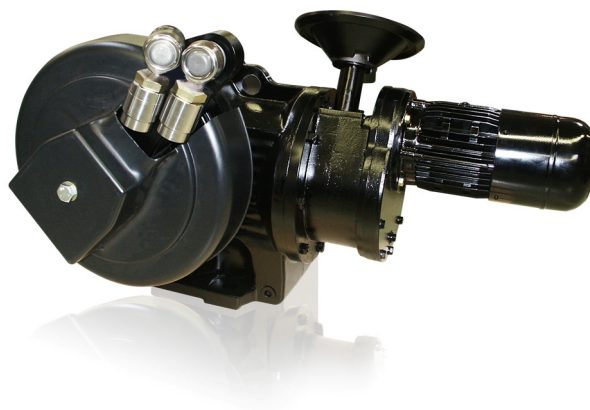


# RHD16000 (Contrac) Electrical Part-Turn Actuator



For continuous positioning,  
Rated torque 16000 Nm (12000 lbf-ft)

Electrical actuator for continuous positioning or step control

Stall proof without the need of position or torque dependent switch-off

Three-phase asynchronous motor

Sturdy gear unit with highly efficient design

Adjustable mechanical limit stops for defined operating range

Hand wheel for emergency operation

Integrated sensors for position and temperature

Signal and power input only via separate, microprocessor-controlled power electronics

Voltage supply 230 V AC only via special power electronics

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## 1 Concept

Compact actuator for the operation of final control elements with preferably 90° rotary movement such as flaps, cocks, etc.

The torque is transferred via a lever / linkage bar assembly or the actuator is directly coupled to the cock flange.

A special power electronic unit controls the actuator. The electronic unit serves as the interface between actuator and control system.

During continuous positioning the power electronic unit varies the motor torque steplessly until the actuator force and the restoring

process forces are balanced. High response sensitivity and high positioning accuracy with short positioning time ensure an excellent control quality and a long actuator life.



### Note

The ANSI information appears in parentheses after the SI-information.

## 2 Technical data

### 2.1 Actuator

Model	RHD16000-30	
Rated torque	16000 Nm (12000 lbf-ft) (adjustable to 0.5 / 0.75 or 1x rated torque)	
Starting torque	1.2 x rated torque (break-away torque in end positions for short time 2 x rated torque)	
Rated time for 90°	30 ... 900 s	
Operating speed, adjustable	3,0 ... 0.1 °/s	
Operating angle	Typically 90° (min. 35°, max. 270°). See instructions for limited operating angle if actuator is equipped with lever and limit stop.	
Weight	approx. 1030 kg (2270 lb)	
Related electronics	For field installation:	Model EBN861 <sup>1)</sup>
	For rack installation:	Model EBS862 <sup>2)</sup>
Motor type	MC 112 BA	
Sensors	Position and temperature sensor always available.	

1) Data sheet EBN861: 10/68-8 22

2) Data sheet EBS862: 10/68-8 25

### 2.2 General information

	RHD16000 - 30
Operating mode	S9 - 100%; stall proof acc. to IEC 60034-1 / EN 60034-1
Protection class	IP 66
Humidity	≤ 95% average; condensation not permitted
Ambient temperature	-10 ... 65° C (15 ... 150° F) -30 ... 50° C (-20 ... 130° F)
Mounting position	any position; preferably IMB 3 acc. to IEC 60034-7 / EN 60034-7
Coating	2-layer component epoxy (RAL 9005; black)
Anti-condensation heater	Motor: Directly power feed from Contrac electronic unit. Signal space: Separate heating resistor; separate power supply or power feed from Contrac electronic unit.
Electrical connection	Plug with crimp snap-in contacts or terminals. Connecting cable electronics – actuator optionally (see ordering information of electronics).
Power supply for motor and sensors	Only via Contrac electronic unit (see data sheet of electronic unit).

### 2.3 24-pole plug on the actuator

	<b>Crimp pins</b>	<b>Terminals (Option)</b>
Cable gauge:	Motor, heater: 1.5 mm <sup>2</sup> (16 AWG) Signals: 0.5 mm <sup>2</sup> (20 AWG)	2.5 mm <sup>2</sup> (14 AWG)
Contact surface	Gold-plated	Motor, signal: Gold-plated Heater: Silver-plated

### 2.4 Tapped holes for cable glands

<b>Tapped holes for cables</b>	<b>optional adapters*</b>	
M20 x 1.5 (2x)	PG 16 (2x)	NPT 1/2" (2 x)
M25 x 1.5 (1 x)	PG 21 (2x)	NPT 3/4" (1 x)

