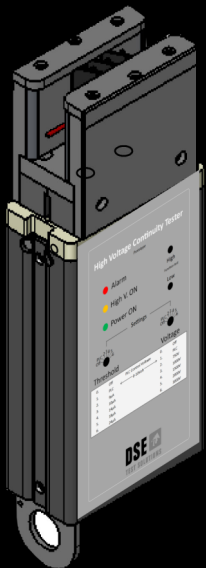


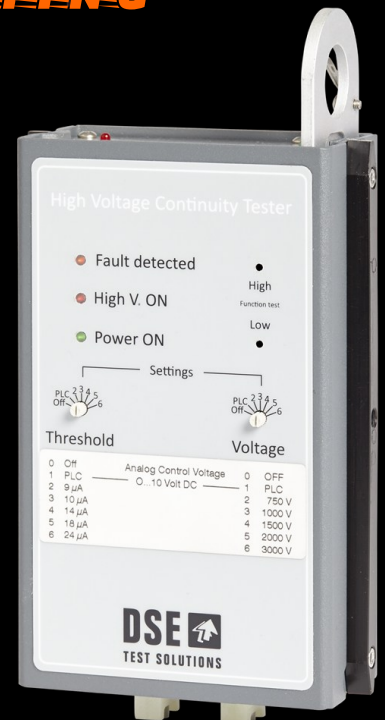
Detection of faults in the insulation



High Voltage Tester



- Hairpins
- I-Pins
- Winding wire



Application of HVC SA

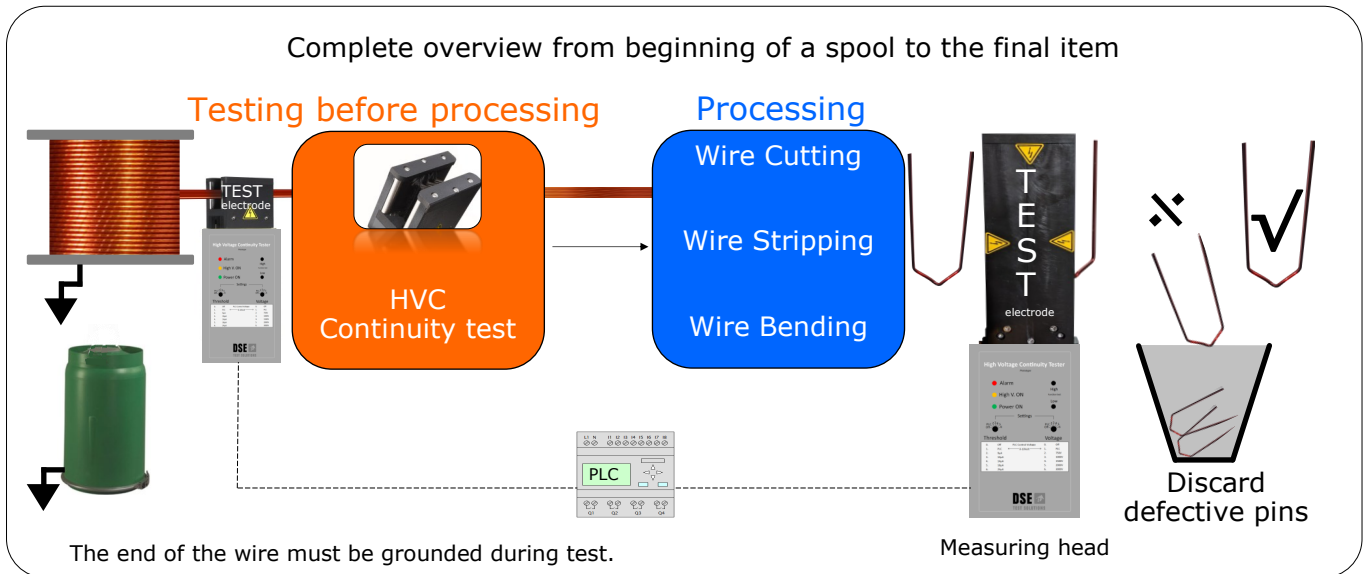
Fault detection

Effective testing

Testing each single Hairpin/I-pin and each meter of the coated wire before processing is the most effective way for securing the raw material has no faults that later on will discard final product. Production of E-Motors– Transformers– Rotors etc. is costly so knowing the raw material has been tested is essential.

