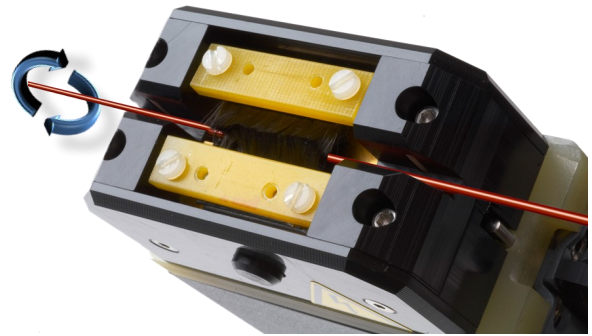


## HVC 360 Flexible for In-line Quality monitoring

- Most reliable quality control tool
- Valuable documentation for each meter of a spool
- Reduction of scrap
- Improved efficiency
- Measurement with two level detection
- Storing of data on local PC or central server
- IEC 60851-5 compliant

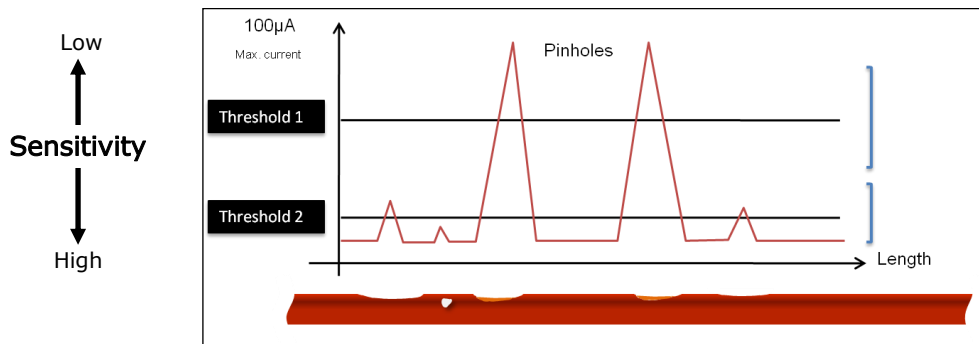


### Basic operation principle

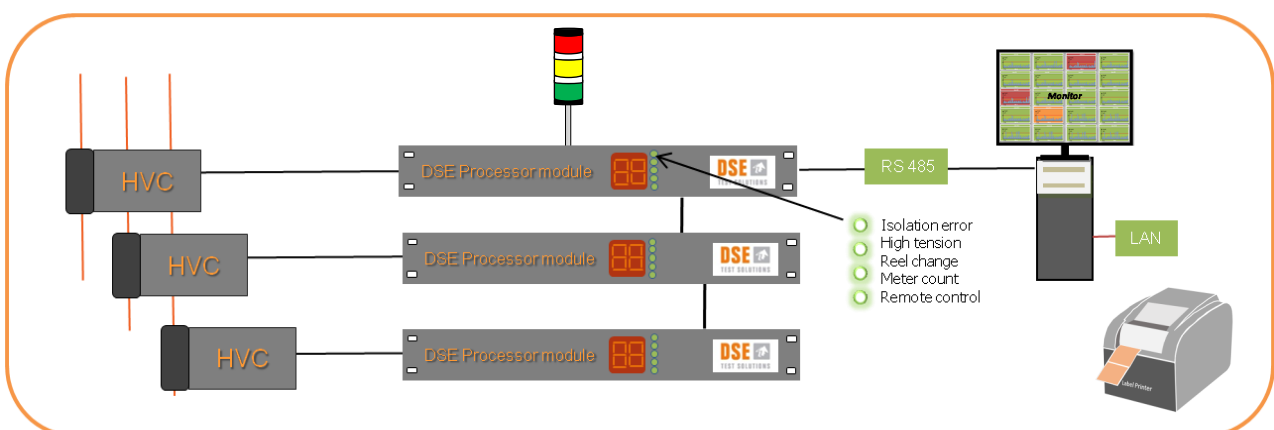
When the wire passes through the conductive brushes, any current leakage being measured will reflect the insulation properties of the enamel.