\* Adapter for PG or NPT thread must be ordered separately

### 3 Electrical connection

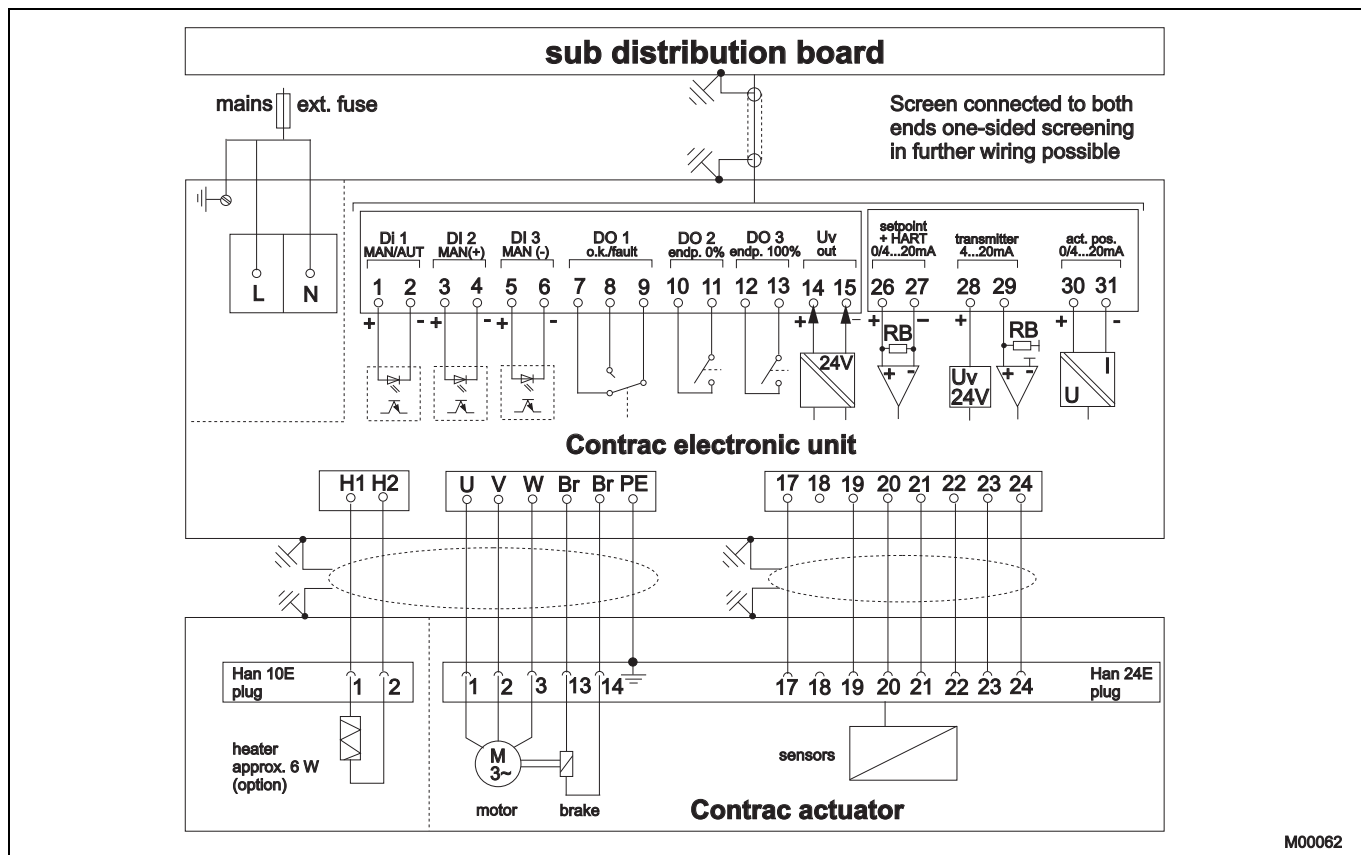
#### 3.1 Power Electronic Unit EBN861 (Contrac)

##### 3.1.1 Analog / digital



**Note**

The electrical connection is provided by a plug on the actuator and the terminals on the electronic unit.



