Operating instructions

Additional languages www.stahl-ex.com





Ex d Enclosures made of Light Metal, Flameproof Encapsulation

Series 8265/0 Empty enclosure Series 8265/4 control panel, integrated in Ex e enclosure Series 8265/5 control panel



Contents

1	General Information	3
1.1	Manufacturer	3
1.2	Information regarding the operating instructions	3
1.3	Further documents	
1.4	Conformity with standards and regulations	
2	Symbols Used	
3	General Safety Notes	
3.1	Operating instructions storage	4
3.2	Safety notes	
3.3	Modifications and alterations	5
3.4	Special Versions	5
4	Intended Use	5
5	Technical data	5
6	Transport and storage	11
7	Installation	11
7.1	Dimensions / fastening dimensions	11
7.2	Installation Conditions	15
7.3	Mounting and Operating Position	15
7.4	Electrical Connection	17
8	Commissioning	20
9	Operation	21
9.1	Function	21
10	Maintenance, Overhaul and Repair	21
10.1	Maintenance	21
10.2	Cleaning	21
10.3	Repair instructions	21
11	Disposal	21
12	Accessories and Spare parts	22



1 General Information

1.1 Manufacturer

R. STAHL Schaltgeräte GmbH Am Bahnhof 30 74638 Waldenburg Germany

 Phone:
 +49 7942 943-0

 Fax:
 +49 7942 943-4333

 Internet:
 www.stahl-ex.com

 E-Mail:
 info@stahl.de

1.2 Information regarding the operating instructions

ID-No.:	143457 / 826560300010
Publication Code:	2016-03-10·BA00·III·en·09

1.3 Further documents

Please see the following attached documents for further important information:

- Device list
- Circuit diagram

1.4 Conformity with standards and regulations

Conformity with standards and regulations is specified in the corresponding certificates and the EC Declaration of Conformity. These documents can be downloaded from our homepage www.stahl-ex.com.

2 Symbols Used

	Information sign: describes notes and recommendations.
	Warning symbol: danger due to energised parts!
EX	Warning symbol: danger due to explosive atmosphere!
	Warning symbol: danger due to hot surfaces!
	Warning symbol: general hazard



8265/0, 8265/4

	Meaning
NB 0158	ATEX-Notified Body for Quality Assessment.
02198E00	According to marking, device approved for hazardous areas.

8265/5

Symbol	Meaning
C € 0158 05594E00	CE marking according to the currently applicable directive.
02198E00	According to marking, device approved for hazardous areas.

3 General Safety Notes

3.1 Operating instructions storage

Read these operating instructions carefully and store them near the installation place. For correct operation, observe all enclosed documents and the operating instructions of the equipment to be connected.

3.2 Safety notes



- Use the devices only for their intended purpose!
 We cannot be held liable for damage caused by incorrect or unauthorized use or by non-compliance with these operating instructions.
- Use the device only if it is undamaged.



Any unauthorized work on the device is prohibited! Installation, maintenance, overhaul and repair may only be carried out by appropriately authorised and trained personnel.

Observe the following information during installation and operation:

- Any damage may compromise the explosion protection
- National and local safety regulations
- National and local accident prevention regulations
- National and local assembly and installation regulations
- Generally recognized technical regulations
- Safety notes in these operating instructions
- Characteristic values and rated operating conditions on the rating plates and data plates
- Additional information plates on the device



3.3 Modifications and alterations



Alterations and modifications to the device are not permitted. We shall not accept any liability or warranty obligations for damage resulting from alterations and modifications.

3.4 Special Versions

In case of additional/different order options, special versions may differ from the description given here.

4 Intended Use

The enclosures are used to build motor starters, control stations and terminal boxes. They are suitable for being mounted in measuring equipment and customer-specific control panels.

This technology allows using sparking and arcing equipment in zones 1 and 2. The built-in components are standard electrical and switching devices, being designed and wired according to customer specifications.

The enclosure units can be installed as components in Ex e control systems. A typical application is as circuit breakers for motor protection in light and heating circuits. Flameproof cable glands for directly introducing the cable into the enclosure or threaded holes for conduit connection are possible. For indirect cable entry, however, enclosures with terminal compartments of "Increased safety" of the series 8146, 8125 and 8150 are used.

