# Electrical Linear Actuators for Continuous Positioning RSDE10...RSDE100 (Contrac)

Rated Forces 10...100 kN In Explosion-Proof Design









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# Electrical Linear Actuators for Continuous Positioning RSDE10...RSDE100 (Contrac)

# **Operating Instructions**

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# Manufacturer:

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# Legend

# Danger



DANGER indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury. (High level of risk.)

#### Warning

Info

WARNING indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury. (Medium level of risk.)

#### Warning (Electr.)

WARNING indicates a potentially hazardous situation, mainly caused by electrical components. if not avoided, could result in death or serious injury.



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INFO indicates useful hints or other special information which, if not observed, could lead to a decline in operating convenience or affect the functionality. (Does not indicate a dangerous or harmful situation.).



#### **1** Device Identification

1.1	Actuator ID Label				
1	Antrieb / Actuator: CONTRAC				
2	F-Nr./No	NL			
3	F =	Jahr/Year	CE		
4	t =	IP 66			
5	minmax	max			
6	Öl / Oil:				
7	Mit / With Elektronik/Ele	ctronics EBN/EBS	<mark>(Ex</mark> )		
8	II 2 G/D ck EEx de [ib] ib	II B T4 bzw IP6x T=130°0	2		
9	ZELM 04 ATEX 0209 X				
10					
	ABB Automation D-32425 Minden Made in Germany	AI	BB		

- 1. Actuator Type
- 2. Fabrication No./ NL-No. (No. of non-standard version)
- 3. Rated actuator force / Year of manufacture
- 4. Permissible ambient temperature and protection class
- 5. min./max. stroke and min./max. speed
- 6. Oil type
- 7. Associated Contrac electronic unit
- 8. Ex data
- 9. Certification authority
- 10. Free for cutomer specific entry

#### 2 Application

Use this instruction only together with the instruction for the elctronic unit.



The Ex-certification for the RSDE100 was not yet available when this document was printed. The Ex-relevant specification refer only to the actuators RSDE10...RSDE50.

#### 3 General

#### 3.1 Proper use

The actuators may be used exclusively for actuating final control elements (valves, vanes, etc.). They may only be operated using the appropriate Contrac electronic unit for field or rack installation. Do not use these actuators for any other purpose. Otherwise, a hazard of personal injury or of damage to or impairment of the operational reliability of the device may arise. Improper user also cancels the explosion protection.



#### 3.2 Safety precautions

When mounting the actuator in areas which may be accessed by unauthorized persons, take the required protective measures.

- The actuators perform movements for positioning vanes and valves. Handle properly and with care. Otherwise, a hazard of bruise injuries may arise.
- When changing the oil of the actuator, thoroughly remove any oil that may have run down on the
- floor during the procedure to avoid accidents.
- Dispose of the waste oil in compliance with the respective local regulations. Make sure that no oil reaches the water cycle
- Only qualified specialists who have been trained for these tasks are authorized to mount and adjust the control actuator, and to make the electrical connection.
- Technical actuator or motor modifications cancel the explosion protection.
- When working on the actuator itself or the electronics always observe the locally valid accident prevention regulations and the regulations concerning the construction of technical installations.
- Switch-off the voltage supply; make sure that unintentional switching on is not possible
- Make sure that switching off the power supply does not affect the plant process
- The eyebolt at the top of the actuator may only be used to lift or lower the actuator vertically. Do not use it if the actuator is mounted at the valve!
- Make sure that the final control element is not exposed to process forces.
- Do not use the hand wheel to lift or to lower the actuator..

#### 3.3 Operation via frequency transformer

- The frequency converter (electronic unit) may not einstalled or used within the hazardous area.
- Check whether the electronic unit is loaded with the parameters of the actuator it is connected to.
- Check the electronic unit for proper connection to the correct actuator.
- Setpoint monitoring is activated as default setting when the electronic unit leaves the manufacturer. Do not de-activate this setting.
- Lock the hand wheel with a cotter pin in order to a void unintentional manual actuator operation.
- Swicth-off the power supply to the motor prior to any manual operation.
- RSDE... actuators are not allowed to be used in the rapid traverse mode. Selecting this option with the configuration tool does nor effect the actuator behaviour.

#### 4 Storage

The actuators may be stored under moist and aggressive condition for a short time. The equipment is protected against external corrosive influences. However, direct exposure to rain, snow, etc. must be avoided.