M00062

Fig. 1

**3.1.2 PROFIBUS DP**

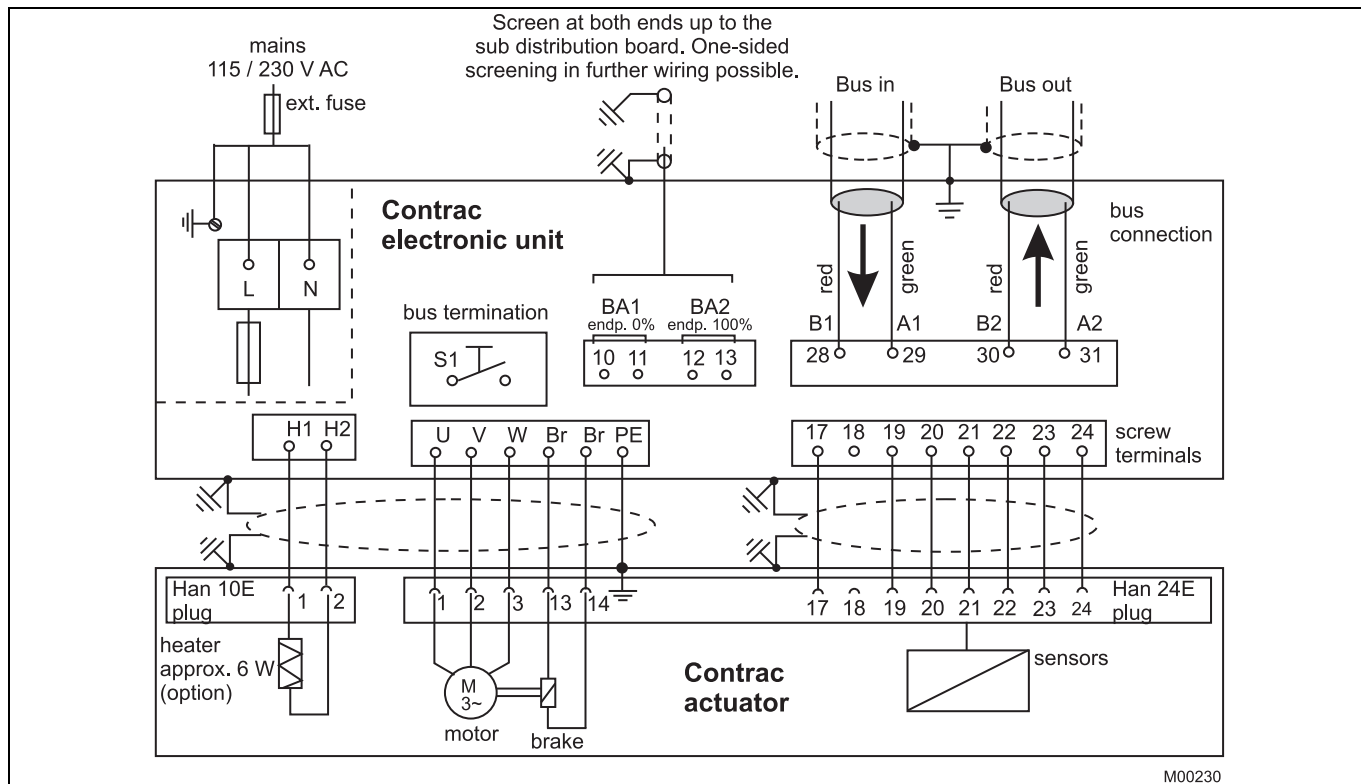


Fig. 2

M00230

### 3.2 Power Electronic Unit EBS862 (Contrac)

#### 3.2.1 Analog / digital



**Note**

The electrical connection is provided by a plug on the actuator and the terminals on the electronic unit.

