Instructions
42/68-168 EN

Electrical Part-Turn Actuators Continuous Control RHDE8000 / RHDE16000 (Contrac)

Rated torque 8000 Nm ... 16000 Nm
In explosion-proof design

Content

Device Identification 2
Actuator ID Label 2
Application 2
General 3
Proper use. 3
Safety and precautions 3
Storage 3
Long-time storage. 3
Delivery settings 3
Sub Assemblies 4
Operation 4
Technical Data 5
General Data 5
Technical Data RHDE8000 / RHDE16000 5
Lubrication 6
Mounting position and filling capacity 6
Oil specifications. 6
Oil change 6
Mounting 7
Actuator check 7
Mounting orientation 7
Installation instructions 7
Mounting the Actuator to the Valve 7
Lever dimensions 9
Electrical connection 10
Wiring diagram EBN853 / EBN861 (Standard) 10
EBN853 / EBN861 (fieldbus communication) 11
Maintenance 12
Inspection and overhaul 12
Brake adjustment 12
Trouble shooting 13
Electrical test values 13
Appendix 14

1. Device Identification

1.1 Actuator ID Label

1	**Antrieb / Actuator: CONTRAC ....**		
2	F-Nr./No	NL	
3	M =	Jahr/Year	CE
4	t =	IP 66	
5	min.....max.	max.	
6	Öl / Oil:		Ex
7	Elektronik/Electronics		
8	II2G/D ck EEx de [ib] IIB T4 bzw IP6x T=130°C		
9	ZELM =4 ATEX 0209X		
10			
	Automation D-32425 Minden Made in Germany		ABB

1. Actuator type
2. Device number / No. of non-standard version
3. Rated torque / Year of manufacture
4. Permissible ambient temperature / protection class
5. Min./max. positioning travel / Min./max. speed
6. Filled-in oil type
7. Associated electronics
8. Ex data
9. Ex data
10. Available for customer-specific information

2. Application

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

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 and 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.

3.2.1 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.
- RHDE... 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 / plug: . . . . . under plug connector cover

Electronics (delivered separately): . . . . . in terminal enclosure

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

The desiccant must be removed prior to commissioning the actuator or the electronics.

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.

5. Delivery settings

See electronic unit instructions for detailed descriptions.

