



Electrical equipment for  
explosive atmospheres

**Appleton™ Electrical Solutions**  
Electrical products by Emerson designed to meet ATEX and IECEx specifications.



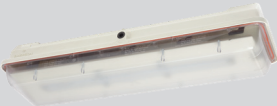
# Emerson offers a wide range of electrical devices for explosive atmospheres

Our solutions are ideal for industrial facilities storing hazardous substances in the form of gas, vapour or dust, or operating under conditions where hazardous substances can be found in Zones 1 and 2 – 21 and 22 locations.

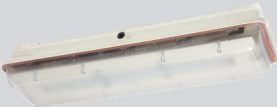
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# LED Lighting

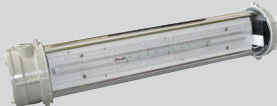
## LELED | Linmaster™ LED Zone 1 Series Luminaires | Zones 1 and 2 – 21 and 22

	Standard version	Catalogue Number	
	Ex eb mb IIC with diffused cover – CCT: 5000K ①	Unarmoured cable + 1x M25 cable gland	Armoured cable M20 entries ②
	3144 lm – 100-277 Vac, 50/60 Hz – 125-300 Vdc	LELED3CBUSND	LELED3CBUSAD
	3616 lm – 100-277 Vac, 50/60 Hz – 125-300 Vdc	LELED4CBUSND	LELED4CBUSAD
	5224 lm – 100-277 Vac, 50/60 Hz – 125-300 Vdc	LELED5CBUSND	LELED5CBUSAD
	6231 lm – 100-277 Vac, 50/60 Hz – 125-300 Vdc	LELED6CBUSND	LELED6CBUSAD
	6964 lm – 100-277 Vac, 50/60 Hz – 125-300 Vdc	LELED7CBUSND	LELED7CBUSAD
Emergency version – 180 minutes battery backup		Catalogue Number	
Ex db eb mb IIC with diffused cover – CCT: 5000K ①		Unarmoured cable + 1x M25 cable gland	Armoured cable M20 entries ②
	3139 lm – 100-277 Vac, 50/60 Hz – 125-300 Vdc	LELED3CBUSNDE	LELED3CBUSADE
	5289 lm – 100-277 Vac, 50/60 Hz – 125-300 Vdc	LELED5CBUSNDE	LELED5CBUSADE
	6231 lm – 100-277 Vac, 50/60 Hz – 125-300 Vdc	LELED6CBUSNDE	LELED6CBUSADE
	6964 lm – 100-277 Vac, 50/60 Hz – 125-300 Vdc	LELED7CBUSNDE	LELED7CBUSADE



## LNLED | Linmaster LED Zone 2 Series Luminaires | Zones 2 – 21 and 22

	Standard version	Catalogue Number	
	Ex ec IIC with diffused cover – CCT: 5000K ①	Unarmoured cable + 1x M25 cable gland	Armoured cable M20 entries ②
	3504 lm – 100-277 Vac, 50/60 Hz – 125-300 Vdc	LNLED3CBUSND	LNLED3CBUSAD
	4045 lm – 100-277 Vac, 50/60 Hz – 125-300 Vdc	LNLED4CBUSND	LNLED4CBUSAD
	5751 lm – 100-277 Vac, 50/60 Hz – 125-300 Vdc	LNLED5CBUSND	LNLED5CBUSAD
	6857 lm – 100-277 Vac, 50/60 Hz – 125-300 Vdc	LNLED6CBUSND	LNLED6CBUSAD
	7616 lm – 100-277 Vac, 50/60 Hz – 125-300 Vdc	LNLED7CBUSND	LNLED7CBUSAD
Emergency version – 180 minutes battery backup		Catalogue Number	
Ex ec IIC with diffused cover – CCT: 5000K ①		Unarmoured cable + 1x M25 cable gland	Armoured cable M20 entries ②
	3504 lm – 100-277 Vac, 50/60 Hz – 125-300 Vdc	LNLED3CBUSNDE	LNLED3CBUSADE
	5769 lm – 100-277 Vac, 50/60 Hz – 125-300 Vdc	LNLED5CBUSNDE	LNLED5CBUSADE
	6857 lm – 100-277 Vac, 50/60 Hz – 125-300 Vdc	LNLED6CBUSNDE	LNLED6CBUSADE
	7616 lm – 100-277 Vac, 50/60 Hz – 125-300 Vdc	LNLED7CBUSNDE	LNLED7CBUSADE

## FDLED | FDLED Series LED Luminaires | Zones 1 and 2 – 21 and 22

	Standard version	Catalogue Number ③	
	Ex db IIC with diffused lens – CCT: 5650K		
	2125 lm – 110-254 Vac, 50/60 Hz – 2x M20 entries		FDLED25BU2D
	4350 lm – 110-254 Vac, 50/60 Hz – 2x M20 entries		FDLED50BU2D
Emergency version – 180 minutes battery backup		Catalogue Number ③	
Ex db IIC with diffused lens – CCT: 5650K			
	2125 lm – 110-254 Vca, 50/60 Hz – 2x M20 entries		FDLED25BU2DE
	4350 lm – 110-254 Vca, 50/60 Hz – 2x M20 entries		FDLED50BU2DE

## FDBAES | FDBAESLED Series Lighting Units | Zones 1 and 2 – 21 and 22

	Ex db IIC	Catalogue Number ③	
	Self-contained emergency LED lighting system		
	55 lm – 230 Vac, 50/60 Hz – M20 – Escape route lighting		FDBAESLEDEM
	540 lm – 230 Vac, 50/60 Hz – M20 – Space lighting		FDBAESLEDMLM
	Label – emergency exit 		BAESLABEL200


① Also available in 4000K, 3000K, 2200K and Green (for safety shower). Please refer to the Appleton catalogue or visit our website, [www.appleton.emerson.com](http://www.appleton.emerson.com).

② Must order armoured cable glands separately. Two M20 entries are with brass earth continuity plate for armoured cable.

③ Must order armoured cable glands separately.

# LED Lighting

## AMLZ | Areamaster™ Generation 2 Series Low Lumen Zone 1 Floodlight | Zones 1 and 2 – 21 and 22

	Ex eb mb IIC – CCT: 5000K ①	Catalogue Number ②	
	1x M20 adaptor supplied	Clear Lens	Frosted Lens
	9000 lm – 120-277 Vac, 50/60 Hz – 125-300 Vdc	AMLZL6CG6BUM	AMLZL6CF6BUM
	14000 lm – 120-277 Vac, 50/60 Hz – 125-300 Vdc	AMLZL7CG6BUM	AMLZL7CF6BUM
	18500 lm – 120-277 Vac, 50/60 Hz – 125-300 Vdc	AMLZL8CG6BUM	AMLZL8CF6BUM

## AMLZ | Areamaster Generation 2 Series Low Lumen Zone 1 Floodlight | Zones 1 and 2 – 21 and 22

	Ex eb mb IIC – CCT: 3000K	Catalogue Number ②	
	1x M20 adaptor supplied	Clear Lens	Frosted Lens
	9000 lm – 120-277 Vac, 50/60 Hz – 125-300 Vdc	AMLZL6WG6BUM	AMLZL6WF6BUM
	14000 lm – 120-277 Vac, 50/60 Hz – 125-300 Vdc	AMLZL7WG6BUM	AMLZL7WF6BUM
	18500 lm – 120-277 Vac, 50/60 Hz – 125-300 Vdc	AMLZL8WG6BUM	AMLZL8WF6BUM

