

Explosion Protection Complaint with ATEX (CE) and IECEx (IEC IECEx)



Gear Unit

SEW-EURODRIVE
76646 Bruchsal/Germany

K67/A/II2GD
01.1234567801.0001.12
na r/min 28 ne max r/min 2100 IM M1A 176.37
Ma Nm 380 Me max Nm 5.0 Fb 2.0
Fra max N 12900 FSA GmbH, EU Code 0588 IP65

II 2GD c.k T4/T120C Ta -20...+40°C Made in Germany

CLP HC 220 Synth. ÖL1.1L 641 590 3.10

Motor

SEW-EURODRIVE
76646 Bruchsal/Germany

K67/II2GD EDRE80M4/2GD/KCC/TF/AL 0102
01.1234567801.0001.12 PTB 10 ATEX 3026/13 eff% 81.0 IE2
Hz 50 r/min 1435/19 V 219-241Δ/380-420V IA/IN 6.1
kW 0.75 S1 A 3.05/1.76 Cos φ 0.79 tE s 30

II2G Ex e IIC T3 Gb II2D Ex tb IIIC T120°C Db

IM M1A Iso.KL.155(F) 3~IEC60034-1 Zone A IP65
kg 41.000 -20...40 °C Jahr 2012 188 582 0.50 Made in Germany

FI operation

SEW-EURODRIVE
76646 Bruchsal/Germany

K67/II2GD EDRE80M4/2GD/KCC/TF/AL 188 592 8.12
01.1234567801.0001.12 PTB 11 ATEX 3003/02X

Hz	r/min	V	A	Nm	Hz	r/min	V	A	Nm
5	110	33	2.20	3.1	5	110	58	1.26	3.1
10	250	54	2.35	3.8	10	250	94	1.36	3.8
25	660	115	3.05	5.0	25	660	200	1.75	5.0
50	1425	230	2.95	5.0	50	1425	400	1.71	5.0
65	1900	303	2.95	5.0	65	1900	400	1.70	3.7

Forced cooling fan

wistro Elektro-Mechanik GmbH
Berliner Allee 29-31, 30855 Langenhagen
FLAI BG63 - 250

II 3GEx nA IIC T 3 X Gc T 3 X Gc
II 3D Ex t IIIC T 120°C IP66 X Dc T 120°C IP66 X Dc

IP20 IP10
Eintritt Austritt

CE 0102 Ex II 2G

Identification in accordance with EU Directive 94/9/EC

CE marking
Marking for the prevention of explosions
0102 Inspection authority

Inspection authorities (excerpt)

ID no.	Notified bodies	Country
0102 *	PTB	Germany
0158 *	DEKRA	Germany
0588 *	FSA	Germany
0080	INERIS	France
0081	LCIE	France
0163	LOM	Spain
0344	DEKRA Certification B.V.	The Netherlands
0402	SP	Sweden
0518	SCS	Great Britain
0589	BAM	Germany
0722	CESI	Italy
1180	BASEEFA	Great Britain

* Inspection authority relevant to SEW-EURODRIVE

Category / zone

Gas Dust

SEW-EURODRIVE does not offer products for zones 0 and 20

Classification of Zone – Category – Degree of Protection

Zone	Category	Degree of protection	Frequency / duration	Guaranteed protection
0	1	G Very high	Over long periods or frequently	With two independent protective measures; two errors can occur independently of one another
20	D	●		
1	2	G High	Occasionally during normal operation	One protective measure; suitable for normal operation with the likelihood of frequent errors, one error can occur
21	D	●		
2	3	G Normal	Usually not or only briefly, during normal operation	Suitable for standard operation
22	D	●		

G = Gas, D = Dust

SEW-EURODRIVE offers only units for categories 2 and 3 in equipment group II.

Equipment groups

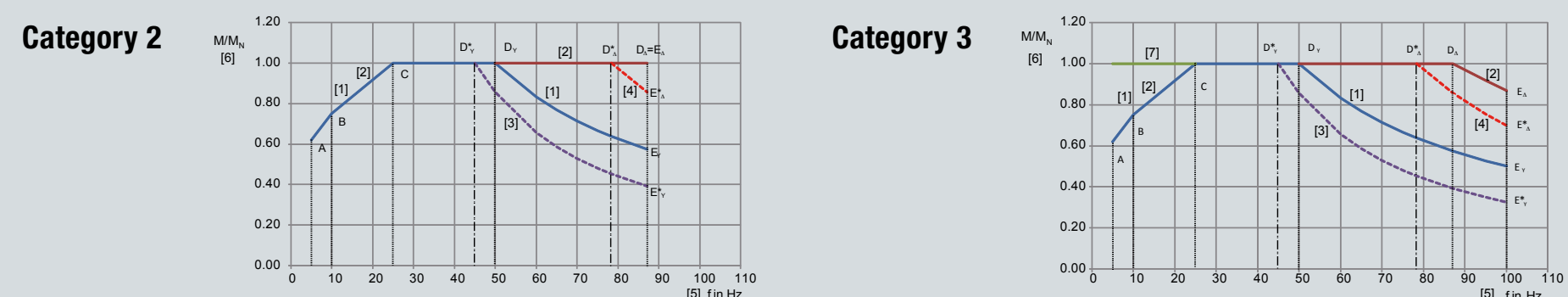
Equipment group I: Applies to units to be used in below-ground mining operations and their above-ground systems that may be subject to hazards from firedamp and/or flammable dusts.
Equipment group II: Applies to units to be used in other areas that may be subject to hazards from a potentially explosive atmosphere.

