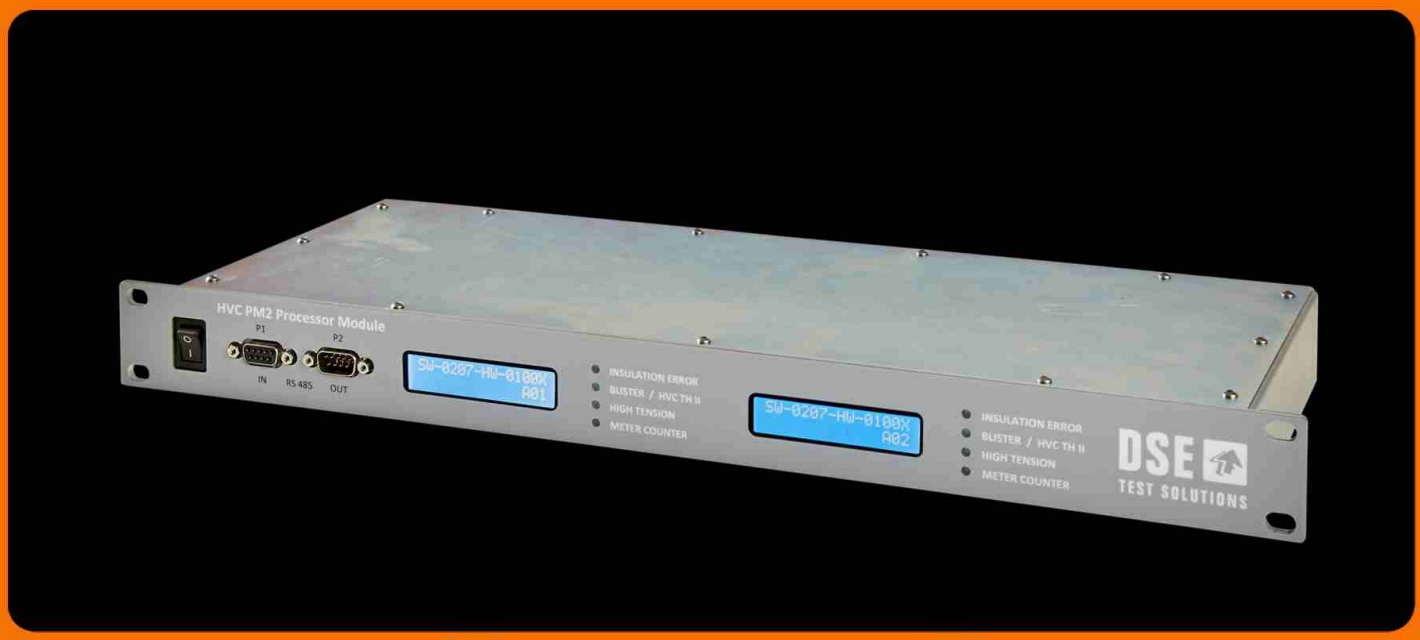
DSE TEST SOLUTIONS

Ver. 02.03.04

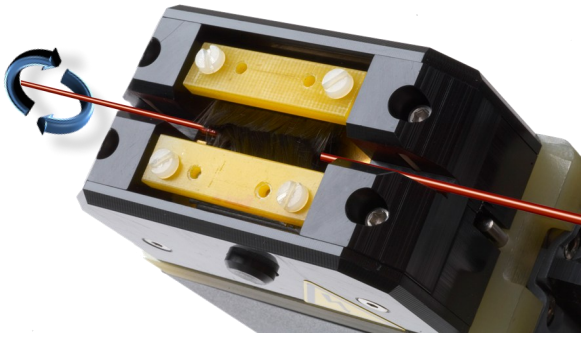
DSE HVC Flexible

Data sheet HVC Flexible



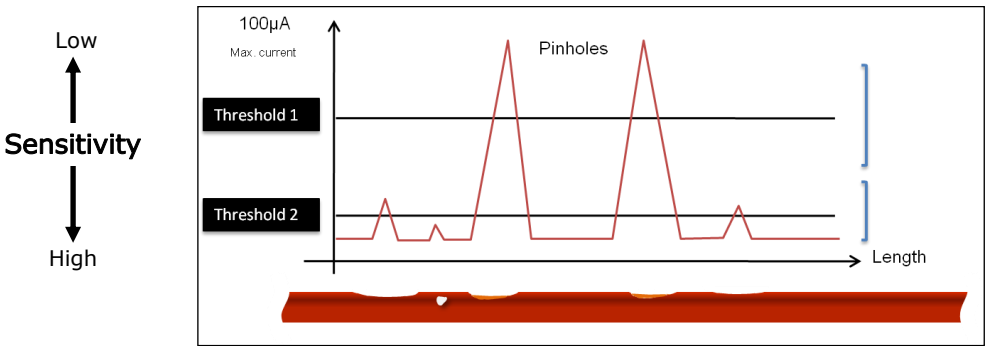
HVC 360 Flexible for In-line Quality Monitoring

- 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 100µA to avoid a spark is damaging the wire insulation or the 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 pinholes and weak spots.

Compact Dual Channel Processing Module

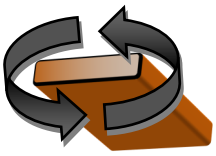
The test results are collected and compressed by a processing module. When a test length is completed, the data is transferred to the PC and stored in the database locally on the PC or via a network on a central server.
At spool change, a label can be printed automatically, showing all key data of the completed spool.

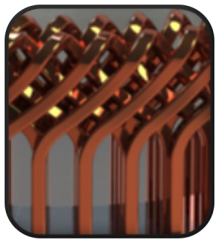
HVC 360 Flexible Features

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 DC



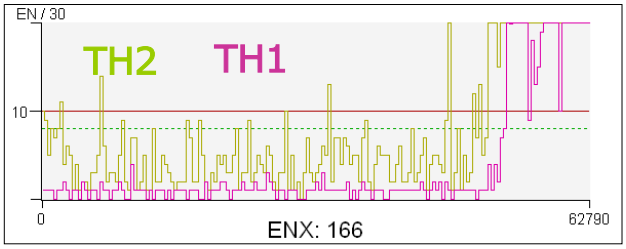


Two detection levels