6. Sub Assemblies

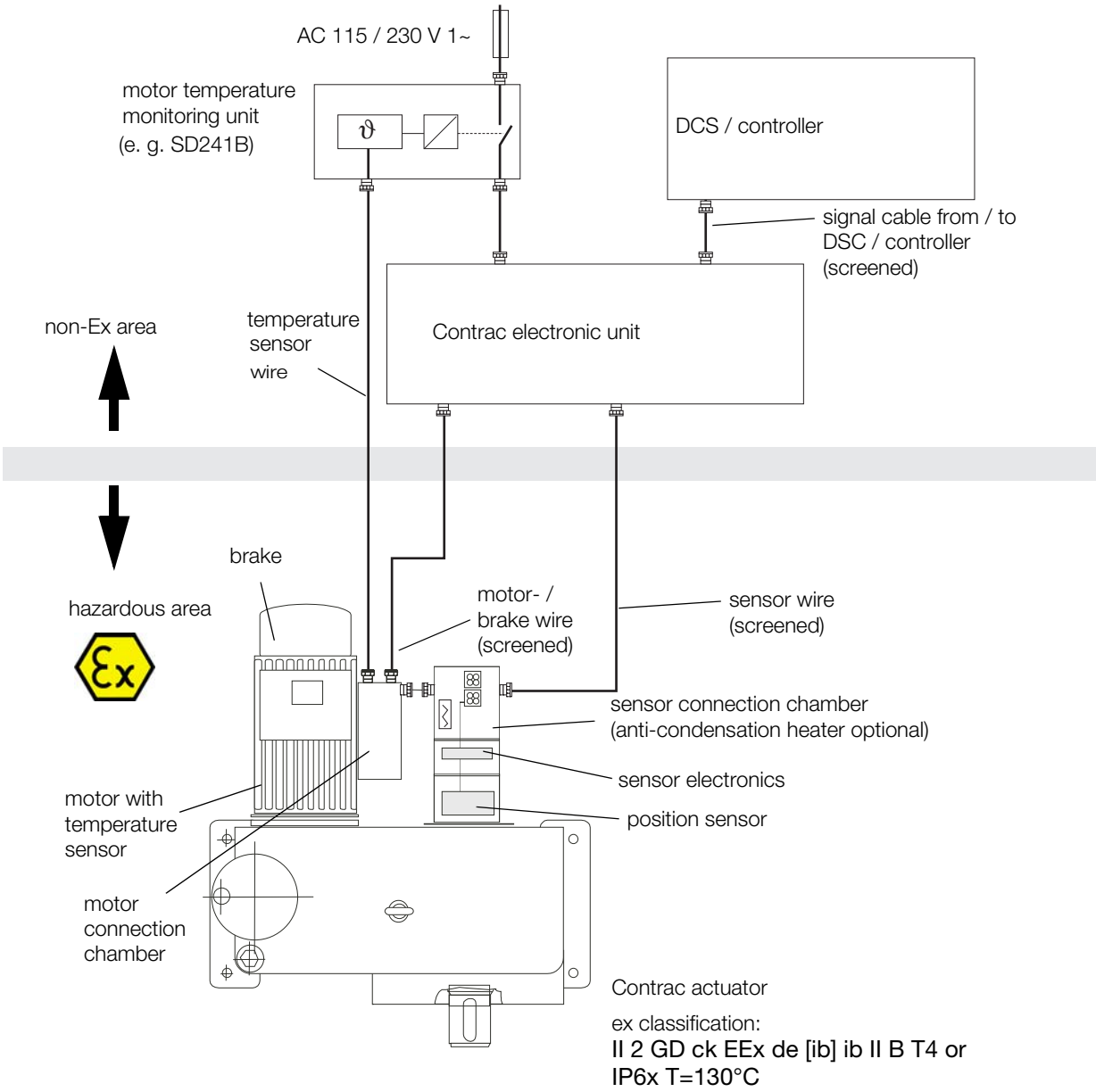

Fig. 1: Installation of RHDE8000 / RHDE16000 in hazardous area (minor discrepancies in

6.1 Operation

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

6.1.1 Automatic / manual mode

The motor (8) triggered by the power electronics drives the output shaft via oil-lubricated spur gears. The output shaft (5) transmits the torque via a lever (3) with ball-and-socket joints (2) and a coupling rod to the final control element. A position sensor (10) measures backlash-free the current shaft position.

Adjustable mechanical limit stops (4) absorb potentially occurring torque peaks in the end positions.

The brake (8) at the rear motor shaft end acts as a retainer when the power is off.

6.1.2 Hand wheel mode

- 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 part-turn actuator to the desired position.
- Release the lock.
- Insert the cotter pin.

7. Technical Data

7.1 General Data

Operating mode	S9 - stall-proof acc. to DIN IEC 2/915/CDV
Protection class	IP 66; explosion proof
Humidity	≤ 95% average; condensation not permitted
Ambient temperature	-25° C ... +60°C or -30° C ... +40° C (reduced speed at lower temperature limit)
Mounting position	IMB3; other positions acc. to fig. 2
Coating	2 component epoxy (RAL 9005, black)
Anti condensation heater	optional (fed by Contrac electronic unit)
Voltage 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 ordering data for the electronic unit)

7.2 Technical Data RHDE8000 / RHDE16000

Type	RHDE8000-15	RHDE8000-80	RHDE16000-30
Rated torque	8000		16000
Starting torque	appr. 1.2 x rated torque (break-away torque in end positions 2 x rated torque for short time); RHDE16000-30 max. 1.5 x rated torque)		
Required hand wheel force to provide rated torque			
Rates speed[°/s] adjustable at electronic unit	6.0 ... 0.1	1.125 s ... 0.1	3 ... 0.1
Regelmotor	BD 112 M-4B	BD 90 L2-4B	BD 112 M-4B
Ex-protection class (actuator)	II 2 GD ck EEx de [ib] ib II B T4 or IP6x T=130°C		
Weight incl. lever	approx. 710 kg	approx. 725 kg	approx. 1030 kg
Associated. electronic unit for field installation for rack installation	 EBN861 EBS862	 EBN853 EBS852	 EBN861 EBS862
Spannungsversorgung (an der Elektronik)	AC 230 V (190V ... 253 V); 47.5 ... 63 Hz; 1 Ph	AC 115 V (94 V..127 V) or AC 230 V (190 V ... 253 V); 47.5 ... 63 Hz; 1 Ph	AC 230 V (190V ... 253 V); 47.5 ... 63 Hz; 1 Ph
max. current input (AC 115/230V): [A] (at electronic unit)	-- / 8.0 A	4.0 A / 2.0 A	-- / 10.2 A
max. current input during positioning	approx 40% ... 50% of $I_{max.}$		

Table 1:

8. Lubrication

The spur wheel gerings of RHDE8000 / RHDE16000 are oil lubricated. They contain the oil quantity for position IMB3 when leaving the manufacturer. Once the actuator is installed replace the uppermost check plug by the separately supplied venting plug.

