

Hazardous Area Guide to UKEX & UKCA



UKEX Certification Scheme Logo

EKX-4 Static Grounding Device

CE 0044 II 2 GD ① Ex eb qb [ib] IIC T4 Gb

UK 1180

Example product rating plate

② Ex tb [ib] IIIC T85°C Db

⑥ -30°C ≤ Ta ≤ +60°C ⑦ IP65



UK Conformity Assessed Mark

Protection Concept - Electrical - Gas ①								
Type of Protection	Symbol	Extension	EPL	Zone	Reference	Latest Version	Plus	
General Requirements	Ex			0, 1, 2	EN 60079-0	2018		
Flameproof	Ex d	da*	Ga	0, 1, 2	EN 60079-1	2014		
		db	Gb	1, 2				
		dc	Gc	2				
Purge / Pressurised	Ex p	pxb	Gb	1, 2	EN 60079-2	2014		
		pyb	Gb	1, 2				
		pzc	Gc	2				
Quartz / Sand Filled	Ex q	qb	Gb	1, 2	EN 60079-5	2015		
		qc	Gc	2				
Oil Immersion	Ex o	ob	Gb	1, 2	EN 60079-6	2015		
		oc	Gc	2				
Increased Safety	Ex e	eb	Gb	1, 2	EN 60079-7	2015	IEC A1 2018	
		ec	Gc	2				
Intrinsic Safety	Ex i	ia	Ga	0, 1, 2	EN 60079-11	2012		
		ib	Gb	1, 2				
		ic	Gc	2				
Restricted breathing	Ex nR	-	Gc	2	EN 60079-15	2010		
Encapsulation	Ex m	ma	Ga	0, 1, 2	EN 60079-18	2015	EN A1 2017	
		mb	Gb	1, 2				
		mc	Gc	2				
Optical Radiation	Ex op	is	Ga	0, 1, 2	EN 60079-28	2015		
		sh	Ga	0, 1, 2				
		pr	Gb	1, 2				

* Ex da is only applicable to catalytic sensors for combustible gas detectors, not general flameproof enclosures

Protection Concept - Electrical - Dust ②								
Type of Protection	Symbol	Extension	EPL	Zone	Reference	Latest Version	Plus	
General Requirements	Ex			20, 21, 22	EN 60079-0	2018		
Purge / Pressurised	Ex p	pxb	Db	21, 22	EN 60079-2	2014		
		pyb	Db	21, 22				
		pzc	Dc	22				
Intrinsic Safety	Ex i	ia	Da	20, 21, 22	EN 60079-11	2012		
		ib	Db	21, 22				
		ic	Dc	22				
Encapsulation	Ex m	ma	Da	20, 21, 22	EN 60079-18	2015	EN A1 2017	
		mb	Db	21, 22				
		mc	Dc	22				
Enclosure	Ex t	ta	Da	20, 21, 22	EN 60079-31	2014		
		tb	Db	21, 22				
		tc	Dc	22				

Gas Group (G) ③	
Symbol	Gas example
IIA	Propane
IIB	Ethylene
IIC	Hydrogen

Dust Group (D) ④	
Symbol	Dust example
IIIA	Combustible flyings
IIIB	Non-conductive dust
IIIC	Conductive dust

Temperature Class ⑤		
T Class Gas	T Class Dust	Maximum Surface Temperature Allowed
T1	T450°C	450°C
T2	T300°C	300°C
T3	T200°C	200°C
T4	T135°C	135°C
T5	T100°C	100°C
T6	T85°C	85°C

Ambient Temperature Range ⑥	
Tamb or Ta	eg -30°C to +60°C or -30°C ≤ Ta ≤ +60°C
Suitable for the environmental temperature range stated	

Protection Concept - Non-electrical / Mechanical						
Type of Protection	Symbol	Previous*	EPL	Zone	Reference	Latest Version
General Requirements	Ex			0, 1, 2, 20, 21, 22	EN 80079-36	2016
Constructional Safety	Ex h	Ex c	Ga, Da	0, 1, 2, 20, 21, 22	EN 80079-37	2016
Control of Ignition	Ex h	Ex b	Ga, Da	0, 1, 2, 20, 21, 22	EN 80079-37	2016
Liquid Immersion	Ex h	Ex k	Ga, Da	0, 1, 2, 20, 21, 22	EN 80079-37	2016
Flameproof	Ex d		Gb	1, 2	EN 60079-1	2014
Purge / Pressurised	Ex p	see: Protection Concept - Electrical - Gas or Dust				
Enclosure	Ex t	see: Protection Concept - Electrical - Dust				