Actuators, equipped with an anti condensation heater, are additionally protected by desiccant, which is placed in the following locations:.

position sensor:	in connection chamber
electronic unit (separately supplied):	electrical connection chamber

The desiccant guarantees sufficient protection for approximately 150 days. It can be regenerated at a temperature of 90° C within 4 h.

Remove the desiccant prior to commissioning the actuator or the electronic unit.

#### 4.1 Long-time storage

If you intend to store or transport the device for a longer time, we recommend to wrap it in plastic foil and add desiccant. Regularly check if the desiccant is still active.

In the case of standstill periods of more than 6 months with extended thrust rod, the chromated spindle surface must be treated with a corrosion inhibitor. Prior to re-commissioning the unit clean the thrust rod to avoid damage to the scraper ring and thrust rod sealing.



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### 5 Subassemblies



Fig. 1: Installation of a RSDE... (Contrac) in hazardous area



#### 5.1 Operation

The actuator is supplied with activated positioning loop monitoring as default settings. Do not de-activate these settings.

#### 5.1.1 AUT / MAN mode

The motor triggered by the power electronics controls the axially fixed drive sleeve /nut assembly via oil-lubricated spur gears. A ball bearing screw (see Figure 2) radially fixed by an anti-twist arrester converts the rotary motion to a linear one. The screw is the upper part of the thrust rod and has an adjustable mechanical stop. The brake built in the motor acts as a retainer when the power is off.

A position sensor detects backlash-free the thrust rod position über via a mechanical reduction gearing.

The motor brake locks the actuator in the current position if the power suplly is cut off.





(Allows you to move the actuator manually when the electrical power is off.)

- Remove the cotter pin.
- Press the hand wheel lock.
- Consider restoring process forces!
- Turn the handwheel to move the thrust rod to the desired position.
- Release the lock.
- Insert the cotter pin
- 5.1.2.1 Moving direction:

CW turning of the handwheel drives the thrust rod out.

#### 6 Technical Data

#### 6.1 General data

Operating mode	S9 - stall-proof acc. to DIN IEC 2/915/CDV
Protection class	IP 66; explosion proof
Humidity	$\leq$ 95% average; condensation not permitted
Ambient temperature	-20° C +60°C
	(depending on the load approx. twofold positioning time within the temperature range -10°C20°C)
Transport- and storage temperature	-20°C +60°C
Mounting position	only IMV1, IMV3 oder IMB5 nach IEC 34 (only positions acc to fig. 3fig. 5)
Coating	2 component epoxy (RAL 9005, black)
Anti condensation heater	optionally (supply via Contrac electronic unit)
Power supply for motor and sensors	only via Contrac electronic unit (see data sheet of electronic unit)
Electrical connection	terminals in EEx e connection chamber; separately for motor and
	signals
	cable between electronic unit and actuator optionally (see orde-
	ring data for the electronic unit)

Table 1:

STOP

42/68-287 EN



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#### 6.2 RSDE10 ... RSDE20

	RSDE10-5,0	RSDE10-10,0	RSDE20-5,0	RSDE20-7,5
Rated pos. force [kN]	-	10 20		
Stand still force [kN]	approx. 1.2 x rated force (occasional breakaway in endpositions up to 2 x rated force)			
Positioning speed [mm/s]	0.15.0	0.110.0	0.15.0	0.17.5
Servo motor	BD 80 K-4B	BD 80 K-4B	BD 80 K-4B	BD 80 L-4B
Ex-protection of actuator	II 2 GD ck EEx c	le [ib] ib II B T4 or	IP6x T=130°C	•
Weight: max stroke 100 mm max. stroke 300 mm	approx. 57 kg approx. 82 kg	approx. 65 kg approx. 90 kg	approx. 57 kg approx. 82 kg	approx. 61 kg approx. 86 kg
Associated electronic unit For field installation: For rack installation:	EBN 853 EBS 852			
Voltage supply	AC 115 V (94 V 127 V) or AC 230 V (190 V 253 V); 47,5 63 Hz			
Max. current (AC 115/230 V): [A] (at electronic unit)	3.4 A / 1.7 A	3.8 A / 1.9 A	4.8 A / 2.4 A	3.8 / 1.9
Current during positioning	approx. 40% 50% of I <sub>max</sub> .			
Table 2:	•			