## AMHZ | Areamaster Generation 2 Series High Lumen Zone 1 Floodlight | Zones 1 and 2 – 21 and 22

	Ex eb mb IIC – CCT: 5000K ①	Catalogue Number ②	
	1x M20 adaptor supplied	Clear Lens	Frosted Lens
	23000 lm – 120-277 Vac, 50/60 Hz – 125-300 Vdc	AMHZL1CG6BUM	AMHZL1CF6BUM
	28000 lm – 120-277 Vac, 50/60 Hz – 125-300 Vdc	AMHZL2CG6BUM	AMHZL2CF6BUM
	35000 lm – 120-277 Vac, 50/60 Hz – 125-300 Vdc	AMHZL3CG6BUM	AMHZL3CF6BUM

## AMLG | Areamaster Generation 2 Series Low Lumen Floodlight | Zones 2 – 21 and 22

	Ex ec IIC – CCT: 5000K ①	Catalogue Number ②	
	1x M20 adaptor supplied	Clear Lens	Frosted Lens
	9500 lm – 120-277 Vac, 50/60 Hz – 125-300 Vdc	AMLGL6CG6BUM	AMLGL6CF6BUM
	15000 lm – 120-277 Vac, 50/60 Hz – 125-300 Vdc	AMLGL7CG6BUM	AMLGL7CF6BUM
	19500 lm – 120-277 Vac, 50/60 Hz – 125-300 Vdc	AMLGL8CG6BUM	AMLGL8CF6BUM

## AMLG | Areamaster Generation 2 Series Low Lumen Floodlight | Zones 2 – 21 and 22

	Ex ec IIC – CCT: 3000K	Catalogue Number ②	
	1x M20 adaptor supplied	Clear Lens	Frosted Lens
	7650 lm – 120-277 Vac, 50/60 Hz – 125-300 Vdc	AMLGL6WG6BUM	AMLGL6WF6BUM
	11500 lm – 120-277 Vac, 50/60 Hz – 125-300 Vdc	AMLGL7WG6BUM	AMLGL7WF6BUM
	15000 lm – 120-277 Vac, 50/60 Hz – 125-300 Vdc	AMLGL8WG6BUM	AMLGL8WF6BUM

## AMLHL | Areamaster Generation 2 Series High Lumen Floodlight | Zones 2 – 21 and 22

	Ex ec IIC – CCT: 5000K ①	Catalogue Number ②	
	1x M20 adaptor supplied	Clear Lens	Frosted Lens
	24000 lm – 120-277 Vac, 50/60 Hz – 125-300 Vdc	AMLHL1CG6BUM	AMLHL1CF6BUM
	30000 lm – 120-277 Vac, 50/60 Hz – 125-300 Vdc	AMLHL2CG6BUM	AMLHL2CF6BUM

# LED Lighting

## IAMLG | Industrial Areamaster Generation 2 Series Low Lumen Floodlight | For Harsh Industrial Environments

	CE   UKCA   IECEE CB: IK08   IP66	Catalogue Number ①	
	1x M20 adaptor supplied	Clear Lens	Frosted Lens
	9500 lm – 120-277 Vac, 50/60 Hz – 125-300 Vdc	IAMLGL6CG6BUM	IAMLGL6CF6BUM
	15000 lm – 120-277 Vac, 50/60 Hz – 125-300 Vdc	IAMLGL7CG6BUM	IAMLGL7CF6BUM
	19500 lm – 120-277 Vac, 50/60 Hz – 125-300 Vdc	IAMLGL8CG6BUM	IAMLGL8CF6BUM


## IAMLH | Industrial Areamaster Generation 2 Series High Lumen Floodlight | For Harsh Industrial Environments

	CE   UKCA   IECEE CB: IK08   IP66	Catalogue Number ①	
	1x M20 adaptor supplied	Clear Lens	Frosted Lens
	24000 lm – 120-277 Vac, 50/60 Hz – 125-300 Vdc	IAMLHL1CG6BUM	IAMLHL1CF6BUM
	30000 lm – 120-277 Vac, 50/60 Hz – 125-300 Vdc	IAMLHL2CG6BUM	IAMLHL2FG6BUM
	38000 lm – 120-277 Vac, 50/60 Hz – 125-300 Vdc	IAMLHL3CG6BUM	IAMLHL3FG6BUM

## CLED | CLED Series LED Luminaires | Zones 1 and 2 – 21 and 22

	Ex db eB IIC	Catalogue Number	
	1x M20 adaptor supplied	Standard Version	Emergency Version
	2900 lm – 120-277 Vac, 50/60 Hz – 125-300 Vdc	CLED03CG51LBUD	CLED03CG51LBUDE
	5000 lm – 120-277 Vac, 50/60 Hz – 125-300 Vdc	CLED05CG51LBUD	CLED05CG51LBUDE

## MLT | HB LED Multilens Bulkhead Luminaires | Zones 2 – 21 and 22 2 Catalogue numbers to order: luminaire + mounting hood

	Ex ec IIC; Ex tb IIIC; Ex tc IIIC	Catalogue Number	
	3500 lm – 100-277 Vac, 50/60 Hz – 125-300 Vdc – CCT: 5000K	MLTCL3CD3DU	
	3500 lm – 24-48 Vdc, 50/60 Hz – CCT: 5000K	MLTCL3CD3D2	
	3500 lm – 100-277 Vac, 50/60 Hz – 125-300 Vdc – CCT: 4000K	MLTCL3ND3DU	

## IMLT | Industrial HB LED Multilens Bulkhead Luminaires | For Harsh Industrial Environments 2 Catalogue numbers to order: luminaire + mounting hood

	CE   UKCA   IECEE CB: IK08   IP66	Catalogue Number	
	3500 lm – 100-277 Vac, 50/60 Hz – 125-300 Vdc – CCT: 5000K	IMLTCL3CD3DU	
	3500 lm – 100-277 Vac, 50/60 Hz – 125-300 Vdc – CCT: 4000K	IMLTCL3ND3DU	


## MLT and IMLT | Mounting Hood for HB LED Multilens Bulkhead Luminaires

	Mounting Hood	Catalogue Number	
	Five Hubs, Four Close-Up Plugs, One M20 Adaptor ①	KPCM20-MLT	


① Must order armoured cable glands separately.