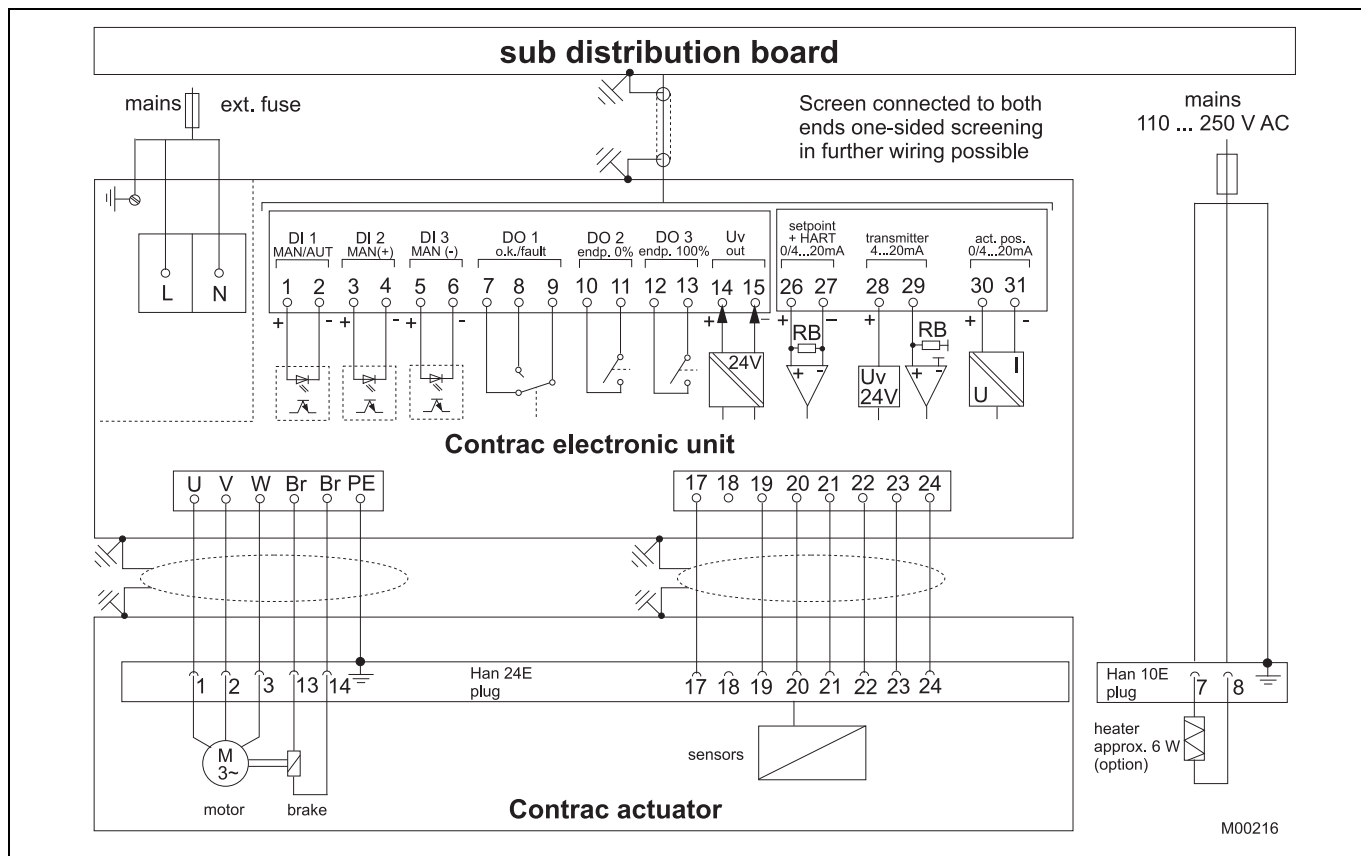


Fig. 3

## 4 Dimensions

### 4.1 Part-turn