#### 6.3 RSDE50 ... RSDE100

	RSDE50-3,0	RSDE50-10,0	RSDE100-1,5 <sup>1)</sup>	RSDE100-10,0 <sup>1)</sup>	
Rated pos. force [kN]	5	0	100		
Stand still force [kN]	approx. 1.2 x rated (occasional breaka	l force way in endpositior	ns up to 2 x rated for	orce)	
Positioning speed [mm/s]	0.1 3.0	0.1 10.0	0.1 1.5	0.1 10.0	
Servo motor	BD 90 L2-4B	BD 100 L2-4B	BD 90 L2-4B	BD 112 M-4B	
Ex-protection of actuator	ll 2 GI	D ck EEx de [ib] ib	II B T4 or IP6x T=1	30°C	
Weight: max stroke 120 mm (150 mm at RSDE100	approx. 130 kg	approx. 146 kg	approx. 240 kg	approx. 242 kg	
max. stroke 300 mm	approx. 155 kg	approx. 171 kg	approx. 275 kg	approx. 273 kg	
Associated electronic unit For field installation: For rack installation:	EBN 853 EBS 852	EBN 861 EBS 862	EBN 853 EBS 852	EBN 861 EBS 862	
Voltage supply	AC 115 V (94 V 127 V) or AC 230 V (190 V 253 V); 47.5 63 Hz	AC 230 V (190 V 253 V); 47.5 63 Hz	AC 115 V (94 V130 V) or AC 230 V (190 V 253 V); 47.5 63 Hz	AC 230 V (190 253 V); 47.5 63 Hz	
Max. current ( AC 115/230 V): [A] (at electronic unit)	4.0 A / 2,0 A	/ 6.4 A	4.4 A / 2.2 A	/ 12.5 A	
Current during positioning	approx. 40%	50% von I <sub>max.</sub>	approx. 40%	. 50% von I <sub>max.</sub>	

Table 3: 1) certification for RSDE100 under preparation



## 7 Lubrication



#### 7.1 Mounting position and oil level

The actuators contain the oil quantity for mounting position IMV 1 when they leave the factory. Add the missing oil acc. to table 4...6 if required.

#### 7.1.1 RSDE10 / RSDE20



Fig. 3: Oil level;  $^{1)}$  = check plug,  $^{2)}$  = venting plug.

oil quantity, approx. [ltr]				
max. stroke 100 mm	3.8	5.,4	3.8	3.8
max. stroke 300 mm	6.4	8.,8	6.4	6.7
oil level [mm] below check screw with re- tracted thrust rod	40 (0)	0	28	75
		·	•	*

Table 4:

#### 7.1.2 RSDE50



Fig. 4: Oil level;  $^{1)}$  = check plug,  $^{2)}$  = venting plug.

oil quantity, approx. [ltr] max. stroke 120 mm max. stroke 300 mm	7 10	10 12	upon request	7 9,5
oil level [mm] below check screw with re- tracted thrust rod	49	0 (150 at 300 mm stroke)	upon request	95

Table 5:



#### 7.1.3 RSDE100<sup>3)</sup>



oil quantity, approx. [ltr] max. Hub 150 mm	11 15	18 23	upon request	13 19
oil level [mm] below check screw with re- tracted thrust rod	47	15 (150 mm stroke) 130 (300 mm stroke)	upon request	43

Table 6: .

Replace the highest inspection screw with the separately delivered vent screw when the actuator is installed.

#### 7.2 Lubricants

	Oil types
ambient temperature	default oil when supplied
-20°C + 60°C	Mobil SHC 629

Table 7:

#### 7.2.1 Oil change

Proceed as follows to drain or change the oil:

- provide a container capable to take the expected oil quantity acc. to table 4 ... 6
- open or undo the venting plug (fig. 3 to 5)
- unscrew the lowermost inspection plug and use it to drain the oil
- make sure that the entire oil is out of the actuator
- screw in and tighten the drain plug
- complete other maintenance work (if required)
- refill the appropriate amount of oil and tighten the venting plug



#### 8 Mounting

#### 8.1 Actuator check

Before you start to install the actuator make sure that the delivery status corresponds to the ordered status and to the intended use.

- Is the actuator filled with the appropriate oil type?
- Is enough oil in the actuator?
- Did you fasten the separately delivered venting plug (part no. 9287338) in the uppermost bore (depending on the mounting orientation)?
- Make sure that the motor and the connection chambers are free of dirt, moisture and corrosion.
- Actuator stroke acc. to valve stroke?

