dinnteco connector

Protective connector model DNNF

Protection element that minimizes the induced high frequency over voltages

The dinnteco connector model DNNF is a protection element that minimizes the induced high frequency over voltages derived from atmospheric discharges, electromagnetic pulses and other sources that can appear on the downstream cable of the DDCE.

Technical principle of operation

The principle of operation of the dinnteco connector is based on generating a small counter-electromotive force that opposes the passage of its alternating component, generating limited energy absorption through the ferrite core in the form of heat. The dinnteco connector minimizes the effect of high frequency overvoltage by 10-15%.

Technical characteristics

Concept	Connector
Product	dinnteco connector
Model	DNNF
Maximum permissible contact resistance after 3 current pulses of 100 kA 10/350	1 mΩ
Resistance after 3 current injections of 100 kA 10/350 according to standard UNE EN IEC 62561-1:2017	0,21 mΩ (muestra 1) 0,17 mΩ (muestra 2) 0,19 mΩ (muestra 3)
Intensity	100 kA 10/350
Specific energy	2500 kJ/Ω
Cable insertion in brass part	See figure 1
Allen type clamping screws	M8x10
Required tightening torque of Allen screws M8x10	8 Nm
Certified normative	UNE EN IEC 62561-1:2017 (Report No. 2020093F0370)

Table 1. Technical characteristics of the dinnteco connector.

Testing results

Test	I_{peak} (kA)	W/R (kJ/Ω)	Q (C)	t_1 (µs)	t_2 (µs)	Visual inspection
RI15-15	96,7	2.567	48,9	23,7	443,7	OK
RI15-16	95,1	2.556	50,0	23,9	445,6	OK
RI15-17	96,6	2.627	49,5	23,8	452,3	OK

Table 2. Tabulated results for the tests.

Sample	Maximum permissible resistance after three lightning impulses (mΩ)	Contact resistance after three lightning impulses (mΩ)	Result
1	1	0,21	Passed
2	1	0,17	Passed
3	1	0,19	Passed

Table 3. Tabulated results for the tests.

Sample	Less than 17 mm movement of the conductor after the three consequent lightning impulses	Loosening torque test $0,25\ T_t < T_l < 1,5\ T_t$
1	YES	NO
2	YES	NO
3	YES	NO

Table 4. Tabulated results for the tests.

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Conclusions

The tested sample has passed successfully the test as per IEC 62561-1:2017, paragraph 6.4.

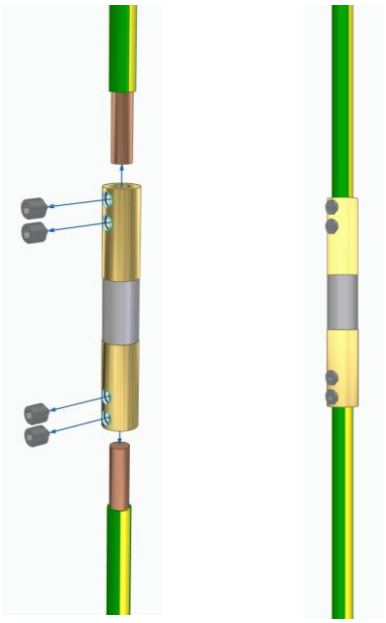

Figure 1. dinnteco connector model DNNF.

Materials, measurements and weight

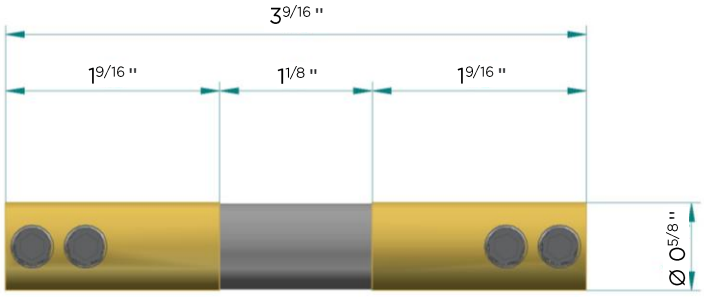

Figure 2. Measurements of the dinnteco connector model DNNF.