8.1 Mounting position and filling capacity

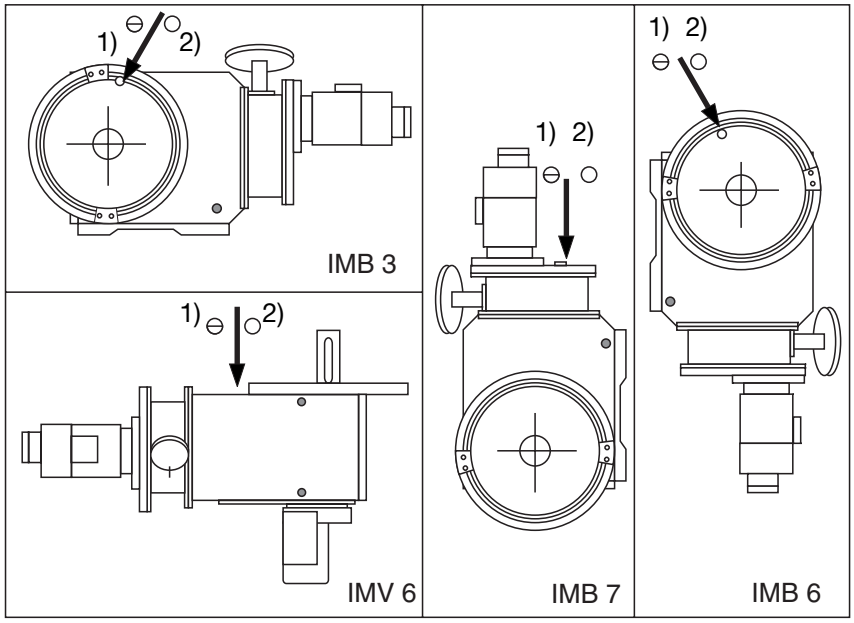

Fig. 2: Mounting position RHDE8000 / RHDE16000: [1] check plug; [2] venting plug

Mounting position RHD8000	IMB 3	IMB 6	IMB 7	IMV 6
Min. oil quantity; approx. [l]	57	55	74	53
Min. oil level [mm] under check plug	135	215	45	85
Mounting position RHD16000	IMB 3	IMB 6	IMB 7	IMV 6
Min. oil quantity; approx. [l]	88	Please contact the manufacturer for these mounting positions.		
Min. oil level [mm] under check plug	155			

Table 2:
The arrow indicates the check screw position [1] and the vent screw position [2].

8.2 Oil specifications

	Oil specification
Ambient temperature	Oil type used by manufacturer for first filling
- 10°C ... + 60°C	Mobil SHC 629
- 30°C ... + 40°C	Mobil SHC 626

Table 3:

8.3 Oil change

Do not mix oil for different temperature ranges. Dispose of the waste oil in compliance with the respective local regulations. Make sure that no waste oil reaches the water cycle.

Proceed as follows to drain or change the oil:

- provide a container capable to take the expected oil quantity acc. to table 2
- open or undo the venting plug (fig. 2)
- 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

9. Mounting

9.1 Actuator check

- 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.

9.2 Mounting orientation

All mounting orientations shown in Figure 2 are permissible. To facilitate mounting and maintenance, however, it is recommended to use orientation IMB 3. Make sure the actuator is filled up to the required oil level (see table 2).

In order to ensure sufficient ventilation and space for the motor de-/installation allow for at least 80 mm space between the motor hood and a wall.

9.3 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 sub-assemblies.
- Avoid direct exposure to rain, snow and other environmental influences. Select the mounting site accordingly or install a shelter.
- Exclusively mount the actuator on a rigid, non-vibrating support to avoid relative motions between the actuator and the valve.
- Spring couplings or vibration absorbers in the coupling rod may cause additional load. The drive elements (lever, coupling rod) may not cause additional vibration loadings, which exceed the rated torque more than twice (more than 1.5 x rated torque for RHDE16000).
- Do not permanently exceed the max. rated actuator torque. A short-time overload up to twice the rated torque (RHDE16000: up to 1.5 the rated torque) is possible.
- When mounting the actuator close to heat sources use an insulating layer or shielding.
- The ambient temperature may not exceed +60°C. If necessary use an appropriate roof to absorb sun radiation.
- Check the type-specific oil level prior to commissioning.
- Only use levers for the shaft, which are specified by the manufacturer. Other levers need an ATEX certification.

9.4 Mounting the Actuator to the Valve

9.4.1 Preparation

- Disconnect the power supply
- Make sure that the shaft and lever bore surface are clean and free of grease.
- Determine the length of the coupling tube (not included in the scope of delivery).
- Move the valve to the “CLOSED“ position.
- Move the actuator to the corresponding end position. Use the handwheel for the last few degrees. Observe the permissible angle.
- Refer to figure 4 and 5 for the required length of the link tube.
- Drill a cone bore into the valve lever for mounting the second ball-and-socket joint, as shown in figure 4 and 5.
- Insert the ball-and-socket joint, secure with crown nut and split-pin.
- Remove the welding bushings (Material: C 15 to DIN 17210) and weld them to the coupling tube.
- Insert the link rod between the two ball-and-socket joints and screw it in.
- If required adjust “L” by turning the link rod.
- When all adjustment steps are finished, fasten the counter nuts.

9.4.2 Adjusting the stops in dependence of the travel

- Move the output lever / valve to the position requiring fine adjustment.
- Put the stop onto the toothing as close to the output lever as possible and fasten it with screws.
- The mechanical limit stops may not be fixed within the adjusted operating range.
- Move the output lever towards the stop using the handwheel; turn the coupling rod for fine adjustment.
- Fasten the counter nuts.
- Fasten the stop in the other mounting position close to the end position, depending on the toothing.

9.4.3 Adjusting the stops in dependence of the torque

- First proceed as described above for travel-dependent adjustment.
- Prior to re-fastening the counter-nut provide a pretension in the valve's „CLOSED“ position. Lock the hand wheel and turn the coupling tube or optionally shift the limit stops to get a small gap between lever and limit stop. The procedure (turning the tube or using the gap) and the gap size depend on the stiffness of the linkage arrangement.
- Tighten the counter-nuts and limit stop screws.