#### 8.2 Mounting position

All mounting orientations which are shown in fig. 3...fig. 5 are permissible. To facilitate mounting and maintenance, however, it is recommended to use orientation IMV 1. Make sure the actuator is filled up to the required oil level (see table 4 to 6).

In order to ensure sufficient ventilation and space for the motor de-/installation allow for min. 80 mm space for the motor hood.

#### 8.3 Installation instructions

- Check the data label of the actuator concerning the device group, Ex-category, Ex-zone and temperature class in order to make sure that the actuator may be operated in the destined hazardous area.
- Make sure that the actuator is accessible from all sides to ensure convenient handwheel operation, electrical connection, and replacement of assemblies.
- Avoid direct exposure to rain, snow and other environmental influences. Select the mounting site accordingly or install a shelter.
- The max. ambient temperature may not exceed 60°C. If necessary use an appropriate roof to avoid sun radiation impact.
- The temperature increase during the operation caused by the heat transfer via the interface between actuator and valve may may not exceed a surface temperature of 100°C. Check the temperature at regular intervals.
- In IMV1 mounting position the actuators are resistant against vibrational loadings acc. to EN 60068-2-6, table C.2 up to 150 Hz and additionally 1 g / 30 Min. In case the operating conditions do not definetely allow to estimate whether the vibrational loadings stay significantly below the proven contingent, reduce the maintenance intervals accordingly in order to avoid an oil leakage.
- Make sure that the thrust rod and the valve stem are not exposed to additional vibrational loadings, which exceed the double of the rated force (e.g. by a spring coupling or a vibration absorber between thrust rod and valve stem).
- Make sure that the actuator force does not permanently exceed the double of its rated value. For a short time a force increase up to the double of the rated force is permitted.
- When mounting the actuator close to heat sources use an insulating layer or shielding.
- The internal stroke limiter avoids that the actuator thrust rod can leave the housing. Make the mechanical adjustment so that in the endposition there is still a 3% gap to its internal couterpart.
- Check for proper oil filling before you commission the actuator in hazardous athmosphere.

#### 8.3.1 Valve requirements

- The force in the end position can be up to 2.5 times higher than the rated force.

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#### 8.4 Adaptation of actuator stroke to the valve stroke

The factory-set actuator stroke corresponds to the stroke named on the ID-label + 1 mm. If an application requires a stroke adaptation proceed as follows (consider min./max. stroke; see technical data):

- drive the thrust rod manually completely out; internal limit stop is in touch with the driving sleeve
- loosen the screws of the thrust rod cover and remove the cover
- open the cover screw in the thrust rod cover
- both allen clamping screws are accessible; loosen both screws
- drev ethe thrust rod manually in until the actuator stroke corresponds to the valve stroke
- turn the internal limit stop (slotted ring nut) clockwise until it is in touch with the drive sleeve; finally turn it back approx. 1 turn

-	tighten both allen screws	with t	he re	quire	d to	rque	
	RSDE10 / RSDE20:					26 Nr	n
	RSDE50:					26 Nr	n
	RSDE100:					40 Nr	n
		e					

- shut and fasten the cover of the thrust rod and turn in the cover screw; fill in the oil acc. to the mounting position

#### 8.5 Assembly with the valve

- drive the thrust rod completely in and put the actuator onto the valve yoke
- make sure the valve stem is centrically aligned with the bore and at right angles to the actuator seat (permissible parallel deviation < 0.1 mm referred to total stroke)
- fasten the actuator to the yoke with screws of property class 8.8 (tensile strength 800 N/mm<sup>2</sup>; yield strength 640 N/mm<sup>2</sup>)
- use the handhweel to drive the thrust rod out; link the rod with the valve stem via the clutch
- manually retract the thrust rod to check whether or not the external stop of the actuator is on the housing flange before the valve cone gets in touch with the cover
- if required, adjust with the clutch (only possible within certain limits!)



Fig. 6: Installation example RSDE...



#### 9 Electrical connection

Each actuator requires a Contrac electronic unit which is loaded with the type specific-software. Carefully consider the instructions for the electronic unit and compare the data labels of the actuator and the electronic unit in order to ensure a proper hard- and software assignment.