actuators

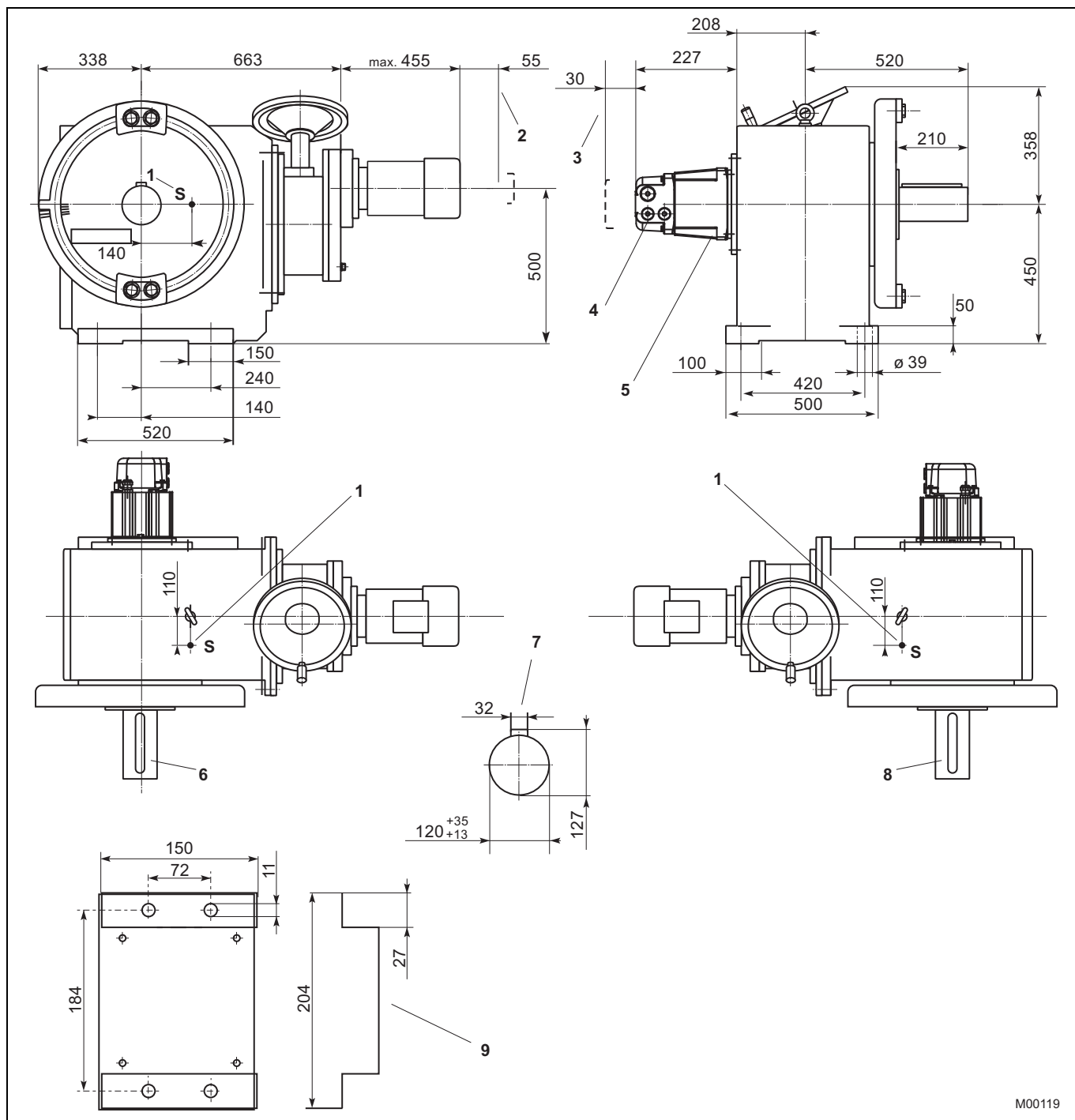
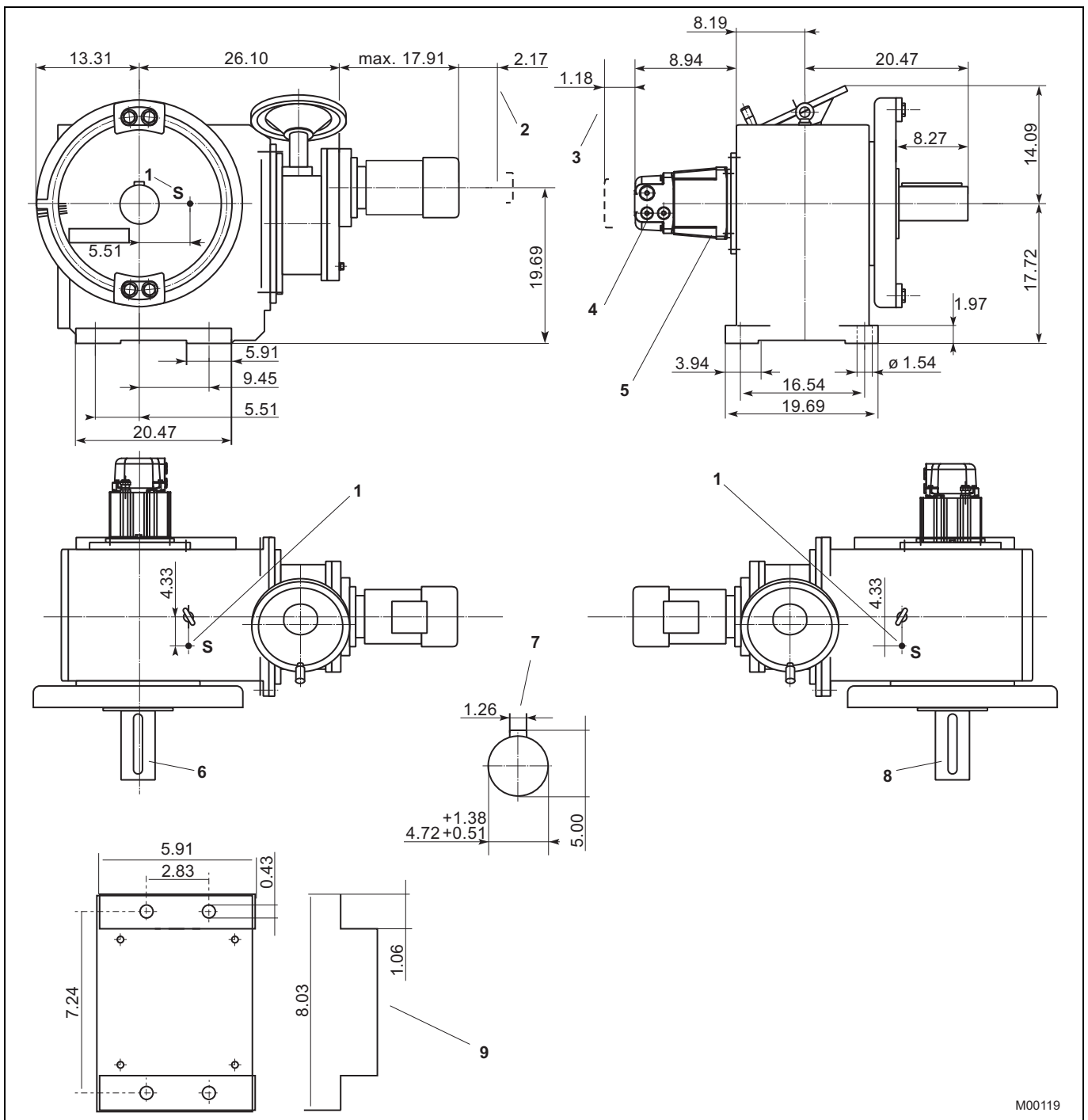