5 Technical data

Explosion Protection

Global (IECEx)	
Gas and dust	8265/0: IECEx PTB 07.0027 U 8265/4: IECEx PTB 07.0028 U 8265/5: IECEx PTB 07.0029
	8265/0: Ex db eb IIC Gb 8265/4: Ex db eb ia ib [ia Ga] IIC Gb 8265/5: Ex db eb ia ib [ia Ga] IIC T6, T5, T4 Gb
	8265/0: Ex tb IIIC Db 8265/5: Ex tb IIIC T 80°C, T 95°C Db
Europe (ATEX)	
Gas and dust	8265/0: PTB 06 ATEX 1023 U 8265/4: PTB 06 ATEX 1076 U 8265/5: PTB 06 ATEX 1077
	8265/0: 🐼 II 2 G Ex db eb IIC Gb 8265/4: 🐼 II 2 G Ex db eb ia ib [ia Ga] IIC Gb 8265/5: 🐼 II 2 G Ex db eb ia ib [ia Ga] IIC Gb T6, T5, T4 Gb
	8265/0: 🕢 II 2 D Ex tb IIIC Db 8265/5: 🕢 II 2 D Ex tb IIIC T 80°C, T 95°C Db



Technical Data								
Rated cross section	Enclosure	Cross-section						
	Size 1 Size 2 Size 3 Size 4	max. 95 mm ²						
	Size 5 Size 6	max. 120 mm ²						
Rated operational voltage U _e	Standard:	1000 V						
	Special:	10 kV – depending on the cable entries or bushings used or depending on the corresponding built-in equipment.						
Rated operational current l _e	Enclosure	Current						
ŭ	Size 1 Size 2 Size 3 Size 4	max. 160 A						
	Size 5 Size 6 Refer to the rat	max. 250 A ting and data plates of the devices!						
Degree of protection	IP54 without O-ring IP66 with O-ring silicone -60 °C +60 °C (Ex tb IIIC Db)							
Enclosure	to EN 13195.	Aluminium, copper-free (seawater-resistant) AL Si7Mg03 according						



Power dissipation	Enclosure	Ambi	ent ten	nperatu	ire rar	nae				
and temperature class				e class		-	Temperature class T5			
		max. +60 °		max. +40 °		max +60		max +40		_
	Size 1 not painted	13 W		27 W	27 W		V	38 V	38 W	
	Size 1 painted	16 W		35 W	I	28 V	V	49 V	V	
	Size 2 not painted	18 W		40 W	1	35 V	V	58 V	V	
	Size 2 painted	23 W		52 W	1	45 V	V	75 V	V	
	Size 3 not painted	23 W		58 W	I	52 V	V	85 V	V	
	Size 3 painted	26 W		75 W	I	67 V	V	110	110 W	
	Size 4 not painted	38 W	38 W		85 W		72 W		130 W	
	Size 4 painted	49 W	49 W		110 W		93 W		169 W	
	Size 5 not painted	49 W	49 W		117 W		96 W		190 W	
	Size 5 painted	63 W	63 W		152 W		124 W		247 W	
	Size 6 not painted	58 W		138 \	138 W		115 W		205 W	
	Size 6 painted	75 W		179 \	179 W		149 W		266 W	
Max. number of holes	Maximum num	nber of r	netrica	l bores	for ea	ach end	losure	side		
	Enclosure	M20 × 1.5	M25 x 1.5	M32 x 1.5	M40 × 1.5	M50 × 1.5	M63 x 1.5	M75 × 1.5	M90 x 1.5	M105 × 1.5
	Size 1	3	1	1	1					
	Size 2	3	2	2	1					
	Size 3	8	4	3	2	1	1	1		
	Size 4	16	9	6	4	3	1	1		
	Size 5	18	9	8	5	3	2	1	1	





Technical Data

Max. number

of conduit holes

Maximum number of conduit bores for each enclosure side									
Enclosure	¹ / ₂ "	³ /4"	1"	1 ¹ / ₄ "	1 ¹ / ₂ "	2 "	2 ¹ / ₂ "	3"	
Size 1	2	1	1	1					
Size 2	2	2	1	1					
Size 3	5	3	2	2	1	1			
Size 4	10	6	5	4	3	2			
Size 5	12	9	6	5	3	2	1	1	
Size 6	18	12	8	6	6	3	2	1	

Bores with connection chamber

Maximum permitted threaded holes for bushings and actuating bushings for each enclosure side