The high voltage control circuit is designed with an advanced current control with built in current limiter of  $100\mu\text{A}$  to avoid sparks damage of the wire insulation or electrode system.

Based on the most advanced software platform on the market, the HVC 360 Flexible test system is applicable for testing all types of wire insulation with a test voltage from 350V up to 6 kV DC.



In the HVC 360 Flexible Systems there are two individually adjustable levels of detector threshold. The two detection levels make it possible to divide the faults into groups for pin holes and weak spots.



The test results are collected and compressed by a processing module. When a test length is completed the data is transferred to the PC and stored in the database locally on the PC or via a network on a central server.

At spool change a label can be printed automatically showing all key data of the completed spool.

## HVC 360 Flexible Features

The low tension of the soft conductive brushes brings new opportunities for superior quality control of a wide range of dimensions - and with a full 360-degree surface coverage.

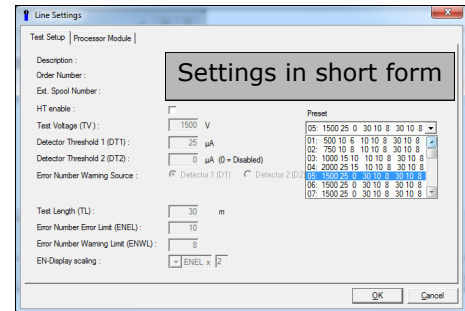
### The HVC 360 Flexible features

- Full 360 degree surface coverage
- Wide range of dimensions
- Low tension means no damage of the enamel because of the very soft conductive brushes
- Easy to maintain
- No damage from sparks
- Individual programming
- Wide output test Voltage range 350V to 6 kV



### Select a Pre-set

To simplify the operation it is possible use up to 99 pre defined settings. The predefined pre-sets can be password protected by the administrator of the system.



### Two detection levels

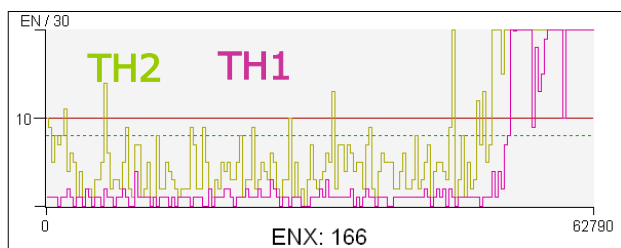
Two level Thresholds can be set in order to group the failures based on their characteristics. The thresholds are defined as sensitivity levels in  $\mu\text{A}$ . Any current leakage surpassing the set Threshold is registered as a failure.

### From details to complete overview



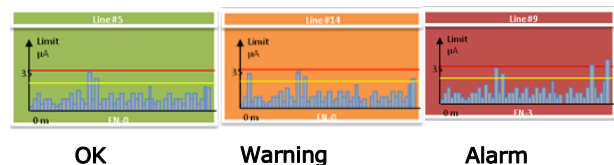
### Threshold 1 and Threshold 2

By operating with two different thresholds/sensitivities, TH1 & TH2, it is possible to get a pre-warnings in time before the wire turns into scrap. The most sensitive threshold TH2 will start counting failures caused by e.g. weak spots before more serious problems are detected by TH1 as shown below.



Weak spots

Pin-holes



OK

Warning

Alarm

### Password protection

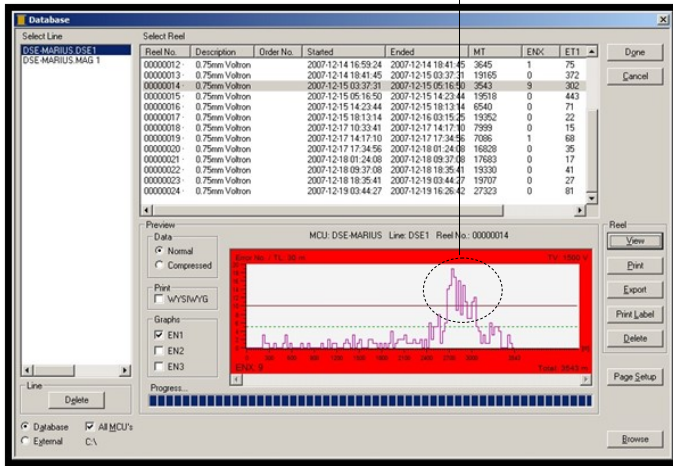
It is possible to lock the settings on each line. The setting can not be changed unintended if the operator does not know the password. For achieving maximum flexibility the protection level is divided into 3 different levels. Administrator, Supervisor and Operator.