Fig. 4 Dimensions in mm

- |                              |                              |
|------------------------------|------------------------------|
| 1 S = Center of gravity      | 6 Drive shaft, left          |
| 2 Space for removal of motor | 7 Drive shaft                |
| 3 Removal space              | 8 Drive shaft, right         |
| 4 Plug                       | 9 Plug holder (not to scale) |
| 5 Signal generator           |                              |



M00119

Fig. 5 Dimensions in Inch

- |                              |                              |
|------------------------------|------------------------------|
| 1 S = Center of gravity      | 6 Drive shaft, left          |
| 2 Space for removal of motor | 7 Drive shaft                |
| 3 Removal space              | 8 Drive shaft, right         |
| 4 Plug                       | 9 Plug holder (not to scale) |
| 5 Signal generator           |                              |

4.2 Lever

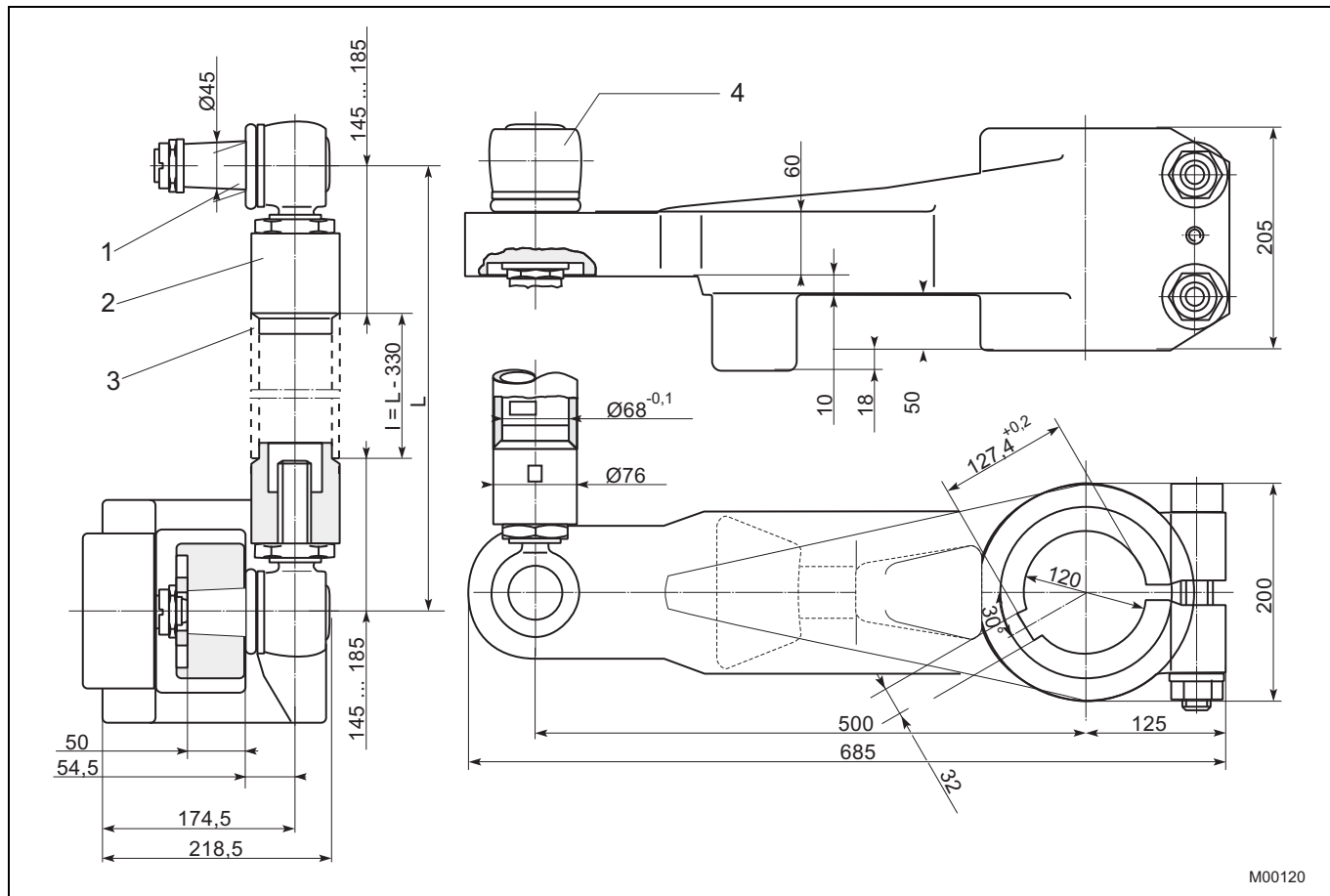


Fig. 6 Dimensions in mm

- |   |  |
|---|--|
| <p>1 Cone 1 : 10</p> <p>2 welding bushings are part of shipment</p> <p>3 Connection pipe 3" DIN 2440 resp. 3" schedule 80 pipe size "L" acc. to requirements. The pipe is not included in shipment.</p> | <p>4 Angular deflection of ball and socket joint:<br/>                 Pointing towards the actuator: max. 3°<br/>                 Pointing away from the actuator: max. 10°</p> |
|---|--|

