

Fax

To:

From:

Name:

Department:

Fax no.:

Date:

Please inform us as soon as possible if you have not received all indicated pages. Thank you.



Information needed for determining unit properties / unit categories for use in potentially explosive atmospheres

System name / reference number			
↓ Please tick here			
①	Potentially explosive mixture of air and	Gas	Cont. at 2
		Dust	Cont. at 7
②	In the case of gas: Location where the drive will be used, divided into zone	1	Cont. at 3
		2	Cont. at 6
③	In the case of zone 1, the protection type of the motor is prescribed by the customer as	Flameproof enclosure (EEx d)	Cont. at 4
		Increased safety (EEx e)	Cont. at 6
④	In the case of motors with flameproof enclosure, design of the terminal box (TB) as	TB with flameproof enclosure (EEx d)	Cont. at 5
		TB with increased safety (EEx e)	
⑤	Specification of the explosion group (only in the case of flameproof enclosure)	IIA	Cont. at 6
		IIB	
		IIC	
⑥	Temperature class (in the case of gas/air mixtures)	T1	Cont. at 9
		T2	
		T3	
		T4	
		T5 (EEx d only)	
		T6 (EEx d only)	
⑦	In the case of dust: Location where the drive will be used, divided into zone	21	Cont. at 8
		22 (non-conductive)	
		22 (conductive)	
⑧	Maximum permitted surface temperature (in the case of dust/air mixtures)	T120 °C	Cont. at 9
		T140 °C	

⑨	Mr. / Mrs.	
	Company	Signature
	Department	Place, date

Notes on the individual items:

- ① Categorization of the potentially explosive atmosphere into gas or dust
- ② Zone categorization according to location where the drive is used. (According to Directive 99/92/EC, the owner is responsible for the zone categorization. Assistance can be obtained from the TÜV (German Technical Control Board), German Institutions for Statutory Accident Insurance and Prevention or expert offices.)
 - Zone 1: Potentially explosive gas mixtures are to be expected in normal operation.
 - Zone 2: Potentially explosive gas mixtures are not to be expected in normal operation and if they occur at all, then only briefly.
- ③ Protection types of the motor for use in zone 1:
 - Flameproof enclosure (EEx d):
Potentially explosive mixtures can penetrate the equipment, the mixture inside the housing can be ignited ⇒ Design measures prevent ignition of the external atmosphere
 - Increased safety (EEx e):
Potentially explosive mixtures can penetrate the equipment, no sources of combustion in or on the equipment ⇒ No ignition of the gas mixture
- ④ In the case of motors with flameproof enclosure, design of the terminal box with protection type:
 - Flameproof enclosure (EEx d):
When this terminal box version is selected, it is essential to take account of the permitted cable bushings (conduit system, cable glands, etc.). In addition, the thread type of the screw fitting (ISO or NPT) must be specified.
 - Increased safety (EEx e):
When this terminal box version is selected, the cable entry design can be simpler. It is merely necessary to use an Ex-certified screw fitting.
- ⑤ The explosion group depends on the substance. (Specification only necessary in the case of motors with flameproof enclosure.) Refer to the relevant published tables, e.g. *Nabert/Schön, "Kennzahlen brennbarer Gase und Dämpfe" ("Classifications of flammable gases and vapors")*, Deutscher Eichverlag GmbH, D-38102 Braunschweig, Germany
- ⑥ Each of the temperature classes represents the assured maximum surface temperature of the drive (see ⑤ for information about temperature classes of the hazardous substances):
 - T1: Max. permitted surface temperature: 450 °C
 - T2: Max. permitted surface temperature: 300 °C
 - T3: Max. permitted surface temperature: 200 °C
 - T4: Max. permitted surface temperature: 135 °C
 - T5: Max. permitted surface temperature: 100 °C
 - T6: Max. permitted surface temperature: 85 °C
- ⑦ Zone categorization according to location where the drive is used. (According to Directive 99/92/EC, the owner is responsible for the zone categorization. Assistance can be obtained from the TÜV (German Technical Control Board), German Institutions for Statutory Accident Insurance and Prevention or expert offices.)
 - Zone 21: Potentially explosive dust/air mixtures are to be expected in normal operation.
 - Zone 22: Potentially explosive dust/air mixtures are not to be expected in normal operation and if they occur at all, then only briefly.
(Exception: conductive dust, see EN 61241-2-2.)
- ⑧ The maximum surface temperature of a drive in dust/air mixtures. The value is specified in °C. For information about this, refer for example to: *BIA-Report "Brenn- und Explosionskenngrößen von Stäuben" (Report no. 3051 of BG Institute for Occupational Safety, "Combustion and explosion characteristics of dusts")*, Hauptverband der gewerbl. Berufsgenossenschaften, D-53757 St. Augustin, Germany