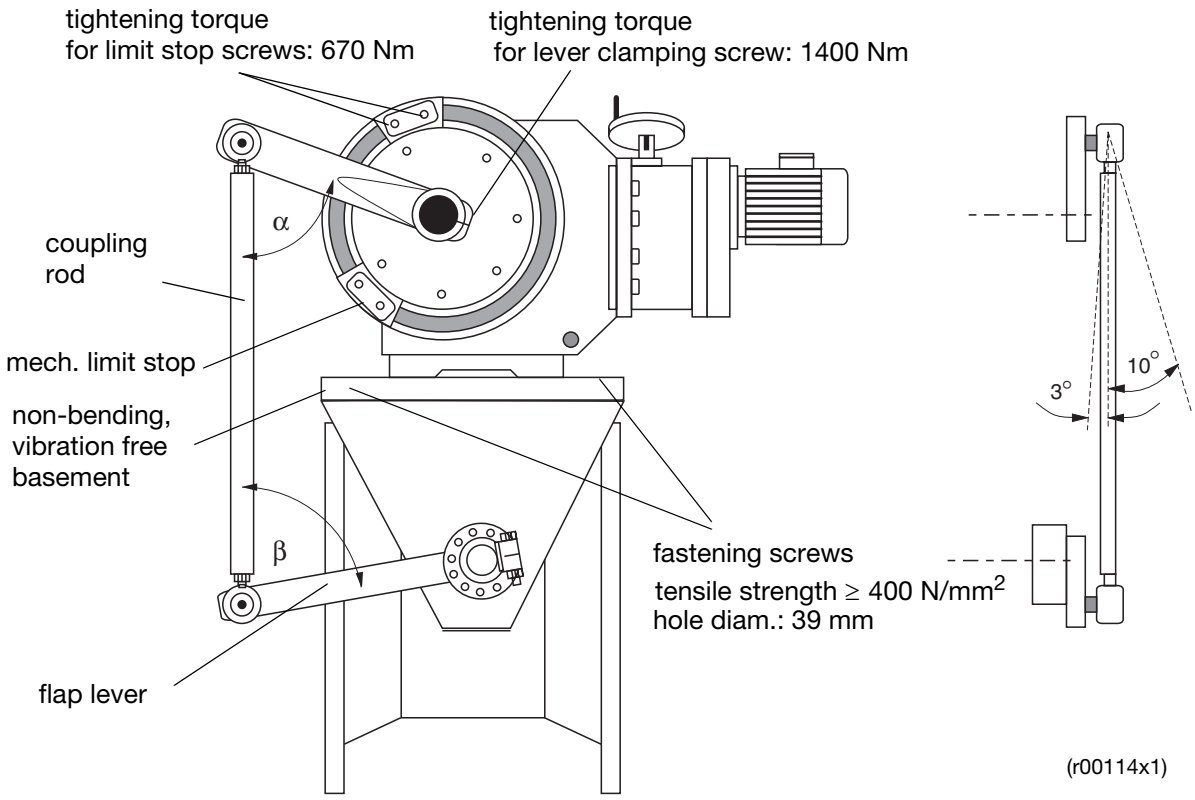

Fig. 3: Mounting RHDE... (example)

$\alpha \geq 20$ °; β according to dimensions specified by the valve or flap manufacturer.

9.5 Lever dimensions

9.5.1 Lever for RHDE8000

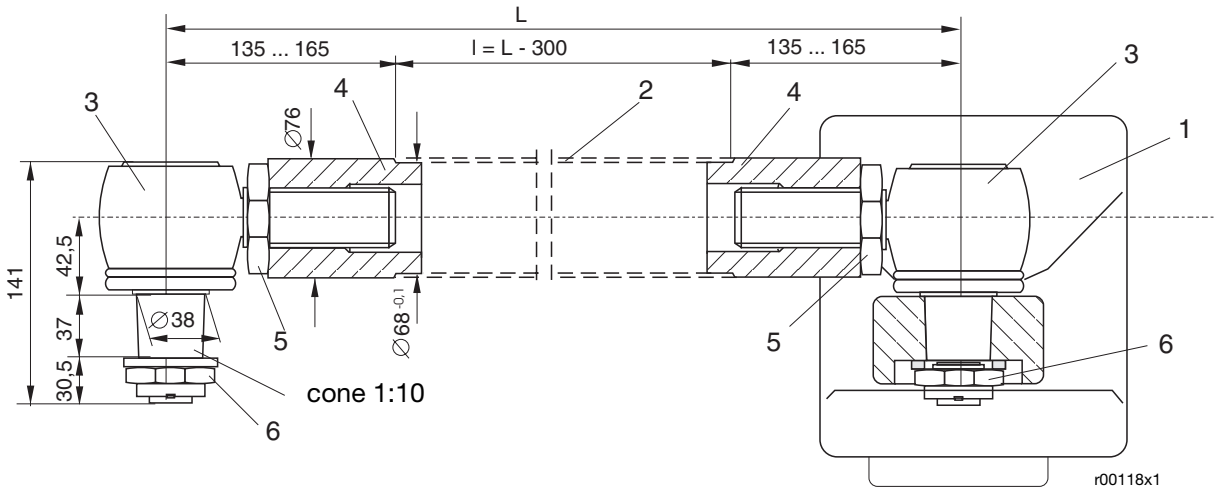

Fig. 4: Lever RHDE8000

1. lever
2. link tube
3. ball-and-socket joint
4. welding bushings (C15 to DIN 17210)
5. counter nuts
6. crown nuts