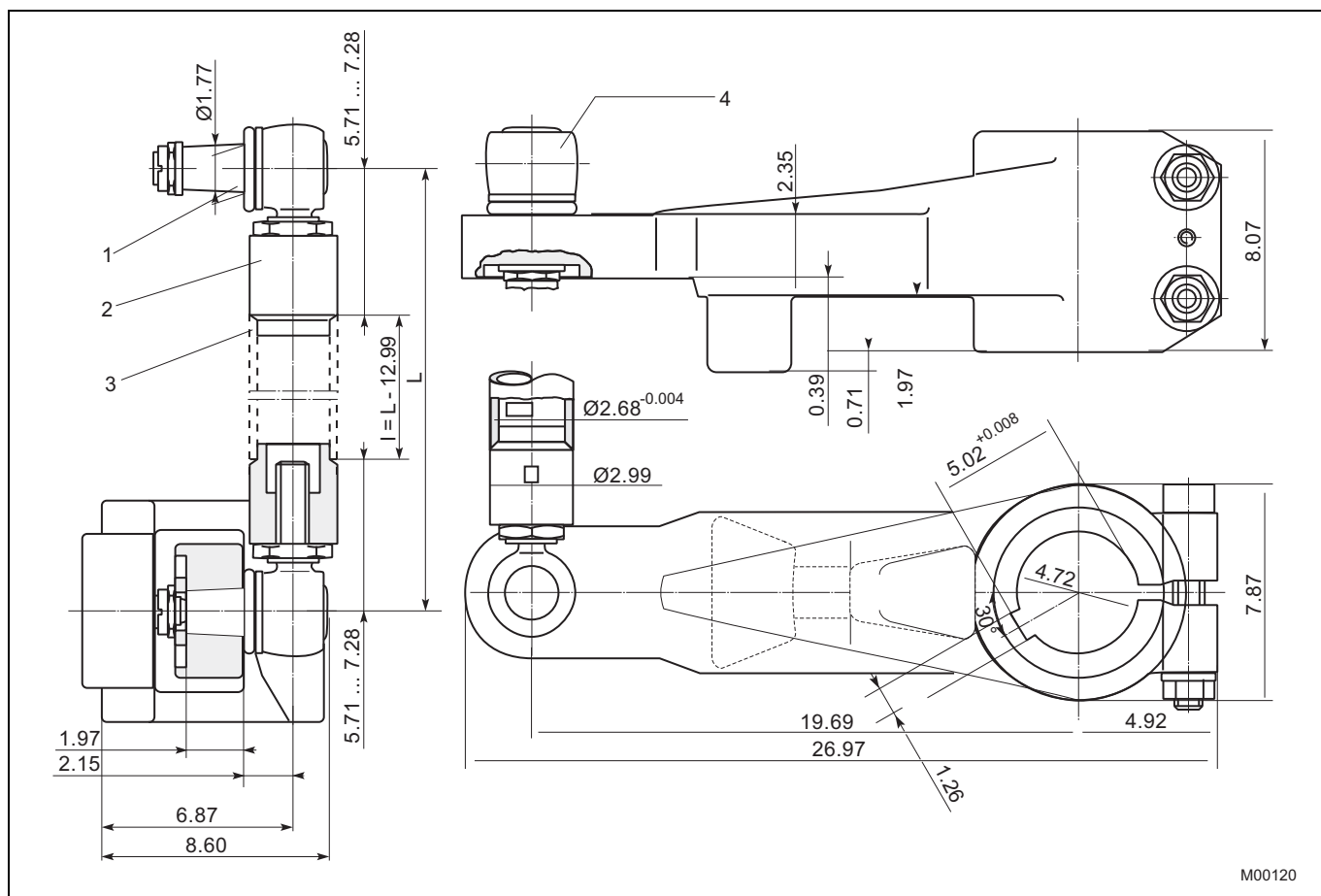


Fig. 7 Dimensions in Inch

- |   |  |
|---|--|
| <p>1 Cone 1 : 10</p> <p>2 welding bushings are part of shipment</p> <p>3 Connection pipe 3" DIN 2440 resp. 3" schedule 80 pipe size "L" acc. to requirements. The pipe is not included in shipment.</p> | <p>4 Angular deflection of ball and socket joint:<br/>                 Pointing towards the actuator: max. 3°<br/>                 Pointing away from the actuator: max. 10°</p> |
|---|--|

## 5 Ordering information

### 5.1 Electrical Part-Turn Actuator RHD16000 (Contrac)

Ordering information										
<b>Part-Turn Actuator</b>		Variant digit No.	1 - 7	8	9	10 11	Code			
<b>RHD16000 -30</b>		Catalog No.	<b>V68194-</b>							
Rated torque	16000 Nm (12000 ft-lbs) (adjustable to 50%/75%/100%)									
<b>Rated pos. speed</b>	3.0°/s	(adjustable to 3.0 ... 0.1°/s)				0	1	2	0	
<b>Special actuator features</b>										
Select at least one feature per group										
<b>Mechanical connection</b>										
Shaft with key							370			
Lever set, standard design (consists of lever, 2 ball-and-socket joints and 2 welding bushings)							496			
Lever set, US design (consists of lever, 2 ball-and-socket joints and 2 US welding bushings)							374			
<b>Electrical connection</b>										
plug (24-pole) complete, crimped							277			
plug (24-pole) complete, terminals							278			
plug bottom part covered 1)							279			
<b>Ambient temperature range</b>										
-10 ... 65 °C (15 ... 150 °F)							344			
-30 ... 50 °C (-20 ... 130 °F)							341			

Additional ordering information										