# LED Lighting

## MGC | Mercmaster™ Connect Series LED Luminaire | Zones 2 – 21 and 22 2 Catalogue numbers to order: luminaire + mounting hood

	Ex ec ia mb IIC, Ex ia tb IIIC; Ex ia tc IIIC ①	Catalogue Number ②	
	Polycarbonate globe	Clear	Frosted
	Up to 9,500 lm – 120-277 Vac, 50/60 Hz – 125-300 Vdc	MGCL9CP5BU7P	MGCL9CD5BU7P

## MGZ | Mercmaster Series LED Luminaire | Zones 1 and 2 – 21 and 22 2 Catalogue numbers to order: luminaire + mounting hood

	Ex eb mb op is IIC – CCT: 5000K ① Type V Wide light distribution pattern	Catalogue Number ②	
	Polycarbonate globe	Clear	Frosted
	3800 lm – 120-277 Vac, 50/60 Hz – 125-300 Vdc	MGZL3CPWBU	MGZL3CDWBU
	5600 lm – 120-277 Vac, 50/60 Hz – 125-300 Vdc	MGZL5CPWBU	MGZL5CDWBU
	7900 lm – 120-277 Vac, 50/60 Hz – 125-300 Vdc	MGZL7CPWBU	MGZL7CDWBU

## MLG | Mercmaster LED Series Luminaire | Zones 2 – 21 and 22 2 Catalogue numbers to order: luminaire + mounting hood

	Ex ec IIC – CCT: 5000K ① Type V light distribution pattern	Catalogue Number ②	
	Polycarbonate globe	Clear	Frosted
	3500 lm – 120-277 Vac, 50/60 Hz – 125-300 Vdc	MLGL3CP5BU	MLGL3CD5BU
	5500 lm – 120-277 Vac, 50/60 Hz – 125-300 Vdc	MLGL5CP5BU	MLGL5CD5BU
	7500 lm – 120-277 Vac, 50/60 Hz – 125-300 Vdc	MLGL7CP5BU	MLGL7CD5BU

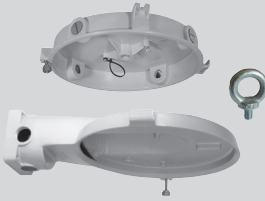
## MLLED | Mercmaster LED Low Profile Series Luminaire | Zones 1 and 2 – 21 and 22 2 Catalogue numbers to order: luminaire + mounting hood

	Ex ec IIC   Ex op is tb IIIC   Ex tc IIIC	Catalogue Number ②	
	Polycarbonate globe	Clear	Frosted
	3300 lm – 100-277 Vac, 50/60 Hz – 125-300 Vdc – CCT: 5000K	MLLED3CP5BU	MLLED3CD5BU
	3300 lm – 100-277 Vac, 50/60 Hz – 125-300 Vdc – CCT: 4000K	MLLED3NP5BU	MLLED3ND5BU

## IMLLED | Industrial Mercmaster LED Low Profile Series | For Harsh Industrial Environments 2 Catalogue numbers to order: luminaire + mounting hood

	CE   UKCA   IECCE CB: IK08   IP66	Catalogue Number ②	
	Polycarbonate globe	Clear	Frosted
	3300 lm – 100-277 Vac, 50/60 Hz – 125-300 Vdc – CCT: 5000K	IMLLED3CP5BU	IMLLED3CD5BU
	3300 lm – 100-277 Vac, 50/60 Hz – 125-300 Vdc – CCT: 4000K	IMLLED3NP5BU	IMLLED3ND5BU

## MGZ and MLG | Mounting Hoods for Mercmaster Luminaires

	Mounting Hood	Catalogue Number	
	Ceiling – Five Hubs, Four Close-Up Plugs, One M20 Adapter ② ③	KPCM20	
	Wall – Five Hubs, Four Close-Up Plugs, One M20 Adapter ② ③	KPWBM20	
	25° Stanchion – One 1-1/2" NPT entry	KPS150	
	90° Stanchion – One 1-1/2" NPT entry	KPST150	
	Suspension ring for use with KPCM20	Z00927	

① Also available in 3000K and 4000K. Please refer to the Appleton catalogue or visit our website, [www.appleton.emerson.com](http://www.appleton.emerson.com).

② Must order armoured cable glands separately.


③ Supplied with 2 nickel plated brass adaptors and four polyamide plugs.

# Fluorescent Lighting

## FE | FE Series Nonmetallic Fluorescent Luminaires (Zones 1 and 2 – 21 and 22)

	Ex de IIC – Standard version (fluorescent lamps not supplied)	Catalogue Number ①	
		Unarmoured cable + 1x M25 cable gland ②	Armoured cable M20 entries ③
	2x 18 W – 110-254 Vac, 50/60 Hz – 110-254 Vdc	FEB218BUSN	FEB218BUSA
	2x 36 W – 110-254 Vac, 50/60 Hz – 110-254 Vdc	FEB236BUSN	FEB236BUSA
	2x 58 W – 110-254 Vac, 50/60 Hz – 110-254 Vdc	FEB258BUSN	FEB258BUSA

## FD | FD Series Cylindrical Fluorescent Luminaires (Zones 1 and 2 – 21 and 22)

	Ex d IIC – 2x M20 entries (cable glands and fluorescent lamps not supplied)	Catalogue Number
	2x 18 W – 110-254 Vac, 50/60 Hz – 110-254 Vdc	FDB218BUM
	2x 36 W – 110-254 Vac, 50/60 Hz – 110-254 Vdc	FDB236BUM
	2x 58 W – 110-254 Vac, 50/60 Hz – 110-254 Vdc	FDB258BUM

① Emergency battery back-up version is available. Please refer to the Appleton catalogue or visit our website, [www.appleton.emerson.com](http://www.appleton.emerson.com).

② Cable glands provided in luminaires with unarmoured hub entries.


③ Must order armoured cable glands separately. Two M20 entries are with brass earth continuity plate for armoured cable.

# Plugs and Sockets

## UPRD | UPRD Series 16 Amp Plugs and Sockets | ATEX/IECEx, UKEX | Zones 1 and 2 – 21 and 22

	<b>Ex db IIC Gb</b> <b>Plug/Socket: Aluminium</b> <b>Socket : 2x cable glands M20, plug supplied</b> <b>Plug: 1x M25 cable gland supplied</b>	<b>Catalogue Number</b>	
		<b>Socket</b>	<b>Plug</b>
	2P+E – 16A – 20-25 Vac, 50/60 Hz, Purple	UPRD316RP	UPRD316PP ①
	2P+E – 16A – 100-130 Vac, 50/60 Hz, Yellow	UPRD316RY	UPRD316PY ①
	2P+E – 16A – 200-250 Vac, 50/60 Hz, Blue	UPRD316RB	UPRD316PB ①
	3P+E – 16A – 380-415 Vac, 50/60 Hz, Red	UPRD416RR	UPRD416PR ②
3P+N+E – 16A – 380-415 Vac, 50/60 Hz, Red	UPRD516RR	UPRD516PR ③	

## PRE | PRE Series 16 Amp Plugs and Sockets | Zones 1 and 2 – 21 and 22

	<b>Ex de IIC</b> <b>Socket : Polycarbonate / Polyester</b> <b>Plug: Polyamide 1x M20 cable gland supplied</b>	<b>Catalogue Number</b>	
		<b>Socket</b>	<b>Plug</b>
	2P+E – 16A – 200-250 Vac, 50/60 Hz	PRE316RB	PRE316PB
	2P+E – 16A – 200-250 Vac, 50/60 Hz	PRE316MB (mobile socket)	PRE316PB
	3P+E – 16A – 380-415 Vac, 50/60 Hz	PRE416RR	PRE416PR
3P+N+E – 16A – 380-415 Vac, 50/60 Hz	PRE516RR	PRE516PR	

## PRE | PRE Series 32 Amp Plugs and Sockets | Zones 1 and 2 – 21 and 22

	<b>Ex de IIC</b> <b>Socket: Polyester / Polyamide</b> <b>Plug: Polyamide 1x M25 cable gland supplied</b>	<b>Catalogue Number</b>	
		<b>Socket</b>	<b>Plug</b>
	3P+E – 32A – 380-415 Vac, 50/60 Hz	PRE432RR	PRE432PR
3P+N+E – 32A – 380-415 Vac, 50/60 Hz	PRE532RR	PRE532PR	

① PE M25 – suitable for cable OD range: 7-11 mm.