The cable between the actuator and the electronic unit is connected to terminals. Consider the following issues:

- Consider the local regulation concerning the setup of electrical devices within hazardous areas. This applies particularly to EN 60079-14 for the setup of the screen and the potential compensation between the actuator, the electronic unit and the motor protection unit (refer <sup>1</sup>) to fig. 7 and 8).
- For the connection of the motor and the position transmitter only use ATEX certified EEx e cable glands with IP66 acc. to EN 50019.
- Use a cable socket or a solid wire, bended to a "U", to connect the motor cable.
- Ensure a proper strain relief for all cable connections.
- Protect all cables in the connections chambers against contact with metal components. Ensure a gap of at least 6 mm between all conductive components.
- Remove the desiccant in motor and position sensor
- Do not change the factory-set position of the motor terminal chamber.
- Seal all not used cable entries with ATEX certified IP66 plugs.
- Use a certified cut-off unit for the thermal motor monitoring. Permitted units are e. g.:
- type 3RN1, ident no. II (2) G, PTB 01 ATEX 3218, Siemens or type EMT6-..., ident no. II (2) G, PTB 02 ATEX 3162, Moeller

The ABB motor temperature monitoring unit SD241B may also be used for these measures.

For details for electronic units for rack installation see corresponding instructions .



#### 9.1 EBN853 / EBN861 (Standard)











Fig. 8:

#### 10 Maintenance

Contrac actuators feature a robust construction. As a result, they are highly reliable and require only little maintenance. The maintenance intervals depend upon the effective load and are therefore not specified here.

The built-in microprocessor evaluates the actual load factors (e.g. torques, temperatures, etc.) and derives the remaining operating time until the next routine maintenance is required. Use the configuration program to view this information.

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Only qualified personnel may do the maintenance work.

10.1 Inspection and overhaul

- Only use genuine spare parts such as ball bearings, gaskets and oil.
- An integrated micro processor calculates the remaining lifetime until the next overhaul from the evaluation of the real load factors.
- Proceed acc. to table 8 to do the maintenance work.
- Inspection or maintenance becomes due at least after the time acc. to table 8.
- Interpolate the replacement intervals for the thrust rod sealing it. 1, the associated O-ring it. 2; the scraper ring it. 3 and the (flange) O-ring it. 4 within the limits which are named in table 8.





#### **Overhaul intervals:**

Interval	Measures		
1 x per year	visual check of the sealin	gs for leakage, change if necessary	
every 2 years	functional check: drive the actuator 2 x through the entire stroke range and check for correct speed reduction		
every 4 years	check oil level		
max. every 10 years, preferably after the expiry of the calculated remaining servicetime	<ul> <li>change oil, roller bearin</li> <li>ring</li> <li>checke gear wheels fo</li> </ul>	ngs and sealings at motor and gea- r wear; replace if necessary	
thrust rod sealing, associated O-ring,	change after	at surface temperature	
scraper ring and (flange) O-ring	5 years	100° C	
	10 years	20° C	

Table 8: Inspection intervals (see fig. 9 for sealing details)



- Don't drive the actuator during the oil check.
- Make sure that no chippings or other material get into the gearbox during the maintenance work.
- If the actuators are used within a II2D classified area, clean the surfaces regularly in order to avoid dirt deposits of more than 5 m thickness. In order to avoid electro-static charging use a wettish cloth to clean the lacquered surfaces.

#### 10.2 Brake adjustment



Note that the actuator position may be changed accidentally by the repelling power of the valve when the brake is released!

Since the brake is permanently released in AUT mode it is not exposed to mechanical wear. Im Automatikbetrieb unterliegt die Bremse nahezu keinem Verschleiß, da sie permanent gelöst ist. Any readjustment is not necessary. Use the test function of the configuration software to check the brake.



# **11** Trouble shooting

This chapter only covers failures caused by the hardware. Use the online-help of the configuration software for an extended trouble shooting.