Fast alarm

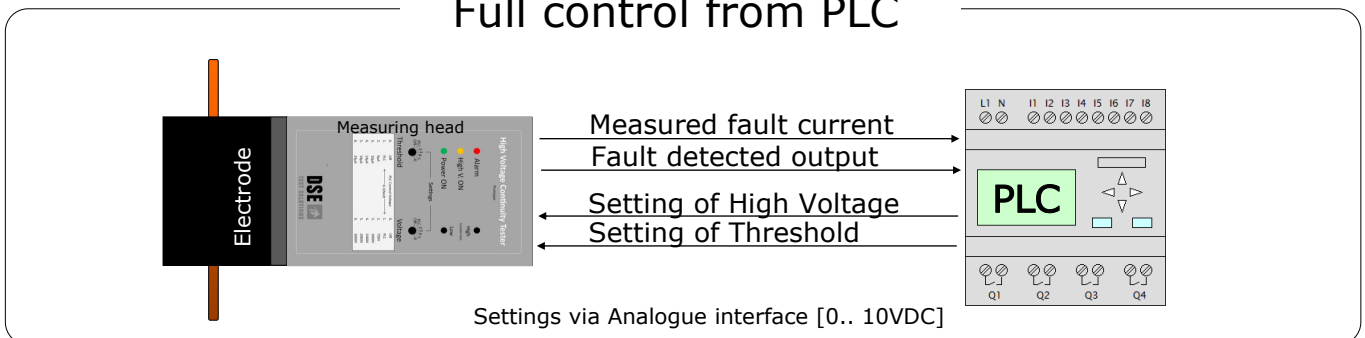
In cases a pin hole or crack is being detected the alarm output turns ON and makes it possible to mark the defect on the wire or discard a defect Hairpins / I-Pins



Simple in installation and operation.

Only 24VDC is needed. The setting of the High Voltage and Threshold is done on the front by means of five individual pre-sets (other pre-sets can be made on request) or analogue interface [0.. 10VDC] for make settings and fault current measurements. See example below.

Full control from PLC



Features

- Full 360 degree surface coverage of the wire coating and the bended Hairpin or I-pin
- Build in controller with 5 individual pre-set for both the High Voltage tension and Threshold
- Interface for PLC, direct setting of HV and Fault current/Threshold from [0.. 10VDC]
- Output for measured fault current
- Wide range of electrodes available from wire size 8µm to a completed bended Hairpin/I-Pin
- Optical isolated alarm output when fault is detected.
- Output for switching on a light tower showing Power ON & High Voltage ON
- No damage from sparks (low power design) max 100µA
- Wide output Test Voltage range 350VDC to 6000VDC
- Low tension means no damage of the enamel because of very soft conductive brushes

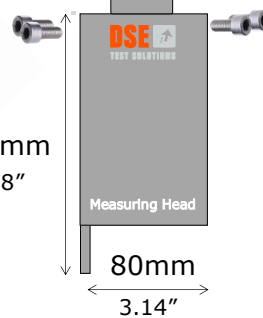
Exchangeable Electrode option

Exchanging of electrodes

4 screws for exchange on the side

The Measuring Head operates base unit.
A wide range of electrodes can be mounted and exchanged to offer maximum flexibility.

175mm
6.88"

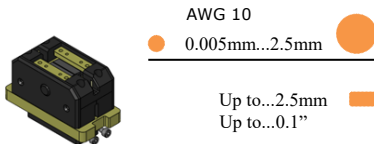


Measuring Head

Part No.: 46272

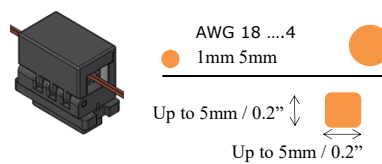
See the complete range of electrodes below.