		-							
Thread size ^{*)}	M10 × 1	M15 × 1.5	M16 × 1.5	M20 × 1.5	M24 x 1.5	M33 x 1.5	M42 x 1.5	M48 x 1.5	M56 × 1.5
Size 1	3	2	2	1	1	1			
Size 2	3	2	2	1	1	1			
Size 3	7	4	4	3	3	2			
Size 4	20	12	12	8	7	4	3	2	1
Size 5	28	15	15	10	8	6	3	2	1
Size 6	43	20	20	15	11	8	4	3	2

^{*)} Thread according to ISO 965-1/-3, tolerance class medium or higher. Other types of threads which meet the requirements according to IEC/EN 60079-1, Tables 3 and 4, are possible.

For thread dimensions which are between the values specified in the table, the maximum number depends on the next larger thread size specified in the table.



EN

FNL.

Ex d Enclosures made of Light

Metal, Flameproof Encapsulation

12807E00

Base and cover installation



Surface for base installation								
Enclosure	Length A in mm	Width B in mm						
Size 1	60	45						
Size 2	84	68						
Size 3	112	96						
Size 4	120	152						
Size 5	180	80						
Size 6	200	148						

Maximum number of thread entries in the base (NPT/NPSM)											
Size	1/2" NPT	3/4" NPT	3/4 1/4" NPSM	1" NPT	1" NPSM	1 1/4" NPT	1 1/4" NPSM	1 1/2" NPT	2" NPT	2 1/2" NPT	3" NPT
Size 1	2	1	1	1	1	1					
Size 2	2	2	2	1	1	1	1	1			
Size 3	3	3	3	1	1	1	1	1	1		
Size 4	5	5	5	2	2	2	2	1	1	1	
Size 5	5	5	5	2	2	2	2	1	1	1	
Size 6	5	5	5	2	2	2	2	1	1	1	1



Technical data

Maximum nu	mber of metrical ent	ries in the base			
Size	M10 x 1.5; M14 x 1.5; M15 x 1.5; M16 x 1.5	M20 x 1.5; M24 x 1.5; M25 x 1.5	M32 x 1.5; M33 x 1.5; M36 x 1.5	M40 x 1.5; M42 x 1.5; M48 x 1.5; M50 x 1.5; M56 x 1.5; M63 x 1.5	M75 x 1.5
Size 1	2	1	1		
Size 2	2	1	1	1	
Size 3	3	2	1	1	
Size 4	4	2	2	1	
Size 5	4	2	2	1	
Size 6	5	3	3	1	1



Surface for ceiling	installation
Enclosure	Diameter D in mm
Size 1	75
Size 2	107
Size 3	143
Size 4	191
Size 5	208
Size 6	208

Maximum number of thread entries in the ceiling (NPT/NPSM)				
Size	3/4 1/4" NPSM	1" NPSM	1 1/4" NPSM	
Size 1	1			
Size 2	2			
Size 3	3			
Size 4	5			



12806E00

Size 5	8	3	3
Size 6	8	3	3

Maximum numbe	r of metrical entries in th	he ceiling
Size	M10 x 1.5; M14 x 1.5; M15 x 1.5; M16 x 1.5; M20 x 1.5	M24 x 1.5; M25 x 1.5
Size 1	2	1
Size 2	3	2
Size 3	5	3
Size 4	7	5
Size 5	8	8
Size 6	8	8

6 Transport and storage

- Transport and storage are only permitted in the original packaging.
- The devices must be stored in a dry place and vibration-free.

7 Installation

7.1 Dimensions / fastening dimensions

Dimensional drawings (All dimensions in mm/inches) - subject to alterations

132 [5,20]

81,50 [3,21]

> 10,50 [0,41]







12

8 [0,32]

Enclosure size 1 8265/.1-001, with inspection window

Enclosure size 1 8265/.1-000, without inspection window

143457 / 826560300010

2016-03-10·BA00·III·en·09



11396E00

EN

11397E00

Dimensional drawings (All dimensions in mm/inches) - subject to alterations

05575E00





Enclosure size 2 8265/.2-000, without inspection window





Enclosure size 3 8265/.3-000, without inspection window





Enclosure size 2 8265/.2-001, with inspection window





Enclosure size 3 8265/.3-001,

with inspection window

05581E00

05578E00

STAHL

05580E00

EN

05588E00





Ex d Enclosures made of Light Metal, Flameproof Encapsulation



Enclosure size 6 8265/.6-000, without inspection window



Enclosure size 4 8265/.4-000, with connection chamber 8146/.S7.