failure pattern	possible reason	trouble shooting
actuator can not move the valve	failure either at the actuator or at the final control element (e.g. stuffing box tightened too much)	<ul> <li>detach actuator from valve</li> <li>if the actuator moves the valve is the possible cause</li> <li>if the actuator does not run, the actuator is the possible cause</li> </ul>
actuator does not react	wrong electronic unit or wrong data loaded	compare the data lable on the ac- tuator and the electronic unit
	wrong software settings	check / change the settings using the configuration software
	no communictation to the DCS	check wiring
	faulty wiring between actuator and electronic unit	check wiring
	motor / brake faulty	<ul> <li>check windiing resistances of motor and brake</li> <li>check the brake fuse</li> </ul>
	no connection to digital input	provide connection
	brake does not (no mechanical "click")	<ul> <li>check brake gap (approx. 0.25 mm) and electrical connection to the brake</li> <li>check winding resistance of the brake coil</li> </ul>
actuator does not run in AUT mo- de, although "AUT" is selected in the user interface	digital input 1 (DI1) not energized	<ul> <li>energize DI1</li> <li>check software settings for di- gital inputs</li> </ul>
LEDs in the commissioning and service panel (CSP) flash syn- chronously	operating range not properly ad- justed	adjust operating range
LEDs flash alternately	failure in electronic unit / actuator	- drive the actuator beyond the
failure when approaching the end position	actuator is close / beyond the usable position sensor range	<ul> <li>adjusted end position (either manually or using the push but- tons on the CSP);</li> <li>(if necessary disconnect from valve or damper)</li> <li>drive the actuator back into the operating range and connect it to the valve / damper</li> <li>re-adjust the operating range</li> </ul>

Table 9:

#### 11.1 Electrical test values

BD 80 K-4B	BD 80 L-4B	BD 90 L2-4B	BD 100 L2-4B	BD 112 M-4B
18.2 Ohm	8.04 Ohm	3.88 Ohm	2.57 Ohm	1.51 Ohm
910 Ohm	910 Ohm	648 Ohm	575 Ohm	575 Ohm
	18.2 Ohm 910 Ohm	BD 80 R-4B         BD 80 L-4B           18.2 Ohm         8.04 Ohm           910 Ohm         910 Ohm	BD 80 R-4B         BD 80 L-4B         BD 90 L2-4B           18.2 Ohm         8.04 Ohm         3.88 Ohm           910 Ohm         910 Ohm         648 Ohm	BD 80 K-4B         BD 80 L-4B         BD 90 L2-4B         BD 100 L2-4B           18.2 Ohm         8.04 Ohm         3.88 Ohm         2.57 Ohm           910 Ohm         910 Ohm         648 Ohm         575 Ohm

Table 10:



#### 12 Annex









	Anlage zur EG-Baumusterprüfbescheinigung ZELM 04 ATEX 0209 X					
(17)	Besondere Bedingungen					
1	Der elektrische Anschluß des Schwenkantriebes darf nur über den gekennzeichneten bzw. in der Betriebsanleitung aufgeführten Frequenzumrichter erfolgen.					
2.	Die elektrischen und mechanischen Montagehinweise der Betriebsanleitung sind zu beachten, insbesondere die unterschiedlichen Umgebungsbedingungen des Schwenkantriebes sowie der zugehörigen Frequenzumrichter- und Motorkaltleitertemperaturüberwachungs – Systemkompo- nenten.					
3.	Die Errichtung der Systemkomponenten darf nur unter Beachtung des in der Betriebsanleitung enthaltenen Verdrahtungsplanes erfolgen.					
4.	Die elektrischen Schwenkantriebe dürfen nur über das Motortemperatur-Überwachungsgerät Typ SD 241B betrieben werden. Alternativ zum Motortemperatur-Überwachungsgerät Typ SD 241 B darf die Motortemperaturüberwachung in geeigneter Weise über ein Motortemperatur- Überwachungsgerät mit separater EG-Baumusterprüfbescheinigung betrieben werden, soweit dies vom Hersteller dafür freigegeben ist.					
5.	Die Betriebsanleitung ist zu beachten, insbesondere die Festlegungen zur maximalen Dicke von Staubschichten im gefährdeten Bereich der Kategorie 2D.					
6.	Beim Betrieb im Staubbereich ist sicherzustellen, dass der konstruktiv vorgegebene Schutzgrad IP 6x für das Gehäuse einschließlich der Leitungseinführungen gewährleistet ist.					
(18)	Grundlegende Sicherheits- und Gesundheitsanforderungen durch Normen erfüllt					
	Zertifizierungsstelle ZELM Ex J. J. J					
	Seite 3/3					