9.5.2 Lever for RHDE16000

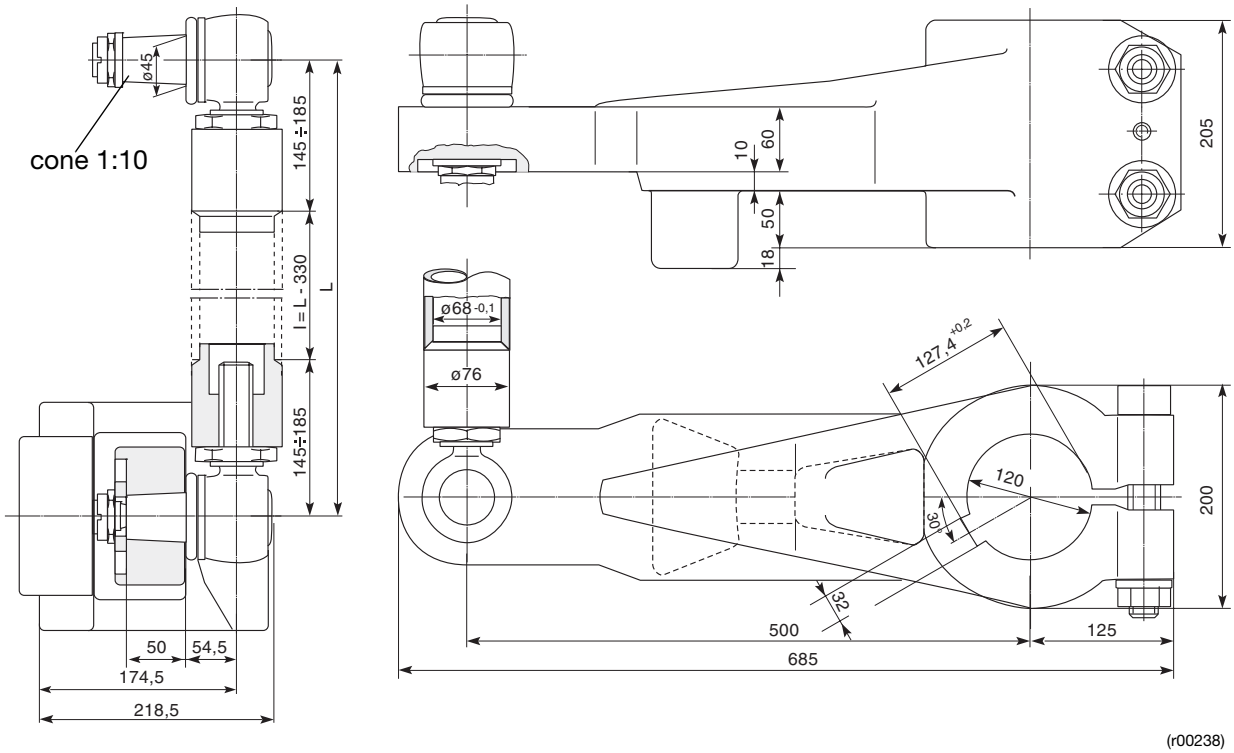

Fig. 5: Lever for RHDE16000

1. lever
2. link tube
3. ball-and-socket joint
4. welding bushings (C15 to DIN 17210)
5. counter nuts
6. crown nuts

10. 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 1) to fig. xx and xx).
- 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 see instructions for electronic units for rack installation.

