

**DEHN**



## DEHNventil: the original.

Half the size, all the power.

# The new DEHNventil

Powerful at half the width

## The original in a new design

DEHNventil – the byword for powerful lightning current arresters since 1983 – now comes with its proven performance parameters in a new slim design. The combined arrester, type 1+2+3, as per EN 61643-11, with a compact single module and remote signalling unit, now shows off its strengths in a compact size equivalent to 4x standard DIN modules.

More space in the switchgear cabinet, and that means easier installation, spare space for future components or the option to choose a smaller cabinet. DEHNventil scores with a follow current extinguishing capability of up to 100 kA<sub>rms</sub> and an extremely low residual energy thanks to integrated RAC spark gap technology.



## Advantages for you at a glance



### More space

With a width of just 4 standard DIN modules, the combined arrester saves 50% of the space taken by the previous model and other devices available on the market. This frees up room for additional components.



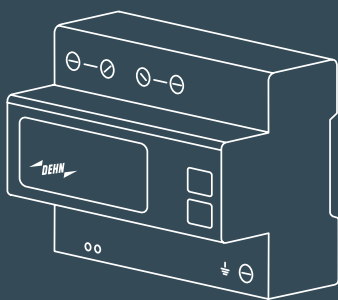
### Less effort

Practical for module replacements; can be done with just one hand. With a spring-supported plug-in module, replacement is quick, reliable and effortless. The additional mirrored labelling is also legible when the arrester is rotated by 180° for installation.

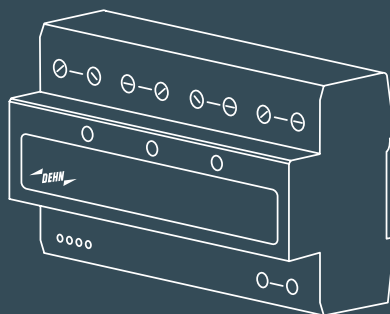


### Maximum protective effect

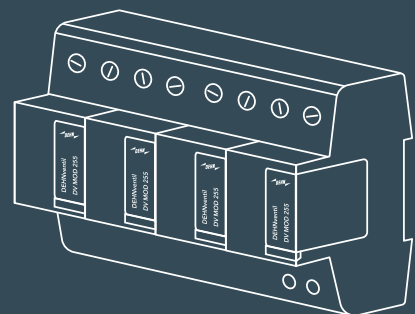
The RAC spark gap technology provides more safety with minimum residual energy and maximum follow current extinguishing capability for the best possible protection of downstream terminal equipment.



1983  
DEHNventil VGA



2000  
DEHNventil



2006  
DEHNventil M

# More space in the switchgear cabinet

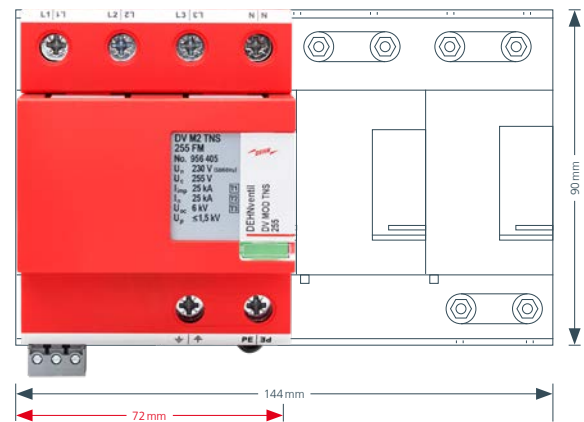


Further information:  
[www.de.hn/ventil-en](http://www.de.hn/ventil-en)

Stay flexible

## More options

More space in the switchgear cabinet means more space for extra components. On top of that, installation and wiring are much easier.



## Compact technology for the highest requirements

### New components



In modern switchgear cabinets, space is increasingly at a premium. Whether it is energy meters or fire protection switches, space needs to be found for more and more components. With its compact design, DEHNventil creates more spare space here.