Enclosure size 6 8265/.6-001, with inspection window

05589E00

207,50 [8,17] 19 [0,75]

213 [8,39]

ø 410 [ø 16,14]

13134E00

272 [10,71] 294 [11,57]

EN

EN

7.2 Installation Conditions

	ble mechanical load! the device from mechanical load.
(j)	This device is suitable for outdoor and indoor use.
(B)	If the explosion protected equipment is exposed to the weather, it is advisable to provide a protective cover or wall.

Internal wiring

Use only wires which can be used for the corresponding temperature.

7.3 Mounting and Operating Position

	 Incorrectly performed installation! Risk of severe injuries. Observe the thread sizes for the cable entries specified in the equipment documentation. The connection line must comply with the relevant regulations and must have the required cross-section. The diameter must be identical to the data on the bushing. Ensure that the maximum permissible conductor temperatures are not exceeded by selecting suitable wires and means of running them. The permissible ambient temperature at the intrinsically safe built-in devices and components must not be exceeded. The switchgear combination must only be installed in a dry and clean environment.
EX	 Installation in dust Ex areas! The control panel 8265/5*-*** must not be used in areas where highly charge-generating processes, machine friction and separation processes, electron spraying (e.g. around electrostatic coating systems) and pneumatically conveyed dust occur.
EX	 Increased temperature due to connection cable! ▶ If the selected connection cable causes a temperature of more than 70 °C at the cable entries, the cable entries must be designed for the corresponding temperature.
(B)	Fasten the device to the attachment holes provided for this purpose using suitable screws and accessories (see dimensional drawings).
(a)	Observe the weight of the enclosure! If necessary, use suitable auxiliary tools for transport.
(B)	When mounting the component, ensure presence of a flat surface.



EN

Empty enclosure

The operating position is optional.

Control panel

(F

For the operating position, please refer to the enclosed documentation.

Opening the enclosure cover



15546E0

- Loosen the threaded pin (2).
- Insert the key (1) into the hole
 (3) and unscrew the enclosure cover.
- Place the enclosure cover carefully aside.

Closing the enclosure cover



2

- Lubricate the thread with OKS 403 grease.
- Attach the enclosure cover to the enclosure.
- Insert the spanner (1) into the hole (3) and screw down the enclosure cover evenly.
- Unscrew the enclosure cover by max. 90° so that the logo is at the top of the enclosure.
- Tighten the threaded pin (2).





- Place the Ex d enclosure on two screws (for distance "x", see dimensional drawings).
- Fasten the Ex d enclosure by means of two further screws.
- Tighten all screws.

7.4 Electrical Connection

- The information given in chapter "Technical Data" must be observed.
- The conductor must be connected carefully.
- The conductor insulation must reach to the clamping units.
- Do not damage the conductor (nicking) when stripping it.
- Ensure that the maximum permissible conductor temperatures and the maximum permissible surface temperature are not exceeded by selecting suitable electric lines and means of running them.

A WARNING

Incorrectly routed wires in the Ex e connection chamber!

- \triangleright If lines have not been installed correctly, explosion protection is no longer guaranteed.
- Strictly adhere to the required creepage distances and clearances.
- Mounting rails or elements must be fastened properly.

Intrinsically safe circuits

Danger due to incorrectly dimensioned cables and wires! \triangleright Risk of severe injuries. Use only insulated cables and wires whose testing voltage is AC 500V and whose minimum quality is H05. The diameter of one conductor must not be smaller than 0.1 mm.

- The diameter of individual wires of finely stranded conductors must not be smaller than 0.1 mm.



Insulation test voltage

With regard to the insulation and separation of terminals and cables, it should be noted that the insulation test voltage is derived from the sum of the rated operating voltages of intrinsically safe circuits.

"Intrinsically safe against earth"

In case of "intrinsically safe against earth" then the insulation voltage value is at least 500 V (or double the value of the intrinsically safe circuit rated operational voltage).

"Intrinsically safe against non intrinsically safe"

In case of "intrinsically safe against non-intrinsically safe", then the insulation voltage value is at least 1500 V (double the sum of the rated operational voltage of intrinsically-safe circuits plus 1000 V).