② PE M25 – suitable for cable OD range: 11-15.5 mm.

③ PE M25 – suitable for cable OD range: 13-20 mm.



# Disconnect Switches

## SWE | SWE Series 16 Amp Control Devices | ATEX, IECEx, UKEX | Zones 1 and 2 – 21 and 22



Ex db eb IIC – Polyester 2x M20 cable glands supplied	Catalogue Number
2 pole, 2x M20 entries	SWE016S201AG
Changeover switch, 2x M20 entries	SWE016C101AG

## SWD | SWD Series 16 Amp Disconnect Switches | Zones 1 and 2 – 21 and 22













Ex d IIC – Aluminium	Catalogue Number <sup>①</sup>
2 Pole, 2x M20 entries	SWD016S200A
3 Pole, 2x M20 entries	SWD016S300A
4 Pole, 2x M20 entries	SWD016S400A
Changeover switch, 2x M20 entries	SWD016C100A

<sup>①</sup> Cable glands are not supplied and must be ordered separately.

# Junction Boxes

## JBEL | JBEL Polycarbonate Junction Boxes | ATEX, IECEx, UKEX (Zones 1 and 2 – 21 and 22)

	<b>Ex eb IIC – 4 terminals 2.5/4 mm<sup>2</sup> – 660 V</b>	<b>Catalogue Number</b>	
	4x M20 entries with cable glands		JBEL1N4M20G
	4x M20 entries with earth brass continuity – 2x M20 plugs – armoured cable ①		JBEL1A4M20
	<b>Ex eb IIC – 4 terminals 6/10 mm<sup>2</sup> – 690 V</b>	<b>Catalogue Number</b>	
	3x M20 entries – 3 cable glands – unarmoured cable		JBEL2N3M20G
	4x M20 entries – 4 cable glands – unarmoured cable		JBEL2N4M20G
	3x M25 entries – 3 cable glands – unarmoured cable		JBEL2N3M25G
	4x M25 entries for unarmoured cable, with 4 cable glands		JBEL2N4M25G
	4x M20 entries with earth brass continuity – 2x M20 plugs – armoured cable ①		JBEL2A4M20
	4x M25 entries with earth brass continuity – 2x M25 plugs – armoured cable ①		JBEL2A4M25

## JBDR | JBDR Pre-Drilled Aluminum Round Junction Boxes | (Zones 1 and 2 – 21 and 22)

	<b>Ex d IIC</b>	<b>Catalogue Number</b>	
		<b>M25 entries ①</b>	<b>M20 entries ①</b>
	2x entries	 JBDR25	 JBDR20
	3x entries	 JBDR35	 JBDR30
	4x entries	 JBDR45	 JBDR40
	Pillar terminal block (4 terminals capacity 4 x 4 mm <sup>2</sup> or 2 x 6 mm <sup>2</sup> )	TBP44	TBP44

# Junction Boxes

## JBEP | JBEP Series FRP Terminal Junction Boxes for Electrical and Power Applications | Zones 1 and 2 – 21 and 22



Ex eb IIC – 4 Live Mantle Clamping 2.5 mm <sup>2</sup> (4 + 1 earth terminal) Configuration : Single phase (1PE + 2L + 2N + 1PE) – Dim. ext. 85x85x61 mm		Catalogue Number ②
3x M20 with earth continuity device ①		JBEP080806AE03T
3x M20 with cable glands for unarmoured cable (diam. 6.5 to 14.5mm)		JBEP080806NE03T
4x M20 with earth continuity device ①		JBEP080806AE04T
4x M20 with cable glands for unarmoured cable (diam. 6.5 to 14.5mm)		JBEP080806NE04T
Ex eb IIC – 4 Live Mantle Clamping 4 mm <sup>2</sup> (4 + 1 earth terminal) Configuration: 3 Phase (1PE + 2L1 + 2L2 + 2L3 + 1PE) – Dim. ext. 120x120x91 mm		Catalogue Number ②
3x M20 with earth continuity device ①		JBEP121209AE03T
3x M25 with cable glands for unarmoured cable (diam 8 to 17mm)		JBEP121209NE13T
4x M20 with earth continuity device ①		JBEP121209AE04T
4x M25 with cable glands for unarmoured cable (diam 8 to 17mm)		JBEP121209NE14T

## JBES | JBES Series Pre-Drilled 316L Stainless Steel Junction Boxes | Zones 1 and 2 – 21 and 22



Ex e IIC – equipped with 2.5mm <sup>2</sup> terminals, continuity shields and M8 external earth crossing terminal		Catalogue Number ① ②
JBe36 – 14 terminals (7 pairs) + 7 continuity shields 220 x 260 x 150 mm – 1x M25 + 7x M20 on the bottom		JBES2226150F5
JBe36 – 24 terminals (12 pairs) + 12 continuity shields 220 x 260 x 150 mm – 1x M32 + 12x M20 on the bottom		JBES2226150F6
JBe46 – 38 terminals (19 pairs) + 19 continuity shields 220 x 370 x 200 mm – 1x M32 + 19x M20 on the bottom		JBES2237200F7
JBe46 – 54 terminals (27 pairs) + 27 continuity shields 220 x 370 x 200 mm – 1x M40 + 27x M20 on the bottom		JBES2237200F8

① Cable glands are not supplied and must be ordered separately.

② For additional configurations, please refer to the Appleton catalogue or visit our website, [www.appleton.emerson.com](http://www.appleton.emerson.com).

# Control Stations

## U4 | Unicode™ 2 Series Polycarbonate Control Stations | ATEX, IECEx, UKEX | Zones 1 and 2 – 21 and 22

	Ex db eb IIC	Catalogue Number ① ②
	Momentary push button with green "I" or red "O" insert (NO+NC) – 2x M20 entries	U41W2A3
	Emergency stop mushroom head push-pull button (NO+NC) – 2x M20 entries	U41W2D3
	Emergency stop mushroom head with key release (NO+NC) – 2x M20 entries	U41W2C3
	Emergency stop mushroom head with collar (NO+NC) – 2xM20 entries	U41W2D21
	Key push button, key removable in both positions (NO+NC) – 2x M20 entries	U41W2E3
	2 fixed position selector switch (NO+NC) – 2x M20 entries	U41W2H3
	3 fixed position selector switch "I-O-II" (2 NO) – 2x M20 entries	U41W2J1
	Green pilot light 12 to 254 Vac, 12 to 60 VDC – 2x M20 entries	U41W2PR
	Red pilot light 12 to 254 Vac, 12 to 60 VDC – 2x M20 entries	U41W2PG
	Green push button "I" (NO+NC) and red push button "O" (NO+NC) – 2x M20 entries	U42W2A3A3
	Green push button "I" (NO+NC) and red emergency stop mushroom head (NO+NC) – 2x M20 entries	U42W2A3D3
	Green pilot light and green push button "I" (NO+NC) – 2x M20 entries	U42W2PGA3
	Red pilot light and red push button "O" (NO+NC) – 2x M20 entries	U42W2PRA3
	Ammeter 48x48 mm, 1A current transformer, with 0-1-3 scale – 2x M20 entries	U42W2CA13
	Green push button "I" (NO+NC), red push button "O" (NO+NC) and red emergency stop mushroom head (NO+NC) – 2x M20 entries	U43W2A3A3D3
	Green indicator light and green push button "I" (NO+NC) and red push button "O" (NO+NC) – 2x M20 entries	U43W2PGA3A3
	Red indicator light and green push button "I" (NO+NC) and red push button "O" (NO+NC) – 2x M20 entries	U43W2PRA3A3
	Ammeter 48x48 mm, 1A current transformer, with 0-1-3 scale and 3 position selector switch with spring return "II-0" (NO+NC) – 2x M20 entries	U43W2CA13M3

Note: Unicode 2 Series also exists in 316L stainless steel version. Please refer to the Appleton catalogue or visit our website, [www.appleton.emerson.com](http://www.appleton.emerson.com).