Concept	dinnteco connector DNNF model
Lenght (inch)	$3^{9/16}$
Diameters (inch)	Exterior: $0^{5/8}$ / Inner: $0^{27/64}$
Weight (lb)	0,33
Materials	Brass and Ferrite

Table 5. Materials, measurements and weight of the DNNF.

Installation

It is installed at the mast outlet on the downstream cable of the DDCE (Figure 3). If the mast used to install the DDCE is made of fiber, the dinnteco connector must be installed just after the exit of the cable downstream of the DDCE itself.

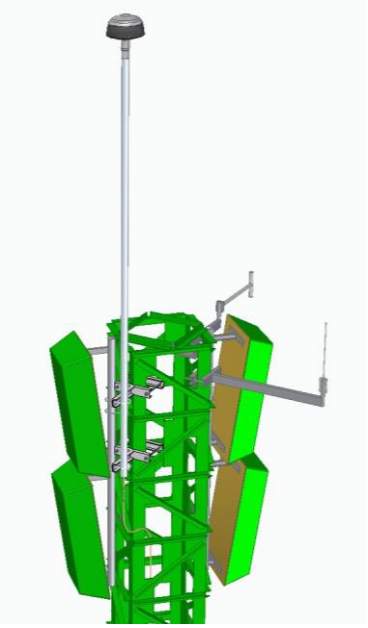

Figure 3. Typical installation of the dinnteco connector at the output of the DDCE mast.

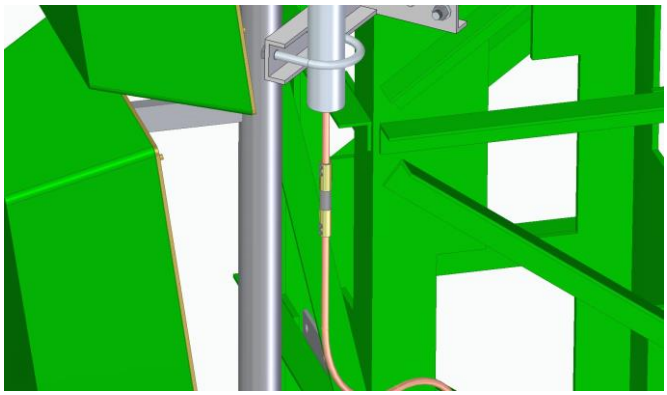

Figure 4. Detail of installation of the dinnteco connector.

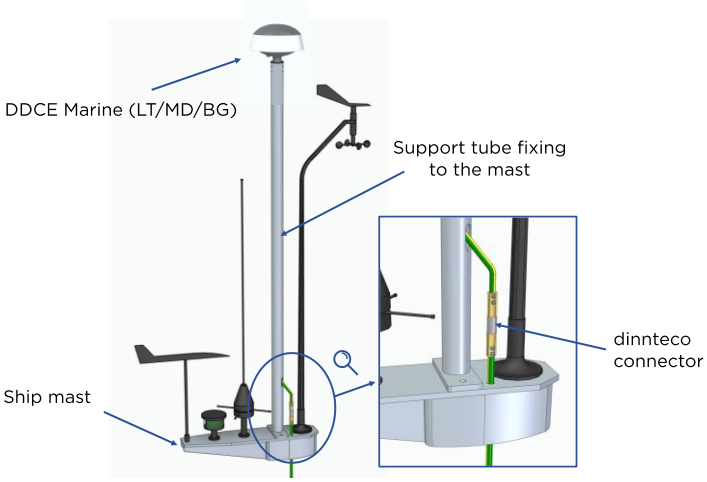

Figure 5. Detail of the installation of the dinnteco connector in a boat.

Application

Its installation is recommended in structures exposed to overvoltages.

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