long distance view

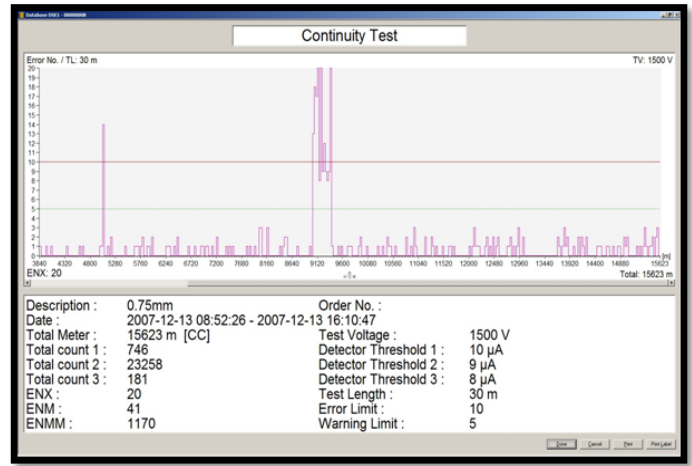


## Data base with visible features

- Complete overview of a complete spool in one single picture
- Zoom function provides precise information meter for meter
- Find defect meters on the spool
- Find the area of a spool where the quality parameters have been exceeded



Database browser



Single spool view

### Data stored for each spool

Description:	Description of the line
Date:	Date and time for Start and End of the spool
Total Meter:	Total meters on the spool
Total count 1:	ET1 Total errors found by detector 1
Total count 2:	ET2 Total errors found by detector 2
ENX:	Number of Test Length where EN1 has exceeded or reach the Limit [ENEL]
ENM:	The meter having maximum errors on the spool
ENMM:	The meter where the Test Length starts, which contains ENM

Order No.:	Typed in order information
Ext Spool No.:	External spool number
Test Voltage	Test Voltage as entered in the test setup
Detector THD1:	The Threshold of Detector 1 in (µA)
Detector THD2:	The Threshold of Detector 2 in (µA)
Test Length:	The test length in meters as entered in test set-up
Error Limit:	Error Number Error Limit (ENEL). The Errors detected by detector 1 [DT1] within the current Test Length is being counted continuously.
Warning limit:	In the field Error Number Warning Limit (ENWL) the warning limit on holes detected by detector 1 or detector 2 (set in set up menu)

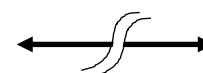
### Additional registrations in the database:

- High tension drop-out has occurred
- Detection of Blank wire on the spool
- Test condition changed by the operator
- Processor module has been reset.

PC OFF



Connection lost



Local Buffer



No loss of data

### Build in security and no data loss solutions

In case the connection from the Processor Module to the PC is absent/lost all test data is then temporary buffered in the Processor module, in order to avoid data loss.

At the time the connection is re-established or the PC works again all data temporary buffered in the Processor Module will be transferred to the PC and then stored in the HVC Database.

In case the connection between a central server and the local PC is lost, the PC will then buffer the data temporary, to secure no loss of important data.