Two level thresholds can be set in order to group the failures based on their characteristics. The thresholds are defined as sensitivity levels in µA. Any current leakage surpassing the set threshold is registered as a failure.

Threshold 1 and Threshold 2

By operating with two different thresholds/ sensitivities, TH1 & TH2, it is possible to get a pre-warning 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.



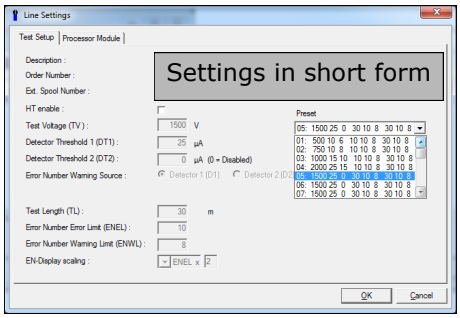
Weak spots Pinholes

Password protection

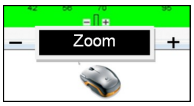
It is possible to lock the settings on each line. The setting can not be changed unintended if the operator does not know the password.
To achieve maximum flexibility, the protection level is divided into 3 different levels. Administrator, Supervisor and Operator.

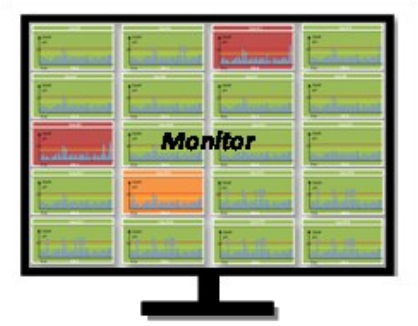
Select a Preset

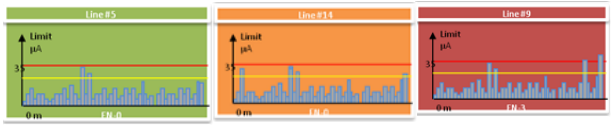
To simplify the operation it is possible to use up to 99 preset.
The preset's can be password protected by the administrator of the system.