### Easier installation

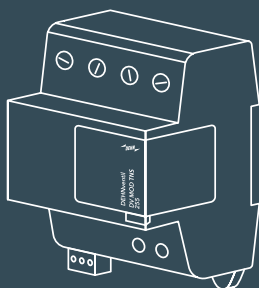


More room in the switchgear cabinet means easy installation, when installing and wiring both the DEHNventil and adjacent components.

### New requirements



The small design opens up new opportunities for optimally exploiting the available space. For example, lateral installation is also possible, which makes it easier to comply with the 0.5-metre cable length. 180°-rotated installations are also possible.



2021  
DEHNventil M2

## Smaller, stronger, more reliable. The original since 1983.

We develop products that set new standards.

The new DEHNventil – now in its 4th generation.

# Less effort, high performance

## Save time and money

Many new features are also economically attractive, because time is saved on installation and maintenance, which always means reduced costs.

### Quick module replacement

The entire plug-in block can be changed quickly and effortlessly with just one hand. This is ensured by the spring-supported ejection mechanism. A benefit during installation, as that saves time when replacing modules.



### Less maintenance effort

The advantage of a single module is obvious. After replacement, all modes of protection are at full performance capability once again. This prevents gaps in protection and extends maintenance intervals.

Also, all DEHNventil M2 models now feature a remote signalling contact. 24 / 7 monitoring means more effective maintenance deployments that are easier to plan.

Vibration shock testing ensures reliable use even under vibration stress.



### Lower additional costs

Often just a few centimetres can be the difference between a device having enough space for assembly and a larger switchgear cabinet being required. The space gained with DEHNventil can save money if a smaller switchgear cabinet will suffice as a result.

Good to know: DEHNventil is an all-in-one solution. With a type 1 + 2 + 3 combined arrester, all terminal equipment within a protection range of 10 metres of cable length are protected. The costs associated with additional devices and their installation are thus done away with.



# Maximum protective effect

## RAC spark gap technology from DEHN

With a compact size equivalent to 4 standard DIN modules, the combined arrester, type 1 + 2 + 3, protects against transient overvoltages in low-voltage switchgear and controlgear assemblies. The RAC spark gap technology installed here offers extra performance. It reacts especially quickly

and with the lowest residual energies, minimises the impact on connected installations and the systems. This is expertise from experts in spark gap technology of made-in-Germany quality.

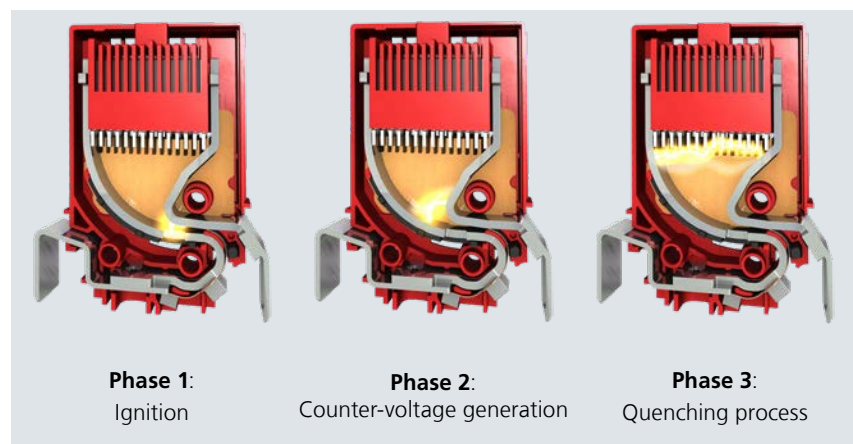
### RAC spark gap technology

The fast responsiveness of the RAC spark gap technology that limits mains follow current and is gentle on terminal devices provides safety far beyond the standard. In order to ensure this, the discharge process inside the RAC technology can be split into 3 steps:

1. A lightning strike or surge reliably activates the trigger circuit at lightning speed. This leads to the ignition of the electric arc in the main spark gap and to the quick uptake of the interference impulse.
2. The resulting electric arc moves towards the arcing chamber and triggers the generation of a counter-voltage.