Standard wire



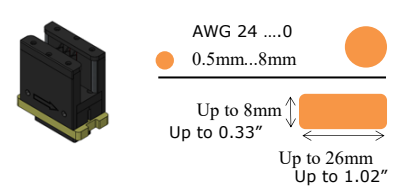
Part No.: 71876

Mid range



Part No.: 71880

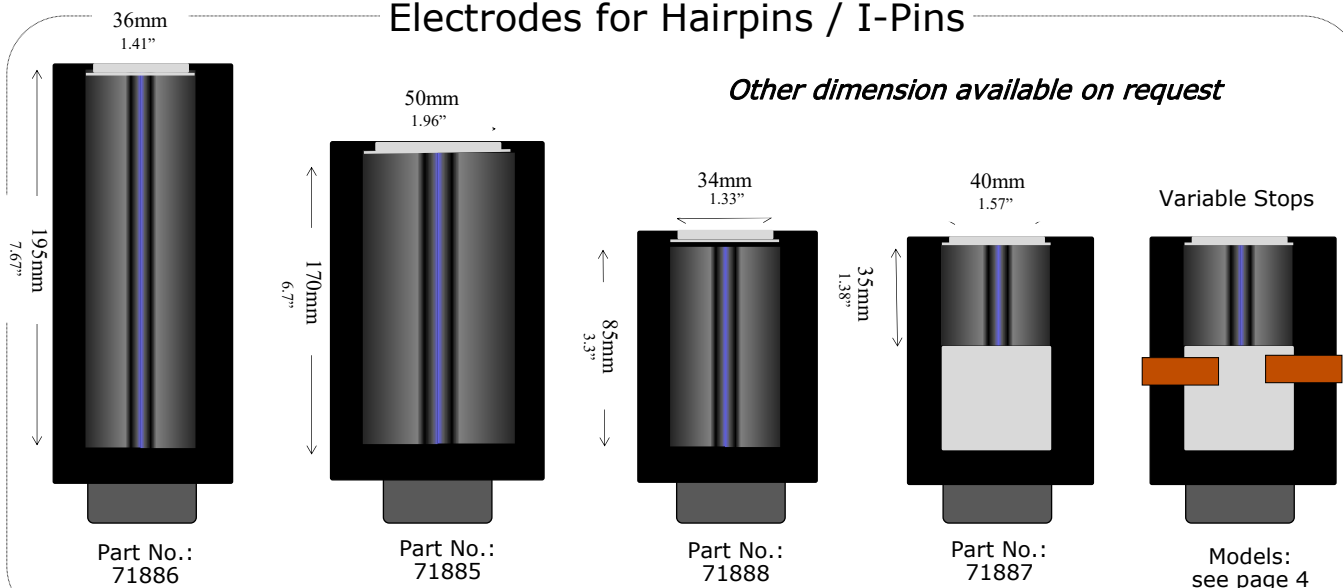
Heavy wire



Part No.: 71901

Electrodes for Hairpins / I-Pins

Other dimension available on request



Mounting Bracket

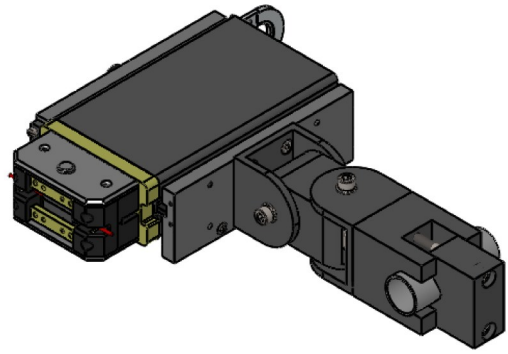


With DIN Rail
mounting option



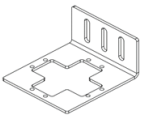
Part No.: 71929

DSE 2100 Multi position holder



Part No.: 46213

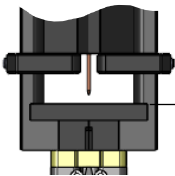
Mounting Bracket for Electrodes



Part No.: 71930



Variable stop for electrode



For 36mm electrode
Part No.: 71917

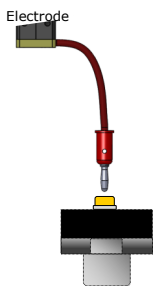
For 50mm electrode
Part No.: 71918

With brush pin for sample test



Part No.: 71920 Electrode top
31844 1 meter cable
31845 2 meter cable

Cable connecting interface



Part No.: 71920 Electrode top
31986 1 meter cable
31987 2 meter cable

Load Probe for function test

High Voltage Load probe with a build in a precision resistor of 20MΩ
This Load probe can simulate a pin hole and make a current flow of 50μA @ 1000 Volt.