From details to complete overview



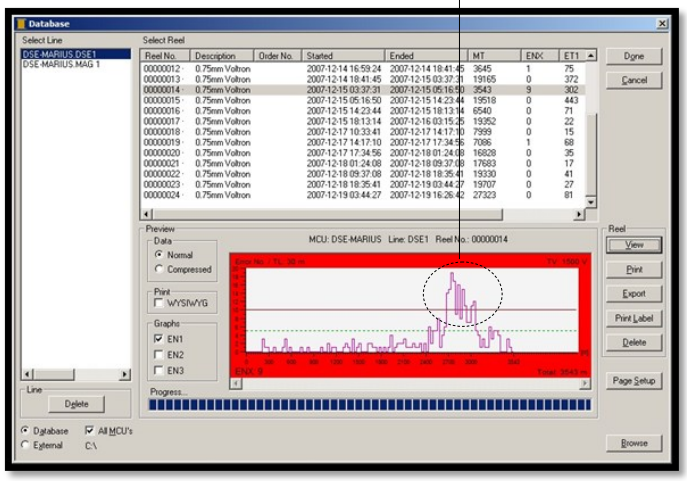




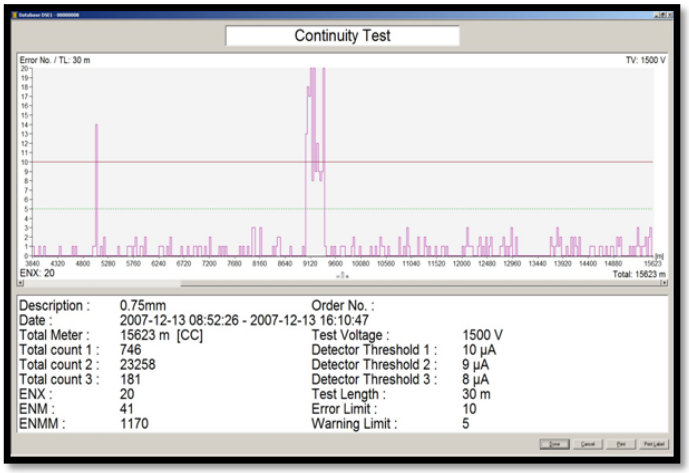
OK Warning Alarm

Database with visible features

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



Database browser



Single spool view

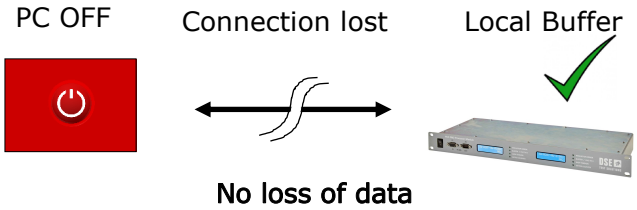
Data stored for each spool

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.