① For additional configurations, please refer to the Appleton catalogue.

② Two entries diameter 20 mm, blanking plug, cable gland for unarmoured cables and two locknuts.

# Control Stations

U2   Unicode 2 Series Fiberglass Reinforced Polyester Control Stations   ATEX, IECEx, UKEX   Zones 1 and 2 – 21 and 22		
	Ex db eb IIC	Catalogue Number ① ②
	Momentary push button with green "I" or red "O" insert (NO+NC) – 2x M20 entries Green momentary push button "I" (NO) – 2x M20 entries	U21W2A3 U21W2A5
	Green push button "I" (NO+NC) and red push button "O" (NO+NC) – 2x M20 entries	U21W2A3A3
	Emergency stop mushroom head push-pull button (NO+NC) – 2x M20 entries	U21W2D3
	Emergency stop mushroom head with key release (NC) – 2x M20 entries	U21W2C3
	Key push button, key removable in both positions (NO+NC) – 2x M20 entries	U21W2E3
	Green pilot light and red pilot light – 2x M20 entries	U21W2PGPR
	2 fixed position selector switch (NO+NC) – 2x M20 entries 3 fixed position selector switch "I-0-II" (2 NO) – 2x M20 entries	U21W2H3 U21W2J1
	Green push button "I" (NO) and red push button "O" (NC) – 2x M20 entries	U22W2A5A9
	Green push button "I" (NO+NC) and red push button "O" (NO+NC) – 2x M20 entries	U22W2A3A3
	Green push button "I" (NO) and red emergency stop mushroom head (NC) – 2x M20 entries	U22W2A5D9
	Green push button "I" (NO+NC) and red emergency stop mushroom head (NO+NC) – 2x M20 entries	U22W2A3D3
	Green pilot light and green push button "I" (NO+NC) – 2x M20 entries	U22W2PGA3
	Red pilot light and red push button "O" (NO+NC) – 2x M20 entries	U22W2PRA3
	Green indicator light, red indicator light "I" (NO) green push button and red push button "O" (NC) – 2x M20 entries	U22W2PGPRA5A9
	Ammeter 48x48 mm, 1A current transformer, with 0-1-3 scale and 3 position selector switch with green push button "I" (NO) and red push button "O" (NC) – 2x M20 entries	U23W2CA13A5A9
	Green push button "I" (NO), red push button "O" (NC) and red emergency stop mushroom head (NC) – 2x M20 entries	U23W2A5A9D3
	Green indicator light and green push button "I" (NO+NC) and red push button "O" (NO+NC) – 2x M20 entries	U23W2PGA3A3
	Red indicator light and red push button "I" (NO+NC) and green push button "O" (NO+NC) – 2x M20 entries	U23W2PRA3A3


Note: Unicode 2 Series also exists in 316L stainless steel version. Please refer to the Appleton catalogue or visit our website, [www.appleton.emerson.com](http://www.appleton.emerson.com).

① For additional configurations, please refer to the Appleton catalogue.


② Two entries diameter 20 mm, blanking plug, cable gland for unarmoured cables and two locknuts.

# Cable glands

## TSPe | TSPe Series Polyamide Cable Glands | Zones 1 and 2 – 20

	Cable gland for unarmoured cable Ex eb with seal	Catalogue Number	
		Black RAL 9011	Blue RAL 5015
	M16	16DTSPE1TAL	16DTSPE1TA4L
	M20	20DTSPE1TAL	20DTSPE1TA4L
	M25	25DTSPE1TAL	25DTSPE1TA4L
	M32	32DTSPE1TAL	32DTSPE1TA4L
	M40	40DTSPE1TAL	40DTSPE1TA4L


## A2F | A2F Series Nickel Plated Brass Cable Glands | ATEX, IECEx | Zones 1 and 2 – 20

	Cable gland for unarmoured cable	Catalogue Number
		M20S
	M20	20A2F5
	M25	25A2F5
	M32	32A2F5
	M40	40A2F5


## E1FX | E1FX Series Nickel Plated Brass Cable Gland | ATEX, IECEx | Zones 1 et 2 – 22

	Cable gland for armoured cable (braid, tape)	Catalogue Number
		M20S
	M20	20E1FX5
	M25	25E1FX5
	M32	32E1FX5
	M40	40E1FX5

## E1FU | E1FU Series Triple Certified Nickel Plated Brass Cable Gland | ATEX, IECEx | Zones 1 and 2 – 20

	Cable glands for armoured cable (wire, braid, tape)	Catalogue Number
		M20S
	M20	20E1FU5
	M25	25E1FU5
	M32	32E1FU5
	M40	40E1FU5

## T3 | T3 Series Nickel Plated Brass Cable Glands | ATEX, IECEx | Zones 1 and 2 – 20

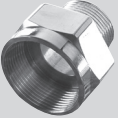
	Cable glands for armoured cable (wire, braid, tape)	Catalogue Number
		M20S
	M20	20T35
	M25	25T35
	M32	32T35
	M40	40T35

# Cable Gland Accessories

## LN | Locknuts in Nickel Plated Brass

			Catalogue Number
	M16		16LN5
	M20		20LN5
	M25		25LN5
	M32		32LN5
	M40		40LN5

## 737 | 737 Series Nickel Plated Brass Adaptors | ATEX, IECEx | Zones 1 and 2 – 20

	Male	Female	Catalogue Number
	M25	M20	737DM3M25
	M32	M20	737DM4M25
	M32	M25	737DM4M35
	M40	M25	737DM5M35
	M40	M32	737DM5M45

## 757 Series – Nickel plated brass blanking plugs | ATEX, IECEx | Zones 1 and 2 – 20

			Catalogue Number
	M20		757DM25
	M25		757DM35
	M32		757DM45
	M40		757DM55

## Entry Thread Seals – Sealing (IP) Washers in Nylon

	White entry thread seals	Catalogue Number
	M16	16ETS2
	M20	20ETS2
	M25	25ETS2
	M32	32ETS2
	M40	40ETS2