Efficiency rating

EDRE motors conform to the efficiency class IE2 in accordance with IEC 60034-30 and can, therefore, be used worldwide.

Operation with frequency inverter

Project planning is an important component in avoiding overtemperatures. This is accomplished with maximum torques and inverter protection functions to ensure their observance. Motors can be operated at 50 Hz and 60 Hz. The curve points can also be taken from the additional nameplate.



[1] Star connection [2] Delta connection [3] Typical application for star connection [4] Typical application for delta connection
[5] Supply frequency of the motor [6] Torque ratio M/Mn [7] VE fan

Equipment Protection Level (EPL)

IEC / EN 60079-0	94/9/EC	1999/92/EC IEC / EN 60079-10-X	
Equipment protection level (EPL)	Group	Equipment group	
Ga	II	II	
Gb			
Gc			
Da	III		
Db			
Dc			
		Unit category	
		Zone	
		1G	0, 1 and 2
		2G	1 and 2
		3G	2
		1D	20, 21 and 22
		2D	21 and 22
		3D	22

Ex e IIC T3 Gb

Identification in accordance with EN 60079 and IEC 60079

Ex e IIC T3 Gb Ex tb IIIC T120° Db

Ex: Marking showing that the electrical device complies with one or more protection types

Protection type

Protection type	Standard EN	Standard IEC	Symbol	Unit protected by	Protection principle	Application in zone
“Ex” protection – mechanical units						
General	13463-1	80079-36 in prep.	Ex	Potentially explosive atmosphere – General requirements for non-electrical devices		
Protection types for gear units (mechanical units) The protection type specifies the method used for explosion protection.						
C	13463-5	80079-37 in prep.		Design safety	Design safety due to constructional measures	1 and 2 21 and 22
k	13463-8	80079-37 in prep.		Liquid immersion	Ignition sources cannot become active and/or are separated from the flammable atmosphere.	1 and 2 21 and 22

“Ex” protection – electrical units

General	60079-0	60079-0	Ex	Potentially explosive atmosphere – General requirements for devices
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Protection types for motors (electrical devices)

The protection type specifies the method used for explosion protection.

d	60079-1	60079-1		Flameproof enclosure	Prevents the explosion from being transmitted to the outside	1 and 2
e	60079-7	60079-7		Increased safety	Prevention of sparks and of impermissibly high temperatures	1 and 2
i	60079-11	60079-11		Intrinsically safe	Limit for electrical energy (ia, ib, ic)	0,1 and 2
nA	60079-15	60079-15		Non-sparking	Minimizes the risk of ignition posed by arcing or sparks	2
t	60079-31	60079-31		Dust explosion protection through enclosure	Protection against ingress of dust and limit on surface temperature (ta, tb, tc)	21 and 22

Classification of electrical devices

Gas explosion group and temperature class (IEC / EN 60079-0, -12, -20)

Group II	Gases and vapors (excerpt)				
IIA (not SEW)	Ammonia	Ethanol	Gasoline	Acetaldehyde	
	Methane	cyclohexane	Common jet fuel		
	Ethane	n-butane	n-hexane		
IIB	Propane				
	Town gas	Ethylene	Ethyl glycol	Ethyl ether	
IIC	Acrylonitrile	Ethylene oxide	hydrogen sulfide		
	Hydrogen	Ethyne (acetylene)			Carbon disulfide

Temperature information (Classification of gases and vapors based on ignition temperature)

Temperature classes	T1	T2	T3	T4	T5*	T6*
* non-SEW-EURODRIVE products	Max. 450 °C	Max. 300 °C	Max. 200 °C	Max. 135 °C	Max. 100 °C	Max. 85 °C

Dust explosion group (IEC / EN 60079-0)

Group	Approved for atmospheres with	Required minimum IP degree of protection
IIIA	Flammable lint	IP5X
IIIB	Non-conductive dusts	IP5X
IIIC	Conductive dusts	IP6X

Temperature information

Maximum surface temperature in degrees Celsius and the unit °C preceded by the letter “T”, e.g. T120 °C

Additional conditions

Conditions	Characteristics
Equipment can be used without limitation	–
Observe special operating conditions (e.g. increased temperature range, frequency inverter operation)	X
“Ex” component with only partial certification not ready for use CE conformity is granted when device is installed into complete equipment.	U