							Code			
Drive shaft at right hand side							577			
Electrical connection thread							680			
set NPT adapter (junction metric / NPT thread)							681			
set PG adapter (junction metric / PG thread)							360			
Anti condensation heater							294			
Identification on data label (alphanumeric, max. 32 characters)							253			
Data label with US units							337			
Accessories cover for male plug (24 pole)							338			
Accessories plug holder							291			
Certificates Factory certificate 2.1 acc. to EN 10204							292			
Certificates Certificate B acc. to EN 10204										
<b>Operating instruction</b>										
(specify total quantity required, 1 copy without extra charge)										
German (no specification for 1 copy)							Z1D			
English (always state Code-No.)							Z1E			

1) female plug with cables to be ordered with electronic unit

#### Attention!

Electronic unit to be ordered separately

**Note:** Delivery time for max. 2 pcs. For 3 pcs. or more delivery time on request.







# Contact us

## **ABB Ltd.**

### **Process Automation**

Salterbeck Trading Estate  
Workington, Cumbria  
CA14 5DS  
UK

Phone: +44 (0)1946 830 611

Fax: +44 (0)1946 832 661

## **ABB Inc.**

### **Process Automation**

125 E. County Line Road  
Warminster, PA 18974  
USA

Phone: +1 215 674 6000

Fax: +1 215 674 7183

## **ABB Automation Products GmbH**

### **Process Automation**

Schillerstr. 72  
32425 Minden  
Germany

Phone: +49 551 905-534

Fax: +49 551 905-555

[www.abb.com](http://www.abb.com)

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