










### 5.4 MARKING OF ELECTRICAL EQUIPMENT

Type of protection	Symbol alternative	Zone	Main application	Standard
 Increased safety "e"	eb ec	1 2	Terminals and terminal boxes, squirrel cage rotors, lights	IEC 60079-7 EN 60079-7
 Flameproof enclosure "d"	da db dc	0 1 2	Switchgear and control gear, command and display devices, motors	IEC 60079-1 EN 60079-1
 Pressurised enclosure "p"	pxb pyb pzc	1, 21 1, 21 2, 22	Switchgear and control cabinets, large motors	IEC 60079-2 EN 60079-2
 Intrinsic safety "i"	ia ib ic	0, 20 1, 21 2, 22	Instrumentation and control technology, fieldbus technology, sensors, actors [Ex ib] = associated electrical equipment in safe area	IEC 60079-11 EN 60079-11
 Liquid immersion "o"	ob oc	1 2	Transformers	IEC 60079-6 EN 60079-6
 Powder filling "q"	qb	1	Sensors, electronic components, electronic ballasts	IEC 60079-5 EN 60079-5
 Encapsulation "m"	ma mb mc	0, 20 1, 21 2, 22	Sensors, electronic components	IEC 60079-18 EN 60079-18
 Protection type "n"	nAc nCc nRc	2 2 2	Electrical equipment for Zone 2	IEC 60079-15 EN 60079-15
 Protection via enclosure "t"	ta tb tc	20 21 22	Switchgear and control gear, control, connection, and terminal boxes, motors, lights	IEC 60079-31 EN 60079-31

#### Type of protection



Firedamp-endangered areas		
Group I		Methane
Gas explosion hazardous areas		
Group II	IIA IIB IIC	Propane Ethylene Hydrogen
Dust explosion hazardous areas		
Group III	IIIA IIIB IIIC	Combustible lint Non-conductive dust Conductive dust

Gas explosion hazardous areas: Temperature classes	
Group I	Methane
Gas explosion hazardous areas	
450 °C	T1
300 °C	T2
200 °C	T3
135 °C	T4
100 °C	T5
85 °C	T6
Dust explosion hazardous areas: Surface temperature	
T ... °C (Example: T 80°C)	

#### ATEX marking

Equipment group I: mining; Equipment group II: other areas

Classification	Zone 0	Zone 20	Zone 1	Zone 21	Zone 2	Zone 22	Mining
Hazardous explosive atmosphere	Constantly, frequently or long-term		Occasionally		Seldom and short-term		
Equipment category	1G	1D	2G	2D	3G	3D	M1 or M2

#### Equipment category and equipment protection level (EPL)

Classification	Zone 0	Zone 20	Zone 1	Zone 21	Zone 2	Zone 22	Mining
EPL (IEC/EN 60079-0)	Ga	Da	Gb	Db	Gc	Dc	Ma or Mb