10.1 Wiring diagram EBN853 / EBN861 (Standard)

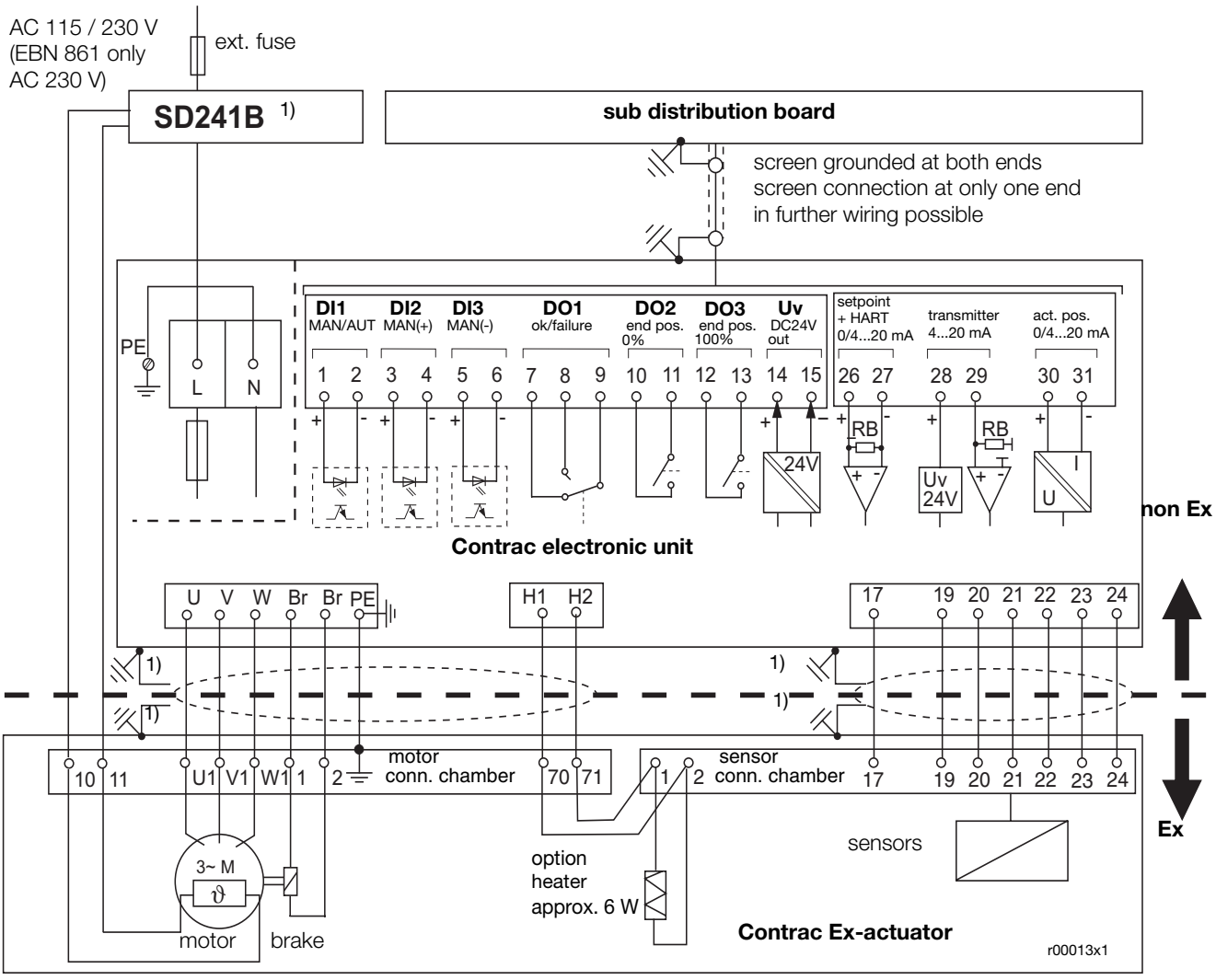

Fig. 6:

10.2 EBN853 / EBN861 (fieldbus communication)

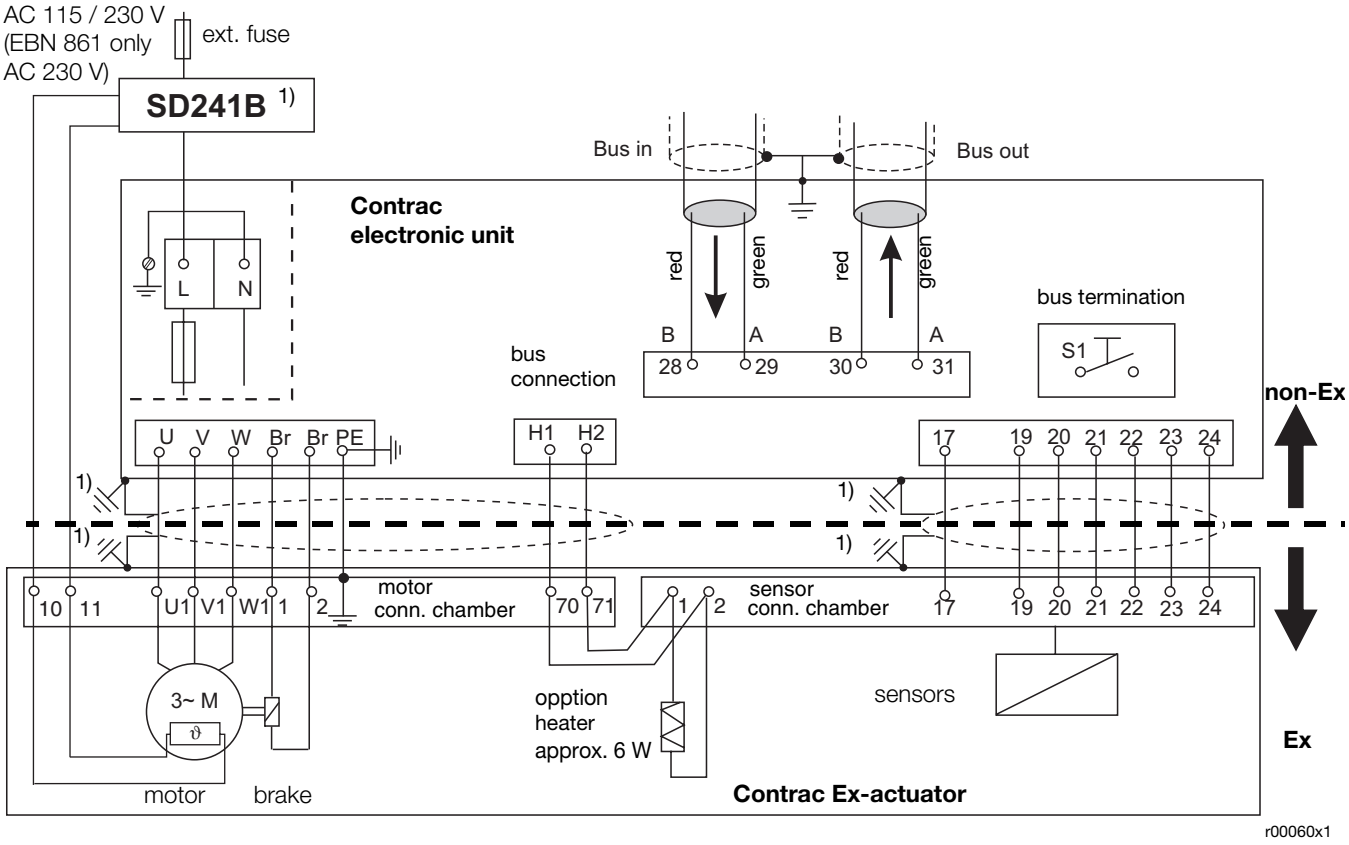

Fig. 7:

11. Maintenance

Contrac actuators have 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.