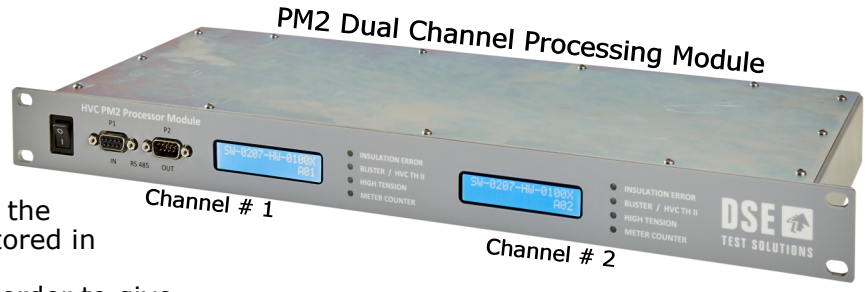


Build in security and no data loss solutions

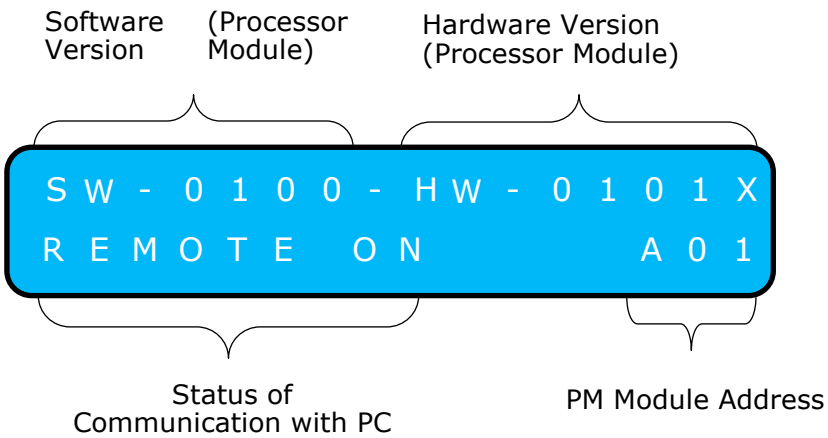
In case the connection from the Processor Module to the PC is absent, lost all test data is then temporally buffered in the processor module, in order to avoid data loss.
At the time the connection is re-established or the PC works again, all data temporary buffered in the Processor Module will be transferred 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 temporally, to secure no loss of important data.

Technical specifications

PM2 Processor Module
The processor module constantly controls and evaluate the value of measured current from the measuring head.
The processor module collects, evaluates, and compresses data.
After each test length is completed the data is transferred to the PC and stored in the database.
Finally the PC screen is updated in order to give the operator best possible overview.



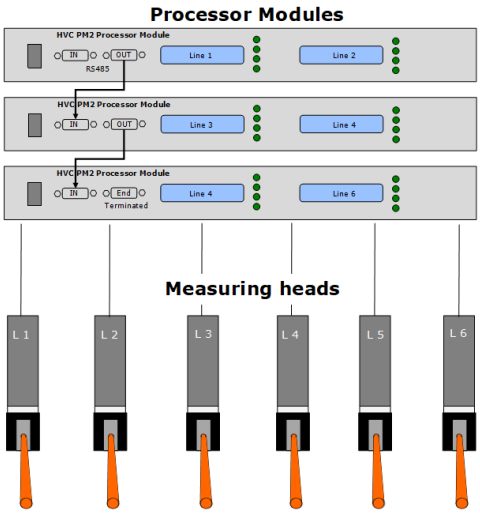
Each channel in the PM2 has a display and four LED's.
The information helps the operator in getting an overview, of each line.



LED's on the front

INSULATION ERROR	Threshold 1 has been exceeded
BLISTER / HVC TH II	Blister or pinhole detected
HIGH TENSION	High Tension is turned ON
METER COUNTER	Flashes while receiving a pulse from meter counter circuit

The PM2 processor module offers TWO complete processor modules in one cabinet.
The low power consumption make it possible to stack each PM2 close in a 19" rack to achieve a very compact solution.



PM2 Processor Module also available as single channel

CE

Technical specifications

Replaceable electrodes for any type of wire and dimension

Standard

0.005 mm...2.5 mm

Up to...2.5 mm
Up to AWG 10

Part No.: 71876

Mid range

AWG 18 4
1 mm 5 mm

Up to 5 mm

Up to 5 mm

Part No.: 71880

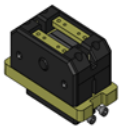
Heavy wire

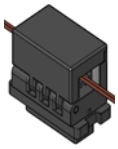
AWG 24 0
0.5 mm...8 mm

Up to 8 mm
Up to 0.33"

Up to 26 mm
Up to 1.02"

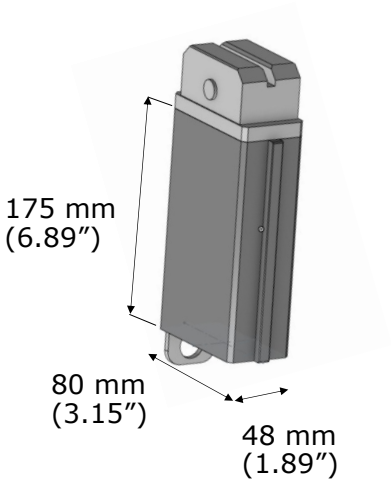
Part No.: 71901





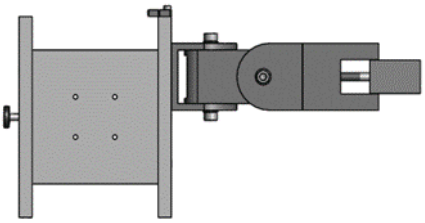
Measuring Head Base unit

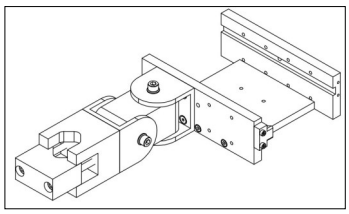
For optimal flexibility the measuring head is designed as a base measuring unit containing all the electronic circuit for doing the measurement.
For different wire dimension and shape, three different electrodes are available.