	 Danger due to incorrectly routed cables and wires! ➢ Risk of short circuit. ➢ Wires and cables must be at a minimum distance of 8 mm to wires and cables of other intrinsically safe circuits. Exception: The cores of intrinsically safe or non-intrinsically safe circuits are protected by an earthed shield.
(B)	A distance of 50 mm around an insulating (\geq 1 mm thick) or earthed metal (\geq 0.45 mm thick) isolating plate must be provided between the connection points of intrinsically safe and non-intrinsically safe circuits. An isolating plate at a distance of \leq 1.5 mm to the enclosure wall must be provided between the connection points of intrinsically safe and non-intrinsically safe and

Terminal blocks in Ex e terminal compartment

()	Day attention to the test estimate of the terminals
~æ	Pay attention to the test certificate of the terminals.
	Only one conductor may be connected to each terminal. Terminal bridging
	is only permitted if original I.S. accessories have been used.
	Equip with the necessary partitions as needed.
	For additional protection against splaying use crimped wire-end sleeves
	or cable lugs.
	The cross section of the splay protection must meet the conductor
	cross section.



External wiring

Run the connecting cables with intact external insulation jackets through the cable entries into the connection chamber.

Make sure that the cable diameter and the clamping cross-section on the cable entry are identical.

Tighten the hexagon nuts of the cable entry in such a way that the tightness of the connection chamber and the strain relief protection at the connection point are guaranteed. To determine the tightening torques, refer to the operating instructions of the individual components.

Run the connecting wires in the connection chamber such that:

- the bending radii for the respective conductor cross-section do not fall below the minimum permissible values.
- mechanical damage to the conductor insulation due to rubbing against sharp-edged metal parts is avoided.

Terminals

Tighten the screws of the connection terminals in accordance with the specified tightening torques.

Screw dimensions	М3	M4	M5	M6	M8	M10
Tightening torque [Nm]	0.8	2.0	3.5	5.0	10.0	17.0

Protective earth conductor



- The protective earth conductor must always be connected to the enclosure using a cable lug (2). Place a washer (1) above and below the cable lug and secure the screw (4) using a locking device (3).
- Regardless of the operating voltage, connect all bare, non-energised metal parts to the protective system.
- The external protective earth conductor is designed to be fitted with a cable lug. The cable must be run and fixed near to the enclosure to prevent movement of the cable.



7.4.1 Making Additional through Holes

If additional through holes are required, for example for fastening cable glands, breathers or other built-in parts in the enclosure, the following has to be observed:

- When determining positions of the through holes, observe the mounting distance to ensure collision-free mounting.
- Space requirements result from the width across corners of the cable gland plus the space required for the tool used to fasten the cable gland.
- Adjust the hole diameters to the dimensions of the built-in parts and/or their seals.
- Measure the dimensions on the plane surfaces of the inner side of the enclosure, not on the outer side of the enclosure.
- Make sure that the through holes are located on the plane surfaces of the enclosure sides with parallel running interior and exterior contours.
- Additional through holes can be bored, laser-cut or punched.
- During punching make sure that the surfaces remain flat.
- Do not damage circumferential sealing lips.

8 Commissioning



Check the device before commissioning!

To ensure correct operation, check the device before commissioning.

Before commissioning, ensure that:

- × no components are damaged
- \boldsymbol{X} the device has been installed according to regulations
- $\boldsymbol{\textbf{X}}\xspace$ there are no foreign bodies inside the device
- X all detachable connections have been tightened firmly
- $\boldsymbol{\textbf{X}}$ the prescribed tightening torques have been observed
- × the connection has been performed correctly

- Danger due to unauthorized cable entries!
- EX
 - If unauthorized cable entries are used, explosion protection can no longer be guaranteed.
 - Use only cable entries approved for the required type of protection.





EN

9 Operation

9.1 Function

The function depends on the built-in components.

10 Maintenance, Overhaul and Repair

10.1 Maintenance

Regular maintenance work:

- Consult the relevant national regulations (e.g. IEC/EN 60079-17) to determine the type and extent of inspections.
- Plan the intervals such that any expected defects are detected promptly.



Danger due to live parts! ▷ Risk of severe injuries.

All connections and wiring must be disconnected from the power supply.
 Secure the connections against unauthorized switching.

\land WARNING

Installation work only by the qualified personnel!