સ્યુષ્ટ્ર	$\mathbf{ZELM} \mathbf{\xi}_{\mathbf{x}}$
	3.Ergänzung
(Er	gänzung gemäß EG-Richtlinie 94/9 Anhang III Ziffer 6)
	zur EG-Baumusterprüfbescheinigung
	ZELM 04 ATEX 0209 X
Gerät:	Elektrische Schwenkantriebe Contrac RHDE
Hersteller:	ABB Automation Products GmbH
Anschrift:	Schillerstrasse 72, 32425 Minden, Deutschland
Beschreibung der Erg	gänzung
Die bisherige Contrac s bau ergänzt. Anstatt ei diesem wird die Drehb transformiert, welche d zwei unterschiedlichen mm. Der Aufbau der Re	Schwenkantriebsreihe wird um einen komplett geänderten mechanischen Auf- nes Schwenkantriebes wird durch die Elektronik ein Linearantrieb gesteuert. In ewegung des Elektromotors durch eine Kugelspindel in eine Linearbewegung furch interne Anschläge abgefangen werden kann. Die Linearantriebe sind in Stelllängen erhältlich, 100 mm RSDE10 / 20, bzw. 120 mm RSDE50 und 300 egelelektronik bleibt unverändert, die Anpassungen erfolgen über die Software.
Der Linearantrieb ist für	r einen Umgebungstemperaturbereich von -20°C bis +60°C ausgelegt.
	RSDE10-5; RSDE10-10; RSDE20-5; RSDE20-7,5; RSDE50-5; RSDE50-10
Die Daten und die beso oben genannten Antriet	onderen Bedingungen für die bisherigen Antriebe bleiben unverändert. Für die be gelten folgende Angaben:
Daten	
Linearantrieb Contrac:	
Bemessungsdaten: Netzspannung: zugehörige Nennströme bzw. Netzspannung: zugehörige Nennströme	<ul> <li>115 V (94 V bis 127 V) 47,5 Hz bis 63 Hz</li> <li>3,4 A bis 4,8 A je nach Ausführung, außer RSDE50-10</li> <li>230 V (190 V bis 253 V) 47,5 Hz bis 63 Hz</li> <li>1,7 A bis 6,4 A je nach Ausführung</li> <li>Die Zuordnung erfolgt über die Kennzeichnung bzw. die</li> </ul>
Gehäuseschutzgrad:	Betriebsanleitung mindestens IP 6x gemäß EN 60529:1991



	ഷത		71	TT M	۶.			
					CX			fur 2
	3. Ergänzu	ing zur EG-B	aumusterp	orüfbesche	inigung Z	ELM 04 A	TEX 0209	x
Bes	sondere Bedir	igungen						
Die ber Bec	besonderen B nunverändert. I dingungen um f	edingungen au Für die in diese olgende Punkt	is der EG-Ba er Ergänzung e erweitert:	umusterprüf betrachtete	bescheinigu n Linearant	ing ZELM 0 riebe werde	4 ATEX 0 n die beso	209 X blei- nderen
7.	An der Konta lassen. Bei B intervalle für nungsanleitur Ist aufgrund d Laufe der vor leitung, bzw. zen. Bei Sch waagrechter eintrag mittels welche in der	ktstelle von Ste etrieb des Line die Dichteleme 1g verwiesen. Jer Betriebsbed gesehenen Lel Prüfbericht) un wingungsbelas Position. Mögli s geeigneter Mi Bedienungsan	ellkörper und arantriebes u ente in dieser dingungen ni bensdauer da tterschreitet, stung nicht e ch ist auch e aßnahmen. S leitung ange	Stellantrieb Inter solche n Bereich, e cht klar abz as nachgew so sind die rlaubt ist d eine Entkop Sollte dies g geben sind,	sind Tempa n Bedingun ss wird hier uschätzen, iesene Last Wartungsir e Montage blung des L eschehen, s erhalten.	eraturen bis gen verkürz zu auf die A ob die Schw kontingent i ttervalle ent der Linear inearantriet so bleiben d	maximal 1 en sich die ngaben in vingungsb (siehe Bec sprechend antriebe n s vom Sc ie Wartung	00°C zuge- Wartungs- der Bedie- elastung im lienungsan- i zu verkür- nit Motor in hwingungs- gsintervalle,
Prü	ifbericht Nr.							
ZEI	<b>.M Ex 1360411</b>	355						
<u>Grı</u> Die Übe	undlegende S grundlegend ereinstimmun	icherheits- un en Sicherheit: g mit den in d	<u>d Gesundhe</u> s- und Gesi er EG-Baun	eitsanforde undheitsan nusterprüft	<u>rungen</u> forderunge escheinigi	n werden i ing aufgefi	weiterhin ihrten No	erfüllt durcl rmen.
Zer	tifizierungsste J. DiplIng.	Harald Zelm	- And	Zertifizierungs-		Braunso	hweig, 4.	05.2005



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