monitoring voltage: Voltage follows the output high voltage.

Pin 4: Signal output thermal monitoring: in the event of proper functioning of the unit, a signal of > 9 V is registered at pin 4.

Pin 5: Signal ground GND.

Pin 6: Input reset signal: When the unit is switched off after an overload, this input can be used to restart the unit. For a reset, pins 5 and 6 must be closed via a potential-free normally open contact briefly (approx. 1 s).

Pin PE: Ground



III.2: Signalling socket

Technical data

Types:	**EN 9 Sine**	(115 V)	Order-No.: 01.7872.000
	EN 9 Sine	(230 V)	Order-No.: 01.7873.000
Protection type:	IP 54		
Protection class:	I		
Supply voltage:	115 V_{AC} / 230 V_{AC}; (50 – 60 Hz)		
Power input (approx.) :	80 VA		
Nominal output voltage:	7 – 8 kV_{AC}		
Short-circuit output current:	$I_k \leq 5$ mA		
Capacity of signalling contacts:	24 V_{AC} / 35 V_{DC}, max. 50 mA		
HV-terminals:	4		
Max. connectable length: (ionizing unit incl. HV-cable)	18 m		
Operating temperature:	+5 °C to +45 °C		
Storage/transport temperature:	-15 °C to +60 °C		
Weight:	5 kg		
Mains cable: (fixed to the device)	2.6 m		

Subject to technical changes!