## Selection Chart – Certifications

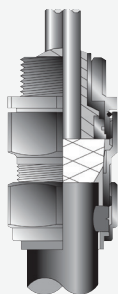
Mode of protection	Series	Material	Unarmoured cables	Armoured cables			Type of seal
				Wire	Braid	Tape	
"e"	TSPe	Polyamide	Yes				Neoprene seal
"d" and "e"	A2F	Brass, fully nickel plated / stainless steel	Yes				Elastomer seal
	E1FX	Brass, fully nickel plated			Yes	Yes	
	E1FW	Brass, fully nickel plated		Yes			
	E1FU	Brass, fully nickel plated		Yes	Yes	Yes	
	T3	Brass, fully nickel plated		Yes	Yes	Yes	
	TE1FU	Stainless steel		Yes	Yes	Yes	
"d" and "e"	PX (PXSS2K)	Brass, fully nickel plated	Yes				Compound seal
	PX2K	Brass, fully nickel plated		Yes	Yes	Yes	
"d" and "e"	PX-REX	Brass, fully nickel plated	Yes				Liquid resin
	PX2K-REX	Brass, fully nickel plated		Yes	Yes	Yes	

## Selection Guide

**Selection of cable entry for Ex d flameproof enclosure.**  
According to EN 60079-14 (2014) norm, chapter n° 10.6.2.

### Option A

Ex d cable entry compound sealing /liquid resin Per : EN 60079-1



### Option B

Ex d cable entry with sealing ring Per : EN 60079-1



With cable of 3 meter (9.84 feet) length minimum and conforms to EN 60079-14 (2014) chapter 9.3.2. a).

Other possible options as specified in EN 60079-14 (2014), chapter 10.6.2.

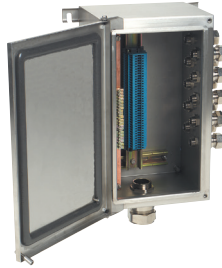


## Made to Order Products

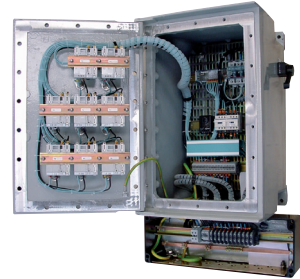
(Zones 1 and 2 – 21 and 22)



11 kV Ex e Stainless Steel Junction Box



Ex ia Instrumentation Junction Box



Ex d Panelboard with 8 Branch Circuit Breakers  
Coupled with Ex e Polyester Junction Box



Ex d Control Panel



Distribution Panelboard Ex de – PlexPower™  
in Glass Reinforced Polyester IIB+H<sub>2</sub> or IIC



Distribution Panelboard Ex de – PlexPower in  
Stainless Steel IIB+H<sub>2</sub> or IIC



Ex de Switchrack



## LED — CLED Series Flameproof Luminaires

The Appleton CLED Series is a full-feature lighting solution within a corrosion-resistant flameproof housing and an increased-safety wiring compartment. It is certified for ATEX and IECEx Zones 1 and 2 – 21 and 22. This compact and lightweight LED luminaire with a small mounting footprint provide installation flexibility adaptable to different requirements and multiple light distributions including symmetrical Type V, medium (55°) and narrow (25°) patterns. It is designed to meet the most demanding task, area lighting and floodlighting requirements in standard and battery backup (180 minutes) operations. It features twelve lumen outputs, five mounting types, two replaceable lens choices and three color temperatures.



## LED — Appleton Connected Luminaires, Dimmable Luminaires and Group Lighting Controls

An Appleton connected luminaire is a smart light that communicates over WirelessHART technology. This luminaire has an integrated sensor with occupancy or daylight harvesting capabilities, can report sensor state and automatically dim lumen output. It acts as a “controller” when Appleton LED lighting luminaires with dimming capabilities are wired to it through dimming cables, creating a “controlled” group.

An Appleton dimmable luminaire is a standard LED lighting luminaire with an electrical 0-10V dimming interface. This luminaire acts as a part of the “controlled” group when the dimming interface is wired to a Connected Appleton LED Luminaire.

Group Lighting Controls allow the control of multiple luminaires over a distance of 60 meters (200 feet) with an Appleton Connect LED Luminaire integrated dimming controller wired to the dimming leads (via designated terminal block terminations or wire nuts/connectors).

## LED — Mercmaster™ Connect LED Luminaires | Connected Luminaire

Certified for ATEX/IECEx Zones 2 – 21 and 22 locations, the Appleton Mercmaster Connect LED Luminaire is a full-feature WirelessHART connected lighting solution with integrated motion and illuminance sensors in a rugged, corrosion-resistant housing, offering a range of dimmable <sup>①</sup> lumen output options from up to 5,500 to 17,500. A standalone Mercmaster Connect LED is an excellent motion sensing luminaire that can be installed in the most critical safety spots in your facility. The most versatile options like dimmable outputs, motion sensing and daylight harvesting are available only with our Plantweb Insight™ Connected Lighting Application (optional). It provides map based commissioning of the lighting system and real-time information about lighting usage, energy consumption calculations, and maintenance priorities. Group Lighting Control (for dimming output function) for LED or conventional luminaires equipped with dimming terminals are also possible.



<sup>①</sup> Dimming function cannot be adjusted in standalone version. Lumen output level is set up in factory by default.

## LED — HB LED Multilens Bulkhead Luminaires | 0-10 Vdc Dimming Standard

Appleton ATEX/IECEx Zone 2 HB LED Multilens Bulkhead Luminaires are reliable, lightweight, compact and ideal for wall applications. Field changeable globes, 6 kV standard surge, and a choice of lumen outputs and Correlated Color Temperatures (CCTs) make this luminaire a great option for hazardous locations with corrosive atmospheres. Also available in an industrial version with CE marking for harsh industrial (non hazardous) locations where corrosive atmospheres are present. These luminaires ensure uniform light distribution making them ideal for perimeter lighting.



## LED — Mercmaster LED Low Profile Series Luminaires | 0-10 Vdc Dimming Standard

Appleton ATEX/IECEx Zone 2 Mercmaster LED Low Profile Luminaires are reliable, light-weight, compact and ideal for task and area lighting applications under 6 meters. Field changeable globes, 6 kV standard surge, and a choice of lumen outputs and Correlated Color Temperatures (CCTs) make this luminaire a great option for hazardous locations where corrosive atmospheres are present. Also available in an industrial version with CE marking for harsh industrial (non hazardous) locations where corrosive atmospheres are present. These luminaires ensure uniform light distribution without spotlight effects or dark spots and can be tailored in the field. The Emergency Battery Backup version provides 180 minutes of emergency lighting.



## LED — Industrial Areamaster Generation 2 LED Luminaire | 0-10 Vdc Dimming Standard

Appleton Industrial Areamaster Generation 2 LED luminaires are the ideal for floodlighting applications to brighten open spaces, roadways, process areas and building facades. Our secondary optics deliver lumens evenly and efficiently to floodlit areas without excess glare, hotspots, overspill, light pollution or wasted energy. Industrial Areamaster Generation 2 LEDs provide greater versatility, with models from 9,000 to 38,000 lumens, two color temperatures, two lens choices and 4 beam patterns to meet your diverse floodlighting needs. They provide HID equivalent lighting that saves over 75 percent in energy costs and eliminates maintenance burdens. They are certified for use in ordinary rated locations, that require a high degree of ingress protection and ruggedness.