Part No.: 46208

Power Supply Unit 24 Volt DC

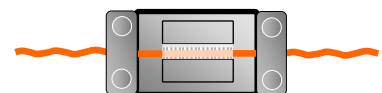
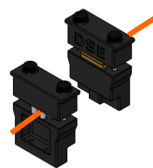


PSU (EU)
Part No.: 75333



PSU With Buzzer
Part No.: 46273

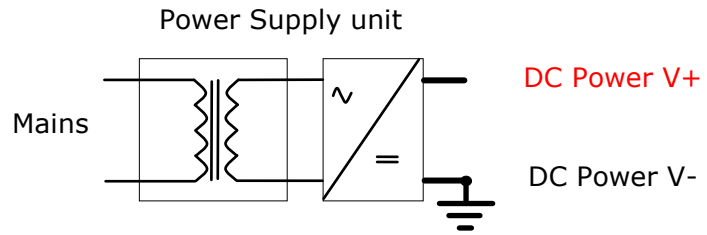
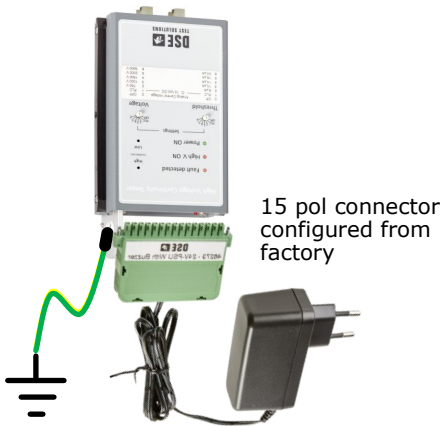
Felt guide and wire stabilizer



Part No.: One set (2pcs) :71882

Note:

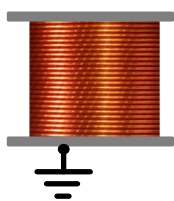
In order to be able to measure a fault current caused by a crack or a pinhole in the coating of a wire, the conductor must referring to the same ground potential as shown in the examples below.



NOTE:

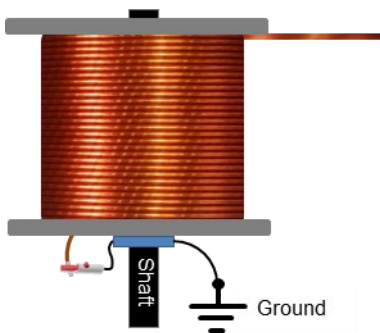
It's recommended to use a separate Power Supply for the HVC SA.

The minus of the 24Volt input and the chassis of the HVC SA is connected internal.

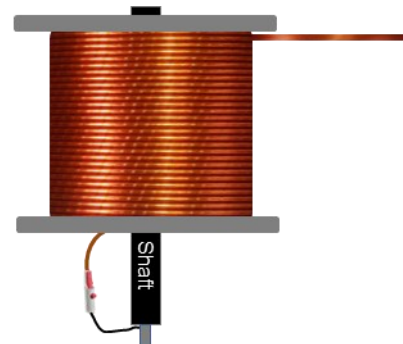


Grounding of rotating spools / bobbins

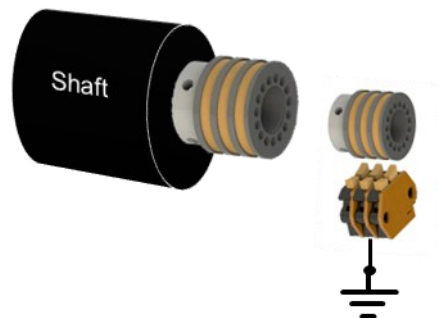
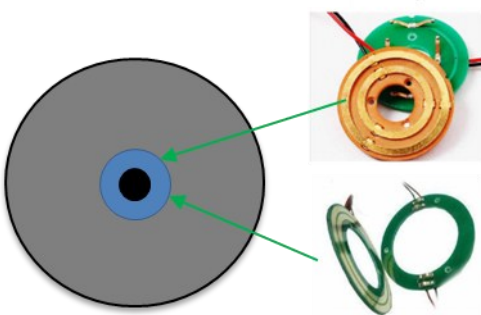
Pancake type slip ring