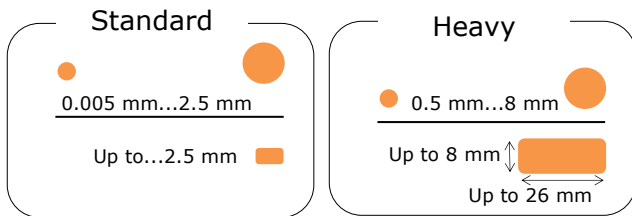
## Technical specifications

### Dimensions for Heavy wire model

Height: From 0.5 mm to 8.0 mm  
 Width: From 2.0 mm to 26.0 mm  
 Round: From 2.0 mm to 8.0 mm

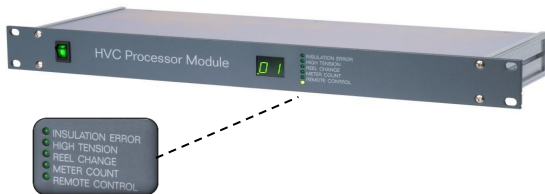
### Dimensions for Standard wire model

From 0.005 mm to 2.5 mm



### PM-Processor Module

The Processor Module controls the Measuring head. It collects, evaluates, and compresses data. The data is transferred after completing a test length to the PC and stored in the database.



### PM module features

LED indicators for the following functions

- Insulation error
- High tension
- Reel change
- Meter counter
- Remote control (PC connected)

- I/O interface, including power supply to the Measuring Head MH
- Opto-isolated outputs for warning and alarm
- Serial RS485 interface
- Ambient temperature: 15°C - 50°C
- Humidity: 0 - 80% no condensation.
- Weight Processor Module: 2 kg
- Weight Measuring Head 1.6 kg
- Line voltage: 115/230VAC ± 10% 60/50 Hz with protective ground
- Power consumption max. 40W
- EN 60204 safety of machinery
- IP Class 40

**PC** The system operates from a standard PC with Windows 7 or Windows 10.

Implementation Standard: NEMA 1000-2003, IEC 0851-5

In terms of safety, all electrodes are considered as an open probe with no IP Class

### Database

Access or Microsoft SQL on local PC or central server.

### Included accessories

Cables from measuring head to processor module 10m included per line.  
 Longer cables can be supplied on request

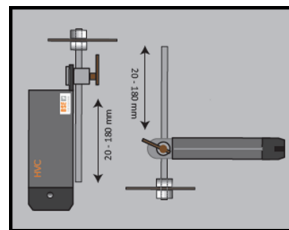
- DSE 2100 Multiple position holder for Measuring head (1 holder included per line)
- Earth strap for each line

### Optional Accessories

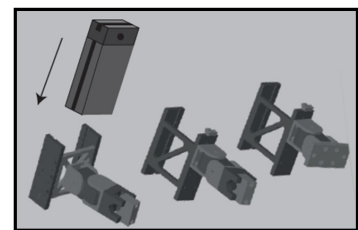
- Narrow position holder for Measuring-Head
- Communication interface from Processor module to PC via USB including 10 meter connection cable  
 \*Optional RS232/RS485 converter available
- Latching relay for Alarm output
- Test kit probe for test of setting
- Set of spare brushes

### Holder for measuring head

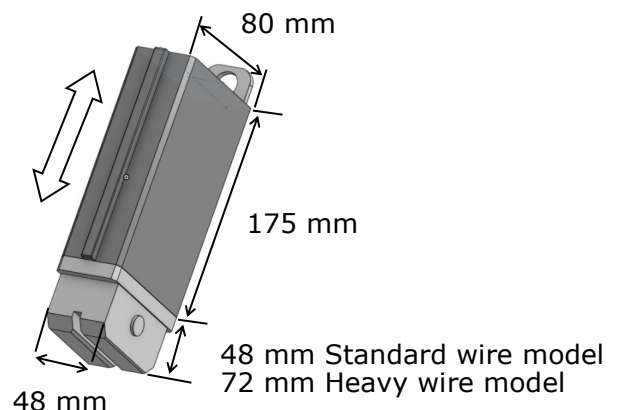
Each line includes a high-quality metal holder which secures a stable mounting of the measuring head. This means it is easy to dismantle the unit for cleaning, etc.



Narrow position holder



DSE 2100 Multi position holder





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Version 4.02



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