## LED — Linmaster™ LED Series Nonmetallic Luminaires | 0-10V Dimming Capable

The Appleton Linmaster Nonmetallic LED Luminaire Series offers a range of lumen outputs and color temperatures in both standard and emergency battery backup models to address all your harsh industrial and hazardous Zones 1 and 2 – 21, and 22 location lighting requirements. Available in 5 Correlated Color Temperatures (CCTs), with light output from 2,500 to 7,000 lumens, and a wide AC and DC input voltage range, it is designed to allow easy retrofitting of linear fluorescent luminaires using a wide variety of mounting options.





## Polyester Junction Boxes

We have improved our offering of polyester instrumentation and junction boxes, the JBEP Series:

- equipment of our standardized boxes
- generic quotation approval plans

Please consult the Sales Representative in your region for more information about the JBEP Series:

JBEP Catalogue Number	Size
JBEP121209S0	120x120x91
JBEP1717090	170x170x91
JBEP2021100	200x215x95
JBEP2021150	200x215x145
JBEP2532150	250x320x150
JBEP3250150	320x500x150
JBEP327150	320x750x150
JBEP5032150	500x320x150



Please refer to the Appleton catalogue or visit our website, [www.appleton.emerson.com](http://www.appleton.emerson.com)

## Free Lighting Design Services

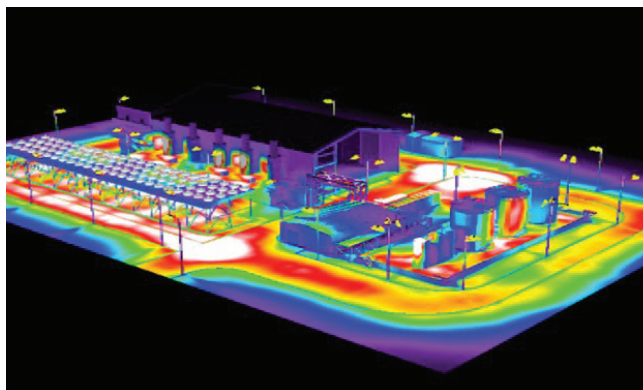
In order to choose the best LED solutions, we suggest the using DIALux™ software to design, calculate and visualize your applications lighting design.

The Appleton DIALux Plug-In can be used with the DIALux software platform or for exporting IES files for use in other programs. This plug-in is available in the Lighting Resources section at MasteringLED.com.

DIALux allows you to see what LED lighting is most suited to your needs and ATEX constraints, ranging from a simple room to a production unit including outdoor lighting.

It will highlight the advantages of LEDs in terms of reducing the number of luminaires (in the event of modernization of your installations), increasing brightness and reducing energy consumption on site.

For assistance, please send your requests to: [atxledservices@emerson.com](mailto:atxledservices@emerson.com)



## ATEX Training

The ATEX Standards are constantly evolving, we follow these changes closely in order to provide you with answers to your questions.

We offer tailor-made ISM-ATEX training for anyone who has to work in potentially explosive atmospheres, whether or not working on electrical ATEX equipment.

Depending on your needs, three training levels (levels 0, 1 and 2) are available. This training can be conducted on our premises or at your location or via a webinar session.

Please contact our authorized trainer ISM-ATEX level 3-Electric: [michel.havet@emerson.com](mailto:michel.havet@emerson.com)

**INERIS**

**CONCEPTION, REALISATION ET MAINTENANCE EN  
ATMOSPHERES EXPLOSIBLES**

DESIGN, INSTALLATION AND MAINTENANCE IN HAZARDOUS AREA

**CERTIFICAT DE COMPETENCE / COMPETENCE CERTIFICATE**

**INERIS N° 19CF0022**

**Michel HAVET**

**Formateur**

**Niveau 3-Électrique**

*Trainer, Level 3 - Electric*

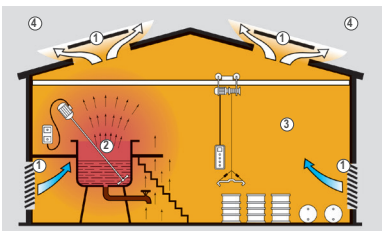
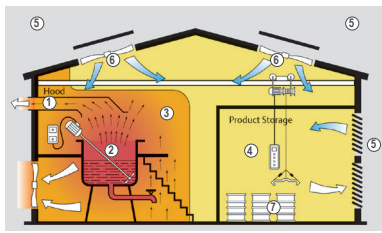
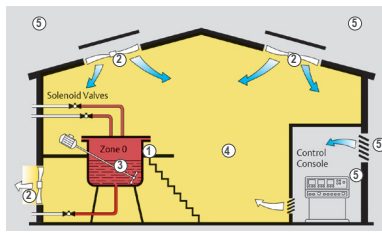
**Date de Validité : 20/09/2024**

*Validity date: 2024-09-20*

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Institut National de Recherche et de Sécurité  
pour le Développement Durable

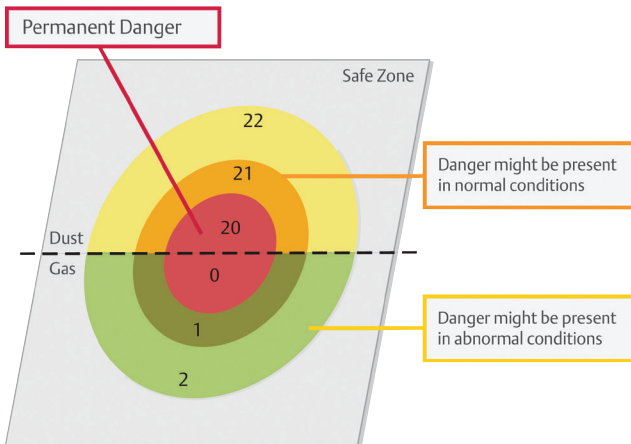


## Examples of gas and vapor environments

ZONE 0	ZONE 1	ZONE 2	SAFE ZONE
 <p><b>Example 1   Conditions :</b></p> <ol style="list-style-type: none"> <li>① Manual ventilation</li> <li>② Zone 0</li> <li>③ Zone 1</li> <li>④ Safe area</li> </ol> <ul style="list-style-type: none"> <li>• Open air mixing tank</li> <li>• No mechanical ventilation</li> <li>• Products stored in the work area</li> </ul>	 <p><b>Example 2   Conditions :</b></p> <ol style="list-style-type: none"> <li>① Tank with extractor hood</li> <li>② Zone 0</li> <li>③ Zone 1</li> <li>④ Zone 2</li> <li>⑤ Safe area</li> <li>⑥ Mechanical ventilation</li> <li>⑦ Products stored outside the work area</li> </ol>	 <p><b>Example 3   Conditions :</b></p> <ol style="list-style-type: none"> <li>① Closed Tank</li> <li>② Mechanical ventilation</li> <li>③ Zone 0</li> <li>④ Zone 2</li> <li>⑤ Safe area</li> </ol> <ul style="list-style-type: none"> <li>• Control of operations outside the work area</li> </ul>	

## Zone Classification

Zone classification is based on the presence frequency of the hazardous atmosphere:



### Zone 0 (gas) / 20 (dust)

A place in which an explosive atmosphere either [consisting of a mixture with air of dangerous substances in the form of gas, vapor or mist] or [in the form of a cloud of dust in air] is present continuously or for long periods or frequently.

### Zone 1 (gas) / 21 (dust)

A place in which an explosive atmosphere either [consisting of a mixture with air of dangerous substances in the form of gas, vapor or mist] or [in the form of a cloud of dust in air] is likely to occur in normal operation occasionally.