Through bore slip ring



Examples

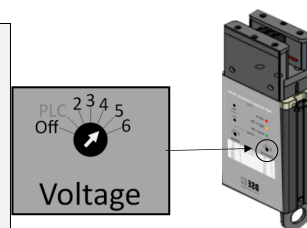


Specification Electrical:

Standard Pre-set on the front

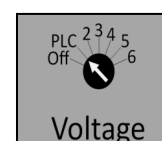
 Threshold	0.	Off	PLC Control Voltage	0.	Off
	1.	PLC	← 0-10Volt →	1.	PLC
	2.	9μA		2.	750V
	3.	10μA		3.	1000V
	4.	14μA		4.	1500V
	5.	18μA		5.	2000V
	6.	24μA	Hairpin	6.	3000V

Settings according to IEC 60851-5 for inline purpose *



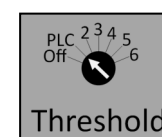
Setting of the Test Voltage in position PLC

Calculation factor Input= [High Volt Output /600]
 Output Voltage range (example):
 Control Voltage set to 10VDC = 6000VDC Test Voltage
 Control Voltage set to 0.583VDC = 350VDC Test Voltage
 Accuracy for Control Voltages: <5% = ±10mV
 @ Test Voltages output of 1000VDC



Setting of the Threshold in position PLC.

Current above the Threshold will activate the fault output.
 Calculation factor on Input = [Threshold μA /10]
 Range (example): 10VDC = Threshold set to 100μA
 0.5VDC = Threshold set to 5μA
 Alarm trigger accuracy: Settings ±2μA (PLC or Pre-set)



Output:

- Test Voltage on brushes: 350VDC to 6000VDC ±5% IEC Norm. 80851-5
- Maximum current: 100μA DC
- Measured fault current available as signal 0...10VDC, Accuracy equal ±2μA
- Fault output is active as long as the current is above the selected threshold. Minimum time is 25mS.
- Max. line speed for Hairpins/I-pins 500mm/second @Test Voltage 1500VDC and Threshold 24μA
- Max. line speed for running winding application 1000m/minutes
- Output for Power ON [30V/100mA] can be connect to e.g. a light tower
- Output for High Voltage ON [30V/100mA] can be connect to e.g. a light tower

Power

- Power supply: 24VDC ± 10%
- Power consumption current max: 750mA
- Interlock function

Others

- Ambient temperature : 15°C - 50°C
- Humidity: 0 - 80% no condensation.
- Weight: 1.5kg without electrode

Implementation Standard: NEMA 1000-2003, IEC 60851-5



* Inline high-voltage continuity (wires in accordance with grade of FIW 3 to FIW 10 with nominal conductor diameter over 0,035 mm up to and including 1,600 mm)

Ordering options

Part no.

HVC 360 SA Measuring Head incl. 15 pol connection plug	46272
Traceable calibration certificate	46328
Mounting bracket for Measuring Head	71929
Multi position holder for Measuring Head	46213
Field guide and wire stabilizer set	71882
15 pol connector	94462
Electrode for hairpins (195mm x 36mm)	71886
Electrode for hairpins (170mm x 50mm)	71885
Electrode for hairpins with variable stop (35 - 80mm x 40mm)	71887
Electrode for hairpins (85mm x 34mm)	71888
Standard wire electrode for round and flat wire	71876
Mid size wire electrode for round and flat wire	71880
Heavy wire electrode for round and flat wire	71901
Note: spare part brushes are available for all electrodes	
Variable stop for electrode 50mm	71918
Variable stop for electrode 36mm	71917
Mounting bracket for electrode	71930
Electrode Top for Cable connection interface and pin brush	71920
Cable connection interface 1-meter cable	31986
Cable connection interface 2-meter cable	37987
Pin brush 1-meter cable with 1 x circular brush	31844
Pin brush 2-meter cable with 1 x circular brush	31845
Circular brushes – bag of 6 pcs.	71934
Power supply 24 VDC/750 mA, 1,5-meter cable (EU)	75333
Power supply 24 VDC/750 mA, 1,5-meter cable (US + JP)	75341
Power supply 24 VDC/750 mA, 1,5-meter cable (LED + Buzzer for manual inspection)	46273
Load probe, 1-meter cable	46208





Headquarter in Denmark

Version 03.10.00 GB



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