Only qualified personnel may do the maintenance work.

11.1 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 4 to do the maintenance work.
- Inspection or maintenance becomes due at least after the time acc. to table 4.

Overhaul intervals:

time	**measure**
once a year	visual inspection of gaskets for leakage; change gaskets if necessary
every 2 years	functional test: drive twice through the entire operating range; pay attention to correct speed reduction
every 4 years	check oil level
at the latetest after 10 years; preferably at the end of the mμ calculated lifetime.	- change the oil, roller bearings and gaskets of motor and gearbox - check gear wheels for obvious wear and replace if necessary

Table 4: Inspection intervals

- Do not move the actuator while changing the oil.
- Make sure that no chips or other debris remain within the gearbox.
- Remove dust and dirt deposits if the deposit thickness is bigger than 5 mm and if the actuator is used in an area acc. to category II2D. After the deposits are removed use a wettish cloth to clean the lacquered surfaces in order to avoid electrostatic charge.

11.2 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 automatic mode it is not subject to wear and a re-adjustment is not necessary. Use the test function of the configuration software to check the brake.

12. 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	Fehlfunktion entweder am Antrieb oder am Stellglied (e.g. stuffing box tightened too much)	- detach actuator from valve - if the actuator moves the valve is the possible cause - if the actuator does not run, the actuator is the possible cause
Actuator does not react	wrong electronic unit or wrong data loaded	compare the data lable on the actuator 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	- check windiing resistances of motor and brake - check the brake fuse
	no connection to digital input	provide connection
	brake does not (no mechanical "click")	- check brake gap (approx. 0.25 mm) and electrical connection to the brake - check winding resistance of the brake coil
actuator does not run in AUT mode, although “AUT” is selected in the user interface	digital input 1 (DI1) not energized	- energize DI1 - check software settings for digital inputs
LEDs in the commissioning and service panel (CSP) flash synchronously	operating range not properly adjusted	adjust operating range
LEDs flash alternately	failure in electronic unit / actuator	- drive the actuator manually or using the push buttons on the CSP beyond the adjusted end position ; (if necessary disconnect from valve or damper) - drive the actuator back into the operating range and connect it to the valve / damper - re-adjust the operating range
failure when approaching the end position	actuator is close / beyond the usable position sensor range	

Table 5:

12.1 Electrical test values

	BD 90 L2-B4B	BD 112 M-B4B
winding resistance ± 5% at 20° C (motor)	3.88 Ohm	1.51 Ohm
winding resistance ± 5% at 20° C (brake)	648 Ohm	575 Ohm

Table 6:

13. Appendix

Prüf- und Zertifizierungsstelle

ZELM Ex

(1) **EG-Baumusterprüfbescheinigung**

(2) Geräte und Schutzsysteme zur bestimmungsgemäßen Verwendung in explosionsgefährdeten Bereichen – **Richtlinie 94/9/EG**

(3) EG-Baumusterprüfbescheinigungsnummer

ZELM 04 ATEX 0209 X

(4) Gerät: **Elektrische Schwenkantriebe Contrac RHDE...-..**

(5) Hersteller: **ABB Automation Products GmbH**

(6) Anschrift: **Schillerstrasse 72, 32425 Minden, Deutschland**

(7) Die Bauart dieses Gerätes sowie die verschiedenen zulässigen Ausführungen sind in der Anlage zu dieser Baumusterprüfbescheinigung festgelegt.

(8) Die Prüf- und Zertifizierungsstelle ZELM Ex bescheinigt als benannte Stelle Nr. 0820 nach Artikel 9 der Richtlinie des Rates der Europäischen Gemeinschaften vom 23. März 1994 (94/9/EG) die Erfüllung der grundlegenden Sicherheits- und Gesundheitsanforderungen für die Konzeption und den Bau von Geräten und Schutzsystemen zur bestimmungsgemäßen Verwendung in explosionsgefährdeten Bereichen gemäß Anhang II der Richtlinie.

Die Ergebnisse der Prüfung sind in dem vertraulichen Prüfbericht Nr. ZELM Ex 1250315291 festgelegt.

(9) Die grundlegenden Sicherheits- und Gesundheitsanforderungen werden erfüllt durch Übereinstimmung mit

EN 50 014: 1997+A1+A2	**EN 50 018: 2000**	**EN 50 019: 2000**
EN 50 020: 2002	**EN 50 281-1-1: 1998**	**EN 13 463-1 :2001**
prEN 13 463-5: 2003	**prEN 13 463-8: 2003**	

(10) Falls das Zeichen "X" hinter der Bescheinigungsnummer steht, wird auf besondere Bedingungen für die sichere Anwendung desGerätes in der Anlage zu dieser Bescheinigung hingewiesen.

(11) Diese EG-Baumusterprüfbescheinigung bezieht sich nur auf Konstruktion, Überprüfung und Tests des spezifizierten Gerätes oder Schutzsystems in Übereinstimmung mit Richtlinie 94/9/EG. Weitere Anforderungen der Richtlinie können für das Herstellungsverfahren und die Lieferung dieses Gerätes oder Schutzsystems gelten. Diese sind von vorliegender Bescheinigung nicht abgedeckt.