### Zone 2 (gas) / 22 (dust)

A place in which an explosive atmosphere either [consisting of a mixture with air of dangerous substances in the form of gas, vapor or mist] or [in the form of a cloud of dust in air] is not likely to occur in normal operation but, if it does occur, will persist for a short period only.

# General Information on ATEX Zones

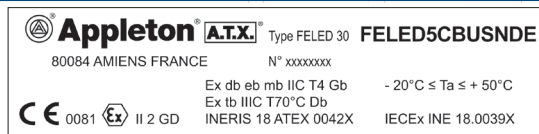


## Selection table – Certifications

Gas and dust groups		Temperature Class	
Gas group	Examples	Marking	Surface Temperature
IIA	Methane, Ethane, Propane, Butane...	T1	450 °C
IIB	Ethylene, Carbon Monoxide, H2S, Ethanol...	T2	300 °C
IIC	Acetylene, Carbon Disulfide, Hydrogen, Ethyl nitrate	T3	200 °C
Dust group	Examples	T4	135 °C
IIIA	Combustible flyings (ex: fibers)	T5	100 °C
IIIB	Non-conductive dust	T6	85 °C
IIIC	Conductive dust		

Modes of protection gas (examples)				Modes of protection dust (examples)			
Cat / EPL	Symbol	Normal	Protection Mode	Cat / EPL	Symbol	Normal	Protection Mode
1G / Ga	ia	EN 60079-11	Intrinsic safety	1D / Da	ia	EN 60079-11	Intrinsic safety
	ma	EN 60079-18	Encapsulation		ma	EN 60079-18	Encapsulation
2G / Gb	db	EN 60079-1	Flameproof enclosure	2D / Db	ta	EN 60079-31	Flameproof enclosure
	eb	EN 60079-7	Increased safety		ib	EN 60079-11	Intrinsic safety
	ib	EN 60079-11	Intrinsic safety		mb	EN 60079-18	Encapsulation
	mb	EN 60079-18	Encapsulation		tb	EN 60079-31	Protection by enclosure
3G / Gc	pxb, pyb	EN 60079-2	Pressurized enclosure	3D / Dc	pxb, pyb	EN 60079-2	Pressurized enclosure
	ec	EN 60079-7	Increased safety		ic	EN 60079-11	Intrinsic safety
	nR	EN 60079-15	Restricted breathing		mc	EN 60079-18	Encapsulation
	mc	EN 60079-18	Encapsulation		tc	EN 60079-31	Protection by enclosure
	pzc	EN 60079-2	Pressurized enclosure		pzc	EN 60079-2	Pressurized enclosure

## General information on ATEX Zones



### According ATEX Directive:

<b>CE</b>	0081	<b>Ex</b>	II	2	GD
CE marking	Identification number of the Notified Body involved in the Production Control Phase	Specific Marking of Explosion Protection	Equipment group (II = surface industry)	Equipment category (2 = for Zones 1 or 21)	Type of explosive atmosphere: G = Gas, D = Dust

### According EN 60079-0 Standard (Explosive Atmospheres-Equipment-General Requirements) and EN 60079-1/2... standards (Modes of protection standards):




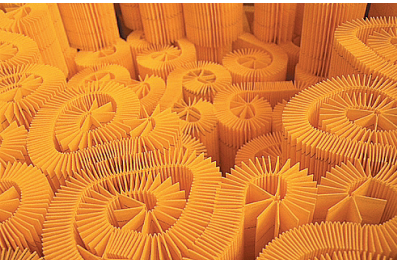
#### a) Gas :

<b>Ex</b>	db eb mb	IIC	T4	Gb
This symbol indicates that the electrical equipment corresponds to one or more of the types of protection which are the subject of specific standards	Modes of protection used	Gas subdivision	Temperature class	Equipment Protection Level (EPL) Ga for Zone 0 Gb for Zone 1 Gc for Zone 2







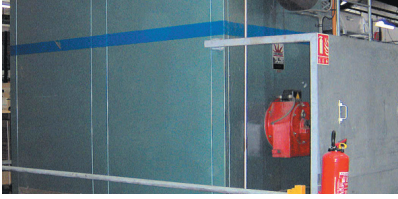

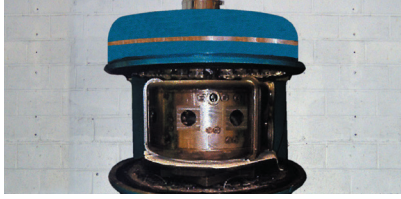






#### b) Dust :

<b>Ex</b>	tb	IIIC	T70°C	Db
This symbol indicates that the electrical equipment corresponds to one or more of the types of protection which are the subject of specific standards	Mode of protection used	Dust subdivision	Surface Temperature	Equipment Protection Level (EPL) Da for Zone 20 Db for Zone 21 Dc for Zone 22

## Explosive dust (D): Zones 20, 21 and 22 ①

Industries	Type of dust	Applications
<p><b>Food dust</b></p>  <p>Silos, flour milling, baking, agri-foods, etc.</p>	 <p>Cereals, starch, sugar, flour, milk, chocolate, colorings, etc.</p>	 <p>Storage, transportation (mechanical, on road vehicles), milling, crushing, filling, etc.</p>
<p><b>Plant dust</b></p>  <p>Wood, manufacture of furniture and corks. Wood silos, waste sorting, textiles, etc.</p>	 <p>Wood, bark, cork, cotton, paper, etc.</p>	 <p>Storage, transportation, processing</p>
<p><b>Metal dust</b></p>  <p>Surface treatment, shot blasting, sandblasting, etc.</p>	 <p>Aluminum, magnesium, ferro alloys, etc.</p>	 <p>Processing</p>
<p><b>Dust from industrial processing</b></p>  <p>Processing of plastics, tires, paints, etc.</p>	 <p>Plastics, powder coatings, fertilizers, rubber, elastomers, resins and synthetic adhesives, etc.</p>	 <p>Storage, transportation, processing</p>

## Risks linked to gases (G): Zones 0, 1 and 2 ①

Industries	Type of hazard / Presence of gas	Applications
<p><b>Solvent vapors (Type IIB)</b></p>  <p>Automotive, mechanical, boiler construction, plastic parts or parts with a plastic appearance</p>	 <p>Liquid paint, varnish, bonding, stripping, etc.</p>	 <p>Paint booths, processing.</p>
<p><b>Propellant gas</b></p>  <p>Processing of aerosol dispensers</p>	 <p>Lubricants, perfumes, paint, surface treatment, etc.</p>	 <p>Filling processes</p>
<p><b>Emanation and gas leakage</b></p>  <p>Automotive outsourcing, earthenware, glass, high-power heating (ovens), etc.</p>	 <p>H2 refueling stations, electrolyser production sites</p>	 <p>Oven proximity, control unit, processing, etc.</p>
<p><b>Handling and storage of dangerous products</b></p>  <p>All-industry handling with forklift (warehouse storage)</p>	 <p>Butane, propane, etc.</p>	 <p>Battery charging area for trucks, storage areas, etc.</p>
<p><b>Fossil fuels</b></p>  <p>Petrochemicals, oil exploration, production, refining and storage</p>	 <p>Oil, petrol, methane, etc.</p>	 <p>Processing, storage, transportation, etc.</p>

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