3. The mains follow current is rapidly interrupted by maximising the counter-voltage in the arcing chamber area.

This also minimises the impact on the smallest upstream fuse devices.

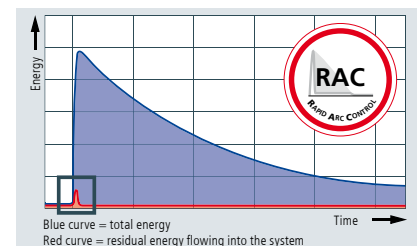
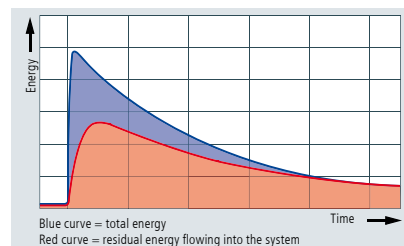


### Wave breaker function as a basic characteristic of RAC spark gap technology

Just like a violent tidal wave, a lightning strike in an installation leads to high impulse currents and impulse voltages in electrically conductive systems. If this wave is not broken quickly, important electrical loads will be destroyed. A powerful, type-1, spark-gap-based arrester works here like a wave breaker. It breaks the incoming energy down to a considerably reduced level. This protects the

electrical installation and upstream fuses and minimises the impact on

downstream surge arresters. This extends their service life.



### Optimum protection of terminal equipment is worth it

As a tested combined arrester, type 1 + 2 + 3, as per DIN EN 61643-11, DEHNventil safeguards installations and terminal equipment within 10 metres of cable length from partial






lightning currents and surges. DEHNventil thus takes on the tasks of lightning equipotential bonding, surge protection and the protection of terminal equipment in just one device.

Connected terminal equipment is unburdened, preventing damage and premature ageing. This reduces the costs associated with sourcing new components and installation work.

# Part overview

## All models at a glance

All models are now equipped with a remote signalling contact. That means there are fewer models in total, which substantially simplifies product selection.

Description	Product	Technical details	Part No.	
Multipole, modular combined arrester, type 1 + 2 + 3, as per EN 61643-11. Maximum system availability due to RAC spark gap technology. Capable of protecting terminal equipment. For installation in conformity with the lightning protection zone concept at the boundaries from 0 <sub>A</sub> – 2. Energy coordination as per EN 61643-12 (VDE 0675-6-12).			<b>New</b>	<b>Old</b> *with remote signalling contact
	<b>DEHNventil M2 TNS 255 (FM)</b>	<ul style="list-style-type: none"> <li>TN-S system: 230 / 400 V</li> <li>4-pole</li> <li>width: 4 standard DIN modules</li> <li>Max. continuous operating voltage: 255 V AC</li> <li>Protection level: ≤ 1.5 kV</li> <li>Follow current extinguishing capability: up to 100 kA<sub>rms</sub></li> <li>Lightning impulse current (10/350 μs): TNS: [L, N-PE] (I<sub>imp</sub>): 25 kA</li> </ul>	<b>956 405</b>	951 400 951 405*
	<b>DEHNventil M2 TNC 255 (FM)</b>	<ul style="list-style-type: none"> <li>TN-C systems: 230 / 400 V</li> <li>3-pole</li> <li>width: 4 standard DIN modules</li> <li>Max. continuous operating voltage: 255 V AC</li> <li>Protection level: ≤ 1.5 kV</li> <li>Follow current extinguishing capability: up to 100 kA<sub>rms</sub></li> <li>Lightning impulse current (10/350 μs) [L-PEN] (I<sub>imp</sub>): 25 kA</li> </ul>	<b>956 305</b>	951 300 951 305*
	<b>DEHNventil M2 TN 255 (FM)</b>	<ul style="list-style-type: none"> <li>Single-phase TN systems</li> <li>2-pole</li> <li>width: 2 standard DIN modules</li> <li>Max. continuous operating voltage: 255 V AC</li> <li>Protection level: ≤ 1.5 kV</li> <li>Follow current extinguishing capability: up to 100 kA<sub>rms</sub></li> <li>Lightning impulse current (10/350 μs): TN: [L, N-PE] (I<sub>imp</sub>): 25 kA</li> </ul>	<b>956 205</b>	951 200 951 205*
	<b>DEHNventil M TT 2P 255 (FM)</b>	<ul style="list-style-type: none"> <li>Single-phase TT system</li> <li>4-pole</li> <li>width: 4 standard DIN modules</li> <li>Max. continuous operating voltage: 255 V AC</li> <li>Protection level: ≤ 1.5 kV</li> <li>Follow current extinguishing capability: up to 100 kA<sub>rms</sub></li> <li>Lightning impulse current (10/350 μs): TT: [L, N-PE] (I<sub>imp</sub>): 25 kA</li> </ul>		951 110 951 115*
	<b>DEHNventil M TT 255 (FM)</b>	<ul style="list-style-type: none"> <li>TT system: 230 / 400 V</li> <li>8-pole</li> <li>width: 8 standard DIN modules</li> <li>Max. continuous operating voltage: 255 V AC</li> <li>Protection level: ≤ 1.5 kV</li> <li>Follow current extinguishing capability: up to 100 kA<sub>rms</sub></li> <li>Lightning impulse current (10/350 μs): TT: [L-N]/[N-PE] (I<sub>imp</sub>): 25/100 kA</li> </ul>		951 310 951 315*