- Installation work may only be carried out by appropriately authorized and trained personnel.
- Observe the relevant national regulations in the country of use.

10.2 Cleaning

- X Clean with a cloth, brush, vacuum cleaner or similar items.
- X When cleaning with a damp cloth, use water or mild, non-abrasive, non-scratching cleaning agents.
- X Never use aggressive cleaning agents or solvents.

10.3 Repair instructions

- Replace the device.

11 Disposal

Observe the national waste disposal regulations.



12 Accessories and Spare parts



Serious risk of injury!

- Use only original accessories as well as original spare parts by R. STAHL Schaltgeräte GmbH.
- Use of other spare parts or accessories can invalidate the explosion protection.

Accessories and spare parts can be found on the data sheet on our homepage: www.stahl-ex.com.

Accessories and Spare Parts

Designation	Figure	Description		Art. no.	Weight
					kg
Cover with inspection window		for enclosure:	Size 1	211037	0.890
		Visible cutout of the inspection window	Ø 62 mm		
	11400E00	for enclosure:	Size 2	209698	5.495
	11400E00	Visible cutout of the inspection window	Ø 100 mm		
		for enclosure:	Size 3	143452	2.232
		Visible cutout of the inspection window	Ø 138 mm		
		for enclosure:	Size 4	143453	3.856
		Visible cutout of the inspection window	Ø 188 mm		
		for enclosure:	Size 5	211041	5.303
		Visible cutout of the inspection window	Ø 186 mm		
		for enclosure:	Size 6	201886	9.220
		Visible cutout of the inspection window	Ø 188 mm		
Mounting plate		for enclosure size 1		208862	0.120
	l i	for enclosure size 2		143484	0.189
	. ,	for enclosure size 3		143485	0.364
	11401E00	for enclosure size 4		143486	0.744
	1401200	for enclosure size 5		143487	1.070
		for enclosure size 6		143488	1.700

Ex d Enclosures made of Light Metal, Flameproof Encapsulation

EN

Accessories and Spare Parts

Designation	Figure	Description	Art. no.	Weight kg
	Silicone, for enclosure size 2	221717	0.008	
	Silicone, for enclosure size 3	221718	0.010	
\smile	Silicone, for enclosure size 4	221719	0.012	
11402E00	Silicone, for enclosure size 5	211271	0.020	
	Silicone, for enclosure size 6	221720	0.026	
Drain and breather valve		with thread ³ / ₈ "	107998	0.026
	15776E00	with thread $1/2^{\text{"}}$	107999	0.090
Mounting rail		TS15 L 80 mm for enclosure size 1	212425	0.013
	14856E00	TS15 L 90 mm, diagonal for enclosure size 1	212338	0.010
		TS15 L 105 mm for enclosure size 2	143497	0.018
		TS15 L 133 mm for enclosure size 3	137902	0.020
		TS15 L 189 mm for enclosure size 4	137908	0.029
		TS15 L 218 mm for enclosure size 5	212427	0.030
		TS15 L 280 mm for enclosure size 6	166448	0.049
		TS35 L 80 mm for enclosure size 1	212424	0.027
	09671E00	TS35 L 90 mm, diagonal for enclosure size 1	212339	0.025
		TS35 L 105 mm for enclosure size 2	143498	0.037
		TS35 L 133 mm for enclosure size 3	137970	0.040
		TS35 L 189 mm for enclosure size 4	137976	0.060
		TS35 L 218 mm for enclosure size 5	212426	0.033
		TS35 L 280 mm for enclosure size 6	166449	0.100
		G32 L 133 mm for enclosure size 3	137939	0.020
	15760E00	G32 L 189 mm for enclosure size 4	137945	0.130
		G32 L 218 mm for enclosure size 5	212428	0.135
		G32 L 280 mm for enclosure size 6	166450	0.200



Accessories and Spare Parts

Designation	Figure	Description	Art. no.	Weight
				kg
Grub screw	an a	M5x16-A2 with hexagon socket and pointed tip	110216	0.001
	05984E00			
Кеу		to open the enclosure cover for size 1, 2, 3, 4 2 wrenches are required.	142059	0.060
	05986E00			
Adjustable wrench	a	to open the enclosure cover for size 5, 6 2 wrenches are required.	221927	0.214
	13135E00			

EN



Ex d Enclosures made of Light Metal, Flameproof Encapsulation