Multi Position Holder

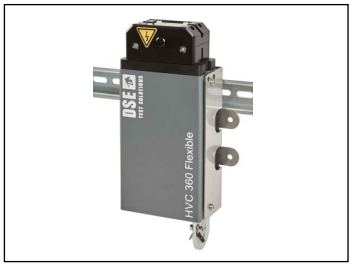
The Multi Position Holder secures a stable mounting of the measuring head.
This means it is easy to dismantle the unit for cleaning and adjustment.





Mounting Bracket Kit

The Mounting Bracket Kit is a cost efficient solution that provides a stable mounting of the measuring head. Include is option for mounting the bracket on a DIN rail.



Technical specifications

- Dual or Single channel PM module
- I/O interface, including power supply to the Measuring Head MH
- Opto-isolated outputs for warning and alarm
- Serial RS485 interface
- Ambient temperature: 15-50°C (59-122°F)
- Humidity: 0 - 80% no condensation.
- Weight PM2 Module Single/Dual 2 kg
- Weight Measuring Head ex. Electrode 1.6 kg
- Line voltage: 90/260VAC ± 10% 60/50 Hz with protective ground
- Line speed up to 2000m/min
- Power consumption max. 40W
- EN 60204 safety of machinery
- IP Class 40

Optional Accessories

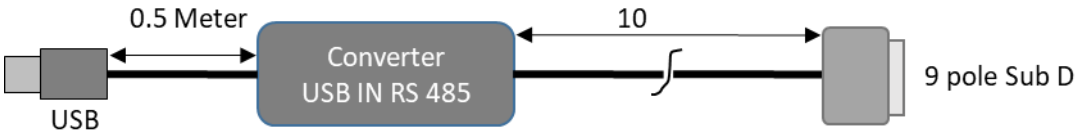
- Multi Position Holder
- Mounting Bracket
- Communication interface from processor module to PC via USB including 10 meter connection cable.
- Interface cable for In/Output
- Latching relay for Alarm Output
- Load probe probe for verification of function and test of settings
- Solder free adaptor for In/ Output
- Set of spare brushes

PC : The system operates from a standard PC with Windows 10 or Windows 11.

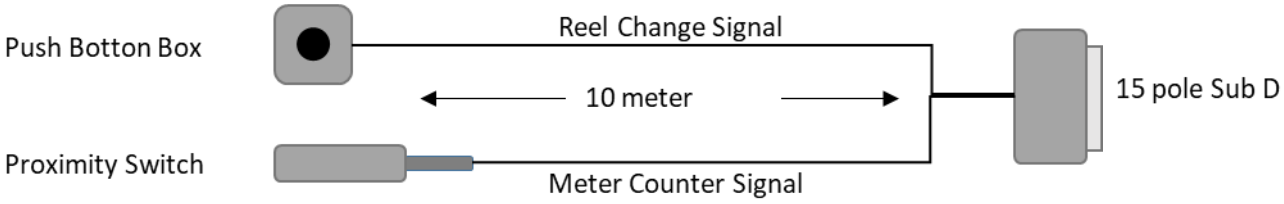
The PM2 is fully compatible and can be mixed with the first generation Processor Module

Database
Access or Microsoft SQL on local PC or central server.

Label printing
The software includes an option for customize and designing a label with data



Interface for meter counter and reel change to



be printed automatically after completing a

Latching relay

spool.

Terminal for in/output

Communication interface

Load Probe for function test

- Implementation Standard: NEMA 1000-2003, IEC60851-5

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

CE

Find your local contact for product availability and support at www.dsetestsolutions.com

DSE Test Solutions A/S
Sverigesvej 19
DK-8700 Horsens
Denmark

Tel : +45 7561 8811

Web: www.dsetestsolutions.com
Mail: wip@dse.dk

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