# Services and information



Whether support with planning or specific help with a query – take advantage of DEHN’s range of services.

## Expert knowledge in compact form on the Web

### Online catalogue and configurators

Data sheets, planning documents, certificates, installation instructions: you can find all product details on the Web.

Simply enter the product name or part number in the search field.

**DEHNventil M2 TNS FM**  
Modular combined arrester for TN-S systems.

1 Product

Part No. 956405 DV M2 TNS 255 FM  
GTIN 4013364510562, Customs tariff No.: 85363090, Gross weight: 583.68 g, PU: 1.00 pc(s)

Predecessor: 900374, 951400, 951405, 954405

More information at:  
[www.de.hn/en/A954315](http://www.de.hn/en/A954315)

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Images

Additional information

- Specification sheets
- CAD files
- Tender specifications
- Instruction

Technical data

SPD according to EN 61643-11 / IEC 61643-11	type 1 + type 2 + type 3 / class I + class II + class III
Max. continuous operating voltage (Uc) (kV)	255 V (50 / 60 Hz)
Lightning impulse current (10/350 µs) (IL) (kA) (N-PE) (Iimp)	100 kA
Lightning impulse current (10/350 µs) (IL) (kA) (N-PE) (Iimp)	25 kA
Voltage protection level (Uv) (kV) (N-PE) (Uv)	<math>\leq 1.5 / <math>\leq 1.5 kV
Max. backup fuse (I) up to I <sub>n</sub> = 50 kA <sub>max</sub>	250 A gG
Approvals	VDI, VDE

On the expert pages, you will find tools and information, such as product selection aids, tender specifications, practical examples, support – everything clearly compiled for you on one page.

There are expert pages for electricians, planning engineers and switchgear manufacturers, among others.

More information at:

Menu

Expert knowledge planning engineers



[www.de.hn/7pTt](http://www.de.hn/7pTt)



[www.de.hn/2mZE4](http://www.de.hn/2mZE4)



### Answer questions

Pose your technical questions directly to the experts for lightning protection, earthing, surge protection, safety equipment and protection against arc faults.

Tel.: +49 9181 906-1462

E-mail: [international@dehn.de](mailto:international@dehn.de)



### Your personal contact on site

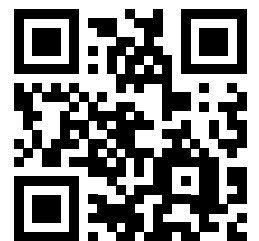
Save time and make use of DEHN’s comprehensive expertise for your projects. In the event of technical queries, please consult with your personal contact – close to you.

online: [www.de.hn/bz795](http://www.de.hn/bz795)

Surge Protection  
Lightning Protection / Earthing  
Safety Equipment  
DEHN protects.

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[www.de.hn/ventil-en](http://www.de.hn/ventil-en)

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