(12) Die Kennzeichnung des Gerätes muß die folgenden Angaben enthalten:

II 2 GD ck EEx ed [ib] ib IIB T4 bzw. IP6x T130°C

Zertifizierungsstelle **ZELM Ex**

Braunschweig,17.06.2004

Dipl.-Ing. Harald Zelm

Seite 1/3

(13) **Anlage**

(14) **EG-Baumusterprüfbescheinigung ZELM 04 ATEX 0209 X**

(15) Beschreibung des Gerätes

Die elektromechanisch regelnden Schwenkantriebe, bestehend aus folgenden Hauptkomponenten: Motor, Getriebe, Stellungsgeber mit Auswerte-Elektronik und einem Anschlußraum, sind zum Verstellen von Ventilen, Klappen, Kugelhähnen und anderen mechanischen Stellgliedern konstruiert. In Abhängigkeit der anzuwendenden Kraft bzw. Drehmomente kommen unterschiedliche Motor – Getriebekombinationen zum Einsatz. Der Motor des Regelantriebes wird ausschließlich mit dem zugehörigen Frequenzumrichter und einem zugehörigen Motorkaltleiter-Temperaturüberwachungsgerät, mit separater EG-Baumusterprüfbescheinigung, betrieben.

Der Schwenkantrieb ist für einen Umgebungstemperaturbereich von –25°C bis +60°C bzw. von –30°C bis +40°C ausgelegt. Der jeweils zutreffende Umgebungstemperaturbereich ist dem Typenschild zu entnehmen.

Die Typenbezeichnungen der Geräte lauten:

RHDE250-10;	**RHDE500-10**
RHDE800-10;	**RHDE1250-12**
RHDE2500-10;	**RHDE2500-25**
RHDE4000-10;	**RHDE4000-40**

Daten

Schwenkantrieb Contrac:

Bemessungsdaten:	
Netzspannung:	115 V (94V bis 127V) 47,5 bis 63Hz
zugehörige Nennströme:	1,8A bis 5,2A je nach Ausführung
bzw.	
Netzspannung.	230 V (190V bis 253V) 47,5 bis 63 Hz
zugehörige Nennströme:	0,9A bis 10A je nach Ausführung Die Zuordnung erfolgt über die Kennzeichnung bzw. die Betriebsanleitung
Gehäuseschutzgrad	mindestens IP 6x gemäß EN 60529:1991

(16) Prüfbericht Nr.

ZELM Ex 1250315291

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 – Systemkomponenten.

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**

Dipl.-Ing. Harald Zelm

Zertifizierungsstelle ZELM Ex

Braunschweig,17.06.2004

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Prüf- und Zertifizierungsstelle

ZELM Ex

1. Ergänzung

(Ergänzung gemäß EG-Richtlinie 94/9 Anhang III Ziffer 6)

zur EG-Baumusterprüfbescheinigung

ZELM 04 ATEX 0209 X

Gerät:	**Elektrische Schwenkantriebe Contrac RHDE8000 und RHDE16000**
Hersteller:	**ABB Automation Products GmbH**
Anschrift:	**Schillerstrasse 72, 32425 Minden, Deutschland**

Beschreibung der Ergänzung

Die Änderungen betreffen die Erweiterung der Baureihe um die Ausführungen RHDE8000-15, RHDE8000-80 und RHDE16000-30. Der Aufbau der Regelelektronik bleibt unverändert. Geändert wurden Getriebe und Motoren. Die besonderen Bedingungen verändern sich deswegen nicht und gelten auch für die 1. Ergänzung. Die elektrischen Daten für die oben genannten Antriebe lauten:

Daten

Schwenkantrieb Contrac:

Bemessungsdaten:		
Netzspannung:	115 V (94 V bis 127 V)	47,5 Hz bis 63 Hz
zugehörige Nennströme:	4,0 A RHDE8000-80	
bzw.		
Netzspannung:	230 V (190 V bis 253 V)	47,5 Hz bis 63 Hz
zugehörige Nennströme:	2,0 A bis 10,2 A je nach Ausführung Die Zuordnung erfolgt über die Kennzeichnung bzw. die Betriebsanleitung	
Gehäuseschutzgrad:	mindestens IP 6x gemäß EN 60529:1991	

Prüfbericht Nr.

ZELM Ex 0800415356

Grundlegende Sicherheits- und Gesundheitsanforderungen

Die grundlegenden Sicherheits- und Gesundheitsanforderungen werden weiterhin erfüllt durch Übereinstimmung mit den in der EG-Baumusterprüfbescheinigung aufgeführten Normen.

Zertifizierungsstelle **ZELM Ex**

Dipl.-Ing. Harald Zelm

Zertifizierungs- und Prüfstelle ZELM Ex

Braunschweig, 23.02.2005

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Printed in the Fed. Rep. of Germany (04.05)

42/68-168 EN

ABB Ltd.
Salterbeck Trading Estate
Workington, Cumbria
CA14 5DS
UK
Tel: +44 (0)1946 830 611
Fax: +44 (0)1946 832 661

ABB Inc.
125 E. County Line Road
Warminster, PA 18974
USA
Tel: +1 215 674 6000
Fax: +1 215 674 7183

ABB Automation Products GmbH
Schillerstr. 72
32425 Minden
Germany
Tel: +49 551 905-534
Fax: +49 551 905-555
CCC-support.deapr@de.abb.com