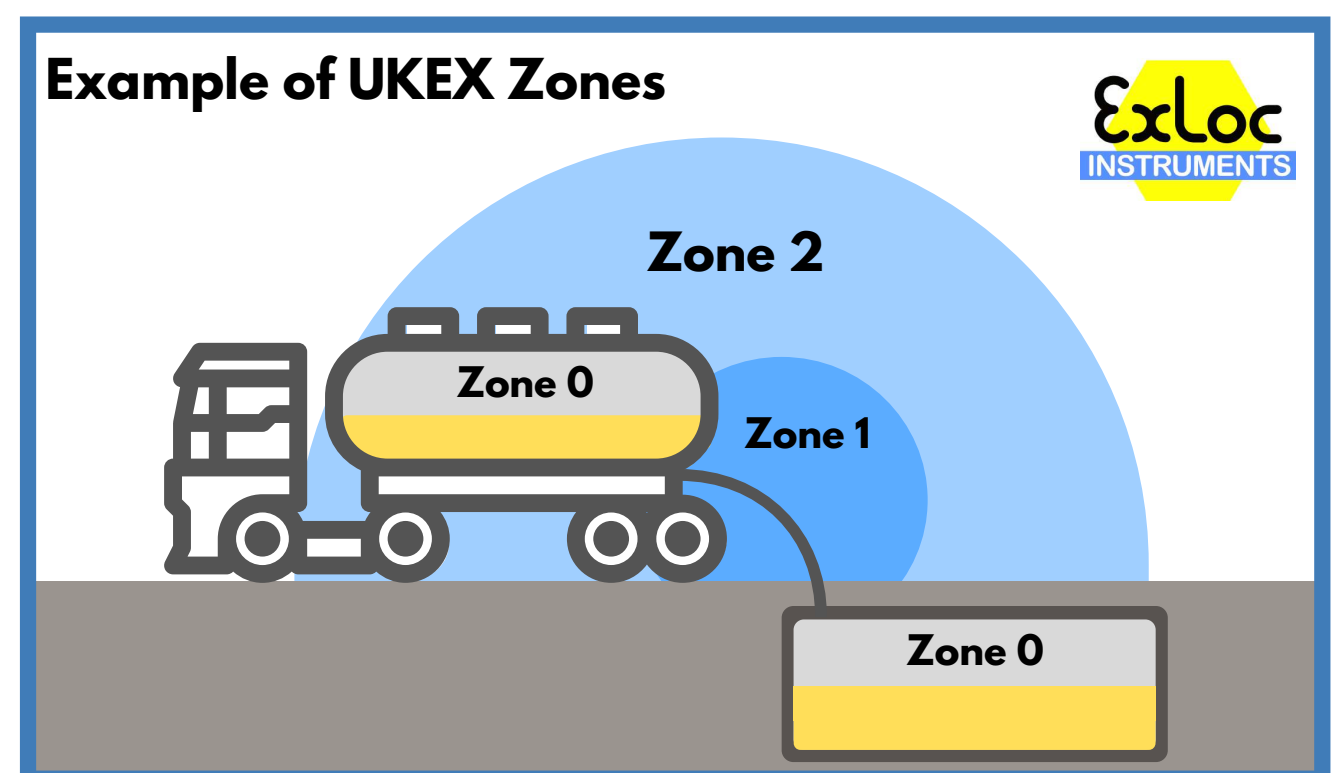
* Specific concept still exists but its original letter is no longer marked on the product: only Ex h is shown

Enclosure Ingress Protection (eg IP65) ⑦			
1st Number: Solid Objects / Dust		2nd Number: Water / Liquid	
0	No protection	0	No protection
1	Objects > Ø50 mm	1	Vertically dripping water
2	Objects > Ø12.5 mm	2	Dripping water, enc. tilted by 15°
3	Objects > Ø2.5 mm	3	Sprayed water up to 60°
4	Objects > Ø1.0 mm	4	Sprayed water from all directions
5	Dust protected	5	Water jets
6	Dust tight	6	Powered water jets / heavy seas
		7	Temporary submersion < 1m depth
		8	Extended submersion > 1m depth

Number 6 also covers all numbers below it. However, in the case of 7 and 8, for the enclosure to be dust tight, protected from powered water jets / heavy seas and temporary submersion, it must be tested and shown as IP66 and IP67 (or 68 for extended submersion)

Hazardous Area Zone Definitions		
Zones		Definitions from the UK Health and Safety Executive
Gas	Dust	
0	20	An area in which an explosive atmosphere is present continuously or for long periods
1	21	An area in which an explosive atmosphere is likely to occur in normal operation
2	22	An area in which an explosive atmosphere is not likely to occur in normal operation and if it occurs, will only exist for a short time *

* but still sufficiently likely as to require controls over ignition sources



Notes relating to the Example Product Rating Plate above
 The four-digit numbers on the Example product rating plate reference the European Notified Body (CE/ATEX) and UK Approved Body (UKCA/UKEX). The Roman numeral II after the Ex logo relates to the Gas symbol for surface industries (as opposed to mining, which is Roman numeral I). The digit 2 is an example of the Equipment Category, where Category 1, 2 and 3 equate to EPL a, b and c. Note EPL = Equipment Protection Level.

- ATEX Smartphones, Tablets & Cameras
- Ex Barcode Readers, RFID Tags & Readers
- Hazardous Area Wearables
- Ex Portable Lighting

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